User's
Manual

FieldMate R3.04

FieldMate
Versatile Device Management Wizard

IM 01R01A01-01E

YOKOGAWA
Yokogawa Electric Corporation

IM 01R01A01-01E
21st Edition

FieldMate
Versatile Device Management Wizard

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Revision Information

A Foreword

Thank you for purchasing FieldMate. This document describes the following:

- How to install FieldMate
- The functions and operating procedures of FieldMate

To ensure correct use, read this document thoroughly before starting operation. After reading the document, keep it in a convenient location for quick reference. It is useful when a question arises during operation.

Target Readers

This mannual is intended for the following personnel;

- Engineers responsible for installation, wiring, and maintenance of the equipment.
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https://github.com/particle-iot/tinydtls/tree/master/sha2

FILE: sha2.c, shar2.h

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<https://www.nuget.org/packages/WPFToolkit/>

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A-3 Package

Checking the Contents of the Package

Open the package and check the following prior to use. If the delivered product is the wrong one, some items are missing, or there is a problem with the appearance, contact the place of purchase.

Contents of the package

A USB FieldMate Modem is only included in the package if the /B option (USB FieldMate Modem) was selected.

License Sheet: 1

Getting Started: 1

FieldMate CD-ROM: 1

Part Number: F9197DS

Device Files DVD-ROM: 1

Part Number: F9197DT

USB FieldMate Modem (Optional)

Part Number: F9197UF

Media Handling

Please store your original Media carefully. Install the products on your hard disk, and run the products from your hard disk during actual use.

Media Handling Guidelines

Make sure to take the following precautions.



IMPORTANT

- Do not store the product near large amounts of refuse or dust.
- Do not touch the surface of the Media with no printed characters.

  Dirt or sweat from fingertips can damage the Media. Do not write anything on the Media.
- Pencil lead or residue from erasers can damage the Media.
- Do not bend or scratch the Media.

  Doing so can cause it to become unreadable.
- Never place anything on top of the Media.

  Doing so can cause deformities that can render the Media useless.
- Do not drop the Media from high locations as doing so can cause damage or deformities.
- Do not place the Media in direct sunlight or near heat sources.
- Never allow solvents such as alcohol, benzene, or Freon to come into contact with the Media.
- Take care when placing the Media into the Media drive.
- While the Media is being accessed, do not remove the Media from the Media drive, cut the power to the PC, or reset the computer.
- Store the Media in its original jewel case.

  Do not leave the Media in the Media drive after use. It can become deformed or damaged unless it is kept in its case.

Required Software to Read

Adobe Reader of Adobe Systems Incorporated is required to view the user's manual. If Adobe Reader is not installed on the PC to be used, please download from home page of Adobe Systems Incorporated.

A-4 Symbol Marks in the User's Manual

The symbol marks appearing in the user's manual have the following meanings.



WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.



IMPORTANT

Indicates that operating the hardware or software in this manner may damage it or lead to system failure.



NOTE

Draws attention to information essential for understanding the operation and features.

B Packaging and Installation

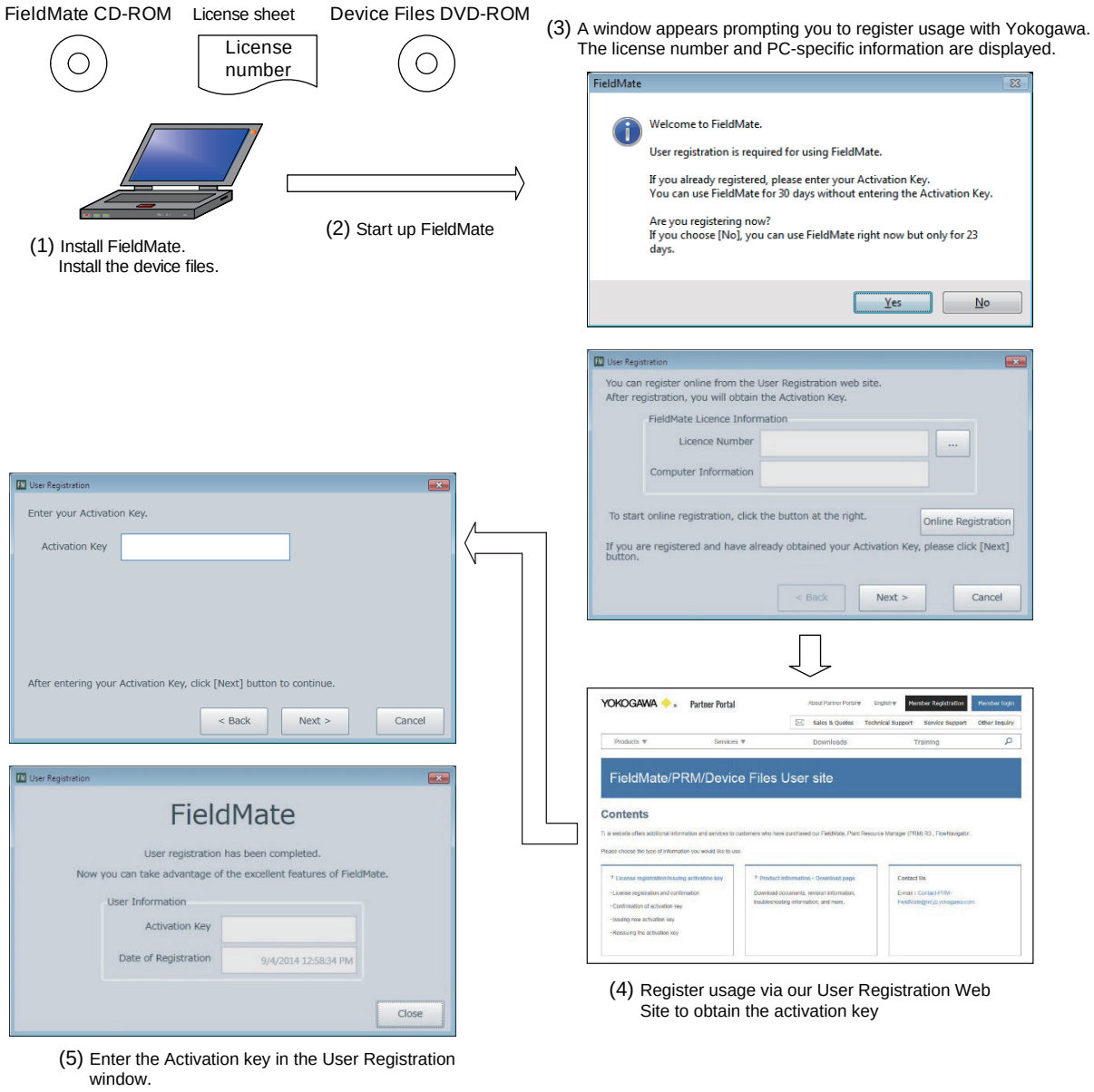
B-1 About FieldMate

B-1-1 Overview

FieldMate is provided on a set of media (FieldMate Software and Device Files) along with a license sheet and USB FieldMate modem (optional).

FieldMate can be installed on your PC using the installer stored in the media. However, to continue using it, you must register with us within 30 days after installation and then input an activation key.

You can register usage via our User Registration Web site. When registering, you need to provide the license number and hard disk drive serial number (Volume Serial Number) of the PC drive C, in which FieldMate is installed.



B010101E.ai

Figure B-1-1 Basic Flow of Installation and User Registration

B-1-2 Packaging

Items Packaged with the FieldMate CD-ROM

Table B-1-1 Items Packaged with the FieldMate CD-ROM

Category	Object
Programs	FieldMate program
	USB FieldMate modem driver
	.NET Framework 4.7.2

Items Packaged with the Device Files DVD-ROM

Table B-1-2 Items Packaged with the Device Files DVD-ROM

Category	Object
Device files	Yokogawa HART device DTM
	Yokogawa FDT 2.0 HART DTM
	Yokogawa FOUNDATION fieldbus H1 device DTM
	Yokogawa PROFIBUS device DTM
	Yokogawa BRAIN device DTM
	Yokogawa ISA100 device DTM
	Other manufacturers' HART device DTM
	Built-In DTM for HART device
	Built-In DTM for FOUNDATION fieldbus H1 device
	FOUNDATION fieldbus H1 device DD
	HART device DD
	ISA100 Built-in DTM
	Yokogawa ISA100 Communication DTM
	Yokogawa Modbus device DTM

B-1-3 Installing FieldMate/Device Files

IMPORTANT

For Windows 10, Microsoft.NET Framework 3.5 function needs to be enabled.

Please follow the procedure.

- Control Panel → Programs → under Programs and Features →

  Turn Windows features on or off → ".NET Framework 3.5 (includes .NET 2.0 and 3.0)"

1. Before installing, Microsoft .NET Framework 3.5 is enabled.

   Note: PC has already been connected to the Internet.

2. Microsoft .NET Framework 3.5 is enabled while installing.

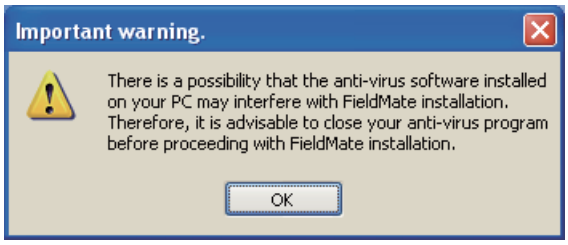
   Note: PC has already been connected to the Internet or Windows installation medium to be necessary.

* If Microsoft .NET Framework 3.5 is not enabled, "type A Yokogawa device DTM" cannot be used as restriction items.

Overview of Installation Procedure

NOTE

- For details on installing the NI-FBUS driver, refer to the documentation of National Instruments.
- If the window below appears during installation, please follow the procedure and press "Cancel" in the next window.



B010301E.ai

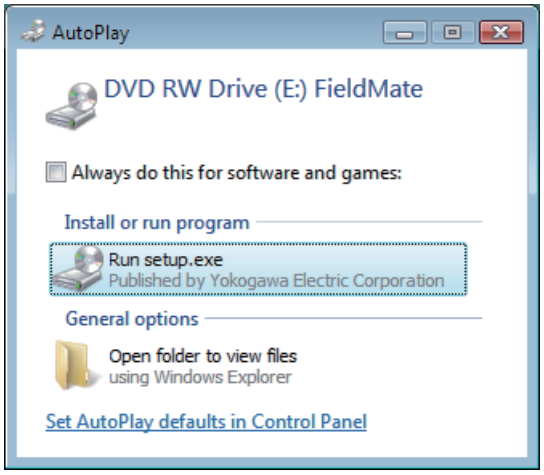
Installation Procedure

1. Log on as a user with administrator privileges.
2. Insert the FieldMate medium in the media drive. Installation starts automatically.

TIP

Due to user account control, the following windows may be displayed and confirmation operation is required.

(1) Auto Play



B010302E.ai

Figure B-1-2

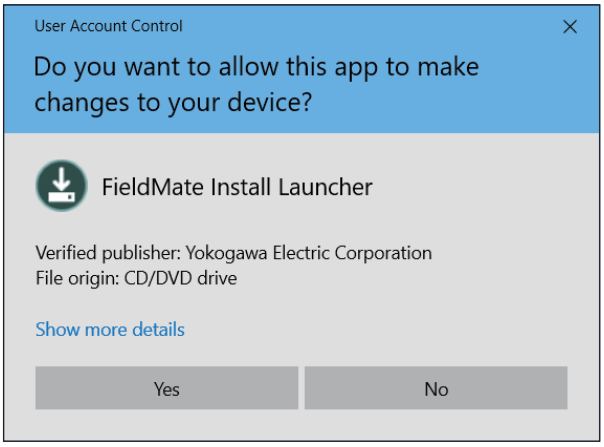
Click “Run setup.exe” and proceed.

NOTE

If installation does not start automatically after inserting the FieldMate media, double-click the following file to execute it.

FieldMate Media\FM\Setup.exe

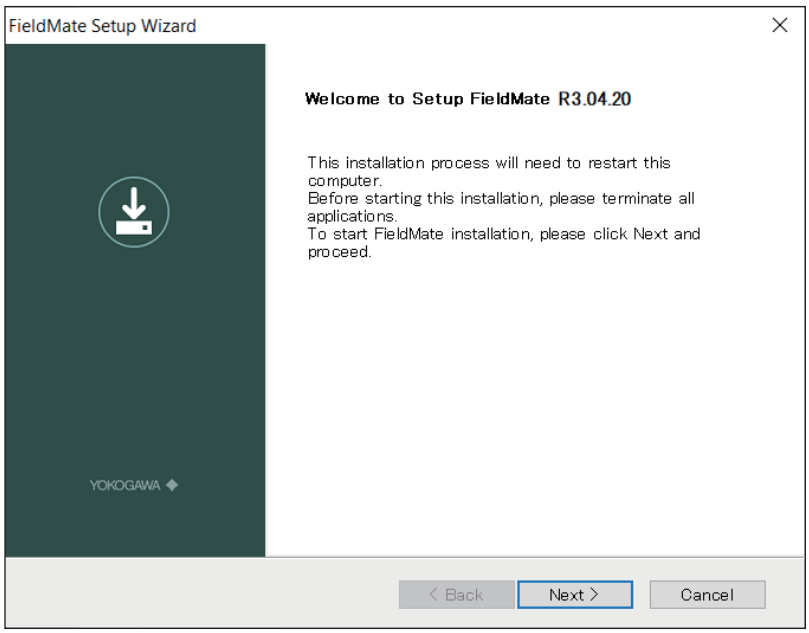
(2) User Account Control



B010303E.ai

Figure B-1-3 (Example)

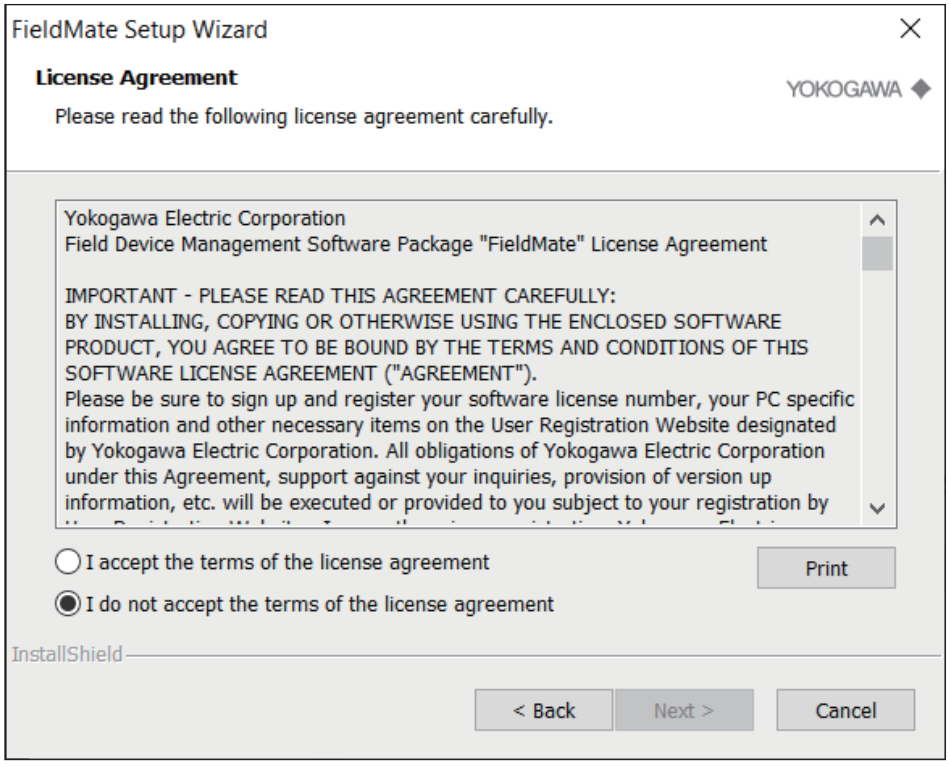
Click “Continue” and proceed.



B010304E.ai

Figure B-1-4

3. The License Agreement window appears. If you agree with the terms, select “I accept the terms of the license agreement,” and then click the NEXT button.

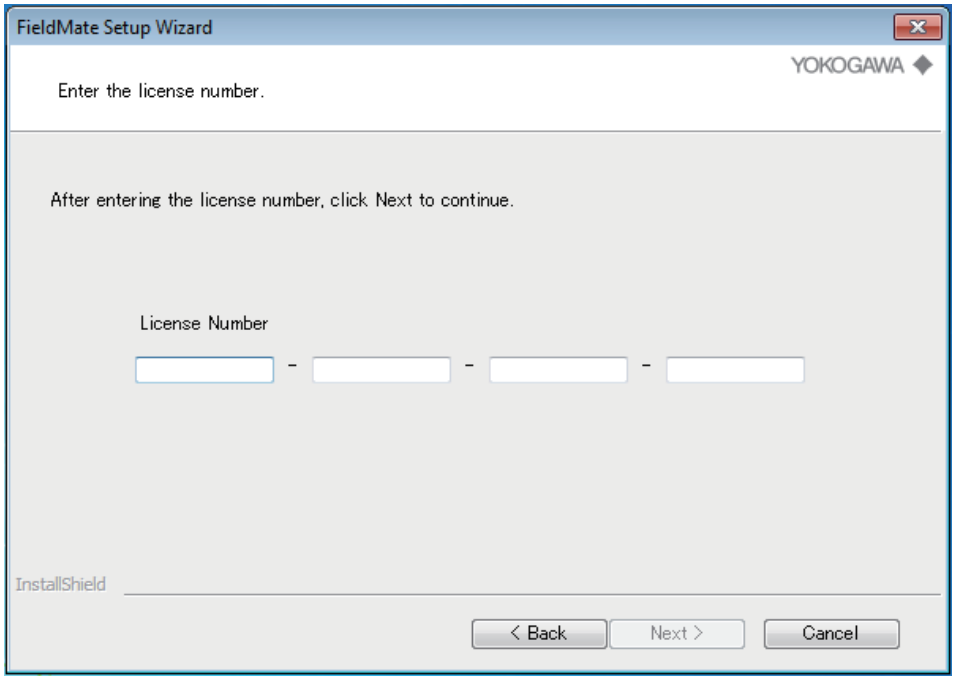


B010305E.ai

Figure B-1-5

4. The Enter License Number window appears.

5. Enter the license number. You can proceed to Step 6 after you enter the correct license number.



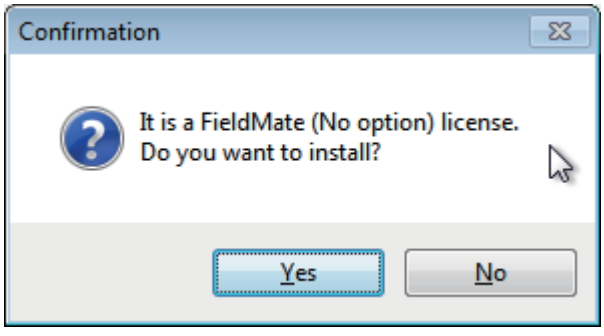
B010306E.ai

Figure B-1-6

NOTE

Enter the license number carefully. Make sure to type the number “0”, the capital letter “O”, the number “1“, and the capital letter “I” correctly. The system will reject incorrect entries. The wrong license number will generate an invalid Activation key.

6. The confirmation window appears informing you that FieldMate is installed. When license number for AXF verification Tool (/VF option) is input, the window for this option appears on the display.



B010307E.ai

Figure B-1-7 (Example)

NOTE

In some regions, an additional screen for choosing the language is added. Otherwise, the display language for FieldMate defaults to the OS language.

7. Select the Yokogawa DTM, or select whether to install other manufacturers' DD/DTM.

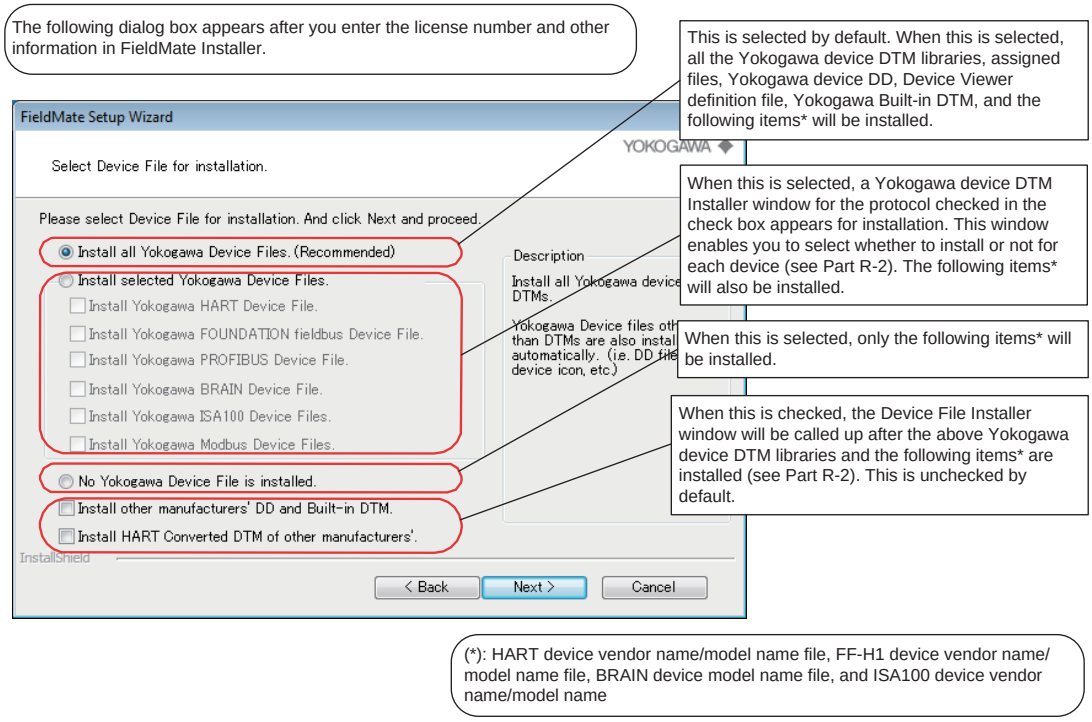


Figure B-1-8

8. Select the drive for installation. Default is C drive.
   Click Next.

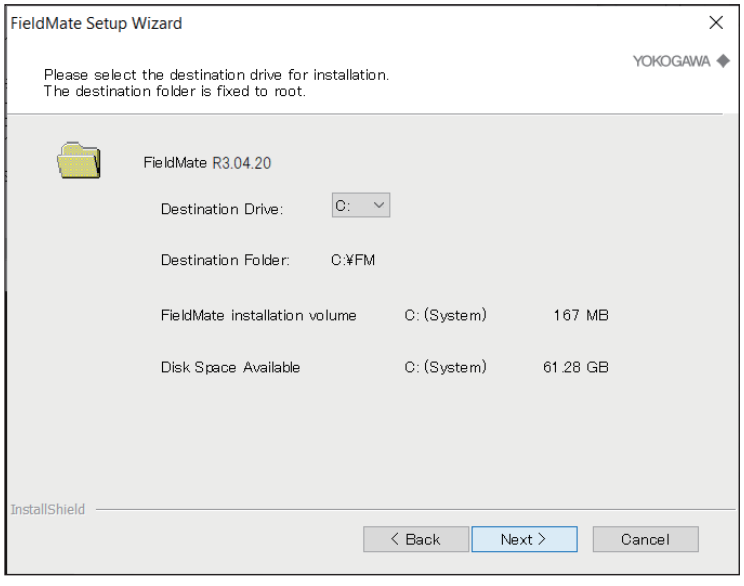
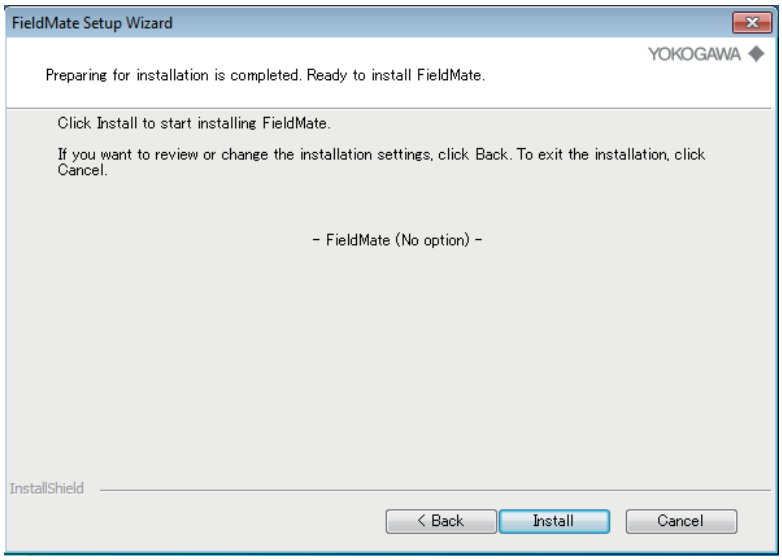


Figure B-1-9

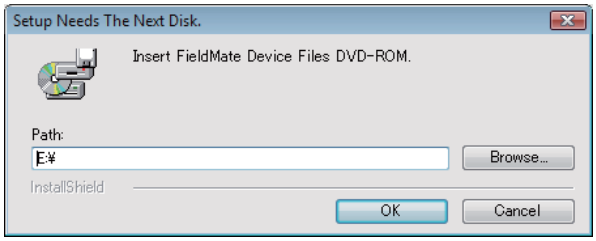
9. Click the Install button to start the installation.



B010310E.ai

Figure B-1-10

10. A dialog box appears asking you to insert the FieldMate Device Files DVD-ROM. Click “OK” and proceed.



B010311E.ai

Figure B-1-11

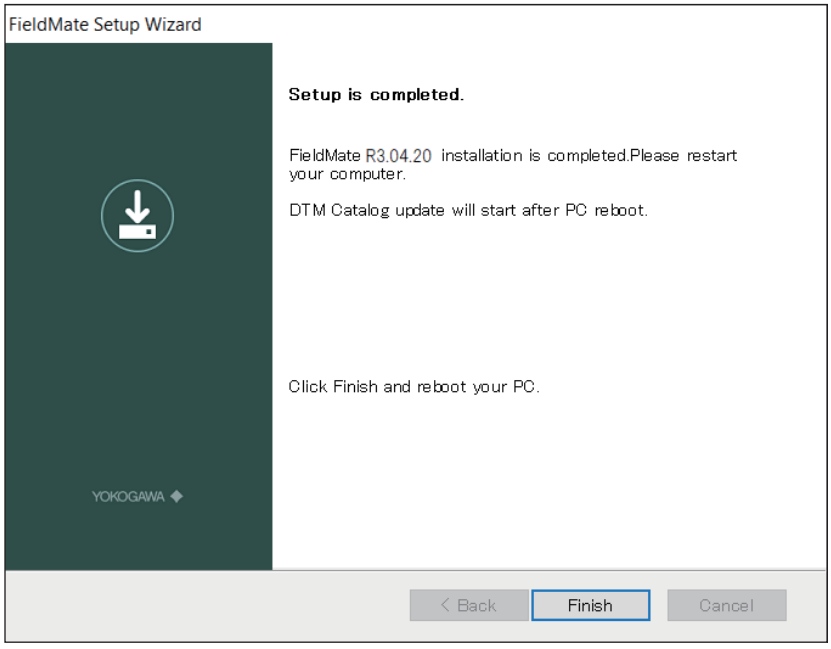
11. The License Agreement of Device Files window appears. If you agree with the terms, select "I accept the terms in the License Agreement," and then click the Install button.



B010312E.ai

Figure B-1-12

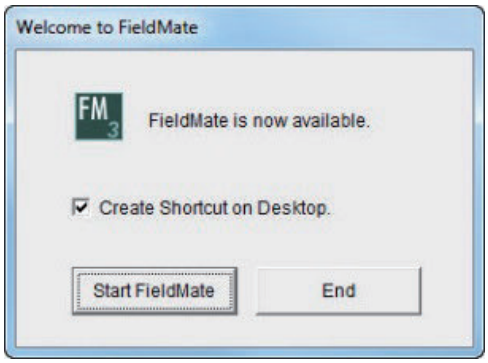
12. When the installation is finished, a prompt to restart the PC appears. Restart the PC.



B010313E.ai

Figure B-1-13

13. After restarting the PC, the following window is displayed.



B010314E.ai

Figure B-1-14

Objects to be Installed

Contents to be installed automatically

Out of the contents that are packaged in FieldMate/Device Files media, FieldMate software, USB FieldMate modem driver, .NET Framework 4.7.2, and Yokogawa device files.

NOTE

The USB FieldMate modem driver is installed automatically.

Check that “Silicon Laboratories CP210x USB to UART Bridge (Driver Removal)” or “Windows Driver Package Silicon Laboratories Inc. (silabser) Ports (23/05/2018 10.1.3.2130)” is installed using Programs and Features in the Control Panel.

If the installation is not performed correctly, double-click the following file.

FieldMate Media\USB_Modem_Driver\FMModemInstaller.exe

Contents to be selectively installed

Yokogawa device DTM: All DTMs or DTM for each communication protocol can be selected. The object is all Yokogawa device related files for individual communication protocols stored in the Device Files media.

Device files (DD/DTM) of other manufacturers: The object is HART and FOUNDATION fieldbus DD/DTMs. DD and DTM can be selected for each vendor, model, or revision.

SEE ALSO For the installation procedure of device file media, refer to Part R, “Adding/Deleting Device Files.”

Precautions for Installation

- Installation is not possible in any of the following cases. A message will appear to notify you that installation is not possible and installation will not proceed.

(1) When attempting to install the FieldMate on a PC on which Plant Resource Manager (PRM) is installed.

(2) When attempting to install the FieldMate on a PC on which Mass Flow Configuration Software FSA210 is installed.

(3) When FieldMate Lite is already installed, uninstall FieldMate Lite first before installation.

Uninstall FieldMate

Uninstall FieldMate from Apps in Settings of Windows.

*: When uninstalling FieldMate, device DTMs will not be uninstalled. Uninstall DTMs also from Apps in Settings of Windows.

Table B-1-3 FieldMate and Yokogawa Device DTM

Programs	Representation on Add or Remove Programs
FieldMate	Yokogawa FieldMate
Device DTM	Yokogawa BRAIN DTM R1.02
	Yokogawa DTMLibrary HART 2017-x
	Yokogawa DTMLibrary FOUNDATION fieldbus 2016-x
	Yokogawa DTMLibrary PROFIBUS 2018-x
	Yokogawa Device DTM Library 8.x
	Yokogawa ISA100 Communication DTM
	Yokogawa PROFIBUS DTM Library 2.x
	Yokogawa Modbus DTM Library 4.x
	Yokogawa DTM Library ROTAMASS TI

Windows Start Menu Specifications

Start → YOKOGAWA FieldMate

- Device Replacement Tool
- DTM Setup
- Export FieldMate Info
- FieldMate
- FieldMate Setup
- FLXA402 Logbook Converter
- FLXA402 Parameter Editor
- PRM Setup
- PRM Synchronization
- Report generation (CA550)
- Software Download for FOUNDATION fieldbus
- User Registration and Documents

Start → Yokogawa Device DTM Library

- License
- Read me

B-1-4 User Registration

Overview of User Registration Procedure

After installing FieldMate, you are requested to register within 30 days, acquire an activation key, and then enter it in FieldMate. This allows you to continue to use it.

You can register usage via our User Registration Web site. When registering, you need to provide the license number and hard disk drive serial number (Volume Serial Number) of the PC, drive C, in which FieldMate is installed (8 digit without hyphen).

To obtain the hard disk drive serial number, select Start Windows System
→ Command Prompt and input “dir” on the PC in which FieldMate is running.

If you have not yet registered, the dialog shown below appears after the FieldMate Login window.

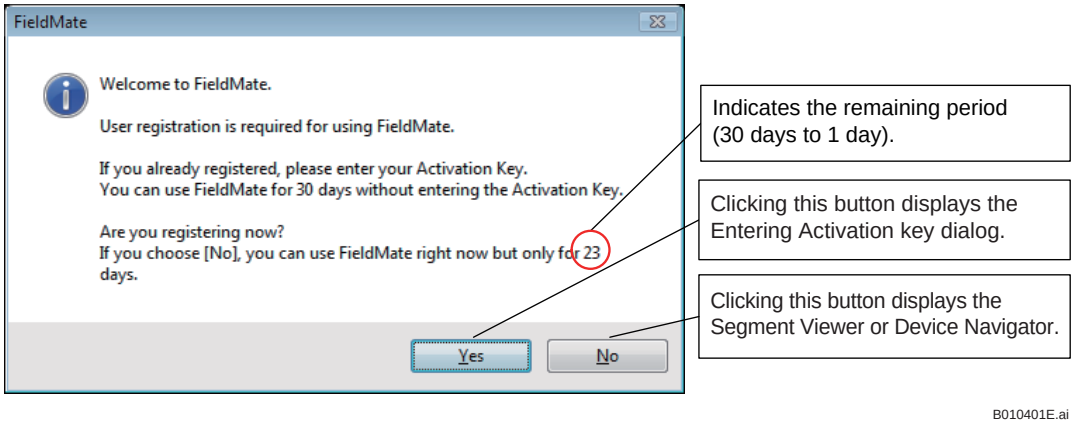


Figure B-1-15 User Registration Request Window – 1

If 30 days have passed without entering an activation key, the dialog shown below appears after the FieldMate Login window, then only the User Registration window appears.

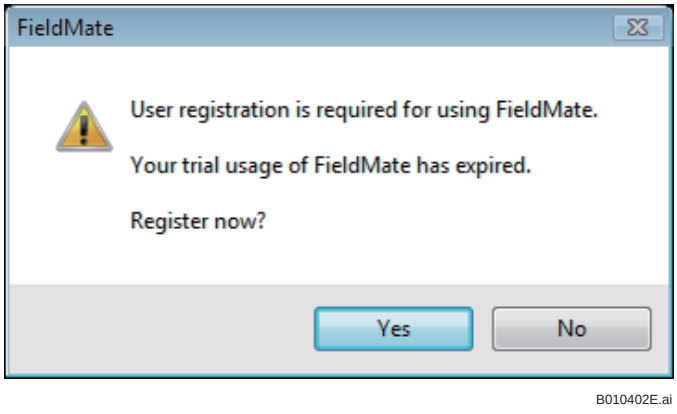
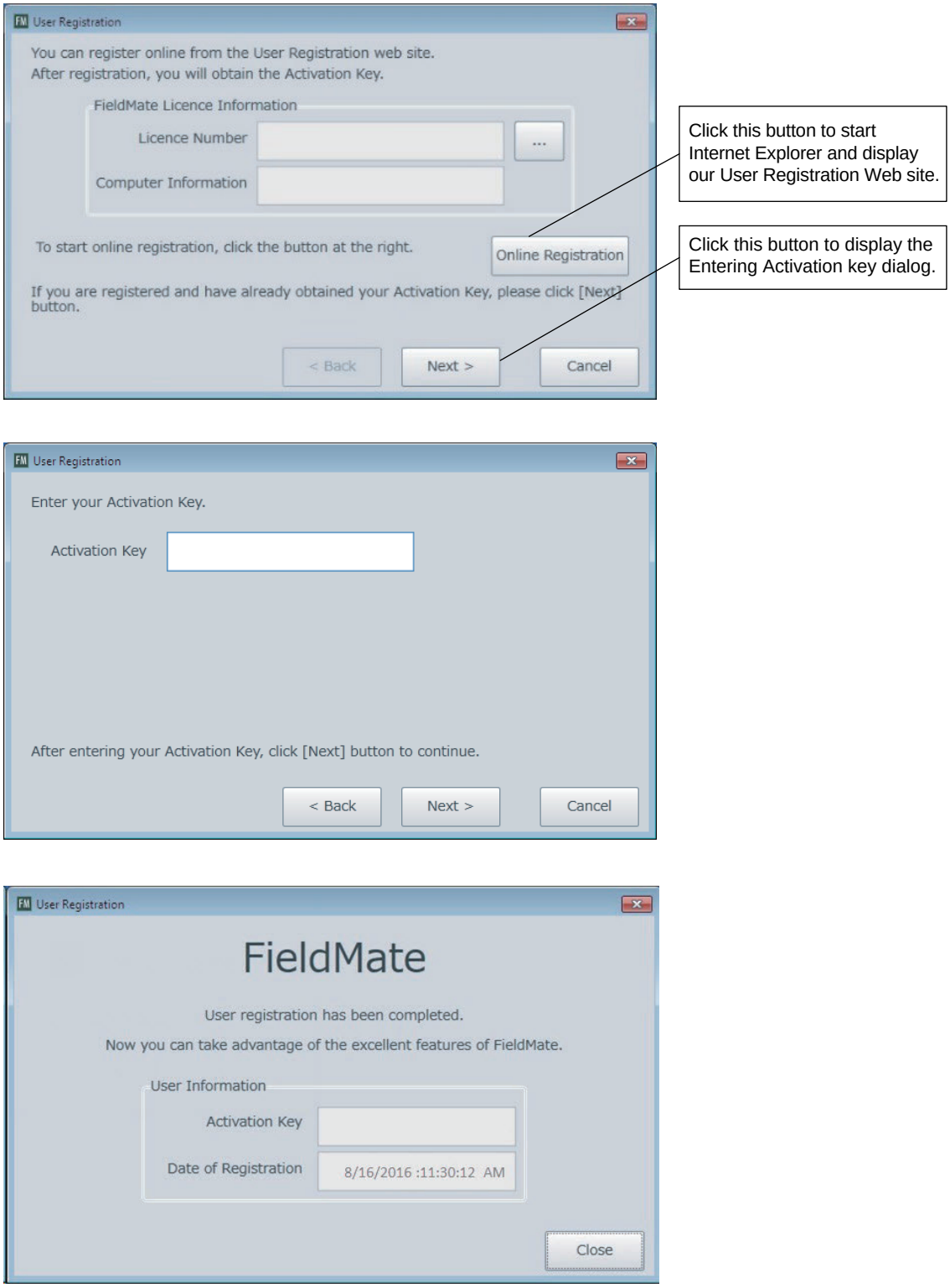


Figure B-1-16 User Registration Request Window – 2

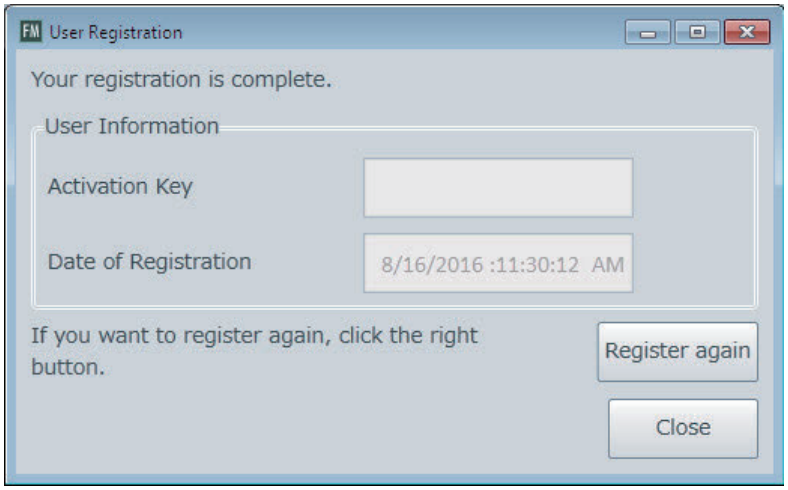
You can register via the User Registration Web site. Upon registering, you will receive an Activation key. Enter it in the window shown below to continue using FieldMate. This window can be accessed from the User Registration Request window by clicking the Help menu of FieldMate → User Registration, or by clicking the Help menu of FieldMate → About FieldMate → FieldMate Users site.



B010403E.ai

Figure B-1-17 User Registration Window (Registration not Completed Yet)

After completing user registration, the window below can be displayed by clicking “User Registration” in the Help menu of FieldMate.



B010404E.ai

Figure B-1-18 User Registration Window (after Completion of User Registration)

B-1-5 About FieldMate

You can display the About FieldMate dialog box by selecting About FieldMate in the Help menu.

1. Click FieldMate License Agreement to display the Software License Terms (however, they are not editable).

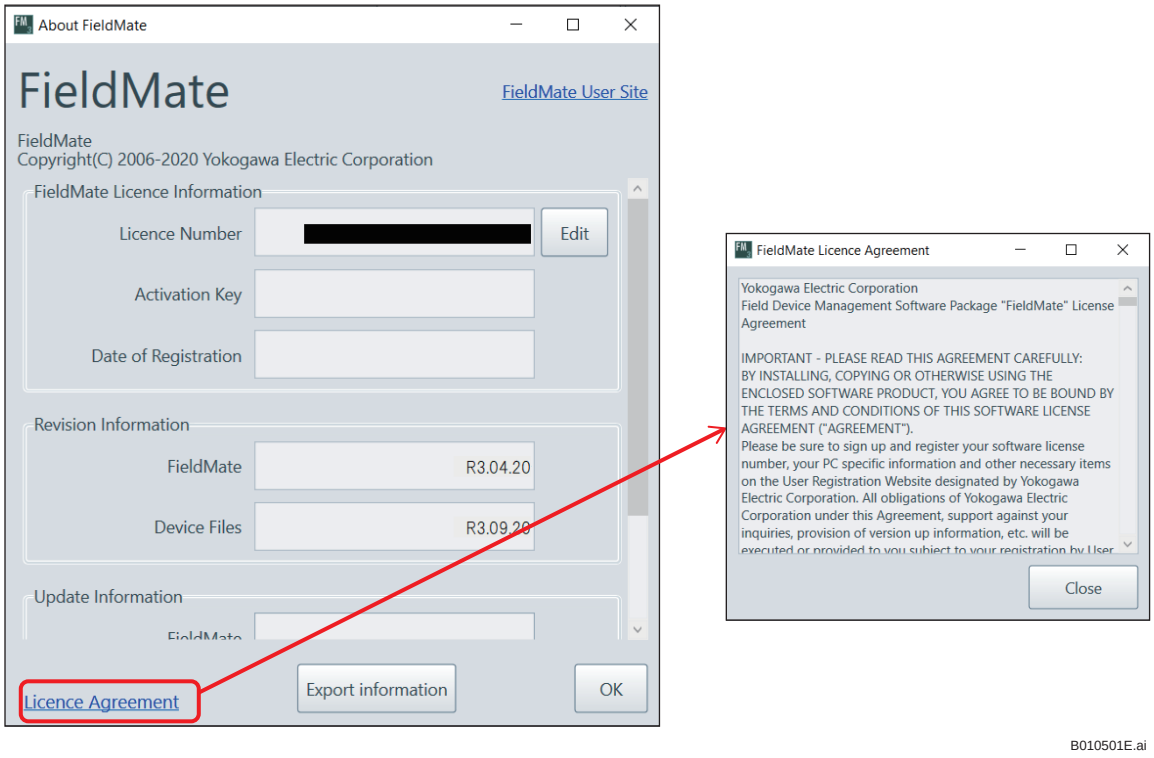


Figure B-1-19 About FieldMate

2. The revisions of installed FieldMate/Device Files and the numbers of Update programs applied to them can be displayed and saved.

   In the Update programs Information area, the revisions of installed FieldMate/Device Files and the numbers of Update programs applied to them are displayed. The information can be exported to an external file.

   To save the information to an external file, click the Export Information button.

- Default file name: AboutFieldMate.txt
- File type: text

Output

It shows an example of the exported information in the AboutFieldMate.txt.

```
FieldMate
Copyright (C) 2006-2018 Yokogawa Electric Corporation

-----FieldMate Licence Information-----
LicenceCode: **********************
Activation key:
Registration Date:

-----Revision Information-----
FieldMate: R3.04.20
Device Files: R3.09.20

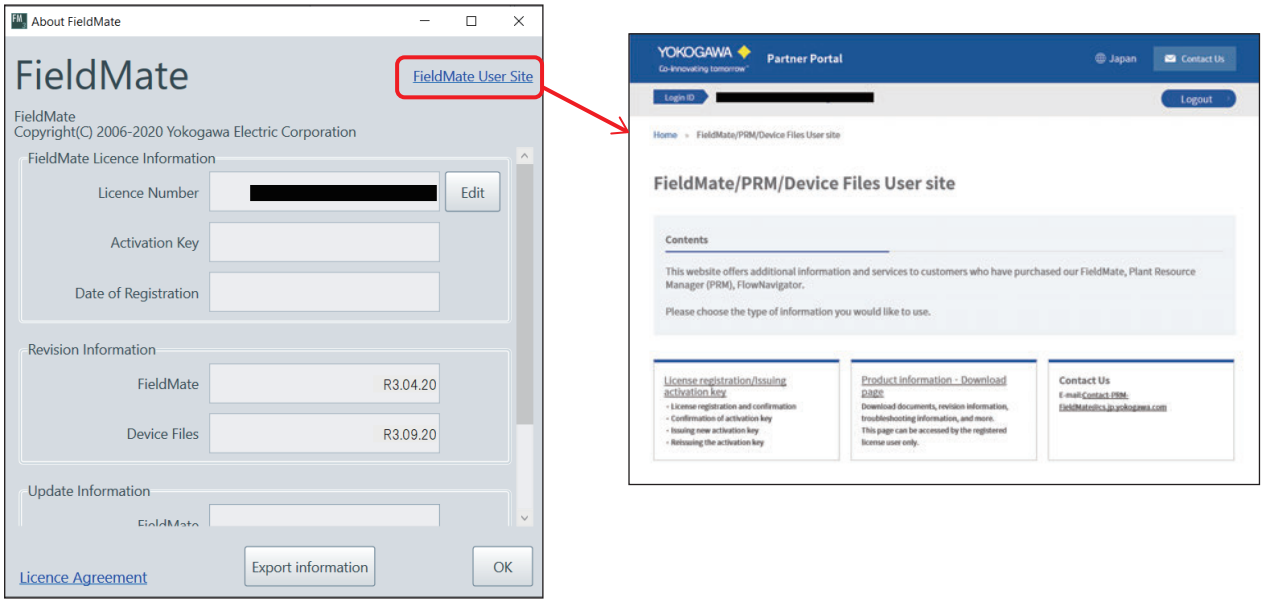
-----Patch Information-----
FieldMate:


Device Files:
```

B010502E.ai

Figure B-1-20 Example of the Exported Information in the AboutFieldMate.txt file

3. Click the FieldMate User site link to go to the FieldMate User site.



B010503E.ai

Figure B-1-21 About FieldMate – User Site

B-2 PC Configuration

It is recommended that the following items be set and confirmed after installation of FieldMate.

Power Management

FieldMate may not function properly while the sleep, standby and hibernation settings are enabled. These settings can be disabled in Windows. The setting procedure is as follows.

Log on as a user with administrator privileges, click the Start menu, select Windows System, Control Panel, System & Security, click Power Options to display the Power Options Properties dialog box, and then make sure the following items are set as described below. Note that some of the items described below may not be displayed depending on the configuration of the PC.

If an item is not displayed, the function is disabled.

- Choose what the power button does.

  When I press the power button: Do nothing

  When I press the sleep button: Do nothing

  When I close the lid: Do nothing

- Choose when to turn off the display

  Turn off the display: Never

  Put the Computer to sleep: Never

B-3 Notes on FOUNDATION fieldbus H1 Device Interface

For a FOUNDATION fieldbus H1 device, you can use FBUS from National Instruments. For details, see G-4 “FOUNDATION fieldbus Interface Selection.”

B-3-1 Notes on NI-FBUS

NI-FBUS is a driver of National Instruments for FOUNDATION fieldbus H1.
For details on installing the NI-FBUS driver, refer to the corresponding manual of National Instruments. The following are notes on NI-FBUS.

Installing the NI-FBUS Driver

1. Start the PC, log on as a user with administrator privileges, and then install the driver.
2. Restart the PC.

Settings after Installation

1. After the PC restarts, click the Start menu, point to All Programs, National Instruments, and NI-FBUS, and then select Interface Configuration Utility, or after FieldMate starts, click Tools and then select FOUNDATION fieldbus Interface Configuration.
2. If a red mark indicating that use is not possible is displayed in the dialog box, select and right-click on Board0 to choose Enable. This allows the NI-FBUS driver to be enabled.
3. In the dialog box that appears, select Port0 and click the Edit button. Configure the settings as follows.

Device Address: Visitor

Device Type: Link Master Device

Usage: NI-FBUS

For use while connected to a segment under another host, set Device Type to Basic Device.



NOTE

Connecting the segment under another Host system with Link Master Device, it may cause communication error.

C Operating Environment

C-1 System Requirements

Table C-1-1

Software Operating Environment		
OS		Windows 10 Pro/Home/Enterprise 32bit/64bit Windows 11 Pro/Home/Enterprise
OS Language		English, Japanese, Chinese (simplified), German, French, Russian
Hardware Operating Environment		
CPU		1gigahertz (GHz) or faster processor
Main Memory		2GB or more
Disk space		4GB or more
Optical Disk Drive		DVD/CD-ROM drive
Display		1024×768 or better resolution recommended
Network port		
BRAIN HART	Interface	One USB port USB2.0 standard
	Modem	USB FieldMate Modem: BRAIN/HART (Yokogawa Option)
FOUNDATION Fieldbus*1	Interface	One USB port USB2.0 standard
	Interface hardware	National Instruments NI USB-8486
	Driver	NI-FBUS Communications Manager 15.0 or later
PROFIBUS	Interface	One USB port USB2.0 standard
	Interface card	PROFIusb and PROFIdtm (Softing)
	commDTM & driver	PBpro USB and PROFIdtm (Softing) PROFIdtm DPV1 V2.20 or later
	DP/PA coupler	KFD2-BR-A.PA.93 (Pepperl+Fuchs) 6ES7 157-0AC80-0XA (SIEMENS)
HART	Interface	Bluetooth 2.0
	Modem	VIATOR® Bluetooth® Interface: Model 010041 (MACTek®) *2 USB: Model 010031
ISA100.11a*3	Interface	One USB port USB2.0 standard
	Modem	Infrared Adapter: ACT-IR224UN-LN96-LE 9600bps (ACTiSYS) *4
	Driver	Version 1.5.0 / Version 1.12.0 *6
ISA100.11a*5	Interface	One Ethernet port

For Modbus communication, prepare an interface separately.
Communication performance depends on environment and interface you select.

*1 FieldMate should connect to the devices in FOUNDATION fieldbus H1 segment without host system
*2 Microsoft supplied Bluetooth stack is used
*3 ISA100.11a OOB infrared communication
*4 Holder for Infrared Adapter is available (recommended): Gorillamobile Original: GM1 (JOBY, Inc)
*5 ISA100.11a communication via gateway
*6 Version 1.5.0 driver is used for PL2303 HA/HXA chip and Version 1.12.0 driver is used for PL2303TA chip

C-2 Software Environment

Operating System

Windows 10 Pro/Home/Enterprise 32bit/64bit

Windows 11 Pro/Home/Enterprise

Language (characters displayed in window)

English

User Privileges for Handling FOUNDATION fieldbus H1 Devices

When using FOUNDATION fieldbus H1 devices in FieldMate, Windows users who use FieldMate need to have administrator privileges (because NI-FBUS cannot be started by users who do not have administrator privileges).

Compatible Software

Some software cannot be installed in the same PC with FieldMate R3.04. The list of incompatible software for FieldMate is below.

Incompatible software:

- Plant Resource Manager (PRM)
- Mass Flow Configuration Software

C-3 System Configuration/Connection Examples

The following shows some example hardware setups for operating FieldMate with the pressure transmitter connected. Please refer to the instructions of device for details about other protocols.

BRAIN

Required Components

- BRAIN Pressure Transmitter
- 24 V DC Power Supply
- Load Register (250 Ω)
- USB FieldMate Modem

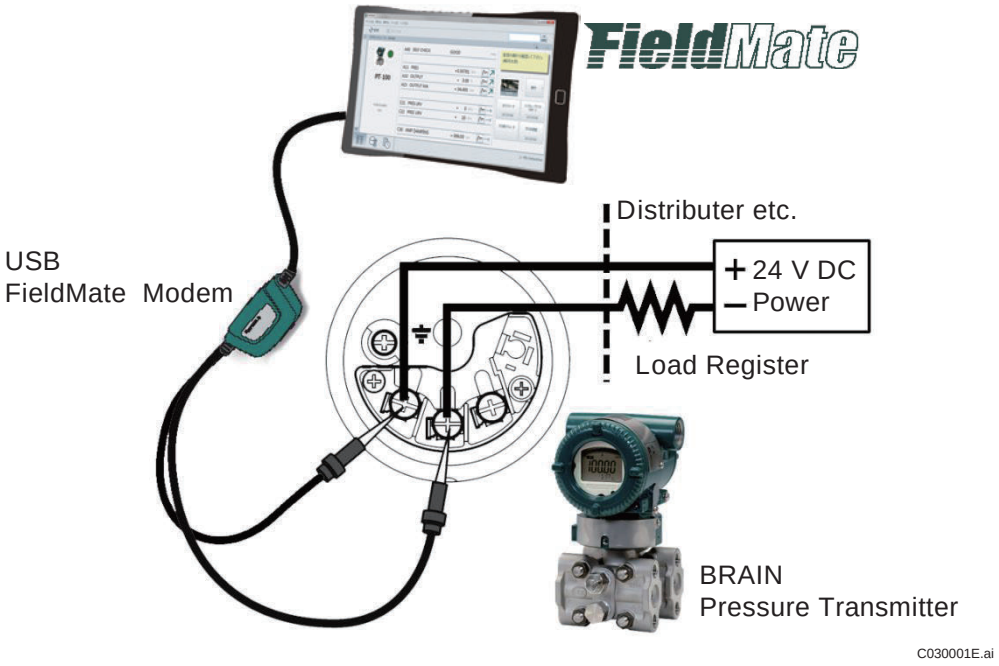


Figure C-3-1 BRAIN Hardware Setup Sample

HART

Required Components

- HART Pressure Transmitter
- 24 V DC Power Supply
- Load Register (250 Ω)
- USB FieldMate Modem

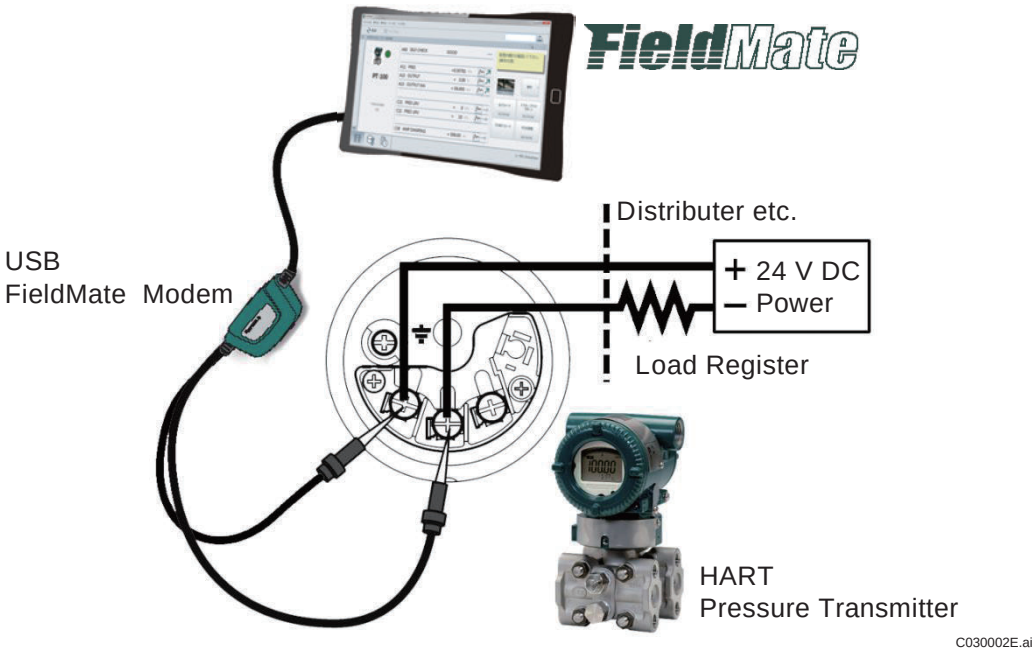


Figure C-3-2 HART Hardware Setup Sample

IMPORTANT

BRAIN/HART communication

- Analog output may change temporarily in connecting with USB FieldMate Modem due to an initial current flowed to it. To prevent communication signal affecting the upper system, it is recommended to install a low-pass filter (approximately 0.1s)
- Communication signal is superimposed on analog output signal. It is recommended to set a low-pass filter (approximately 0.1s) to the receiver in order to reduce the output effect from communication signal.
- The modem cable with red and black clips is non-polar. However, clipping and unclipping , it is recommended to connect the same polar.

Before online-communication, confirm that the connecting with the modem does not give effect on the upper system.

HART

Required Components

- HART Pressure Transmitter
- 24 V DC Power Supply
- Load Register (250 Ω)
- VIATOR Bluetooth Interface

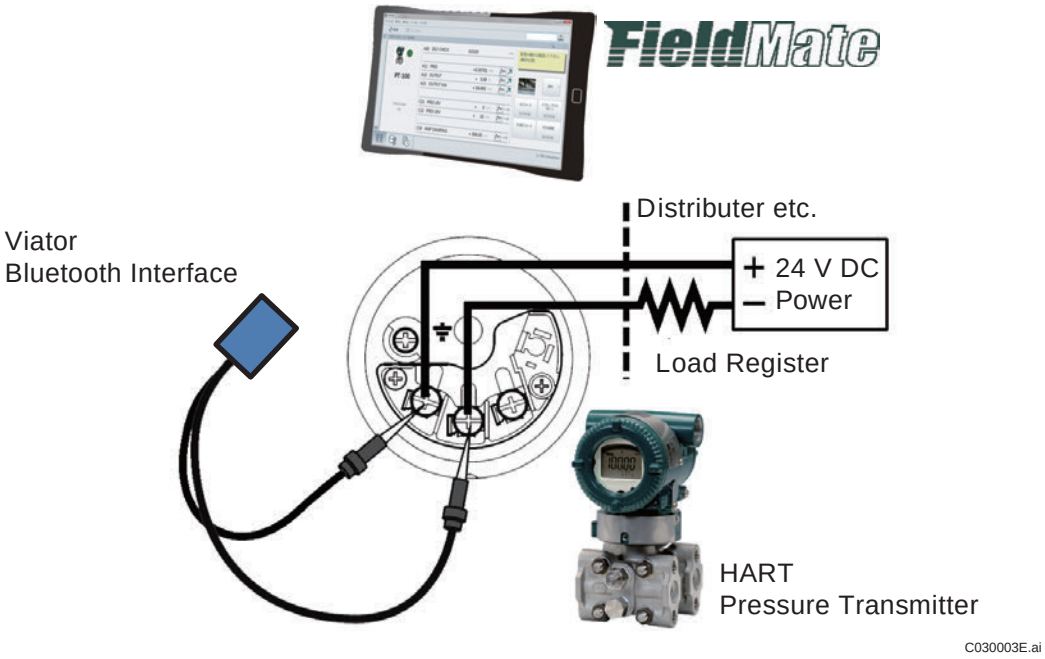


Figure C-3-3 HART Hardware Setup Sample

FOUNDATION fieldbus H1

Required Components

- FOUNDATION fieldbus H1 EJA Pressure Transmitter
- 24 V DC Power Supply
- FOUNDATION fieldbus Power Unit with Terminator
- Terminator
- NI USB-8486

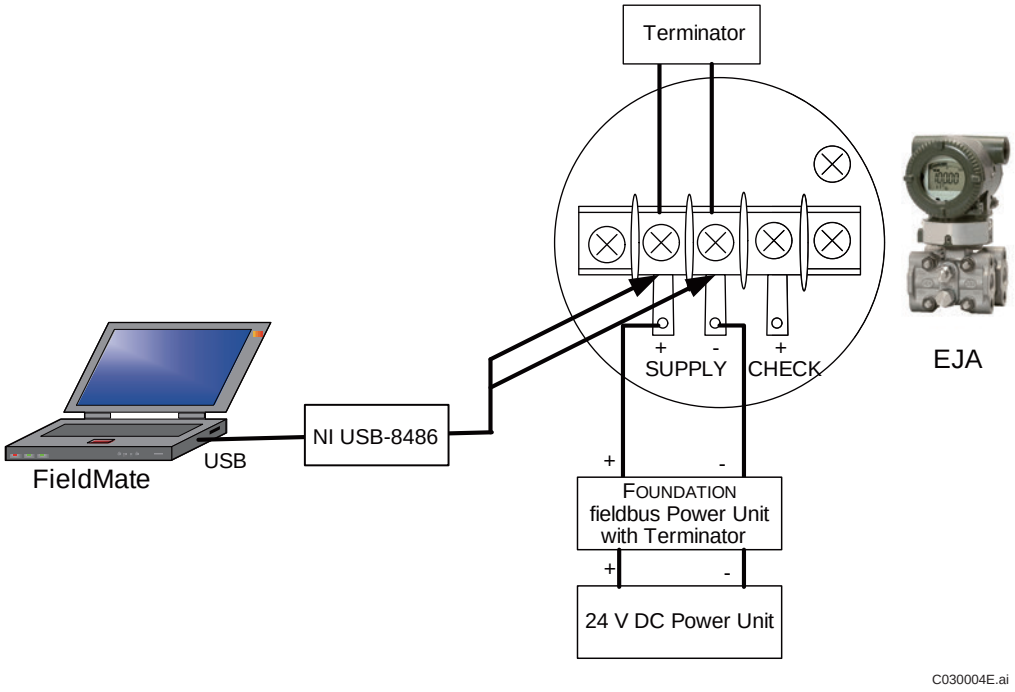


Figure C-3-4 FOUNDATION fieldbus H1 Hardware Setup Sample

PROFIBUS

Required Components

- PROFIBUS PA EJA Pressure Transmitter
- 24 V DC Power Supply
- PROFIBUS DP/PA Coupler with Terminator
- PROFIBUS Interface: PROFIusb

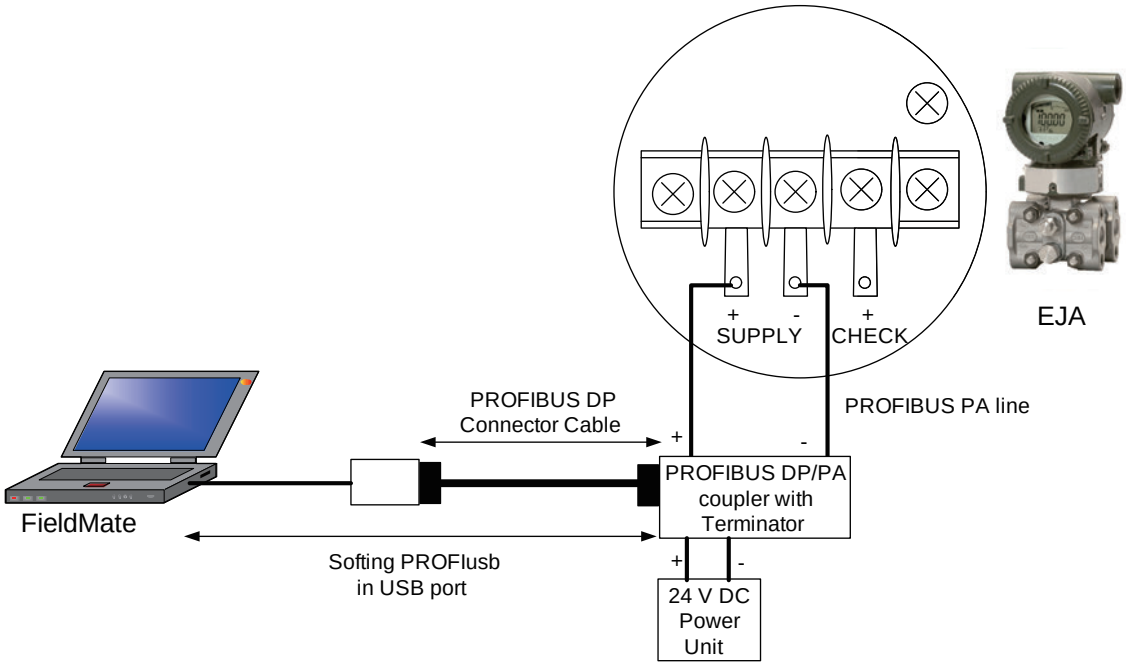


Figure C-3-5 PROFIBUS Hardware Setup Sample

D Overview

D-1 Features

- Communication Protocols and Communication Routes
  FieldMate supports BRAIN, FOUNDATION fieldbus H1, PROFIBUS, HART and Modbus communication protocols and direct connection NI USB-8486, USB FieldMate modem, USB HART modem, PROFIusb, IR224UN-LN96 and YFGW communication routes. It also handles devices with different communication protocols or communication routes at the same time.
    - USB FieldMate modem (BRAIN)
    - NI USB-8486 (FOUNDATION fieldbus H1)
    - USB HART modem/USB FieldMate modem (HART)
      PROFIusb (PROFIBUS)
    - Viator Bluetooth Modem (HART)
    - Infrared Adapter, ACT-IR224UN-LN96-LE 9600bps
      (ISA100) Field Wireless Gateway, YFGW (ISA100)
    - Isolated RS422/485 USB adaptor (Modbus)
- Adoption of Open FDT/DTM
  FieldMate has a function that serves as an FDT frame application that complies with FDT 1.2 and FDT 2.0 Specification. Thus, a third party device DTM can be incorporated and used as a device-specific application.
- Operation Logs
  FieldMate automatically records all device operations as operation logs. These logs can be generated in a file from the History window as device information. This generated information can be used to create reports.
- Input Loop Check Support
  The test output function of HART and BRAIN devices is used for Input Loop Check. The test results are saved in the database and can be used to generate reports.
- Calibration Support
  FieldMate support Calibration works for pressure transmitter with CA700 Pressure Calibrator. This function provides settings, status confirmation, and saving result for calibrating.
- Parameter Comparison
  You can compare the parameters obtained among devices of the same type. You can also display only the parameters that are different in the comparison results.
- Zero-Adjustment
  You can perform zero point adjustment for the main devices of Yokogawa Electric by using a simple operation.
- Typical Parameter
  You can find useful parameters with just connecting device. You can also select displayed parameters for each device.
- Trend View of Typical Parameter
  Typical parameters displayed in the segment viewer are automatically saved in the database and can be checked visually as a trend graph.
- Device Interaction Functions
  FieldMate automatically recognizes field devices connected to a physical segment and displays the operation status of individual field devices in a simple presentation.

Furthermore, FieldMate can configure initial settings such as tag and address settings. It also runs DTM to check and set field device parameters, and runs DD Menu, DTM, and other functions to set and adjust devices.

- Device Parameter Management Function
  FieldMate enables the uploading and downloading of snapshots of device parameters, exporting and importing of files, and comparison of parameters.
- BT200 Tablet
  FieldMate has the device configuration tool like BT200 BRAIN TERMINAL provided from Yokogawa Electric Corporation. This function can be configured field devices like operation with BT200.

SEE ALSO For more information about FDT, refer to the FDT Group Web site at http://www.fdtgroup.org.

- Supporting commDTM-based Communication Routes
  Support of communication routes by commDTM enables the addition of communication drivers and communication protocols.
- Device Maintenance Information Management Function
  This function enables maintenance information (device information, document links, device parameters, memos, etc.) for devices to be kept and managed in databases. Up to 300 devices can be managed.
  During device maintenance, for example, you can efficiently perform tasks such as referring to documents related to the devices, managing device parameters, and creating memos with the required files attached.
- PRM Synchronization
  Bi-directional file transfer operation is supported. Refer to PRM Synchronization Tool IM (IM01R01A20-01E) for details.

Device Maintenance Information Management Function

By managing the information regarding the maintenance of the device on a database, Advance supports the maintenance/management of the device. It manages device parameter values and maintenance memos for a number of devices (up to 500 devices are recommendable to manage). Advance also enables the user to refer to or change the device maintenance information of devices that are before delivery/actual placement.

User Management Function

This function defines the FieldMate user account (user ID, password).

Cases of Use

FieldMate Advance is supposed to be used in the following two ways, and provides an operation system and performs data management accordingly.

1. Setting and adjustment of a device on a workbench, etc. before on-site installation.

   Or setting and adjustment of a device at installation site.

   → This way of use is common for both Basic and Advance.
2. Setting and adjustment of a device remotely via network.

   → This way of use is only for Advance.

The uses described are selected by switching between Built-in Connection and User Defined Connection in Segment Viewer. The details are described in the chapter Segment Viewer.

D-2 Description

The following lists important terms before describing the features.

- **Device DTM**

  This is a DTM for devices. This is usually assigned on the terminal of a DTM network topology (For example, device DTM for a differential transmitter)

- **commDTM**

  This is a DTM for communication devices (For example, DTM for a PROFIBUS communication card)

- **gatewayDTM**

  This is a DTM for communication devices that perform protocol conversion (For example, DTM for a PROFIBUS-HART converter)

- **Actual Device**

  This indicates device that connects physically.

- **Database Device**

  This indicates logical device in database.

- **Registering to Database**

  This means registering device to database.

- **Registered Database**

  This means that actual device is registered to database as Database device.

- **Device Maintenance Info**

  This refers to device information stored in the database. In addition to information on the actual device, this includes maintenance memos, related documents, operation logs, or device parameters.

- **FDT Project**

  This is composed of network topology definitions by a comm/gateway/device DTM, and of data set for each DTM.

- **DTM Data**

  This is either data in active DTM (memory image) or that data saved to external file. DTM data consists of two types of data, device parameters and DTM specific parameters.

E FieldMate Startup

This part describes FieldMate startup.

E-1 FieldMate Startup Window

Start Window

FieldMate Startup Window is the first gate to commence FieldMate defined field work.

Work Selection button provides the whole list of predefined filed works, user can select the desired maintenance work.

Once any field work is selected, the same work menu becomes easily selectable from Work History pane.

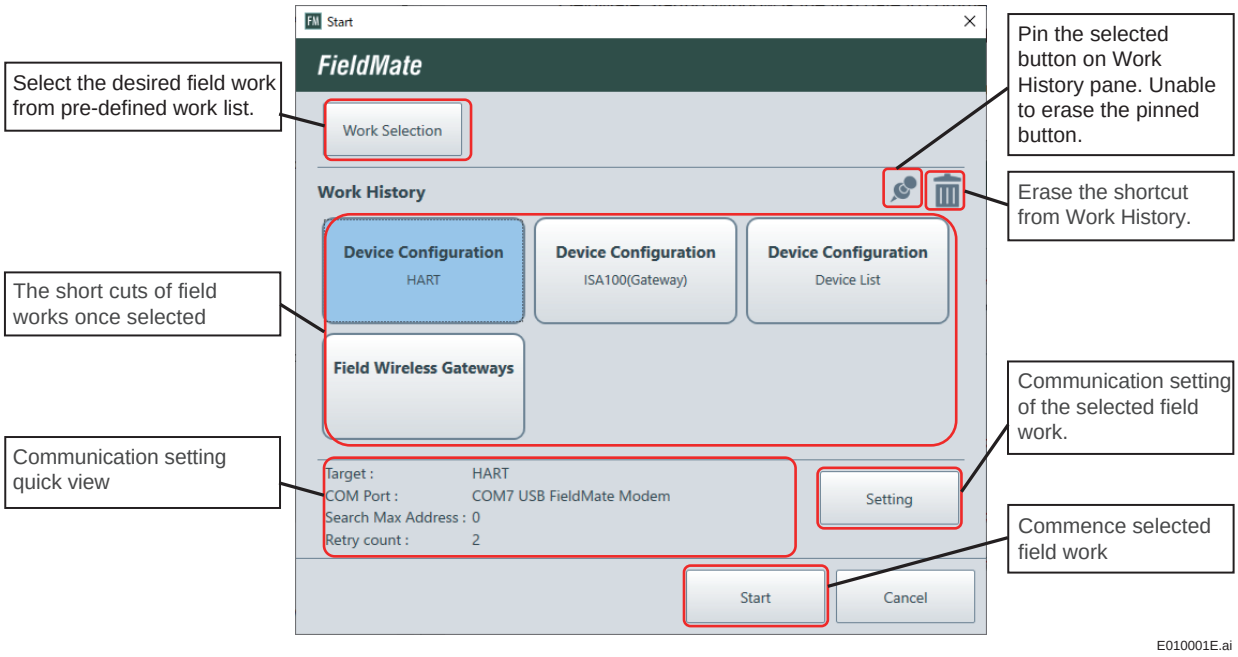


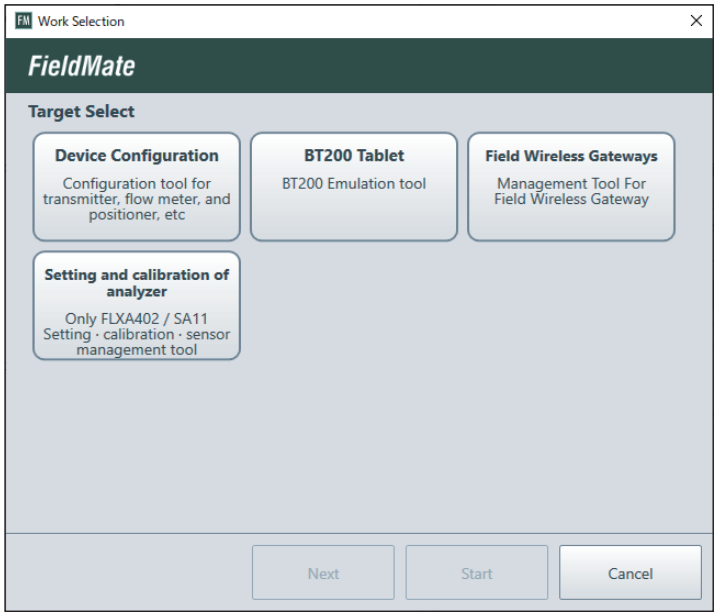
Figure E-1-1 Start Window

NOTE

The Favorite selection button is displayed on the Start Window if the “Enhanced Favorite function” is enabled. See “Appendix J Enhanced Favorites function” for details about “Enhanced Favorites function”.

Work Selection Window

Comprehensive maintenance work menus are pre-defined in FieldMate, the desired work menu is selectable on this window.



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Figure E-1-2 Work Selection Window

- Device Configuration

Comprehensive configuration work menu for field instrument, transmitters, flow meters and valve positioners.

Press this button and proceed to Next button to commence the work menu.

- BT200 Tablet

The same capability of BT200 BRAIN Hand Held Terminal is available by the emulator software.

Press this button and proceed to Start button to start the emulator software.

- Field Wireless Gateways

Configuration and management of Field Wireless Gateway for FN110 with inter module communication code “-R1” is available with ISA100 Wireless Gateway Assistant.

Press this button and proceed to Start button to start ISA100 Wireless Gateway Assistant.

- Setting and calibration of analyzer

The dedicated screen is prepared for the 4-Wire Converter FLXA402 and the SENCOM™ Smart adapter SA11, and supported the following functions.

- Local Display system for FLXA402
- Direct access system for SA11

Press this button and proceed to Start button to start Calibration Management for Liquid Analyzers function.

NOTE

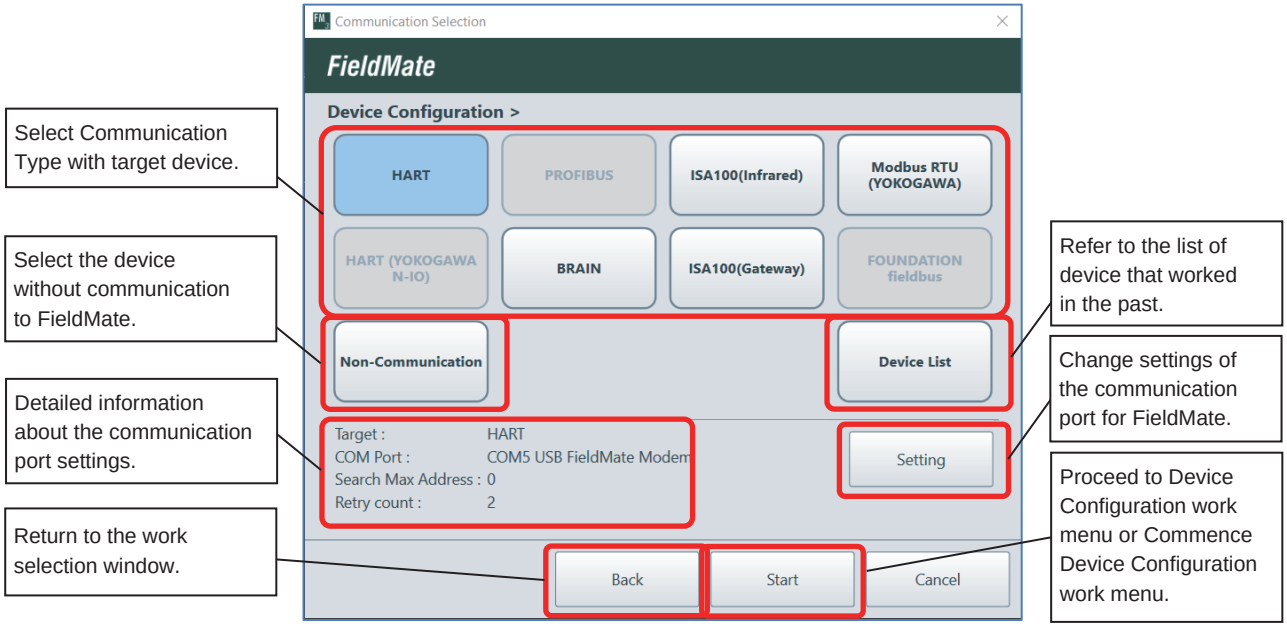
The Favorite selection button is displayed on the Work Selection Window if the “Enhanced Favorite function” is enabled. See “Appendix J Enhanced Favorite function” for details about “Enhanced Favorite function”.

Communication Selection Window

Primary, in the beginning of Device Configuration menu, the desired communication type needs to be specified.

All of communication types supported in FieldMate are selectable in this window.

The precise information about the setting of communication port for FieldMate software are detailed in the communication setting pane.

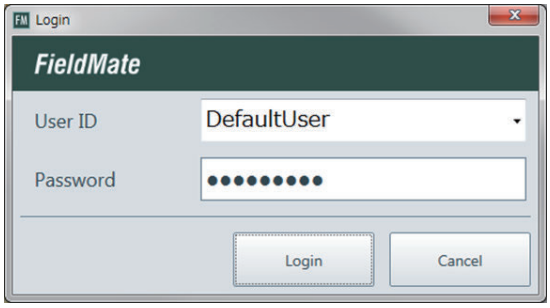


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Figure E-1-3 Communication Selection Window

Login Window

This window is for the user certification.



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Figure E-1-4 Login Window

Enter “User ID” and “Password” of the login user.*

Default

User ID: DefaultUser

Password: Default password

*: This dialog is not displayed if you have not added users with the user management function.

■ Communication Settings

◆ HART communication settings

● Startup

- Start from Login window → Communication Settings → HART → Setting.
- Start this function from HART Modem Configuration under the [Tool] menu of the main window of FieldMate.

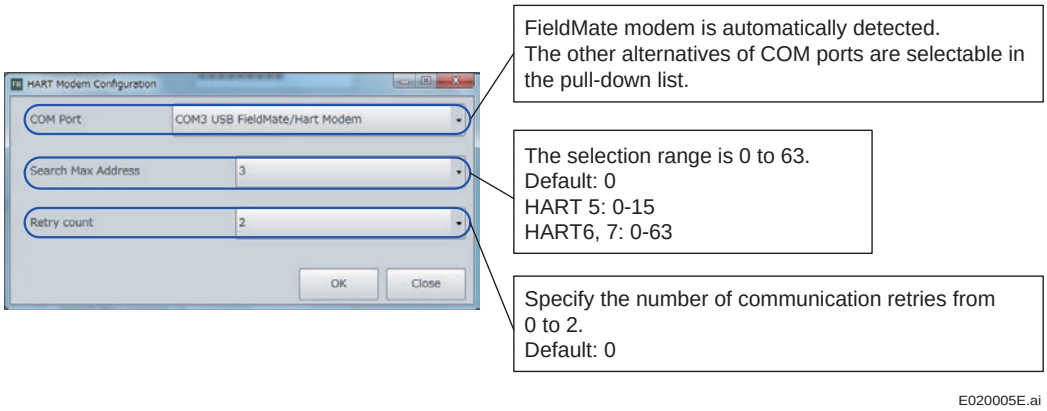


Figure E-1-5 HART Communication Settings

* Check and specify a COM port number of the modem if it is not detected automatically.

Windows System → Control Panel → Device Manager (COM and LPT)

Check a COM number of Silicom Labs CP210x USB to UART Bridge and specify it on the COM Port as the COM Port number of the modem.

TIP

COM number of modem may change depending on PC condition including connecting USB device. It is advisable to confirm the procedure above.

Note: Modem Configuration setting is required individually by protocol on BRAIN and HART.

◆ FOUNDATION fieldbus settings

For a FOUNDATION fieldbus device interface, you can use NI-FBUS from National Instruments. The following indicates outlines of each device interface.

■ NI-FBUS

NI-FBUS is a driver of National Instruments for FOUNDATION fieldbus H1.
For details on installing the NI-FBUS driver, refer to the documentation of National Instruments. The following are notes on NI-FBUS.

● Installing NI-FBUS Driver

1. Start the PC, log on as a user with administrator privileges, and then install the driver.
2. Restart the PC.

Settings after Installation

1. After PC restart, select one of the operations below.
   (1) Login window → Communication settings → FOUNDATION fieldbus → Setting
   (2) After FieldMate startup, Tool → FOUNDATION fieldbus Interface Configuration
   (3) Start of Windows → National Instruments → NI-FBUS →Utilities
   → Interface Configuration Utility
2. If a red mark indicating that use is not possible is displayed in the dialog box, select and right-click on Board0 to choose Enable. This allows the NI-FBUS driver to be enabled.
3. In the dialog box that appears, select Port0 and click the Edit button. Configure the settings as follows.
   Device Address = Visitor
   Device Type = Link Master Device
   Usage = NI-FBUS

However, for use while connected to a segment under another host, set Device Type to Basic Device.

Connecting with a setting as Device Type = Link Master Device may cause an error on communication to the host.

Select FOUNDATION fieldbus H1 Communication

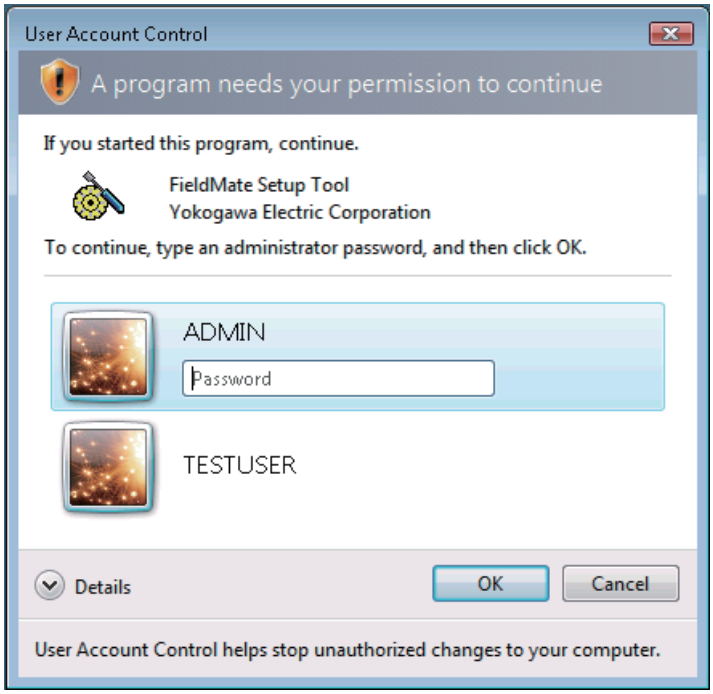
Select a device interface for FOUNDATION fieldbus H1 communication. Select from NI-FBUS from National Instruments.

Calling

Call FieldMate Setup Tool from Start of Windows → YOKOGAWA FieldMate → FieldMate Setup

TIP

A window is displayed for confirmation purposes due to the user account control.



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Figure E-1-6 User Account Control

Click “OK.”

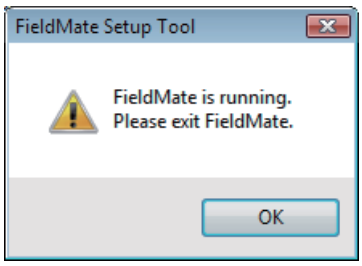
When the user management of FieldMate is defined, the following login dialog is displayed. After logging in, the FieldMate Setup Tool window appears.

FieldMate Setup Tool does not start if FieldMate HMI is already running.



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Figure E-1-7 Login Window

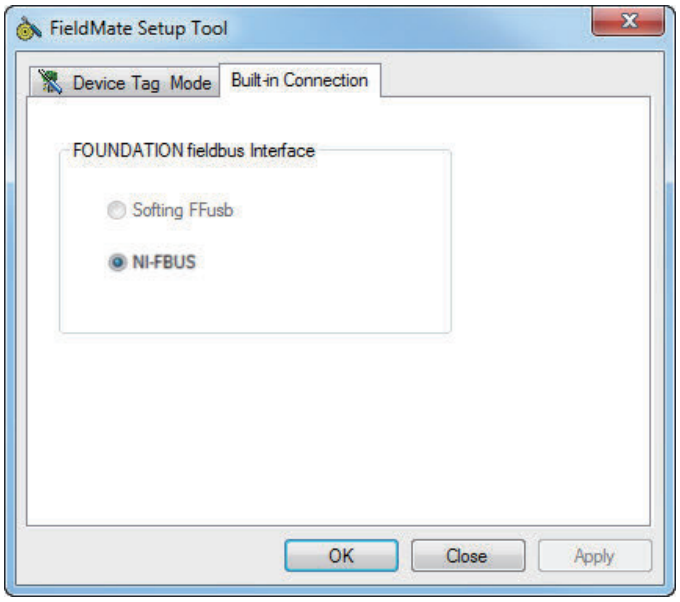


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Figure E-1-8 Message appears when FieldMate is already running

Setting

Select a FOUNDATION fieldbus H1 communication interface after selecting “Built-in Connection” tab.



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Figure E-1-9 Selecting a Communication Interface

Basically, FOUNDATION fieldbus H1 interface is automatically selected. The followings show the installation case.

1. When FFusb from Softing is newly installed, Softing FFusb is selected.
2. When FBUS from National Instruments is newly installed, NI-FBUS is selected.

Even after installing either interface software on the other one was already installed, former selection remains unchanged until user select communication interface manually, either Softing FFusb or NI-FBUS in the window.

Note : FFusb driver cannot be installed before FieldMate is installed.

◆ BRAIN modem settings

This function enables you to set the USB FieldMate Modem.

● Startup

Start from Login window → Communication settings → BRAIN → Setting.

Start this function from BRAIN Modem Configuration of the Tool menu of the main window.

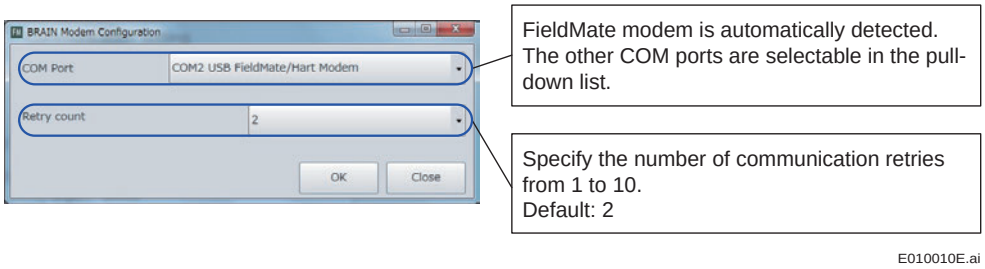


Figure E-1-10 BRAIN Modem Configuration

* Check and specify a COM port number of the modem if it is not detected automatically.

Windows System → Control Panel → Device Manager (COM and LPT)

Check a COM number of Silicom Labs CP210x USB to UART Bridge and specify it on the COM Port as the COM Port number of the modem.

TIP

COM number of modem may change depending on PC condition including connecting USB device. It is advisable to confirm the procedure above.

Note: Modem Configuration setting is required individually by protocol on BRAIN and HART.

◆ ISA100 (Infrared)

Refer to Part N for details.

◆ ISA100 (Gateway)

Refer to Part N for details.

◆ PROFIBUS Communication Settings

PROFIBUS Interface Configuration is required after FieldMate and communication driver installation. The following initial setup needs to be defined based on the PROFIBUS communication driver.

1. Start FieldMate and navigate through [Tool] - [PROFIBUS Interface Configuration…].

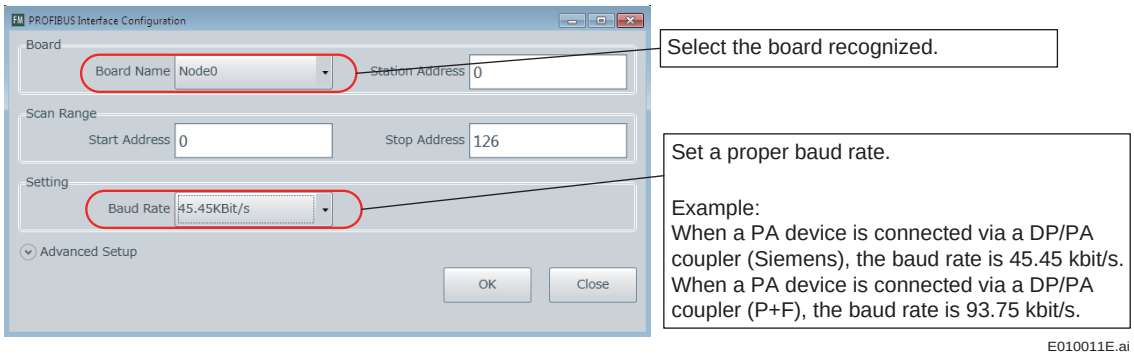


Figure E-1-11 PROFIBUS Interface Configuration

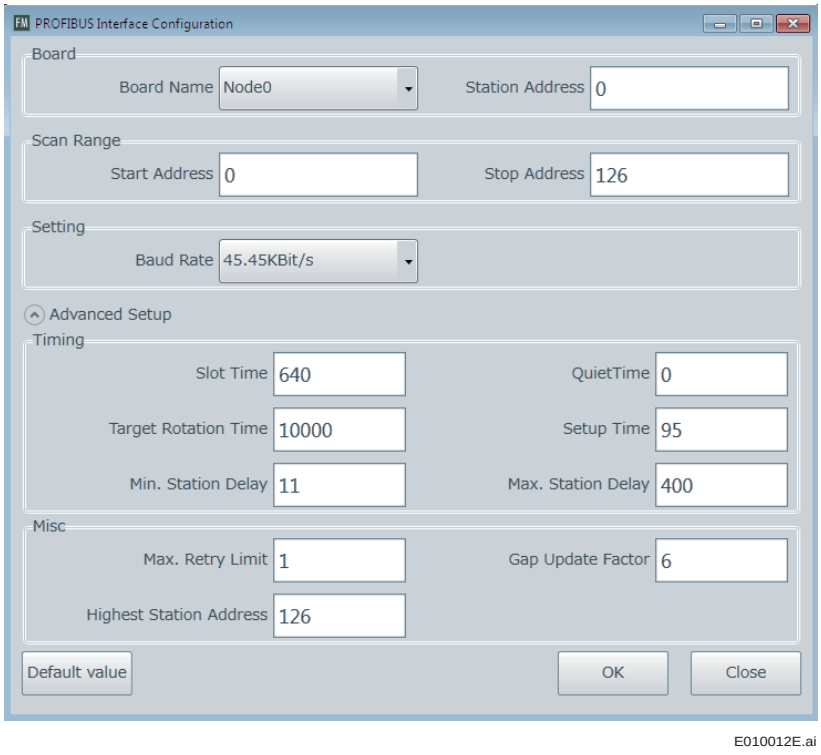
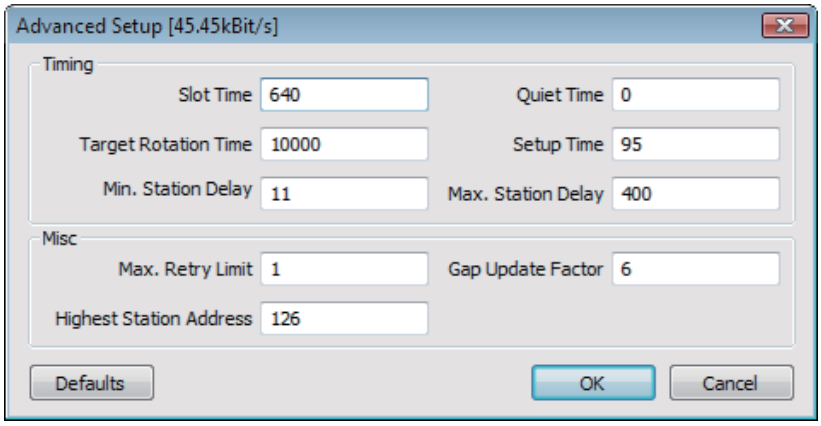


Figure E-1-12 PROFIBUS Interface Configuration

2. Select [Advanced Setup…] and open the following window. It is advisable to make sure the following bus parameter setting are same as ones of Class 1 Master on PROFIBUS network to which FieldMate is connected before operation.



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Figure E-1-13 Advanced Setup

◆ HART Bluetooth Modem communication Settings

Microsoft supplied Bluetooth standard stack is used for HART Bluetooth Modem initial setting. No specific driver is required. The following example is based on VIATOR Bluetooth interface Model: 010041 of MACTek.

■ Windows 10

● Calling

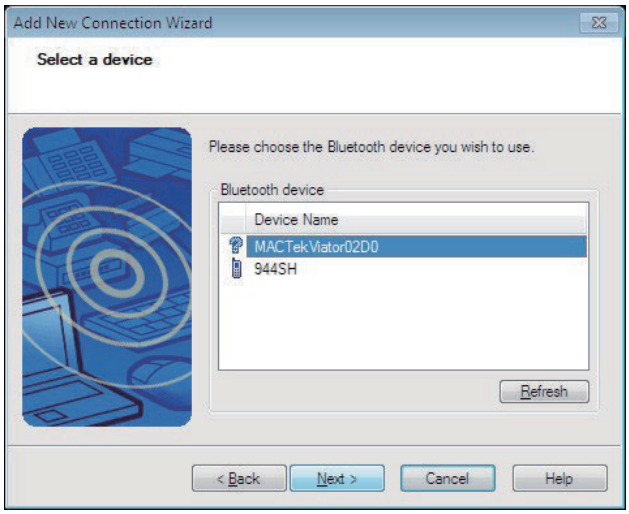
1. Start menu → Devices and printers and double-click Bluetooth Adaptor. Press “Next”.



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Figure E-1-14

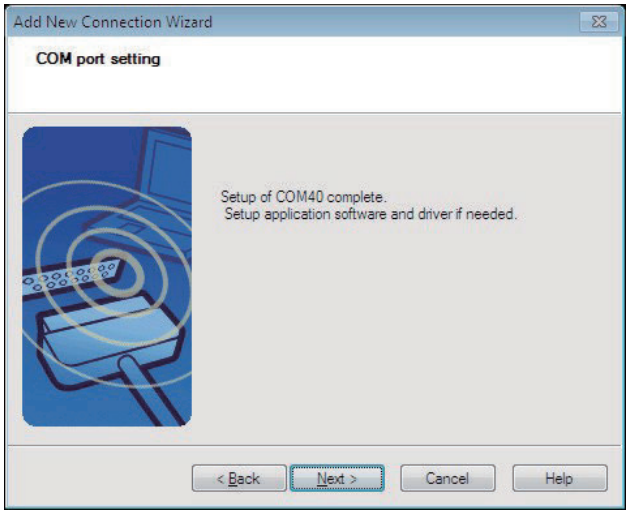
2. Add New Connection Wizard is displayed. Select “MACTekViatorxxxx”. Press “Next”.



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Figure E-1-15

3. Press “Next”.



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Figure E-1-16

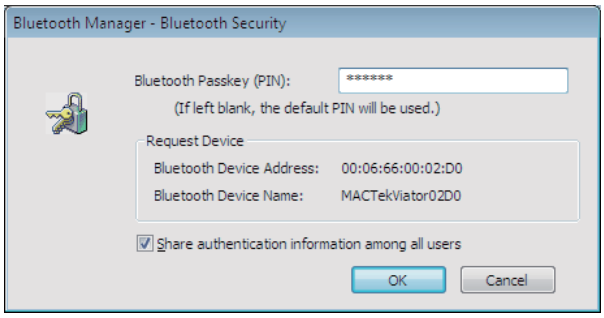
4. Bluetooth Setting is displayed. Double-click “MACTekViatorxxxx”.



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Figure E-1-17

5. Bluetooth Manager is displayed. Enter “mactek” as the PIN, case-sensitive. Please check the PIN included in the product package.



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Figure E-1-18

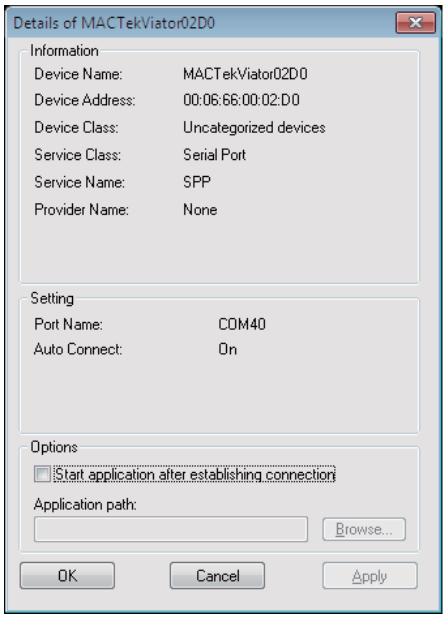
6. Bluetooth Setting is displayed. Confirm the connection.



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Figure E-1-19

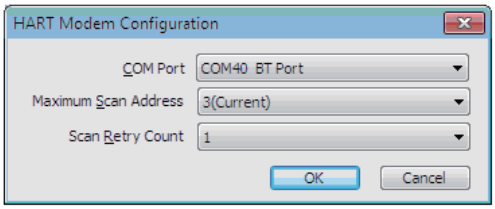
7. Right click the icon and select “Detail…”



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Figure E-1-20

8. Start Segment Viewer and enter COM port checked above in the HART Modem Configuration Window.



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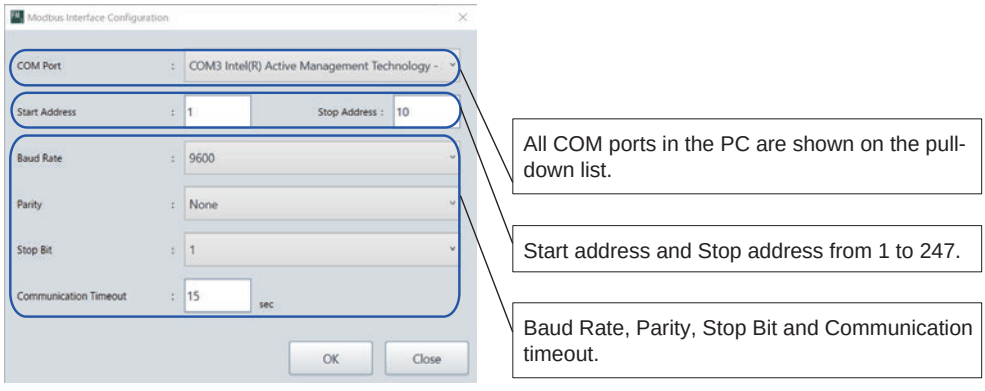
Figure E-1-21

◆ Modbus Modem communication Settings

● Startup

Start from Login window → Communication settings → Modbus RTU (YOKOGAWA) → Setting.

Start this function from Modbus Interface Configuration of the Tool menu of the main window.



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Figure E-1-22 Modbus Modem Configuration

F User Management Function

This function defines the user account (user ID, password) of FieldMate. With this function, operation logs for each user ID can be recorded.

The user account (User ID, Password) of FieldMate is valid only for FieldMate and FieldMate Setup Tool. It has no relevance to the Windows user account.

Define a User Account

Up to 100 user accounts can be defined.

User Accounts

Administrative user: User ID = Administrator, Password = FieldMate

Default user: User ID = DefaultUser, Password = FieldMate

∗: Logging in as an administrative user or default user after creating a user requires a password.

User-created account: new user accounts, 98 users

User accounts can be created/changed/deleted.

Administrative user and default user cannot be deleted, and default users' passwords cannot be changed. The password of administrative user accounts and user-defined user accounts can be changed.

Startup

Start this function from User Manager of the Tool menu of the main window.

The user ID and password of administrative users and default users are as follows.

Administrator user: User ID is Administrator, initial password is FieldMate.

Default user: User ID is DefaultUser, password is FieldMate and cannot be changed.

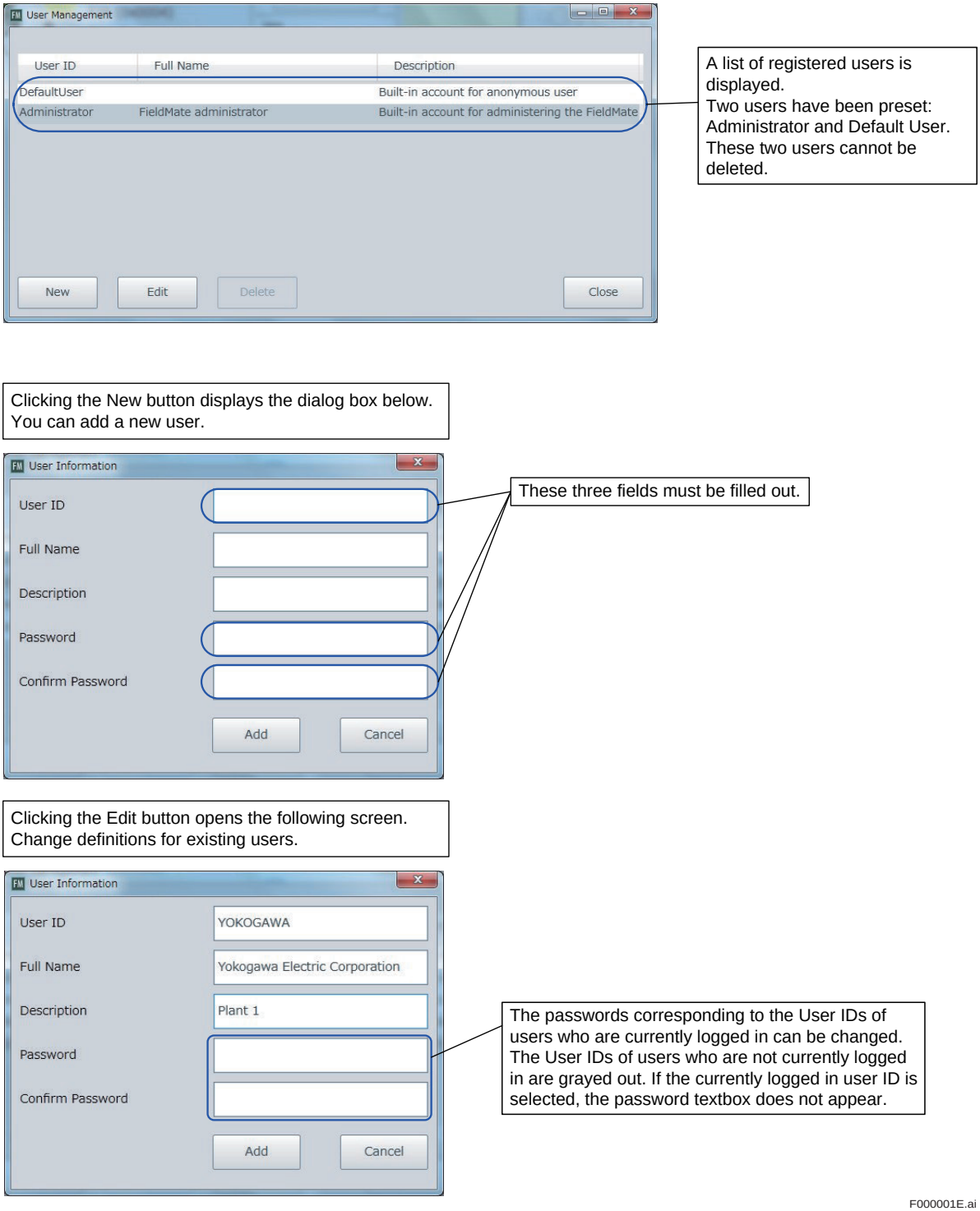


Figure F-1 User Management

G Window Layout and Main Windows Menu

G-1 Overview of Window Layout

The windows in FieldMate are classified into the following categories:

- Main windows, where devices and events are selected.
- Individual windows, where the detailed settings for individual features are available.

Each menu individually opens a window with an appropriate application/menu.

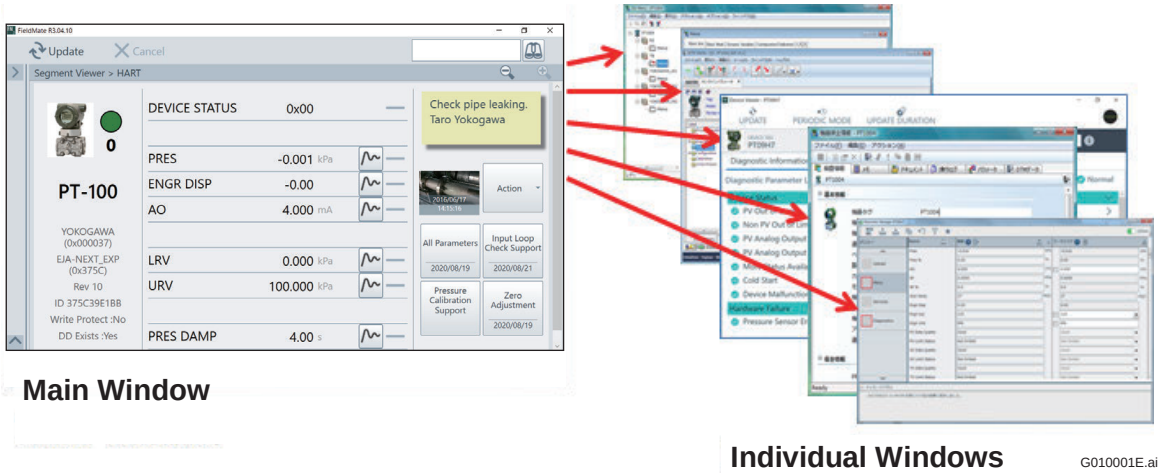
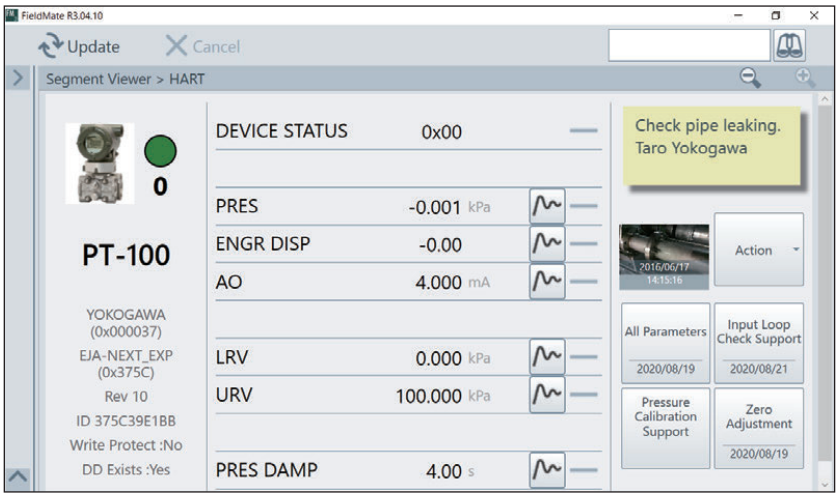


Figure G-1-1 Window Layout of FieldMate

Main Windows

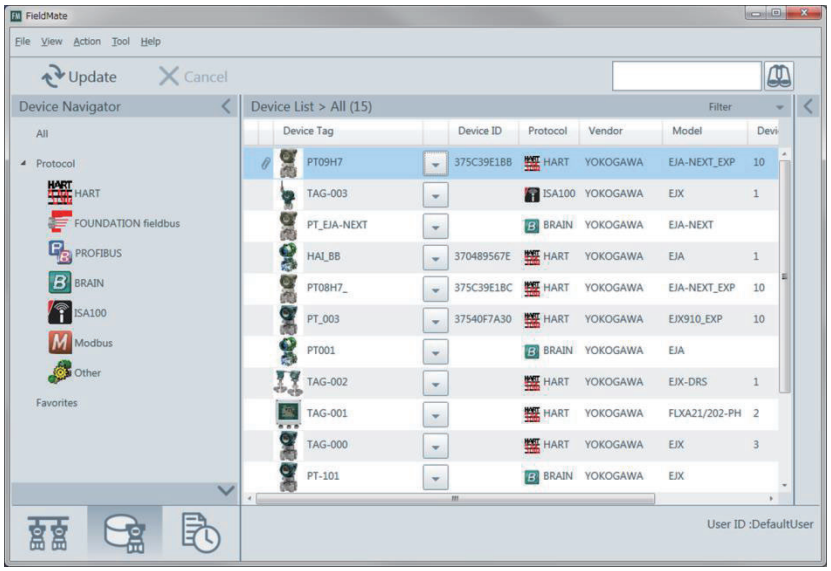
The Main Window consists of the following three kind of views:

- Segment Viewer – displays information about the currently connected device.
- Device Navigator – displays a list of the devices that are registered in the database.
- History – displays the operation logs of devices.



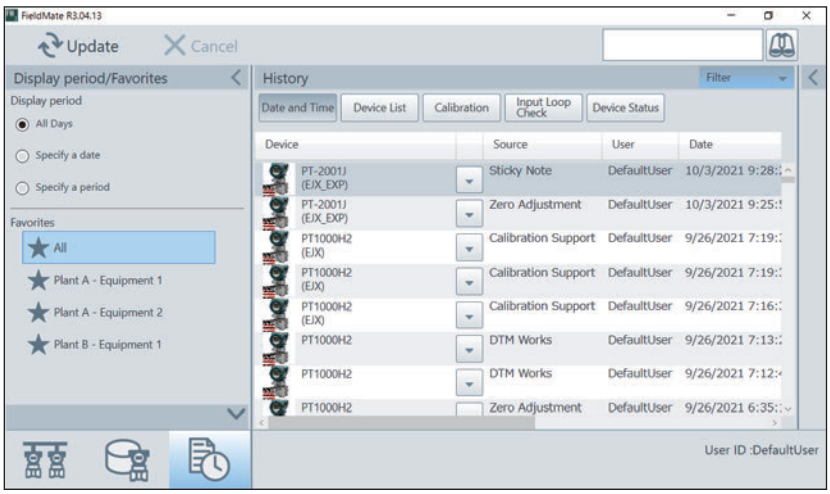
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Figure G-1-2 Segment Viewer



G010003E.ai

Figure G-1-3 Device Navigator



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Figure G-1-4 History

Select Bar

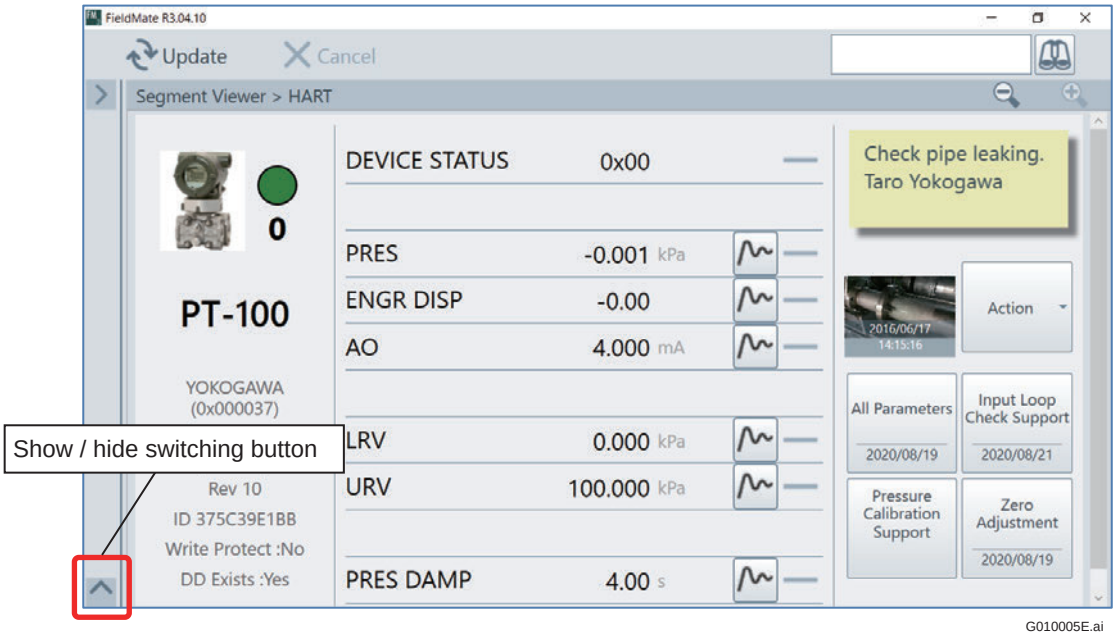
Select bar of the main window has three short-cut icons corresponding to the three views.

Table G-1-1 Main windows

Icon	Function	Description
	Segment Viewer	Opens the Segment Viewer window
	Device Navigator	Opens the Device Navigator window
	History	Opens the History window

Select bar can be hidden to enlarge the desired information area.

The status of hide/show is iconized on the button "^" in the left bottom side of the main window.



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Figure G-1-5 Select Bar Switch

Tool Bar

Tool bar has to icons to retrieve the segment viewer.

Update button triggers the field communication to retrieve the information about the field instrument, and this communication process is canceled by Update Cancel button.

Table G-1-2 Toolbar Buttons

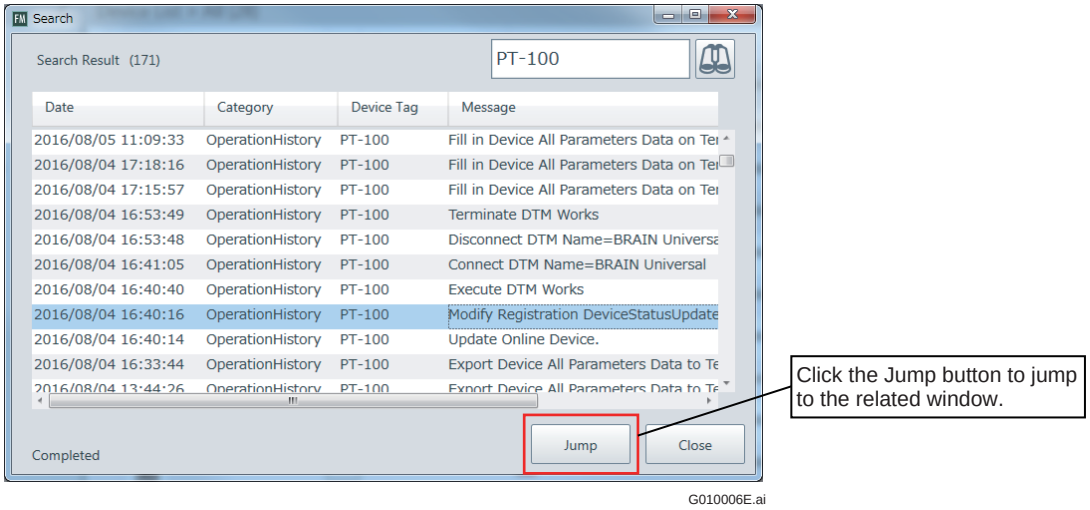
Icon	Function	Description
	Update	Updates the information displayed in the window. This function is similar to the Update option of the View menu.
	Update Cancel	Stops the ongoing update. This button is enabled only when an update is in progress.

Search Area

Search Area is in the top right of Main Window.
You can search for the information from database of FieldMate by using the Search function. Enter the key string to the text box in Search Area, and click the search button (). And then the Search dialog box appears and shows the search results that matched partially with the key string.

In the Search dialog box, you can jump to the related window of selected item from search result list. The category of the search result list shows the related window of the item.

- Device: Device Navigator
- OperationHistory: History



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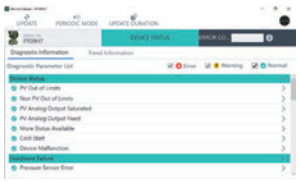
Figure G-1-6 Search dialog box

Individual Windows

The following individual windows are available in FieldMate:

1. **Device Viewer** (*1)
   This window is used for verifying the detailed operation and failure status of a HART/FOUNDATION fieldbus H1/ISA100 device. It enables FieldMate to communicate with the device and displays information such as self- diagnostic results.
2. **DTM Works** (*1)
   This window is used for configuring and adjusting a HART/FOUNDATION fieldbus H1/PROFIBUS/BRAIN/ISA100 device.
3. **Parameter Manager** (*1)
   This window is used for configuring and adjusting the parameters of HART/FOUNDATION fieldbus H1/ISA100 devices.
4. **DD Menu** (*1)
   This window is used for configuring and adjusting a FOUNDATION fieldbus H1 device. It enables you to display or execute the menu or method that is defined for the FOUNDATION fieldbus H1 device DD.
5. **Device Maintenance Info** (*1)
   This window shows the device maintenance information of the selected device tag.

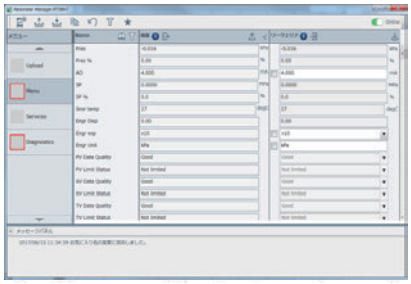
(*1) This window can display up to five windows simultaneously.



Device Viewer checks the operation status of the device.



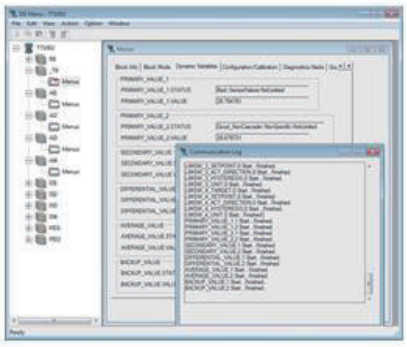
DTM Works is a device-dedicated MMI for setting/adjustment.



Parameter Manager enables device replacement and setting/adjustment of all HART, FOUNDATION fieldbus H1 and ISA100 devices using the MMI.



Device Maintenance Info handles device maintenance information.



DD Menu is for setting/adjustment of FOUNDATION fieldbus H1 devices.

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Figure G-1-7 Individual Windows

The following table describes access to Individual windows from the Main windows.

Table G-1-3 Availability of individual windows from each main window

	Device Viewer	DTM Works	DD Menu	Parameter Manager	Device Maintenance Info
Segment Viewer	Applicable (*1)	Applicable	Applicable (*2)	Applicable (*1)	Applicable
Device Navigator	N/A	Applicable	N/A	Applicable (*1)	Applicable
History	N/A	N/A	N/A	Applicable (*1)	Applicable

*1: Only applies to HART/FOUNDATION fieldbus H1/ISA100 devices.
*2: Only applies to FOUNDATION fieldbus H1 devices.

G-2 Main Window Menu

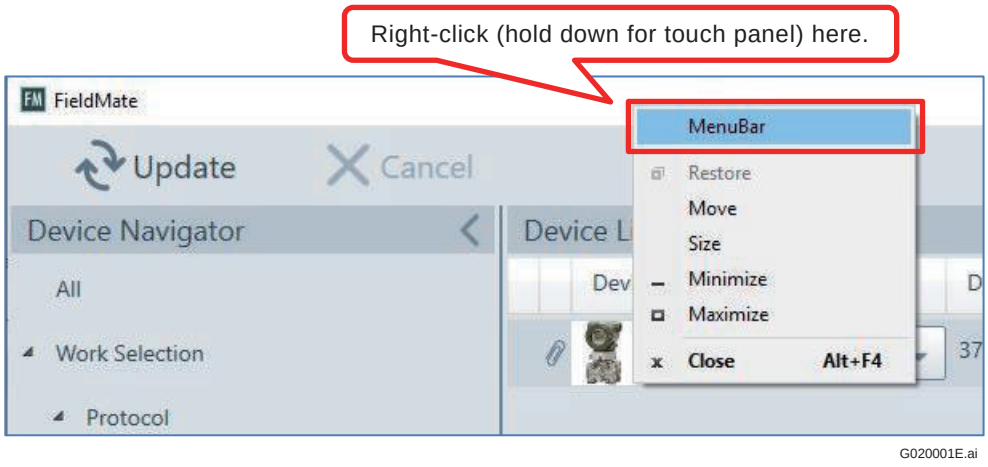
The following table describes the menu options in the menu bar. Note that the availability of the menu options may vary depending on the main window displayed and the communication protocol of the device.

NOTE

The switching time of the test signal on the screen during test execution is the time when the test signal output command is output to the device. Therefore, a delay of several seconds might occur before the test signal is output from the device.

When using FieldMate on a PC with a small screen, FieldMate hides the menu bar to secure the information to be displayed. In such a case, right-click (hold down on the touch panel) the title bar of the FieldMate window to display the menu bar display / non-display selection menu (MenuBar).

If you select the “MenuBar”, the item is checked, and the menu bar is displayed.



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Table G-2-1 Main Window Menu Options (1/2)

Menu Option *1			Explanation
File	Import Device Maintenance Info		Imports device maintenance information from external files
	Export Device Maintenance Info		Exports device maintenance information to external files
	Import Non-Communication Devices *2		Imports the list of Non-Communication devises from external files
	Export History		Exports history to external files
	Export Serial No.		Exports device serial number registered in device maintenance information to external files
	Export Provisioning Device Information File		Export the provisioning information file
	Exit		Enables the logged-on user to exit FieldMate
View	Update		Updates contents displayed in the windows
	Init Current View Format		Initializes the alignment of parameter items on ISA100 (Gateway) and HART (Adapter) in Segment Viewer
	Clear Current View		Clears the device of ISA100 (Gateway) and HART (Adapter) in Segment Viewer
	Tool bar		Show/Hide menu contents
Action	Open History Info		Show the detail information of History
	Open Device Maintenance Info		Starts the device maintenance info window
	Device config. *3		• Start Simple DTM function (connected to HART device) • Start BT200Tablet function (connected to BRAIN device)
	Assigned DTM		Starts the DTM assigned to the device in the DTM Works window
	Select DTM		Displays the Device DTM Selection dialog box and starts the selected device DTM in the DTM Works window
	Parameter Manager		Starts Parameter Manager Window
	Device Viewer		Starts the Device Viewer Window
	DD Menu		Starts the DD Menu Window
	Trend Graph Viewer		Starts the Trend Graph Viewer
	Tag/Address Assignment		Starts the Device Tag/Address Assignment Window - Sets device tag/address
	Device Class Setting		Starts the Device Class Assignment Window - Sets Device Class (Link Master or Basic)
	Function Block Execution Setting		Performs Function Block Execution/Wiring for FOUNDATION fieldbus H1 Device
	Reset Provisioning		Resets the Initialization Provisioning
	New Device Maintenance Info		Enables you to create device maintenance information
	Delete Device Maintenance Info		Deletes device maintenance information
	Compare and Generate Parameter Report		Starts the Parameter Comparison window
	Pressure Calibration Support		Starts the Pressure Calibration Support function
	Export Device Maintenance Info		Exports device maintenance information to external files
	Flag the Device	ON	Changes device flag to ON
		OFF	Changes device flag to OFF
	Add to Favorites	Create New Favorite	Creates new favorite group - Up to 30 favorites can be defined
		Favorites List	Adds selected device to Favorite group
	Delete from Favorites		Deletes selected device from Favorite group
	Install DD File		Adds DD files of device
	Device Icon Setting		Sets Device Icon to Selected File or switches back to the default setting

*1: The menu layout may differ depending on the FieldMate version
*2: Available in FieldMate R3.04.10 or later
*3: Available in FieldMate R3.04.20 or later

Table G-2-1 Main Window Menu Options (2/2)

Menu Option *1			Explanation
Tool	User Manager		Starts the User Management window - Manages FieldMate User Account
	Communication Setting	HART Modem Configuration	Starts the HART Modem Configuration window - Sets HART Modem
		FOUNDATION fieldbus Interface Configuration	Calls NI-FBUS Interface Configuration Utility or Softing FFusb Configuration Tool
		PROFIBUS Interface Configuration	Starts the PROFIBUS Communication Configuration window - Sets PROFIBUS
		BRAIN Modem Configuration	Starts the BRAIN Modem Configuration window - Sets BRAIN Modem
		ISA100 (Infrared) Interface Configuration	Enables configuration of USB Port
		ISA100 (Gateway) Interface Configuration	Sets Host Name or IP Address of Gateway
		Modbus Interface Configuration	Starts the Modbus Communication Configuration window - Sets Modbus
		HART (YOKOGAWA N-IO) Interface Configuration	Starts HART (YOKOGAWA N-IO) setting dialog
		SENCOM communication Interface Configuration	Starts SENCOM Communication setting dialog
	Device Files Setup *2	Start DTM Setup	Starts DTM Setup tool Refer to “R-3 DTM Setup” about DTM Setup tool
		DD File Utilities	Starts DD File Utilities dialog Refer to “R-1-1 DD file” about DD file Utilities dialog
	Options	Display Parameters on Segment Viewer	Show/Hide Typical Parameters on Segment Viewer
		Typical Parameters Customization	Specify the parameters to be displayed on the Typical Parameter HMI of the Segment Viewer
		DTM/Parameter Manager Startup path from Device Maintenance Info	Select Path to DTM and Parameter Manager Setup from Device Maintenance Info
		ISA100 Provisioning Setting	Select Usage Advisability for Provisioning Information File
	FDT Project		Creates, copies, and deletes FDT Project, and imports FDT Project from external files Exports FDT Project to external files and opens specified FDT Project
Help	User Registration		Starts the User Registration window - Carries out user registration processes
	About FieldMate		Starts the About FieldMate window – Displays details such as version information

*1: The menu layout may differ depending on the FieldMate version
*2: Available in FieldMate R3.04.10 or later

The following table describes the availability of menus in Segment Viewer window under different communication protocols.

The symbols in the table have the following meanings:

○: Menu is available

▲: Menu is grayed out

×: Menu is hidden

Table G-2-2 Segment Viewer Menu (1/2)

Menu		Segment Viewer						
		HART	FOUNDATION fieldbus	PROFIBUS	BRAIN	Modbus	ISA100 (Infrared)	ISA100 (Gateway)
File	Import Device Maintenance Info	▲	▲	▲	▲	▲	▲	▲
	Export Device Maintenance Info	▲	▲	▲	▲	▲	▲	▲
	Export History	▲	▲	▲	▲	▲	▲	▲
	Export Serial No.	▲	▲	▲	▲	▲	▲	▲
	Exit	○	○	○	○	○	○	○
View	Update	○	○	○	○	○	○	○
	Init Current View Format	▲	▲	▲	▲	▲	▲	○ (*1)
	Clear Current View	▲	▲	▲	▲	▲	▲	○ (*1)
	Toolbar	○	○	○	○	○	○	○
Action	Open Device Maintenance Info	○	○	○	○	○	○	○
	Assigned DTM	○ or ▲ (*2)	○ or ▲ (*2)	○ or ▲ (*2)	○	○ or ▲ (*2)	○	○
	Select DTM	○	○	○	○	○	○	○
	Parameter Manager	○	○	×	×	×	×	×
	Device Viewer	○	○	×	×	×	×	×
	DD Menu	×	○	×	×	×	×	×
	Compare and Generate Parameter Report	○	○	×	○	×	×	×
	Pressure Calibration Support	○ or ▲ (*3)	○ or ▲ (*3)	×	○ or ▲ (*3)	×	×	×
	Tag/Address Assignment	○	○	×	×	×	×	×
	Device Class Setting	×	○	×	×	×	×	×
	Function Block Execution Setting	×	○	×	×	×	×	×
	Reset Provisioning	×	×	×	×	×	▲	×
	Export Device Maintenance Info	○	○	○	○	○	○	○
	Install DD File	○	○	×	×	×	○	○
	Device Icon Setting	○	○	○	○	○	○	○

Table G-2-2 Segment Viewer Menu (2/2)

Menu			Segment Viewer						
			HART	FOUNDATION fieldbus	PROFIBUS	BRAIN	Modbus	ISA100 (Infrared)	ISA100 (Gateway)
Tool	User Manager		○	○	○	○	○	○	○
	Options	Display Parameters on Segment Viewer	○	○	○	○	○	○	○
		Typical Parameters Customization	○	○	○	○	○	○	○
		DTM/ParameterManager Startup path from Device Maintenance Info	○	○	○	○	○	○	○
		ISA100 Provisioning Setting	○	○	○	○	○	○	○
	HART Modem Configuration		○	○	○	○	○	○	○
	FOUNDATION fieldbus Interface Configuration		○	○	○	○	○	○	○
	PROFIBUS Interface Configuration		○	○	○	○	○	○	○
	BRAIN Modem Configuration		○	○	○	○	○	○	○
	ISA100 (Infrared) Interface Configuration		○	○	○	○	○	○	○
	ISA100 (Gateway) Interface Configuration		○	○	○	○	○	○	○
	Modbus Interface Configuration		○	○	○	○	○	○	○
	HART (YOKOGAWA N-IO) Interface Configuration		▲	▲	▲	▲	▲	▲	▲
	SENCOM Communication Interface Configuration		○	○	○	○	○	○	○
	FDT Project		○	○	○	○	○	○	○
Help	User Registration		○	○	○	○	○	○	○
	About FieldMate		○	○	○	○	○	○	○

(*1): ○ for ISA100 (Gateway) and HART (Adapter), ▲ for the rest of the cases.
(*2): ○ in case associated DTM is available, ▲ for the rest of the cases.
(*3): ○ in case the calibration support function is interrupted, ▲ otherwise.

The following table describes the availability of menus in Device Navigator window under different communication protocols.

The symbols in the table have the following meanings:

○: Menu is available

▲: Menu is grayed out

×: Menu is hidden

Table G-2-3 Device Navigator Menu

Menu			Device Navigator					
			HART	FOUNDATION fieldbus	PROFIBUS	BRAIN	Modbus	ISA100
File	Import Device Maintenance Info		○	○	○	○	○	○
	Export Device Maintenance Info		○	○	○	○	○	○
	Export History		▲	▲	▲	▲	▲	▲
	Export Serial No.		○	○	○	○	○	○
	Exit		○	○	○	○	○	○
View	Update		○	○	○	○	○	○
	Toolbar		○	○	○	○	○	○
Action	Open Device Maintenance Info		○	○	○	○	○	○
	Assigned DTM		○	○	○	○	○	○
	Select DTM		○	○	○	○	○	○
	Parameter Manager		○	○	×	×	×	×
	Trend Graph Viewer		○	○	×	○	×	×
	New Device Maintenance Info		○	○	○	○	○	○
	Delete Device Maintenance Info		○	○	○	○	○	○
	Export Device Maintenance Info		○	○	○	○	○	○
	Compare and Generate Parameter Report…		○	○	×	○	×	×
	Flag the Device	ON	○	○	○	○	○	○
		OFF	○	○	○	○	○	○
	Add to Favorites	New	○	○	○	○	○	○
		Favorites List	○	○	○	○	○	○
	Delete from Favorites		○	○	○	○	○	○
	Install DD File		○	○	×	×	×	○
	Device Icon Setting		○	○	○	○	○	○
Tool	User Manager		○	○	○	○	○	○
	Options	Display Parameters on Segment Viewer	○	○	○	○	○	○
		Typical Parameters Customization	○	○	○	○	○	○
		DTM/ParameterManager Startup path from Device Maintenance Info	○	○	○	○	○	○
		ISA100 Provisioning Setting	○	○	○	○	○	○
	HART Modem Configuration		○	○	○	○	○	○
	FOUNDATION fieldbus Interface Configuration		○	○	○	○	○	○
	PROFIBUS Interface Configuration		○	○	○	○	○	○
	BRAIN Modem Configuration		○	○	○	○	○	○
	ISA100 Infrared Interface Configuration		○	○	○	○	○	○
	ISA100 Gateway Interface Configuration		○	○	○	○	○	○
	Modbus Interface Configuration		○	○	○	○	○	○
	HART (YOKOGAWA N-IO) Interface Configuration		▲	▲	▲	▲	▲	▲
	SENCOM Communication Interface Configuration		○	○	○	○	○	○
	FDT Project		○	○	○	○	○	○
Help	User Registration		○	○	○	○	○	○
	About FieldMate		○	○	○	○	○	○

The following table describes the availability of menus in History window.

The symbols in the table have the following meanings:

○: Menu is available

▲: Menu is grayed out

×: Menu is hidden

Table G-2-4 History Menu

Menu			History
File	Import Device Maintenance Info		▲
	Export Device Maintenance Info		▲
	Export History		○
	Export Serial No.		▲
	Exit		○
View	Update		○
	Tool bar		○
Action	Open History Info		○
	Open Device Maintenance Info		○
Tool	User Manager		○
	Options	Display Parameters on Segment Viewer	○
			○
		Typical Parameters Customization	○
		DTM/ParameterManager Startup path from Device Maintenance Info	○
		ISA 100 Provisioning Setting	○
	HART Modem Configuration		○
	FOUNDATION fieldbus Interface Configuration		○
	PROFIBUS Interface Configuration		○
	BRAIN Modem Configuration		○
	ISA100 Infrared Interface Configuration		○
	ISA100 Gateway Interface Configuration		○
	Modbus Interface Configuration		○
	HART (YOKOGAWA N-IO) Interface Configuration		▲
	SENCOM Communication Interface Configuration		○
	FDT Project		○
Help	User Registration		○
	About FieldMate		○

H Segment Viewer

H-1 Overview

Segment Viewer can perform the following operations:

- Detects devices and displays them automatically
- Display the Non-Communication devices registered manually
  The Non-Communication device means the device that does not have the protocol FieldMate supports.
- Register device information with the database
- Configure the device

FieldMate supports HART, FOUNDATION fieldbus H1, BRAIN, ISA100, PROFIBUS, and Modbus communication protocols.

- HART/BRAIN: Directly connects to and communicates with field devices through the USB FieldMate modem in the FieldMate options.
- FOUNDATION fieldbus H1: Connects to and communicates with field devices through NI USB-8486 from US National Instruments.
- ISA100.11a: Connects to and communicates with field devices through the ACT-IR224UN-LN96-LE infrared adapter from ACTiSYS and the YFGW field wireless gateway from Yokogawa.

Segment Viewer is used for adjustment or configuration of a device at a workbench or at similar locations before onsite installation, or for adjustment or configuration if a device is installed on the site.

Built-in Connection (BIC Mode)

Built-in Connection employs a built-in communication method of FieldMate.

The Segment Viewer is implemented in Built-in Connection.

User Defined Connection (UDC Mode)

This method is used to install third-party products and their comm/gateway DTM purchased, and connected to field devices through the defined network topology of the comm/gateway DTM.

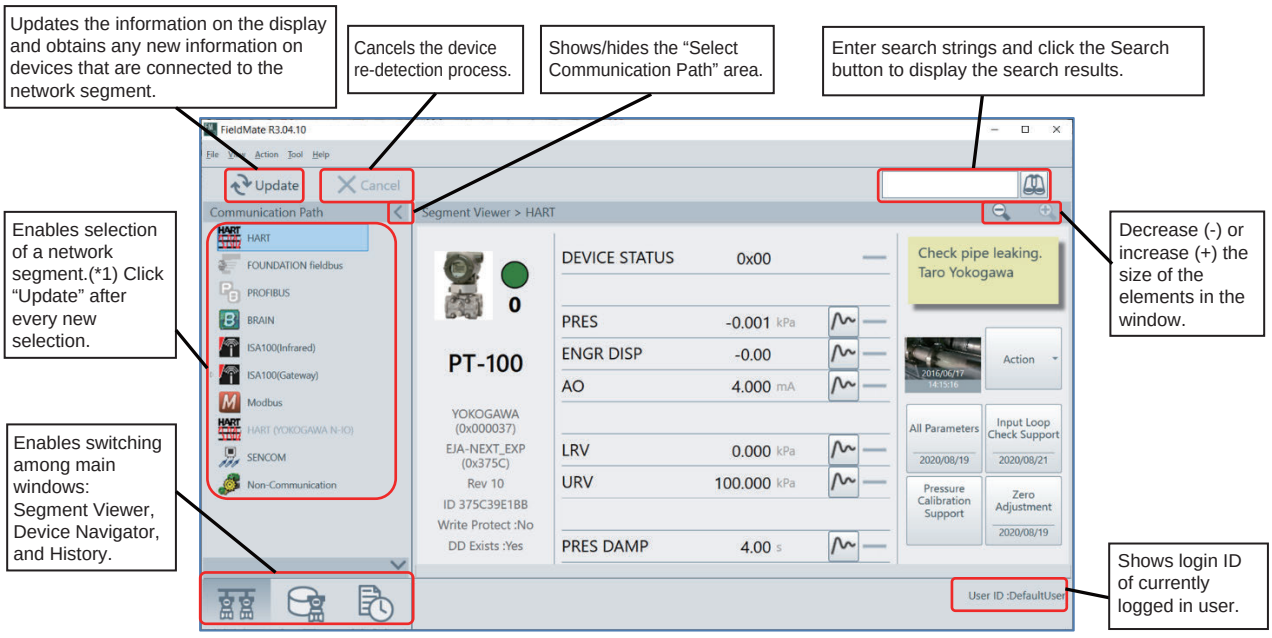
The FDT Project is implemented in User Defined Connection.

SEE ALSO See Part Q for details on the FDT Project.

H-2 Segment Viewer Window

For devices that can communicate with FieldMate, the actual device is automatically recognized and displayed, and the device information is automatically registered in the database as device maintenance information.

For devices that are not covered by FieldMate, those that are manually registered are displayed.



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Figure H-2-1 Segment Viewer (1)

(*1) “HART (Yokogawa N-IO)” communication path in network segment is enabled when using Field Commissioning Support Package.

SEE ALSO “J-3 Registration of Non-Communication device” about the procedure to register Non-Communication device.

The functions that used for Non-communicate device are as follows.

- Sticky note
- Image
- Calibration support function

NOTE

The Favorite selection button is displayed on the Segment Viewer if the “Enhanced Favorite function” is enabled. See “Appendix J Enhanced Favorite function” for details about “Enhanced Favorite function”.

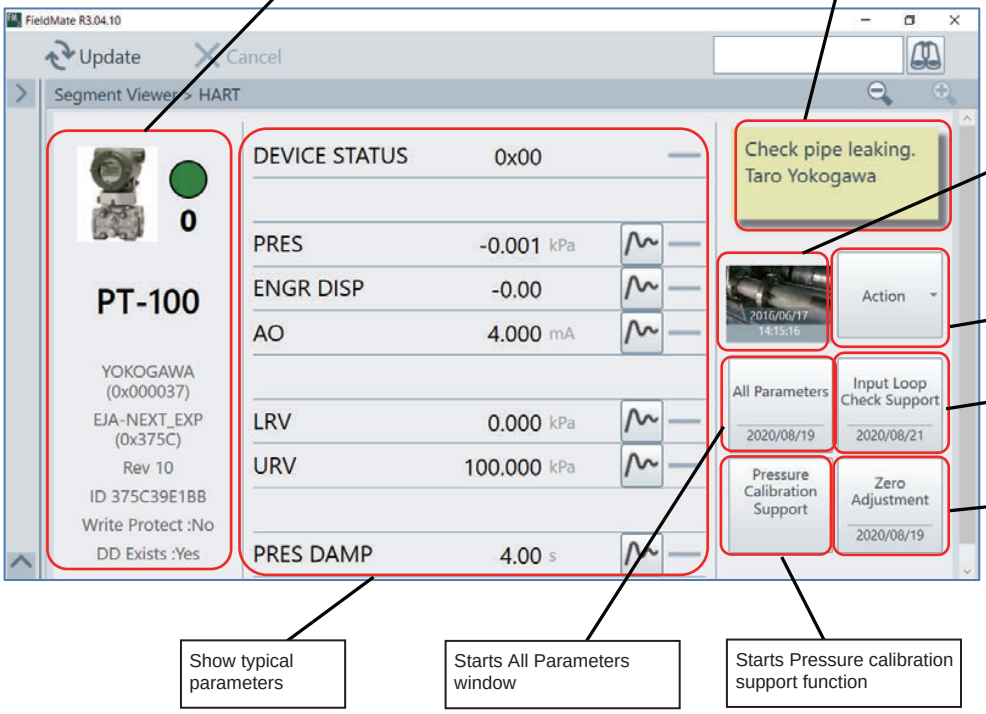
(*1): Status
Displays the self-diagnostic results of the device.
Click it to start the DeviceViewer. (available only for HART / FOUNDATION fieldbus)

- (Green): Normal.
- (Red): Error detected.
- (Yellow): Warning (configuration error included).
- (Gray): Communication error, uncertain status or others.

Indicates the device information (Device icon, Tag, Status (*1), Address, Vendor (ID and name), Model (ID and name), Revision, Device ID, Write-Protect Status, etc.) (When no corresponding Device Icon is available, the icon indicating its communication type is displayed). Select the device. Then, the frame indicating selections is displayed. Double-click to start DTM Works.

Sticky Note (message)
Show/update defined messages to the target device.
Synchronize to save in "Sticky Note" of Device Maintenance Info.

Shows images selected by "Manage and Set Images" on the Segment Viewer (If no image is registered, show "No Image")
Show (comment input), import, export or delete on "Manage and Set Images"*
Synchronize to save in "Image" of Device Maintenance Info



Menu - same as Action menu.

Starts Input Loop Check window.

Starts Zero point a djustment window

Show typical parameters

Starts All Parameters window

Starts Pressure calibration support function

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Figure H-2-2 Segment Viewer (2)

NOTE

In BRAIN, PROFIBUS, Modbus, and ISA100 (Infrared), while the related DTM is open, Segment Viewer update is not effective. Close DTM and update Segment Viewer.

Menu

The following table describes the menu options in the Segment Viewer window. Note that the availability of these options varies depending on the device communication protocol.

SEE ALSO See Table G-2-2 for information on the menu options that are available for each communication protocol.

Table H-2-1 Segment Viewer Menu (1/2)

Menu Option			Explanation
File	Exit		Exit FieldMate
View	Update		Updates contents displayed in the windows
	Init Current View Format		Initializes the alignment of parameter items on ISA100 (Gateway) and HART (Adapter) in Segment Viewer
	Clear Current View		Clears the device of ISA100 (Gateway) and HART (Adapter) in Segment Viewer
	Tool bar	Menu bar	Show/Hide Menu bar
Action	Open Device Maintenance Info		Starts the device maintenance info window
	Device config.		• Start Simple DTM function (connected to HART device) • Start BT200 Tablet function (connected to BRAIN device)
	Assigned DTM		Starts the DTM assigned to the device in the DTM Works window
	Select DTM		Displays the Device DTM Selection dialog box and starts the selected device DTM in the DTM Works window
	Parameter Manager		Starts Parameter Manager Window
	Device Viewer		Starts the Device Viewer Window
	Compare and Generate Parameter Report		Starts the Parameter Comparison window
	Pressure Calibration Support		Starts the Pressure Calibration Support function
	Zero Adj. Parameters		Start the Zero Adj. Parameters acquire function
	DD Menu		Starts the DD Menu Window
	Tag/Address Assignment		Starts the Device Tag/Address Assignment Window - Sets device tag/address
	Device Class Setting		Starts the Device Class Assignment Window - Sets Device Class (Link Master or Basic)
	Function Block Execution Setting		Performs Function Block Execution/Wiring for FOUNDATION fieldbus H1 Device
	Reset Provisioning		Resets the Initialization Provisioning
	Export Device Maintenance Info		Exports device maintenance information to external files
	Install DD File		Adds DD files of device
	Device Icon Setting		Sets Device Icon to Selected File or switches back to the default setting
	User Registration		Starts the User Registration window - Carries out user registration processes

Table H-2-1 Segment Viewer Menu (2/2)

Menu Option			Explanation
Tool	User Manager		Start the User Management window - Manages FieldMate User Account
	Options	Display Parameters on Segment Viewer	Show/Hide Typical Parameters on Segment Viewer
		Typical Parameters Customization	Start the Typical Parameters Customization window
		DTM/ParameterManager Startup path from Device Maintenance Info	Select Path to DTM and ParameterManager Setup from Device Maintenance Info
		ISA100 Provisioning Setting	Select Usage Advisability for Provisioning Information File
	HART Modem Configuration		Start the HART Modem Configuration window - Set HART Modem
	FOUNDATION fieldbus Interface Configuration		Call NI-FBUS Interface Configuration Utility or Softing FFusb Configuration Tool
	PROFIBUS Interface Configuration		Start the PROFIBUS Communication Configuration window - Sets PROFIBUS
	BRAIN Modem Configuration		Start the BRAIN Modem Configuration window - Set BRAIN Modem
	ISA100 (Infrared) Interface Configuration		Enable configuration of USB Port
	ISA100 (Gateway) Interface Configuration		Set Host Name or IP Address of Gateway
	Modbus Interface Configuration		Start the Modbus Communication Configuration window – Set Modbus
	HART (YOKOGAWA N-IO) Interface Configuration		Starts HART (YOKOGAWA N-IO) setting dialog
	SENCOM Communication Interface Configuration		Starts SENCOM Communication setting dialog
	FDT Project		Create, copy, and delete FDT Project, and import FDT Project from external files Export FDT Project to external files and opens specified FDT Project
Help	User Registration		Start the User Registration window - Carries out user registration processes
	About FieldMate		Start the About FieldMate window - Confirms version information etc.

● Right-click Menu (when a device is selected)

This menu shows the same options as the Action menu after device selection.

● Display if a device tag is not defined or when there are duplicate device tags

If a HART device tag is not defined	Only blank space is displayed in Segment Viewer and History
If there are duplicated HART device tags	Duplicated device tags are displayed in Segment Viewer and History
If a FOUNDATION fieldbus H1 device tag is not defined	"(Device Tag Undefined)" is displayed in Segment Viewer. In this case, menu items other than Tag/Address Assignments are disabled.
If there are duplicated FOUNDATION fieldbus H1 device tags	"(Device Tag Duplicated)" is displayed in Segment Viewer. In this case, menu items other than Tag/Address Assignments are disabled.

H-2-1 Device Information

Explanation about the device information of each protocol.

HART device

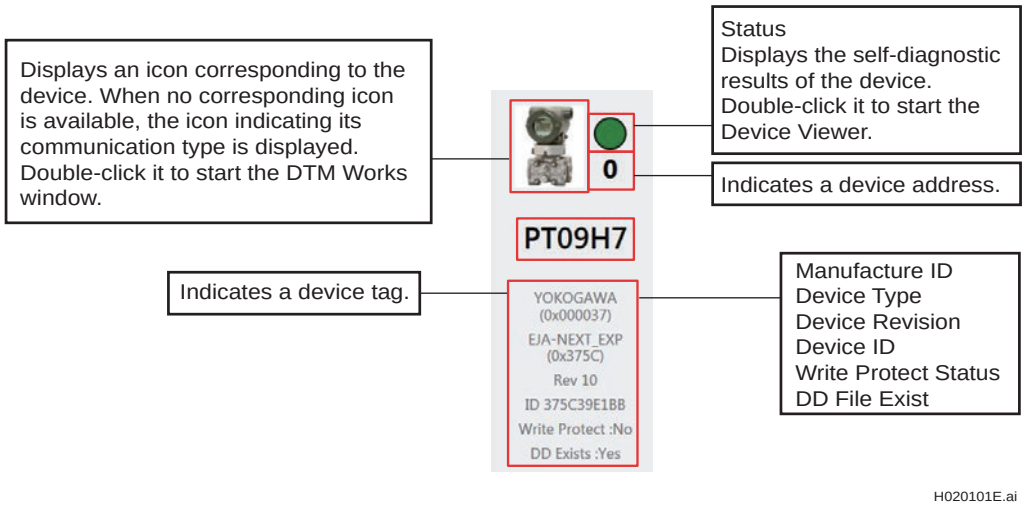


Figure H-2-3 HART device information on the Segment Viewer

FOUNDATION fieldbus H1 device

Display the FOUNDATION fieldbus H1 segment device list (*).

*: Up to 64 devices (depending on the FOUNDATION fieldbus H1 specification).

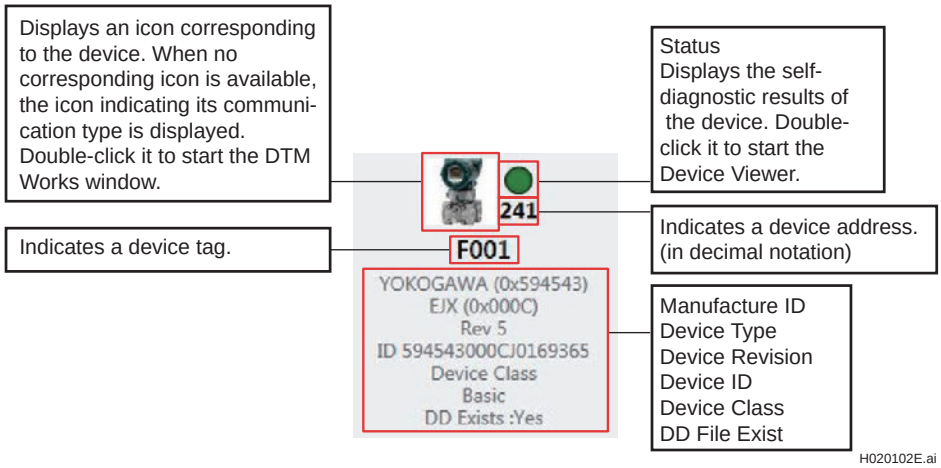


Figure H-2-4 FOUNDATION fieldbus H1 Device Information on Segment Viewer

ISA100 Wireless Device

Refer to Part N of this user's manual

BRAIN device

One device is displayed.

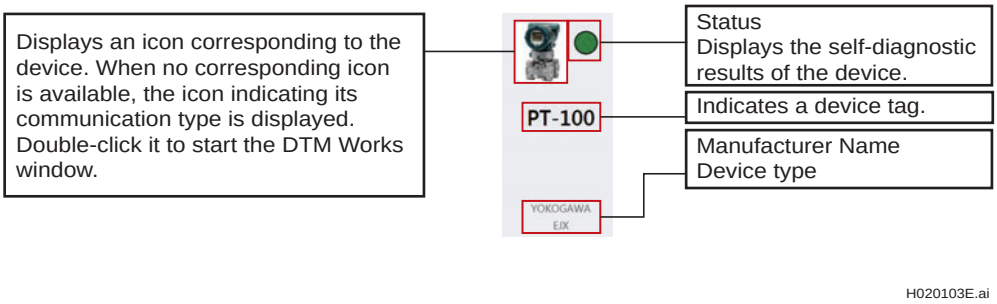


Figure H-2-5 BRAIN Device Information on Segment Viewer

PROFIBUS device

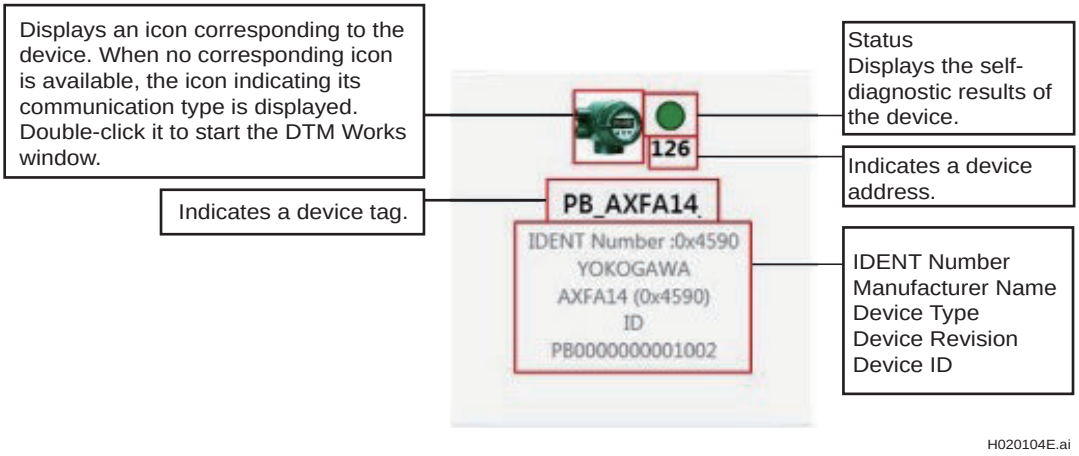


Figure H-2-6 PROFIBUS device information on the Segment Viewer

Modbus device

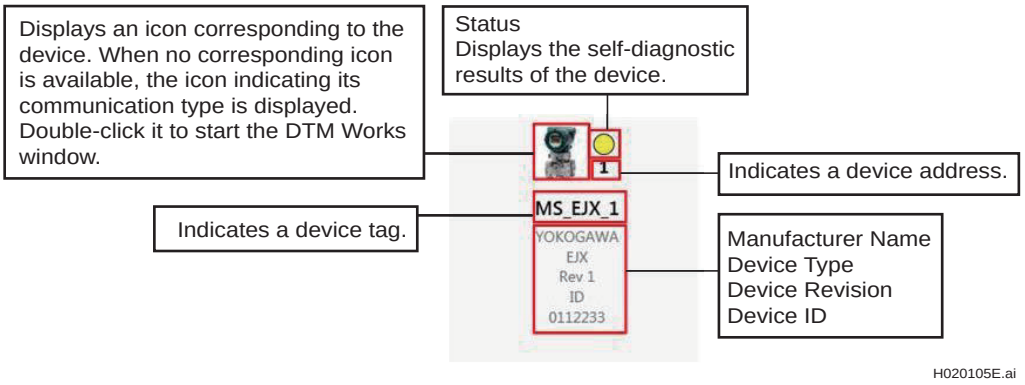


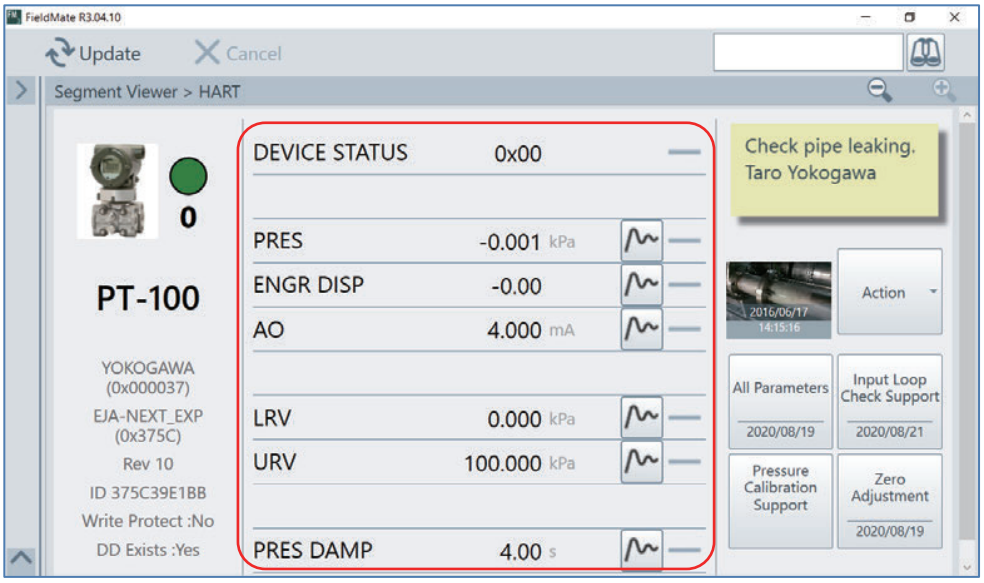
Figure H-2-7 Modbus Device Information on Segment Viewer

H-2-2 Typical Parameters

Typical Parameters are the representative parameters mostly used in device configuration generally.

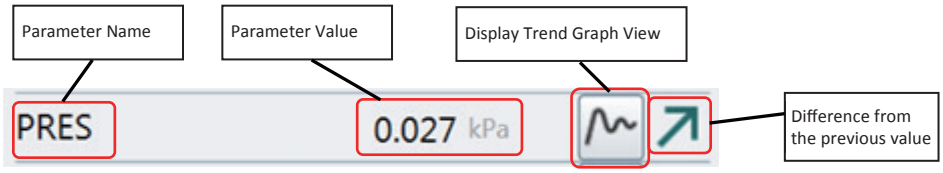
A pre-defined parameter list is ready, user can freely modify the list.

This function is applicable to HART, FOUNDATION fieldbus and BRAIN communication type only.



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Figure H-2-8 Typical Parameters



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Figure H-2-9 Displayed Parameters

The variable retrieved on this window is automatically saved into the internal database in each time of “Update” of Segment Viewer.

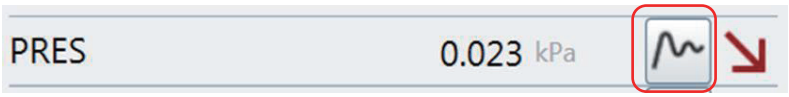
By pressing the button, the values are historically visualized on a Trend Graph.

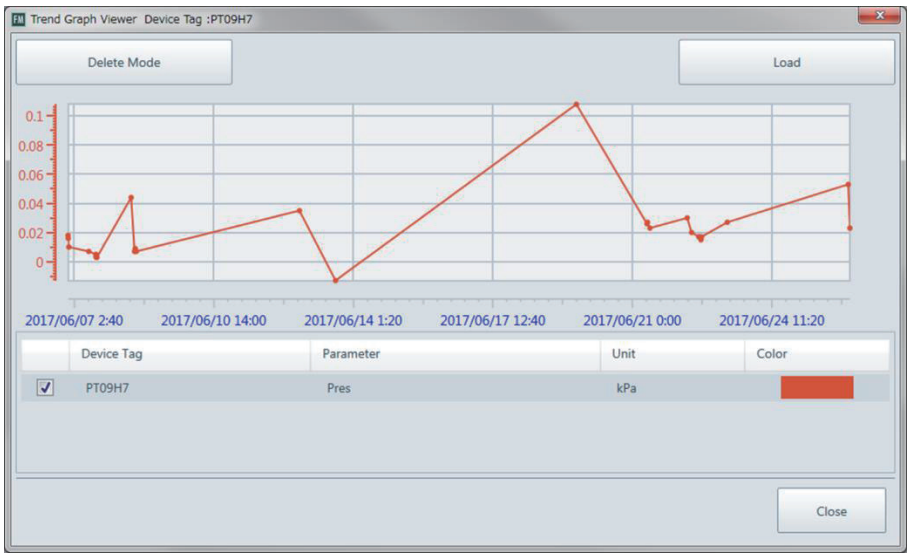
The icon of arrow beside of Trend Graph indicates the difference from the previous value.

Trend Graph View

Trend Graph View intuitively visualizes the all of saved data for a particular typical parameter.

Additionally, any other typical parameters can be displayed together in order to compare the related parameters.





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Figure H-2-10 Trend Graph View

Add Display Parameters

Any other typical parameters can be added to the trend graph by Load button.

Up to 10 parameters can be loaded into one trend graph.

Delete Display Parameters

The parameter can be unloaded from the trend graph by Delete Mode button.

Typical Parameters Customization

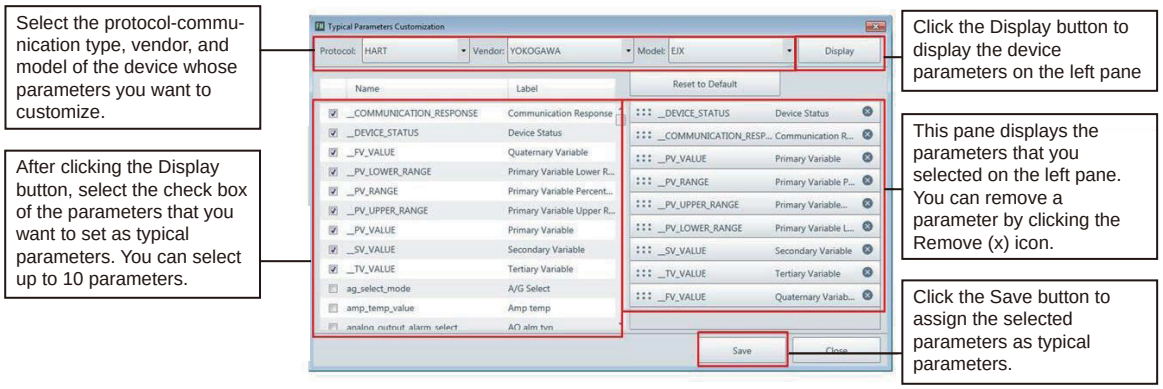
Typical Parameter list can be customized in this menu.

Startup

Start Typical Parameters Customization by selecting Tool → Option → Typical Parameters Customization in Segment Viewer.

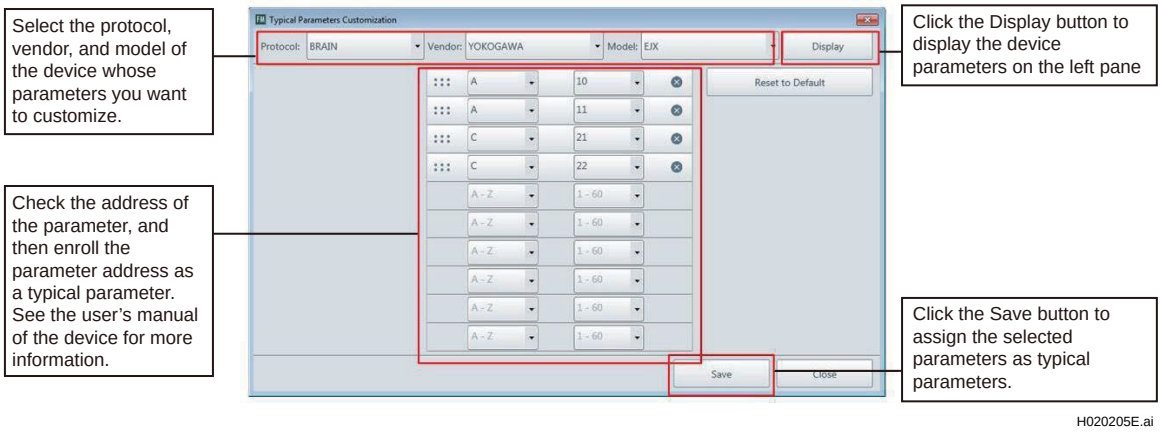
Selection Method

Typical Parameter list can be selected by specifying appropriate communication type, vendor and model of field instrument.



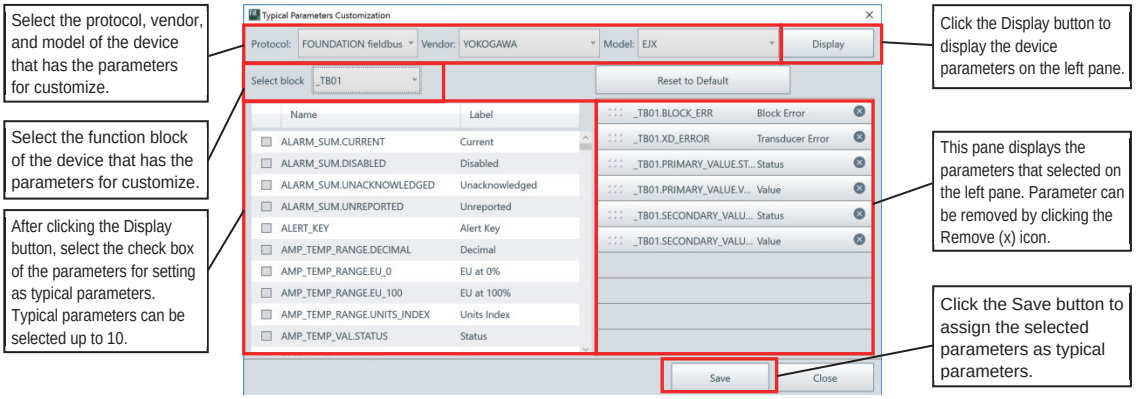
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Figure H-2-11 Typical Parameters Customization dialog box (HART)



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Figure H-2-12 Typical Parameters Customization dialog box (BRAIN)



H020206E.ai

Figure H-2-13 Typical Parameters Customization dialog box (FOUDATION Fieldbus H1)

NOTE

If the target device has a lot of parameters, this operation may take a long time to complete.

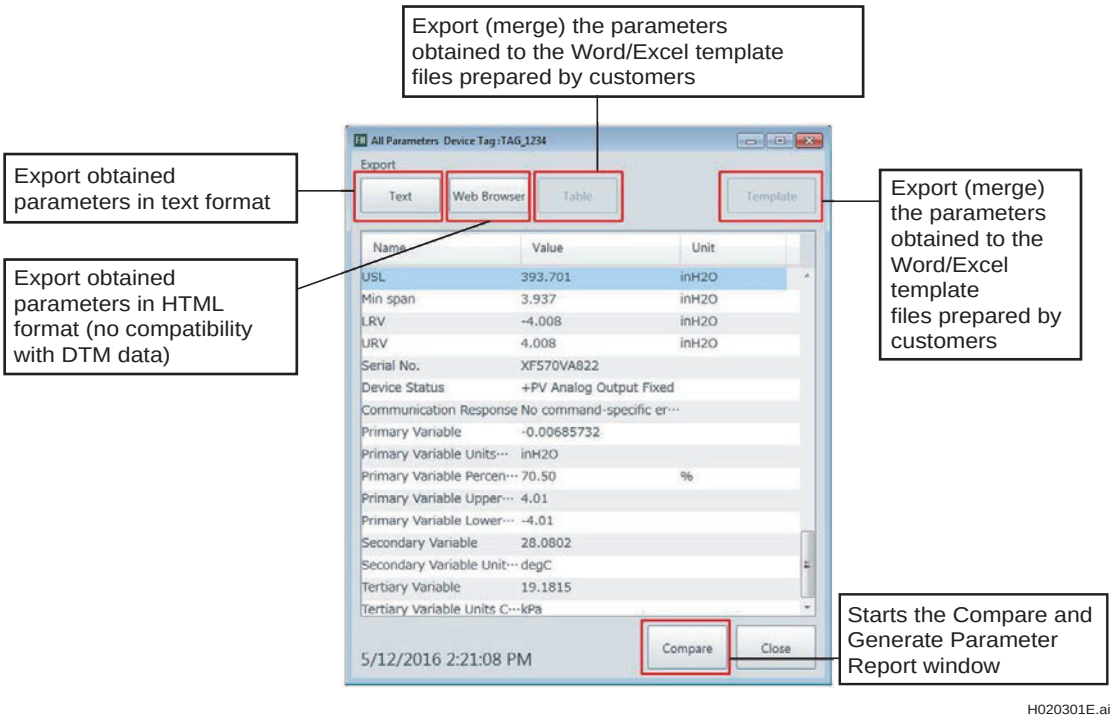
H-2-3 All Parameters/Adjustment Parameters

Obtain and display all parameters and adjustment parameters of the device. The parameters obtained are saved in “Device Maintenance Info - Parameter”. Also the parameters obtained can be exported to an external file.

Startup

Click the “All parameters” button on the segment viewer screen to acquire all the parameters of the device.

Click the [Operation] button and select [Zero Adj. Parameter] from the displayed menu to acquire the zero point adjustment parameter of the device.

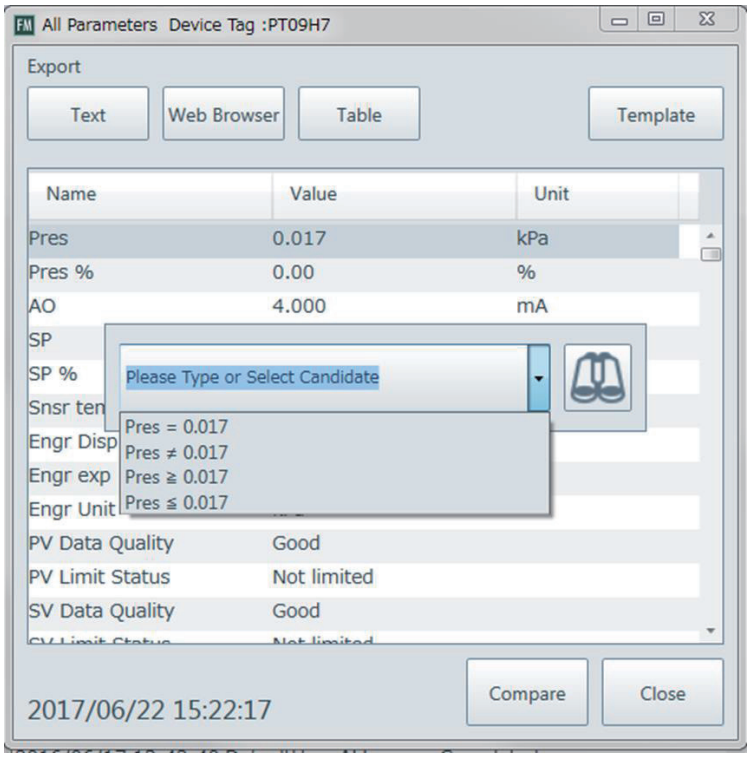


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Figure H-2-14 Export or Show All Parameters/Adjustment Parameters

Search device function

FieldMate can search the devices with the parameter value as a condition from the database.
Double-click the parameter name in the All parameter dialog and then Device search dialog appears.



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Figure H-2-15 Device searching dialog

The conditions for searching devices are as follows.

*The condition can be set by selecting from menu or entering manually.

Search by string

In the case that the value of the selected parameter is string, search devices with the parameter value as the key.

Case A: The parameter value (string) is matched.

(Parameter value) is Exact

Case B: The parameter value (string) is included.

(Parameter value) is Partial Match

Search by numeric

In the case that the value of the selected parameter is numeric, search devices with the parameter value as the key.

Case A: The parameter values are matched.

(Parameter name) = key value

Case B: The parameter values are not matched.

(Parameter name) ≠ key value

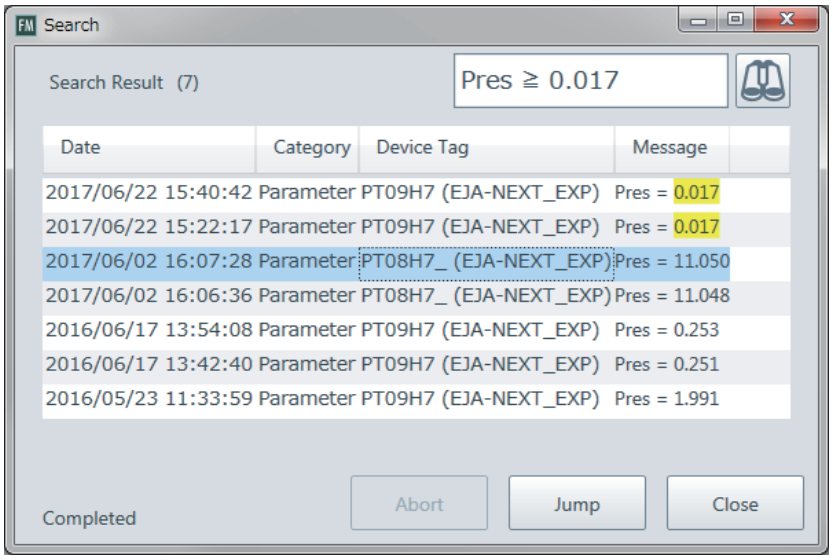
Case C: The parameter value is the key value or larger.

(Parameter name) ≥ key value

Case D: The parameter value is the key value or smaller.

(Parameter name) ≤ key value

Enter the condition and click the search button and then the search result dialog appear.



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Figure H-2-16 Search result dialog

Double-click the result device and then All parameter dialog of selected device appears.

Templates for inserting data into Microsoft Word/Excel files

Indicate how to create templates of data insertion.

Enter the substitution string where you want to insert parameter values in Microsoft Word or Excel files.

The substitution string is shown in ID row of data that is displayed by pressing the “Text” or “Table” button in Figure H-2-8.

The substitution string is replaced to the value with unit.

Example (Microsoft Word)

Template file

Process variables

Pressure value [Pres]	:(pressure_value)
Pressure value in % [Pres %]	:(pressure_percent_range)
Loop current value [AO]	:(analog_output_value)
User scaled value [Engr Disp]	:(engr_disp_value) (engr_disp_unit)
Static pressure value [SP]	:(static_pressure_value)
Static pressure value in % [SP %]	:(static_pres_percent)



Report

Process variables

Pressure value [Pres]	:-0.003 kPa
Pressure value in % [Pres %]	:-0.01%
Loop current value [AO]	:3.997 mA
User scaled value [Engr Disp]	:-0.00 kPa
Static pressure value [SP]	:0.0000 MPa
Static pressure value in % [SP %]	:0.0%

Example (Microsoft Excel)

Template file

Process variables

Pressure value [Pres]	(pressure_value)
Pressure value in % [Pres %]	(pressure_percent_range)
Loop current value [AO]	(analog_output_value)
User scaled value [Engr Disp]	(engr_disp_value) (engr_disp_unit)
Static pressure value [SP]	(static_pressure_value)
Static pressure value in % [SP %]	(static_pres_percent)



Report

Process variables

Pressure value [Pres]	-0.003 kPa
Pressure value in % [Pres %]	-0.01%
Loop current value [AO]	3.997 mA
User scaled value [Engr Disp]	(engr_disp_value) (engr_disp_unit)
Static pressure value [SP]	0.0000 MPa
Static pressure value in % [SP %]	0.0%

In the case of the template file with Microsoft Excel, the substitution strings are replaced by the cell. If any characters other than the substitution string or some substitution strings are in the cell, the replacement does not performed.

H-2-4 Input Loop Check Support

Input Loop Check is a sophisticated built-in menu of FieldMate. The entire process are automatically recorded and a comprehensive reporting function is available in History View. This menu is applicable to HART and BRAIN devices excluding valve positioners.

NOTE

Write Lock mode of device needs to be disabled before starting this menu. See the user's manual of the device for more information about the Write Lock release time of the device.

Startup

Click "Input Loop Check Support" button on Segment Viewer.

In case of HART device, the node address needs to be 0(zero). Please make sure of the node address first.

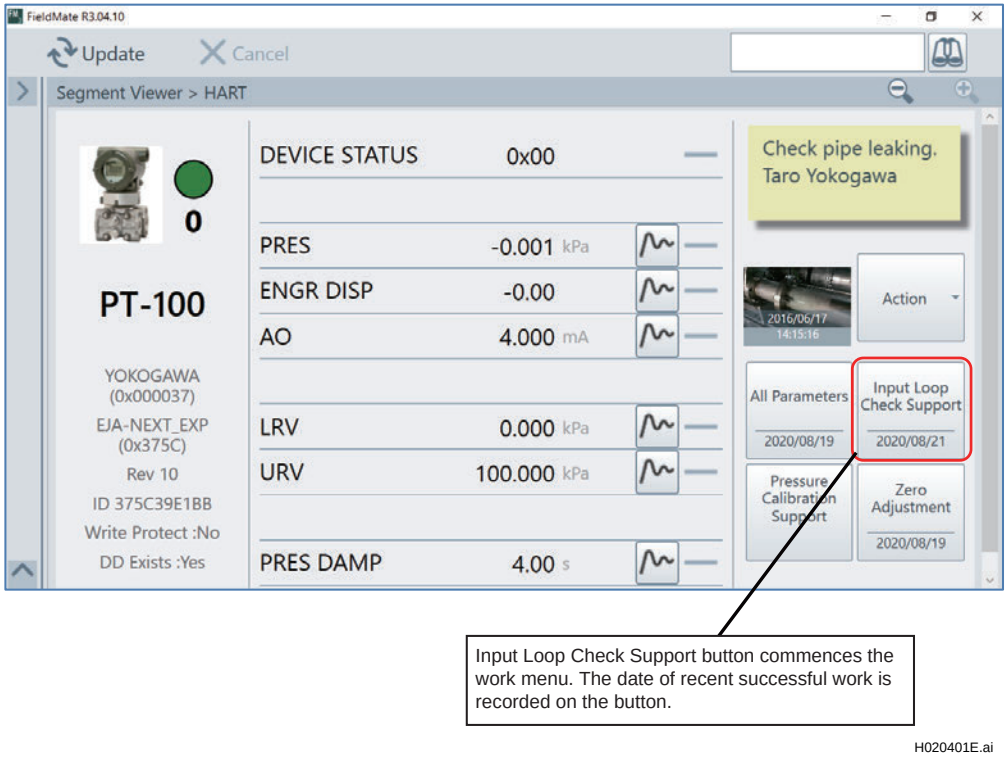


Figure H-2-17 Input Loop Check Support button in Segment Viewer

Input Loop Check Support Configuration

Before starting Input Loop Check, please make sure of the test pattern. The built-in test pattern can be modified for your use.:

- 3 point check: 0%, 50%, 100%
- 5 point check: 0%, 50%, 100%, 50%, 0% (default configuration)
- 5 point check SQRT: 0%, 6.25%, 25%, 56.25%, 100%
- 9 point check: 0%, 25%, 50%, 75%, 100%, 75%, 50%, 25%, 0%

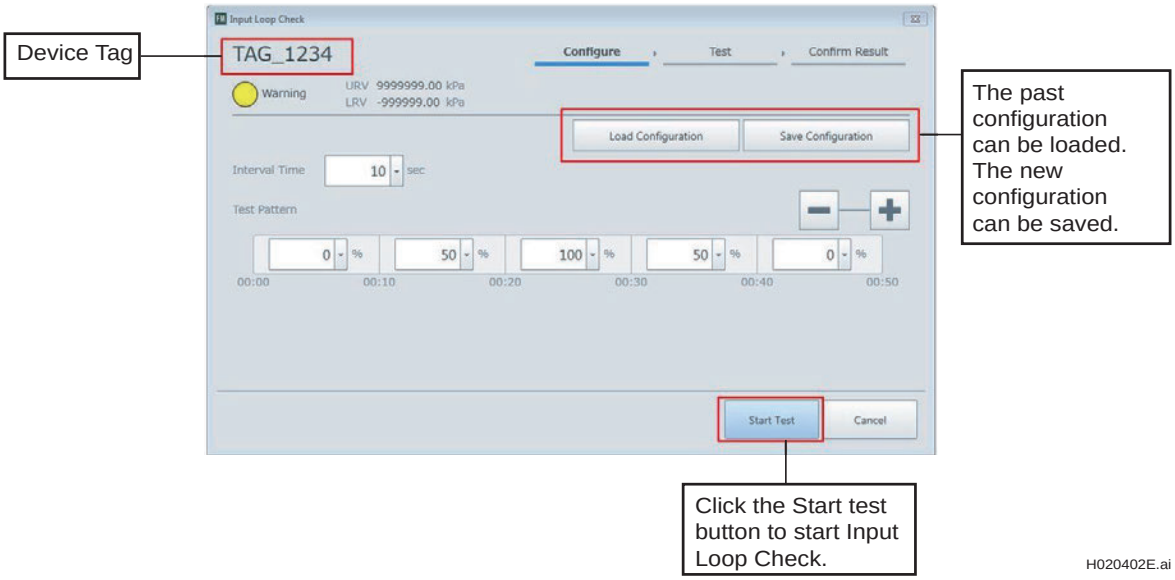


Figure H-2-18 Input Loop Check Support configuration

The built-in test patterns cannot be deleted. You can add your own test patterns on the Configure pane of the Input Loop Check dialog box.

Add Test Patterns

To add new test patterns, enter the new configuration in the Test Pattern field boxes in the Configure pane. You can add or delete the number of output signals by using the + and – buttons. The maximum number of output signals is 10 and the minimum is three.

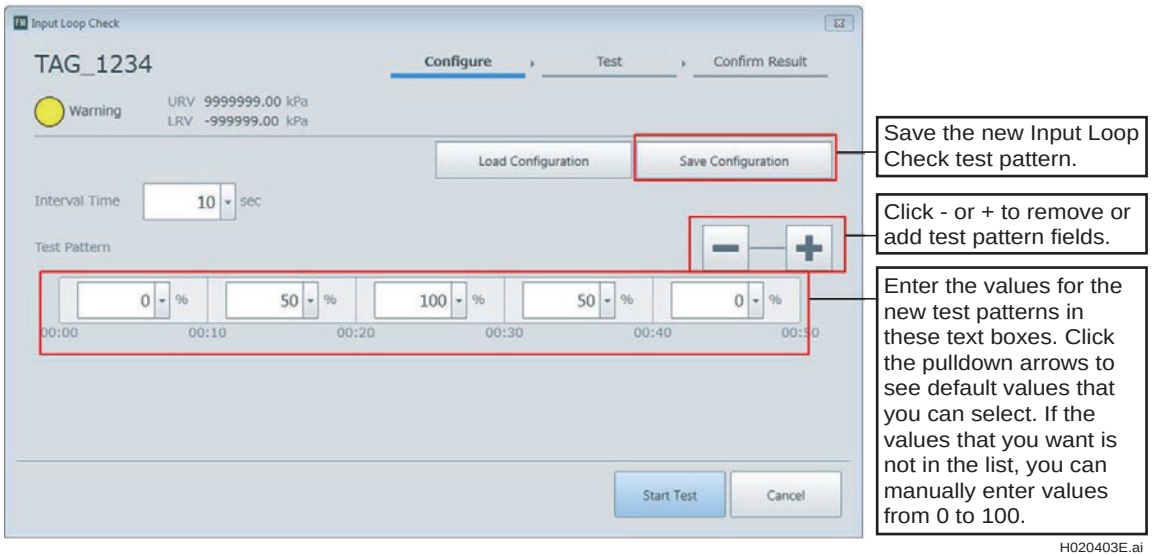


Figure H-2-19 Adding Test Patterns

Enter a name for your new test pattern and click the Save button. This test pattern will be included in the list of saved configurations for Input Loop Check Support.

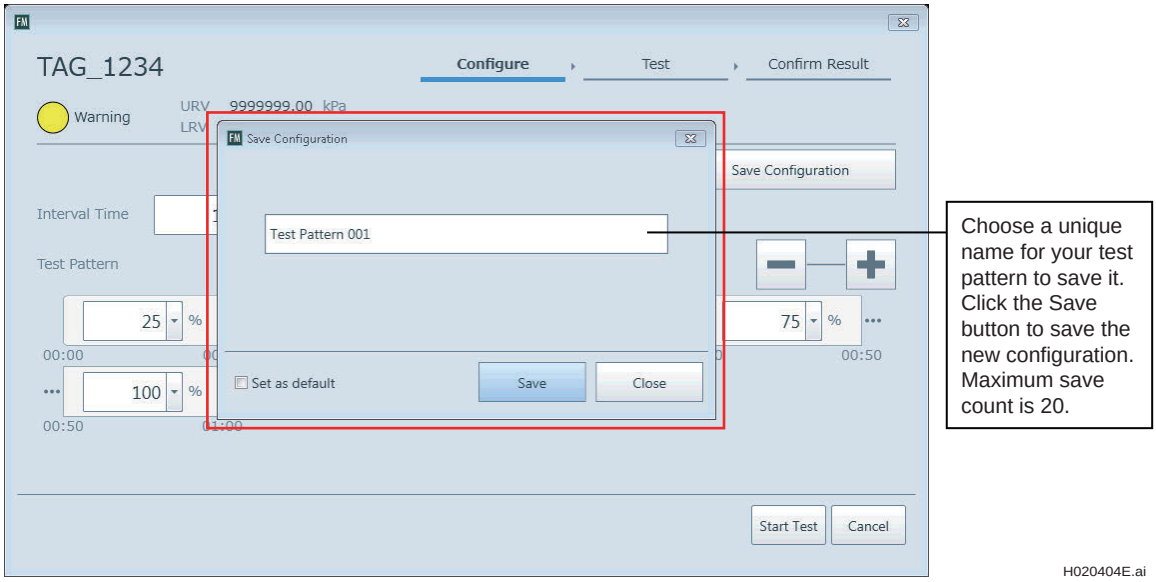
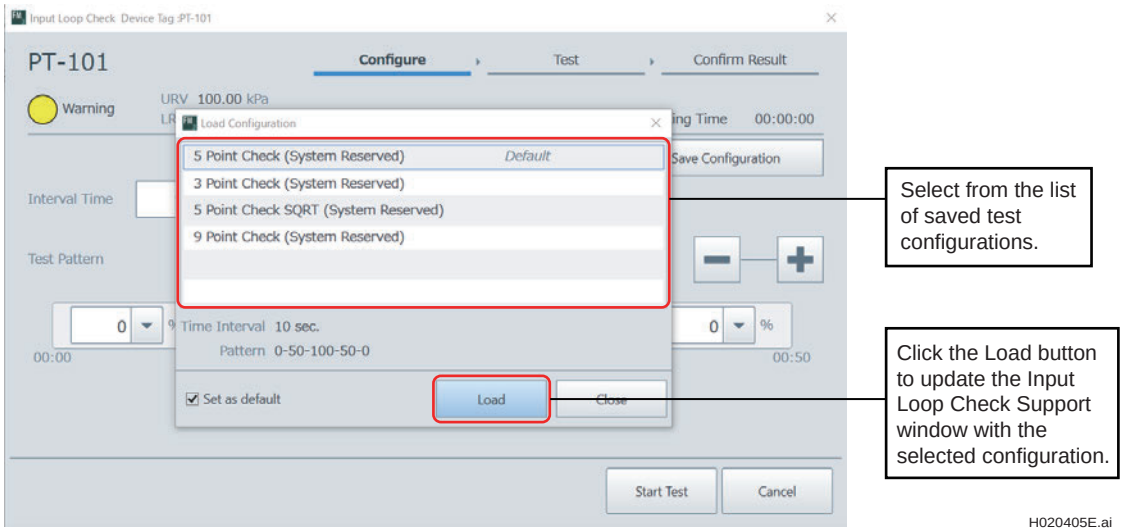


Figure H-2-20 Save Configuration dialog box

Perform Input Loop Check Support

Load Configuration button lists all of pre-defined and user defined configurations.

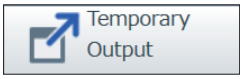
Please press Load button to load the selected configuration.



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Figure H-2-21 Loading Input Loop Check Support Configuration

Start Test button starts the process, the status and progress of the test are monitored.
To abort the test process, please press Abort button.
User can operate the followings in Execute dialog.

Icon	Function
	Toggle ON / OFF of Repeate mode of test pattern. When Repeat mode is ON, the color of the icon turns blue.
	Re-output the simulated signal being output from the beginning. When it is pressed twice consecutively, it returns to the previous simulation signal and starts outputting.
	Interrupts the simulated signal being output and starts outputting the next simulated signal.
	When the test pattern is being executed, the color of the icon becomes blue. Pressing the icon while maintaining the simulated signal output resumes the output of the simulation signal.
	When the simulated signal output is maintained, the color of the icon turns blue. (Test pattern interruption) Pressing the icon while executing the test pattern maintains the output of the simulation signal.
	Display a dialog for outputting an arbitrary simulation signal. It is effective only during test pattern interruption.

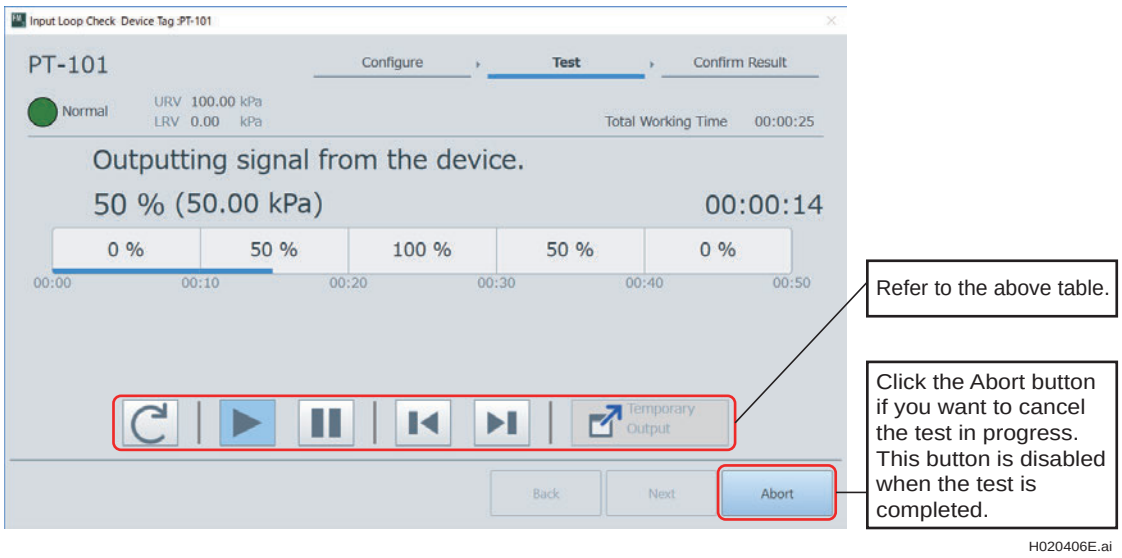


Figure H-2-22 Input Loop Check Support Status

NOTE

The switching time of the test signal on the screen during test execution is the time when the test signal output command is output to the device. Therefore, a delay of several seconds might occur before the test signal is output from the device.

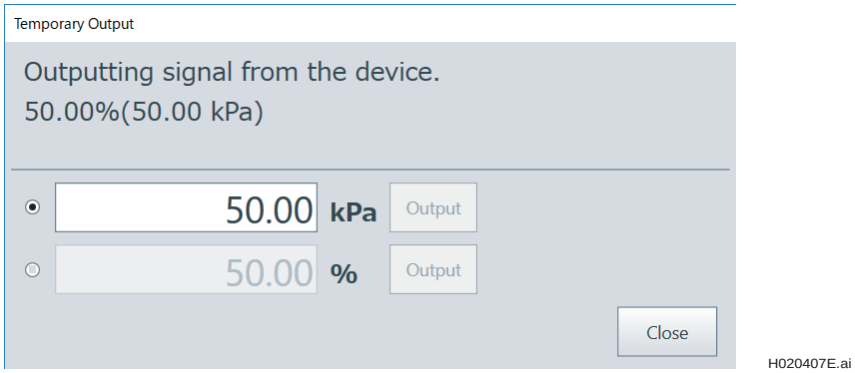
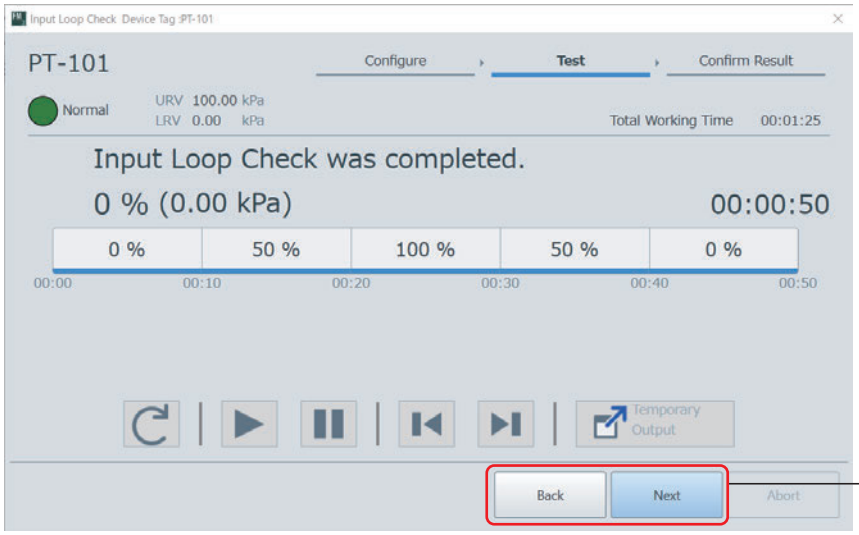


Figure H-2-23 Temporary Output dialog

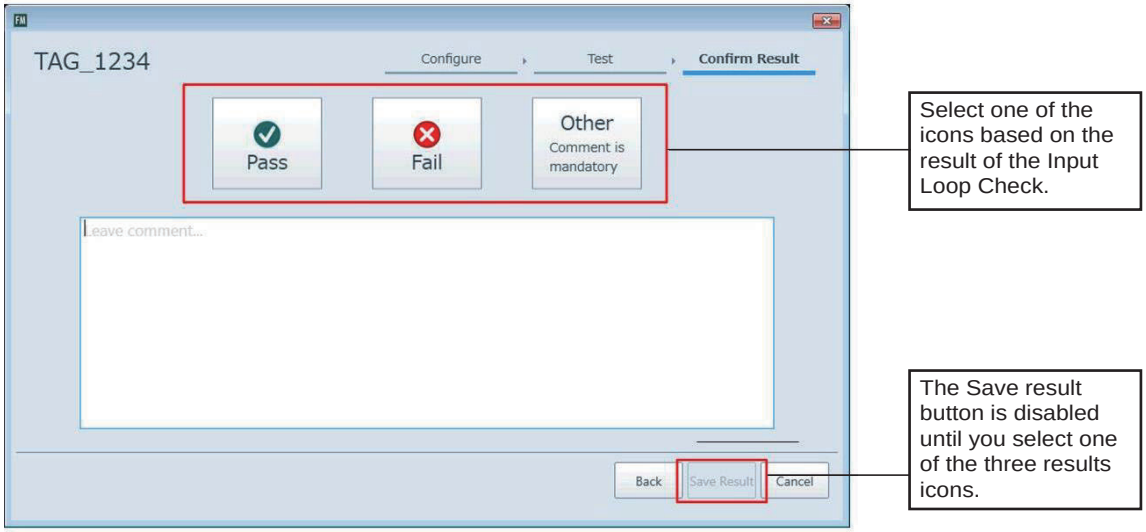
After the input loop check is completed, the window shows the test results.



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Figure H-2-24 Input Loop Check Support Results

- Please choose your judgement to finish the test process.
- If you choose Other, a comment is required to save the test results.



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Figure H-2-25 Input Loop Check Support Confirm Results dialog box

H-2-5 Zero Adjustment (Zero Trim)

This menu is applicable to Yokogawa field instrument only.

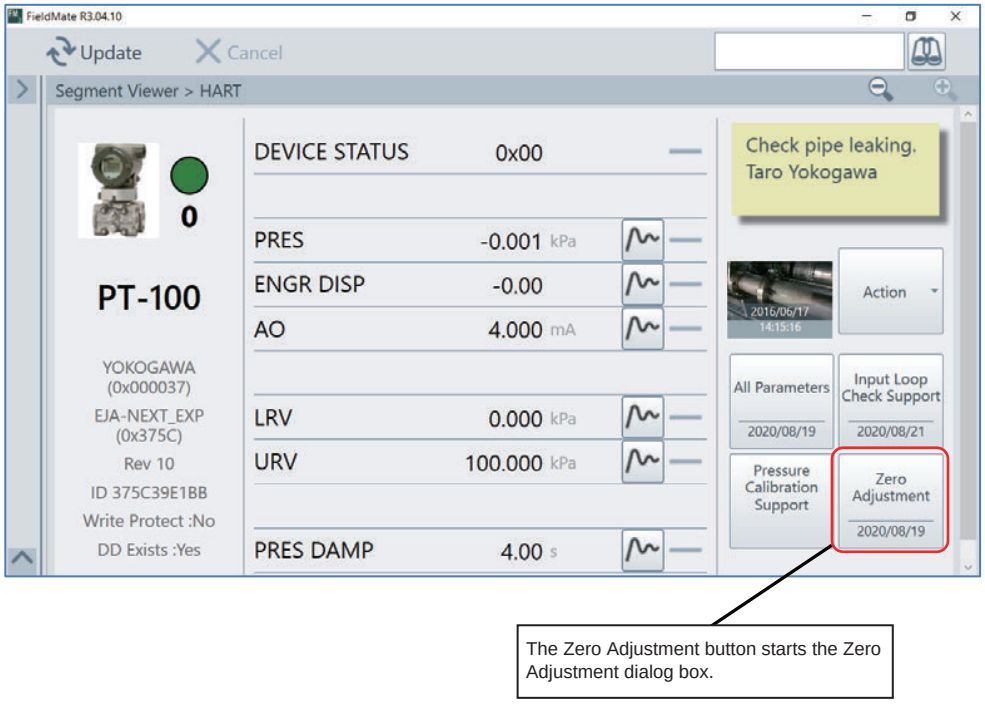
SEE ALSO See Table H-2-2 for the device types where you can perform Zero Adjustment function.

NOTE

Write Lock mode of device needs to be disabled before starting this menu.

Startup

Click “Zero Adjustment” button on Segment Viewer.



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Figure H-2-26 Zero Adjustment button on Segment Viewer

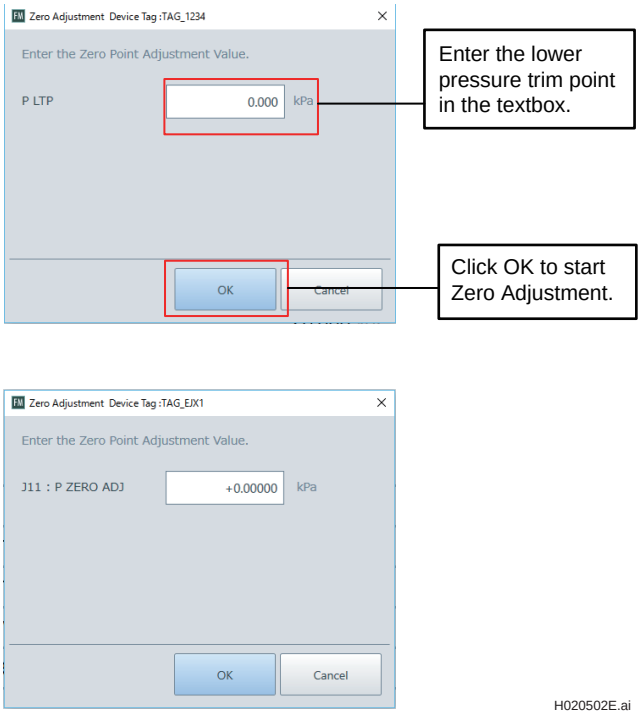


Figure H-2-27 Zero Adjustment dialog box (for HART and BRAIN)

Target Devices

The supported devices are listed in Table H-2-2.

Table H-2-2 Supported Devices for Zero Adjustment

Product Series	Device Type		
	HART	FOUNDATION fieldbus	BRAIN
EJA	0x0004	0x0003 0x0008 (*2)	(*3)
EJA-E	0x005c 0x375c (*1)	0x0011	(*3)
EJA-E (Low power)	0x375d (*1)	not supported	not supported
EJX	0x0051 0x3751 (*1)	0x000c	(*3)
EJX (EJX910A,EJX930A)	0x0054 0x3754 (*1)	0x000e	not supported
EJX-DRS	0x3755 (*1)	not supported	not supported

(*1) HART7
(*2) Comes with the Software download function
(*3) BRAIN devices do not have Device Type IDs

NOTE

For FOUNDATION fieldbus devices, when the Zero Adjustment function is used, the transducer block temporarily becomes the OS and is unable to generate the measured value. Ensure that you safely stop the controls that are currently executed by the target devices, or perform other necessary safety operation before you start performing zero adjustment.

H-2-6 Parameter Comparison

Parameter Comparison menu is the way to intuitively visualize the difference of the past conditions.

Comparison can be made between the parameter lists of the same type devices (same protocol, same vendor, and same model type) obtained with All Parameters function.

Comparison result can be exported as a text file, Web page, or Excel sheet.

SEE ALSO For All Parameters function, refer to H-2-3 “All Parameters/Adjustment Parameters”.

● Startup

Start the Compare and Generate Parameter Report dialog box in the following way.

- From the main menu in Segment Viewer, select Action - Compare and Generate Parameter Report.
- Start All Parameters dialog box from Segment Viewer and then click the Compare button on this dialog box.

SEE ALSO For All Parameters dialog box, refer to H-2-3 “All Parameters/Adjustment Parameters” and J-2-5 “Device Maintenance Information (Parameter)”.

■ Performing Parameter Comparison

After selecting the devices to compare, click the Compare button to execute the parameter comparison. The value of the parameter with the difference is displayed in red.

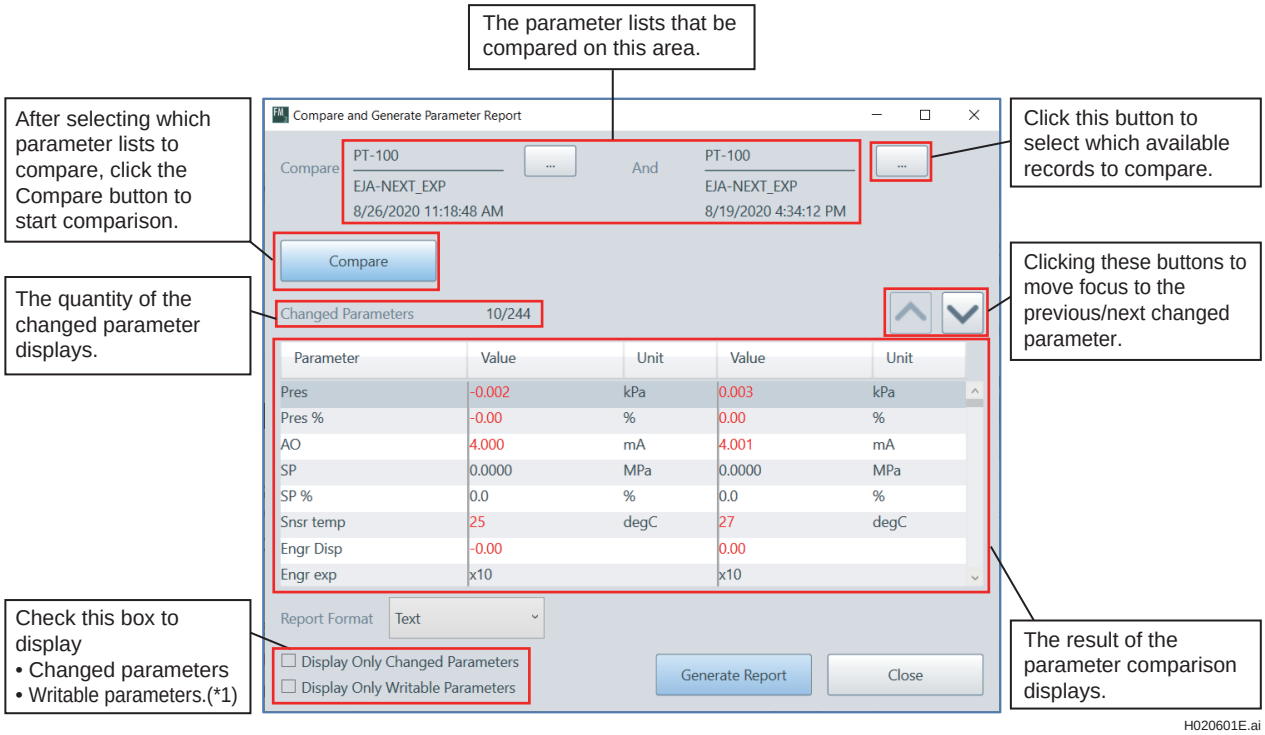


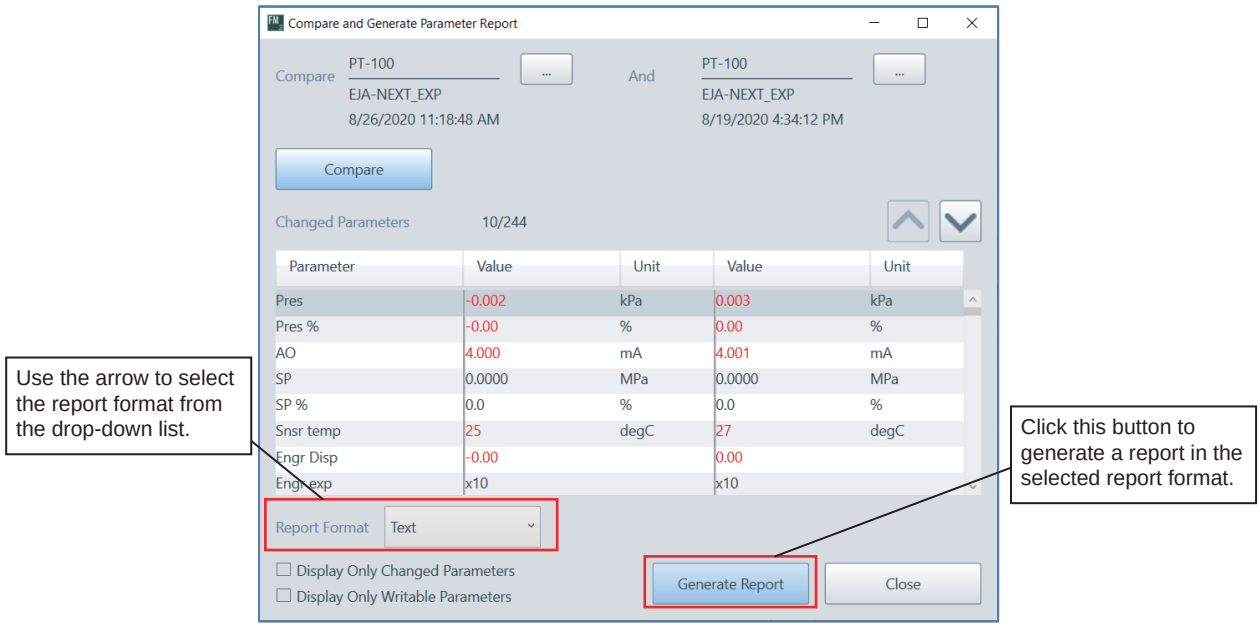
Figure H-2-28 Performing Parameter Comparison

(*1) “Display Only Writalbe parameters” can be selected in FieldMate R3.04.10 or later.

Generating Parameter Comparison Reports

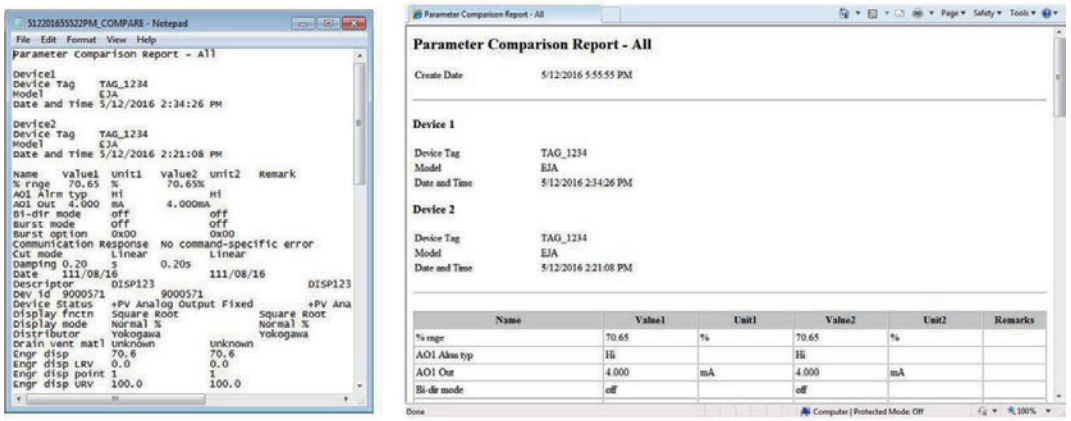
After performing parameter comparison, you can generate and save the Parameter Comparison report in the following formats:

- Text
- Web page
- Table



H020602E.ai

Figure H-2-29 Compare and Generate Parameter Report dialog box



H020603E.ai

Figure H-2-30 Parameter Comparison Report Samples

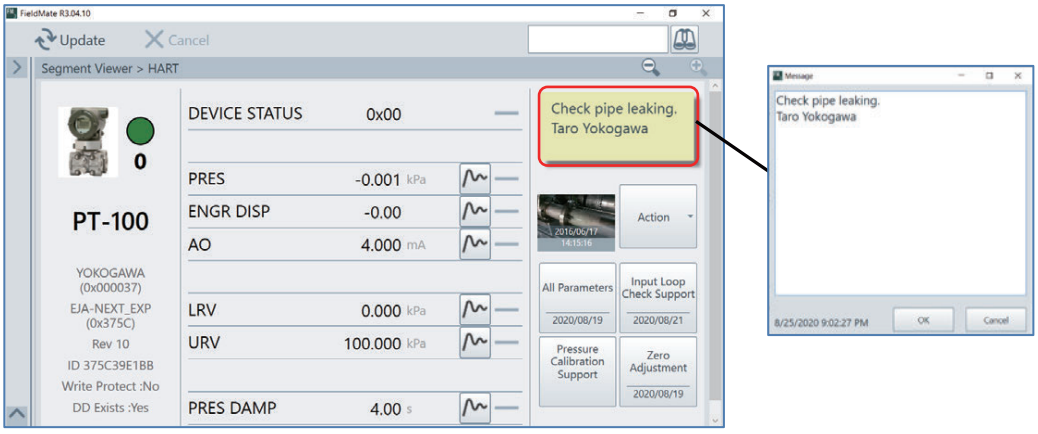
H-2-7 Sticky Note

Sticky notes enable you to leave messages for each device. The notes are added and modified in “Device Maintenance Info → Sticky Note”.

When saved, the notes appear as additional information about the device in the Segment Viewer.

Operation

Click Sticky Notes area in Segment Viewer and then Message dialog box appears.



H020701E.ai

Figure H-2-31 Modifying and Saving Sticky Notes

H-2-8 Image

You can assign images to each device. The images are saved in “Device Maintenance Info - Image”.

Operation

Click Image area in Segment Viewer and then Management and Setting of the Image dialog box appears.

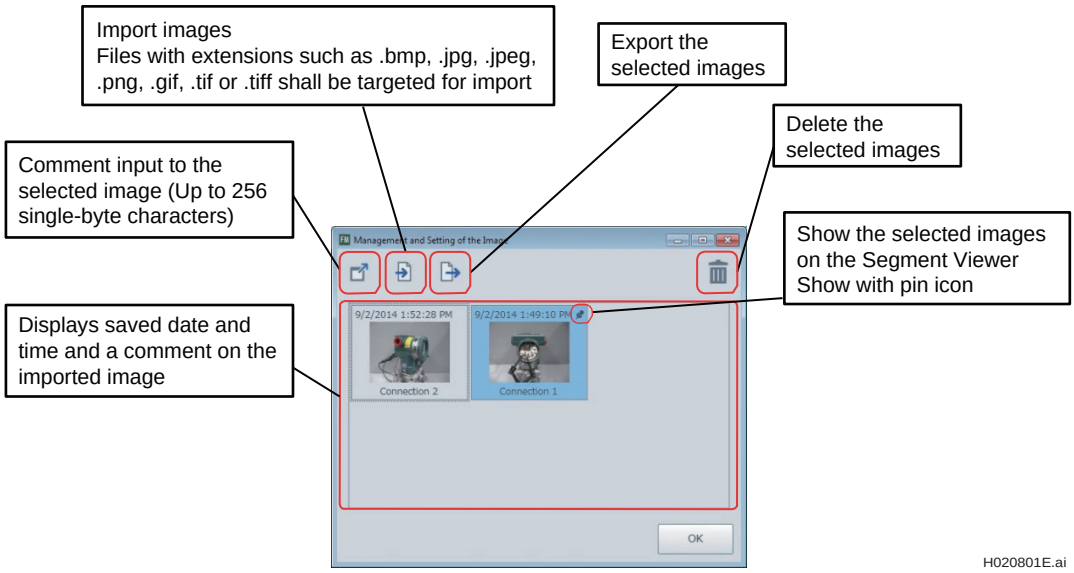


Figure H-2-32 Select/Edit Image

H-2-9 Relationship with Device Maintenance Info window

The following shows the relationship between Segment Viewer and Device Maintenance Info window.

Table H-2-3 Correspondence of Segment Viewer/Device Management Info window and Communication Path (Communication method)

Segment Viewer Item	Device Maintenance Info Item	HART	FOUNDATION fieldbus	PROFIBUS	BRAIN	ISA100 (Infrared)	ISA100 (Gateway)	HART (GW)	Modbus (GW)
Device Info	Device Info	○	○	○	○	○	○	○	○
All Parameters	Parameter	○	○	×	○	○	○	×	×
Adjustment Parameters		○	×	×	○	×	×	×	×
Sticky Note	Sticky Note	○	○	○	○	○	▲ *3	▲ *3	▲ *3
Image	Image	○	○	○	○	○	▲ *3	▲ *3	▲ *3
Typical Parameter	---	○	○	×	○	×	×	×	×
Provisioning	---	×	×	×	×	○	×	×	×
PM Data *1	Attachment	○	○	×	×	○	○	×	×
DTM Data *2		○	○	○	○	○	○	○	○

*1: Data saved on DB from Parameter Manager.
*2: Data saved on DB from DTM Works (DTM).
*3: Show, edit or add operations from the device navigator are available. They are hidden on the Segment Viewer.

H-3 Device Communication Basic Settings

H-3-1 Tag/Address Assignment

Specify tags/addresses of HART/FOUNDATION fieldbus devices.

■ HART Tag/Address Assignment

Specify tags/addresses of HART devices.

● Startup

Start from Segment Viewer - Communication Path “Select HART” - Action - Tag/Address Assignment.

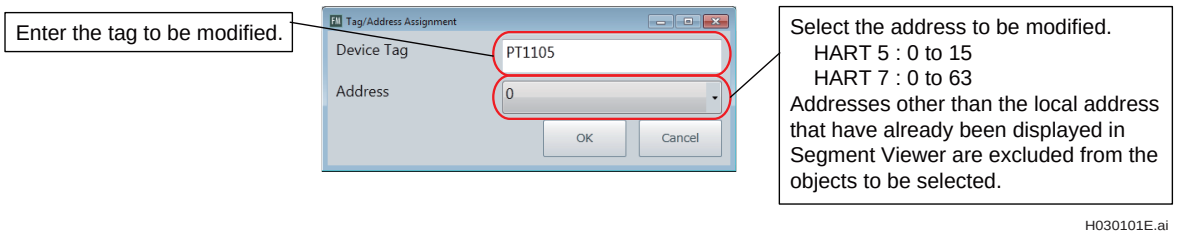


Figure H-3-1 HART Tag/Address Assignment

● About Segment Viewer display

If a tag and address are modified in this Tag/Address Assignment window, the Segment Viewer window will automatically be updated, displaying updated tags/addresses.

Tag/Address Assignment for FOUNDATION fieldbus H1 devices

Specify tags/addresses of FOUNDATION fieldbus H1 devices.

Startup

Start from Segment Viewer - Communication Path “Select HART/FOUNDATION fieldbus” - Action - Tag/Address Assignment.

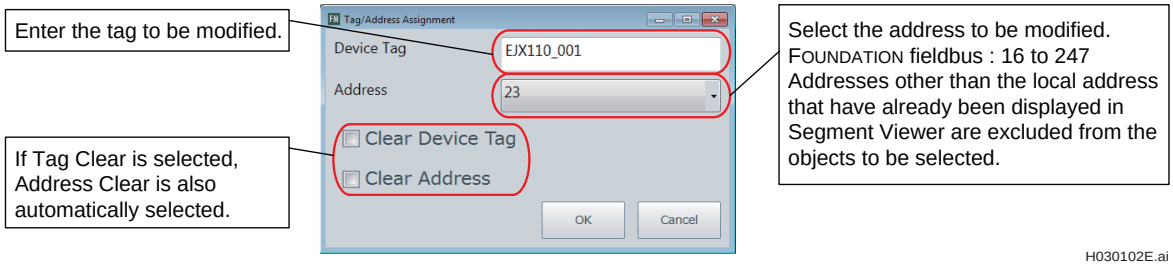


Figure H-3-2 FOUNDATION fieldbus H1 Tag/Address Assignment

About Segment Viewer display

If a tag and address are modified in this Tag/Address Assignment window, the Segment Viewer window will automatically be updated, displaying updated tags/addresses.

NOTE

Notes on Modifying Tags for FOUNDATION fieldbus Devices

1. Specification

- When a tag is modified, the communication connection information (VCR and Link Object) is automatically cleared. This information is defined in the FOUNDATION fieldbus specification.
- When a tag is modified, the schedule information of the function block (FB_START_ ENTRY) is automatically cleared. This information is defined in the function specification for communication cards of National Instruments.

To conclude: When a tag is set, the schedule information and communication connection information are automatically cleared.

2. Yokogawa Device Operation

When the schedule information of the function block is cleared, the operation of AI Block stops and the LCD display values (for example, a pressure value in the case of EJA) cannot indicate the current state.

You need to be careful, because there is a possibility that the displayed PV value (usually, OUT of AI Block) is different from the actual value. You can confirm the actual value in Device Viewer.

In this case, function block re-scheduling is necessary.

H-3-2 Device Class Assignment

This function changes the device class of a FOUNDATION fieldbus H1 device to Link Master or Basic.

Startup

Start from Segment Viewer - Communication Path “Select FOUNDATION fieldbus” - Select Device - Operation - FOUNDATION fieldbus Class Assignment.

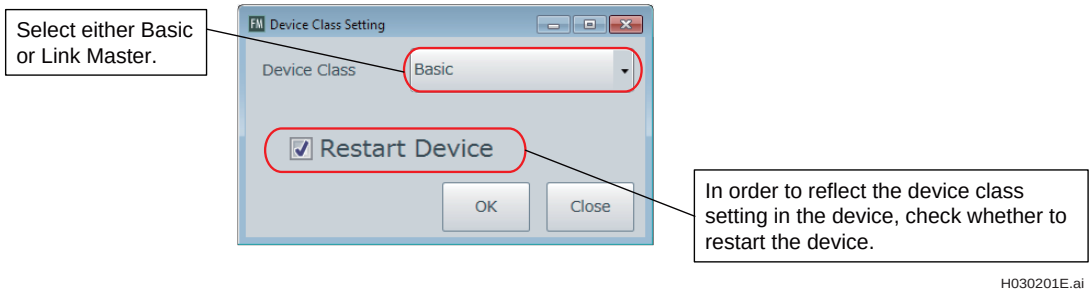


Figure H-3-3 FOUNDATION fieldbus Device Class Assignment

H-4 Setting Operations of Function Blocks for FOUNDATION fieldbus H1 Device

After replacing a FOUNDATION fieldbus H1 device, you must check setting of the operations of built-in function blocks. In some cases, you must internally connect these blocks.

On this window, you can set and connect function blocks built in the FOUNDATION fieldbus H1 device. Operation time and schedule will be automatically set.

These settings are saved in the FOUNDATION fieldbus H1 devices after this operation.

Startup

Right-click the device on Segment Viewer or click Action menu and select <Function Block Execution Setting…>.

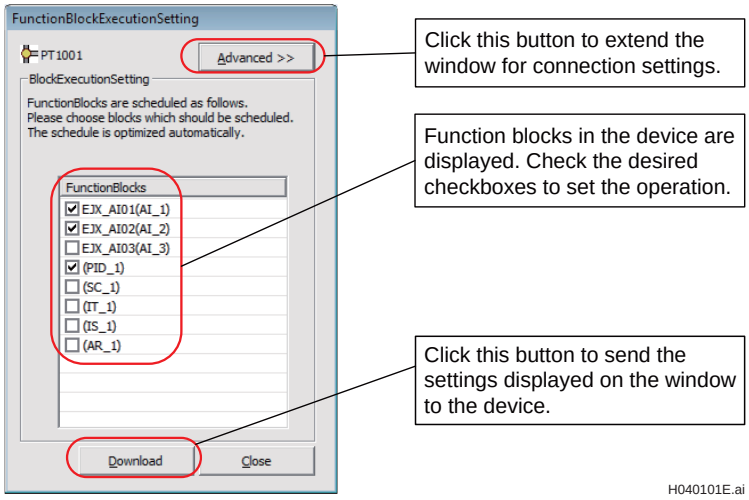


Figure H-4-1

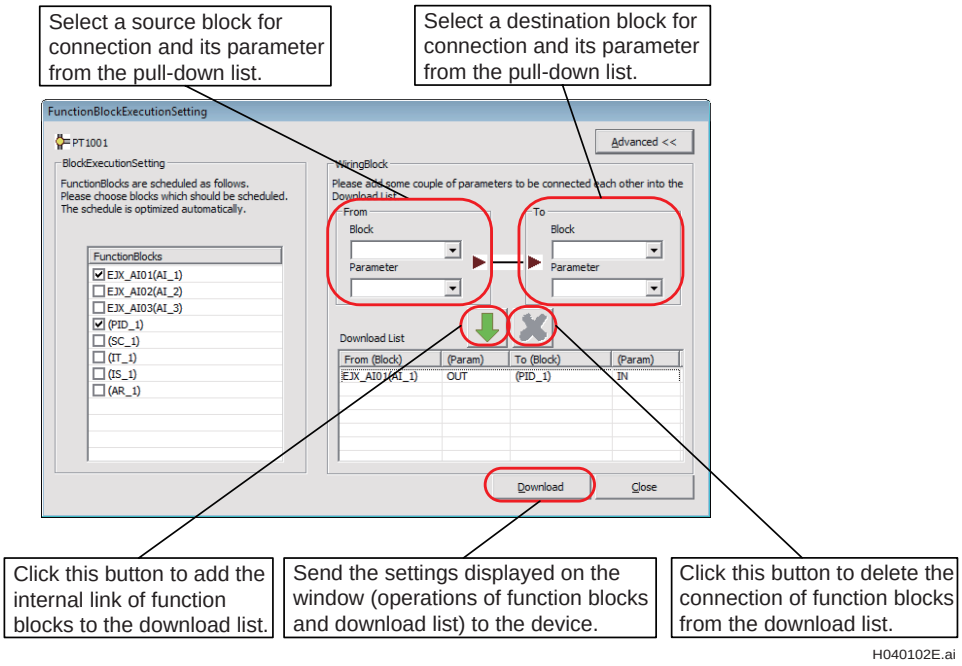


Figure H-4-2

I Device Maintenance Information Management Function

This function enables you to manage the maintenance information of devices. It can access the maintenance information from a device at a time and stores this information in the FieldMate database. You can manage up to 500 devices by using this function.

I-1 Device Maintenance Information

Device maintenance information contains data regarding the maintenance operations that are performed on each device. You can access device maintenance information from the following main windows: Segment Viewer, Device Navigator, and History.

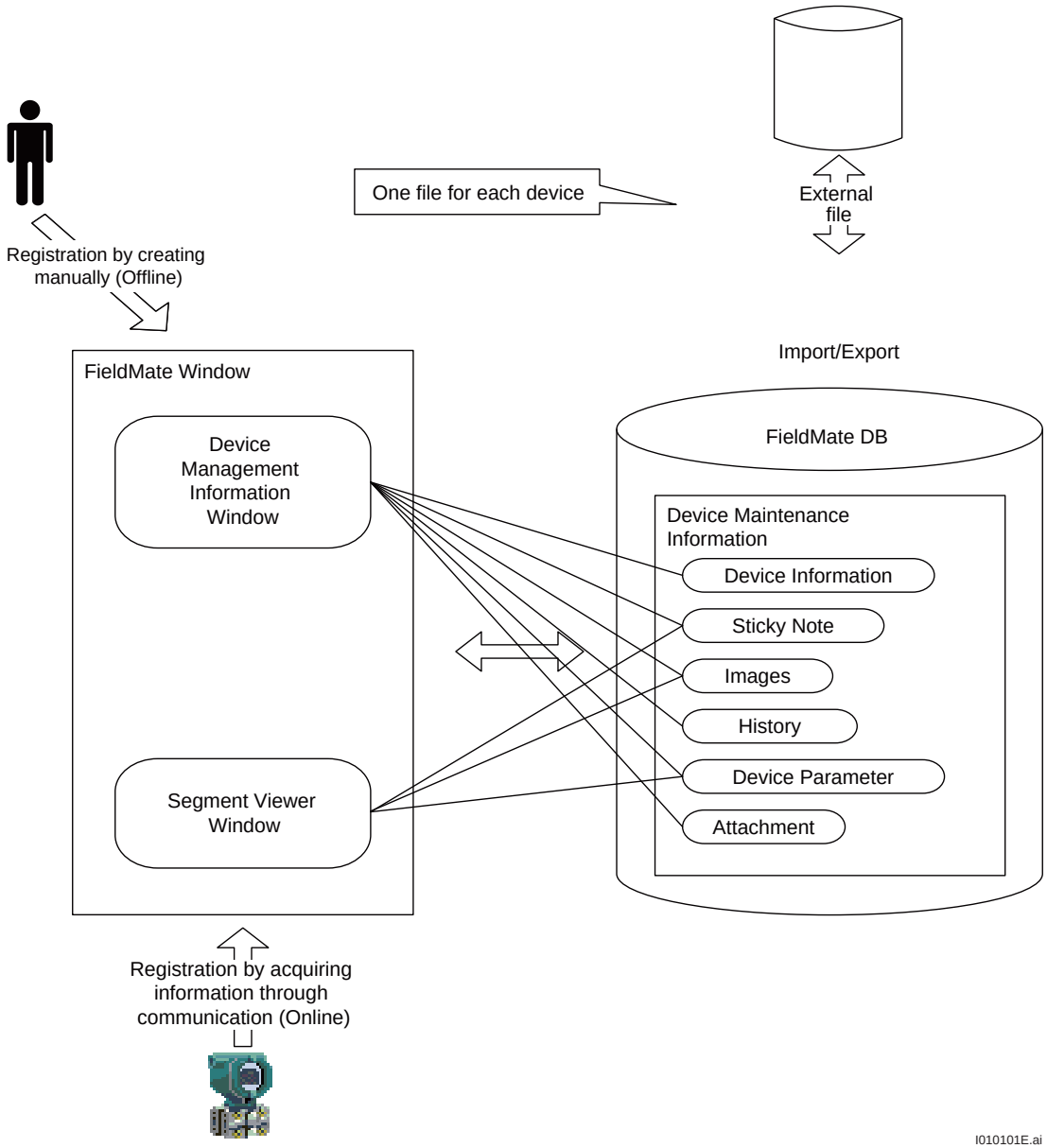


Figure I-1-1 Overview of Device Maintenance Information

I-2 Components of the Device Maintenance Information Window

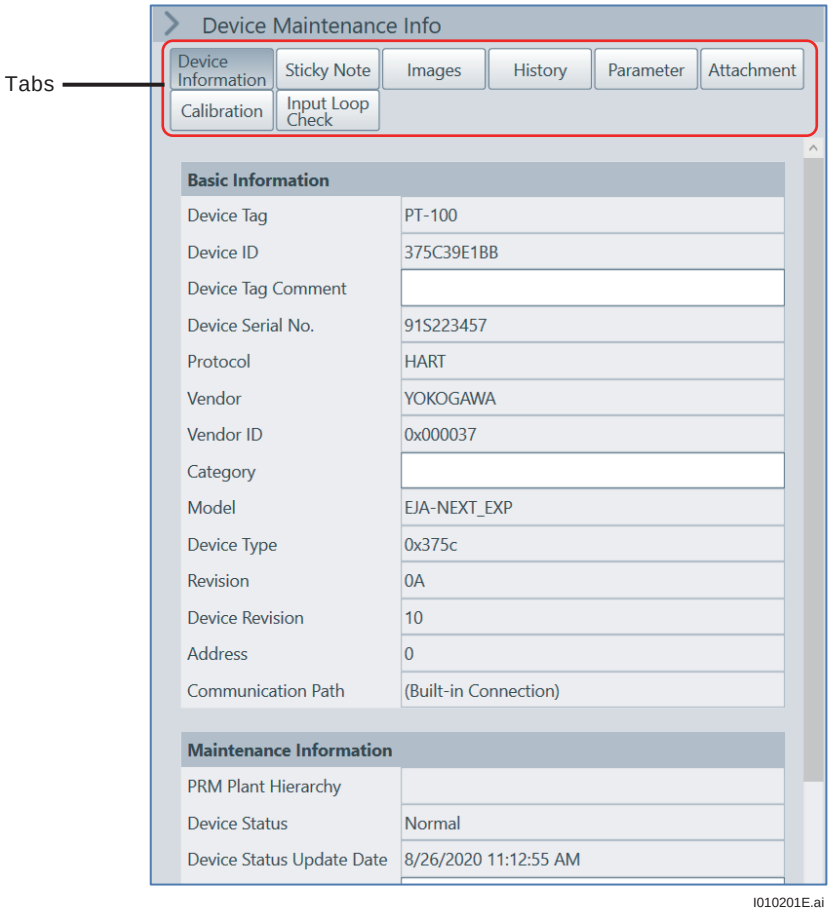


Figure I-2-1 Overview of Device Maintenance Information

The Device Maintenance Information window includes the following tabs:

1. Device Information

This window consists of the following sections:

(1) Basic Information
Contains specific information that is related to the device including Device Tag and ID, serial number, and communication protocol.

(2) Maintenance Information
Contains information that is entered by users to maintain the device, including the delivery and operation start date.

(3) Block information
Indicates block tags and types in the FOUNDATION fieldbus H1 devices. This information is available only for FOUNDATION fieldbus H1 devices.

(4) DTM information
Shows the Device DTMs that are related to the device.

(5) DD file
Indicates the installation status of the DD file on the device.

2. Sticky Note

Opens the existing note for the device and enables you to add or modify the note.

3. **Images**

   Displays images that are uploaded for the device. You can import new images, export available images, and delete existing images for the device.

4. **History**

   Contains the operation log of the device. You can filter the display by user, date, or category, and export the operation history.

5. **Parameter**

   Contains a list of settings of the device parameters and Zero-Adjustment parameters that are taken at different dates.
   From this window, you can click any settings that are listed in the window. A new window appears where you can view more details about the settings and export them as text, webpage, or CSV file format.

6. **Attachment**

   - PM data: List the attribute and values of device parameters that are saved by Parameter Manager.
   - Memo: Enables you to attach files to a device during device maintenance or other operations.
   - Document link: Enables you to add a link for a location or URL of the device manual and other documents that are related to the device.
   - DTM data: Maintains setting information of device parameters and DTM at the previous startup of the device DTM. The DTM data saved by DTM Works are listed.

7. **Calibration**

   Contains the results of Pressure calibration support function.

8. **Input Loop Check**

   Contains the results of Input loop check function.

SEE ALSO For device maintenance information in the case that the communication protocol is “SENCOM”, refer to the instruction manual for “Calibration Management for Liquid Analyzers” (IM 01R01A07-01EN).

Device Maintenance Information – Device Information (Basic Information)

The following table describes the elements of the Basic Information section.

Table I-2-1

Element	Description
Device Tag	Device tag
Device ID	Device ID
Device Tag Comment	Device tag comments
Protocol	Read-only. Displays either HART, FOUNDATION fieldbus, PROFIBUS, BRAIN, ISA100 or Other.
Vendor	Read-only. Character string that indicates the device vendor (For example, YOKOGAWA)
Vendor ID	Read-only. ID that indicates the device vendor (For example, 0x594543)
Category	Character string that indicates the type of the device (For example, Flow Meter)
Model	Read-only. Character string that indicates the device model (For example, EJA100A)
Device Type	Read-only. ID that indicates the device model (For example, 0x0003)
Revision	Character string that indicates the device revision (For example, 02) *1
Device Revision	Read-only. ID that indicates the device revision number (For example, 2)
Address	Device address
IDENT Number	Read-only. Displays the IDENT numbers. This element is applicable only for PROFIBUS devices.
Communication Path	Read-only. Displays a list of communication paths.

*1: Indicates parameter name for FOUNDATION fieldbus and Device Revision for HART.

The following table shows the elements of the Basic Information section that you can configure.

Table I-2-2

Element	Cannot be changed once set	Mandatory setting in manual registration	Items that are set at new registration in the Segment Viewer	Item that are set at overwrite registration in the Segment Viewer
Device Tag			App.	App.
Device ID	App.		App.	App. (*2)
Device Tag Comment				
Communication Type	App.	App.	App.	
Vendor	App.	App.	App.	
Manufacturer ID	App.	App. (*1)	App.	
Category				
Model	App.	App.	App.	
Device Type	App.	App. (*1)	App.	
Revision			App.	App.
Device Revision	App.	App.	App.	
IDENT Number	App.		App.	
Address			App.	App.
Communication Path			App.	App.

*1: Select or input in HART/FOUNDATION fieldbus H1. Fixed to 0 for others.
*2: Able to be set only when the value is not set.

Device Maintenance Information - Device Information (Maintenance Information)

The following table describes the elements of the Maintenance Information section.

Table I-2-3

Element	Description
PRM Plant Hierarchy	Read-only. Displays the plant hierarchies defined in PRM.
Status	Displays any of Uncertain, Normal, Communication Error, Warning, Abnormal, or N/A. The selection can be changed. *1
Status Update Date	Read-only. Displays the date and time when the status was changed. *1
Loop Name	Loop name
Delivery Date	Delivery date of the device
Operation Start Date	Operation start date of the device
Priority	Priority of the device
Serial Number	Serial number
AUX1	The user can set a desired item. The label name (AUX1) can be changed as the set item of the Tool option. Refer to Part G.
AUX2	Same as above
AUX3	Same as above
Update Date	Read-only. Updated whenever the Device Information is changed either through communication or manually.
Update User	Read-only. Same as above
Register Date	Read-only. The date when the Device Information was created for the first time
Register User	Read-only. The name of the user who created the Device Information for the first time

*1: In the case of HART and FOUNDATION fieldbus, Status and Status Update Date are updated whenever an update is performed in Segment Viewer.
In the case of HART, FOUNDATION fieldbus, and BRAIN, Status and Status Update Date are updated whenever a Database device is registered.

Device Maintenance Information - Device Information (Block Information)

This information is displayed only for FOUNDATION fieldbus H1 devices. It indicates the block tag and the type within the FOUNDATION fieldbus H1 devices.

The information is obtained from the device. It cannot be changed in the window.

Device Maintenance Information - Device Information (DTM Information)

This information indicates the device DTM assigned to the device.

In HART/FOUNDATION fieldbus H1/PROFIBUS devices, only Assigned by DTM Setup is displayed. This is because in the DTM Setup, the device DTM is assigned to the model rather than to each device.

In BRAIN devices, DTM Name: BRAIN Universal, DTM Vendor: YOKOGAWA, and DTM Revision are displayed, and the assignment cannot be changed.

In other cases the information of the device DTM assigned in the DTM Setup (DTM Name, DTM Vendor, DTM Version) is displayed, and the assignment can be changed.

Device Maintenance Information - Device Information (DD file)

This indicates the installation status of the DD file on the device.

Table I-2-4 (1/3)

			HART	FOUNDATION fieldbus H1	PROFIBUS	BRAIN	ISA100	Modbus	Other
Element	**Explanation**	**Item Attributes**	**Limit for Item Input and Display**						
Device Maintenance Info - Device info - Basic Info									
Device Tag	Characters indicating Device Tag	R/W *1, *2, *3	Up to 8 characters can be entered *10, *12	Up to 32 characters can be entered *11, *13	Up to 32 characters can be entered *11, *13	Up to 16 characters can be entered *11, *13	Up to 32 characters can be entered *10, *13	Up to 8 characters can be entered *10, *13	Up to 32 characters can be entered *11, *13
Physical Device Tag *14	Characters indicating Device Tag in extended device tag mode	R/W *1, *2, *4	Up to 8 characters can be entered *10, *12						
Descriptor*14	Characters indicating Descriptor	R/W *1, *2, *5	Up to 16 characters can be entered *10, *12						
Message*14	Characters indicating Message	R/W *1, *2, *6	Up to 24 characters can be entered *10, *12"						
Long Tag*14	Characters indicating Long Tag	R/W *1, *7, *8	Up to 32 characters can be entered *10, *12						
Device ID *15	Characters indicating Device ID	"R/W *1"	Up to 10 characters can be entered *10	Up to 32 characters can be entered *10	Up to 32 characters can be entered *10		Up to 32 characters can be entered *10	Up to 32 characters can be entered *10	Up to 32 characters can be entered *10
Tag Comment	Characters indicating Tag Comment	R/W	Any character can be entered (up to 32 characters)						
Device Serial Number *16	Characters indicating Device Serial Number of Yokogawa devices	R	No limitation						
Communication Type	Communication Type of device HART/ FOUNDATION fieldbus/ PROFIBUS/ BRAIN/ ISA100/ Modbus/Other	R	Indicates "HART"	Indicates "FOUNDATION fieldbus"	Indicates "PROFIBUS"	Indicates "BRAIN"	Indicates "ISA100"	Indicates "Modbus"	Indicates "Other"
Vendor	Characters indicating Vendor of device	R	No limitation						
Manufacture ID	ID indicating Vendor of device	R	Hex(6) Example: 0x000037	Hex(6) Example: 0x594543			Hex(8) Example: 0x00594543		Hex(6) Example: 0x594543
Category	Characters indicating Type of device	R/W	Any character can be entered (up to 128 characters) Example: Flow Meter						
Model	Characters indicating Model of device	R	No limitation Example: EJA						

Table I-2-4 (2/3)

			HART	FOUNDATION fieldbus H1	PROFIBUS	BRAIN	ISA100	Modbus	Other
Element	**Explanation**	**Item Attributes**	**Limit for Item Input and Display**						
Device Type *17	ID indicating Model of device	R	Hex(4) Example: 0x0051	Hex(4) Example: 0x0051	Hex(4) Example: 0x070d		Hex(4) Example: 0x0051		Hex(4) Example: 0x0051
Network ID	ID indicating ISA100 communication network						Decimal		
Revision	Characters indicating Revision of device *19	R	Hex Example: 01	No limitation					
Device Revision	Characters indicating Device Revision	R	Decimal	Decimal			Decimal	Decimal	
Address	Characters indicating Address of device	R/W *1	Decimal *20	Decimal *20	Decimal *20		Hex characters can be entered (up to 32 characters) *10 Example: FD000849 101C00650 022FF0000 020E8D	Decimal *20	
Device Role	Characters indicating ISA100 Device Role	R/W					No limitation		
Communication Path	Characters indicating Communication Path	R	B *9	B	B	B	B	B *9	B
Device Maintenance Info - Device info - Maintenance Info									
PRM Plant Hierarchy	Indicates Plant Hierarchy defined on PRM	R	No limitation						
Device Status	"Characters indicating Device Status Indicates one of Uncertain, Normal, Communication error, Warning, Error or N/A."	R	No limitation						
Remaining Battery	Indicates ISA100 battery level Indicates one of 100-75%, 75-25%, 25-0% or N/A	R					No limitation		
Date and Time of Status Update	Indicates Date and Time of Status Update	R	*18						
Loop Name	Characters indicating Loop Name	R/W	Any character can be entered (up to 128 characters)						
Delivery Date	Delivery Date of device	R/W	Accordance with Date format *18						
Startup Date	Startup Date of device	R/W	Accordance with Date format *18						

Table I-2-4 (3/3)

			HART	FOUNDATION fieldbus H1	PROFIBUS	BRAIN	ISA100	Modbus	Other
Element	**Explanation**	**Item Attributes**	**Limit for Item Input and Display**						
Priority	Priority can be specified to one of the same level of devices in the group. This item shall be used as a reference.	R/W	Numeric characters (1 to 99) can be entered.						
Serial Number	Characters indicating Serial Number	R/W	Single-byte alpha-numeric characters can be entered (up to 64 characters)						
Remarks 1	Any item can be set by user	R/W	Any character can be entered (up to 128 characters)						
Remarks 2	same as above	same as above	same as above						
Remarks 3	same as above	same as above	same as above						
Update Date and Time	Indicates Date and Time when device information is updated.	R	*18						
Update User	Indicates User who updates device information.	R	No limitation						
Registered at	Indicates Date and Time when device information is created.	R	*18						
Registered by	Indicates User who creates device information.	R	No limitation						

*1: Device that is automatically registered through Segment Viewer update cannot be entered.
*2: Even if the LongTag mode checkbox is checked, non-supported models can be written.
*3: Writable in Tag mode.
*4: Writable in Tag+Descriptor mode.
*5: Writable in Tag+Descriptor or Descriptor mode.
*6: Writable in Message mode.
*7: Writable in LongTag mode as long as it is a supported model.
*8: For HART6 and 7 devices. Hidden in the model that does not support LongTag, i.e. HART5 devices.
*9: Assigned tag name of the adapter if it is through an adapter.
*10: Single-byte alpha-numeric characters can be entered (lower case characters to be converted to upper case).
*11: Single-byte alpha-numeric characters can be entered (lower case characters not to be converted).
12: Symbols “@[]^_$%’()+,-/:<=>?” are included. Whether these symbols can be accepted depends on the specification of each device.
*13: Symbols “-” and “_” are included.
*14: Indicated in extended device tag mode.
*15: Device ID (EUI-64) is indicated for ISA100.
*16: Only devices supported by Device Serial Number Obtaining Function.
*17: Ident Number is indicated for PROFIBUS.
*18: Displayed in accordance with Windows display format.
*19: It is a parameter value of “Revision” for FOUNDATION fieldbus. Same as Device Revision for HART.
*20: Numeric characters can be entered.

Legend of Symbols:
R.: Read.
W.: Write.
Hex(N): Indicates in decimal notation. Number of digits in brackets.
B: Indicates “(Built-in Connection)”.

Device Maintenance Info - Sticky Note

Displays the latest memo (sticky note).

Device Maintenance Info - Image

Displays photos saved in the device maintenance information.

Device Maintenance Info - History

This is the operation log related to the device after registration.

Device Maintenance Info - Parameter

It contains all the device parameters and zero-adjustment parameters.

Device Maintenance Info - Attachment

It maintains the configuration information of device parameters and device DTMs. Displays the list of DTM data saved in DTM Works.

- Memo

  This can be freely attached to a device by users during device maintenance or other operations. Multiple memos can be attached to each device.

- Document link

  The information of the link to files in the PC or URL can be defined. Device manuals or related URLs can be called from the defined link information. Up to 100 document links can be defined for each device.

- PM data

  This is the attribute and value information of device parameters. Values of device parameters saved by the Parameter Manager are listed.

- DTM data

  This maintains setting information of device parameters and DTM at the previous startup of the device DTM. The DTM data saved by DTM Works are listed.

Device Maintenance Information Identifier

The identifier that specifies device maintenance information is the Device ID (an item of the device information (Basic Information) of the device maintenance information). A Device ID is an ID that specifies each device. For PROFIBUS and BRAIN devices, set a unique ID to Device ID to manage the device information.

Device Maintenance Information Flags

The following flag can be set for device maintenance information. This flag has two values, ON/OFF, and the state of the flag can be recognized graphically by Device Navigator.

1. Device Flag
   A flag that can set ON/OFF for a device.

Searching Device Maintenance Information

This function searches the device maintenance information registered in the database and narrows down the device.

A Simple Function to Assist Creating Daily Reports

Daily reports can be assisted by selecting and exporting any part of the History to an external file.

I-3 Registering Device Maintenance Information

You can register device maintenance information through one of the following ways:

1. Offline registration

   There are two ways to register offline: manual registration and import registration. Offline registration means registering device maintenance information while FieldMate is not connected to the device.

   • Manual registration
   Registration is done in the Device Navigator. (Action - New Device Maintenance Info)
   Enter the device maintenance information to register the device.

   • Import registration (*)
   Registration is done in the Device Navigator. (File - Import Device Maintenance Info) Import and register the device information file to FieldMate.

2. Online registration

   Online registration (or online auto-registration) means FieldMate automatically registers the device maintenance information of a device that is connected to FieldMate. When you connect a device to FieldMate, it is detected and shown in Segment Viewer.

Details of Manual Registration

1. In Communication Type, select either HART, FOUNDATION fieldbus, PROFIBUS, BRAIN, ISA100, or OTHER.
2. Select or enter a vendor name.
   When BRAIN is selected, Yokogawa Electric Corporation is entered as the vendor by default.

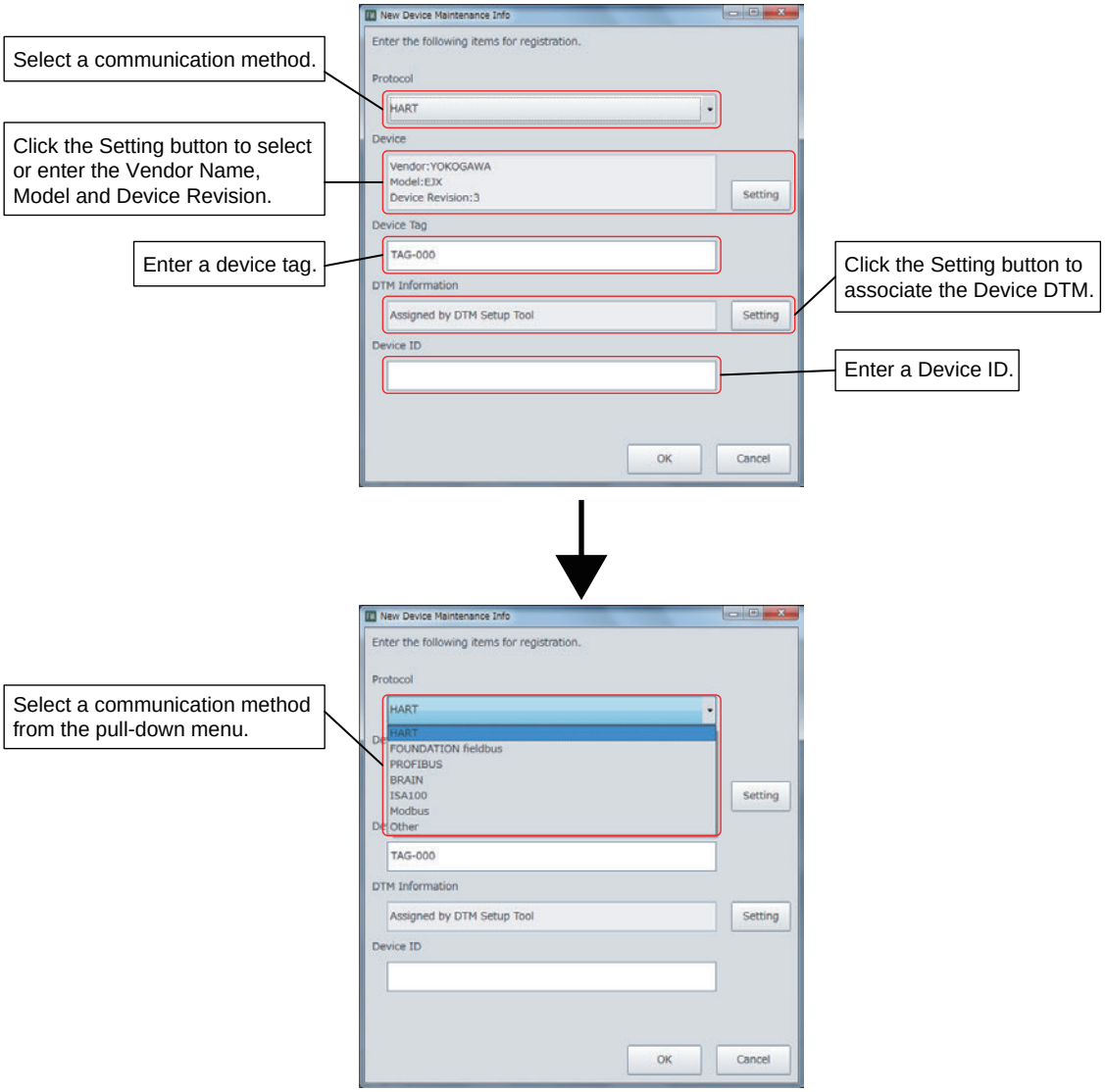
   The vendor name cannot be added for BRAIN, ISA100, and Modbus.
3. Select or enter a model.
   (The device type will be set automatically according to the selection of the model.)
   For PROFIBUS, enter an IDENT number as an ID for adding a model name.
   For BRAIN, the model cannot be added.
4. Select a device revision.
   Device revision is not applicable to BRAIN devices.
5. Enter a device tag. You can keep the device tag blank.
6. Perform device DTM assignment.
   - For HART, FOUNDATION fieldbus, PROFIBUS, or ISA100, select whether to use the DTM Setup tool for model assignment or perform an assignment for each Database device.
   - For BRAIN, DTM assignment cannot be performed.
7. Enter a Device ID. You can keep the device ID blank.
   It is not necessary to input Device ID for BRAIN.

TIP

For OTHER, Device Maintenance Info that is registered using “Other” can be associated with devices that are under the UDC projects.

Startup

Device Navigator → Action → New Device Maintenance Info



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Figure I-3-1 New Device Maintenance Info (1/2)

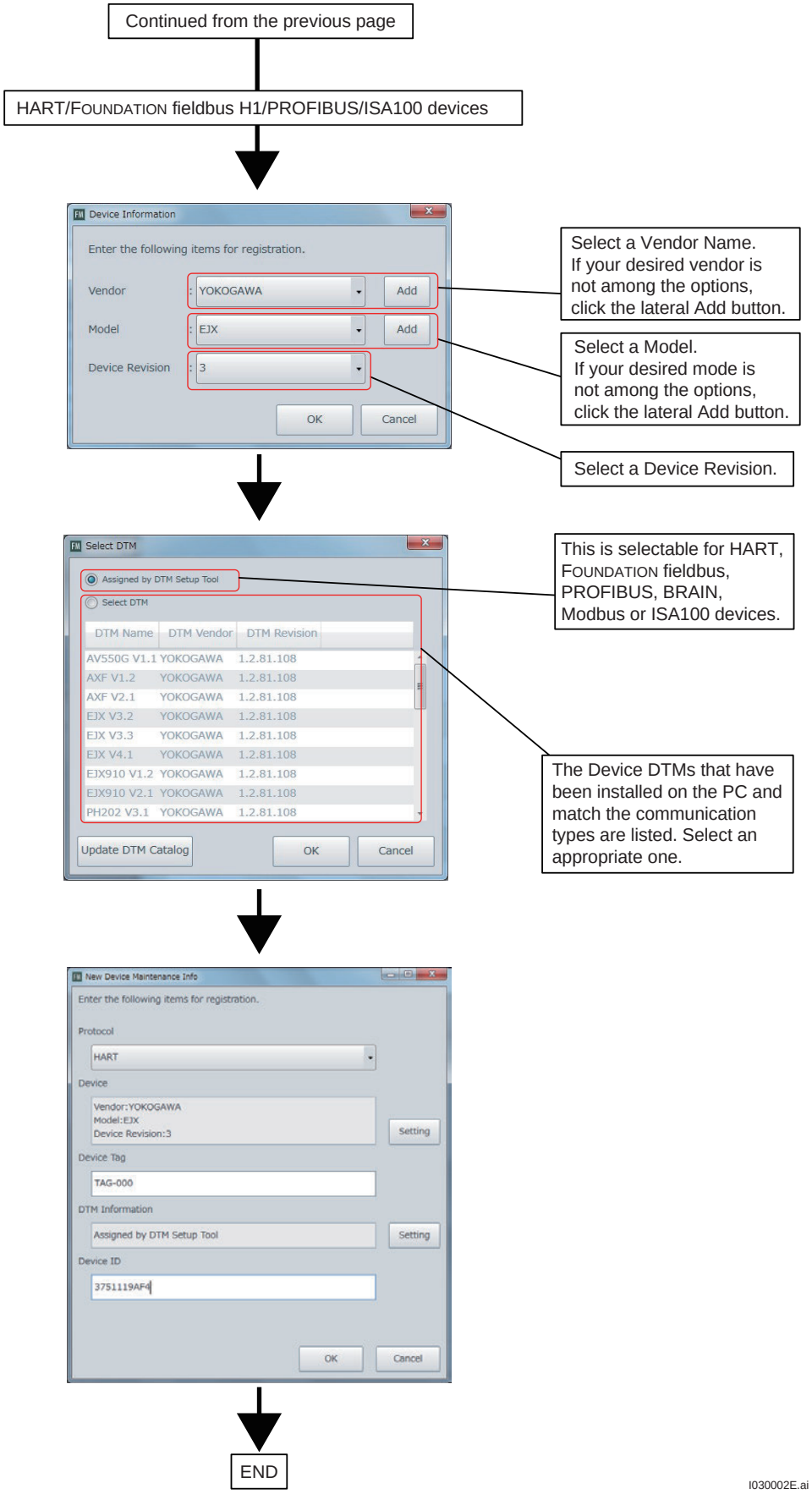


Figure I-3-2 New Device Maintenance Info (2/2)

I-4 Importing and Exporting Device Maintenance Information

Overview

Device maintenance information can be imported from and exported to an external file (one file for one device).

Details of Import Registration

Device files:

1. Execute Import Device Maintenance Info.
2. Select the device file.
3. Check whether there is an overlap of information between existing device maintenance information and Device IDs.
   If there is an overlap, select whether to stop the import or delete the existing device maintenance information.
4. Device maintenance information is imported and created.

Import Device Maintenance Info

Startup

Device Navigator→ File→ Import Device Maintenance Info…

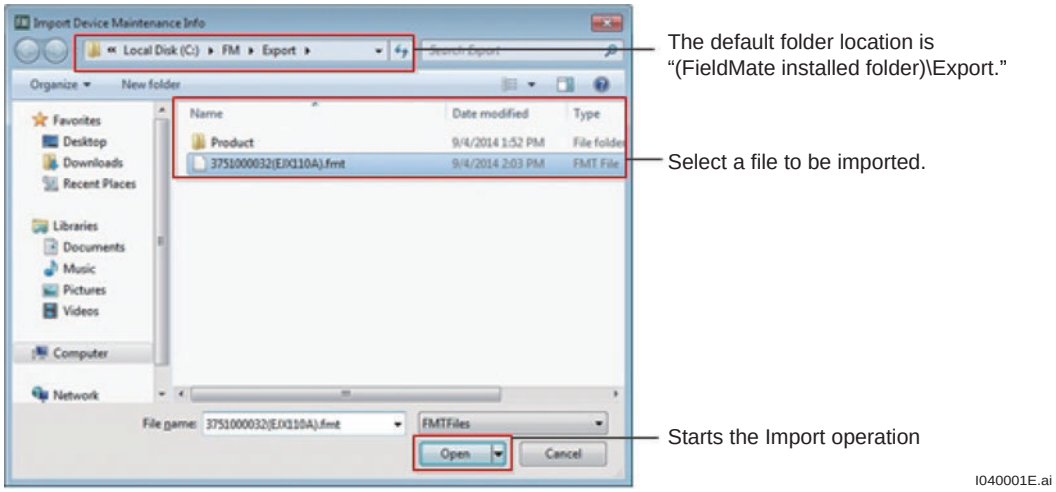


Figure I-4-1 Import Device Maintenance Info

IMPORTANT

- FieldMate revision3.04.20 can import device maintenance information from files that are exported from FieldMate revision2.
- FieldMate revision2 cannot import device maintenance information from files that are exported from FieldMate revision3.

Export Device Maintenance Info

Startup

Device Navigator → File → Export Device Maintenance Info.

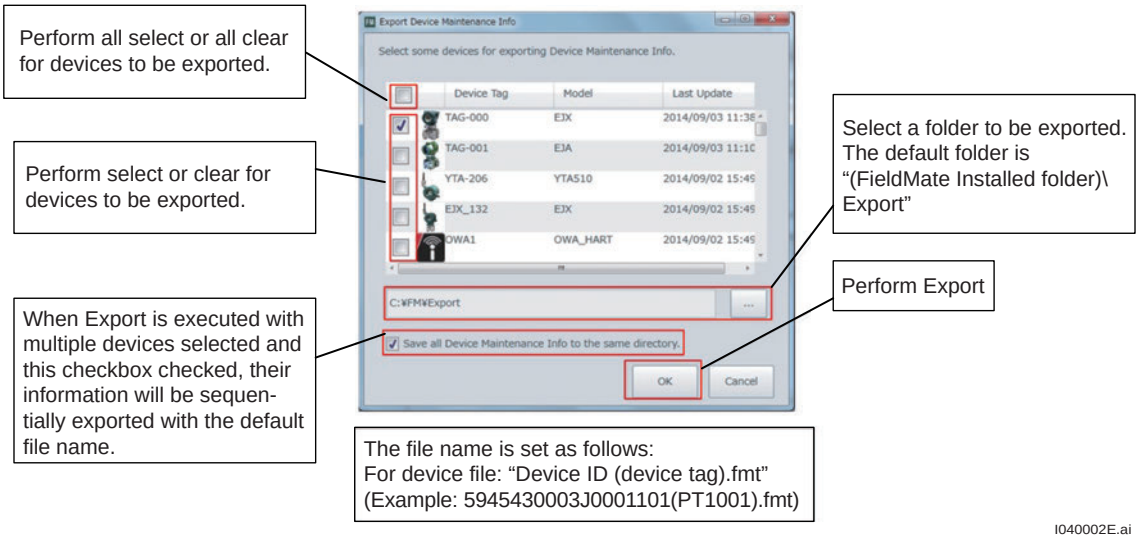


Figure I-4-2 Export Device Maintenance Info

J Device Navigator

You can display a list of devices stored in the device navigator's database.
The devices displayed are those that were automatically registered when connecting to FieldMate and those that were manually registered.
Device Navigator allows you to search for device events in the database. It also enables you to view device maintenance information.

J-1 Device Navigator Window

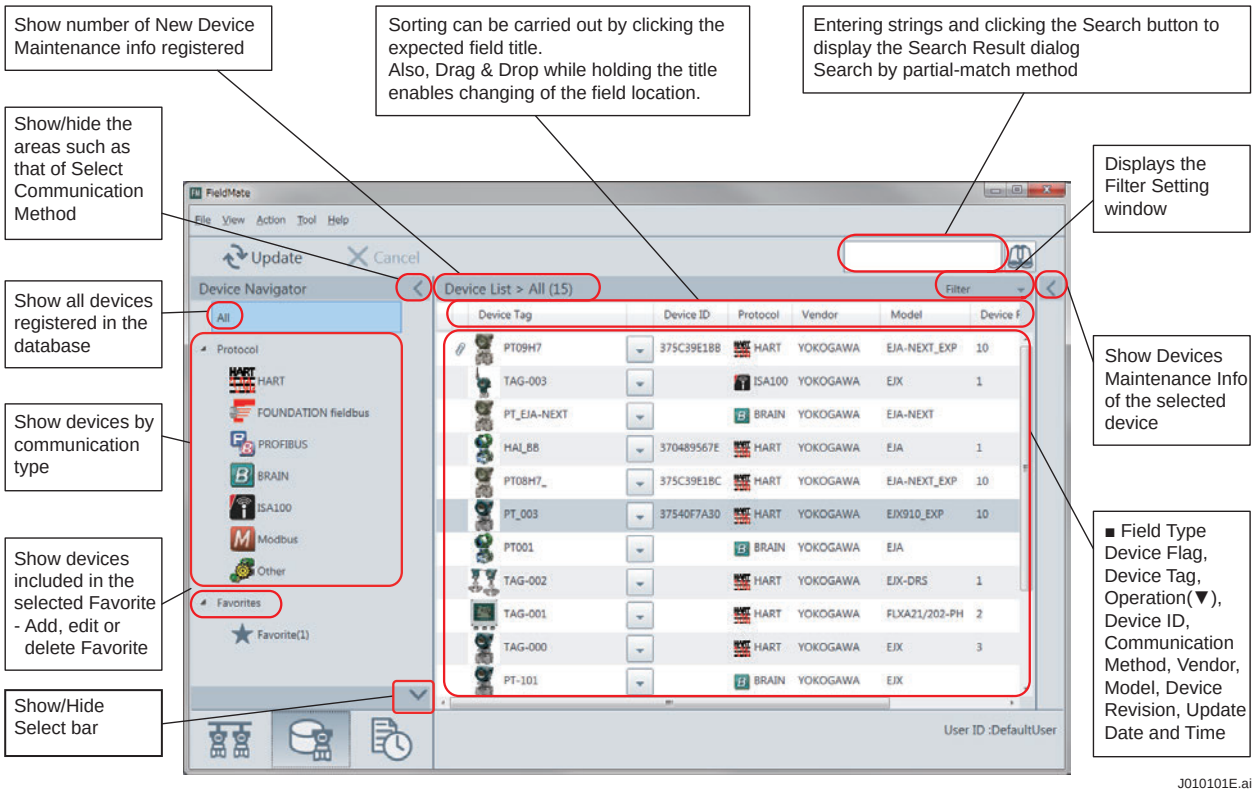


Figure J-1-1 Device Navigator

Menu

Table J-1-1 Device Navigator Menu List (1/2)

Menu Option			Explanation
File	Import Device Maintenance Info		Imports device maintenance information from external files
	Export Device Maintenance Info		Exports device maintenance information to external files
	Import Non-Communication Devices		Imports the list of Non-Communication devises from external files
	Export Serial No.		Exports device serial number registered in device maintenance information to external files
	Exit		Enables the logged on user to exit FieldMate
View	Update		Updates contents displayed in the windows
	Tool bar	Menu bar	Show/Hide menu bar
Action	Open Device Maintenance Info		Starts the device maintenance info window
	Assigned DTM		Starts the DTM assigned to the device in the DTM Works window
	Select DTM		Displays the Device DTM Selection dialog box and starts the selected device DTM in the DTM Works window
	Parameter Manager		Starts Parameter Manager Window
	Trend Graph Viewer		Starts the Trend Graph Viewer
	New Device Maintenance Info		Enables you to create device maintenance information
	Delete Device Maintenance Info		Deletes device maintenance information
	Export Device Maintenance Info		Exports device maintenance information to external files
	Compare and Generate Parameter Report		Starts the Parameter Comparison window
	Flag the Device	ON	Changes device flag to ON
		OFF	Changes device flag to OFF
	Add to Favorites	Create New Favorite	Creates new favorites - Up to 30 favorites can be defined
		Favorites List	Adds selected device to Favorites
	Pressure Calibration Support		Starts the Pressure Calibration Support function
	Delete from Favorites		Deletes selected device from Favorites
	Install DD File		Adds DD files of device
	Device Icon Setting		Sets Device Icon to Selected File or switches back to the default setting
Tool	User Manager		Starts the User Management window - Manages FieldMate User Account
	Communication Setting	HART Modem Configuration	Starts the HART Modem Configuration window - Sets HART Modem
		FOUNDATION fieldbus Interface Configuration	Calls NI-FBUS Interface Configuration Utility or Softing FFusb Configuration Tool
		PROFIBUS Interface Configuration	Starts the PROFIBUS Communication Configuration window - Sets PROFIBUS
		BRAIN Modem Configuration	Starts the BRAIN Modem Configuration window - Sets BRAIN Modem
		ISA100 (Infrared) Interface Configuration	Enables configuration of USB Port
		ISA100 (Gateway) Interface Configuration	Sets Host Name or IP Address of Gateway

Table J-1-1 Device Navigator Menu List (2/2)

Menu Option			Explanation
Tool	Communication Setting	Modbus Interface Configuration	Starts the Modbus Communication Configuration window - Sets Modbus
		HART (YOKOGAWA N-IO) Interface Configuration	Starts HART (YOKOGAWA N-IO) setting dialog
		SENCOM communication Interface Configuration	Starts SENCOM Communication setting dialog
	Device Files Setup	Start DTM Setup	Starts DTM Setup tool Refer to “R-3 DTM Setup” about DTM Setup tool
		DD File Utilities	Starts DD File Utilities dialog Refer to “R-1-1 DD file” about DD file Utilities dialog
	Options	Display Parameters on Segment Viewer	Show/Hide Typical Parameters on Segment Viewer
		Typical Parameters Customization	Specify the parameters to be displayed on the Typical Parameter HMI of the Segment Viewer
		DTM/Parameter Manager Startup path from Device Maintenance Info	Select Path to DTM and Parameter Manager Setup from Device Maintenance Info
		ISA100 Provisioning Setting	Select Usage Advisability for Provisioning Information File
	FDT Project		Creates, copies, and deletes FDT Project, and imports FDT Project from external files
Help	User Registration		Starts the User Registration window - Carries out user registration processes
	About FieldMate		Starts the About FieldMate window – Displays details such as version information

■ Toolbar

Table J-1-2 Toolbar button

Icon	Function	Description	Function Key
	Update	Same as “View → Update” menu.	F5
	Cancel	Update and cancel.	

■ Operation

● Filter Function

Filters users and devices (models).

● Operation(▼)

Push ▼ button on a line on the Device Navigator window displays the Action Menu.

● Operation at Right-clicking

Right-clicking on a line on the Device Navigator window displays the Action Menu.

● Operation at Double-clicking

Double-clicking on a line on the Device Navigator window displays the Device Maintenance Info window.

J-2 Device Maintenance Info

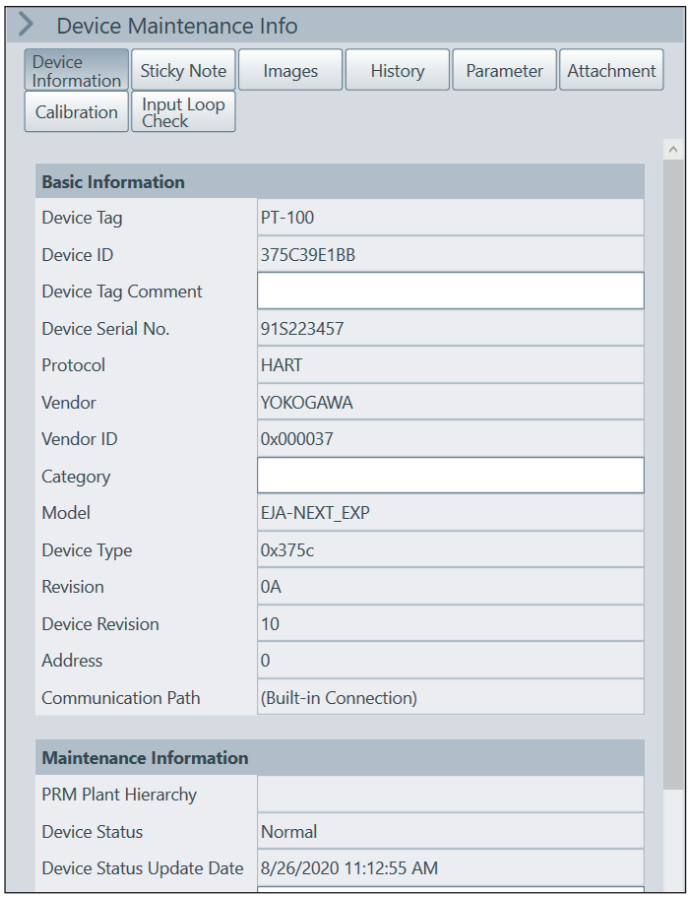
This window allows you to handle “device maintenance information” of the device.

J-2-1 Device Maintenance Info (Device Info)

This window displays or sets “Basic Information,” “Maintenance Information,” “Block Information,” “DTM Information,” and DD file.

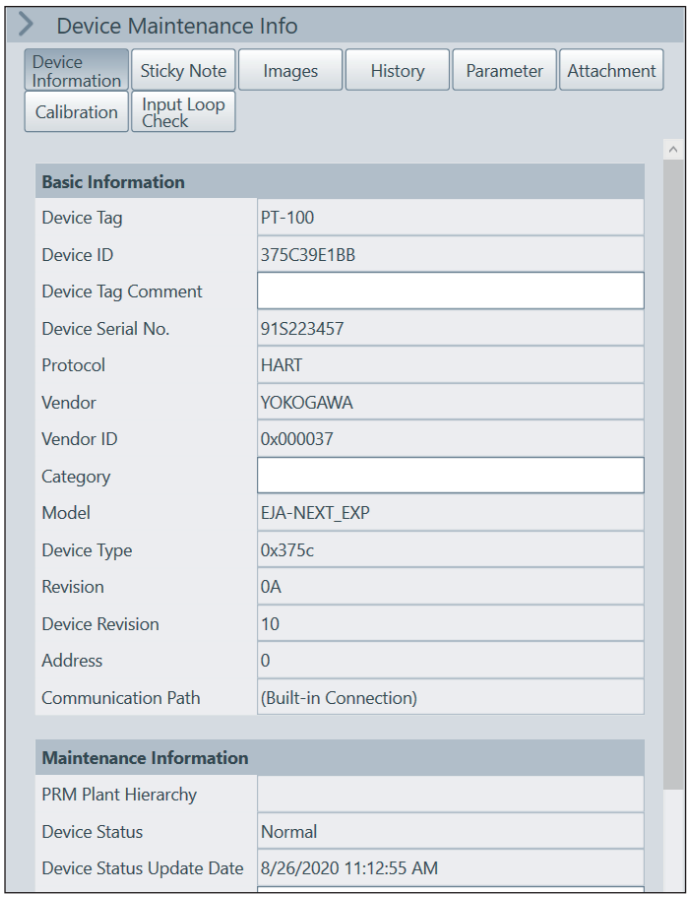
Startup

Select the target device and click [▼] button →select [Open Device Maintenance Info...] on Device Navigator window.



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Figure J-2-1 Device Maintenance Info (Device Info) (other than FOUNDATION fieldbus devices)



J020102E.ai

Figure J-2-2 Device Maintenance Info (Device Info) (FOUNDATION fieldbus H1 device)

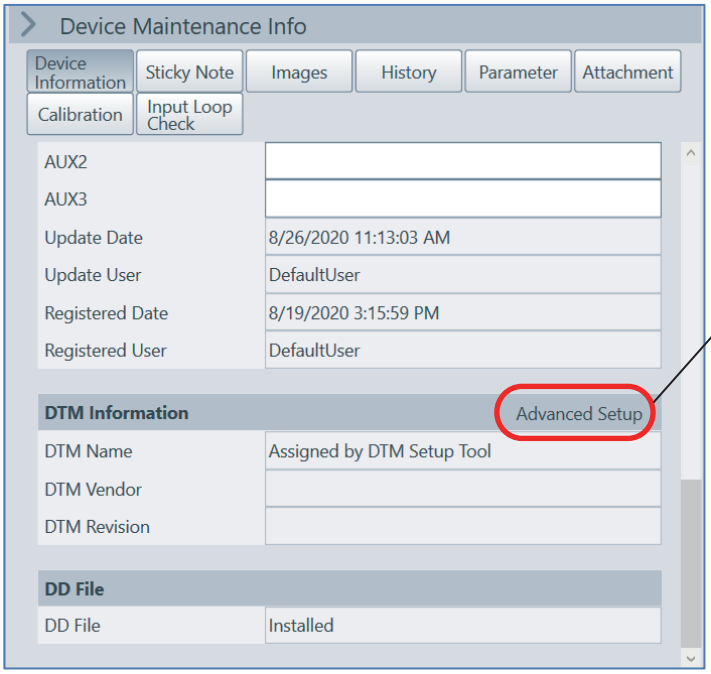
DTM Assignment Function

<Specification>

- This function allows for assigning a device DTM to “Model” in the DTM Setup tool for HART/FOUNDATION fieldbus/PROFIBUS/ISA100 devices.
- This function also allows for assigning a device DTM to individual database devices. This function can be applied to devices whose “Model” is identical but applicable device DTM is different.

<Application Range>

- Device DTM assigned to “Model” or individual database device is used only when the communication path is Built-in Connection.
- When the communication path is User Defined Connection, device DTM defined in FDT Project is used regardless of DTM assignment. (Refer to Part G)



DTM information can be updated only for HART/ FOUNDATION fieldbus devices or ISA100 wireless devices.
Operations on the Advanced Setting allow to allocate DTM either by use of the DTM Setup model or by individual allocation for each device. In the latter case, the DTM to be allocated is selectable.

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Figure J-2-3 DTM Association

J-2-2 Device Maintenance Info (Sticky Note)

This window displays the sticky note of relevant device.

Window

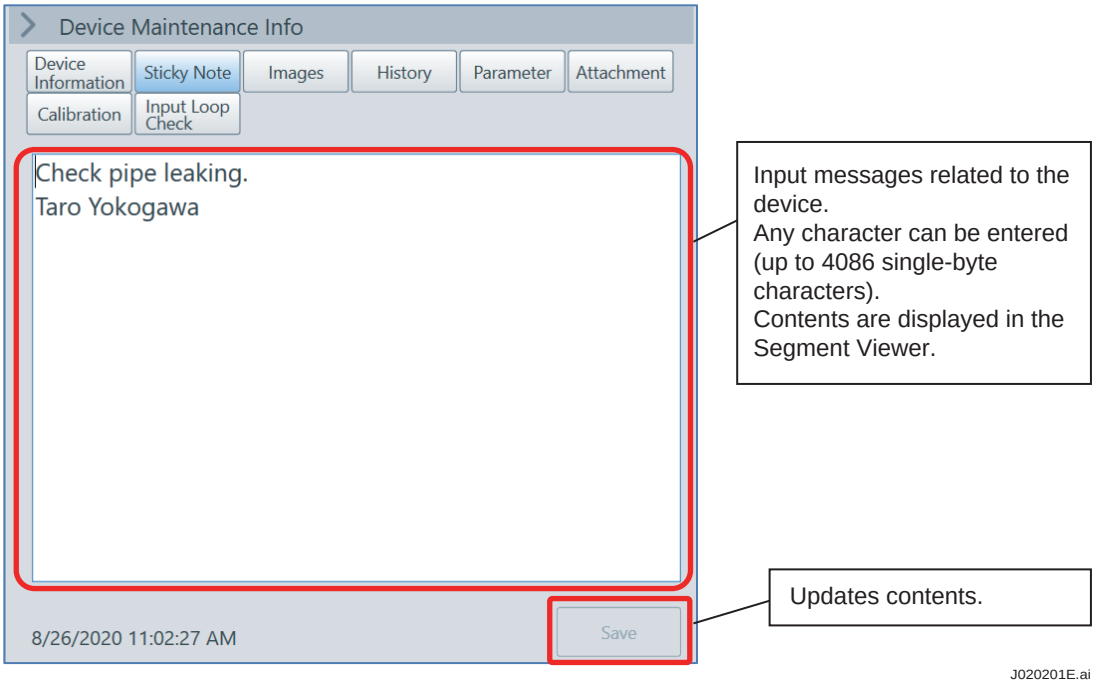


Figure J-2-4 Device Maintenance Info (Sticky note)

J-2-3 Device Maintenance Info (Images)

This window displays a list of images.

Window

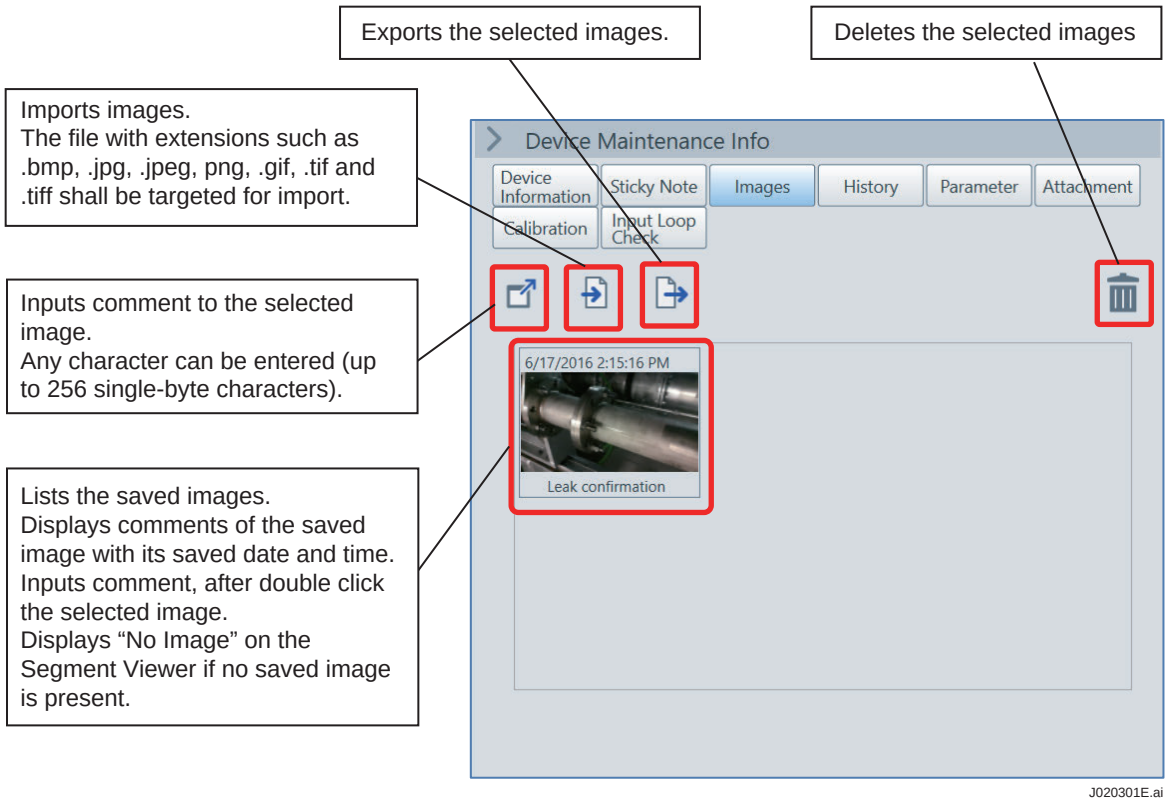


Figure J-2-5 Device Maintenance Info (Images)

TIP

- The file size of an imported image reccommends to be less than 10 megabyte (MB).
- The number of imported image files recommends to be less than 10.
- It is recommended that you delete any unnecessary image files to free up space.

J-2-4 Device Maintenance Info (History)

This window displays the operation log of relevant device.

Window

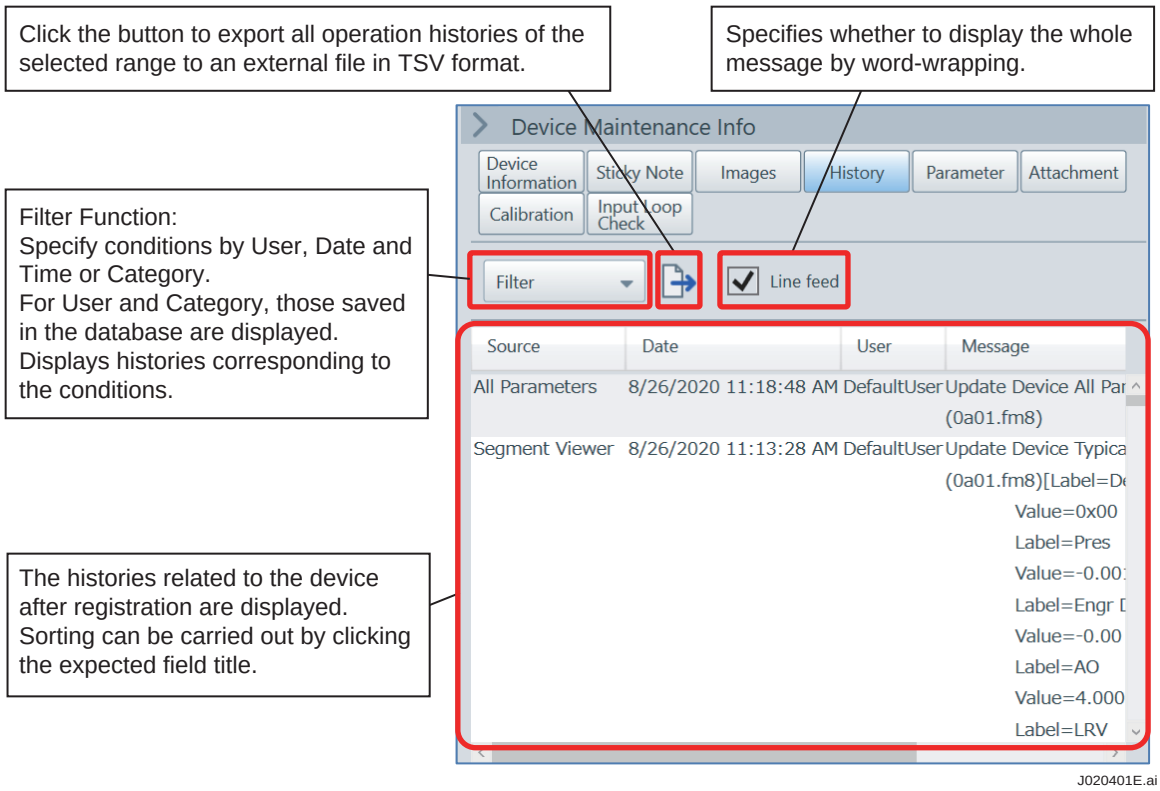


Figure J-2-6 Device Maintenance Info (History)

J-2-5 Device Maintenance Information (Parameter)

This window displays the list of All Parameters and Adjustment Parameters of the device on the Segment Viewer. Also exports the selected files to an external file.

Window

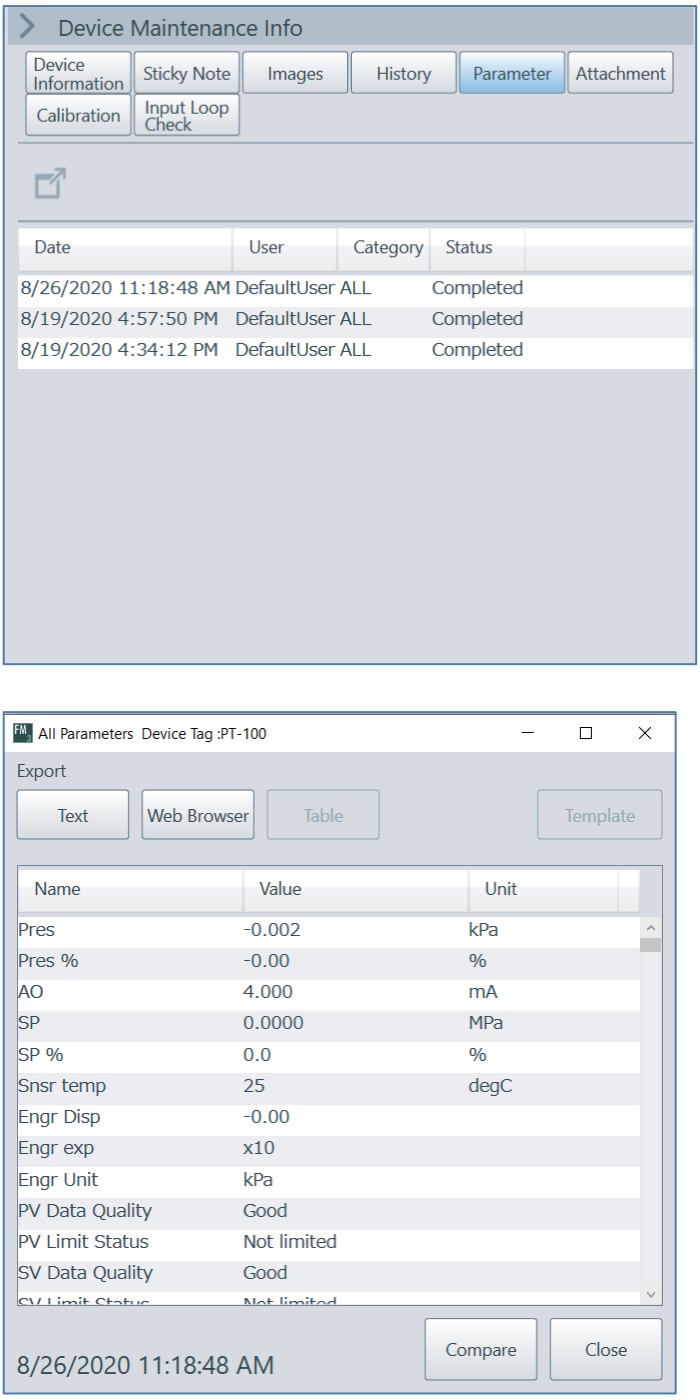


Figure J-2-7 Device Maintenance Info (Parameter)

J-2-6 Device Maintenance Information (Attachment)

Displays and specifies Memo, Document Link, PM Data and DTM Data on the Device Maintenance Information (Attachment).

J-2-6-1 Device Maintenance Information (Attachment - Memo)

This window allows you to write a free memo to device upon device inspection and so on.
Multiple memos can be attached to each device.
You can input the memo directly or attach any file.
Individual memos consist of the following items:

1. Title
   This is a memo's title. The user can freely enter it (up to 54 single-byte characters). You can also select the value from values input in the past (up to 20).
2. Type
   This is a memo's type. The user can freely enter it (up to 54 single-byte characters). You can also select the value from values input in the past (up to 20).
3. Attached files
   These files are attached to a memo. Up to 10 files can be attached to a file. Any Windows' file or folder can be attached by drag & drop.
4. Text
   This is a memo's text. The user can freely enter it (up to 8192 single-byte characters).

TIP

The title and type data cannot be modified once they have been confirmed, but all other items can be modified.
Up to 1000 memos can be defined for one device.

■ Window

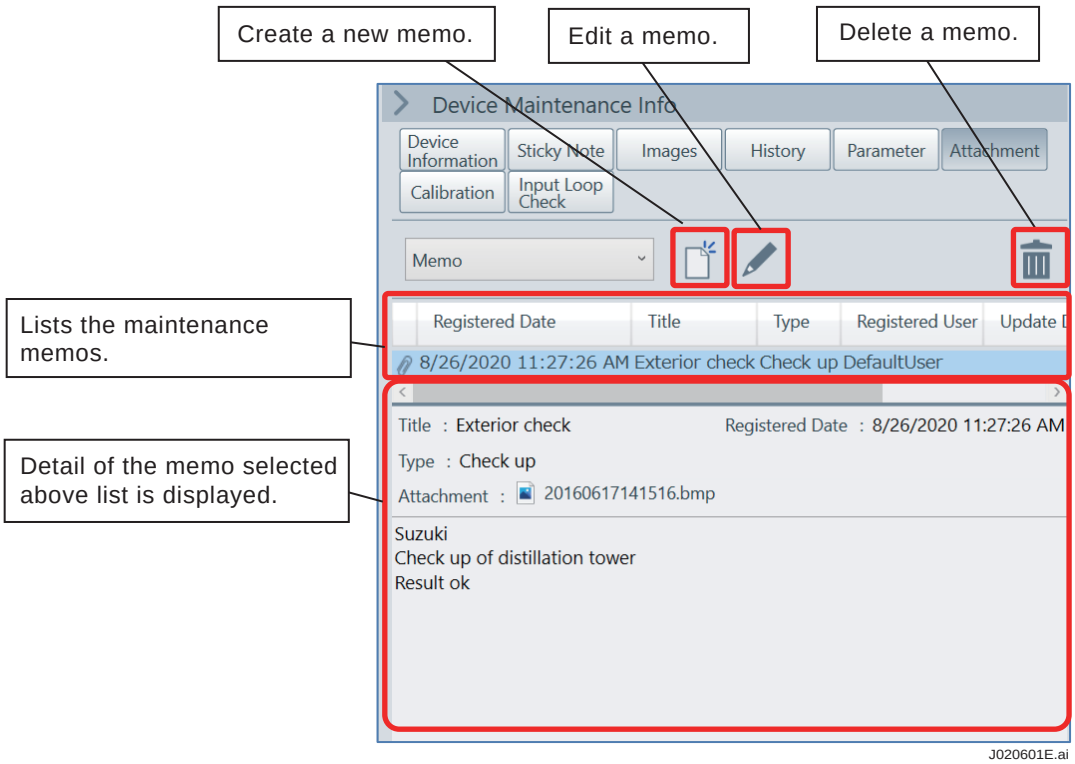


Figure J-2-8 Device Maintenance Info (Attachment - Memo)

J-2-6-2 Device Maintenance Information (Attachment - Document Link)

The information of the link to files in the PC or URL can be defined. Device manuals or related URLs can be called from the defined link information.

Up to 100 document links can be defined for each device.

Window

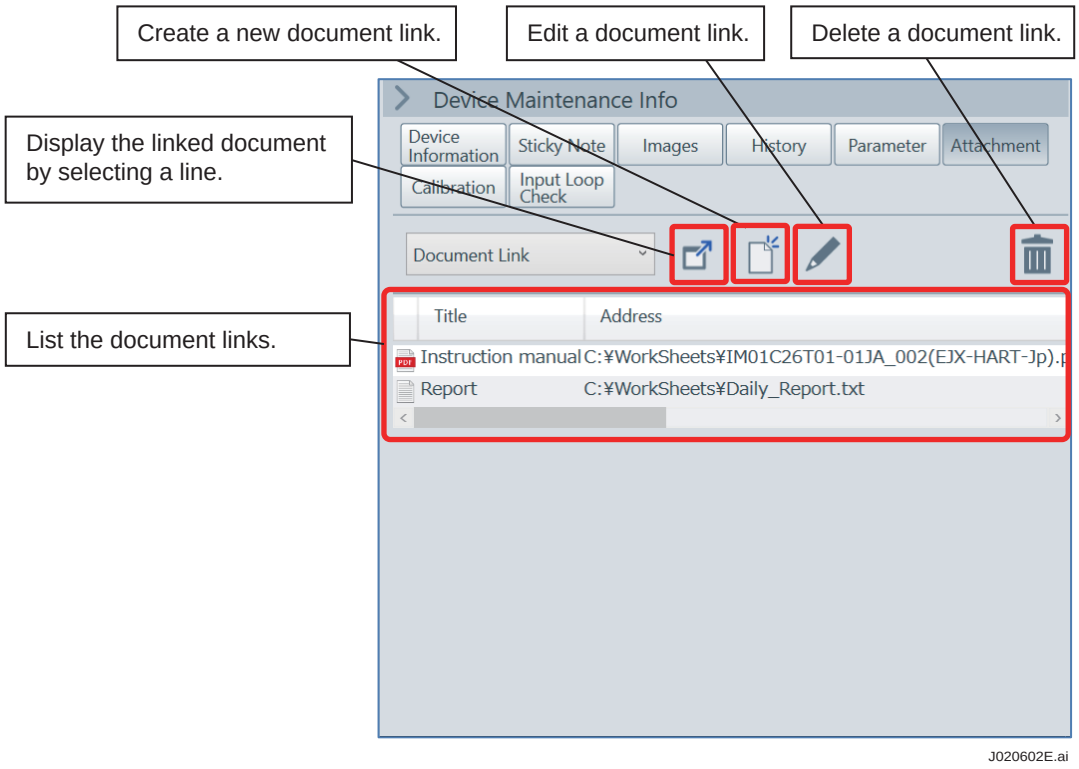


Figure J-2-9 Device Maintenance Info (Attachment - Document Link)

J-2-6-3 Device Maintenance Info (Attachment - PM Data)

This window displays a list of device parameter values saved in the database by Parameter Manager (up to 5 lines). Selecting and manipulating 1 or 2 items in the list starts up Parameter Manager and displays the stored data for comparison.

Window

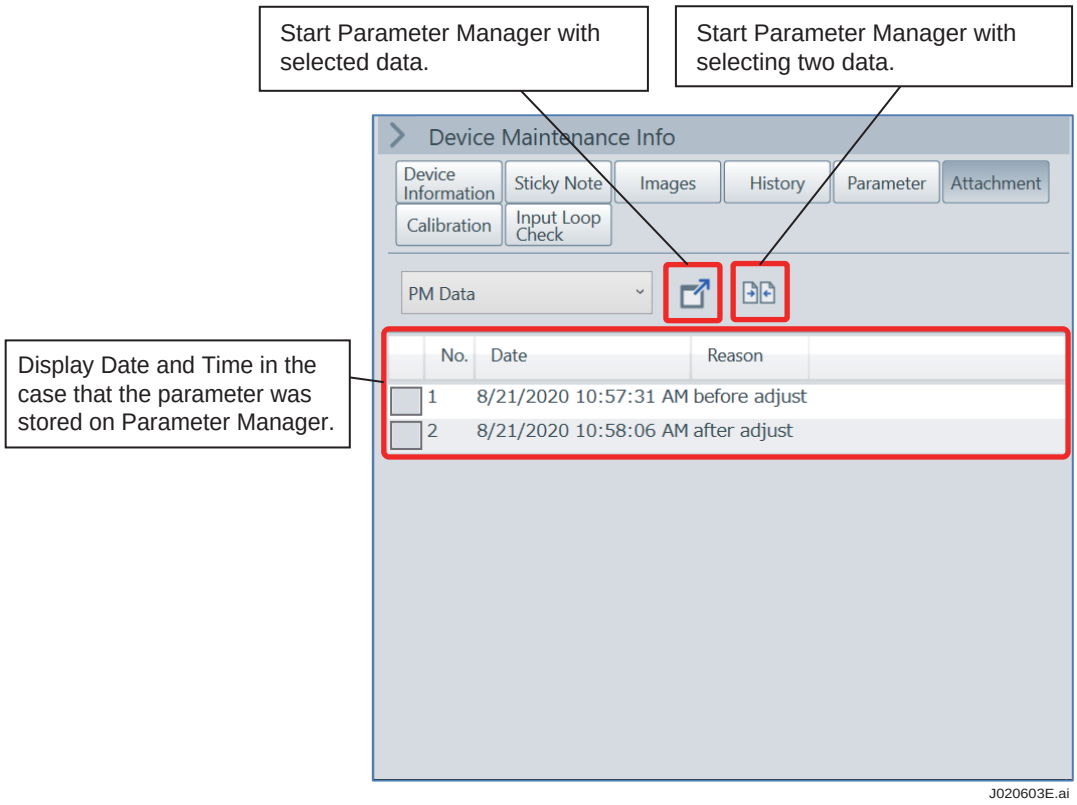


Figure J-2-10 Device Maintenance Info (Attachment - PM Data)

J-2-6-4 Device Maintenance Info (Attachment - DTM Data)

This window displays a list of DTM data saved in the database by DTM Works (up to 5 lines).

Selecting and manipulating one item in the list starts up DTM Works and displays the stored data.

Window

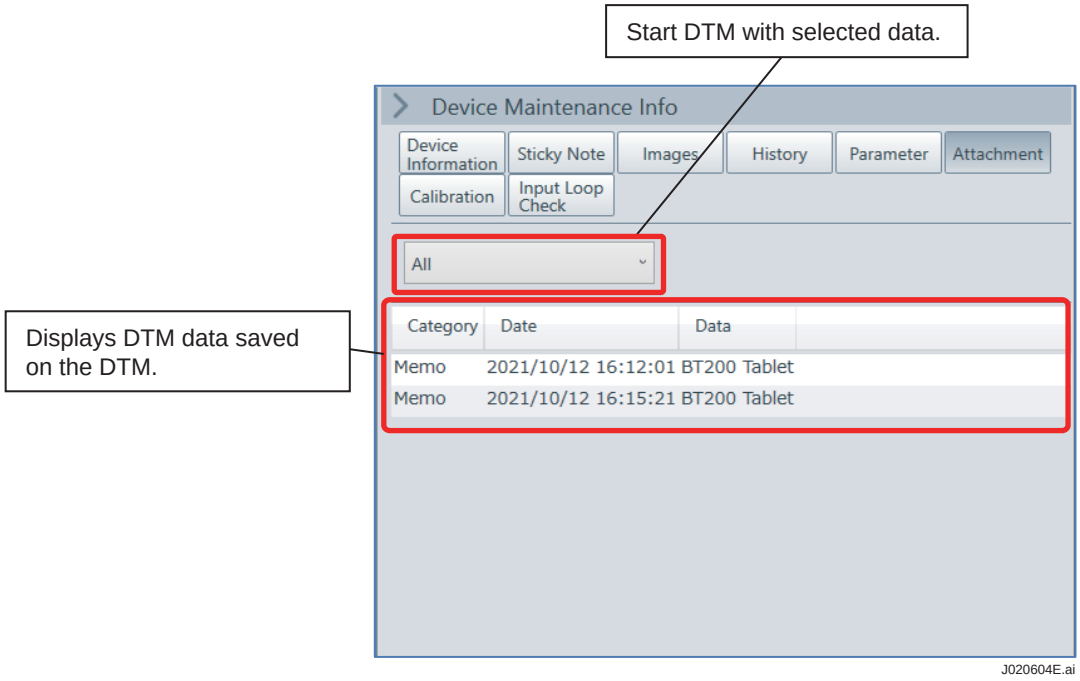


Figure J-2-11 Device Maintenance Info (Attachment - DTM Data)

TIP

Show and Compare Parameters *

You can compare the DTM data stored in the database by selecting File and Compare Parameter from Device on the device DTM window.

* Available only for BRAIN devices

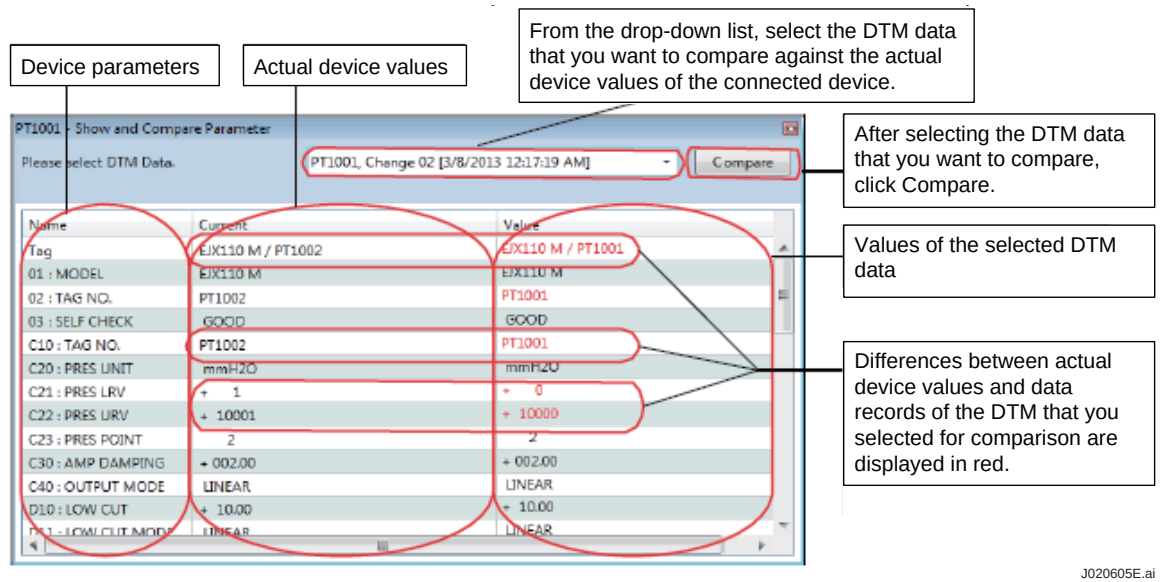


Figure J-2-12 Show and Compare Parameters

J-2-7 Device Maintenance Info (Calibration)

This window displays a list of the result of Pressure calibration support function.

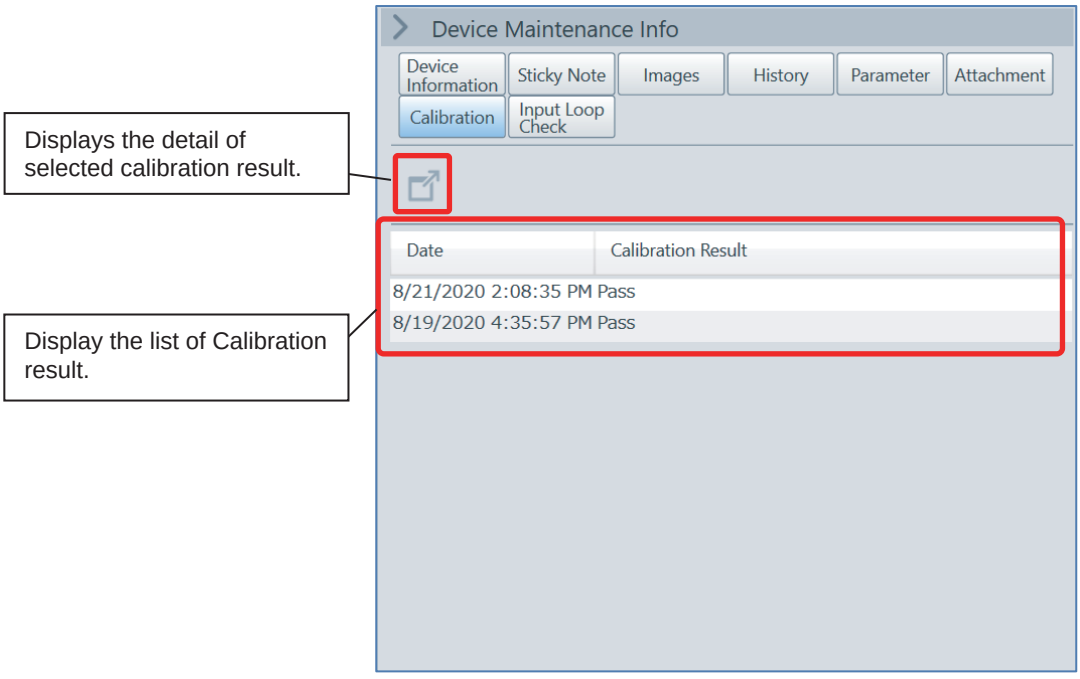


Figure J-2-13 Device Maintenance Info (Calibration)

NOTE

FieldMate R3.04.10 or later is required.

J-2-8 Device Maintenance Info (Input Loop Check)

This window displays a list of the result of Input loop check function.

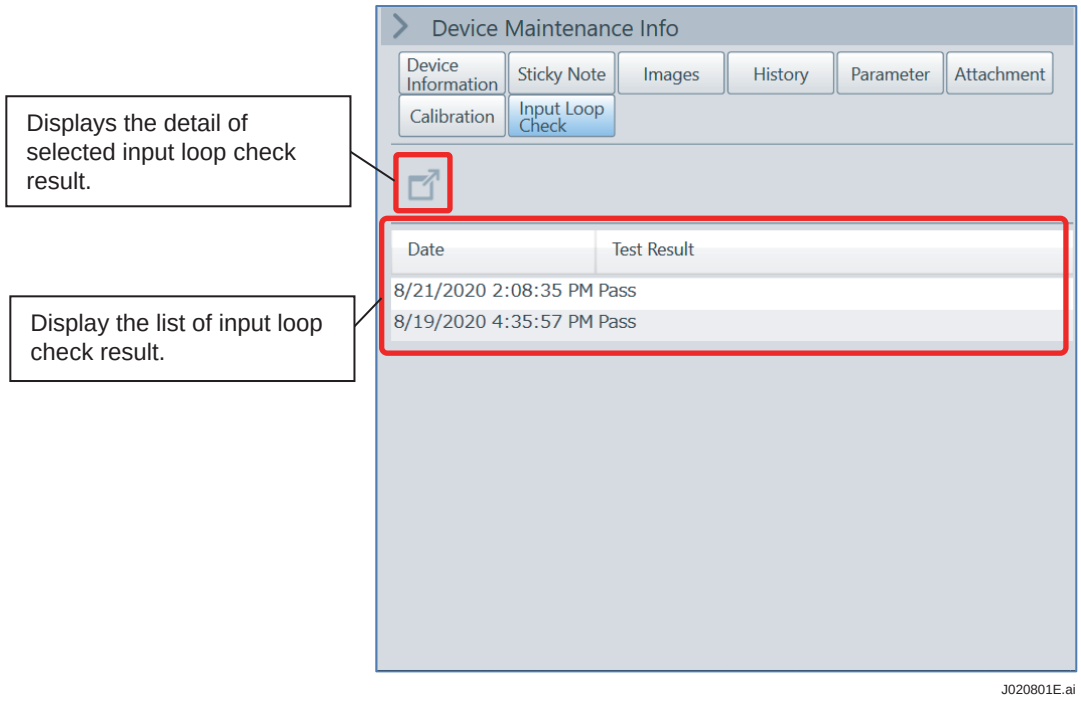


Figure J-2-14 Device Maintenance Info (Input Loop Check)

NOTE

FieldMate R3.04.10 or later is required.

J-3 Registration of Non-Communication device

Register the device that can communicate with FieldMate as “Non-Communication device”.

Devices registered as Non-Communication devices can use the following functions with the segment viewer.

- Sticky Note
- Images
- Pressure calibration support

NOTE

FieldMate R3.04.10 or later is required.

Non-Communication device list

To register Non-Communication device, import the list file created in advance.

The list file consists of CSV (comma separated values) file.

An example of a list file is as followings.

No,DeviceTag,VendorName,ModelName,URV,LRV,Unit
1,PT-101,VendorA,PressA,0.0,100.0,kPa
2,PT-102,VendorA,PressA,0,100,MPa
3,PT-103,VendorA,PressA,0.00,50.00,kPa

The detail of format is below.

Line 1: Title (Cannot be omitted)

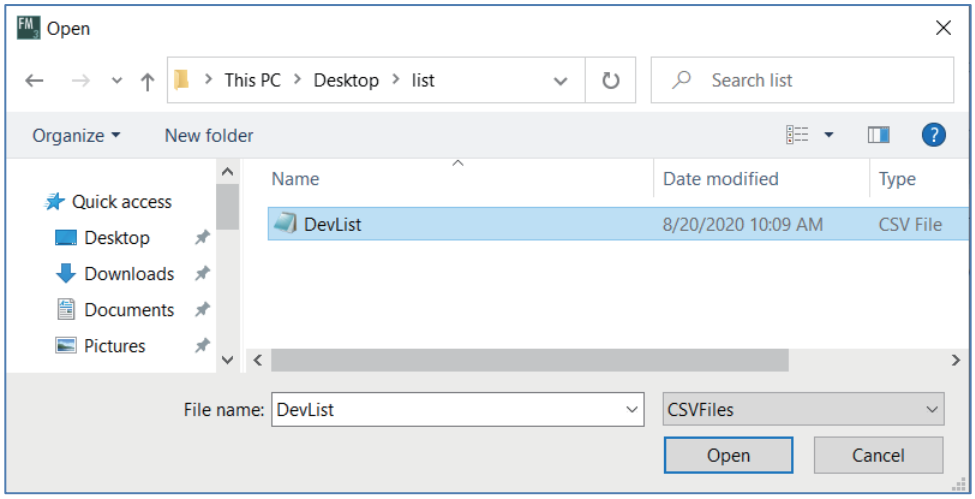
Line 2 -: device information

No.	: Number (Can be omitted)
DeviceTag	: Tag name (Up to 32 single-byte characters)
VendorName	: Vendor name (Up to 32 single-byte characters: Can be omitted)
ModelName	: Model name (Up to 32 single-byte characters: Can be omitted)
URV	: Upper range value (Numeric)
LRV	: Lower range value (Numeric)
Unit	: Unit (Up to 15 single-byte characters)

Import the Non-Communication device list

Import the list file to register Non-Communication device.

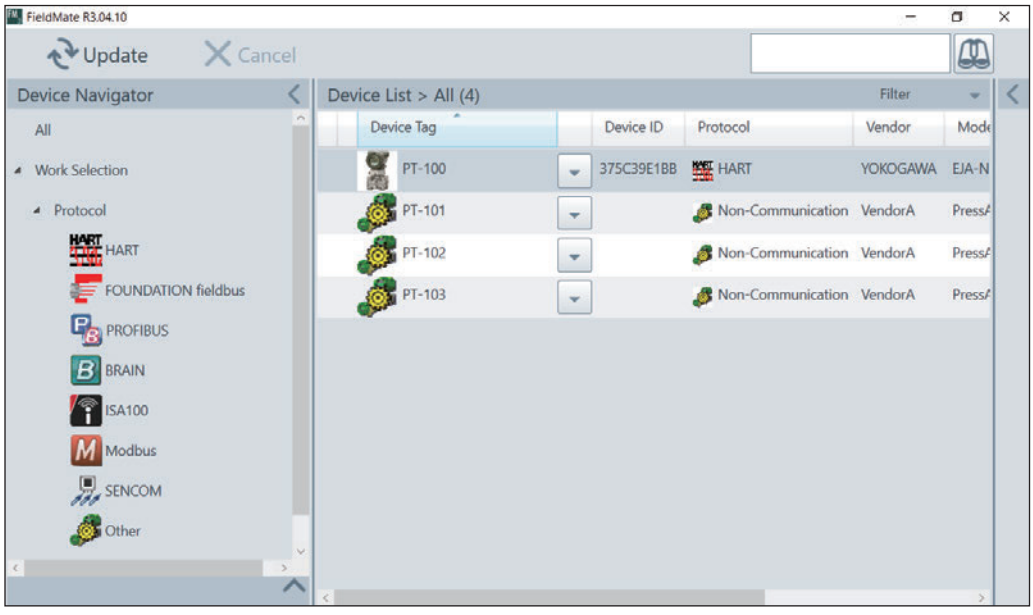
1. Select [Import Non-Communication Devices] from [File] menu on Device Navigator. And then the list file selection dialog appears.



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Figure J-3-1 The list file selection dialog

2. Select the list file and click the [Open] button to start importing. After the import is completed, the message “Registration is finished” is displayed.

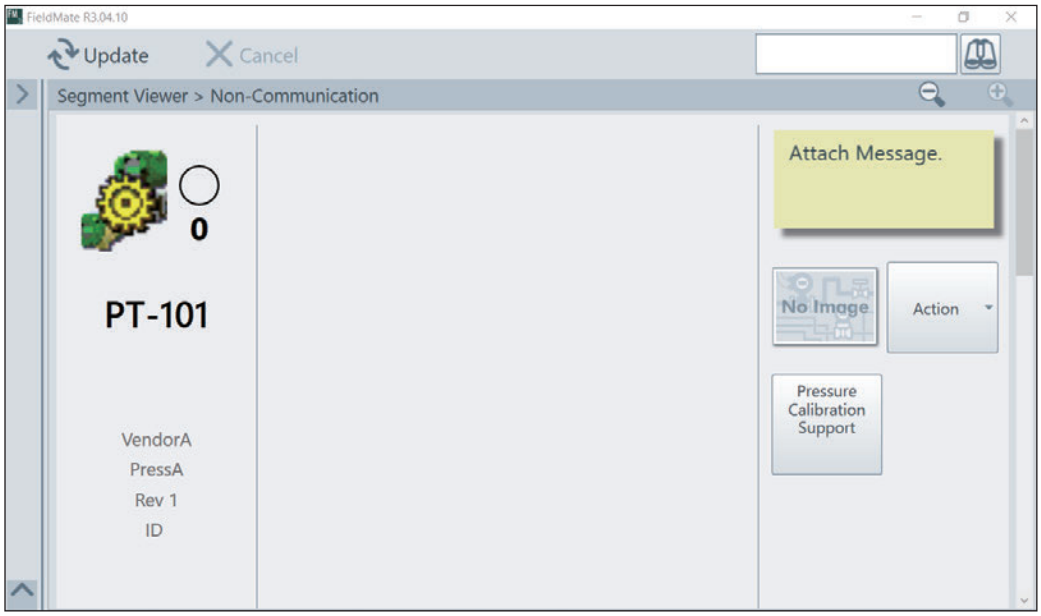


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Figure J-3-2 Device Navigator after Non-Communication deice registration

Non-Communication device in Segment Viewer

Non-Communication devices are displayed in the segment viewer as shown below.



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Figure J-3-3 Non-Communication device in Segment Viewer

K Device Adjustment/Setting Functions

FieldMate can adjust and configure the target device by operating the parameters.

K-1 HART device

Simple DTM is used for HART device configuration.

This is easy interface for device configuration and adjustment in the field.

Simple DTM needs DD file for target device.



NOTE

FieldMate R3.04.20 or later is required.

Startup

1. Connect a HART device and press the [Operation] button on the segment viewer to select [Device config.] from the menu that appears.
2. Start Simple DTM.

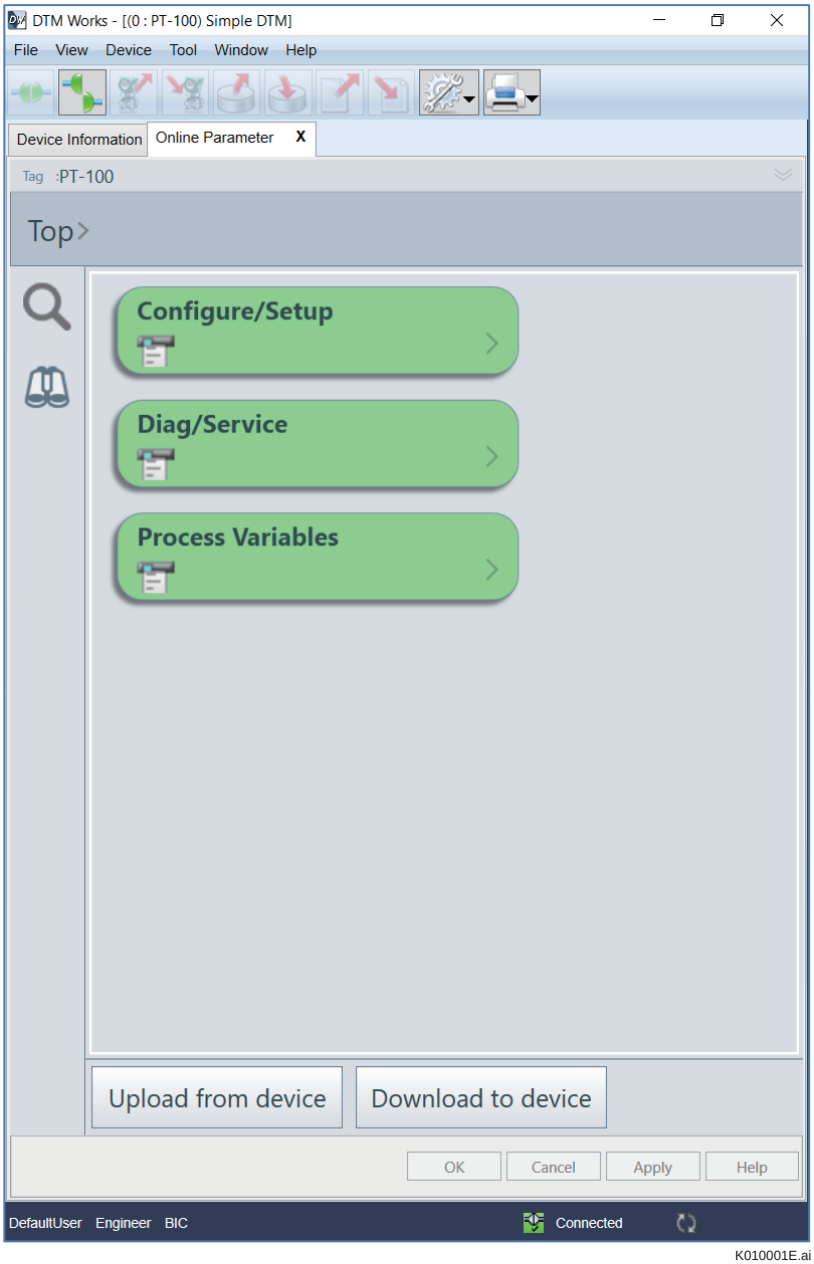


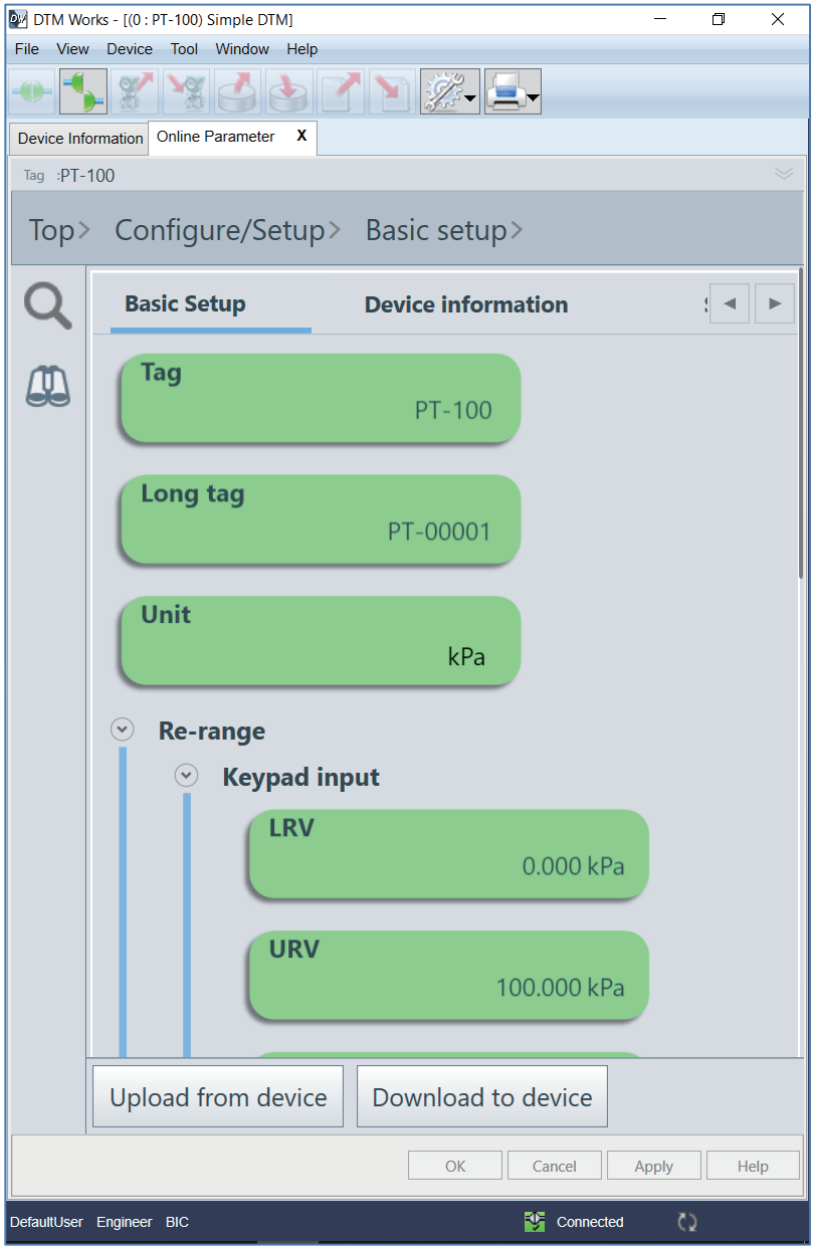
Figure K-1-1 Simple DTM

Display parameters

HART device manages parameters in a tree structure called the HART menu.

With Simple DTM, the target parameter can be found by button operation for searching from HART menu.

The figure below shows an example of displaying the parameters under [Basic setup] from [Configure/Setup].



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Figure K-1-2 Parameter display in Simple DTM

TIP

The structure of the HART menu (tree) differs depending on the device model. For the HART menu of the target device, refer to the device instruction manual.

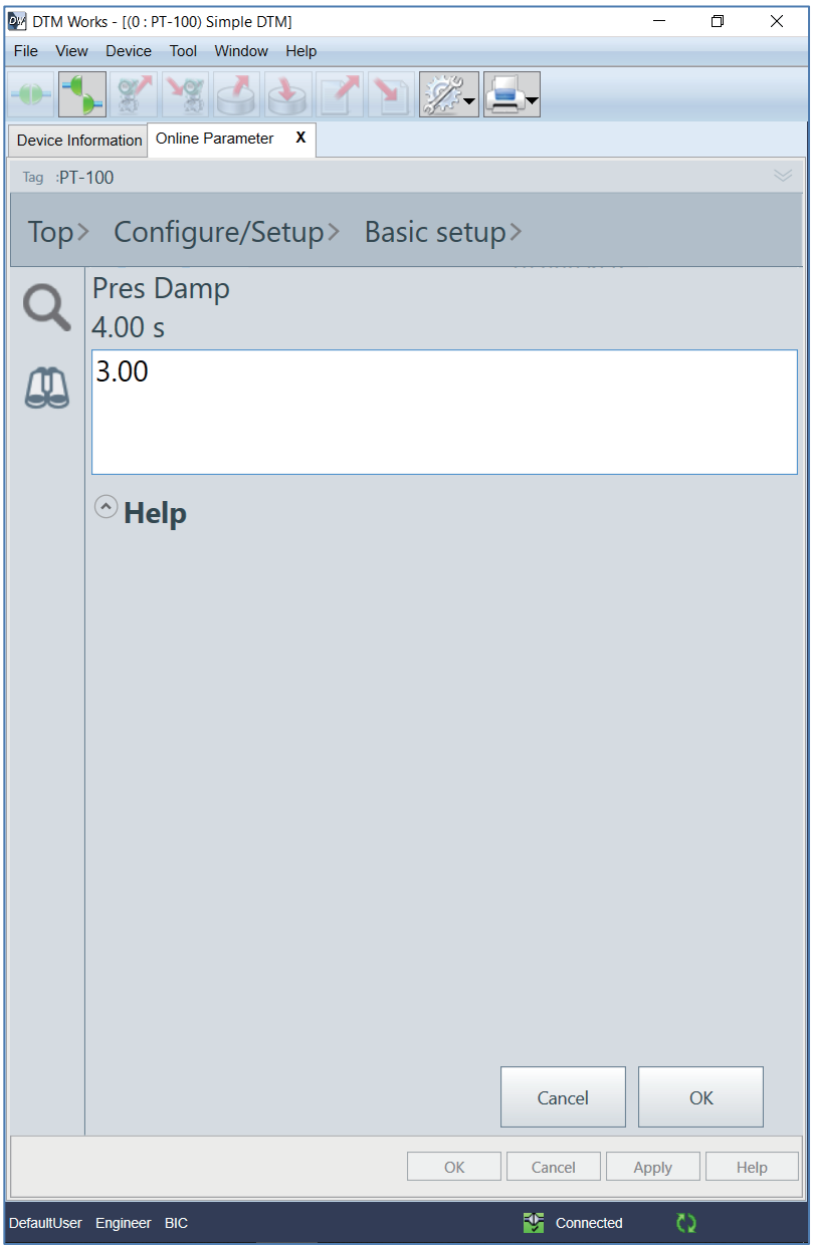
To return to the menu, press the character string following “Top >” at the top of the screen to return to that location.

NOTE

For some third-party devices, touch operations are restricted and not be able to scroll the screen by flicking. In this case, touch the right edge of the simple DTM screen to display the scroll bar. Operate the scroll bar to scroll the screen.

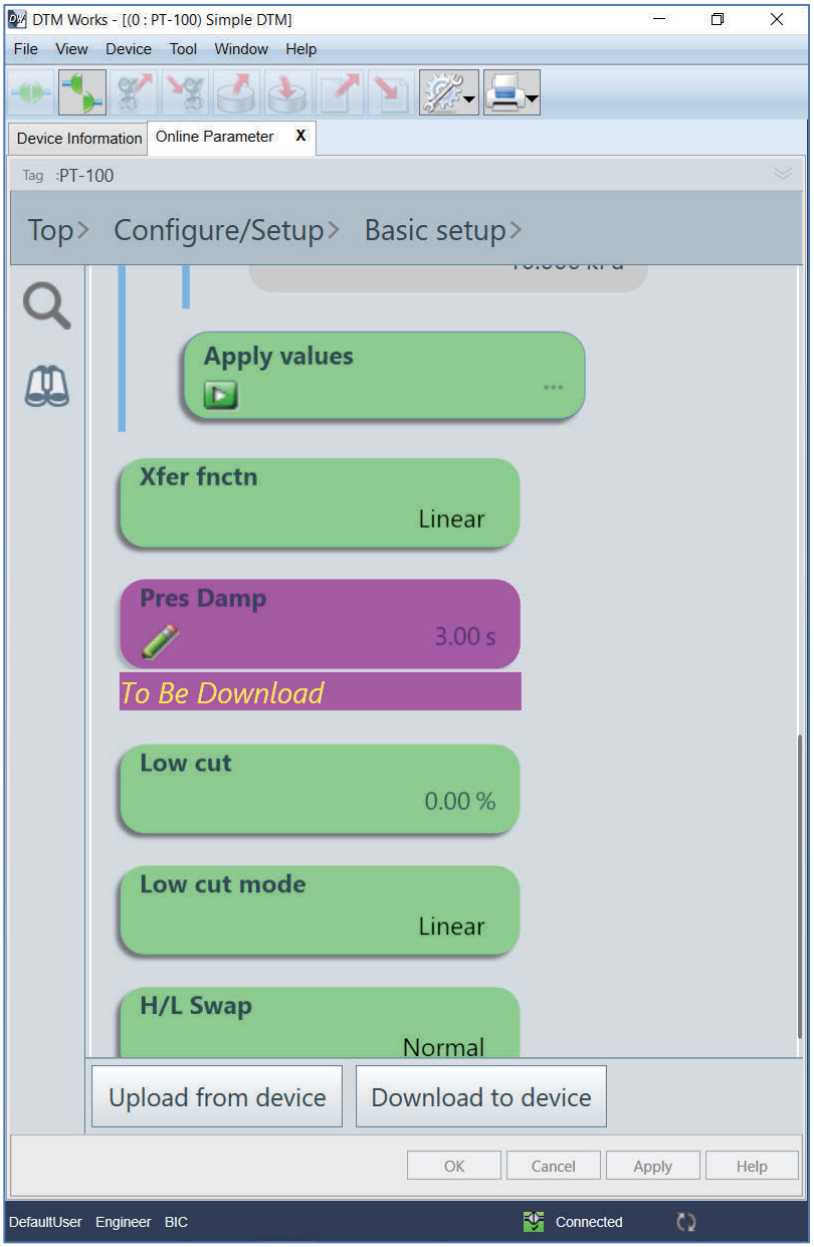
Change Parameter value

Press the displayed parameter to move to the parameter setting screen. Enter the value and click the [OK] button.



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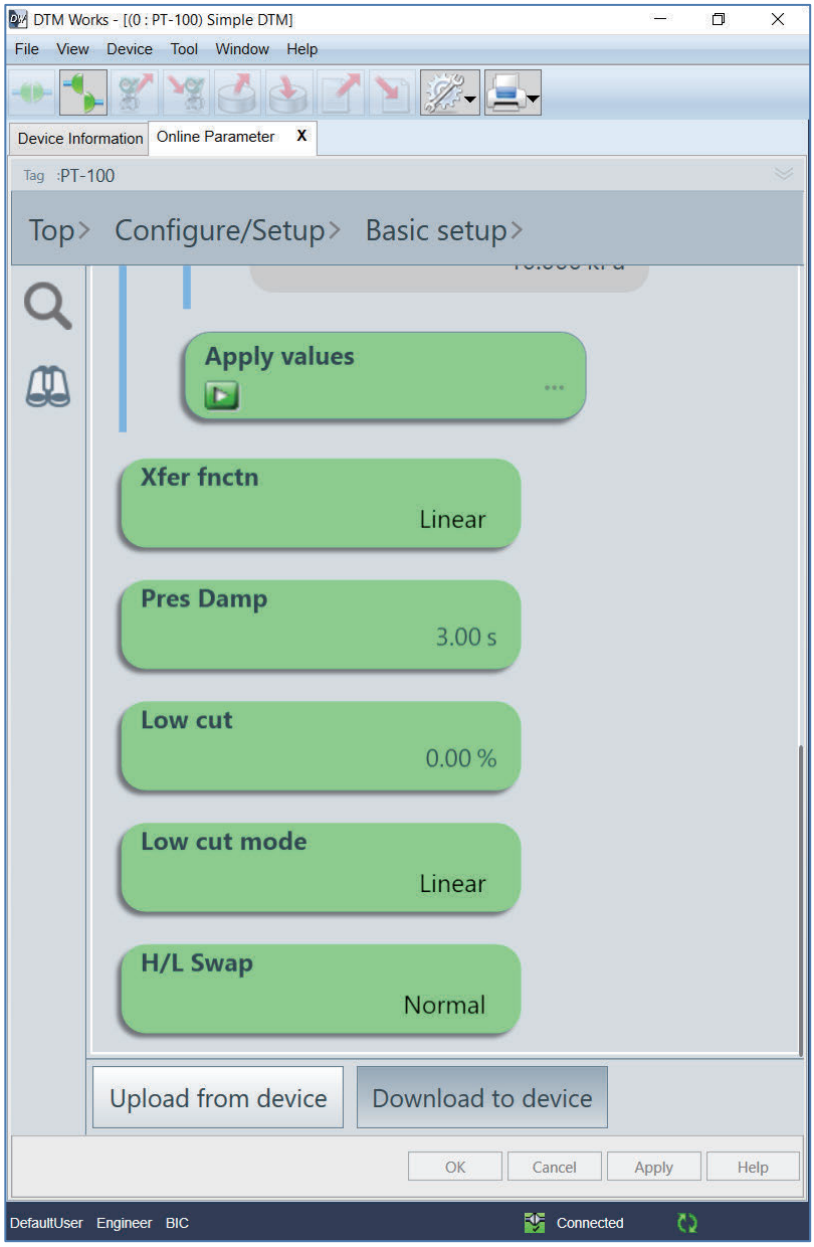
Figure K-1-3 Parameter setting



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Figure K-1-4 After parameter setting

Click the [Download to device] button at the bottom of the screen to download the changed parameters to the device.



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Figure K-1-5 After parameter download

Exit Simple DTM

Press the close button (X) at the top right of the window to exit.

K-2 BRAIN device

BT200 Tablet function is used for BRAIN device configuration.

This function can be used in the same way as BT200.

- **Startup**

  Connect a BRAIN device and press the [Operation] button on the segment viewer to select [Device config.] from the menu that appears.

SEE ALSO Refer to Chapter T “BT200 Tablet” about BT200 Tablet function.



NOTE

FieldMate R3.04.20 or later is required.

K-3 DTM

DTM (Device Type Manager) is an application with a graphical user interface that is provided by each device vendor. Some DTMs have special functions such like diagnosis for target device.

DTM runs on an application called DTM Frame.

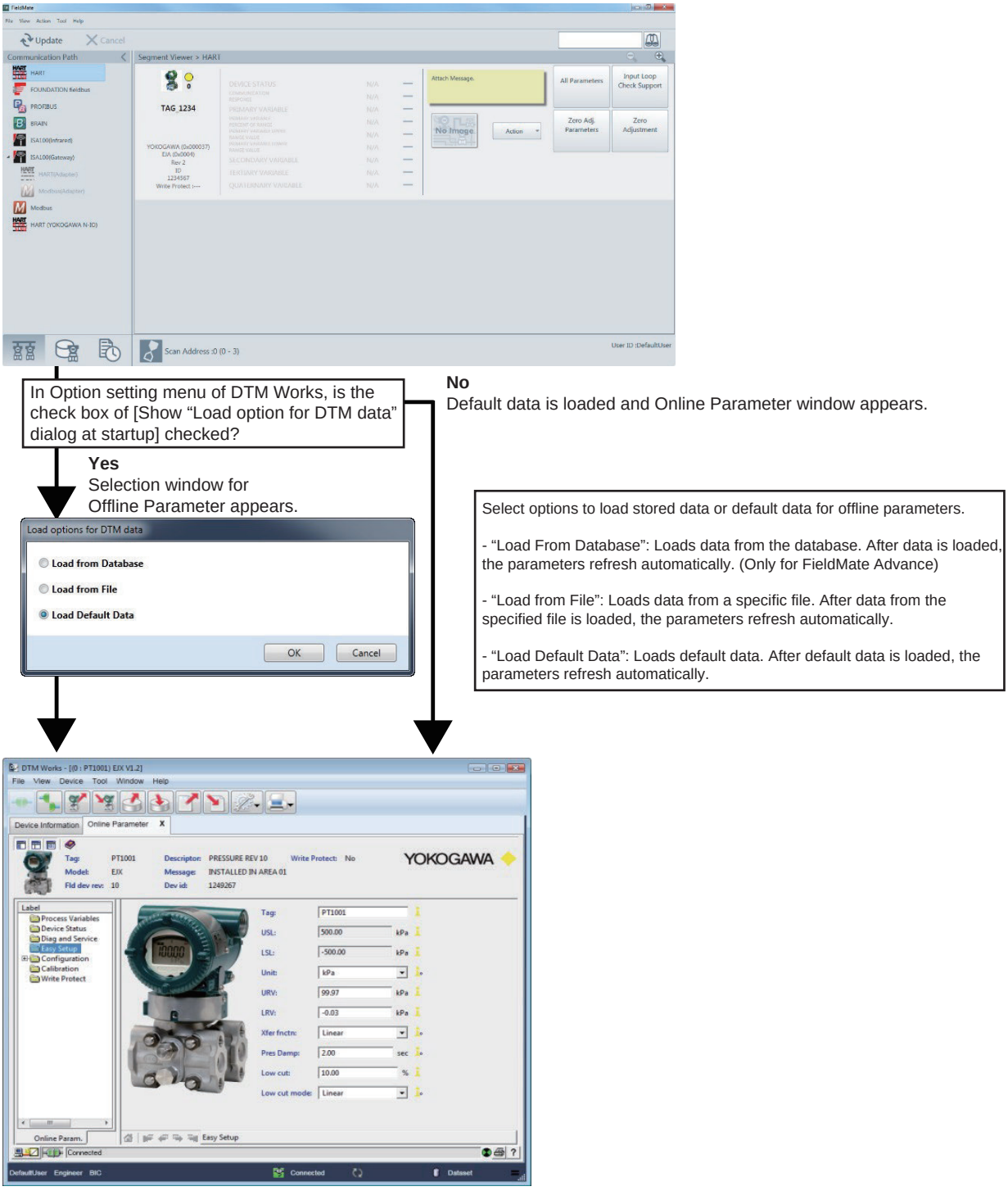
FieldMate has DTM Frame called DTM Works, which allows to use DTM to set parameters for devices of any vendor.

TIP The following describes the Yokogawa device DTM. When you use the device DTM of other manufacturers, operation and display are subject to change depending on the device manufacturers. Refer to the instruction manual for the device DTM of the respective manufacturers.

Launch DTM

Startup

Select the actual device in the segment viewer and start DTM.



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Figure K-3-1 DTM Startup

Built-in Connection (BIC Mode)

This connection mode called Built-in Connection employs a built-in communication method of FieldMate, which is available for different communication protocols such as HART, FOUNDATION fieldbus H1, PROFIBUS, BRAIN, and ISA100.

For HART and BRAIN communication, you can use an optional USB FieldMate modem by directly connecting it to the field device.

Also, for FOUNDATION fieldbus and PROFIBUS communication, you need to separately purchase an NI PCMCIA-FBUS or NI USB-8486 from National Instruments or FFusb from Softing (for FOUNDATION fieldbus H1), a PROFIusb from Softing (for PROFIBUS), Infrared Adapter, IR224UN- LN96 9600bps (for ISA100) and YFGW Gateway (for ISA100), and connect them to the bus to which the field device is connected.

The Definition of DTM Works (Frame Application)

DTM Works (BIC Mode)

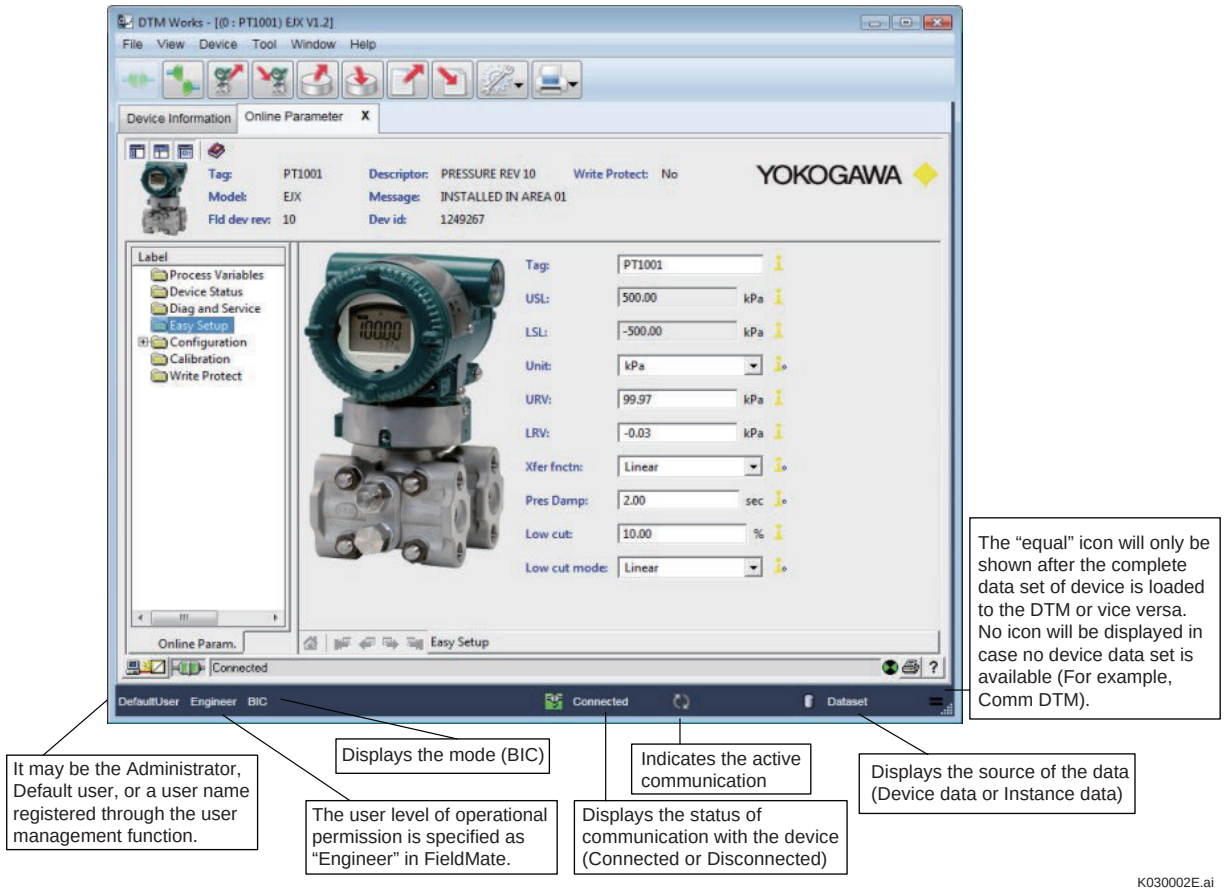


Figure K-3-2 DTM Works (BIC Mode)

Relation Between Segment Viewer Update and DTM Works

In BRAIN, PROFIBUS and ISA100 (Infrared), while the related DTM is open, Segment Viewer update is not effective. Close DTM and update Segment Viewer.

The Definition of Device DTM

Connected status: Status in which communication with a device is connected (or established)

Disconnected status: Status in which communication with a device is disconnected (or is not established)

DTM has the following two device parameter setup windows:

Device DTM Window

Online Parameter Window:

Used to directly display, set, or modify device internal parameters in the connected status.

The Online Parameter window is available only in the connected status.

In addition, the Online Parameter window enables the display of dynamic data such as process data, in addition to setting parameters.

Online Parameter Function:

Communicating with the connected device directly, parameters are displayed and adjusted. Parameters are categorized in the tree view on a function basis. It displays the respective DTM window on the tree view selection.

Offline Parameter Window:

This window is used to set device parameters in the device DTM regardless of the connection status of communication with a device. Thus, in the Offline Parameter window, device internal parameters cannot be directly displayed, set, or modified.

Offline Parameter Function:

Parameters are managed without communication with the device. Device parameters sets are loaded and saved from/to database offline.

The following shows the relationship between the DTM data and DTM Works.

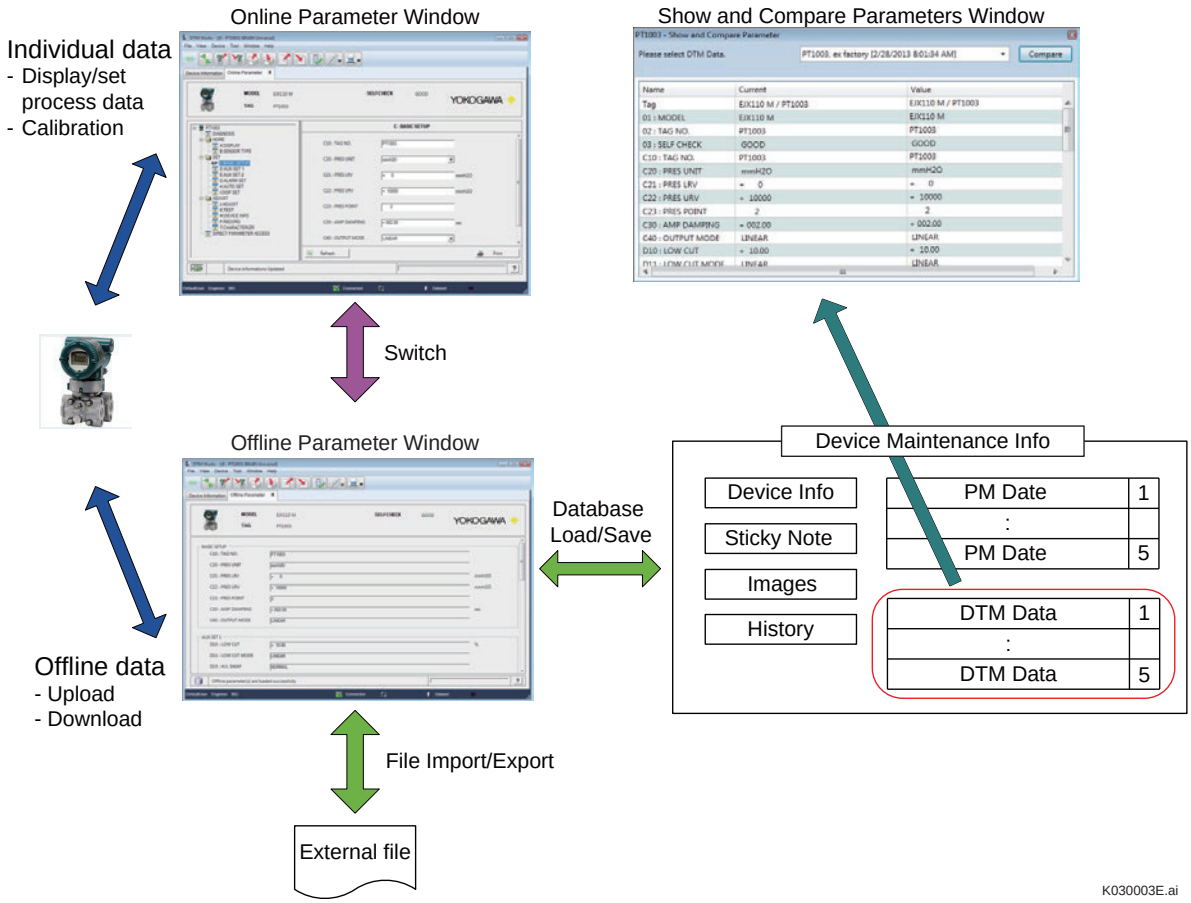


Figure K-3-3 Relationship between DTM Data and DTM Works

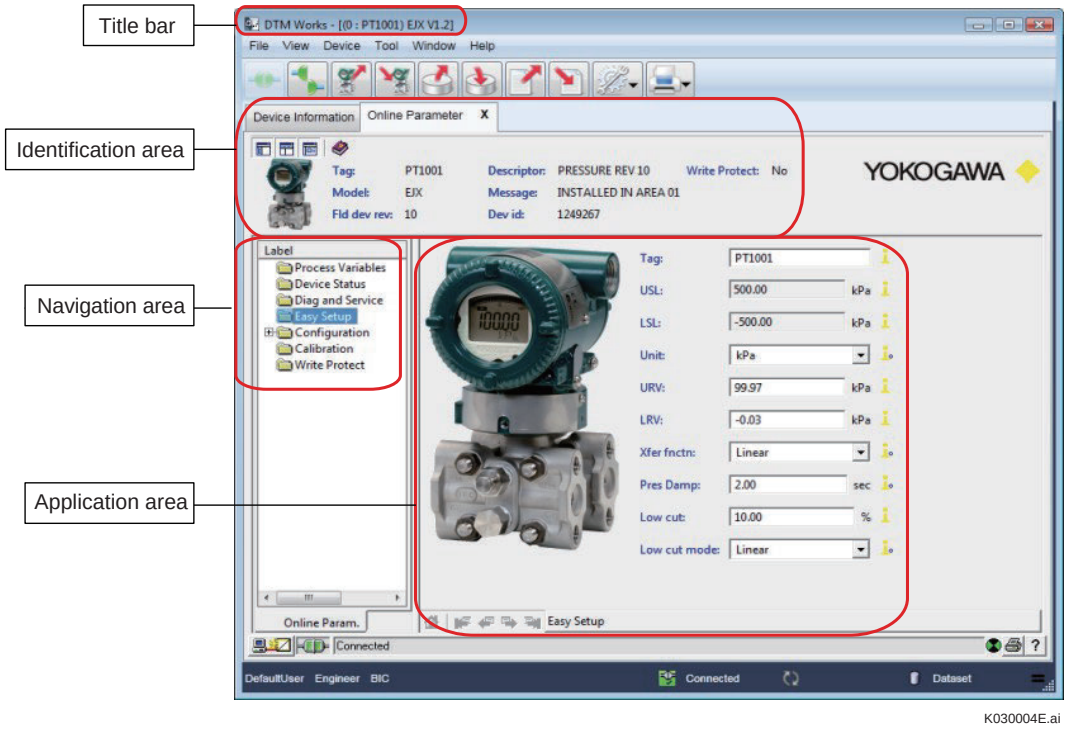
Device DTM Types

Available Device DTM types include:

- Type A DTM designed by YOKOGAWA
- Type B DTM designed by YOKOGAWA
- Type C DTM designed by YOKOGAWA
- Built-in DTM
- DTM supplied by other vendors

Type A DTM designed by YOKOGAWA

The following describes the device DTM configuration.

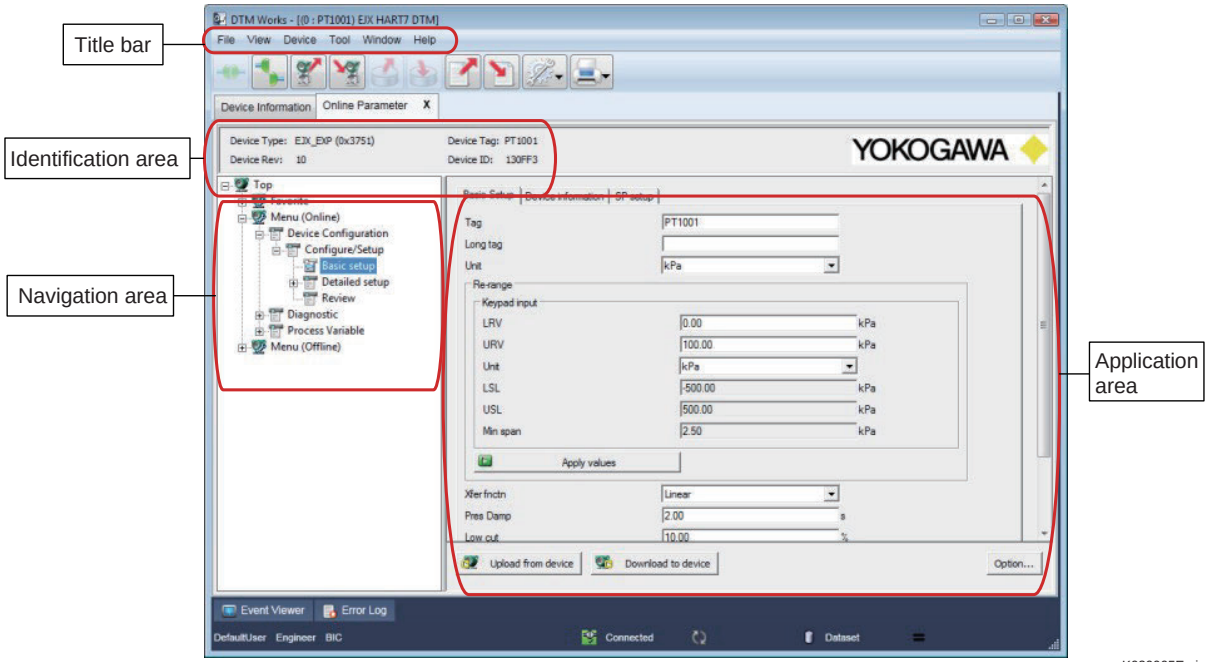


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Figure K-3-4

- You can switch operations between Online and Offline parameters.
- Online parameter window; when changing the value of parameter, press <Enter> key.
- Offline parameter window; When changing the value of parameter, press “Download icon”, “Download button”.
- From the menu bar, select <Device>, and then select <Online Parameter> or <Offline Parameter>.
- The device DTMs differ, depending on the communication protocol, model, and manufacturer. For details on YOKOGAWA’s device DTMs, refer to the relevant documents.

Type B DTM designed by YOKOGAWA



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Figure K-3-5

- When changing the value of parameters, press “Download to device” button.
- You can switch operations between Online and Offline parameters.
- From the menu bar, select <Device>, and then select <Online Parameter> or <Offline Parameter>.

Change of device parameters

Changing the value of parameters requires Block Mode of Function Block of the accessed device to be O/S mode (Off Service mode) in most situations.

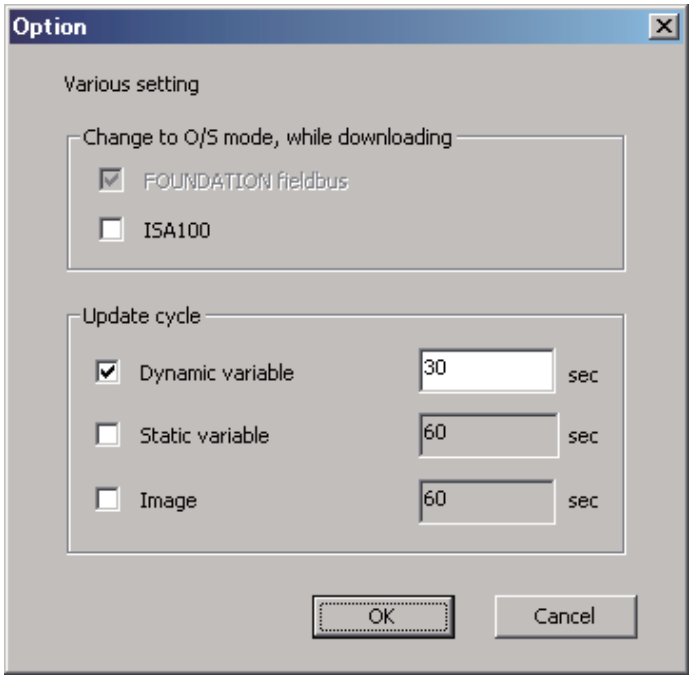
DTM provides automatic Block Mode change functions as follows.

Function Block to be O/S mode when changing the value of parameters.

Function Block to be recovered when completing the value changes.

Function Block to be O/S mode during download.

The function above is not effective as default. Press “Option button” in the DTM, open Option window, select it in “Change to “O/S mode, while download” and press “OK”.



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Figure K-3-6 (Example)

Table K-3-1

Item	Object	Description	Default
Change to O/S mode, while download	FOUNDATION Fieldbus H1	Block Mode of Function Block changes to O/S while downloading to FOUNDATION fieldbus H1 device automatically. This is not applicable to ISA100, HART device DTM.	ON
	ISA100	Block Mode of Function Block changes to O/S while downloading to ISA100 device automatically. This is not applicable to FOUNDATION fieldbus, HART device DTM.	OFF
Update cycle	Dynamic variable	Specify update cycle of Dynamic variable in the DTM. 5 to 120 sec selectable.	30 sec
	Static variable	Specify update cycle of Static variable in the DTM. 60 to 120 sec selectable.	60 sec
	Image	Specify update cycle of Image in the DTM. I.e. Bitmap. 60 to 120 sec selectable.	60 sec

Type C DTM designed by YOKOGAWA

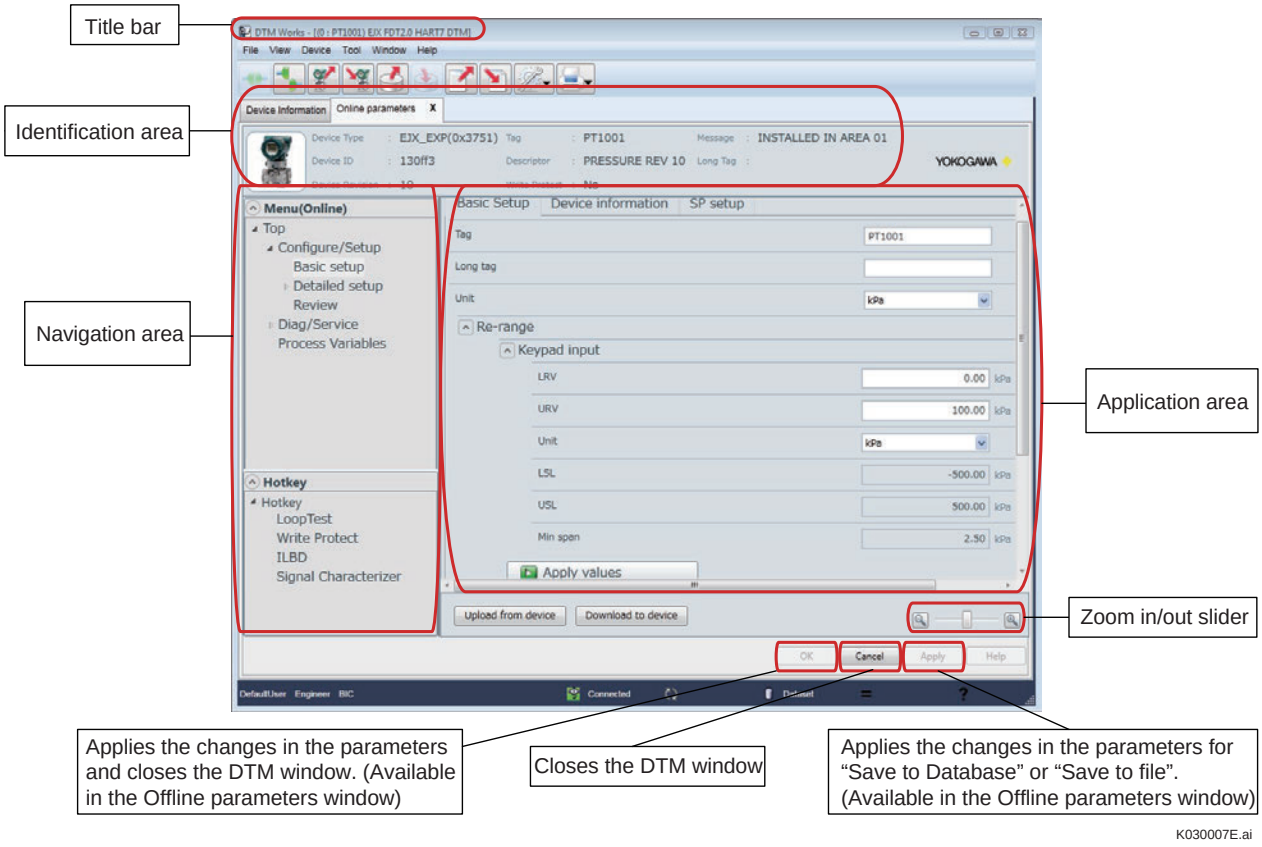


Figure K-3-7

- You can change the values of the parameters in the Parameter Operation area.
- You can switch operations between Online and Offline parameters.
- From the menu bar, select <Device>, and then select <Online Parameters> or <Offline Parameters>.

Built-in DTM

Built-in DTMs are available for FOUNDATION fieldbus, HART, and ISA100.

FOUNDATION fieldbus Built-in DTM

This is launched when neither DTM of the connected device nor DD are installed in the FieldMate -specific location.

HART Built-in DTM

This is launched when neither DTM of the connected device nor DD are installed in the FieldMate-specific location.

When DD of the connected device is not installed, it is launched with Generic status with commonly used DD.

I.e. Device Tag, Descriptor, Message, Polling Address, Burst mode, PV sensor unit, URV, LRV etc. parameters and menu described in Generic DD can be accessed.

ISA100 Built-in DTM

This is launched when neither the DTM of the connected device nor DD are installed in the FieldMate-specific location.

Parameter Access with Device

Table A shows the combination of Device DTM and parameter access button and icon.

Table K-3-2

	Type A DTM designed by YOKOGAWA DTM supplied by other vendors	Type B/C DTM designed by YOKOGAWA	Built-in DTM
Online Parameter Window	○	○	○
Offline Parameter Window	○	○	○
Upload from device Icon	○	×	×
Download to device Icon	○	×	×
Upload from device Button	×	○	○
Download to device Button	×	○	○
Refresh relation Button	×	○ (Type B only)	×
Import/Export Button	×	○	○
Save to File Icon	○	○	○
Load from File Icon	○	○	○
Save to Database Icon	○	○	○
Load from Database Icon	○	○	○

○: Yes
×: Not Available

<Enter> Key:

It is effective to write the value to the connected device in Online Parameter window of Type A DTM designed by YOKOGAWA.

Data changed in the Offline Parameter window are only stored in DTM and are not to be written to the connected device.

Upload from device Button:

Upload the parameters in Type B/C DTM designed by YOKOGAWA and Built-in DTM.

Download to device Button:

Downloads to device from top to bottom the changed parameters (pencil icon and magenta) in the Online parameter window / Offline parameter window on the Type B/C DTM designed by YOKOGAWA.

Upload from Device Icon:

It is applicable for Type A DTM designed by YOKOGAWA.

Uploads device internal parameters to the device parameters in the device DTM. Executing “Upload from Device” causes parameters displayed in the Offline Parameter window to be replaced by device internal parameters.

Download to Device Icon:

It is applicable for Type A DTM designed by YOKOGAWA.

Downloads the device parameters in the Device DTM that have been edited in the Offline Parameter window to device internal parameters.

Note: In an environment in which operation is performed regardless of connection to a device, a device can be added before it is delivered, for example, to edit the device parameters on the Offline Parameter window in advance. These parameters can then be written to the device using “Download to Device” after the device has been delivered and installed.

In order to reflect the parameters to Offline Window after editing the ones in Online Window, either “Upload from Device icon” or “Upload from Device button” is required.

Load from File Icon:

It retrieves DTM data where Offline parameters are included from file.

Save to File Icon:

It stores DTM data where Offline parameters are included to file.

* Area where Offline parameters are included
  It indicates Offline parameters embedded in DTM even when Offline window is not displayed.

Load from Database Icon:

It retrieves DTM data where Offline parameters are included from database.

Save to Database Icon:

It stores DTM data where Offline parameters are included to database.

TIP

Save to file icon, Load from file icon, Save to database icon and Load from database icon will be applied to all the setting parameters excluding dynamic parameters.

Refresh relation Button (Type B Only):

Interrelation among URV, LRV and Unit will be refreshed for example when unit is changed. This button redisplays the parameters on the screen only. It never writes parameters to the device. Download to device button is applied to write parameters.

Import/Export Button:

Export

Save all the setting parameters to .CSV file as specified to the location in PC.

Import

Export parameters are imported in the following manner.

Table K-3-3

Protocol	Import	Export
HART	All the setting parameters	All the setting parameters
FOUNDATION fieldbus H1	Parameters by function block	
ISA100		

"Upload from Device", "Download to Device", "Load from File", "Save to File", "Load from Database", "Save to Database" is effective only when Offline parameter window is open and active.

Details of the combinations are shown in the following table.

Table K-3-4

Operation		Type A DTM designed by YOKOGAWA		Type B/C DTM designed by YOKOGAWA		Built-in DTM	
		Online Parameter Window	Offline Parameter Window	Online Parameter Window	Offline Parameter Window	Online Parameter Window	Offline Parameter Window
<Enter> key	Operation Parameter	○ A	○ A	× --	× --	× --	× --
Upload from device Icon	Operation Parameter	× --	○ D	× --	△ B	× --	× --
Download to device Icon	Operation Parameter	× --	○ D	× --	△ C	× --	× --
Upload from device Button	Operation Parameter	× --	× --	○ B	○ B	○ B	○ B
Download to device Button	Operation Parameter	× --	× --	○ C	○ C	○ C	○ C
Save to File Icon	Operation Parameter	× --	○ D	× --	○ D	× --	○ D
Load from File Icon	Operation	×	○	×	○	×	○
Save to Database Icon	Operation Parameter	× --	○ D	× --	○ D	× --	○ D
Load from Database Icon	Operation	×	○	×	○	×	○

○: Available
△: TypeB: Not Available, TypeC: Available
×: Not Available
--: Not Applicable
A: Selected Parameter
B: Parameters currently displayed in the window
C: Parameters in pencil icon and magenta currently displayed in the Window
D: Area where Offline parameters are included

Table K-3-5 Offline Parameter Operation

			Type A DTM designed by YOKOGAWA and DTM supplied by other vendors					
			Connection status			Disconnection status		
			Offline Parameter Window			Offline Parameter Window		
			Open		Close	Open		Close
		Data Status	Active	Inactive	--	Active	Inactive	--
Upload from device icon		--	○	×		× (Grayout)		
Download to device icon		Default	○ (Default)	×		× (Grayout)		
		After upload	○	×				
Save to file icon		Default	○ (Default)	×		○ (Default)	×	
		After upload	○	×		○	×	
Load from file icon		--	○			○		
Save to database icon		Default	○	×		○	×	
		Uploaded	○	×		○	×	
Load from database iscon		--	○			○		

○ : Available
× : Not Available

Default : Default and parameters not updated by any retried operation
After upload : Updated parameters by upload from device, load from file, load from database.

Table K-3-6 Parameter operation

			Type B/C DTM designed by Yokogawa							
			Connect				Disconnect			
		Data Status	Offline parameter window		Online parameter window		Offline parameter window	Online parameter window		
		Type	Type B	Type C	Type B	Type C	Type B/C	Type B	Type C	
Upload from device button *1		--	○		○		×	×		
Download to device Button *2		Changed	○		○		×	×		
		Import	○		--		×	--		
		No change	×		×		×	×		
Upload from device Icon		--	×	○	×	○	--	--		
Download to device Icon		Changed	×	○	×	○	×	×		
		Import	×	○	--		×	--		
		No change	×		×		×	×		
Import/Export Icon		--	○		--		○	--		
Save to file icon		Default *3	○		○	×	○	○	×	
		After upload *4	○		○	×	○	○	×	
Load from file icon		--	○		○	○	○	○	×	
Save to database icon		Default *3	○		○	×	○	○	×	
		After upload *4	○		○	×	○	○	×	
Load from database icon		--	○		○	○	○	○	×	

○ : Available
× : Not Available
-- : Not Applicable

*1 : Parameters currently displayed in the Window
*2 : Parameters in mazenda currently displayed in the Window
*3 : Default status, parameters not updated by any retrieved operation
*4 : Updated Parameters by Reload Parameters, Load from file, Load from database

DTM Works Closing Action

DTM works closing action are shown in the following table:

Device not registered in Device Maintenance Information: DTM Works closes.

Device registered in Device Maintenance Information: Refer to the following.

Menu

Table K-3-7

Menu		Description
File	Load from Database	Loads DTM data of the Device DTM from a database.
	Save to Database	Saves DTM data of the Device DTM in a database.
	Load from File	Loads DTM data from an external file.
	Save to File	Saves DTM data to an external file.
	Show and Compare *1	Displays and compares actual device values against database records
	Exit	Exits DTM Works.
View	Toolbar	Selects whether to show or hide the tool bar.
	Status bar	Selects whether to show or hide the status bar.
	Event Viewer	Selects whether to show or hide the Event Viewer window.
	Error Log	Selects whether to show or hide the Error Log window.
Device	Connect	Connects to a device.
	Disconnect	Disconnects from a device.
	Upload	Uploads parameters from a device. This command is enabled only when connection is established.
	Download	Downloads parameters to a device. This command is enabled only when connection is established.
	Offline Parameter	Displays offline parameters.
	Online Parameter	Displays online parameters.
	The parameters differ, depending on the communication protocol and model.	
	Additional Functions	Displays the additional functions that are available for the device.
	The functions differ, depending on the communication protocol and model.	
	Documents	Opens the Help file of the DTM.
	Reports	Displays reports that can be generated.
	The report options differ, depending on the communication protocol and model.	
	Properties	Displays device DTM information.
Tool	Options	Displays the Options window.
Window	Close	Closes the corresponding active window.
Help	About DTM Works	Displays information about DTM Works.

*1 : Available only for BRAIN devices

Tool Bar

Table K-3-8

Icon	Function	Description
	Connect /Disconnect	Connects to or disconnects from a device.
	Upload	Uploads parameters from a device. This command is enabled only when connection is established.
	Download	Downloads parameters to a device. This command is enabled only when connection is established.
	Load from Database	Loads DTM data of the device from a database.
	Save to Database	Saves DTM data of the device in a database.
	Load from File	Loads device parameters from an external file.
	Save to File	Saves a device parameter to an external file.
	Device Functions	Displays the available device functions.
	View Report	Displays the printout information of the window concerned.

Options

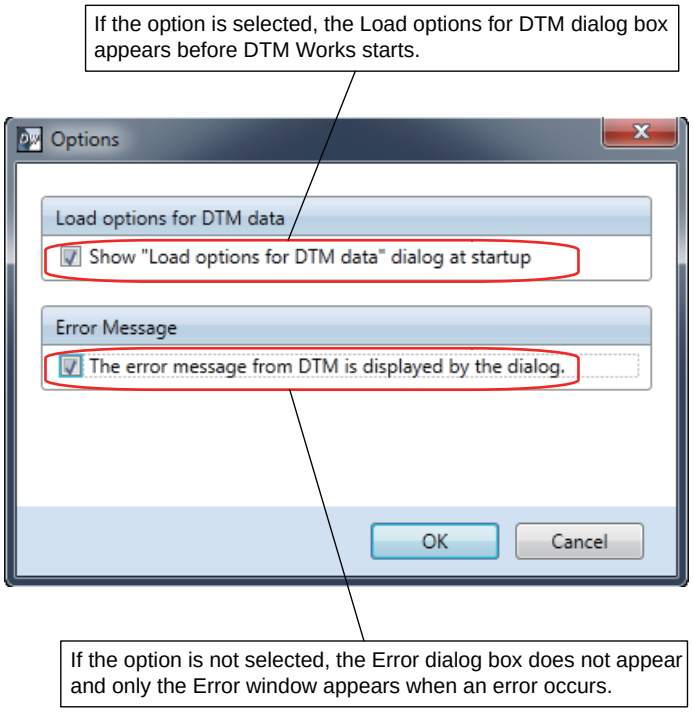
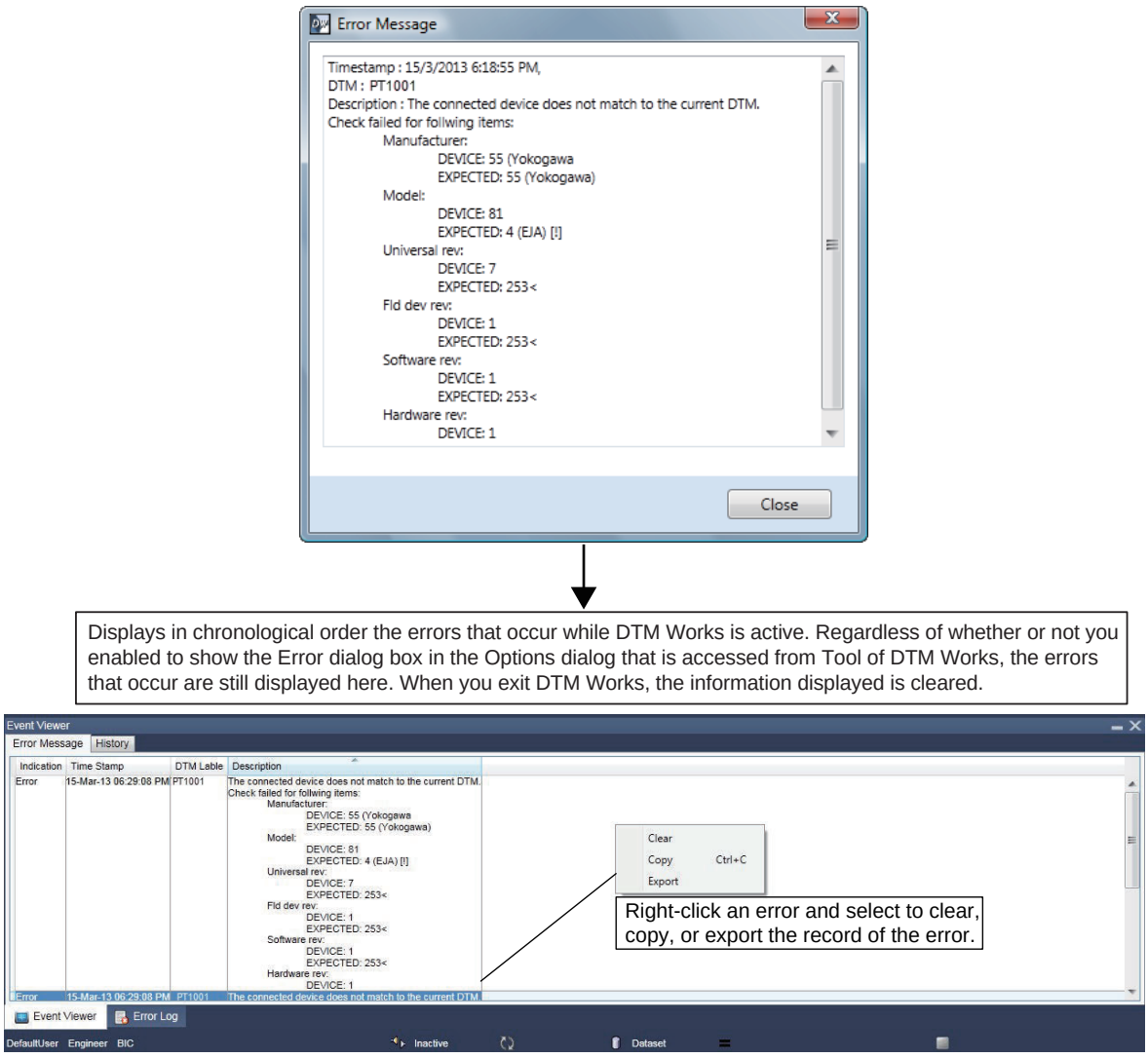


Figure K-3-8 Options

Error

When DTM related error occurs, a single window displays the error messages while DTM window is open. And error is updated as long as cause of error persists.

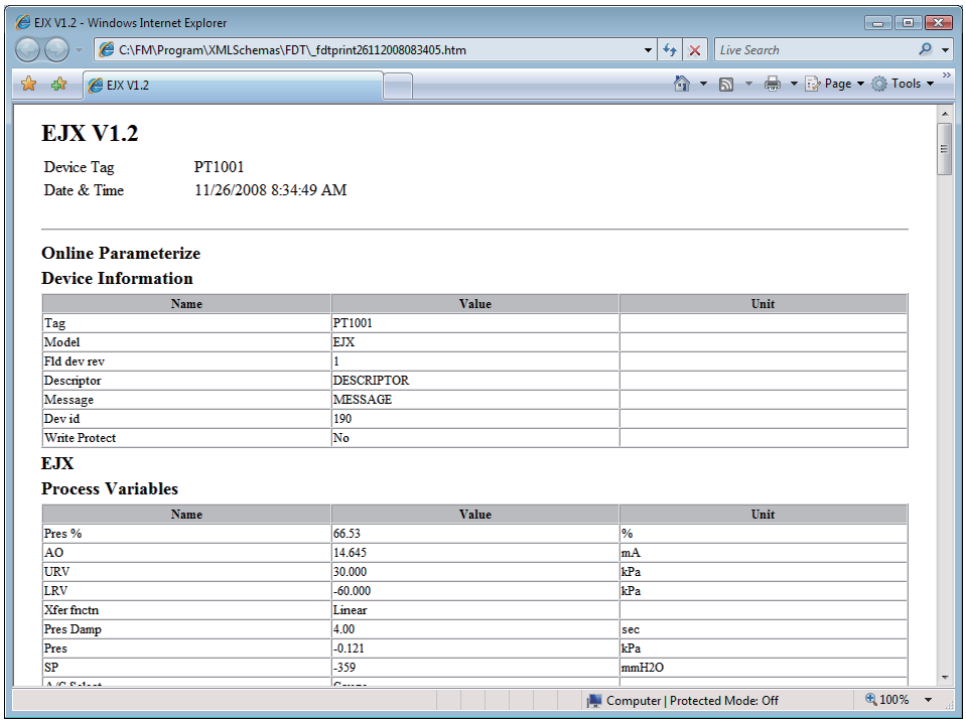


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Figure K-3-9 Error

Print

The print functions are shared with those of Microsoft® Internet Explorer®.

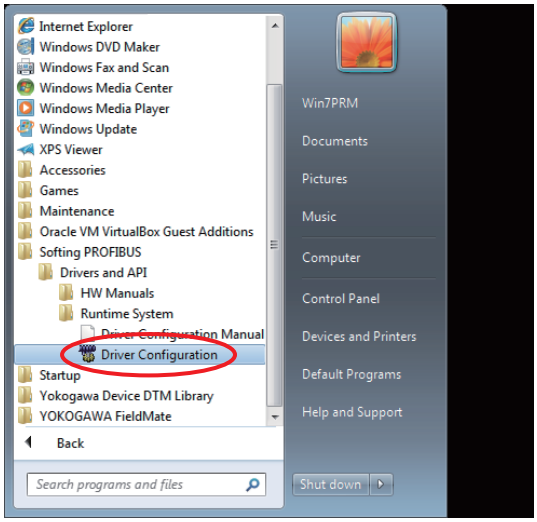


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Figure K-3-10 Printout Example

Setting Device Station Address for PROFIBUS Devices

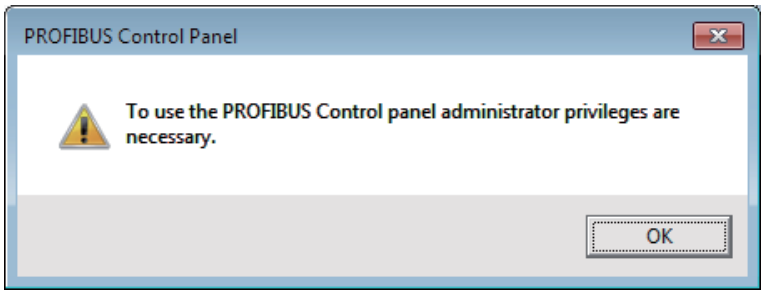
1. Install the PROFIBUS CommDTM PROFIdtm 2.11, referring to the instruction manual provided by Softing.
2. Configure the driver for PROFIusb.
3. Open the driver configuration in the window start menu.



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Figure K-3-11

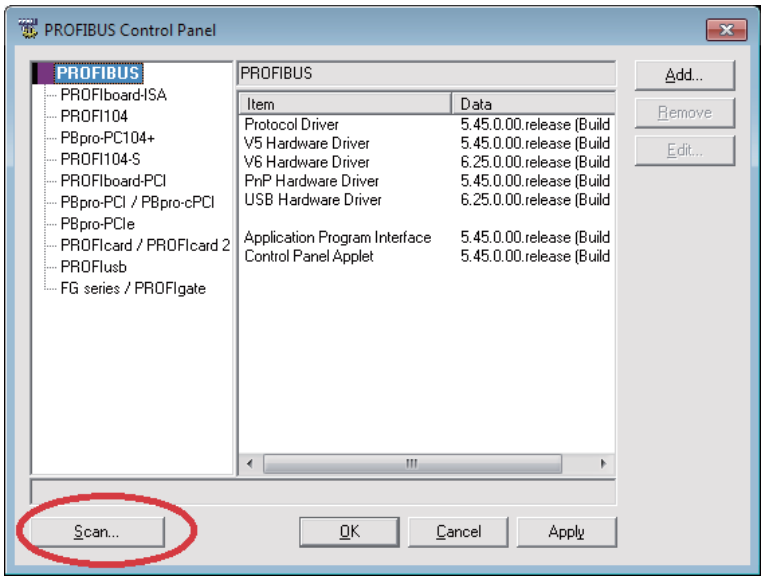
4. Click OK, when dialog is displayed.



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Figure K-3-12

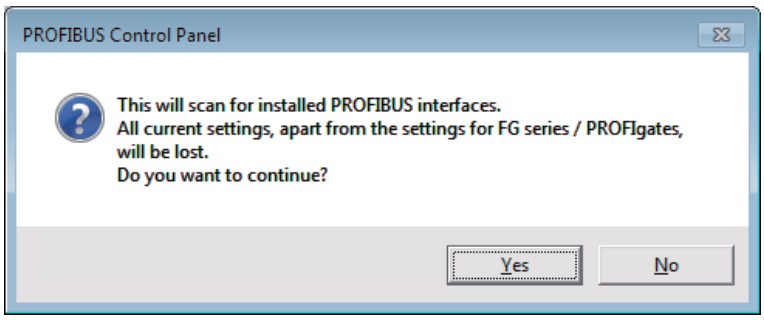
5. Click Scan in PROFIBUS control panel.



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Figure K-3-13

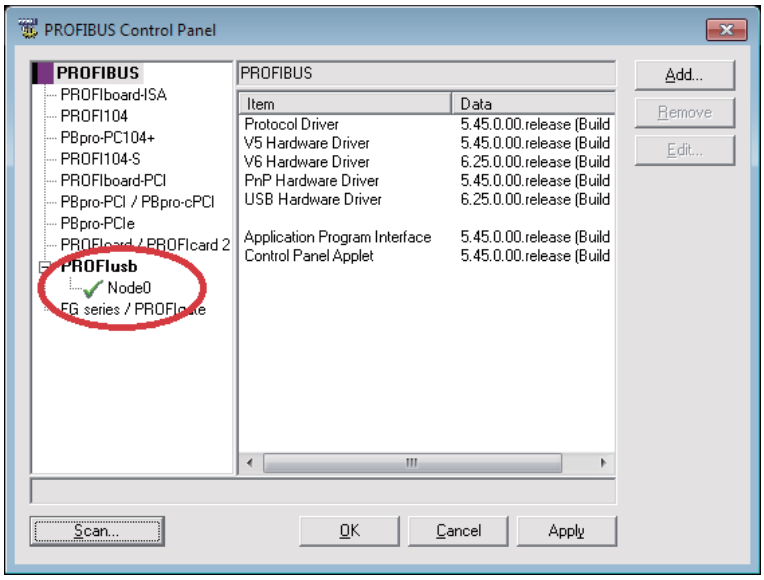
6. Click Yes, when dialog is displayed.



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Figure K-3-14

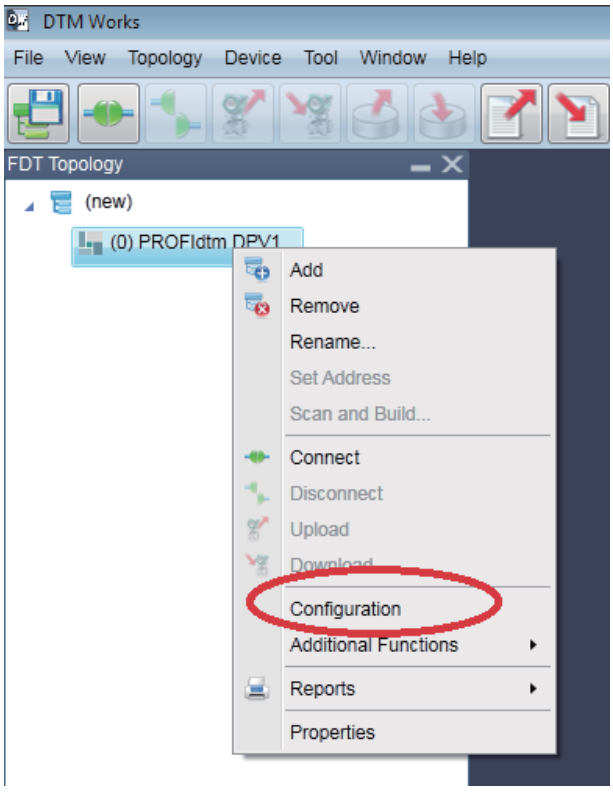
7. ‘Node0’ would be detected under PROFIusb after scanning. Click ‘OK’ to close the window.



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Figure K-3-15

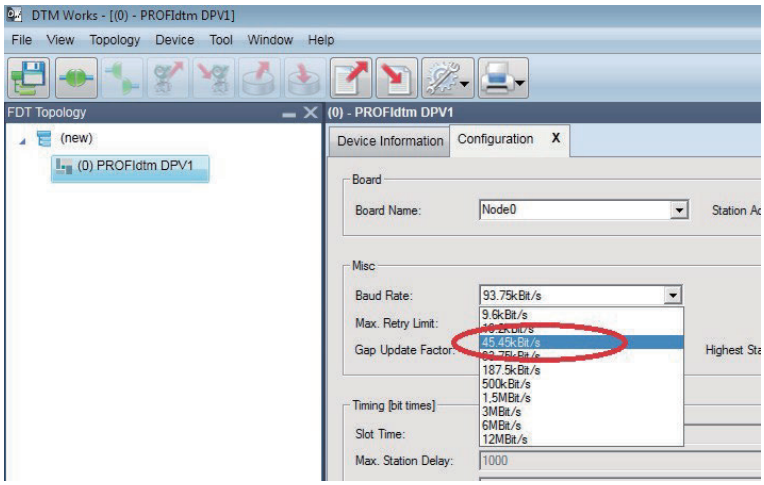
8. Creating new FDT project, refer to Part Q, “FDT project”.
   (a) Update DTM catalog.
   (b) Add PROFIdtm in FDT topology.
   (c) Configure PROFIdtm DPV1.
   Right-click the PROFIdtm DPV1 and select configuration.



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Figure K-3-16

9. Select correct Baud Rate and Click OK button.



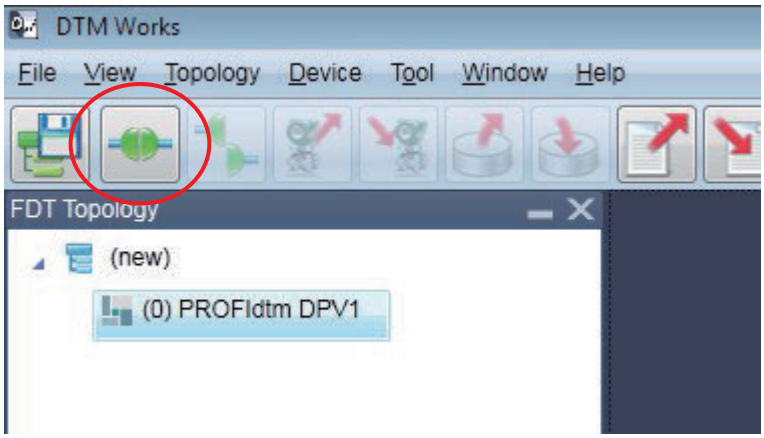
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Figure K-3-17

Example: When a PA device is connected via a DP/PA coupler (Siemens), the baud rate is 45.45 kbit/s. When a PA device is connected via a DP/PA coupler (P+F), the baud rate is 93.75 kbit/s.

10. Scanning for connected device.

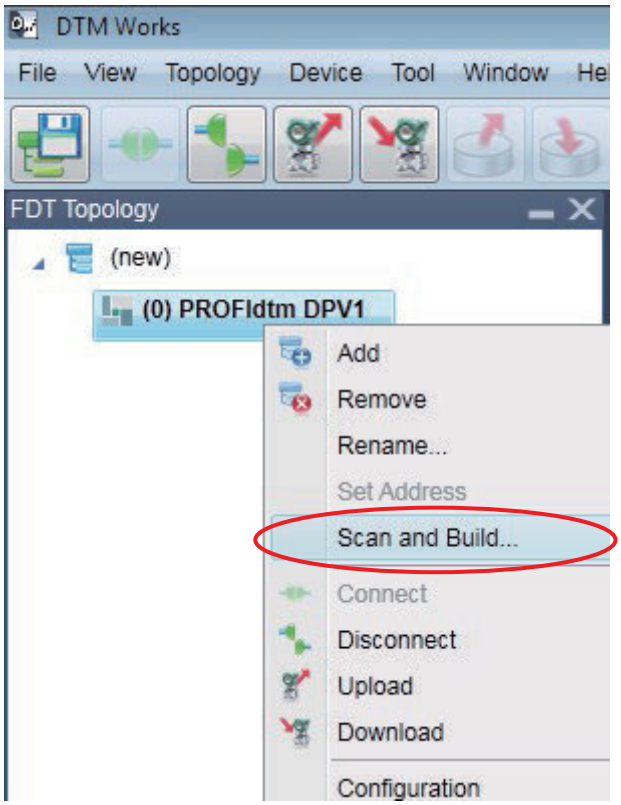
    (a) Connect the PROFIdtm DPV1.



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Figure K-3-18

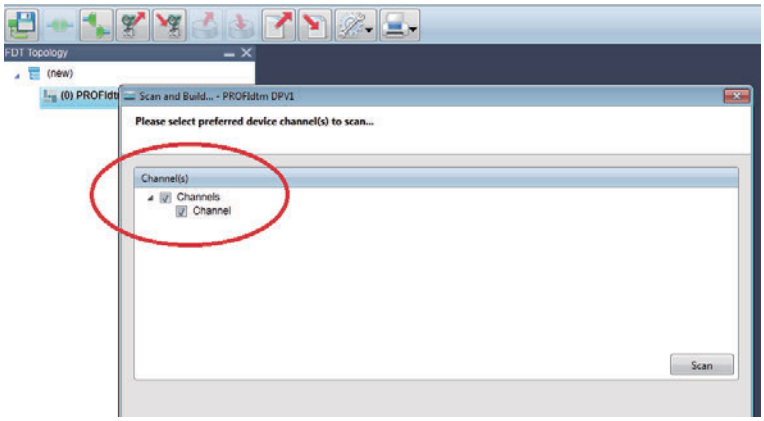
(b) When connected, right click PROFIdtm DPV1 and select “Scan and Build…”



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Figure K-3-19

(c) Select Channels and click scan button.

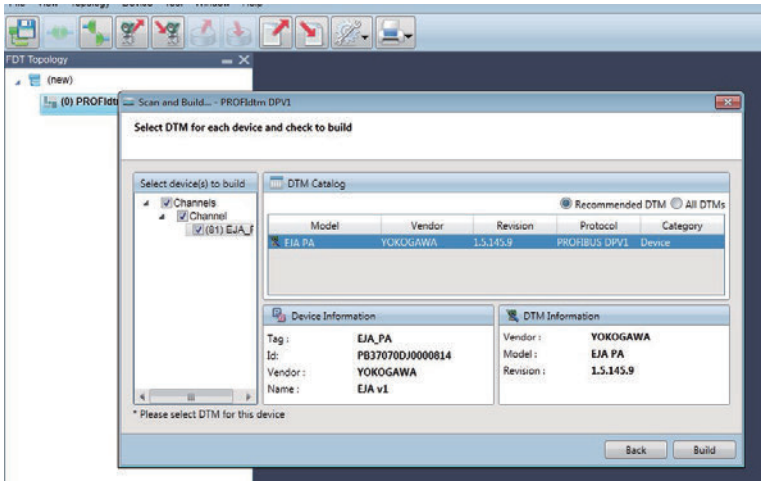


K030020E.ai

Figure K-3-20

11. Select device from detected list.

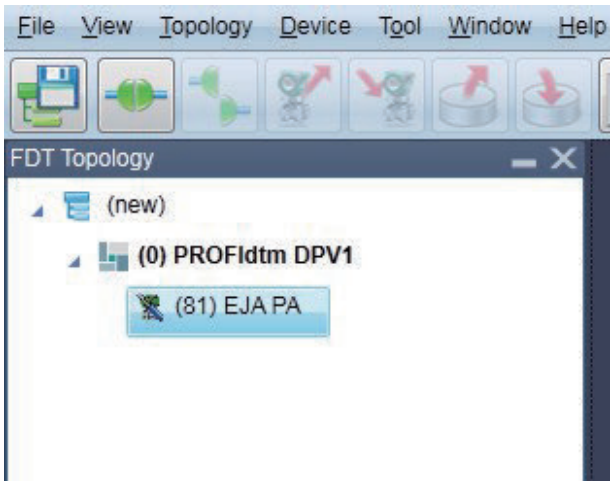
(a) Select the target device and click build button.



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Figure K-3-21

(b) Device is added in the FDT Topology with address 81.

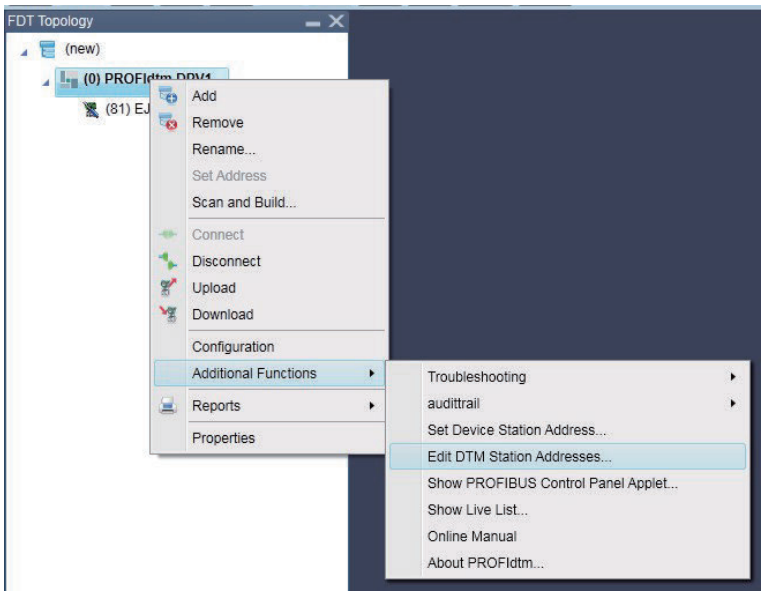


K030022E.ai

Figure K-3-22

12. Change device station address.

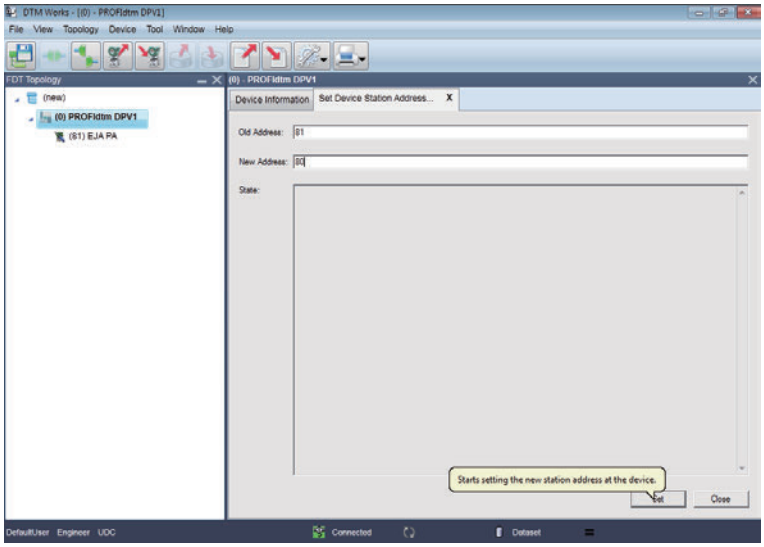
(a) Right-click on PROFIdtm.DPV1, select Additional Functions-> Edit DTM Station Addresses...



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Figure K-3-23

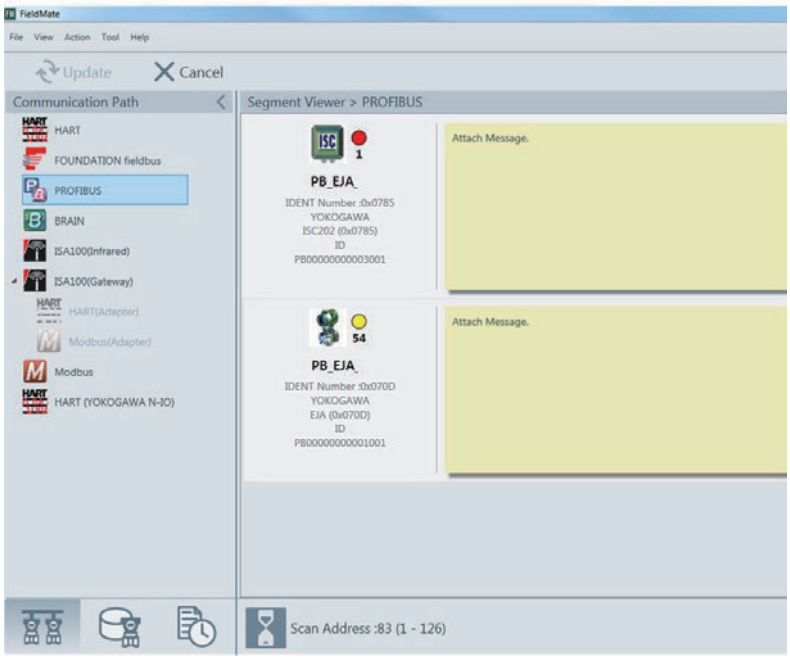
(b) Change address “81” to “80” (for example) and click set button.



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Figure K-3-24

13. Checking the new device station address.
    (a) Click Update to detect the device.
    (b) The new device address should be detected after scanning the device.



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Figure K-3-25

K-4 Parameter Manager

The Parameter Manager only supports HART/FOUNDATION fieldbus H1/ISA100 devices.

There are two ways Parameter Manager is used: communicating with the connected device, and not communicating with the connected device.

Online Mode

An actual device is selected on the Segment Viewer to start the Parameter Manager.

Offline Mode

A device in a database is selected on the Device Navigator.

Online Mode

1. Upload actual device parameters.
2. Export and import parameters uploaded to/from TSV files*.
   *TSV: Tab-separated, a file extension is txt (Text File Tab Separated)
3. Compare the parameters of the connected device with those imported from a file and check differences.
4. Select the parameters for download and then downloads them to the device.

Offline Mode

1. Save or load the parameters uploaded in/to the database (Device Maintenance Info - Attachment - PM Data) associated with the device (up to five sets per device).
2. Compare the parameters of the connected device with those loaded from the database and checks differences.
3. Compare the parameters saved in the database by displaying them on the right and left hand side screens.

A DD (Device Description) file corresponding to the device is required in order to use the Parameter Manager functions.

DD files are provided by device vendors. The Device Files Media includes redistributable DD files for HART/FOUNDATION fieldbus devices obtained from FieldComm Group.

The following is a concept diagram of Parameter Manager.

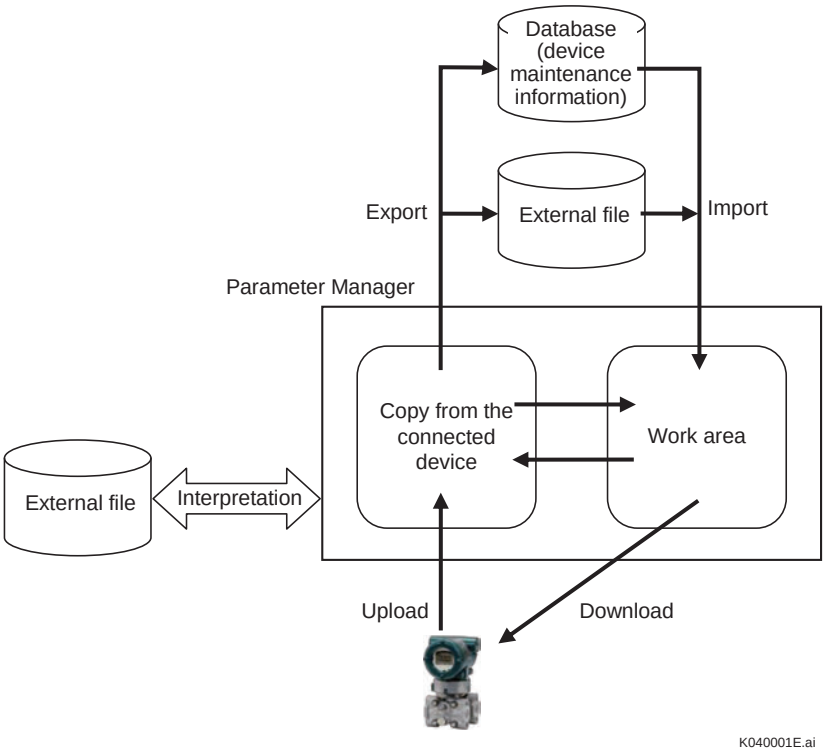


Figure K-4-1 Parameter Manager Overview (Online Mode)

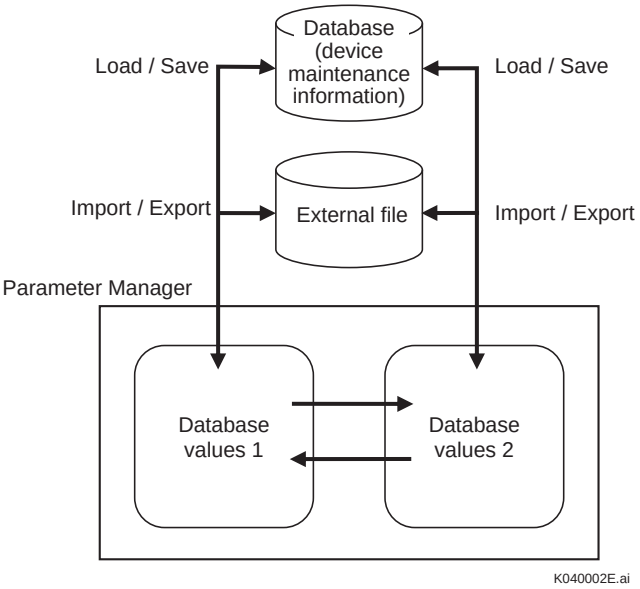


Figure K-4-2 Parameter Manager Overview (Offline Mode)

FOUNDATION fieldbus H1 and ISA100 Devices Blocks

In Parameter Manager, the displayed / set settings is defined for FOUNDATION fieldbus H1 and ISA100 devices.

-FOUNDATION fieldbus H1: TBs (transducer blocks) and resource block

-ISA100: UAPMO

Other blocks can be added in the option settings. These settings become common definitions for same device type (model).

More specifically, the read / write permission can be set for all blocks in a device.

MIB Parameters and Block Tag Headers of FOUNDATION fieldbus H1 Devices

Parameter Manager does not support the MIB parameters (NMIB and SMIB parameters) and block headers (function block tags, etc.) of FOUNDATION fieldbus H1 devices.

FOUNDATION fieldbus H1 and ISA100 Device Mode

When downloading to a FOUNDATION fieldbus H1 and ISA100 device, the default process is to automatically enter O/S (Out of Service) mode and then switch back to the previous mode after writing completes. This process can be enabled or disabled with the “Change O/S Mode during download” setting in the Option settings.

Categorize Parameters by Class Attribute

This function allows the user to categorize and display device parameters by class attribute. This function is applied to all currently displayed blocks and allows the user to display parameters that have a class attribute in the order of the blocks.

- The following 5 menus are displayed for FOUNDATION fieldbus H1 devices.
  Alarm, Tune, Operate, Services, and Diagnostics
- The following 4 menus are displayed for HART devices.
  Upload, Menu, Services, and Diagnostics
- The following 5 menus are displayed for ISA100 devices.
  Alarm, Tune, Operate, Services, and Diagnostics

TIP

The displayed menus depend on the device specification (DD file).

Favorite Menu

The Favorite menu allows the user to freely assign the list of parameters that needs to be set / monitored on a device type basis.
To add parameters to the Favorite menu, select the desired parameters in menus other than the Favorite menu in the Favorite mode. To remove parameter from the Favorite menu, select a parameter and click Delete button on the Favorite menu.

Export/Import

Parameters uploaded from the connected device can be exported as text file. The file format is tab-separated text (TSV) and the file extension is .txt.
The following shows the default folder and default file names, so that exported parameters can be easily managed and imported for downloading to another device of the same type.

The Select File dialog for exporting or importing parameters by default:
$(FieldMate installed folder)\FM\DeviceParameter\(vendor ID number in six hexadecimal numbers)\ (device type number in four hexadecimal numbers)\(device revision number in two hexadecimal numbers)

Example 1:
For FOUNDATION fieldbus H1 device, Yokogawa Electric, EJA, DevRev:2

$(FieldMate Install folder):\FM\DeviceParameter\594543\0003\02

Example 2:
For HART device, Yokogawa Electric DYF, DevRev:1

$(FieldMate Install folder):\FM\DeviceParameter\000037\000B\01

The default file name is “Device tag-(date)-(time of day).txt”

Example:
If device tag is FT1001 and parameters are exported at 09:53:04 on May 30, 2017, the default file name is:

FT1001-(05_30_2017)-(09_53_04).txt

Editing Exported Files

Exported files are in TSV format. You can use spreadsheet software such as Microsoft Excel to modify parameters and change the line order and then import the file again.

Perform this operation when you download a parameter modification for which there is meaning to the write order.

Parameter Manager can be used for the following purposes:

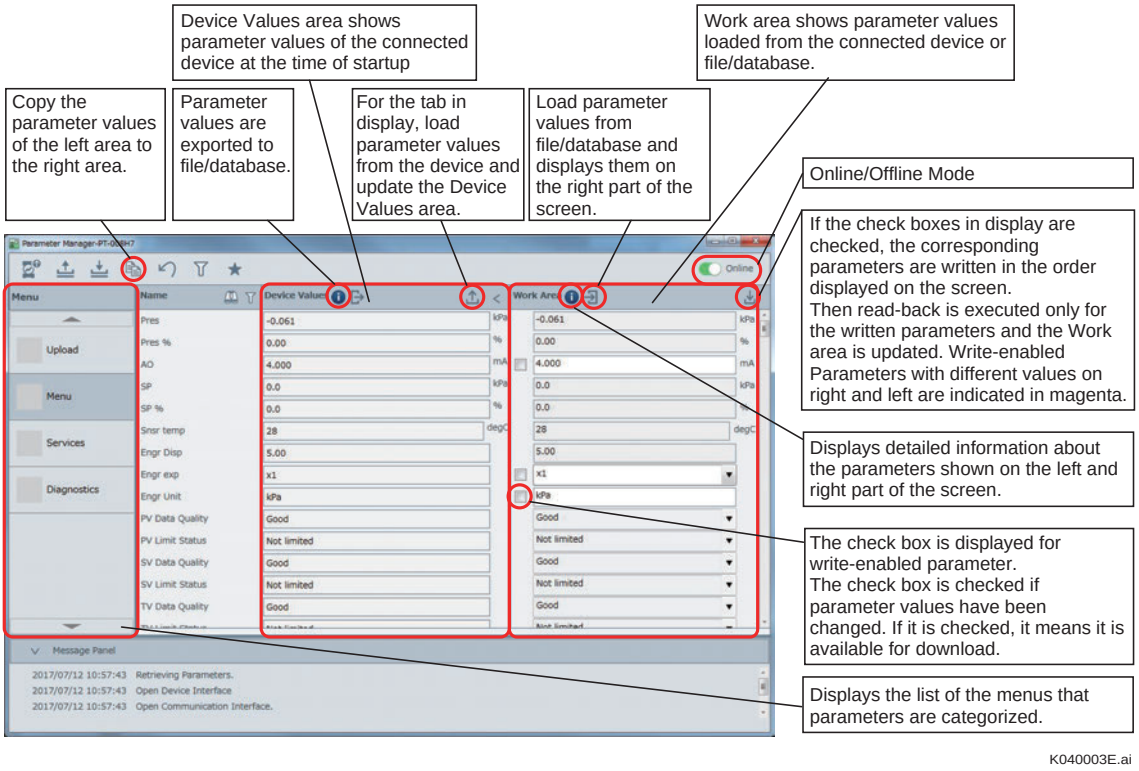
1. Checking, setting, and adjusting device parameters.
2. Uploading and then exporting a snapshot of all the parameters of a field device after setting and adjustment of the device is completed and then downloading them to a device that was installed in the place of the existing device.
3. Engineering the device parameters before delivery or actual installation and downloading them after the device delivery.
4. Copying the settings of one device to another of the same type.



IMPORTANT

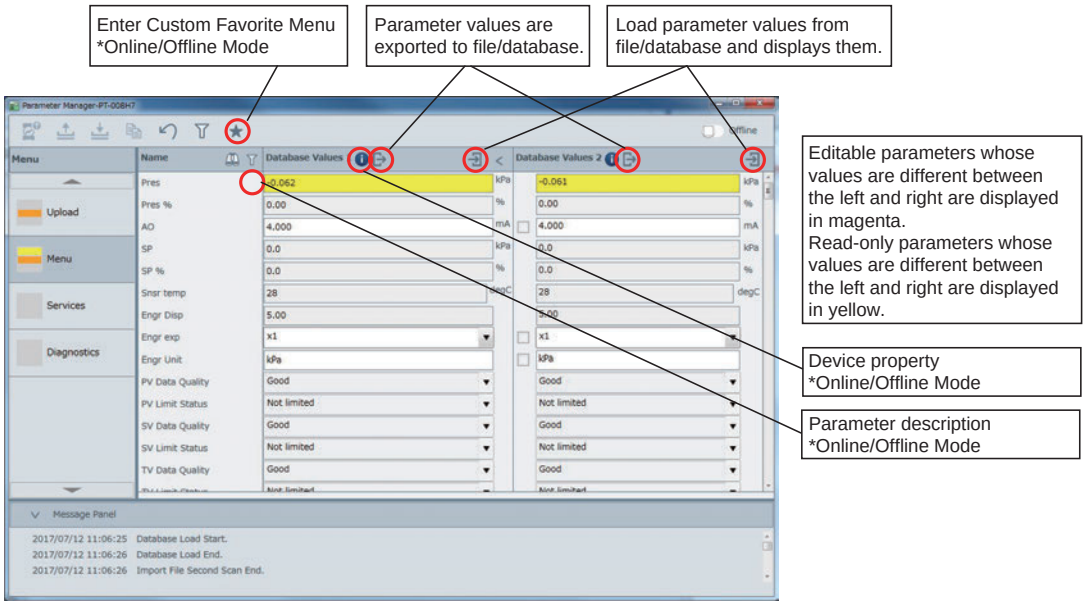
YOKOGAWA can not guarantee at all when there is a malfunction of import operation to Parameter Manager due to editing file, and when abnormality occurs in the operation of the device after downloading edited parameters.

Window



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Figure K-4-3 Parameter Manager Screen (Online Mode)



K040004E.ai

Figure K-4-4 Parameter Manager Screen (Offline Mode)

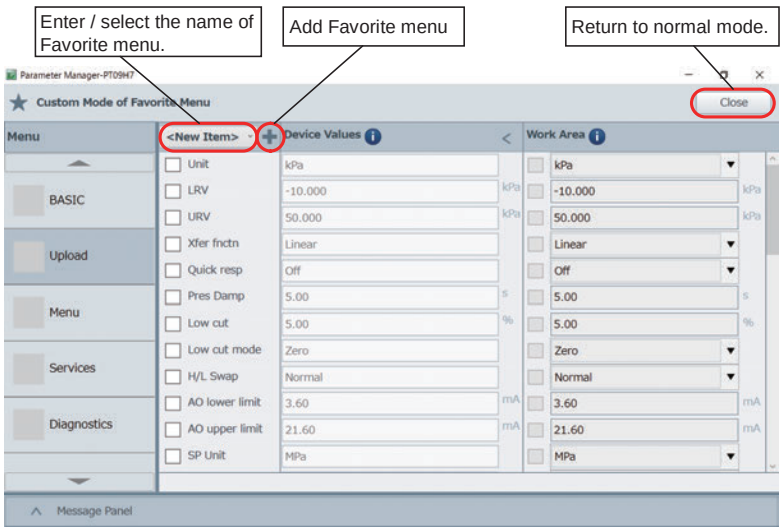


Figure K-4-5 Parameter Manager Screen (Custom Favorite menu)

Switching Parameter Value Displays during Mode Transitioning

- During transition from the online mode to the offline mode, the latest parameter values stored in the database are loaded to and shown in the left of the screen.
  If there is no parameter value stored in the database, the field is empty. There are no changes to the right of the screen.
- During transition from the offline mode to the online mode, the parameters are loaded from the device and shown in the left side of the screen. There are no changes to the right of the screen. If communication with the device fails, the mode transition is interrupted and goes back to the offline mode. The left of the screen goes back to the state prior to mode transition.

Start Parameter Manager

Parameter Manager can be started from Segment Viewer, Device Navigator, and Device Maintenance Info. The following describes how Parameter Manager starts from each of the above.

Select a device in Segment Viewer and start Parameter Manager.

In Segment Viewer, click “Action” button and then menu appears. Select “Parameter Manager form menu”. In this case, Parameter Manager starts in the online mode.

Select a Database device in Device Navigator and start Parameter Manager.

In Device Navigator, click “▼” button of the target device and then menu appears. Select “Parameter Manager form menu”. In this case, Parameter Manager starts in the offline mode.

The latest parameters data stored in Database are loaded and shown in the left and right of the screen. (The same data is shown on the left and right.)

If there is no parameter data stored in the database, no parameter value is shown after startup.

Select stored PM data in Device Maintenance Info and start Parameter Manager at Attachment → view.

This is enable if parameter data has already saved in Parameter Manager.

Display Device Maintenance Information of the target device in Device Navigator. Click “Attachment” button and select “PM data” for displaying the list of the stored parameter. Select the stored parameter and click Start button () for starting Parameter Manager. In this case, Parameter Manager starts in the offline mode.

The specified stored parameter is loaded to the left and right of the screen during startup. (The same parameter is shown on the left and right.)

Select 2 stored PM data in Device Maintenance Info and start Parameter Manager at Attachment → Compare.

This is enable if some parameter data have already saved in Parameter Manager.

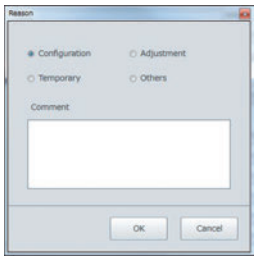
Display Device Maintenance Information of the target device in Device Navigator. Click “Attachment” button and select 2 (two) “PM data”s for displaying the list of the stored parameter. Select the stored parameters and click Compare button () for starting Parameter Manager. In this case, Parameter Manger starts in the offline mode.

The specified stored parameters are loaded to the left and right of the screen during startup.

Entering Reason

When you modify a device parameter and select Download Checked Parameters, you can select or enter the reason, which then appears in History.

You can enter up to 50 single-byte characters in the Reason entry field.

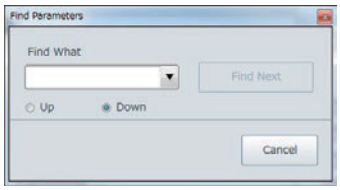


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Figure K-4-6 Reason Entry Dialog

Find Parameters

Selecting Find Parameters ( ) from the tool bar opens the following screen. This screen enables you to search for parameters in the window.

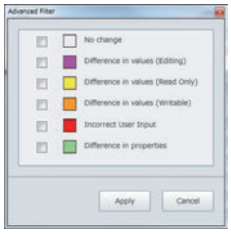


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Figure K-4-7 Find Parameters

Advanced Filter

Selecting the Advanced filter ( ) from the tool bar opens the following screen. This screen enables you to filter for parameters in the window.



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Figure K-4-8 Advanced filter

Parameter Description

Click Parameter description icon ( ) of the parameter and then the following dialog appears.

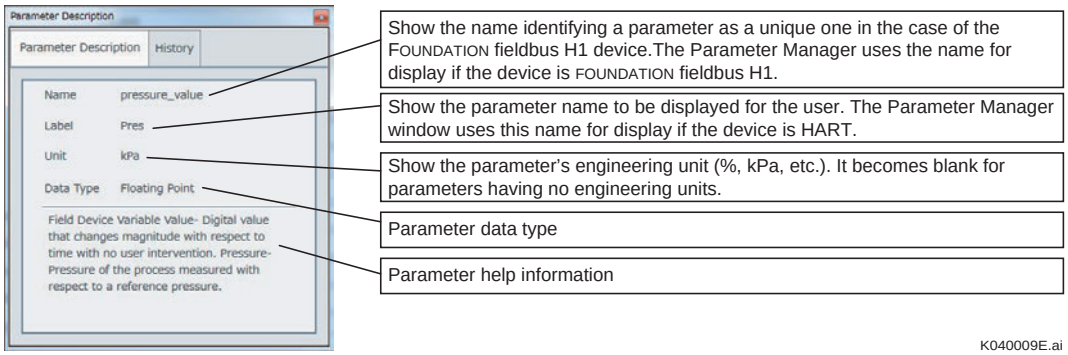


Figure K-4-9 Parameter Description

Device Properties

Click Device property icon ( ) for opening the following dialog. This dialog enables you to confirm detailed information of the device.

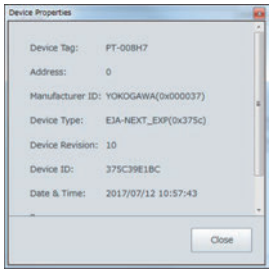


Figure K-4-10 Device Properties

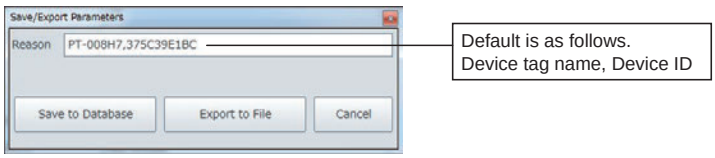
Save/Export Operation

Online Mode

When you select Save/Export Device Values in the Action menu, or press the corresponding button ( ), the window below appears. This window enables you to export the parameter values of the connected device on the left half of the window to a file or save them to the database.

Offline Mode

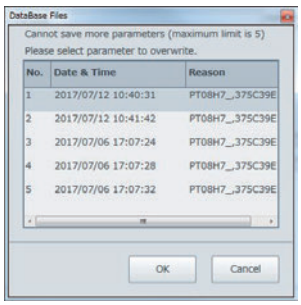
When you select Save/Export Device Values 1 or Save/Export Device Values 2 from the Action menu, or press the corresponding button ( ), the window below appears. This window enables you to export the parameter values of the connected device on the left half of the window or the parameter values on the right half of the window to a file or save them to the database.



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Figure K-4-11 Save/Export Parameters (1/2)

The dialog below is displayed to select overwrite saved data if parameter lists have been saved up to the maximum limit (5 sets/device),



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Figure K-4-12 Save/Export Parameters (2/2)

- **Selecting Save to Database:**

  <Online mode>

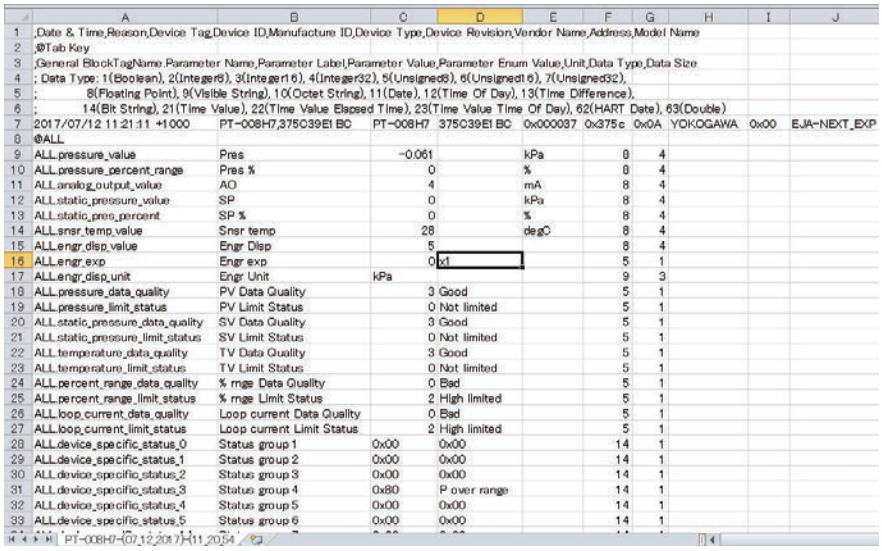
  Search available area and save in the database, however, if five sets of parameters of the relevant device have already been saved, a dialog requiring a selection of parameters to be overwritten, displays subsequently. Numbers (1-5), Date & Time, and Reason are displayed in the dialog for you to select from.

  <Offline mode>

  Ask whether it should be overwritten. If Yes is clicked, overwrite Parameter Value File n. If No is clicked, Parameter Value File n is saved in the other area. If five (5) sets of the relevant parameters have already been saved, the required procedures will be the same as Operation of the connected device.

- **Selecting Export to File:**

  Export to the specified text file with TSV format.



	A	B	C	D	E	F	G	H	I	J
1	;Date & Time,Reason,Device Tag,Device ID,Manufacture ID,Device Type,Device Revision,Vendor Name,Address,Model Name									
2	;@Tab Key									
3	;General BlockTagName,Parameter Name,Parameter Label,Parameter Value,Parameter Enum Value,Unit,Data Type,Data Size									
4	; Data Type: 1(Boolean), 2(Integer8), 3(Integer16), 4(Integer32), 5(Unsigned8), 6(Unsigned16), 7(Unsigned32),									
5	; 8(Floating Point), 9(Visible String), 10(Octet String), 11(Date), 12(Time Of Day), 13(Time Difference),									
6	; 14(Bit String), 21(Time Value), 22(Time Value Elapsed Time), 23(Time Value Time Of Day), 62(HART Date), 63(Double)									
7	2017/07/12 11:21:11 +1000	PT-008H7,375C39E1 BC	PT-008H7	375C39E1 BC		0x000037	0x375c	0x0A YOKOGAWA	0x00	EJA-NEXT_EXP
8	@ALL									
9	ALL.pressure_value	Pres	-0.061		kPa	8	4			
10	ALL.pressure_percent_range	Pres %	0		%	8	4			
11	ALL.analog_output_value	AO	4		mA	8	4			
12	ALL.static_pressure_value	SP	0		kPa	8	4			
13	ALL.static_pres_percent	SP %	0		%	8	4			
14	ALL.snsr_temp_value	Snsr temp	28		degC	8	4			
15	ALL.engr_disp_value	Engr Disp	5			8	4			
16	ALL.engr_exp	Engr exp	0	x1		5	1			
17	ALL.engr_disp_unit	Engr Unit	kPa			9	3			
18	ALL.pressure_data_quality	PV Data Quality	3	Good		5	1			
19	ALL.pressure_limit_status	PV Limit Status	0	Not limited		5	1			
20	ALL.static_pressure_data_quality	SV Data Quality	3	Good		5	1			
21	ALL.static_pressure_limit_status	SV Limit Status	0	Not limited		5	1			
22	ALL.temperature_data_quality	TV Data Quality	3	Good		5	1			
23	ALL.temperature_limit_status	TV Limit Status	0	Not limited		5	1			
24	ALL.percent_range_data_quality	% rnge Data Quality	0	Bad		5	1			
25	ALL.percent_range_limit_status	% rnge Limit Status	2	High limited		5	1			
26	ALL.loop_current_data_quality	Loop current Data Quality	0	Bad		5	1			
27	ALL.loop_current_limit_status	Loop current Limit Status	2	High limited		5	1			
28	ALL.device_specific_status_0	Status group 1	0x00	0x00		14	1			
29	ALL.device_specific_status_1	Status group 2	0x00	0x00		14	1			
30	ALL.device_specific_status_2	Status group 3	0x00	0x00		14	1			
31	ALL.device_specific_status_3	Status group 4	0x80	P over range		14	1			
32	ALL.device_specific_status_4	Status group 5	0x00	0x00		14	1			
33	ALL.device_specific_status_5	Status group 6	0x00	0x00		14	1			

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Figure K-4-13 Example of the exported file

Load/Import Operation

Online Mode

<Registered device>

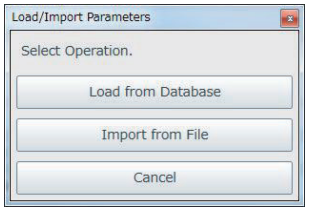
When you select Load/Import to Work Area from the Action menu, or press the corresponding button ( ), the window below appears. This window enables you to load parameter values from a file or database and display them on the right half of the window.

<Unregistered device>

Selecting the parameters in the database of the same Device Type, Load operation is available even for unregistered devices in case of device replacement on shutdown maintenance.

Offline Mode

When you select Load/Import Device Values 1 or Load/Import Device Values 2 from the Action menu, or press the corresponding button ( ), the window below appears. This window enables you to load parameter values from a file or database and display them on the left half or the right half of the window



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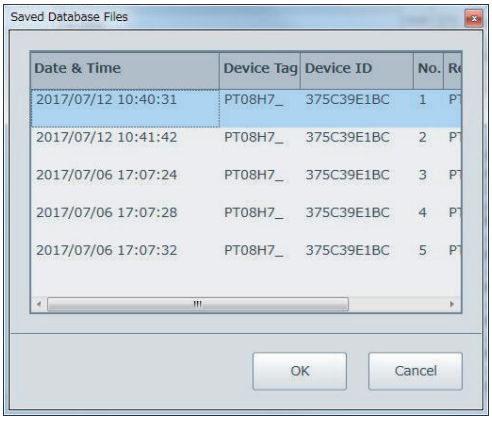
Figure K-4-14 Select Import parameters

When selecting Database, a data selection screen is displayed. You can select from parameters that are previously saved in the database for devices of the same model as the relevant device.

In dialog selection, Date & Time, Device Tag, Device ID, and Reason are shown in table format.

When the Device ID is the same as the relevant device, the latest line of Date & Time is highlighted by default.

When selecting File, a list of files is displayed to select and execute.



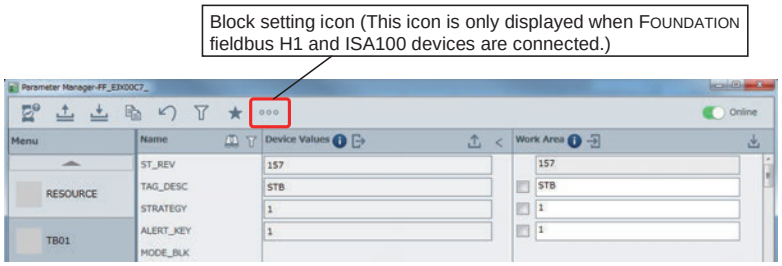
K040015E.ai

Figure K-4-15 Select Import parameters from database

Blocks Settings

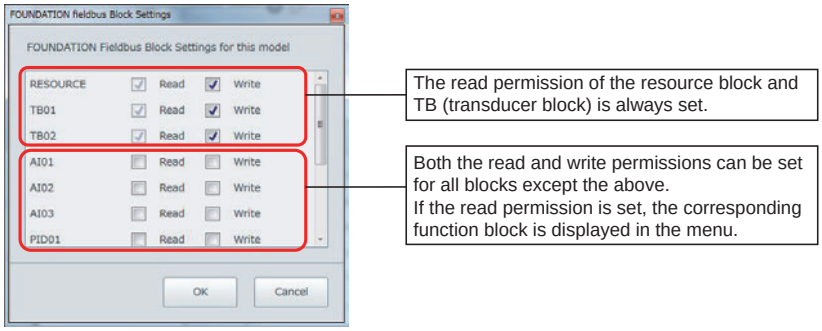
Block setting icon ( ) is clicked and the Block Settings dialog appears. This dialog enables to select which of the blocks of the FOUNDATION fieldbus H1 and ISA100 device to display/set.

The settings made in this dialog box are applied to all devices of the same model.



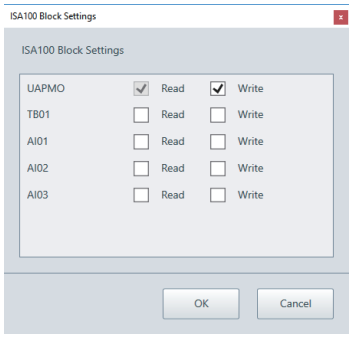
K040016E.ai

Figure K-4-16 Tool bar when FOUNDATION fieldbus H1 and ISA100 devices are connected



K040017E.ai

Figure K-4-17 Block Settings dialog (FOUNDATION fieldbus H1 device)



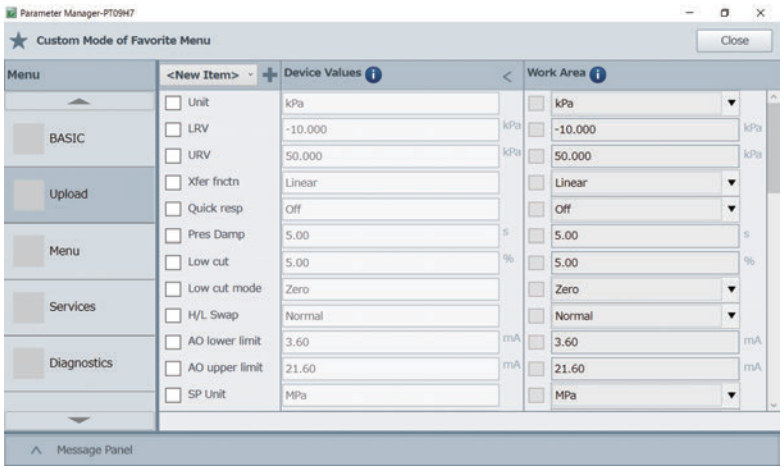
K040018E.ai

Figure K-4-18 Block Settings dialog (ISA100 device)

Custom Menu Settings

Clicking Favorite button (★) in tool bar for enter Custom Favorite menu mode. This mode enables you to define multiple custom menus and the menu names.

Click the Close button for returning to the normal mode.

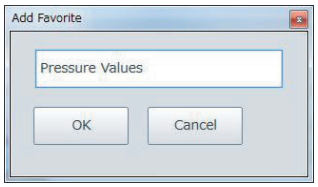


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Figure K-4-19 Custom Favorite menu mode

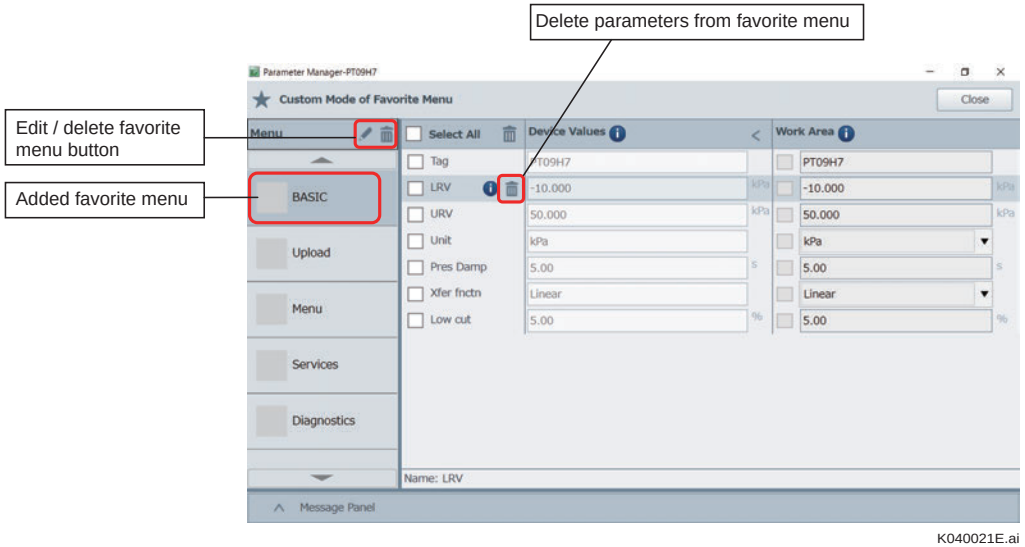
In this window, the custom menus are able to be defined. Parameters are selected and Add button (➕) is clicked and then the input favorite menu name dialog appears.

The favorite menu is added with clicking OK button after inputting favorite menu name.



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Figure K-4-20 Input favorite menu name dialog

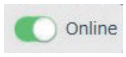


K040021E.ai

Figure K-4-21 Favorite menu configuration

Tool Bar

Table K-4-1

Icon	Function
	Update Device Values and Attributes - All menu
	Update Device Values - All menu
	Download Checked Parameters to device - All menu
	Copy the parameter values of the left area to the right area.
	Undo Modifications
	Open Advanced filter dialog
	Enter Favorite menu mode
	Open Block Settings dialog *Only effective with connecting FOUNDATION fieldbus H1 and ISA100 devices.
	Change Online / Offline Mode
	Return to normal mode form favorite mode. * Only effective in favorite mode.

Contents Bar

Table K-4-2

Icon	Function
	Find Parameters
	Filter Writable / Common parameters
	Display information (Device / Parameter)
	Save / Export
	Load / Import
	Update Device Values - Focus area * Only Online mode
	Download Checked Parameters to device - Focus area * Only Online mode

Window Specification Details

- The display/edit format is applied, which means that when values are displayed, they are displayed in accordance with the display format defined in the DD. Also, when values are edited, they are displayed in accordance with the edit format defined in the DD.
- The scaling factor is applied, which means that parameters for which a scaling factor is defined by the DD are displayed by the scaling factor being multiplied to a value read from the connected device.
- In the search dialog, searches for parameter names including input characters are performed in order. Searching for values is not supported.

Color of Parameter Values

Table K-4-3

Color	Explanation
No color	Indicate that the parameter values in the left area and the right area are the same.
Magenta	Indicate that for writable parameters there is a difference between the values in the left area and the right area. If even one of the parameters in the tab is in magenta, the magenta symbol is displayed beside the menu.
Yellow	Indicate that for read-only parameters there is a difference between the values in the left area and the right area. If even one of the parameters in the tab is in yellow, the yellow symbol is displayed beside the menu.
Orange	Indicate that for writable parameters there is a difference between the values on the left and right area. I.e. It indicates the difference between the connected device and imported files, difference between files in the database, between imported files and files in the database. If even one of the parameters in the tab is in orange, the orange symbol is displayed beside the menu.
Red	Indicate that for writable parameters there is error found on the right screen, including not only key in by user but data of imported files. If even one of the parameters in the tab is in red, the red symbol is displayed beside the menu.
Green	Indicate the parameter properties difference between the values in the left area and the right area. Due to DD structure, parameter properties i.e. (Edit Format, Display Format, EnumList, Validity, Read-only/Writable/ReadWrite etc.) are changed. If even one of the parameters in the tab is in green, the green symbol is displayed beside the menu.

Checkboxes Beside Parameter

Checkboxes are only displayed for writable parameters. If checkmarks are added to the checkboxes, the corresponding parameters are downloaded to the device in the order that they are displayed in the window when the Download Checked Parameters command is executed.

If a parameter-value in the Work area changes from its original color to magenta, a checkmark is also added to the checkbox.

In other words, immediately after the parameters are loaded into the Work area when File or Database is selected, checkmarks are added to the checkboxes of all writable parameters for which there is a difference between values in the Work area and Device Values area. That is, all parameters indicated in magenta.

Furthermore, when a value is edited in the window and the parameter-value display area changes from its original color to magenta, a checkmark is also added to the checkbox.

peration when exiting Parameter Manager

- Communicate with the connected device and check whether the device parameter has been changed when exiting Parameter Manager in Online mode. If there has been a change, prompt query message and exit after confirmation.
- When exiting Parameter Manager without communications with the device, change database value in display on the screen and make sure to check it has not been saved. If it has not been saved, inquire with “You have changed parameters. Save changes to database?” if “yes” is selected, overwrite the database and exit.

K-5 DD Menu

The DD menu is applicable only to FOUNDATION fieldbus H1 devices.

A DD is a file that contains the parameter properties defined by the device vendor and device-specific control procedures such as calibration and diagnoses. In addition to device control, the procedures include those for interactive display to users and key input from the user. The contents of supported DD menus vary depending on the vendor and model of the device.

The following shows an example of a DD menu.

- **Diagnosis**

  Display the self-diagnostic results.

- **Calibration**

  Automatically performs zero point adjustment of a transmitter and calibration in combination with the control valve with a valve positioner.

  A request to confirm and operate message is displayed to the user during execution of the DD menu.

Display Items of the Menu Tree

The menu tree displays the DD of the device in a tree structure. The following shows the menu hierarchy of elements displayed in the tree structure from the highest level.

- Device tag
- Block tag
- Menu name
- Submenu name
  Submenu depends on devices.

The menu names or submenu names at the lowest level become the DD menus that can be executed.

Display Items of the DD Menu Operation Display Area

The DD menu operation display area displays various types of messages related to DD menu execution. The following messages are displayed.

- Interactive messages specific to DD Menus
  Messages built into the DD Menu being executed are displayed.
- Message if exceptions are detected
  If an exception occurs while the DD Menu is being executed, a message corresponding to the exception is displayed for some devices when exiting the DD Menu. If such a message is displayed, close the DD Menu execution window.
- DD Menu exit message
  A message that indicates the DD Menu has ended is displayed when exiting the DD Menu.

Updating of Parameter Values

If you click the button on the tool bar, the parameter values of the device are imported and the display values are updated.

Startup

There are two startup procedures.

- Start DD Menu from Parameter Manager.

  (Note): When you perform this procedure, Parameter Manager is minimized and becomes unavailable.

- Select the device of FOUNDATION fieldbus in Segment Viewer and start DD Menu.

Window

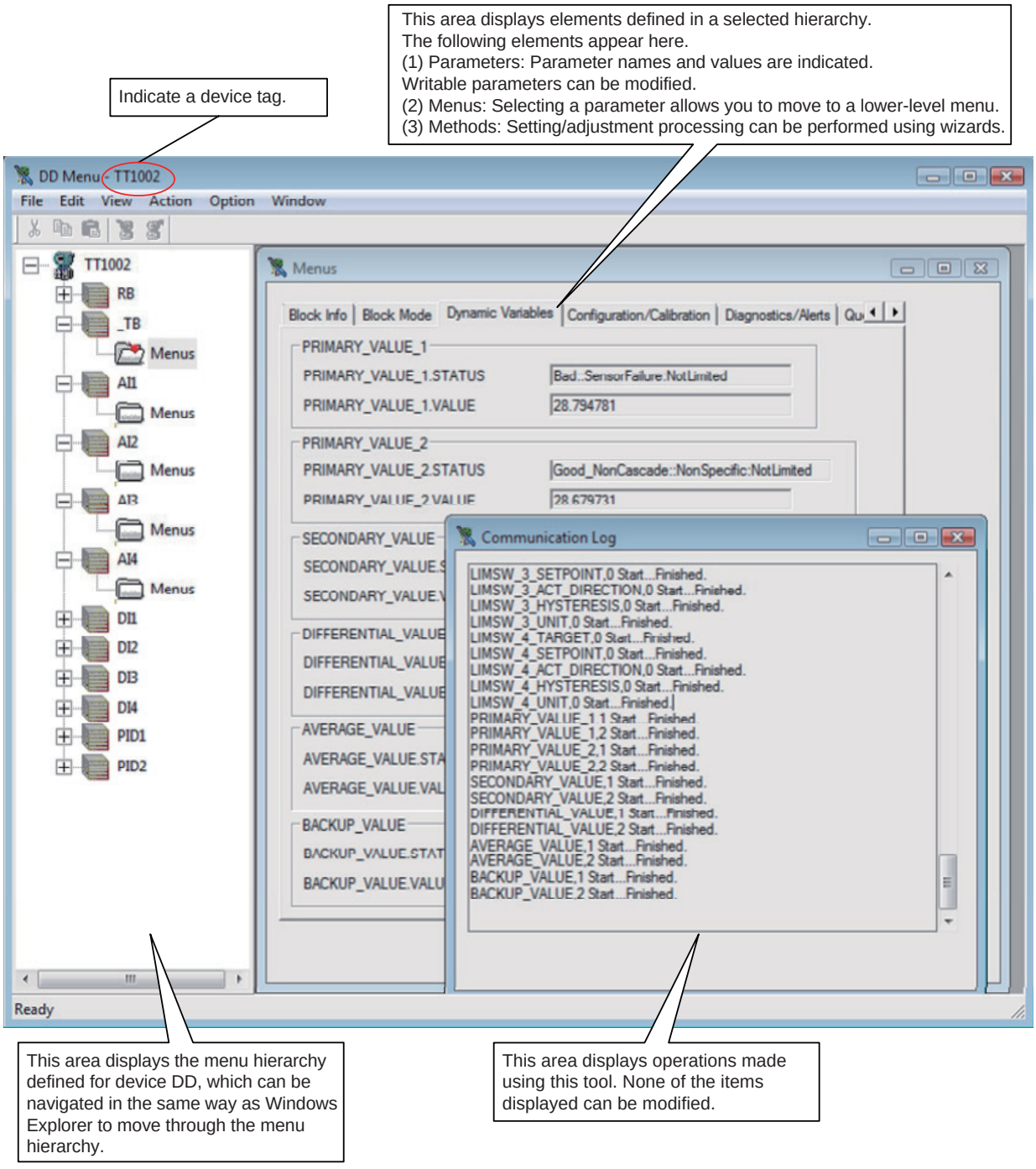


Figure K-5-1 DD Menu

Menu

Table K-5-1

Menu		Explanation
File	Close	Close window
	Edit	Exit DD Menu
Edit	Undo	Undo the value in the edit box
	Cut	Cut the value in the edit box.
	Copy	Copy the value in the edit box.
	Paste	Paste the value in the edit box.
View	Tool bar	When this item is checked, the show/hide of the tool bar can be selected. It is selected by default (the tool bar is shown).
	Status bar	When this item is checked, the show/hide of the status bar can be selected. It is selected by default (the status bar is shown).
	Log	Displays the communication log.
Action	Update Device Values – Current Window	Reads the parameter values of the currently displayed tab.
	Download Parameters – Current Window	Writes parameters in the currently displayed tab in the order that they are displayed in the window, and then read back only the parameters that were written and updates. When the download is successfully completed, any magenta parameter-value display area is returned to its original color.
Option	Change O/S Mode during download	When this item is selected, the Target Mode is set to O/S prior to downloading and then switched back to the previous mode after downloading finishes. It is selected by default.
Window	Cascade	Cascade DD Menu windows.
	Tile	Tile DD Menu windows.
	Arrange Icons	Arrange icons in order.
	1 (Window name1)	Display the selected window
	:	Ditto.
	N (Window name N)	Ditto.

Toolbar

Table K-5-2

Icon	Function	Description
	Cut	Cut the value in the edit box.
	Copy	Copy the value in the edit box.
	Paste	Paste the value in the edit box.
	Download	Writes parameters in the currently displayed tab in the order that they are displayed in the window.
	Update	Reads the parameter values of the currently displayed tab.

L DeviceViewer

DeviceViewer displays the hardware and configuration statuses of the self-diagnosis results obtained by the device. It also displays the pre-defined device parameter values as a trend graph. This function supports HART, FOUNDATION fieldbus H1, and ISA100 device.

The display items of DeviceViewer differ depending on the device. DeviceViewer is capable of displaying up to five windows simultaneously.

DeviceViewer will be opened by selecting function from the main menu and the operation menu in Segment Viewer. Also it will be opened with double-click device status icon of Segment Viewer.

Device Status Display

DeviceViewer has two tabs: Diagnostic Information and Trend Information.

L-1 Diagnostic Information

The Diagnostic Information tab is divided into the device information display area, alarm display area, diagnostic parameter list, and parameter list.

The following colors are used to indicate the device status.

Table L-1-1

Icon	Function
	Normal
	Warning
	Failure requiring inspection
	Communication error

This section describes the device information displayed in each of the display areas.

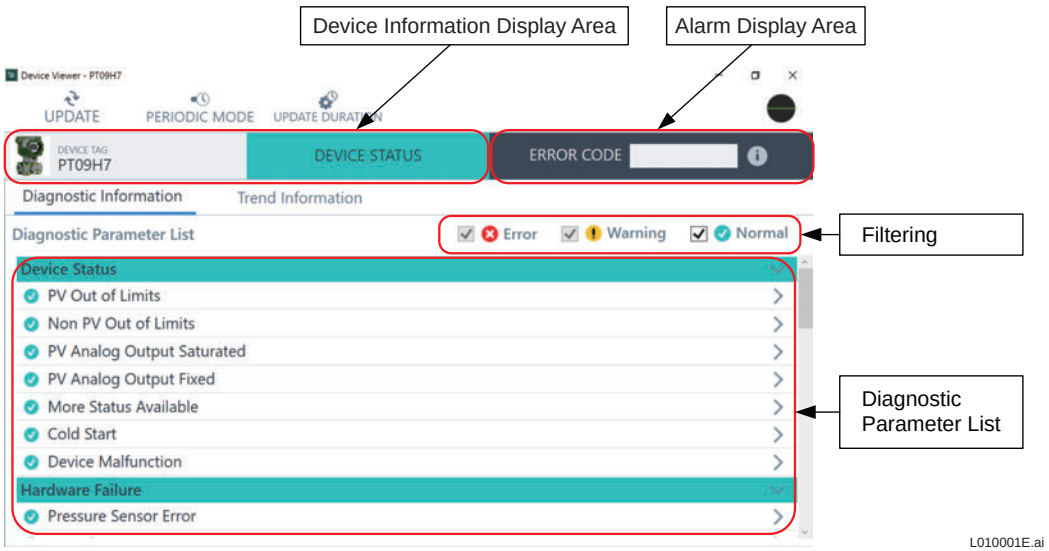
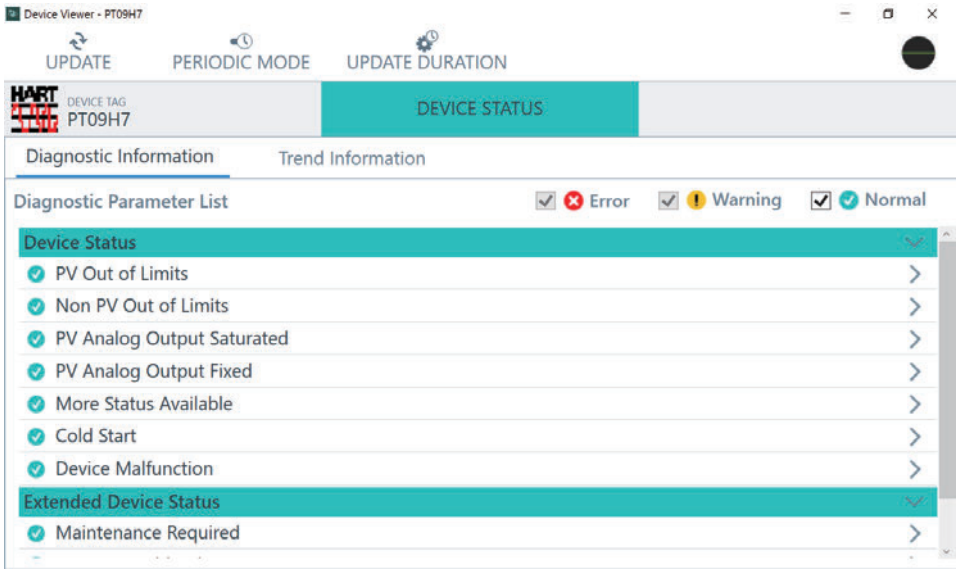


Figure L-1-1 Diagnostic Information Display Example(1)



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Figure L-1-2 Diagnostic Information Display Example(2)

Device Information Display Area

This area displays device tag and overall status of the device.

This area displays the multiple diagnostic information alarms displayed in the diagnostic information area and the result of the communication status of the device.

If even one error is found, the error occurs.

Alarm Display Area

The alarm display area enables you to remotely view alarms generated on devices. If there is an error with even one of the diagnostic items, the color in the Hardware Error column changes to the error display color.

When there is an error, the alarm is also displayed.

When there are multiple alarms, the corresponding error items for the alarms are displayed alternately.

Push Information icon ( ) and then the alarm message is displayed.

Diagnostic Parameter List

This area displays parameters including self-diagnostic data. Alarm icons are used to indicate the status of individual device parameters. Push alarm message and then the detail information is displayed.

Filtering

This check box is the filtering the alarms displayed in Diagnostic Parameter List.

Overall

A text tool tip appears when you move the mouse cursor over each of the items in the diagnostic item status display area.

Toolbar

Table L-1-2

Icon	Function
	Updates the screen This icon is available on Non-Periodic mode
	Periodic mode
	Non-Periodic mode
	Sets the update duration This icon is available on Periodic mode

L-2 Trend Information

The parameter values displayed in the trend parameter list are acquired and displayed as a trend graph. Sixty acquisition points are displayed for each parameter.

By selecting the Trend Information tab, the screen changes and switches to the Periodic mode automatically.

The trend graph display is updated from right to left. The most recent trend parameter data values are displayed on the right side of the graph, and the oldest ones are displayed on the left side.

Trend data is acquired while DeviceViewer is activated. Trend data continues to be acquired even if you switch to the Diagnostic Information tab. Up to 8640 points can be saved for each parameter in DeviceViewer. When the number of data points acquired reaches 8640, data points are overwritten in order from the oldest.

Trend data can also be exported.

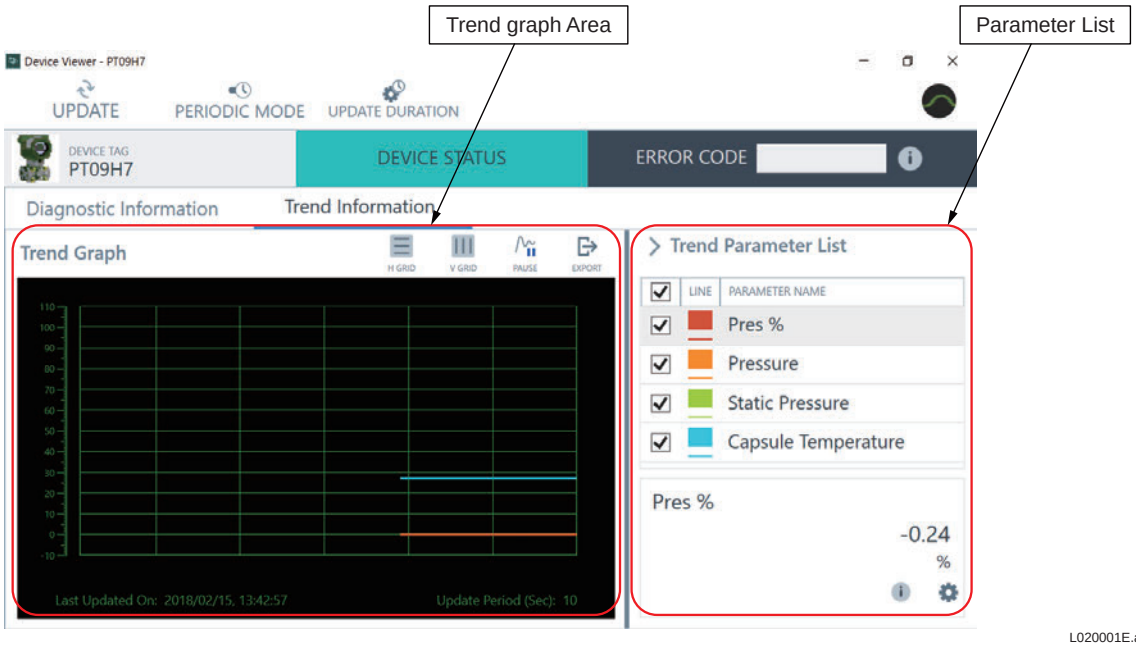


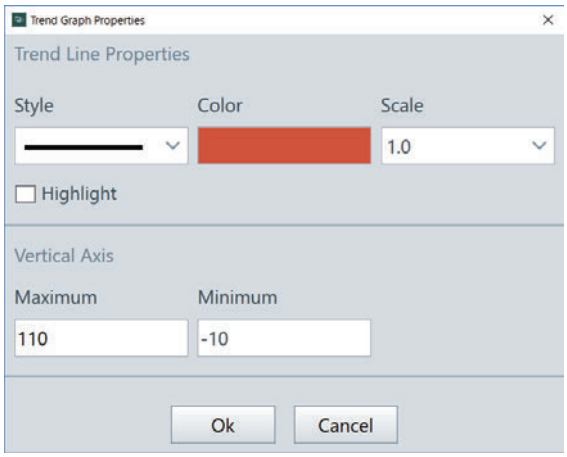
Figure L-2-1 Trend Information Display

Tool Bar

Table L-2-1

Icon	Function
	Updates the screen This icon is available on Non-Periodic mode
	Signify to Periodic mode Click and then change Non-Periodic mode.
	Signify to Non-Periodic mode Click and then change Periodic mode.
	Sets the update duration This icon is available on Periodic mode
	Enable/disable Horizontal grid
	Enable/disable Vertical grid
	Pauses the trend graph
	Resumes the trend graph
	Exports the trend data
	Open the trend graph information dialog for displaying the parameter information.
	Open Trend graph proprieties dialog for setting trend graph.

Pen Attribute Setting: Settings → Trend, after Selecting the Parameter from the Trend Parameter List.



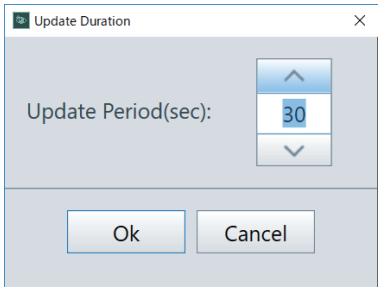
L020002E.ai

Figure L-2-2

Table L-2-2

Category	Setting Item	Description
Trend Line Properties	Color	Specifies the line color of the trend graph.
	Style	Specifies the line type of the trend graph. Select from a solid line, dotted line, broken line, alternate long and short dash line, and chain double-dashed line.
	Scale	Specifies the scale of the trend graph. The default is 1.0.
	Highlight	Sets to highlight the selected trend graph line in the trend graph display.
Vertical Axis	Maximum	Sets the vertical scale of the trend graph to the maximum value.
	Minimum	Sets the vertical scale of the trend graph to the minimum value.

Trend Graph Update Duration Setting: Setting → Update Period



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Figure L-2-3

When periodic is selected, set the update duration.

You can set the update duration in one second increments from 5 to 99 seconds. The default is 30 seconds for HART device, 10 seconds for FOUNDATION fieldbus H1 device, and 60 seconds for ISA100 device.

If you exit DeviceViewer, the update duration will return to the default value the next time you display DeviceViewer. The duration for updating the trend graph is the same as that for updating the parameters in the self-diagnostic information display area.

Trend Graph Display/Operation when Clicking the Start Trend Button, Change Update Duration Button, and Resume Trend Button are Performed

Switching between Periodic and Non Periodic Mode

- Selecting Periodic from the Mode menu toggles between the modes. The mode can be switched from both the Diagnostic Information tab and the Trend Information tab.
- The following shows the trend graph, data acquisition and internal buffer when the scan mode is switched from periodic to Non Periodic while the Trend Information tab is displayed.

  Trend graph: Stopped

  Data acquisition: Stopped

  Internal buffer storage: Stopped
- The following shows the trend graph, data acquisition, and internal buffer when the scan mode is switched from Non Periodic to periodic.

  Trend graph: Displayed

  Data acquisition: Resumed

  Internal buffer storage: Cleared

Stopping/resuming Trend Operation

- The following shows the trend graph, data acquisition and internal buffer when Trend Pause is selected from the Mode menu to stop trend operation.

  Trend graph: Frozen

  Data acquisition: Continues

  Internal buffer storage: Frozen

  In other words, the graph is not updated while operation is stopped.
- The following shows the trend graph, data acquisition and internal buffer when Trend Pause is selected from the Mode menu to resume trend operation.

  Trend graph: Displayed from time resumed

  Data acquisition: Continues

  Internal buffer storage: Stored from time resumed

Setting Update Duration

→ Select Update Duration from the Setting menu when the menu item is enabled. The menu item is only enabled when periodic mode is set.

Trend Graph Display and Trend Data

(1) Changing Update Duration

  Trend graph: Display is refreshed

  Internal buffer storage: Cleared

(2) Stopping trend operation

  Trend graph: Stopped

  Internal buffer storage: Stopped

(3) Resuming trend operation

Trend graph: Continues

Internal buffer storage: Continues

(4) Switching from Trend Information tab → Diagnostic Information tab → Trend Information tab

Trend graph: Continues

Internal buffer storage: Continues

Exporting Trend Data: File → Export

DeviceViewer's menus and tool buttons allow trend data to be exported.

The following shows the default settings.

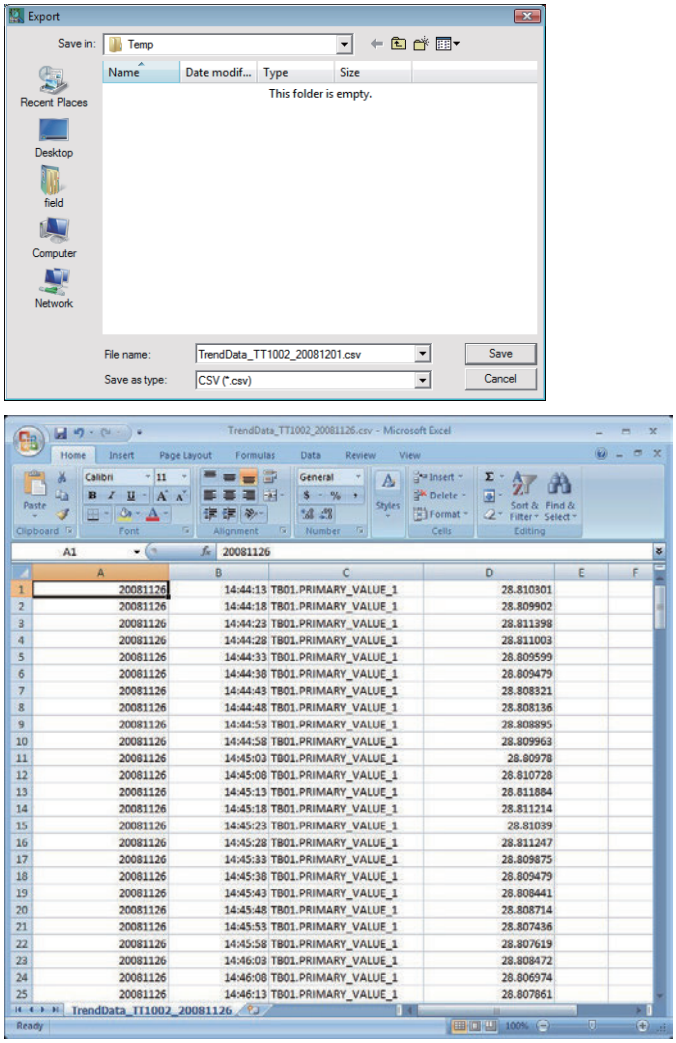
Save location folder (FieldMate installation folder): \FM\Temp\

Folder name: TrendData_DeviceTagName_YYYYMMDD (where DeviceTagName is the device tag of the measuring device that was started, YYYY is the year, MM is the month, and DD is the day)

File type: CSV format, TSV format

Each line of the file content is exported in the following order.

Time stamp, trend point name, and acquisition data value



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Figure L-2-4 Trend Data Export Example

M History

M-1 Overview

The History window displays the Operation Logs of devices that are currently connected or were previously connected to FieldMate. These logs are recorded automatically, and they contain information about all the operations that were performed on a device while it was connected to FieldMate.

Operation Log Categories

The following table describes the different types of Operation Logs.

Table M-1-1 Operation Log Types

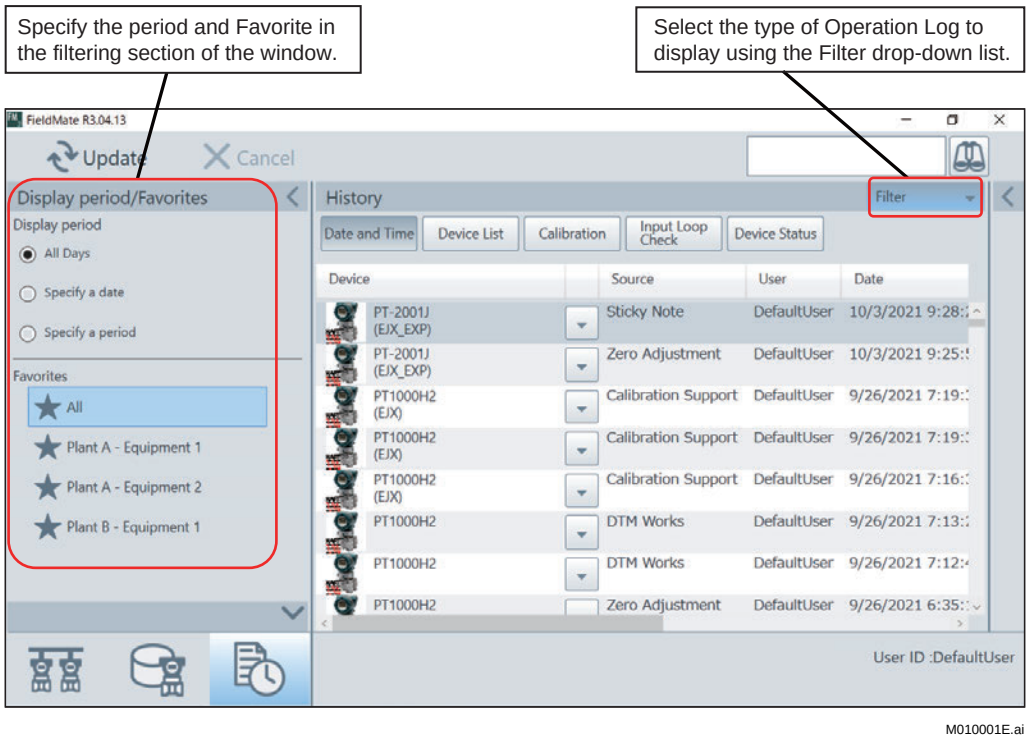
Type	Description
Configuration	Logs that were recorded during configuration or adjustment, including writing of parameters to devices
Checkup	Logs that were recorded when images and memos were attached to devices
Maintenance management	Logs that were recorded during device registration and device maintenance activities such as deleting, importing, and exporting of device data
System	Logs that were recorded which do not fall under the other operation log types. This may include logging in, logging out, or starting a tool.
PRM	Logs that were recorded in PRM and were transferred to FieldMate during the Backup/Restore/Synchronization process.

Operation

History window is switched by clicking “History” icon () on the Select bar at the lower left of Main window.

Condition and Filter Items

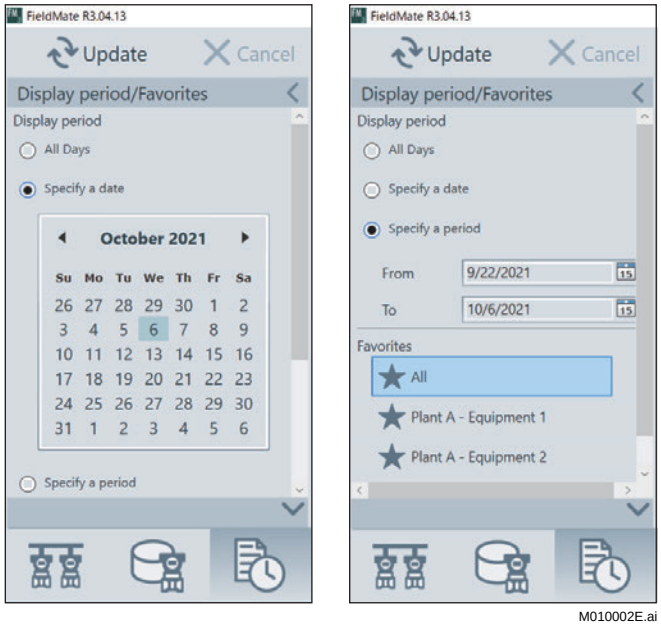
Operation Logs can be filtered by conditions and categories in the History window.



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Figure M-1-1 Display Period and Filter for Operation Logs

The respective specification area is expanded if “Specify a date” or “Specify a period” in the extraction condition display period are selected.



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Figure M-1-2 Select Display Period

M-2 History Window

There are five viewing options available in the History window. Use the buttons to select the view you want to display.

- Date and Time view
- Device List view
- Calibration view
- Input Loop Check view
- Device Status view

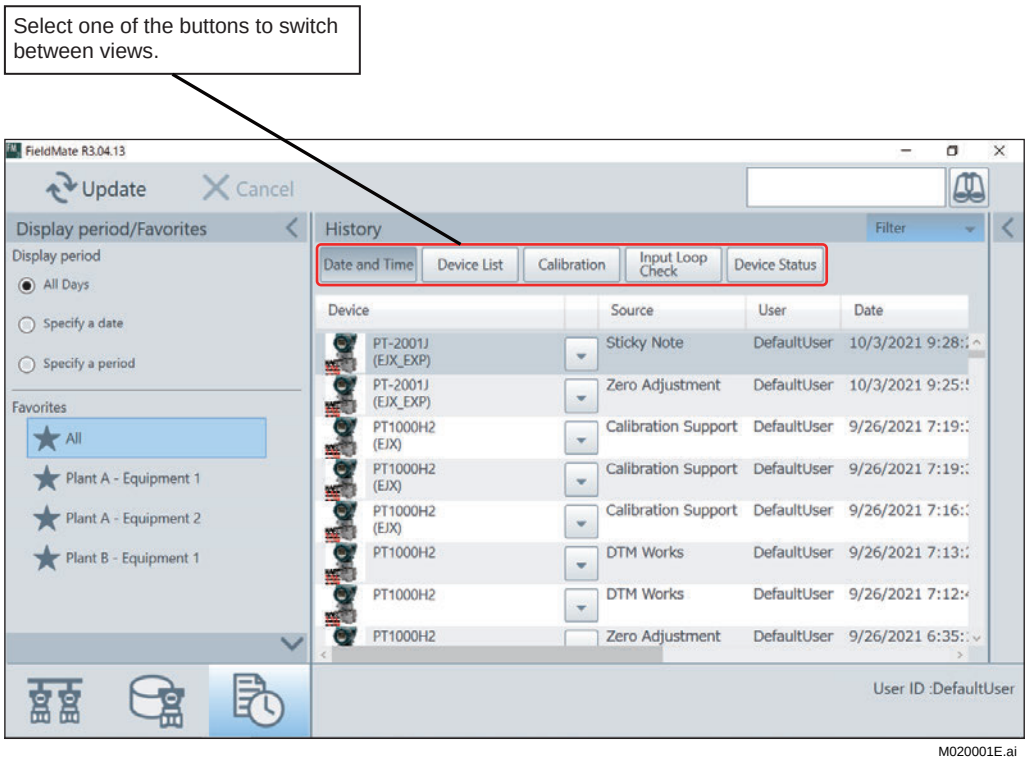
Date and Time View

Operation

Click [Date and Time] button to display Date and Time View.

TIP

Click the column of a header to sort its contents.
Drag the column header to move the column to another location.



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Figure M-2-1 Date and Time view

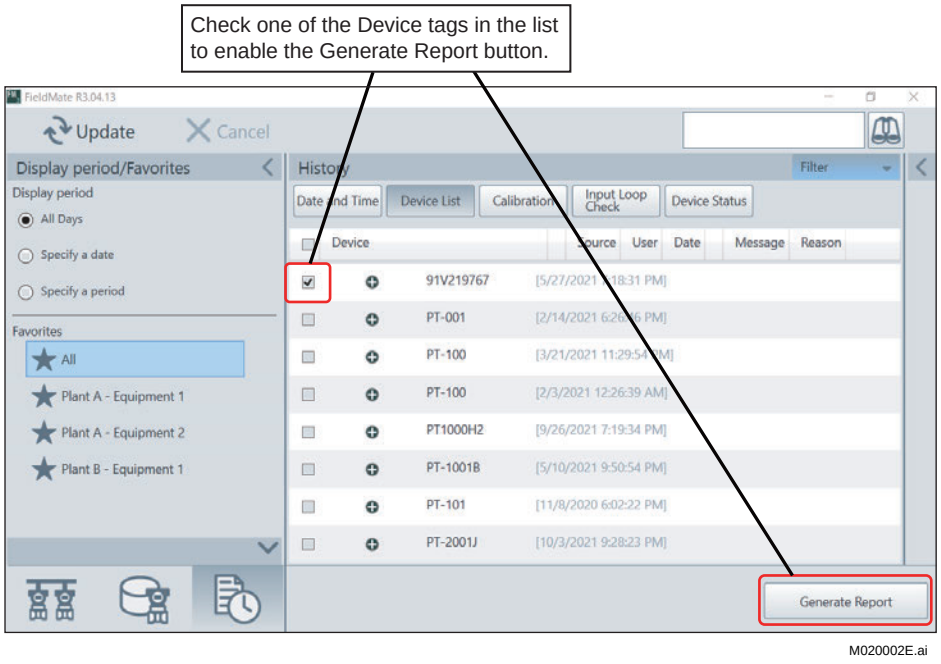
Device List View

In this view, the operation logs for devices are displayed according to their device tags.

You can generate device information and use the generated device information to create reports.

Operation

Select [Device List] button to display Device List View.



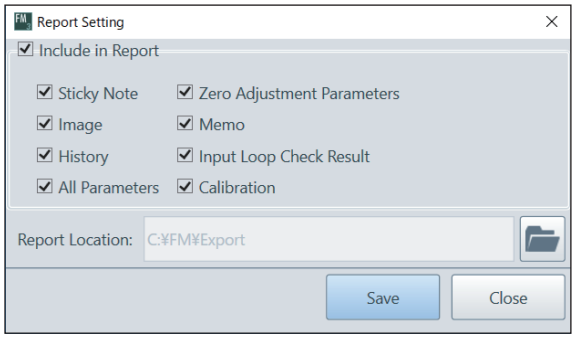
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Figure M-2-2 Device List View

Generating a Report in Device List view

Follow these steps to generate a report in the Device List view.

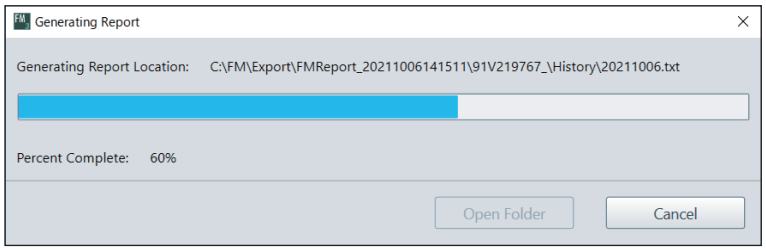
1. Check the device in the Device List window.
2. Click [Generate Report] button, and then the Report Setting dialog box appears.



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Figure M-2-3 Generating a Report in Device List view

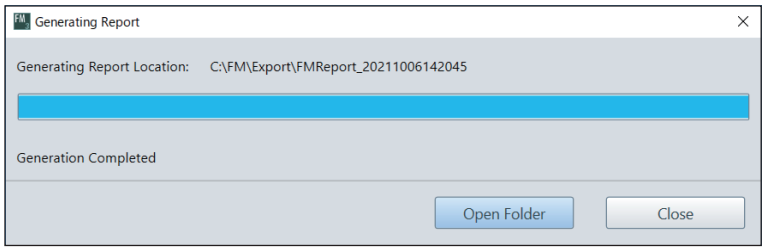
3. In the dialog box, select the data that you want to include in the report by selecting the corresponding checkboxes.
4. In the folder selection dialog box, select the destination folder for the report data and click [OK] button.
5. Click [Save] button.
6. If you want to cancel the operation, click [Cancel] button while the Progress bar is showing that the report is being generated.



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Figure M-2-4 Progress Bar

7. After the files have been generated completely, [Cancel] button changes to [Close] button. Click [Open Folder] button to view the files in the location folder or Close to close the dialog box.



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Figure M-2-5 Progress Bar showing that Report Generation is completed

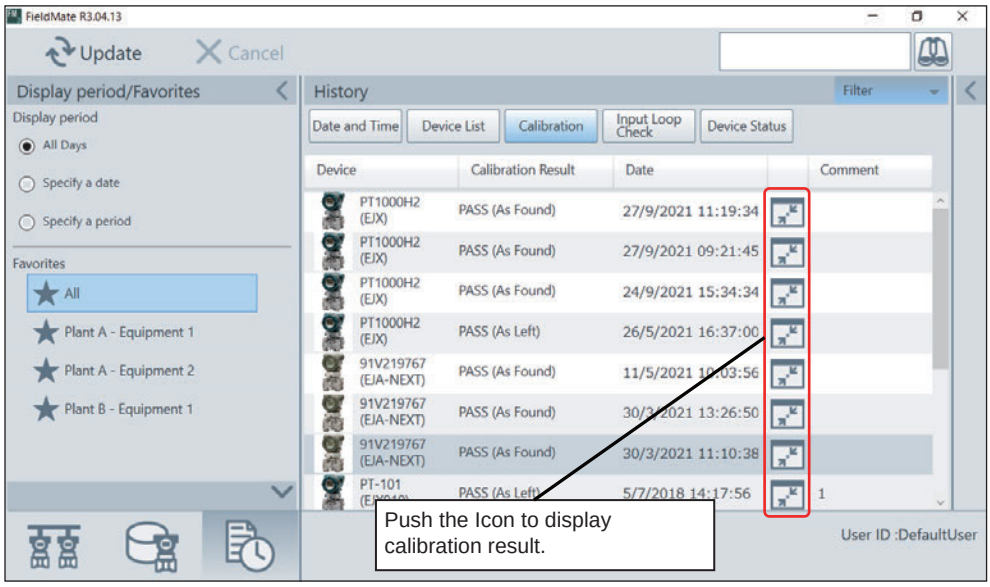
Calibration View

In this view, the devices are displayed with their Calibration results.

If you have not performed a calibration, it does not appear in this view.

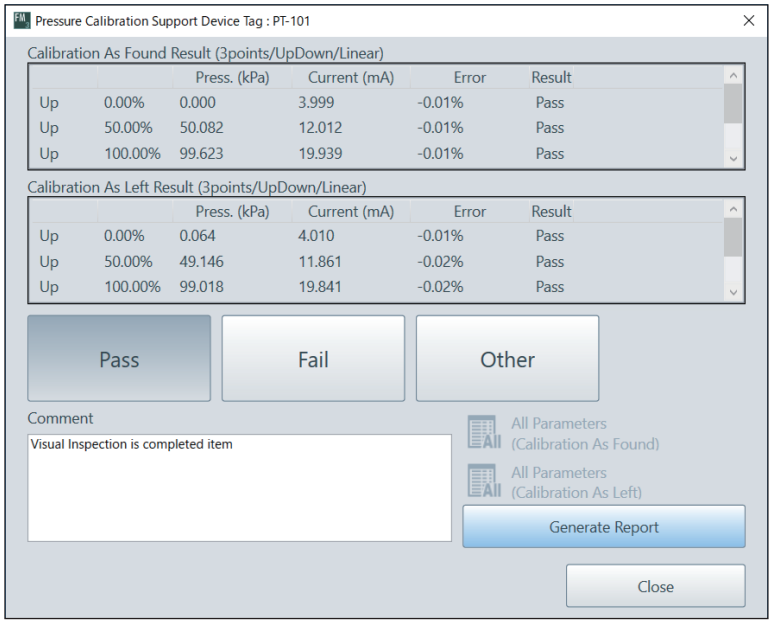
Operation

Select [Calibration] button to display Calibration View.



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Figure M-2-6 Calibration view



M020007E.ai

Figure M-2-7 Calibration Result Dialog

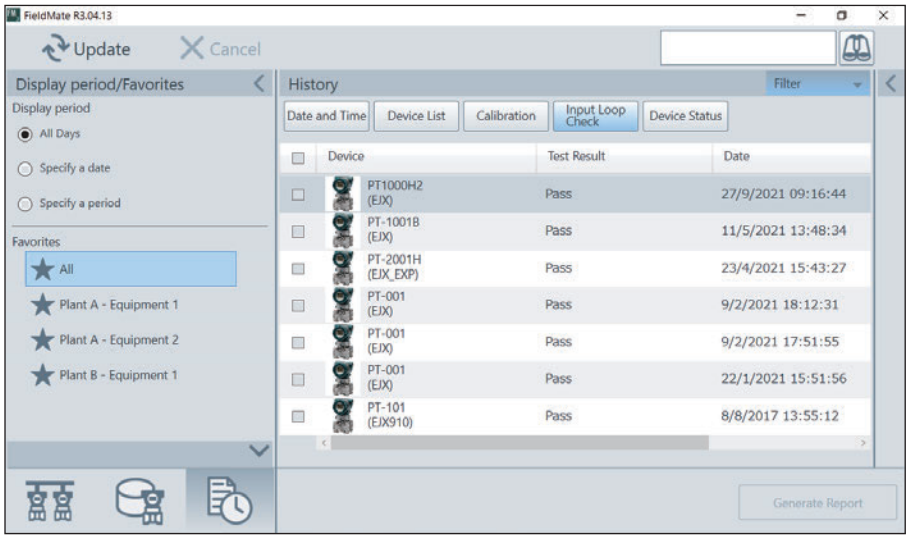
SEE ALSO For details on the calibration result screen, refer to “S Calibration Support Function”.

Input Loop Check View

In this view, the devices are displayed with their Input Loop Check results. If you have not performed an input loop check, it does not appear in this view. You can also generate a report in this view.

Operation

Select [Input Loop Check] button to display Input Loop Check View.



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Figure M-2-8 Input Loop Check view

Generating a report in Input Loop Check view

Follow these steps to generate a report in the Input Loop Check view. This report contains the Input Loop Check results of the selected devices.

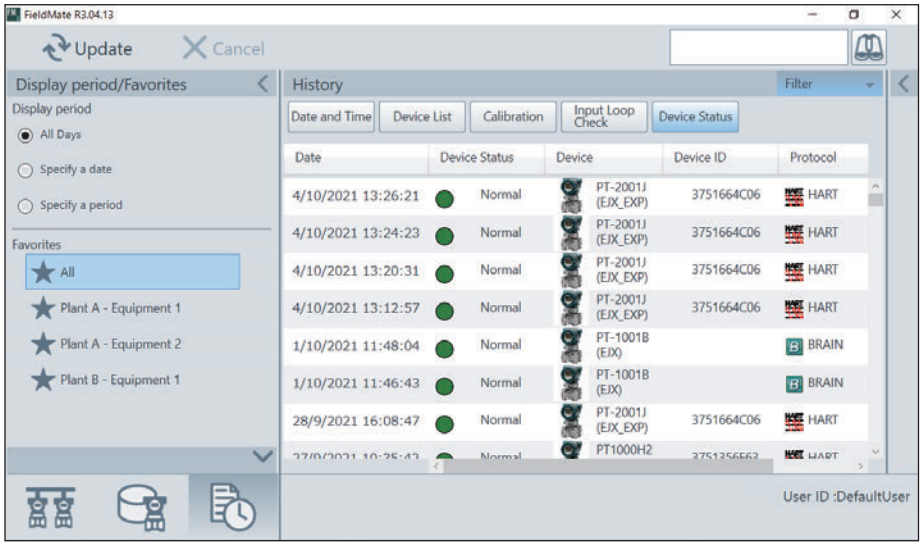
1. In the Input Loop Check window, select the corresponding check boxes of devices whose test results you want to include in your report.
2. On the bottom right of the window, click [Generate Report] button. A report containing the Input Loop Check results of the selected devices and within the specified duration will be generated in a .TXT file.

Device Status View

In this view, the device status list is displayed. Devices that have been updated in Segment Viewer in the past are eligible.

Operation

Select [Device Status] button to display Device Status View.



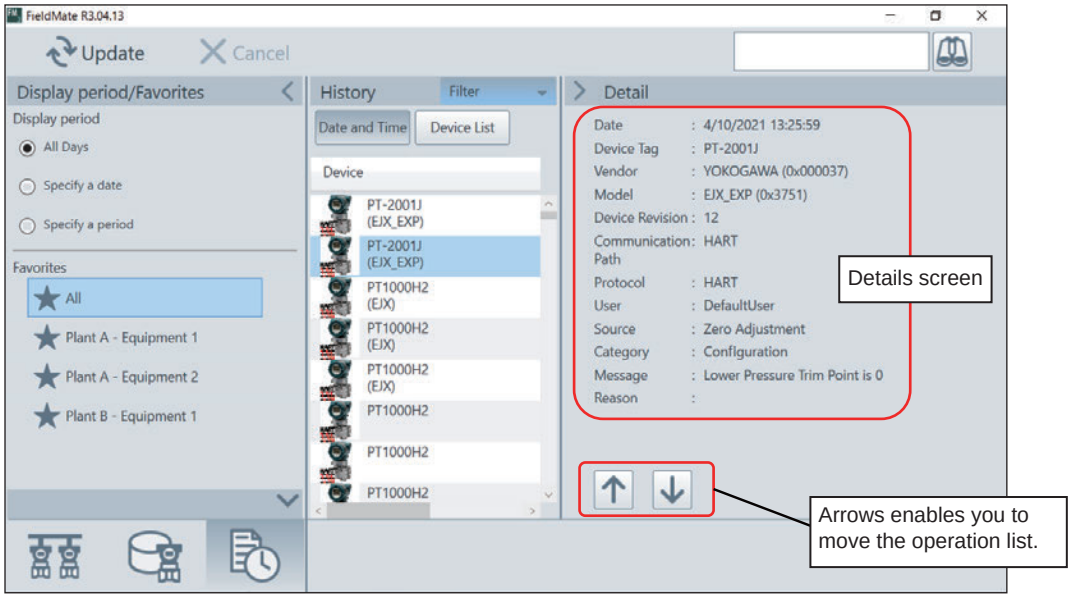
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Figure M-2-9 Device Status view

Display the Details Screen

Operation

After selecting the device, from the menu bar, select “Action”-> “Open History Info” to display the detail information.



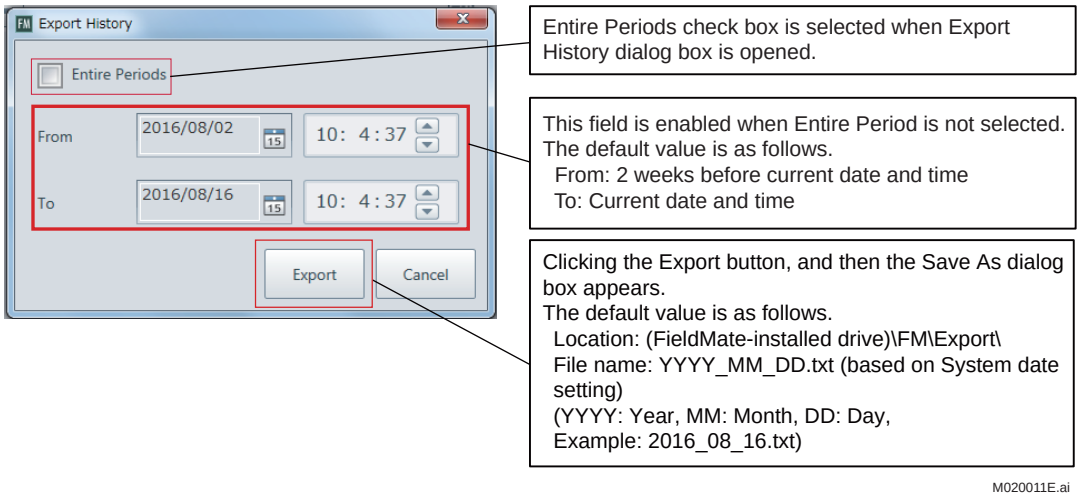
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Figure M-2-10 History display details

Export History

Operation

From the menu bar, select “File”-> “Export History” to open Export History dialog box.



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Figure M-2-11 Export History dialog box

N ISA100 Device Configuration

N-1 Introduction

This part and Appendix-F describe device configuration and related procedures of field wireless networks conforming to ISA100.11a, the wireless communication standard for industrial automation prescribed by the International Society of Automation (ISA).

ISA100 device can be accessed via Gateway and infrared with FieldMate. Setting and adjustment can be performed on device DTM. Plus Provisioning also can be implemented by Provisioning Function in FieldMate in order for ISA100 device to join the wireless network.

- Gateway
- Infrared Communication

∗ Communication via a gateway or infrared can be achieved using one FieldMate.

The following shows the system configuration example.

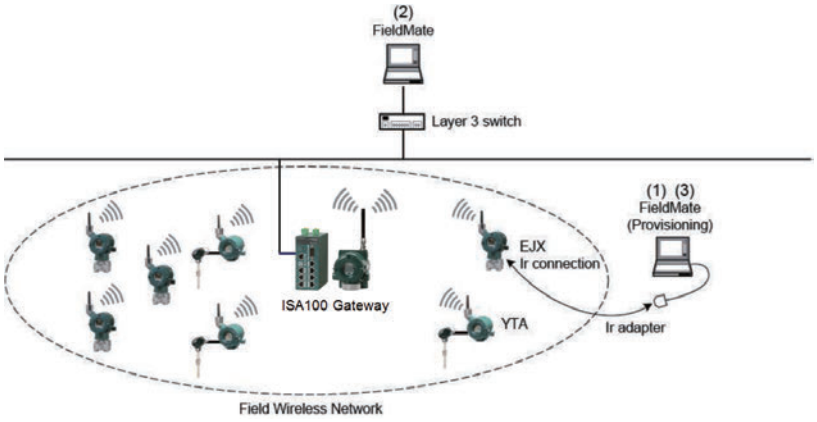


Figure N-1-1 System Configuration Sample of Field Wireless Network

Hardware

ISA100 Gateway: The core device of a wireless network

Wireless field devices (wireless EJX, wireless YTA): Field instruments that measure a process value to transmit it in wireless form

Operation

(1) FieldMate: Software for setting parameters called “Provisioning” to the field wireless devices by infrared communication to join the devices in the wireless network before wireless field devices are installed.

(2) FieldMate: This acquires/sets information on ISA100 wireless devices via ISA100 Gateway.

(3) FieldMate: This acquires/sets information on ISA100 wireless devices in infrared communication.

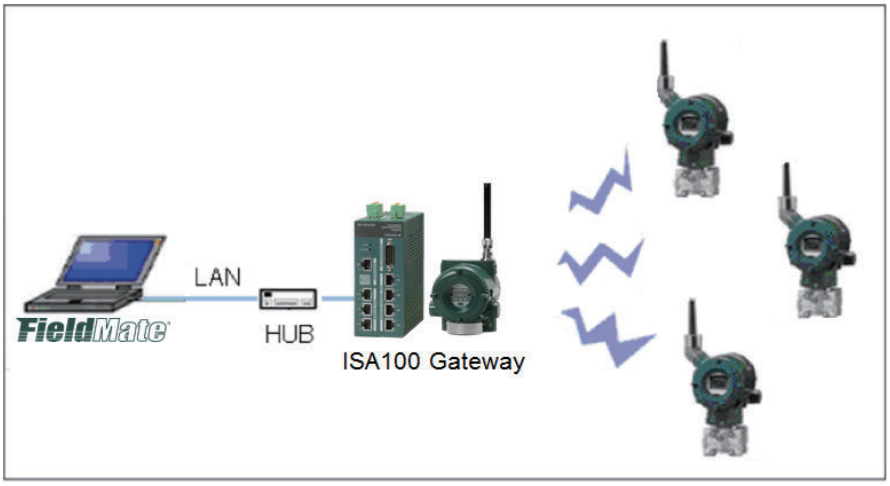
N-2 Field Wireless Gateway

N-2-1 Connection Example

The following products are required to perform communication with ISA100 devices via a field wireless network.

- Yokogawa ISA100 Gateway
- 100BASE-TX or 100BASE-FX compatible Ethernet hub

FieldMate displays ISA100 devices connected to the gateway.



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Figure N-2-1 ISA100 Gateway Setup Sample

N-2-2 Operation Procedure

Overall flow to configure ISA100 device and setup is shown as follows.

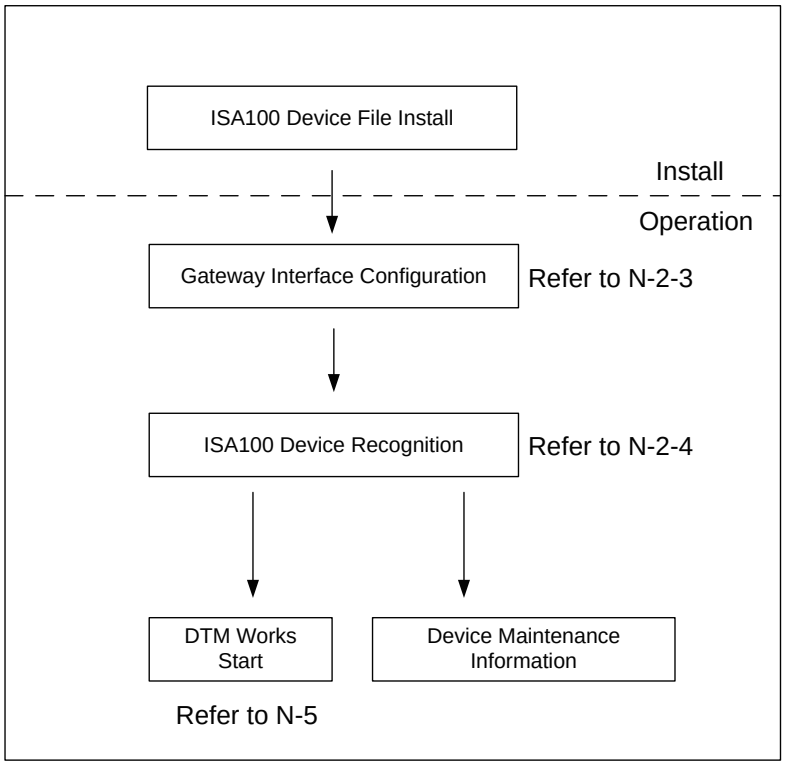


Figure N-2-2 ISA100 Gateway Setup Sample

* Please refer to Part J Adding/Deleting Device Files

Display sequence

Devices are displayed in Device Tag order in the Segment Viewer window.

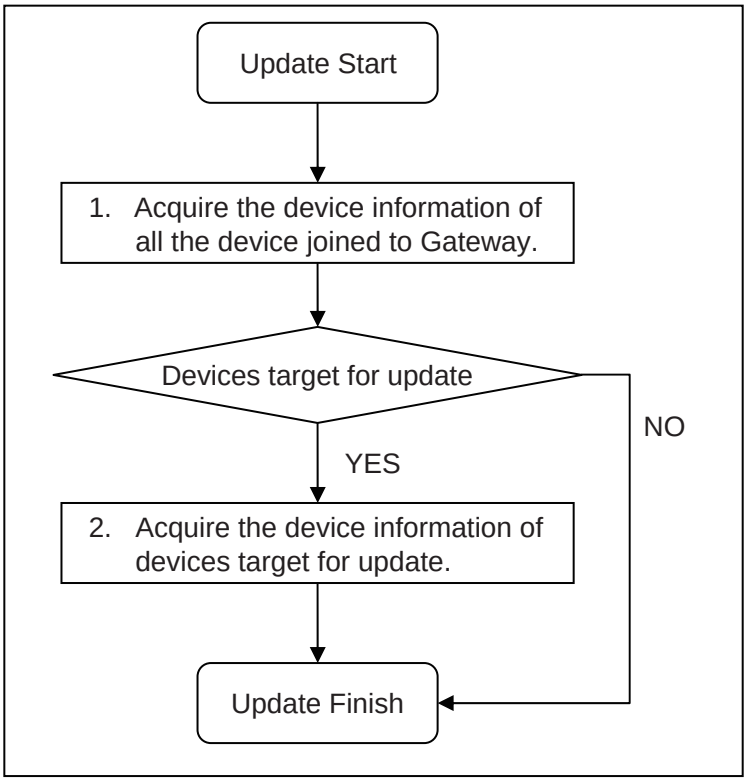
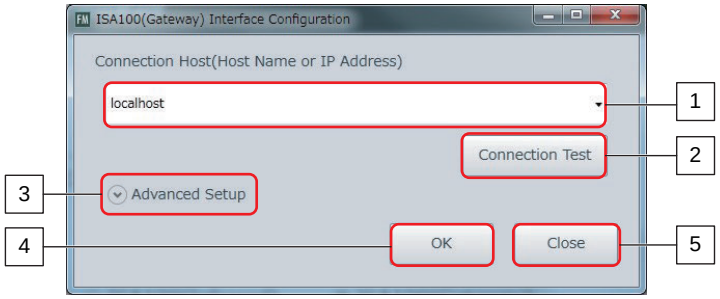


Figure N-2-3 Flow of Updating Device Information

FieldMate attempts to acquire detailed information of devices that have been selected as targets for update in Segment Viewer and displays them on Segment Viewer in order of acquisition. (It attempts to acquire detailed information of multiple devices at once.)

N-2-3 Gateway Setting

Open the window from Tool, and select ISA100 (Gateway) Interface Configuration.



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Figure N-2-4 ISA100 Gateway Communication Settings

[Description of functions]

1. Target Host (Host Name or IP Address) pull-down menu

   Enter the host name or IP address of the gateway.

   Pressing “OK”, up to five entered host names (IP addresses) remain as history.

2. “Connection Test” button

   Tests whether it is possible to connect to the gateway according to an entered Host name or IP address.

   “OK” button will save the entered information, actual connection will not be performed Connection Test is prepared to check whether the Gateway with the entered IP address or Host name exists.

   Result of Connection test will be shown as below.

3. Advanced Setting

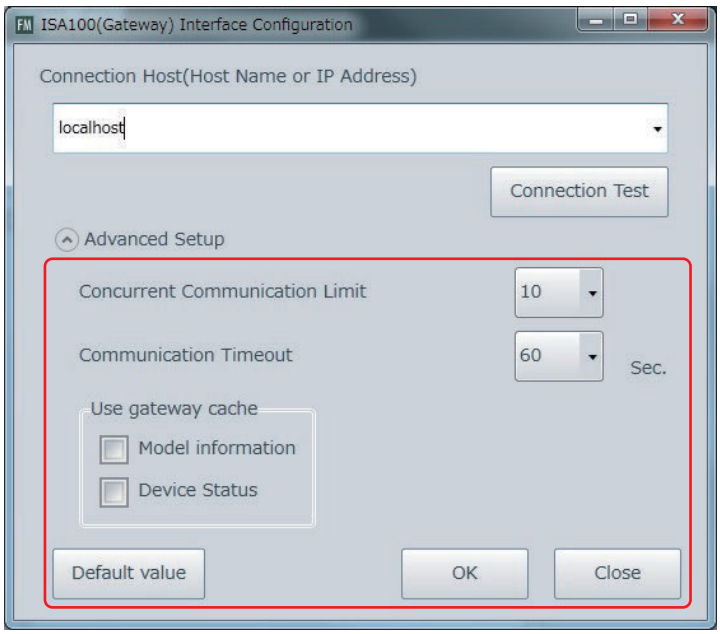
   Setting of ISA100 Gateway.

4. “OK” button

   Save the entered setting information

5. “Cancel” button

   Discards the entered information and closes the dialog.



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Figure N-2-5 Advanced Setting

Number of communication devices

Sets the maximum number of ISA100 devices to simultaneously communicate with.

Setting value: 1, 5, 10 (default), 20, 50

Communication time out

Sets the maximum time to wait for communication response

When the set time elapses without any response, communication with devices is terminated.

Setting value: 30 sec, 60 sec (default), 120 sec, 240 sec

Cache function

When this function is checked and the gateway to be communicated with has any values in cache, FieldMate does not start to communicate with devices and displays the cached values on Segment Viewer.

The cache function is provided in the YFGW410 gateway but not in the YFGW710.

Therefore, even if this function is checked, it is not enabled during communication with the YFGW710.

Table N-2-1 shows the parameters corresponding to each cache and the timing of caching.

Table N-2-1 Cache Function

	Model information	Device status
Corresponding parameter	Vendor Model Device Revision	Status Display
Timing of caching	When an ISA100 device is joined to the gateway and the configuration is completed	At every time set in Read Parameters for each device

Setting value default: OFF

Default values

Returns the setting values in “Advanced Setting” to the defaults.

Default value:

Number of communication devices : 10

Communication time out : 60 sec

Cache (model information) : OFF

Cache (device status) : OFF

Table N-2-2 Messages

Message	Situation	Countermeasure
Connection Succeed.	Communication is normal.	-
Incertitude communication with Gateway.	LAN cable is disconnected during connection test	Confirm the LAN cable connection
Host Name or IP Address is empty.	Connection Test button is pressed when it is blank	Entering Host Name or IP Address correctly, proceed.
Invalid Host Name or IP Address.	Case1: The entered Host name or IP address does not correspond to the wireless gateway. Case2: The entered IP address format is not appropriate(0.0.0.0-255.255.255.255) I.e.:000.000.000.000, 01.02.03.04, 001.002.003.004, 256.256.256.256 is not acceptable Case3: Network setting of PC is not correctly specified. Case4: Other than that above, OS or hardware is abnormal. I.e., LAN cable is disconnected.	Case1: Confirm the entered Host name or IP Address is correct with Gateway’s. Case2: Ditto. Check the format shown in situation. Case3: Confirm that DNS setting of PC is correct.
Failed to establish connection.	Case1: Gateway does not respond within the certain period. Case2: Try to connect the Gateway which does not exist on the network. Case3: Other than that above, OS or hardware is abnormal. I.e.LAN cable is disconnected.	Case1: Confirm LAN cable connection Case2: Confirm that the entered Host really exists on the network. Case3: Confirm LAN cable connection
Failed to communicate with Gateway.	Case1: Gateway does not respond during communication within the certain period.	Case1: Try again after a while because gateway may be busy.
A problem occurred with a communication path.	A network error occurred while communicating with a device	Confirm LAN cable connection
Failed to acquire a list of devices	Case1: Network does not have any device that can communicate with FieldMate. Case2: Gateway does not respond within a predefined time period while acquiring a list of devices	Case1: Confirm the device joins the network. Case2: Confirm communication is successfully established.
Connection failed!	Connection fails due to the problems other than that above.	It is unlikely since most of the case is covered above, but total system needs to be checked again.

N-2-4 ISA100 Device Recognition

The following shows the items displayed in Segment Viewer.

Table N-2-3 Display Items in Segment Viewer

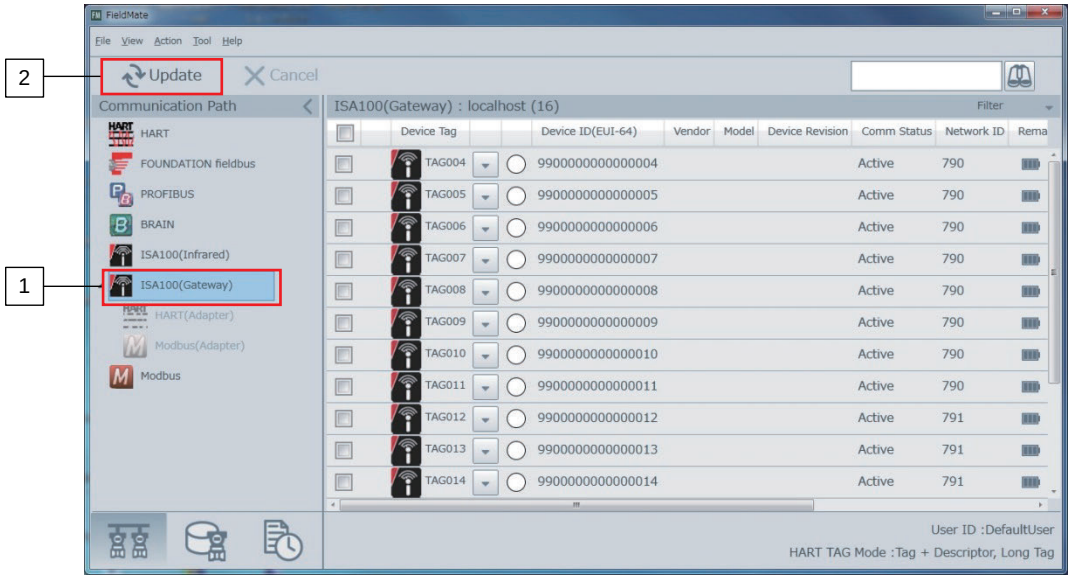
	Item	Contents	Default
	Update Target	Checked items are targets for update or automatic update	-
	Update Status Icon	“Updating”, “Updated”, or “Failed to update”	
Basic Information	Device Tag	Device icon or device tag	App.
	Device ID (EUI-64)	Device specific ID	
	Address	Device IP address	
	Communication Status	Indicates whether communication with a device is possible: “Active”: Communication with the device is possible. “Inactive”: Preparing to communicate with the device.	
	Device Role	Represents a device’s role (on the network). “IO”, “Router”, “IO + Router”	
	Network ID	Network ID for backbone router	
	Remaining Battery	Power supply feed status “100-75%”, “75-25%”, “25-0%”, “Lined” (power is fed from the line)	
Detail Information	Status Display*1	Device status	Cond.
	Vendor*1	Vendor and its ID	
	Model*1	Model and its ID	
	Device Revision*1	Device revision	

*1: Information defined in gateway YFGW410 are displayed.

Basic Information which Default is App. are Gateway incorporated information. Without accessing ISA100 device, these can be acquired.

Detail information which Default is Cond. requires to access ISA100 devices individually. Turn on the check box of Update Target.

The display immediately after the basic information of devices has been acquired is shown below.



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Figure N-2-6 Basic Information

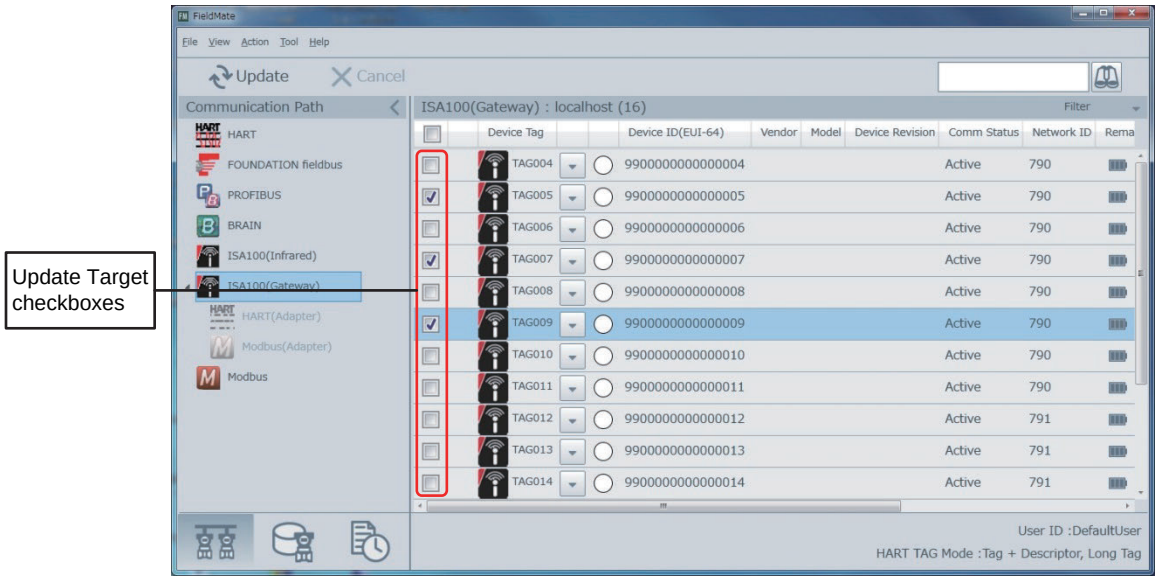
An ISA100 device is recognized as follows.

1. On the tree menu of Segment Viewer, select “ISA100 (Gateway)”. (“1” in Figure)
2. Press Update (“2” in Figure). The device to be updated needs to be selected. Updating can also be performed by pressing the F5 key or “Update” in the menu.

Selection of Updated Device

Devices can be selected as targets for update by marking checkboxes in the column on the left of Segment Viewer.

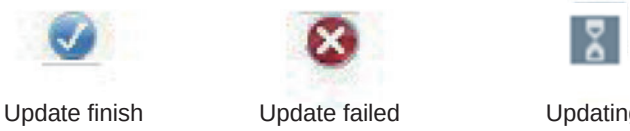
If a check mark is placed in the checkboxes as shown below, device information for device tags TAG005, TAG006, and TAG009 becomes the target for update.



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Figure N-2-7 Selecting Targets for Update

When updating starts, the update status appears in the second column of Segment Viewer.



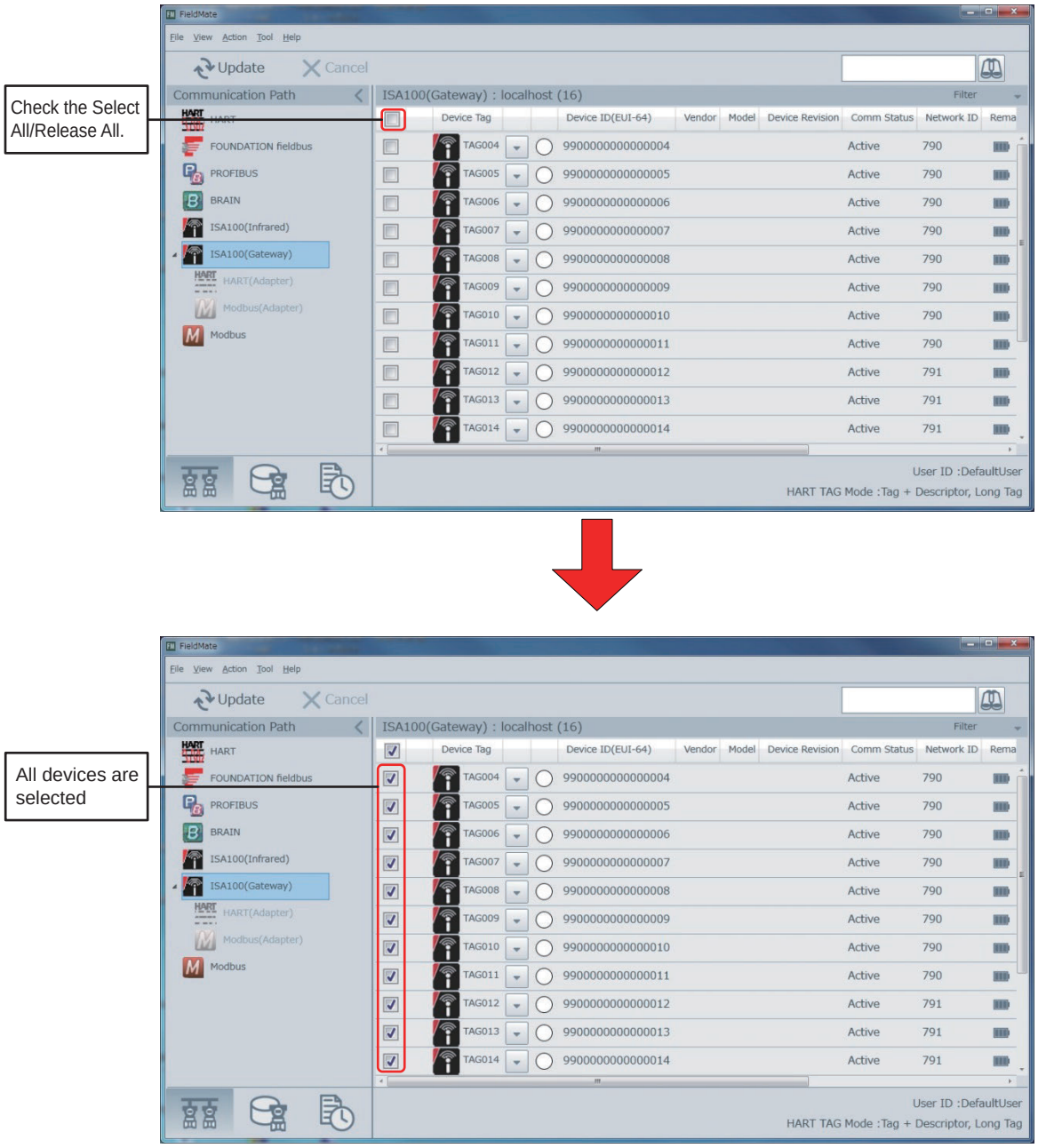
Update finish Update failed Updating

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Selecting/releasing all devices to be updated

The topmost box in the right pane for devices to be updated is the Select All/Release All check box. Check or uncheck this box to select or release all devices to be updated.

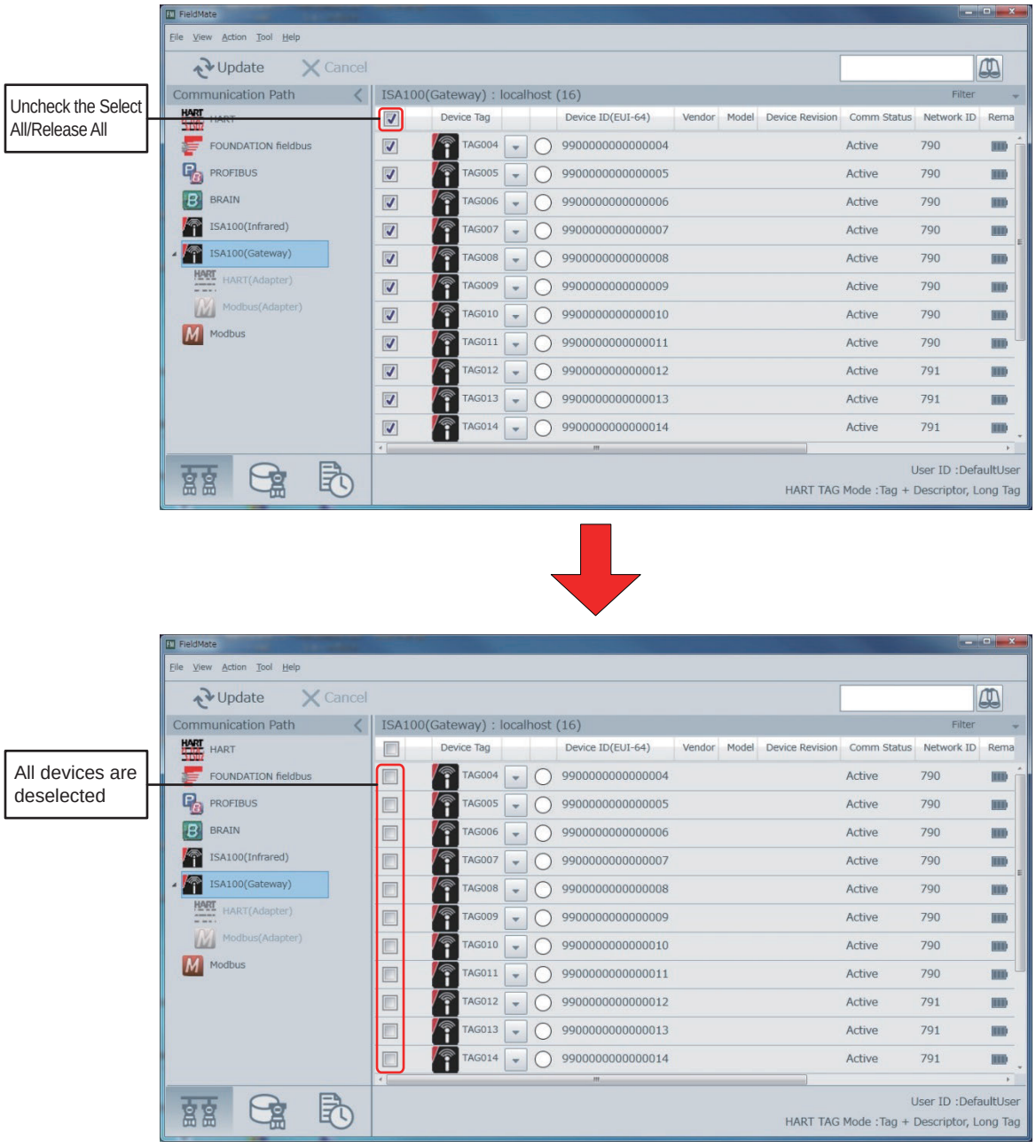
When you click this check box with one or more boxes below unchecked, it acts as “Select All.”



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Figure N-2-8 Selecting All Devices to Be Updated

When you click this check box with all boxes below checked, it acts as “Release All.”



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Figure N-2-9 Releasing All Devices to Be Updated

Simultaneously selecting multiple devices to be updated

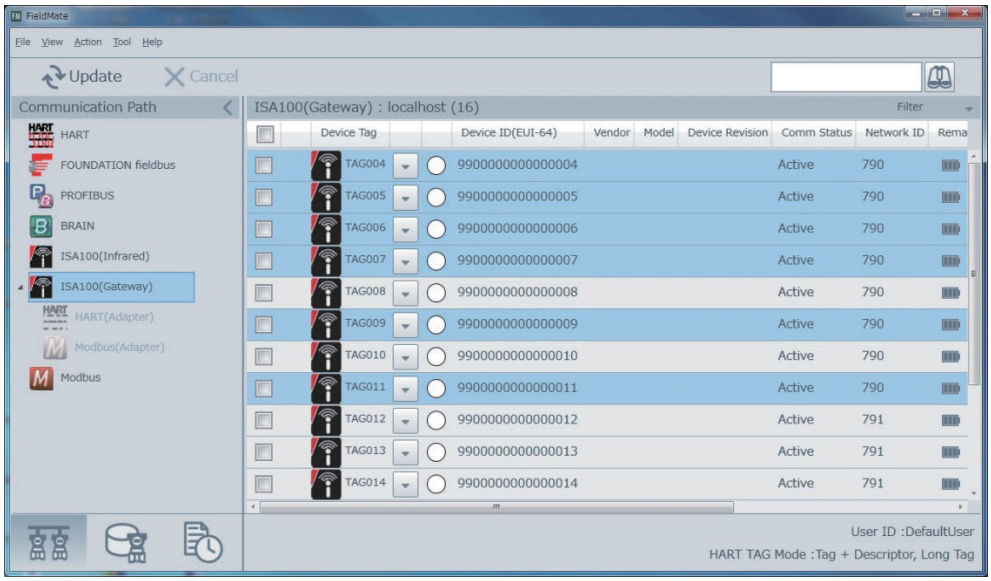
When you select multiple devices and check any of their boxes, those devices are all selected to be updated.

You can select multiple devices as follows:

Select all : Ctrl + A

Select range : Shift + click

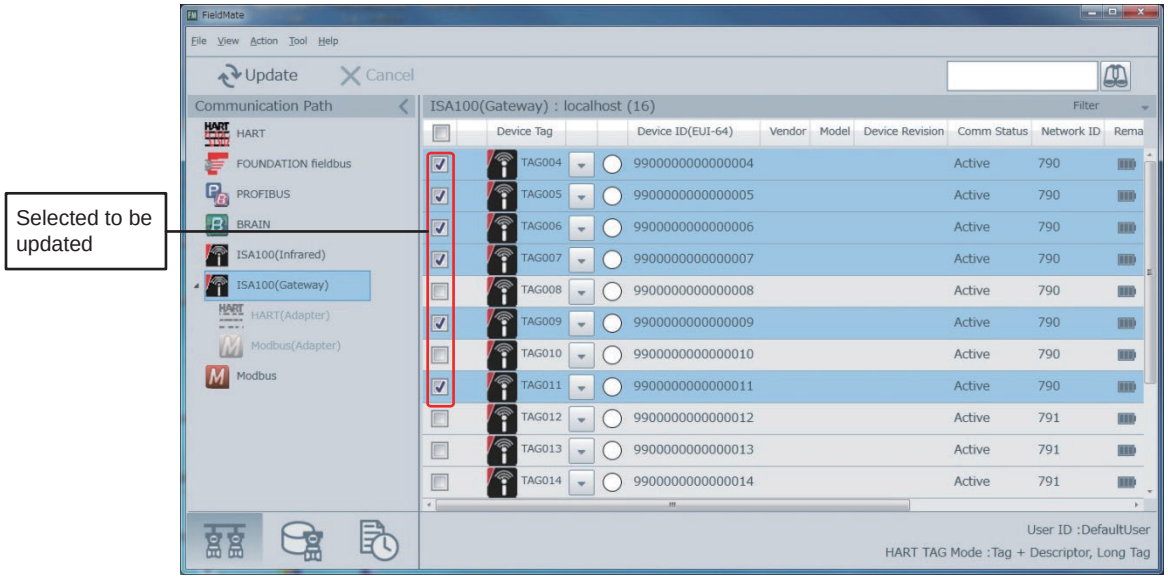
Select additional : Ctrl + click



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Figure N-2-10 Selecting Multiple Devices

The following shows the display of Segment Viewer when the devices' detailed information is being acquired.



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Figure N-2-11 Checking Any Box to Select Multiple Devices to Be Updated

The color of Device Status is as shown in the following table.

Table N-2-4 List of Status Information

Icon Color	Device operation status
Green	Normal.
Yellow	Warning (including a configuration error). Operation can continue.
Red	Abnormal. Inspection required.
White	Status unknown, communication error, etc.

Battery life has the following four statuses and remaining battery capacity indicators. If battery power is off, infrared communication cannot be established and device information cannot be accessed.

Table N-2-5 Power Supply Status

Display	Meaning
 100-75%	75 to 100% of the battery power remaining
 75-25%	25% to 75% of the battery power remaining
 25-0%	0 to 25% of the battery power remaining
 Lined	Power supplied via external power source

Display Style and Clearing the Display

This function is applicable to Segment Viewer of ISA100 (gateway) and HART (adapter).

Initializing the display style

Initializes the order of parameters and the width of columns in Segment Viewer.

View → “Init Current View Format”

The order and width are maintained even after restarting FieldMate.

Clearing the display

Clears the contents in Segment Viewer.

View → “Clear Current View”

Clearing the display of ISA100 (gateway) is applicable to adapter devices.

Therefore, the contents regarding HART (adapter) are also cleared simultaneously.

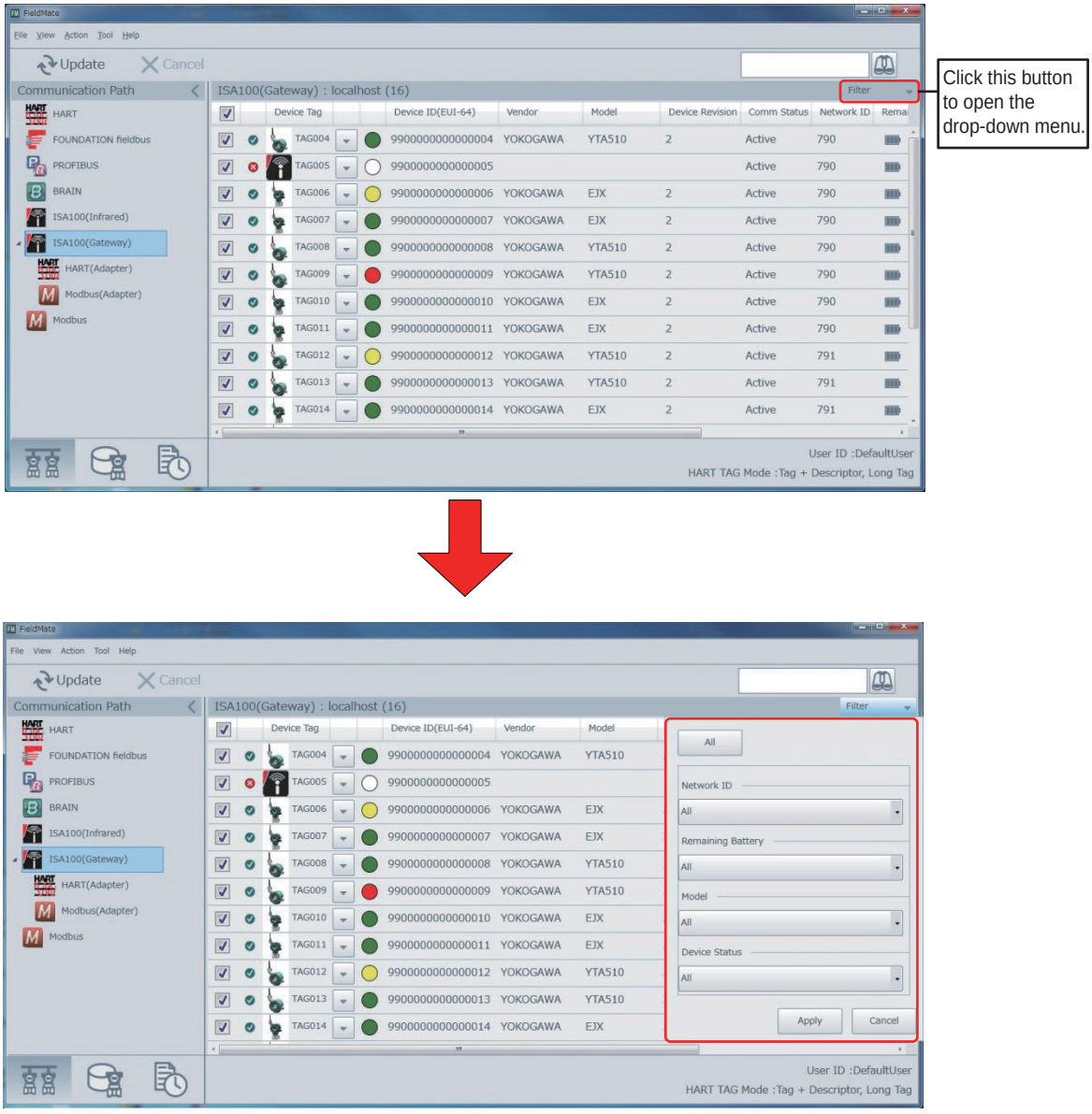
It shows the default order of parameters.

Table N-2-6 Default Order of Parameters

ISA100 (Gateway)
Update Status
Device Tag
▼ (Operation)
Device Status
Device ID (EUI-64)
Vendor
Model
Device Revision
Communication Status
Network ID
Remaining Battery
Device Role
Address

Filter Function

The Filter function is applicable to Segment Viewer of ISA100 (Gateway). Select the filter function from the drop-down menu.



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Figure N-2-12 Filter Function

Functions

- All button

  Initializes any pull-down menu items that are selected.

- Network ID

  Allows the user to select a network ID that has been obtained from the pull-down menu.

- Remaining Battery

  Allows the user to select the power supply status that has been obtained from the pull-down menu.

- Models

  Allows the user to select the model that has been obtained from the pull-down menu.*1

- Device Status

  Allows the user to select the device status that has been obtained from the pull-down menu.*1

- Apply

  Filters the currently displayed list according to the condition selected from the pull-down menu. All filtering conditions are ANDed before the results of filtering are displayed.

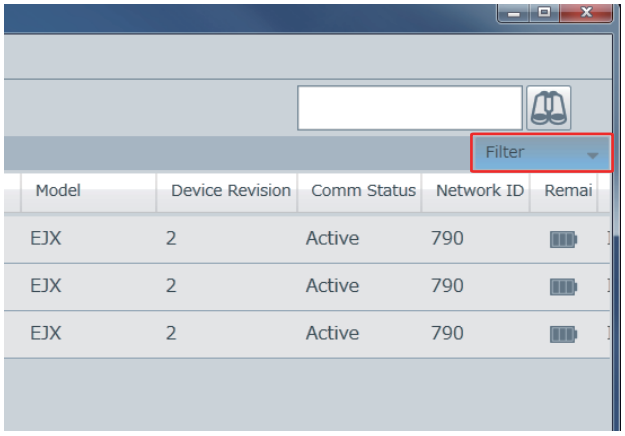
- Cancel

  Undoes the selected conditions and closes the dialog. If a filter has been applied, the previous state is maintained.

*1 The information obtained by scanning the current state is what will be displayed in each pull-down menu.
Options will be added to Model and Device Status when detailed information of devices has been acquired.

If a filter has been applied, the color of the Filter pull-down button changes.

To remove the filter, open the Filter pull-down menu again, press the All button and then press the Apply button.



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Figure N-2-13 Filter is Active

N-3 Adapter

N-3-1 HART Adapter

N-3-1-1 Configuration Example

The Yokogawa FN310 Field Wireless Multi-Protocol Module, and the Honeywell OWA 100 OneWireless Adapter (“HART adapter”) connects with HART devices and conducts ISA100 wireless communication via the field wireless gateway.

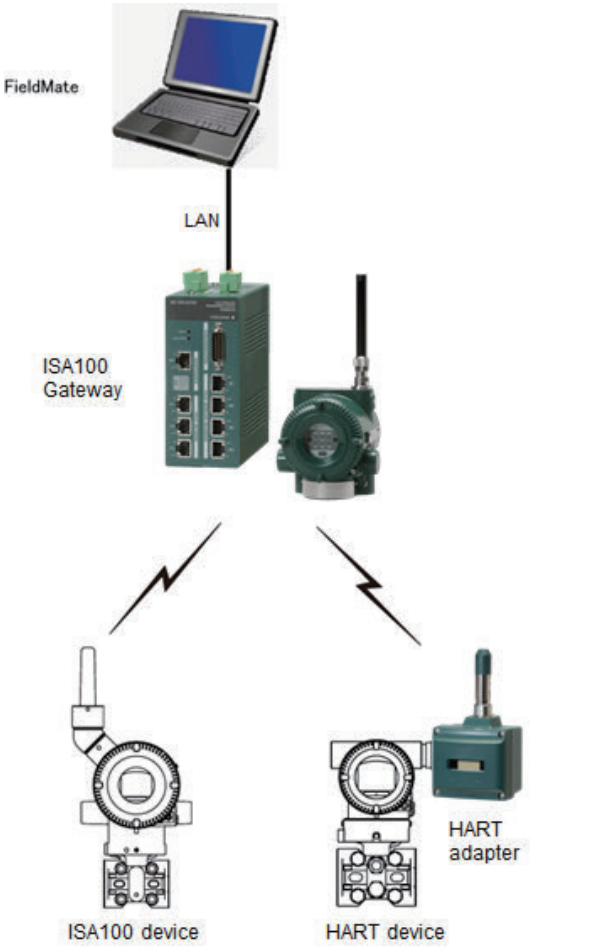


Figure N-3-1 Image of HART Adapters

N-3-1-2 HART Device Recognition

The following shows the items displayed in Segment Viewer.

Table N-3-1 Display Items in Segment Viewer

	Item	Contents	Default
	Update Target	Checked items are targets for update or automatic update	-
	Update Status Icon	“Updating”, “Updated”, or “Failed to update”	
	Route Device	Tag name of route device via HART adapter	
Information	Address	Address of HART device	Cond.
	Device Tag	Device icon and device tag (including Tag Extension Mode)	
	Device ID	Device Specific ID	
	Vendor	Manufacturer and its ID	
	Model	Model and model ID	
	Device Revision	Device Revision	

Detail information which Default is Cond. requires to access HART device via gateway. Turn on the check box of Update Target.

The display immediately after the basic information of devices has been acquired is shown below.

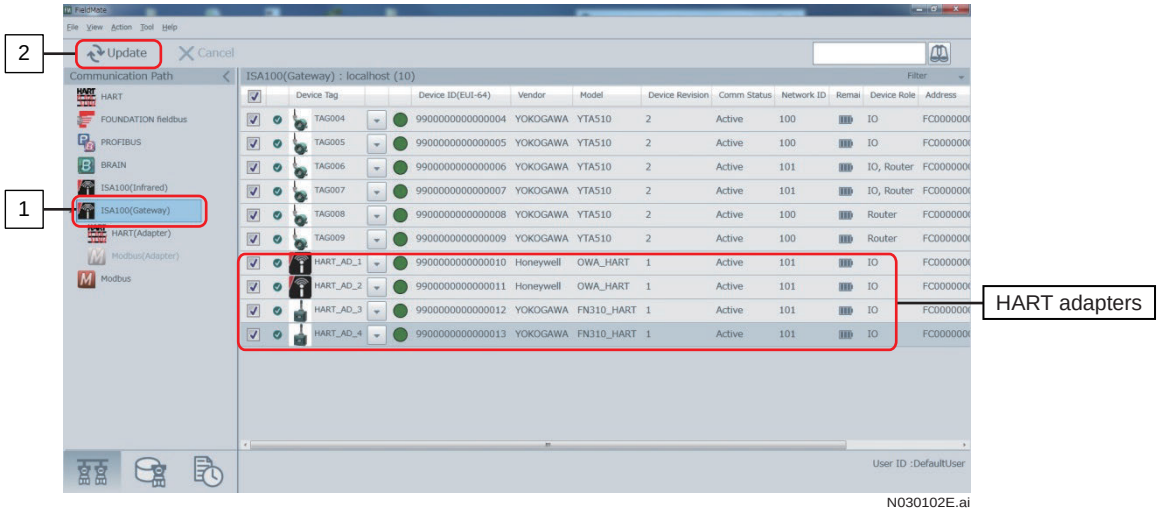


Figure N-3-2 Detailed View of ISA100 (Gateway) Including HART Adapter Devices (All Devices)

An ISA100 device is recognized as follows.

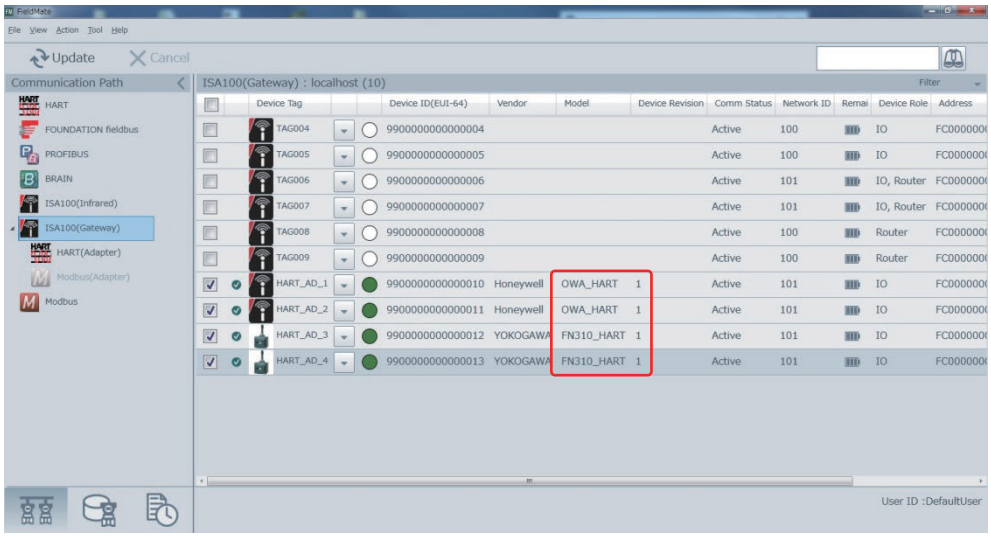
1. On the tree menu of Segment Viewer, select “ISA100 (Gateway)”. (“1” in Figure)
2. Press Update. (“2” in Figure). The device to be updated needs to be selected. Updating can also be performed by pressing the F5 key or “Update” in the menu.

Selecting Devices to be Updated

See N-2-4.

Check the box of HART adapters of the target HART devices and update them, and then display the Model information.

It shows that HART devices are targeted under the HART adapters with the Device Tag of HART_AD_1, HART_AD_2, HART_AD_3 and HART_AD_4.



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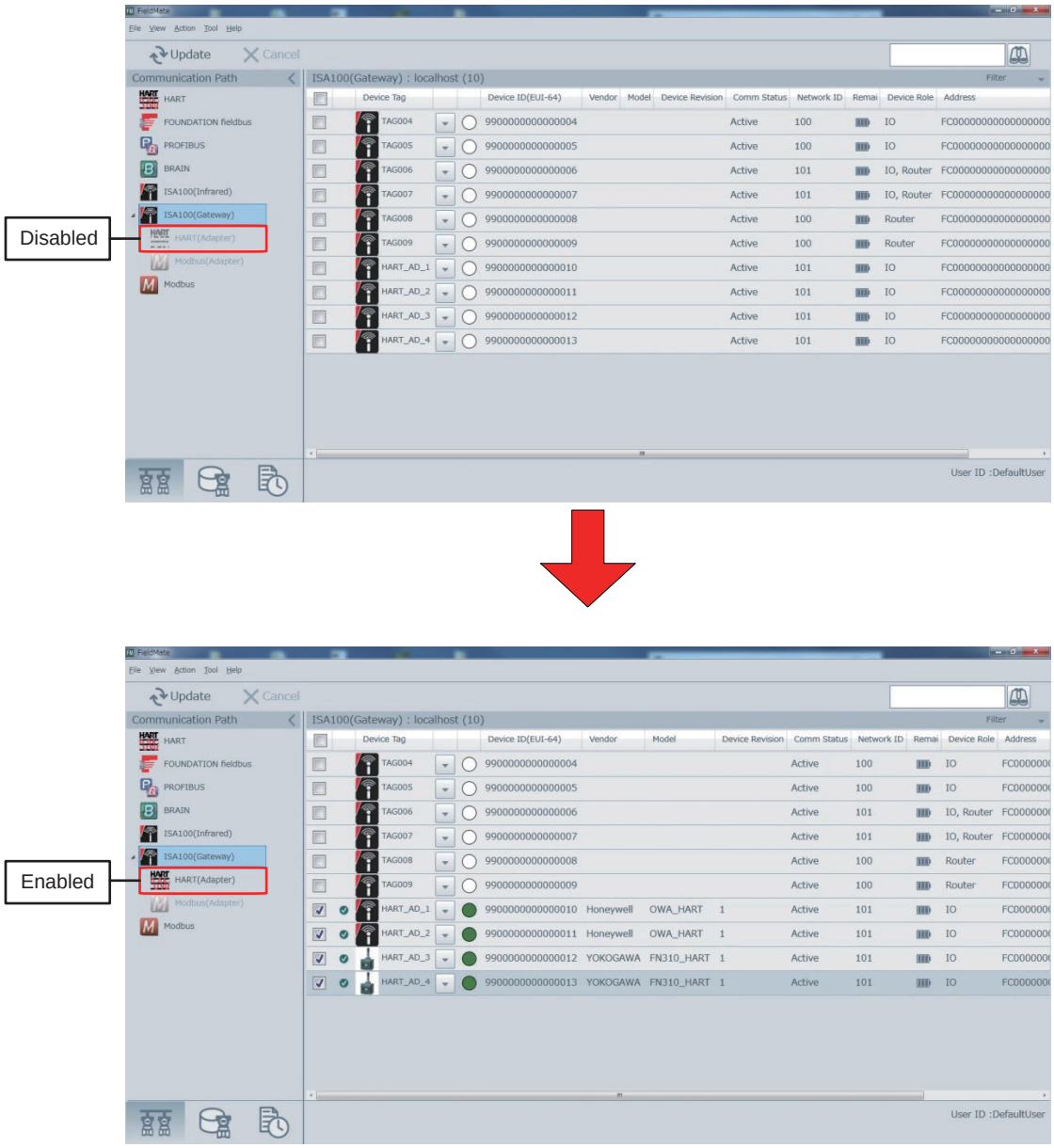
Figure N-3-3 Detailed View of ISA100 (Gateway) Including HART Adapter Devices (HART Adapters only)

TIP

HART device address via HART adapter must be “0” to communicate.

When any number of HART adapters is indicated with the “Model”, HART (adapter) in the tree menu of Segment Viewer will become enabled.

The model corresponding to HART adapter is OWA_HART and FN310_HART.

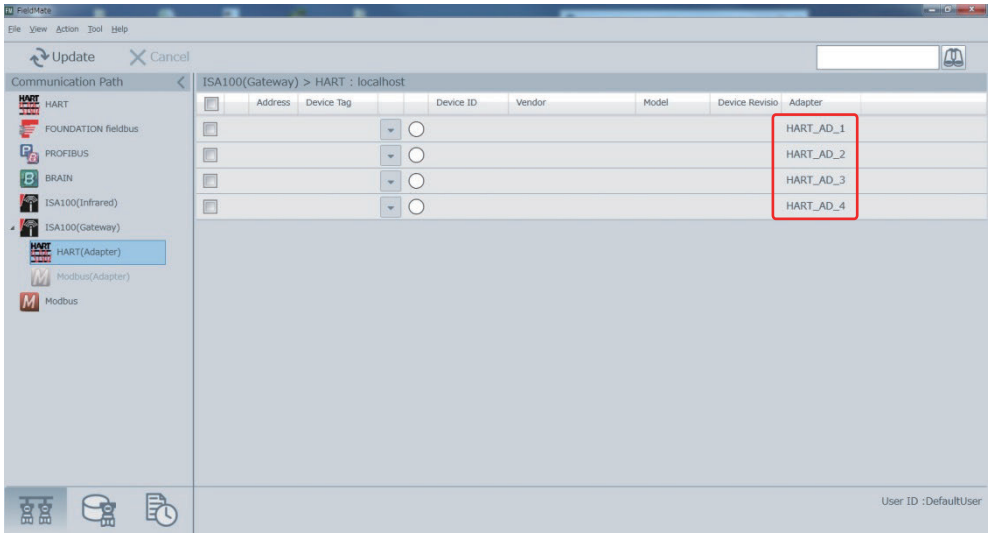


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Figure N-3-4 Enabling/Disabling HART (Adapter) in the Tree Menu

Initial Status of HART Adapter Display

Click HART (Adapter) in the tree menu and update it, then Device Tags of HART adapters will appear in a list.

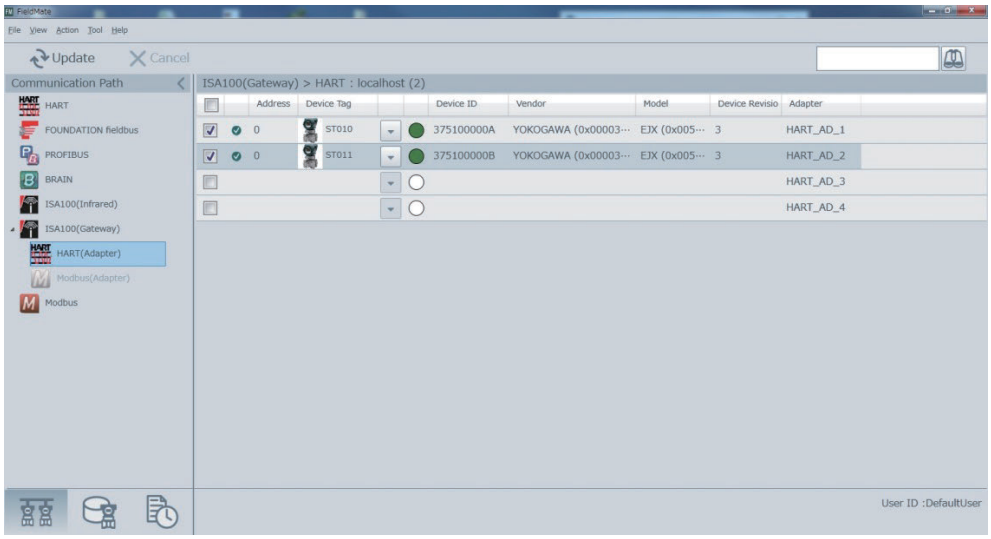


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Figure N-3-5 Initial Status of HART (Adapter) Display

With reference to Route device (Device tag of HART adapters), check any box that is related to the HART devices to be displayed and update them.

It shows that HART devices under HART_AD_1 and HART_AD_2 are targeted.



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Figure N-3-6 Displaying HART Devices in HART (Adapter) Display

Display Style and Clearing the Display

See N-2-4.

It shows the order of parameters.

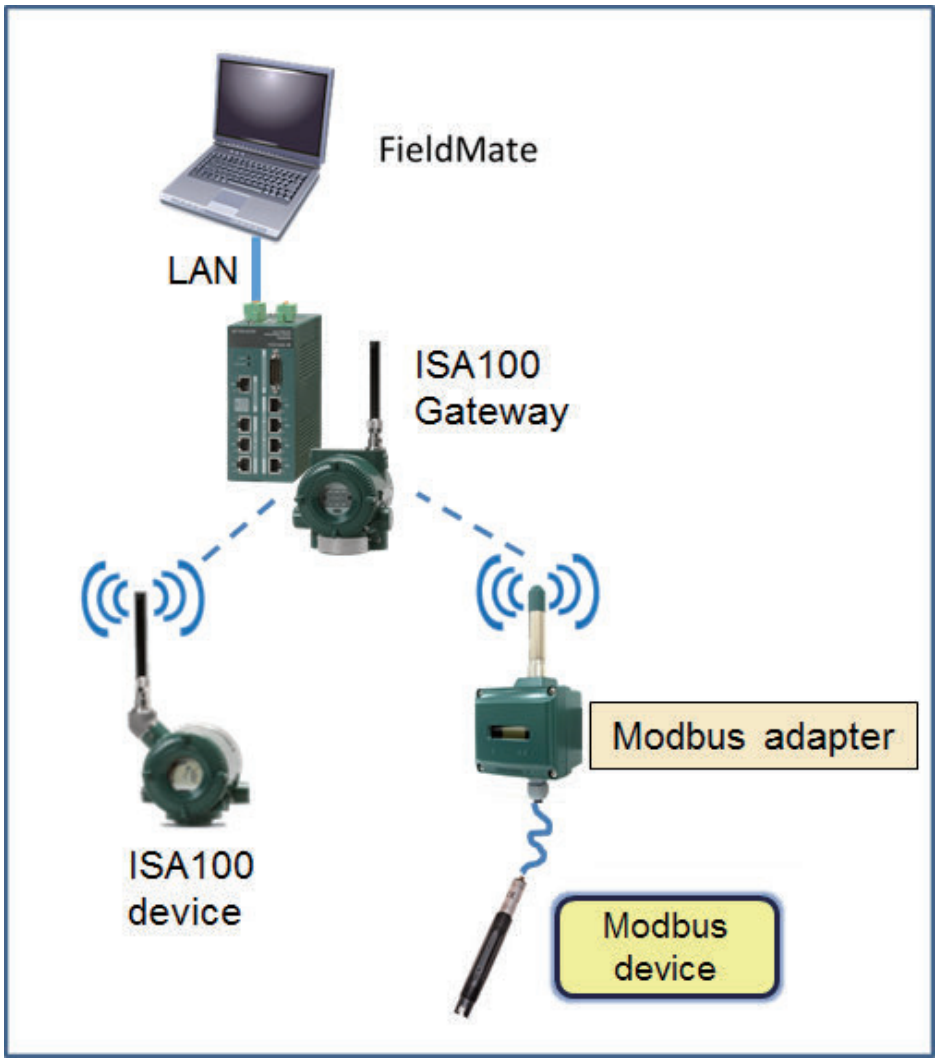
Table N-3-2 Default Order of Parameters

HART (Adapter)
Update Target Status
Update Status Icon
Device Tag
▼ (Operation)
Device Status
Device ID (EUI-64)
Vendor
Model
Device Revision
Communication Status
Network ID
Remaining Battery
Device Role
Address
Route Device

N-3-2 Modbus Adapter

N-3-2-1 Configuration Example

Yokogawa FN310 Field Wireless Multi-Protocol Module (Modbus adapter) connects with Modbus devices and conducts ISA100 wireless communication via the field wireless gateway.



N030201E.ai

Figure N-3-7 Image of Modbus Adapter

N-3-2-2 Modbus Device Recognition

When FieldMate communicates with a gateway via a Modbus adapter, the Modbus adapter and Modbus device are displayed in Segment Viewer.

Table N-3-3 shows the display items in Segment Viewer of Modbus device.

Table N-3-3 Display Items in Segment Viewer

Item	Contents
Update Target	Checked items are targets for update or automatic update
Update Status Icon	“Updating”, “Updated”, or “Failed to update”
Address	Address of Modbus device
Device Tag	Shows a device icon and device tag.
Operation Buttons	Provides a menu of functions that can be performed on a device.
Vendor	Vendor name
Model	Device model
Device Revision*1	Revision of device
Route Device	Tag name of a device through which a Modbus adapter is routed

The default order of parameters is as shown above.

If the parameters have been reordered, select “Init Current View Column” from the View menu to revert them back to the default order.

The display that appears immediately after the basic information of devices has been acquired is shown below.

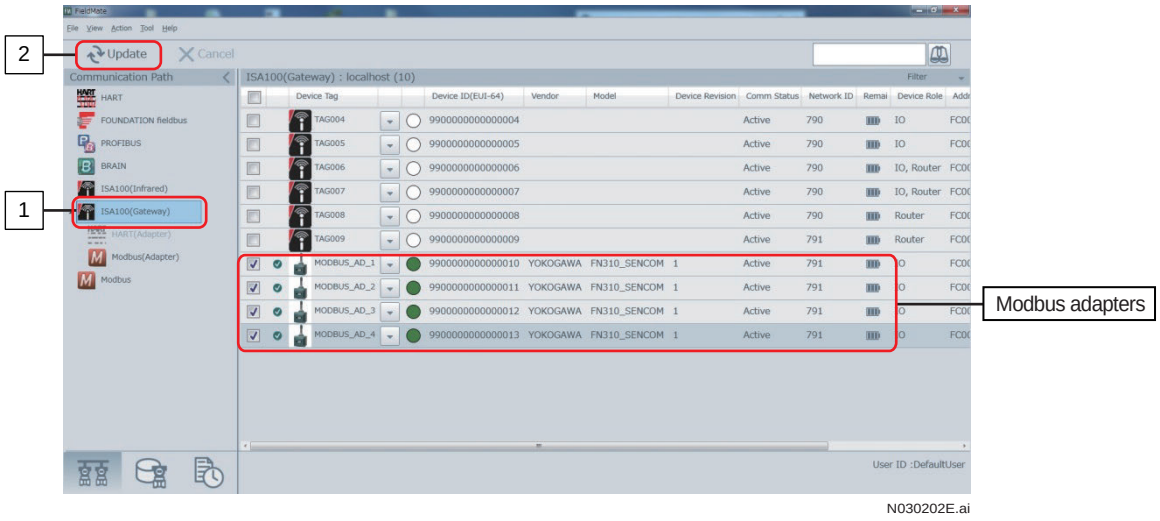


Figure N-3-8 Basic Information

An ISA100 device is recognized as follows.

1. On the tree menu of Segment Viewer, select “ISA100 (Gateway)”. (“1” in Figure)
2. Press “Update”. (“2” in Figure)

   The device to be updated needs to be selected.

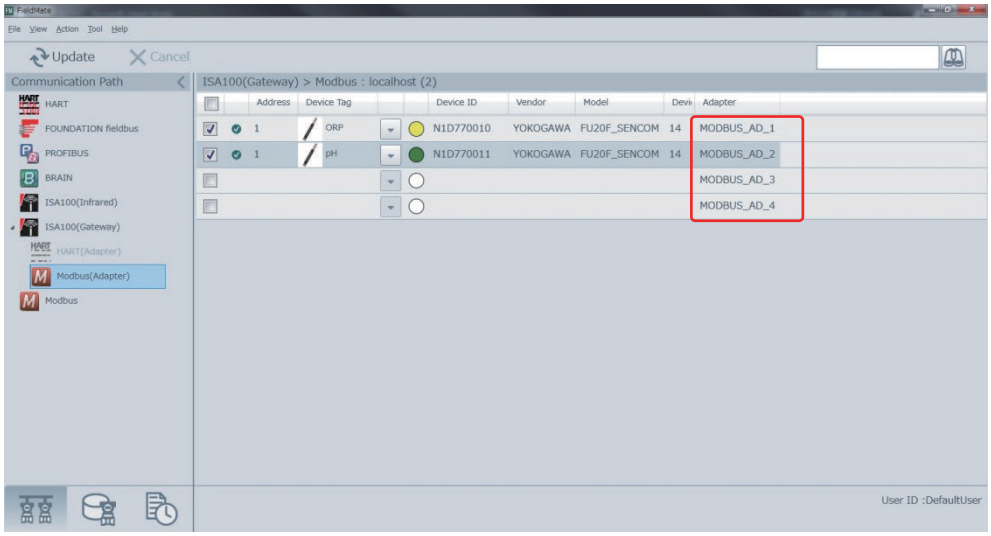
   Updating can also be performed by pressing the F5 key or [Update] in the View menu.

Selecting Devices to be Updated

See N-2-4.

Check the box of Modbus adapters of the target Modbus devices and update them, and then display the Model information.

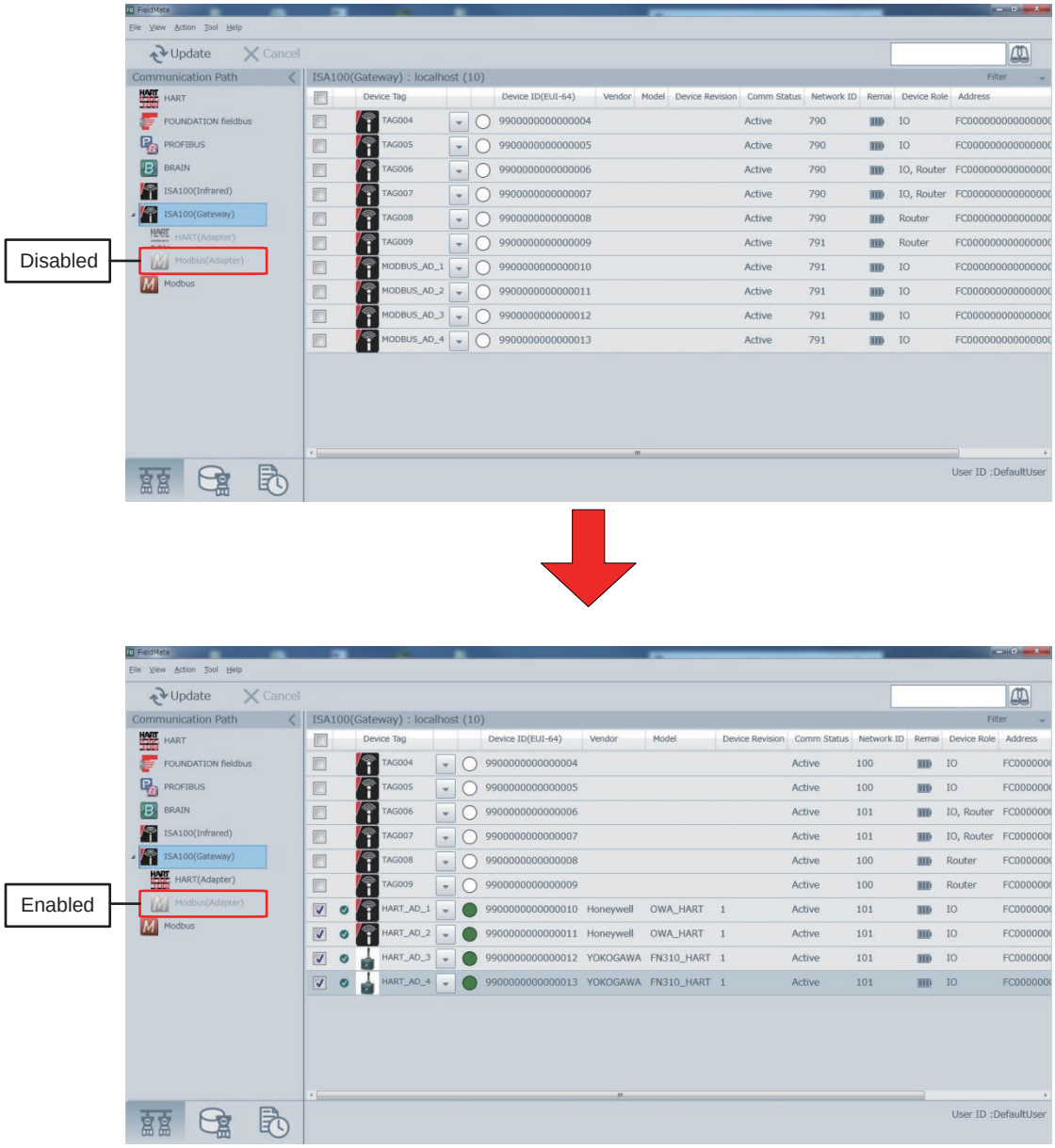
Figure N-3-9 shows that Modbus devices are targeted under the Modbus adapters with the Device Tag of MODBUS_AD_1, MODBUS_AD_2, MODBUS_AD_3 and MODBUS_AD_4.



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Figure N-3-9 Model Information of Modbus Adapter

When any number of Modbus adapters is indicated with the “Model”, Modbus (Adapter) in the tree menu of Segment Viewer will become enabled.

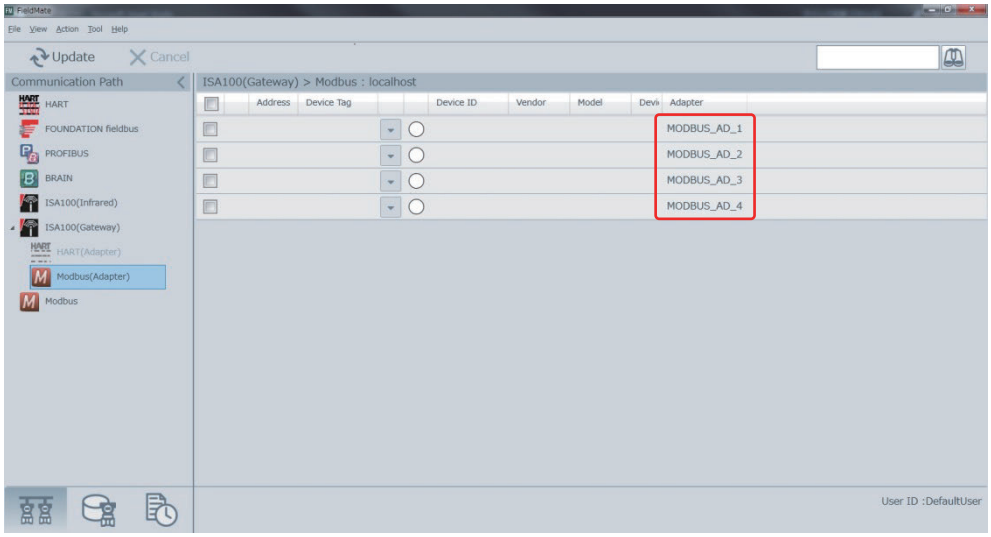


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Figure N-3-10 Enabling/Disabling Modbus (Adapter) in the Tree Menu

Modbus Device Information Display

When you click Modbus (Adapter) in the tree menu and update it, Device Tags of Modbus adapters will appear in the list.

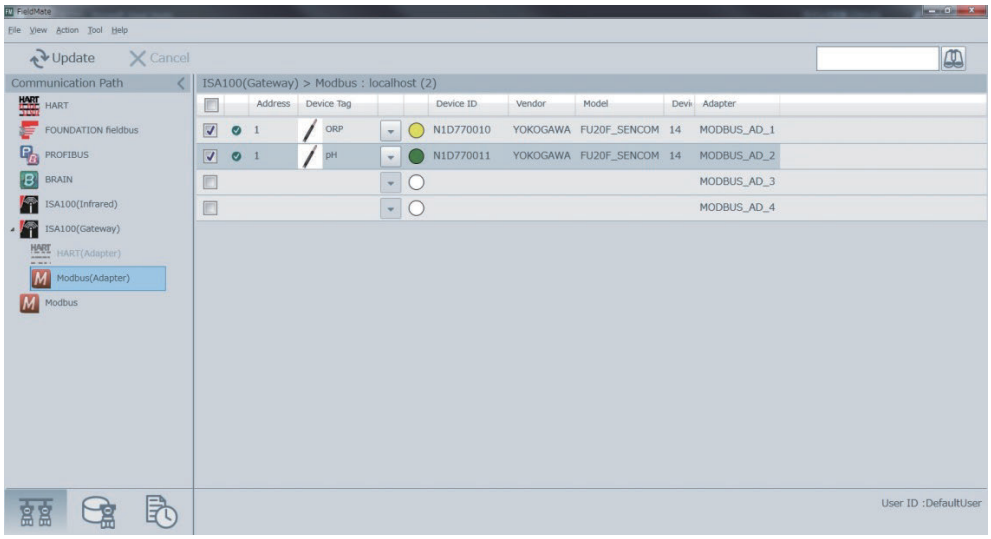


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Figure N-3-11 Initial Status of Modbus (Adapter) Display

With reference to Route device (Device tag name of Modbus adapters), check any box that is related to the Modbus devices to be displayed and update them.

Figure N-3-12 shows that Modbus devices under MODBUS_AD_1 and MODBUS_AD_2 are targeted.



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Figure N-3-12 Displaying Modbus Devices in Modbus (Adapter) Display

N-4 Infrared Communication

N-4-1 System Requirements

Infrared Adapter

The following infrared adapter is required for this software. It must be purchased separately.

Table N-4-1 Required infrared serial adapter

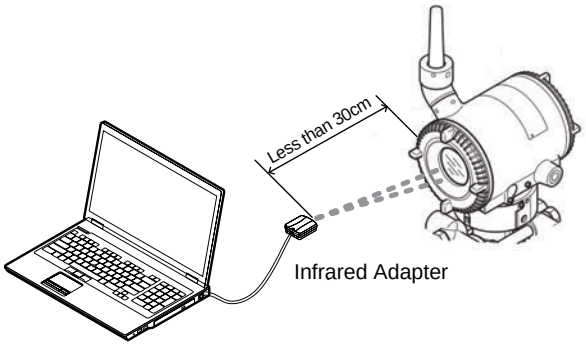
Vendor Name	ACTiSYS
Model name	IR224UN
Model no.	ACT-IR224UN-LN96-LE
Baud rate	9600bps

N-4-2 Connection Example

When communicating with the device, there is a need to connect the infrared adapter to an USB port on the PC, and to move the infrared adapter and infrared receiving part of the wireless device close together, facing each other. In the case of Yokogawa's wireless device, face the infrared adapter to the LCD display window of the device.

The communication range between the infrared adapter and wireless device should be within the distance indicated in the following table.

.



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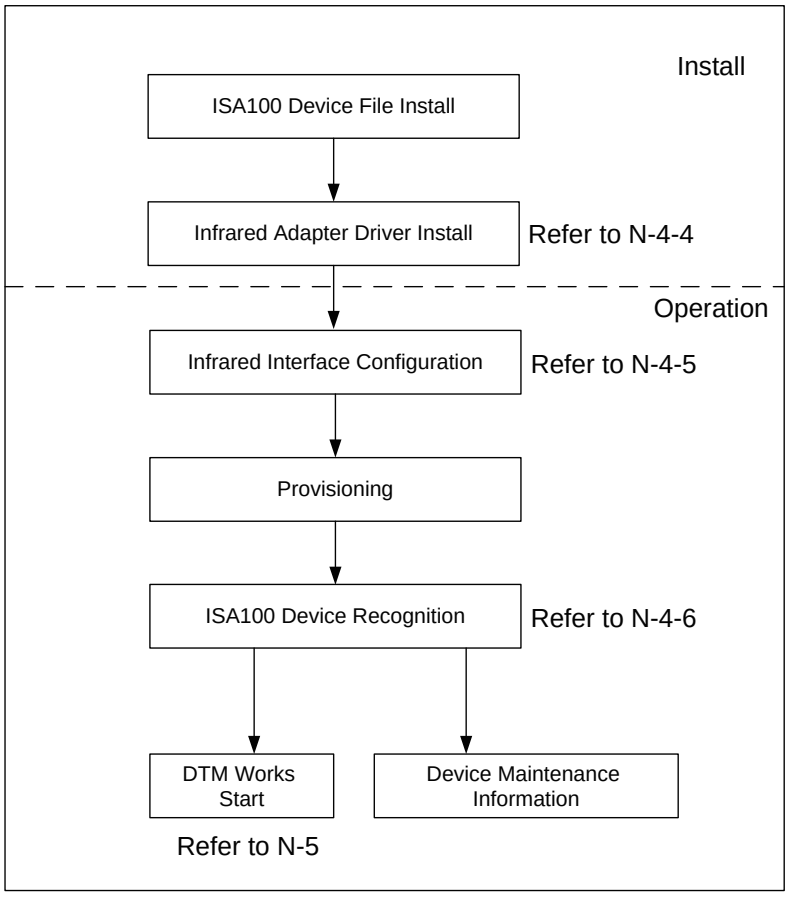
Figure N-4-1

Table N-4-2 Recommended communication distance

Item	Communication Distance
Recommended distance	20 cm or less
Maximum distance	30 cm

N-4-3 Operation Procedure

Overall flow to configure ISA100 device and setup is shown as follows.



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Figure N-4-2

Please refer to Part J Adding/Deleting Device Files

N-4-4 Infrared Adapter (ACTiSYS IR224UN)

N-4-4-1 Driver Installation

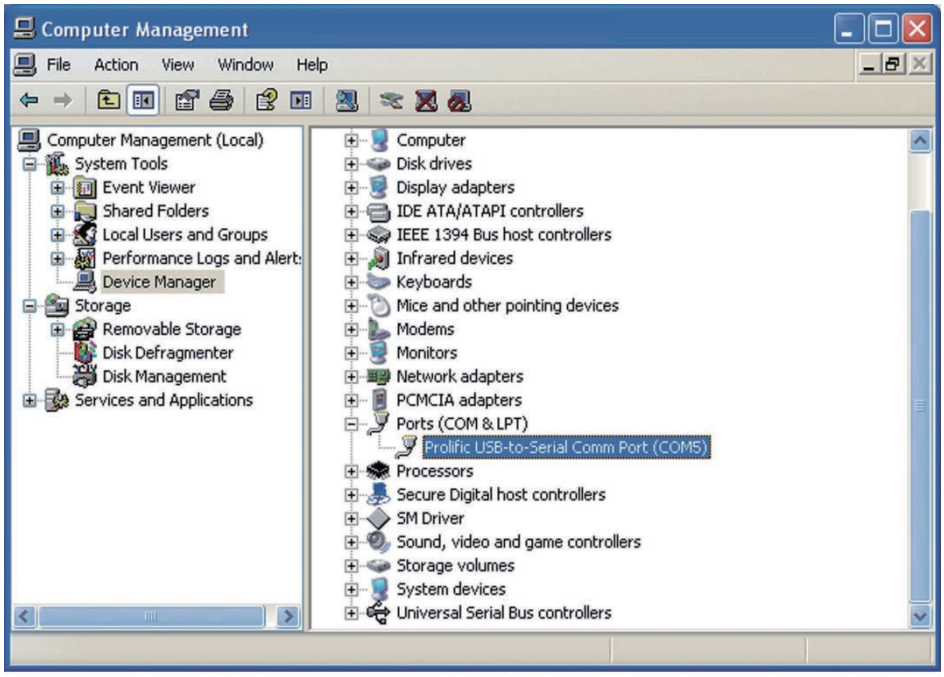
Install the infrared adapter driver, referring to the instruction manual provided by ACTiSYS.

N-4-4-2 Device Checks

Connect the infrared adapter to a USB port on the PC. If the infrared adapter is recognized by the PC's Device Manager, the adapter has been installed.

To display Device Manager, click Control Panel of Windows, then Management Tools, Computer Management, and Device Manager.

Note down the number of the COM port assigned to the infrared adapter. In the example shown below, COM 5 is assigned.



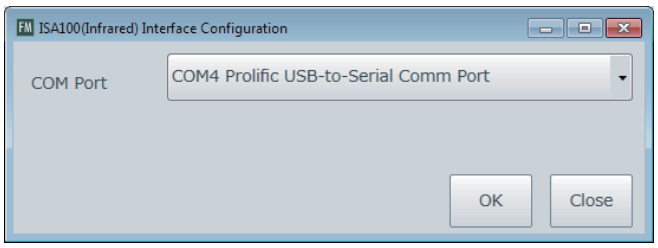
N040401E.ai

Figure N-4-3

N-4-5 Infrared Adapter Setting

FieldMate acquires ISA100 device information via infrared communication with USB port.

Open the window from Login, Communication Setting → ISA100 (Infrared) or the window from top menu of Segment Viewer. Select Tool → ISA100 (Infrared) Interface Configuration, and set the COM port in the following window.



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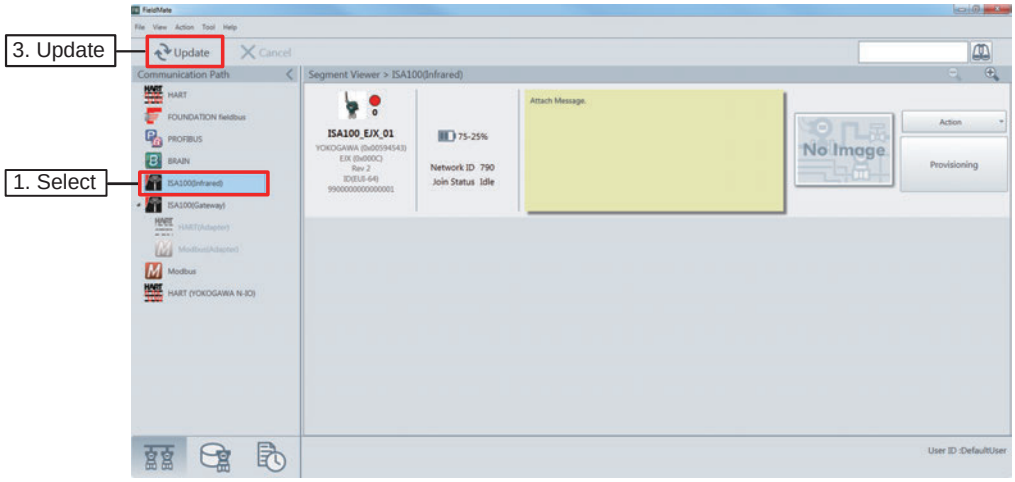
Figure N-4-4

“Prolific USB-to Serial Comm Port” is to be selected and press “OK”.

When Infrared adapter is connected and open the window above, “Prolific USB-to Serial Comm Port” is automatically selected.

N-4-6 ISA100 Device Recognition

ISA100 device and related information are displayed on Segment Viewer. A single device to be displayed is the communicated device only via infrared.



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Figure N-4-5 Segment Viewer Showing Recognized Device

ISA100 device is recognized in the following procedure:

1. On Segment Viewer at tree menu, select “ISA100 (Infrared)”.
2. Hold the infrared adapter close to the device.
3. Press “Update”.

During communication, do not remove the infrared adapter from the communicating device.

Remarks

1. Segment Viewer
   In case of ISA100 device in Deep Sleep mode, communication error may be encountered when the device is accessed for the first time. Please update in Segment Viewer again and initiate communication.
2. Infrared communication
   Hold the Infrared adapter to the accessed ISA100 device only. It is advisable to keep other wireless devices not too close to the currently accessed device.
3. Device Status Display
   Function blocks may be O/S mode for ISA100 device of Yokogawa as default. Even though device is healthy, gray color icon may be displayed in Segment Viewer. Please refer to the individual device IM for details

When communication with the device is successful, the following information is shown.

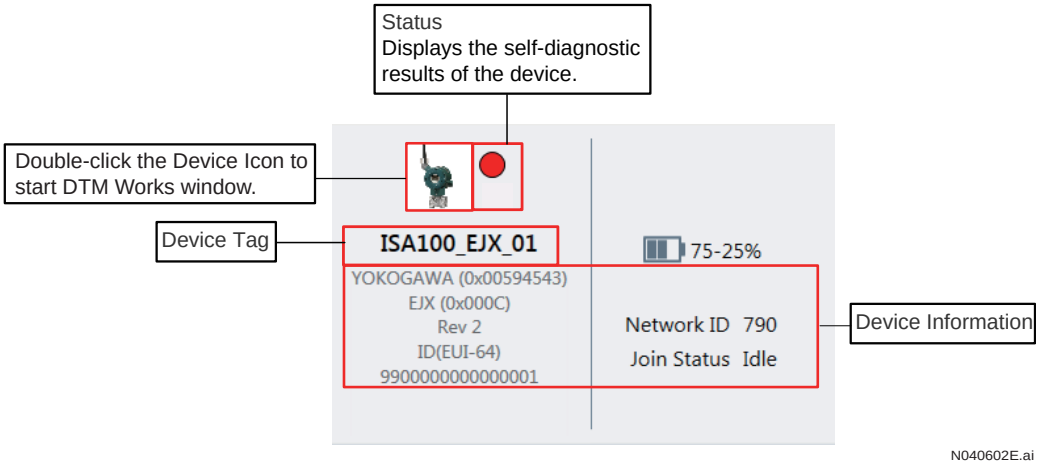


Figure N-4-6 Example of Device Information Displayed

Information on the display is shown in the following table.

Table N-4-3

Item		Meaning
Device Icon		Device represented Icon
Device Tag		Device Tag
Device Status		Device operation status
Device info	Manufacture ID	Device manufacture and ID
	Device Type	Device Type Name
	Device Revision	Device revision
	Device ID (EUI-64)	64 bit address to identify the device
	Network ID	ID to identify network
	Battery Life	Battery remaining capacity
	Join Status	Connection Status of Device and Gateway

The color of Device status is shown in the following table.

Table N-4-4

Color	Device operation status
Green	Normal.
Yellow	Warning. Operation can continue. (Configuration error)
Red	Abnormal. Inspection required.
Gray	Others, communication error.
White	Icon setting is off.

Battery Life has the following four statuses and remaining battery capacity indicators. In case the battery power is off, infrared communication cannot be established and device information cannot be accessed, either.

Table N-4-5

Display	Meaning
75% or more	More than 75% of the battery remaining
25% to 75%	25% to 75% of the battery remaining
25% or less	Less than 25% of the battery remaining
Lined	Powered Power supplied by external power source

When remaining battery capacity is lower than 75%, Device Status display turns to Warning.

Join Status

There are three types of Join statuses.

Table N-4-6 Join Status

Display	Join Status
Idle	Device is not connected to a gateway
Joined	Device is connected to a gateway
-	Failed to acquire a Join status

TIP

Only a Yokogawa device can acquire the Join status. No devices of other manufacturers can acquire it. Thus, it is always displayed as "-".

Provisioning Function

Provisioning Settings

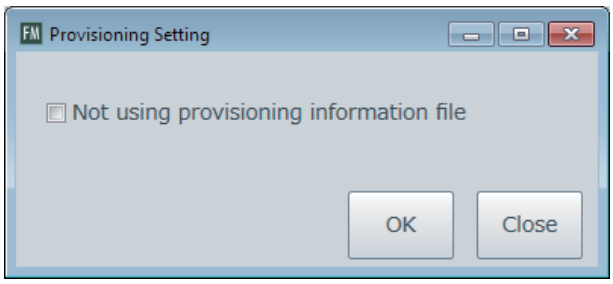
The following provisioning methods are available.

Table N-4-7 Provisioning Settings

Type of Provisioning	Description
Use a provisioning information file.	Use provisioning information to allow a device to join a gateway.
Do not use a provisioning information file.	Allow a device to join a gateway without using provisioning Information. * This function is valid only for YFGW410 that is capable of joining a device without using a provisioning information file.

Select Tool -> Option -> ISA100 Provisioning Settings from the menu. The following dialog box appears.

Provisioning method can be changed using the Provisioning Settings dialog.



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Figure N-4-7 Provisioning Settings Dialog

"Do not use a provisioning information file" checkbox

Do not select this checkbox -> Use provisioning information to allow a device to join a gateway.

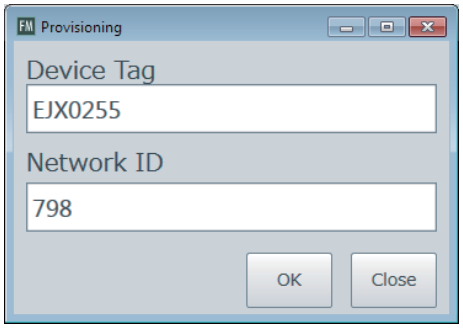
Select this checkbox -> Allow a device to join a gateway without using provisioning information.

Provisioning

➤ Setting Provisioning Information

When you select Provisioning in the operation panel, the following dialog box appears.

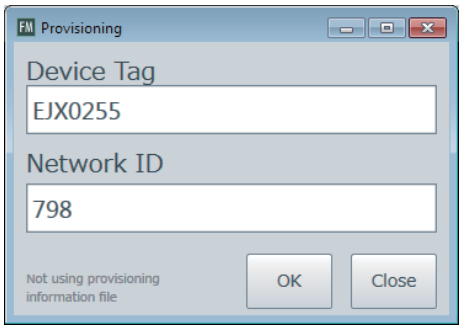
Enter the appropriate device tag and network ID and press OK to perform provisioning.



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Figure N-4-8 Provisioning Dialog Box

If “Do not use a provisioning information file” option has been selected, the following dialog box with “Do not use a provisioning information file” appears.



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Figure N-4-9 Provisioning Settings Dialog Box (YPIFFile not used)

● Setting Rules of Device Tag

The following rules are prescribed for device tags which can be set in field wireless devices.

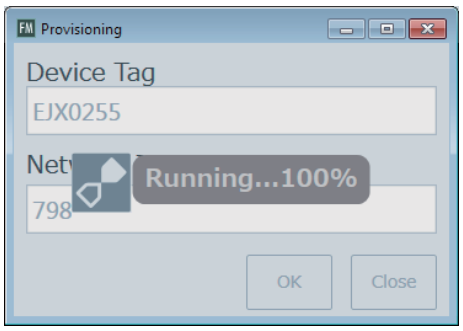
- Up to 16 characters
- Uppercase alphabets, numerals, hyphens, and underbars (all in single-byte)

● Setting Rules of Network ID

The network ID is an ID for identifying wireless networks. Decimals ranging from 2 to 65535 can be used. The field wireless device with the same network ID as YFGW will be connected to the corresponding YFGW. How to assign network IDs depends on the user's system design.

➤ Display after OK is pressed

The display changes as shown below when the provisioning is in progress. The provisioning is completed when the progress bar reaches 100%.



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Figure N-4-10 Provisioning is in Progress

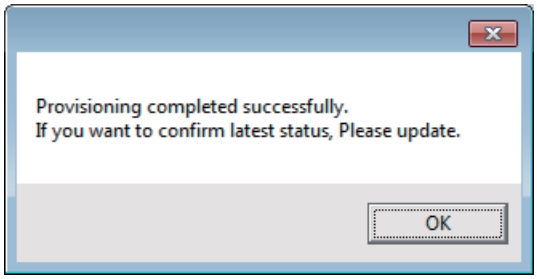
TIP

Provisioning requires communication with a device. When performing provisioning, place the infrared port and receiving port close together on the infrared adapter.

Provisioning cannot be performed if the Join status of the device is "Join". If this is the case, perform [Initialize provisioning] before performing provisioning.

➤ Display when provisioning is completed

When provisioning is completed, the following message dialog appears, indicating that provisioning information has been set successfully.



N040607E.ai

Figure N-4-11 Provisioning Completed

TIP

If you want to check the latest device status after provisioning is completed, update the Segment Viewer.

● Exporting Provisioning Information

Select [File] menu of the main window and then [Export Provisioning Information] to export the provisioning data.

Export the provisioning data for Field Wireless Configurator.

Selecting [Export Provisioning Data] displays a window shown in Figure App.-H-13. Select the location where you want the provisioning data saved and enter a file name.

Saving the provisioning data under the same file name adds the provisioning data to the existing file, so the provisioning data saved the last time remains without being overwritten.

A. Provisioning information of the same device will be overwritten.

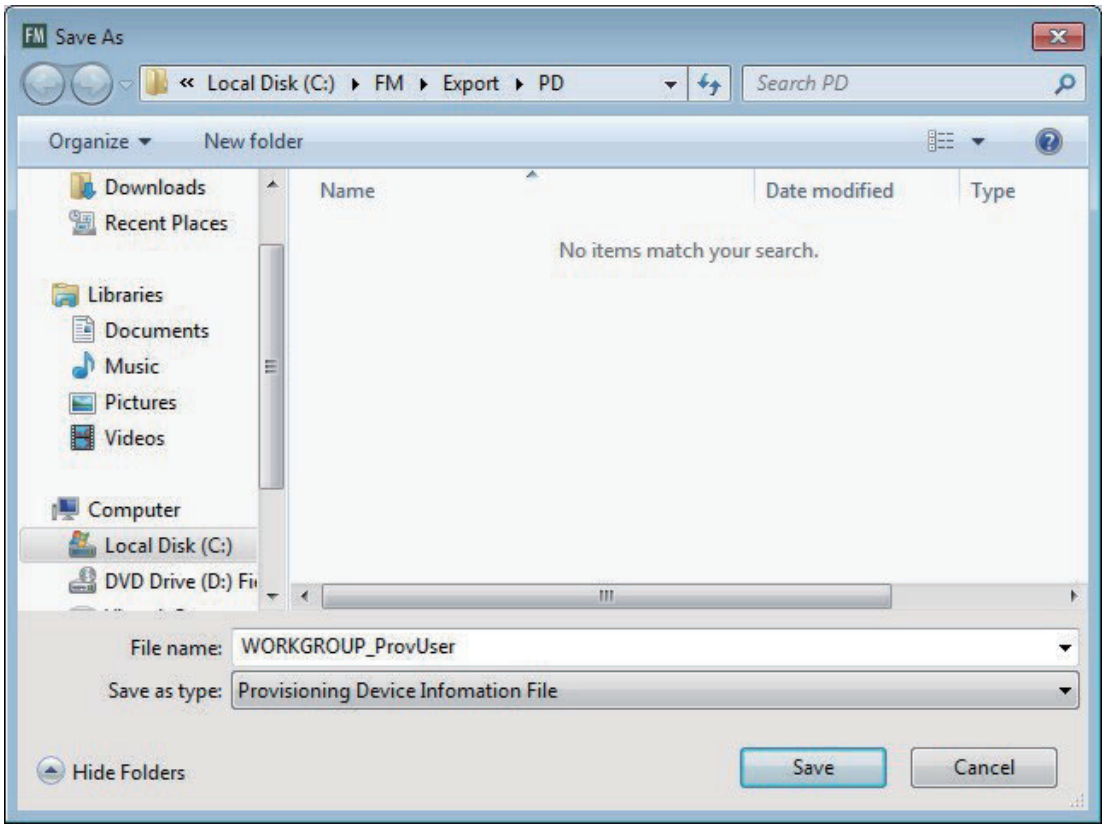
B. Provisioning information of the newly added device will be inserted additionally.

C. Provisioning information of other than A and B remains unchanged.

Default values are as below:

Folder to Save in: FieldMate installed drive: \FM\Export\PD

File name: PC computer name_FieldMate user name.ypif

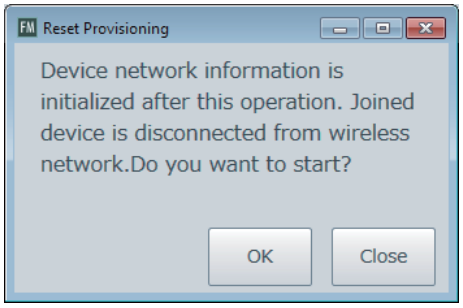


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Figure N-4-12 Exporting Provisioning Information

● Clearing Provisioning

Select [Clear Provisioning Information] from the right-click context menu or Operation menu. The following dialog box appears. Press OK to perform [Initialize provisioning].



N040609E.ai

Figure N-4-13 Initialization of Provisioning

TIP

When you perform [Initialize provisioning], the network information of devices will be initialized. As a result, devices participating in the wireless network can no longer join the wireless network and the communication is disconnected.

➤ Users who can perform the initialization of provisioning

Users who can perform the initialization of provisioning are listed below.

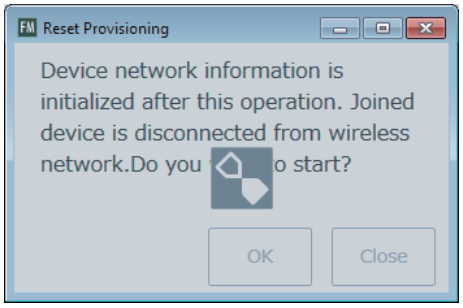
Table N-4-8 Users who can Perform Initialization of Provisioning

User	Initialization of provisioning
Administrator	○
DefaultUser	N/A
Users other than the above	○

The default user is not allowed to perform the initialization of provisioning.

➤ Display after OK is pressed

The display changes as shown below when the initialization of provisioning is in progress.

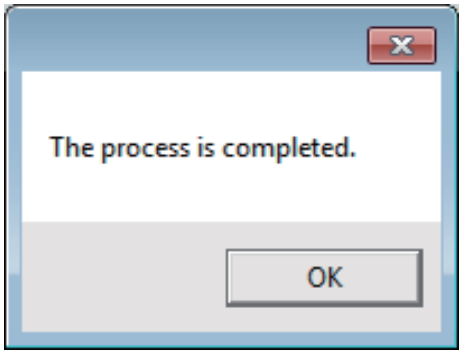


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Figure N-4-14 Initialization of Provisioning is in Progress

➤ Display when the initialization of provisioning is completed

When the initialization of provisioning is completed, the following message dialog appears, indicating that the initialization of provisioning has been successfully performed.



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Figure N-4-15 Initialization of Provisioning Completed

N-5 DTM Start

Start device DTM

On Segment Viewer, right click and select the following:

- **Assigned DTM**
- **Select DTM**

TIP

Refer to E-3-2 regarding DTM Works function and operation.

N-5-1 Online Start

To start up DTM, select a relevant device in Segment Viewer, and start up its DTM from the Operation menu or right-click the menu.

The communication path will be the one selected in the left pane: ISA100 (Infrared), ISA100 (gateway), or HART (adapter), or Modbus (adapter).

N-5-2 Offline Start

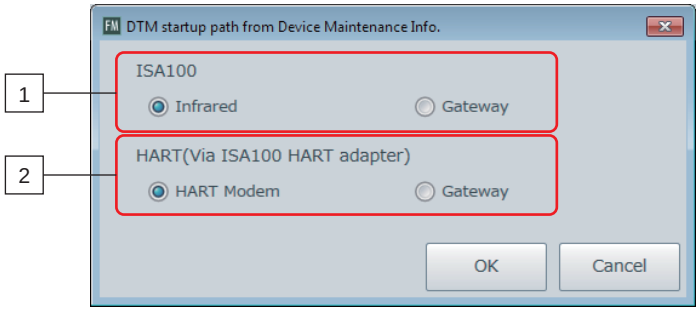
To start up DTM, select a relevant device in Segment Viewer, and start up its DTM from the Action menu or right-click the menu.

Selecting the Communication Path

When DTM is started from Device Navigator, DTM offline window is displayed. Then connect and change to DTM online window, then communication route will be selected.

Startup

DTM/ParameterManager startup path from Tool → Option → Device Maintenance Info.



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Figure N-5-1 Setting the Communication Path Check in the Option Dialog

1. Select the communication route through which DTM is connected after an ISA100 device is selected in Device Navigator and its DTM is started up.

   The default is infrared.

2. Select the communication route through which DTM is connected after a HART device is selected in Device Navigator and its DTM is started up.

   Only device maintenance information registered via HART adapter can be effective.

   The default is “Gateway”.

   If this setting differs from the communication route in the device maintenance information, an error will occur on connection.

Assigned DTM

In DTM Works, start the DTM that is assigned in the DTM catalog.

[Assigned DTM] can be accessed in any of the following ways.

- Right-click the desired ISA100 device in Segment Viewer or Device Navigator and select [Assigned DTM].
- Open the [Operation] menu and select [Assigned DTM] while the desired ISA100 device is selected in Segment Viewer or Device Navigator.
- Double-click the device icon for the desired ISA100 device in Segment Viewer (only when [Assigned DTM] is assigned in the [Option] settings).

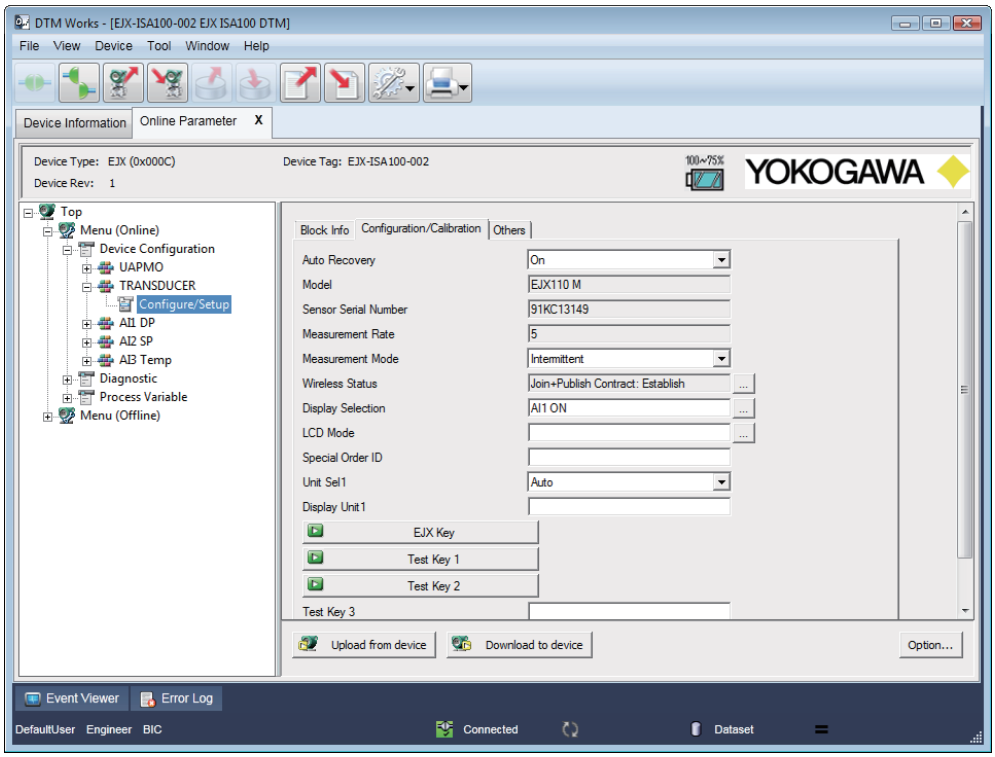
Select DTM

Select the DTM and start DTM Works.

[Select DTM] can be accessed in any of the following ways.

- Right-click the desired ISA100 device in Segment Viewer or Device Navigator and select [Select DTM].
- Open the [Operation] menu and select [Select DTM] while the desired ISA100 device is selected in Segment Viewer or Device Navigator.
- Double-click the device icon for the desired ISA100 device in Segment Viewer (only when [Select DTM] is assigned in the [Option] settings).

Device DTM Display



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Figure N-5-2 ISA100 Device DTM Display

Change of ISA100 Device Parameters

Changing the value of parameters requires Block Mode of Function Block of the accessed ISA100 device to be O/S mode (Out of Service mode) in the most situations.

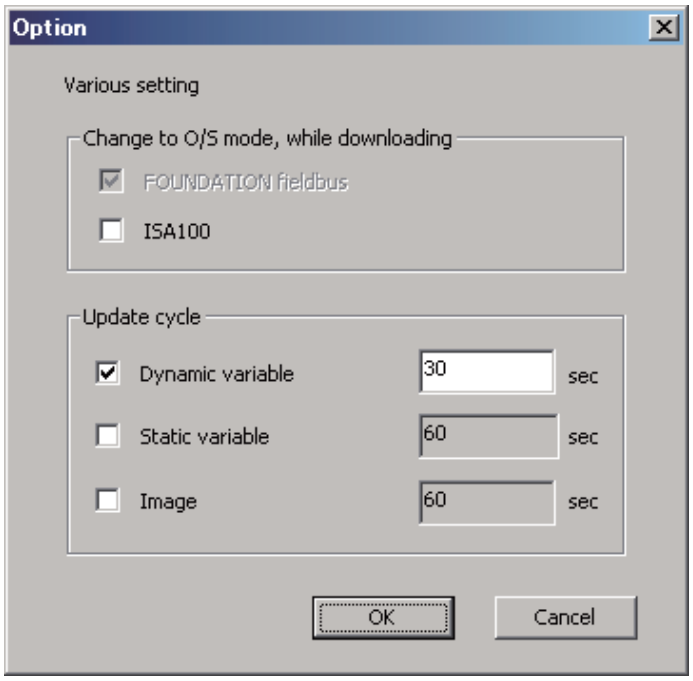
DTM provides automatic Block Mode change functions as follows.

Function Block to be O/S mode when changing the value of parameters.

Function Block to be recovered when completing the value changes.

Function Block to be O/S mode during download.

The function above is not effective as default. Press “Option button” in the DTM, open Option window, select “ISA100” in “Change to O/S mode, while download” and press “OK”.



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Figure N-5-3 (Example)

Table N-5-1

Item	Object	Description	Default
Change to O/S mode, while download	FOUNDATION fieldbus	Block Mode of Function Block changes to O/S while downloading to FOUNDATION fieldbus device automatically. This is not applicable to ISA100, HART device DTM.	ON
	ISA100	Block Mode of Function Block changes to O/S while downloading to ISA100 device automatically. This is not applicable to FOUNDATION fieldbus, HART device DTM.	OFF
Update cycle	Dynamic variable	Specify update cycle of Dynamic variable in the DTM. 5 to 120 sec selectable.	30 sec
	Static variable	Specify update cycle of Static variable in the DTM. 60 to 120 sec selectable.	60 sec
	Image	Specify update cycle of Image in the DTM. I.e. Bitmap. 60 to 120 sec selectable.	60 sec

Redirect the Access to Another ISA100 Device.

Close the current DTM Works once. And update in the Segment Viewer and start DTM again.

O Acquiring Device Serial Numbers

The device serial number of Yokogawa's field devices is acquired and saved in the device maintenance information. The device serial number and other information can be exported to an external file.

The device serial number is acquired upon refreshing Segment Viewer.

O-1 Devices

Communication protocol: HART

Applicable devices: Differential Pressure sensor EJX Series

EJX-A HART5, EJX-A HART7, EJX9❑❑ HART5,

EJX9❑❑HART7

Differential Pressure sensor EJA Series

EJA-A/EJA HART5, EJA-E HART5, EJA-E HART7

TIP

The device must be connected to a USB FieldMate modem to acquire the device serial number.
The device must have been registered in the database.

O-2 Device Maintenance Information

The device serial number is saved in the basic information of the device maintenance information.

The device serial number is not a writable parameter.

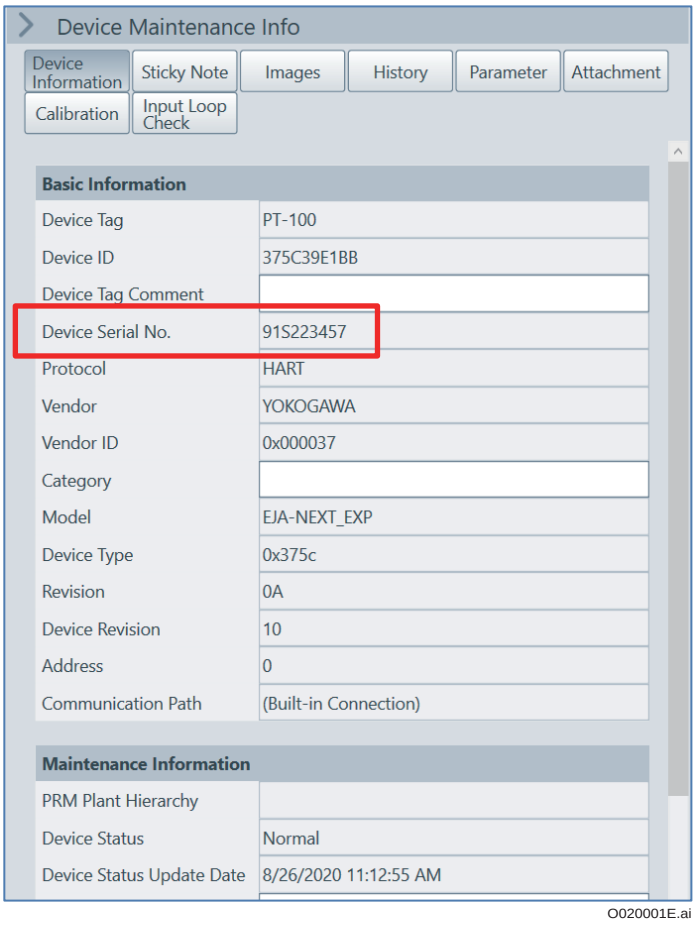


Figure O-2-1 The Device Serial Number in the Device Maintenance Information

O-3 Export

The device serial number in the device maintenance information can be exported to an external file.

Startup

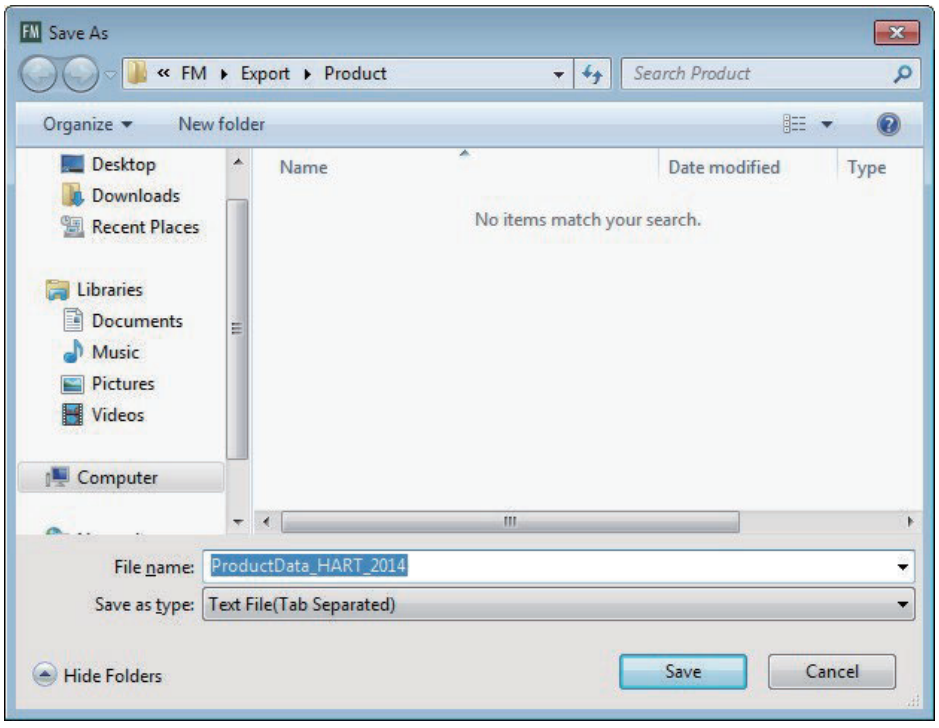
Device Navigator → File →Export Serial No….



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Figure O-3-1 Serial Number Export

Export data to a file



O030002E.ai

Figure O-3-2 Export Data to a File

Default destination folder: ˜/FM/Export/Product

Default file name: ProductData_Protocol_Date.txt

Example: If a file is exported via the HART protocol on March 15, 2012, the name of the file will be: ProductData_HART_120315.txt

File format: Tab-separated text

The parameters to be output are as follows.

Serial No.: Device Serial Number

Device Tag: Device Tag

Device ID: Device ID

Device Revision: Device Revision

Code: Model and Suffix Code of the device

Model name is output if the device does not have Model and Suffix Code.

The following is an example of the file opened by Microsoft Excel.

Table O-3-1 Example of the File Displayed by Microsoft Excel

Serial No.	Device Tag	Device ID	Device Revision	Code
91K915213	TAG_00	375112CC13	10	EJX110J-JHA0C-810DN

P Device Tag Display Mode

P-1 Overview

In FieldMate, consideration is given to cases where the same device tag name is used for each device in the plant, and it is possible to expand and display the device tags of BRAIN and HART device.

It is called extended device tag name. Also, the type of the device tag to be displayed in FieldMate is called the device tag mode.

The extended tags are different from actual devices, but are logical tags supported in FieldMate.

Field devices have the limitation of available for the device tag, which may be insufficient for intuitively representing the many devices in a plant. The extended device tag will enable users to manage devices more easily.

P-2 HART Device

This function is used for the HART device tag.

Among the device parameters of the HART device, Tag, Descriptor, Message and Long Tag (HART6 or 7 device) are combined and then used as an extended device tag in FieldMate.

The followings shows the definition of Device Tag Display Mode in FieldMate.

Table P-2-1

	MODE	Definition in FieldMate
HART Device Tag	Tag	Device Tag
	Tag + Descriptor	Extended Device Tag
	Descriptor	
	Message	
	Long Tag	

P-2-1 Specification of HART Device Tag

The device tag is based on device parameter information of an actual device and is decided as follows. These device tags are used in FieldMate for accessing actual devices and managing the device maintenance information.

Device Tag Extension Mode

In this mode, the extended device tag is used for managing the devices through FieldMate.

- Tag (New Physical Device Tag)
- Tag (New Physical Device Tag) + Descriptor (New HART Descriptor)
- Descriptor (New HART Descriptor)
- Message (New HART Message)
- Long Tag (New HART Long Tag) : HART 6 or 7 only

Number of Characters in Extended Device Tag

- Tag

  8 characters of Tag

- Tag + Descriptor mode

  8 characters of Tag + 16 characters of Descriptor

- Descriptor mode

  16 characters of Descriptor

- Message mode

  32 characters of Message

- Long Tag (HART 6 or 7 only)

  32 characters of Tag

∗: Delimiters such as tabs, commas, and spaces cannot be inserted between Tag and Descriptor.

P-3 BRAIN Device

This function is used for the BRAIN device tag.

The device parameter for memorize of the BRAIN device is combined and then used as an extended device tag in FieldMate.

Parameters to be used for combinations are memo parameters in the device and target parameters vary depending on the device model. The relationship between the model of the device and the memo parameter to be used is as shown in the table below. BRAIN devices that do not have memo parameters are not supported this function.

Table P-3-1

Device model	Memo parameter
EJ	M10:MEMO 1
EJA	M10:MEMO 1
EJB	M10:MEMO 1
EJX	M17:MEMO1
EJA-NEXT	M17:MEMO1
AXFA11P	J40:Memo 1
AXFA11G	J40:Memo 1
AXFA14G/C	J40:Memo 1
AXR	J35:Memo 1
AXG4A	K40:MEMO1
AXW4A	K40:MEMO1
Ultra YEWFLO	M10:MEMO 1
digital YEWFLO	M10:MEMO 1
YTA	O10:MEMO1
YTA710	O10:MEMO1

P-4 Setting or Changing Device Tag Mode

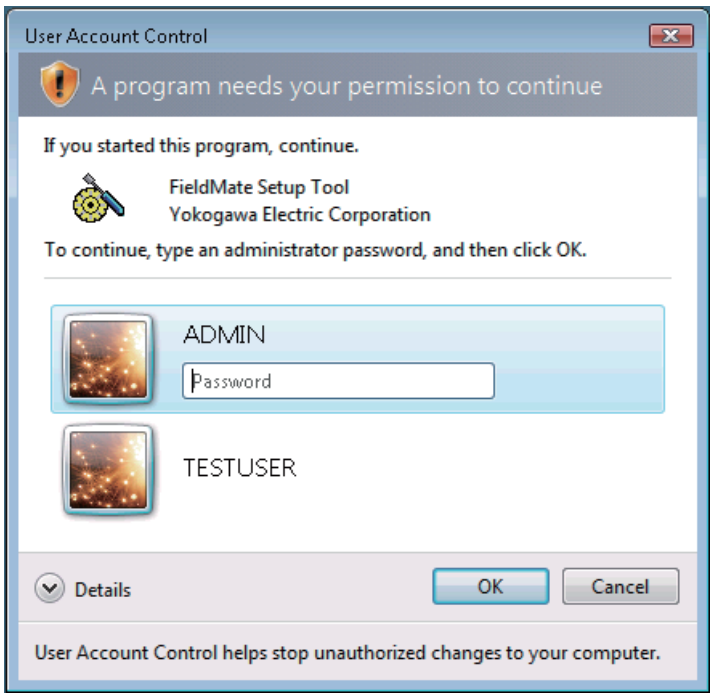
The device tag mode can be set or changed as follows.

Calling

Start → All programs → YOKOGAWA FieldMate → Tools → FieldMate Setup→ Device Tag Mode tab → FieldMate Setup Tool

TIP

A window is displayed for confirmation due to the user account control.



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Figure P-4-1 User Account Control

Click “OK”.

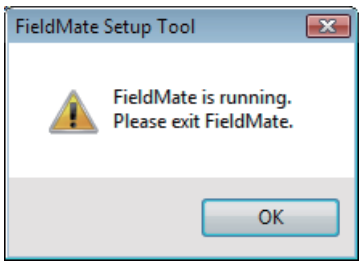
If the user management of FieldMate is defined, the following login dialog is displayed. After login, the FieldMate Setup Tool window appears.

FieldMate Setup Tool does not start if FieldMate is already running.



P040002E.ai

Figure P-4-2 Login Window

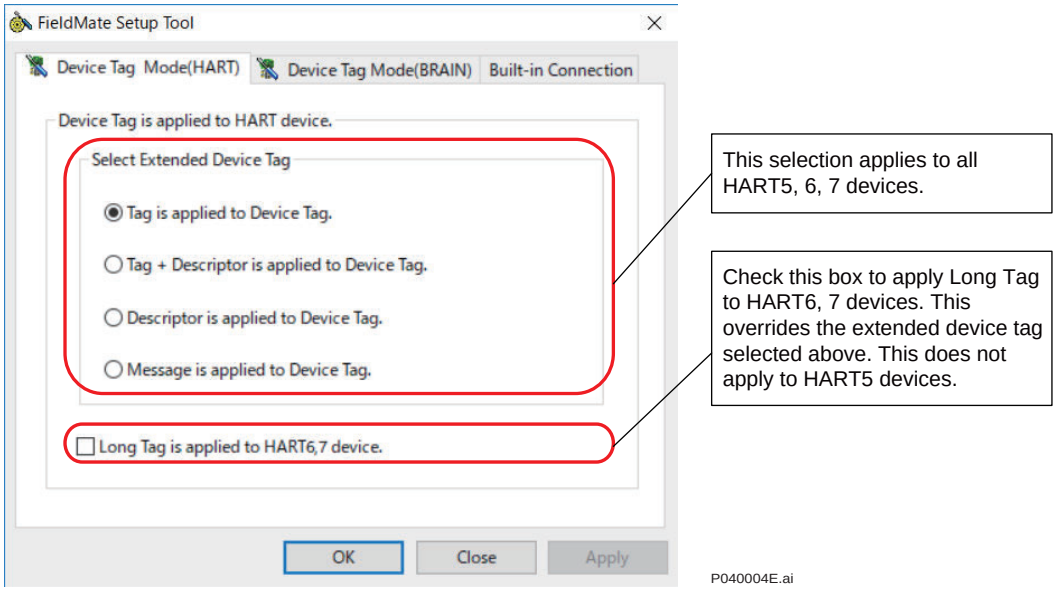


P040003E.ai

Figure P-4-3 Message appears When FieldMate is already running

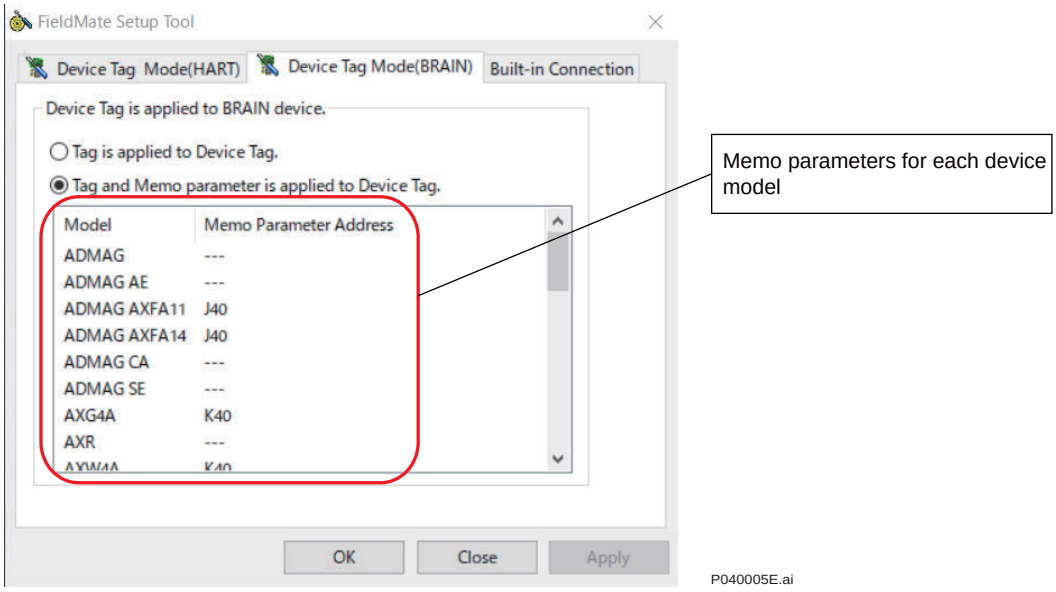
Setting

Set or change the Device Tag Mode as follows.



P040004E.ai

Figure P-4-4 Device Tag Mode (HART)

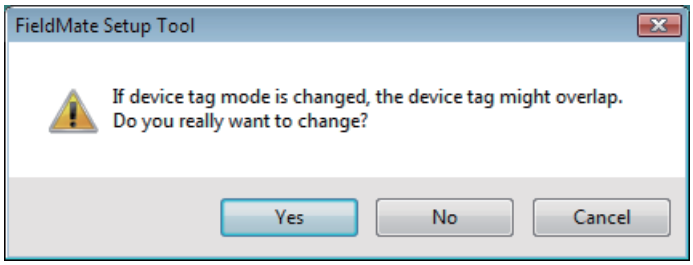


P040005E.ai

Figure P-4-5 Device Tag Mode (BRAIN)

Select Device Tag Mode.

Click “OK” to display the confirmation dialog.

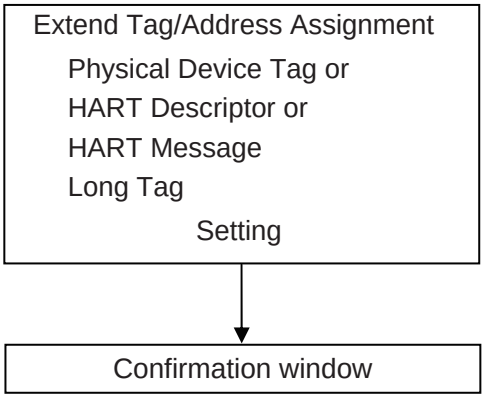


P040006E.ai

Figure P-4-6 FieldMate Setup Tool Confirmation Window

P-5 HART Device Tag Assignment

Device Tag of HART device is changed in Segment Viewer.



P050001E.ai

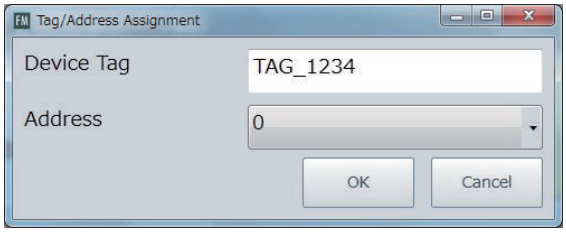
Figure P-5-1 Operation Flow

Select a device on Segment Viewer.

- → Operation → Tag/Address Assignment
- → Right-click → Tag/Address Assignment

Tag/Address Assignment window is displayed.

P-5-1 Tag Mode



P050101E.ai

Figure P-5-2 Tag/Address Assignment; Tag Mode

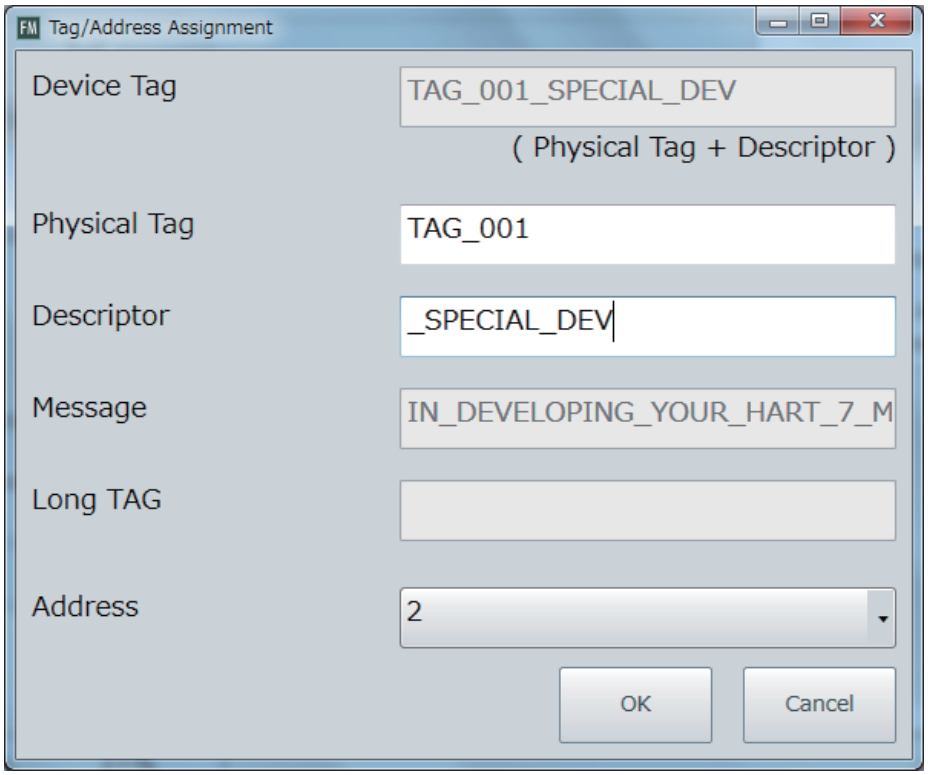
- Device Tag

  The current device tag is displayed. It is possible to change.

- Address

  The current Polling Address is displayed. It is possible to change.

P-5-2 Tag + Descriptor Mode



P050201E.ai

Figure P-5-3 Tag/Address Assignment; Tag + Descriptor Mode

- Device Tag

  The current device tag is displayed.

  The character string combining the parameters (character strings) of Physical Device Tag and HART Descriptor is displayed. It is not possible to input data.

- Physical Device Tag

  The current parameter of Tag is displayed. It is possible to change.

  The change is reflected in the Device Tag.

- HART Descriptor

  The current parameter of Descriptor is displayed. It is possible to change.

  The change is reflected in the Device Tag.

- HART Message

  It cannot be changed.

- Long Tag

  It cannot be changed.

- Address

  The current Polling Address is displayed. It is possible to change.

P-5-3 Descriptor Mode

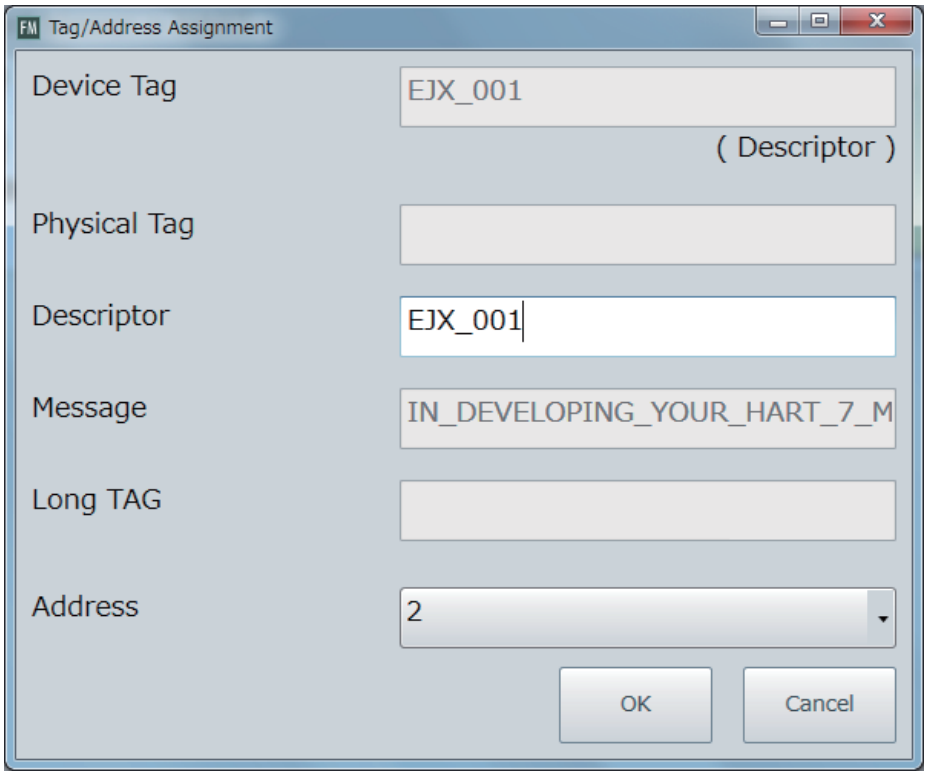


Figure P-5-4 Tag/Address Assignment; Descriptor Mode

- Device Tag

  The current device tag is displayed.

  The change in HART Descriptor is reflected. It is not possible to input data directly.
- Physical Device Tag

  It cannot be changed.
- HART Descriptor

  The current parameter of Descriptor is displayed. It is possible to change.

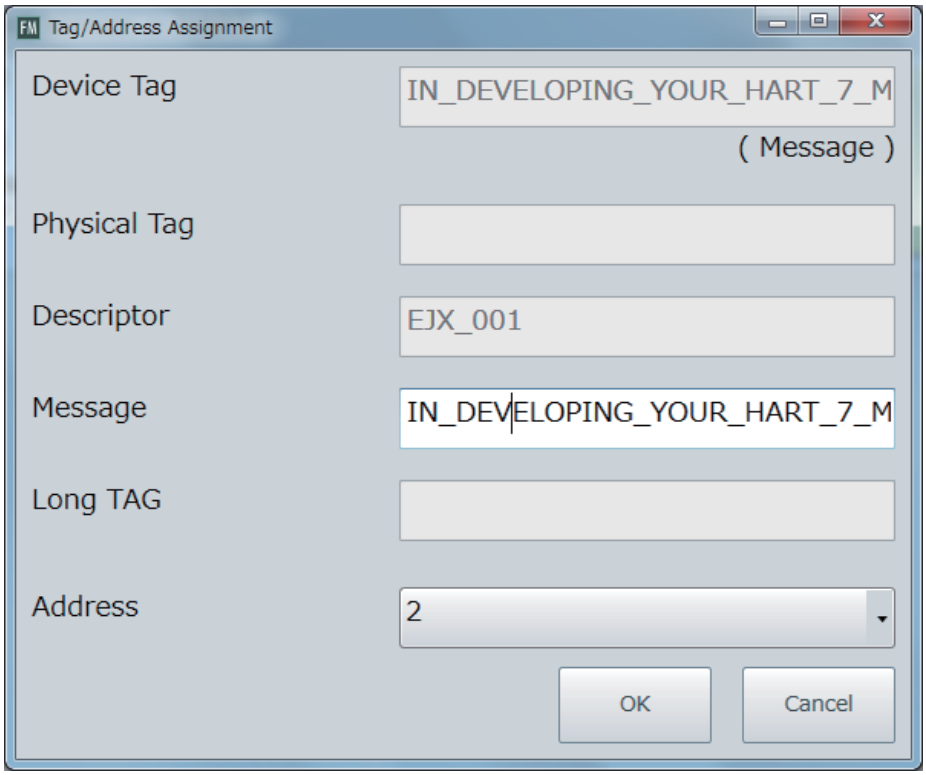
  The change is reflected in the Device Tag.
- HART Message

  It cannot be changed.
- Long Tag

  It cannot be changed.
- Address

  The current Polling Address is displayed. It is possible to change.

P-5-4 Message Mode



P050401E.ai

Figure P-5-5 Tag/Address Assignment; Message Mode

- Device Tag

  The current device tag is displayed.

  The change in HART Message is reflected, but it is not possible to input data directly.
- Physical Device Tag

  It cannot be changed.
- HART Descriptor

  It cannot be changed.
- HART Message

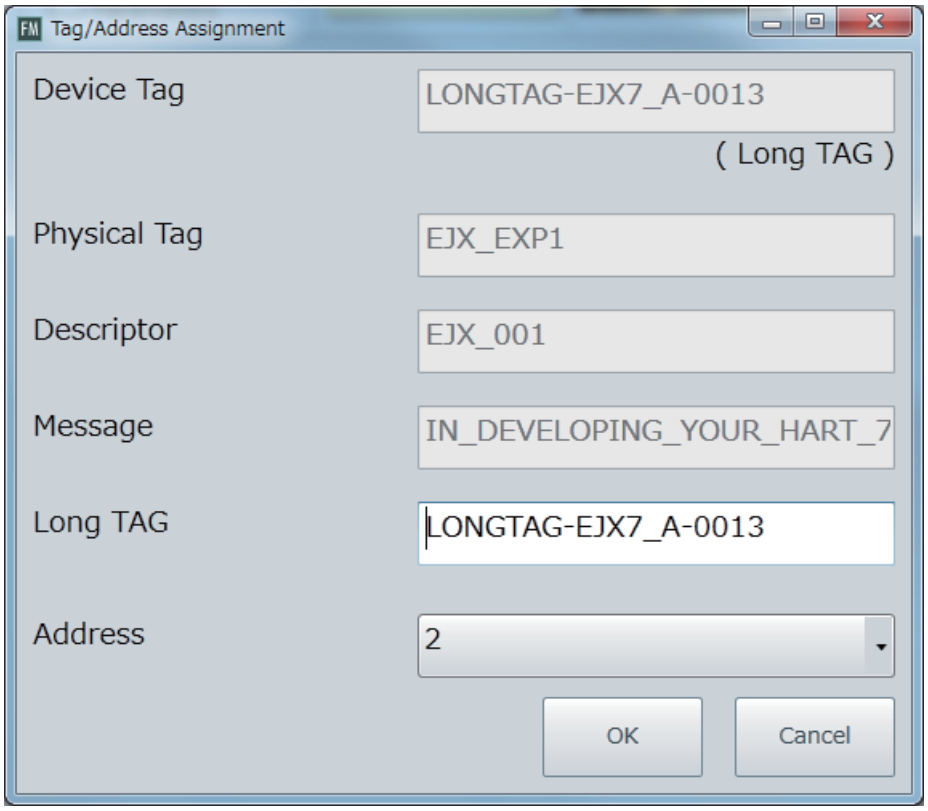
  The current parameter of Message is displayed. It is possible to change.

  The change is reflected in the Device Tag.
- Long Tag

  It cannot be changed.
- Address

  The current Polling Address is displayed. It is possible to change.

P-5-5 Long Tag Mode



P050501E.ai

Figure P-5-6 Tag/Address Assignment; Long Tag Mode

- Device Tag

  The current device tag is displayed.

  The change in Long Tag is reflected, but data cannot be directly input here.
- Physical Device Tag

  It cannot be changed.
- HART Descriptor

  It cannot be changed.
- HART Message

  It cannot be changed.
- Long Tag

  The parameters of current Long Tag are displayed, and they can be changed.

  The change is reflected in the Device Tag.
- Address

  The current Polling Address is displayed, and it can be changed.

Q FDT Project

Segment Viewer (Built-in Connection) supports the communication paths for HART, FOUNDATION fieldbus H1, BRAIN and ISA100 direct connections.

If you want to build a communication path other than HART, FOUNDATION fieldbus, BRAIN and ISA100 direct connections that are supported in Segment Viewer (Built-in Connection), you can use an FDT Project (User Defined Connection).

If you want to use a communication protocol that is not supported in Segment Viewer (Built-in Connection), you can also use an FDT Project (User Defined Connection).

If you want to create a communication path and register a device using an FDT Project (User Defined Connection), you need to separately obtain and install the commDTM, gatewayDTM, Device DTM, and a communication interface card if needed.

An FDT Project is composed of a network topology of commDTM, gatewayDTM, and Device DTM defined in DTM Works, and DTM data set for each DTM.

The following describes the outline of the procedure on how to use FDT Project.

1. Install the commDTM, gatewayDTM, Device DTM, and a communication interface card on a PC installed with FieldMate.
2. Update the DTM catalog in DTM Setup. *
3. Select Tool - FDT Project. Start DTM Works by selecting New FDT Project.
4. Select and assign the commDTM and gatewayDTM from the list of installed commDTMs, gatewayDTMs, and Device DTMs.
5. Configure the commDTM and gatewayDTM to create a communication path.
6. Select the Device DTM and assign the device.

   (The communication path that was created above when assigning the device is a FDT Project name).
7. Select the device, startup DTM Works, and set and adjust the device.
8. Save the FDT project and set the FDT project name.

*: When you add or delete a CommDTM, GatewayDTM, or Device DTM, you need to update the DTM catalog in order to refresh it.

Q-1 FDT Project Specifications

An FDT Project is composed of a network topology of commDTM, gatewayDTM, and Device DTM defined in DTM Works, and DTM data set for each DTM. The following shows the overview of the FDT Project.

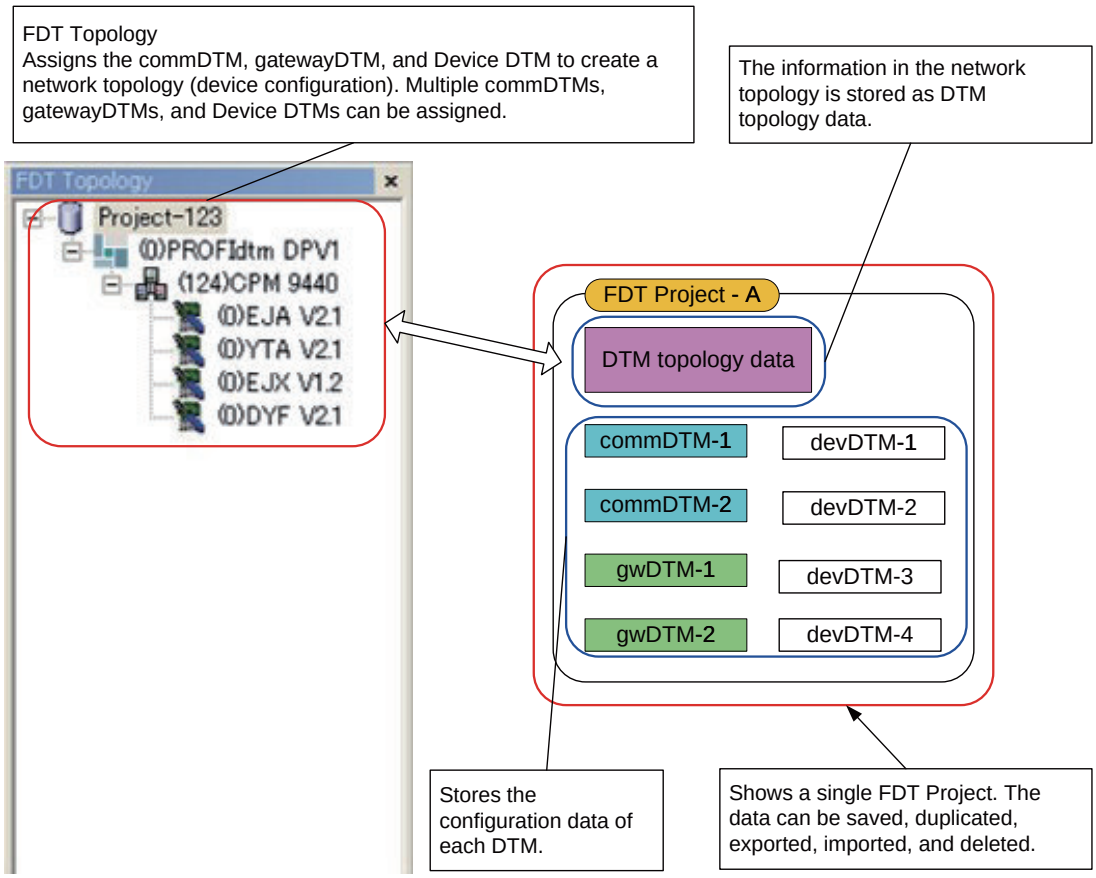


Figure Q-1-1 Overview of FDT Project

Maximum Specification

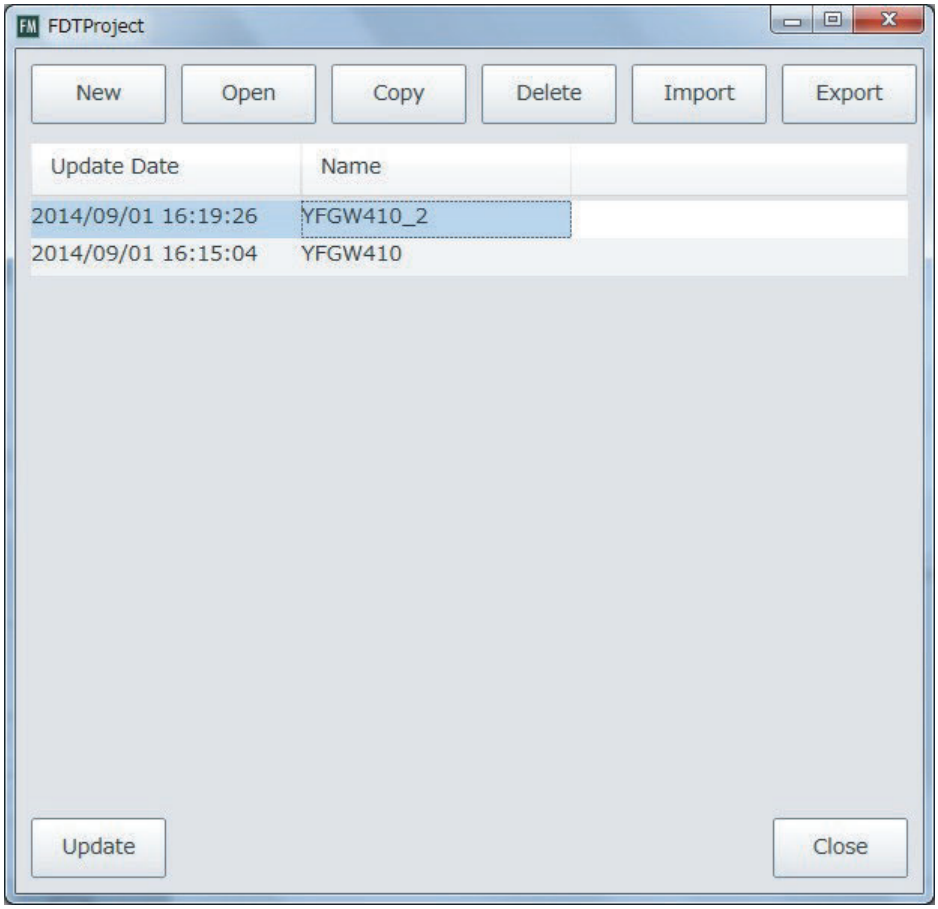
Maximum number of FDT Projects: 30

Maximum number of DTM definitions in a single FDT Project (*): 100

*: A total number of Device, Comm, and Gateway DTMs

Maximum number of startups of DTM Works: 5

Managing FDT Project



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Figure Q-1-2 FDT Project

Creating New FDT Project

You can create a new FDT Project using New FDT Project.

Deleting FDT Project

You can select and delete the FDT Project using Delete FDT Project. The confirmation dialog “Do you want to delete FDT project?” appears.

Duplicating FDT Project

You can select and copy the FDT Project using Duplicate FDT Project. You must specify a new name for the FDT project.

Exporting and Importing FDT Project

You can select and export the FDT Project to an external file using Export FDT Project.

The default folder and file name/location for Import/Export FDT Project is “$(FieldMate install folder)\Export.”

The default file name after using Export FDT Project is “FDT Project name.fmpjt.”

Also, you can also import that file using Import FDT Project. If another file with the same name exists in FieldMate, the import is aborted and an error message appears.

TIP

The FDT Project cannot be created, deleted, duplicated, exported, and imported while DTM Works is running.

You can open the FDT Project and rename it by right-clicking the name of the FDT Project or topology → change Name.

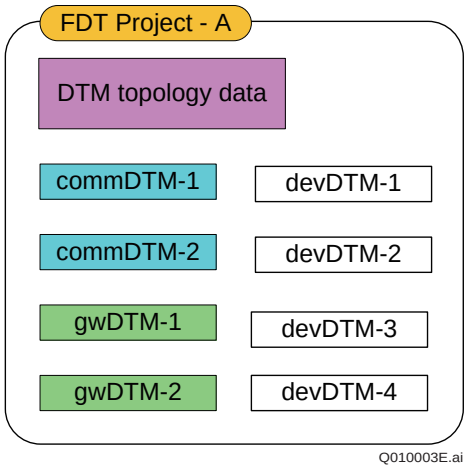
DTM Works enables you to open only one FDT Project at a time.

Update and Scan Devices

In UDC mode, you can update and scan for live devices that are connected to FieldMate. When you update and scan for live devices, the status and progress of the operation are displayed in the status bar of FieldMate.

Saving Data

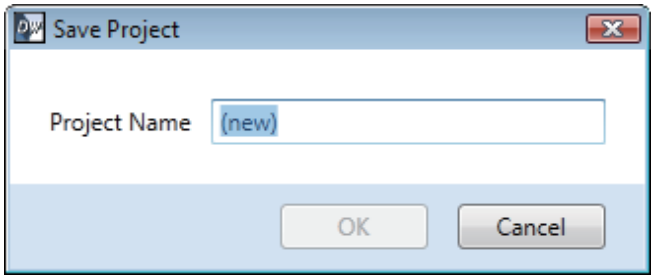
- All the defined data including the network topology of commDTMs and gatewayDTMs can be saved and loaded as a FDT Project.
- The configuration data of the selected Device DTM can be exported and imported to and from an external file.



Q010003E.ai

Figure Q-1-3

The following window displays when you select Save Project from File.



Q010004E.ai

Figure Q-1-4 Save FDT Project

Q-2 FDT Project Operation

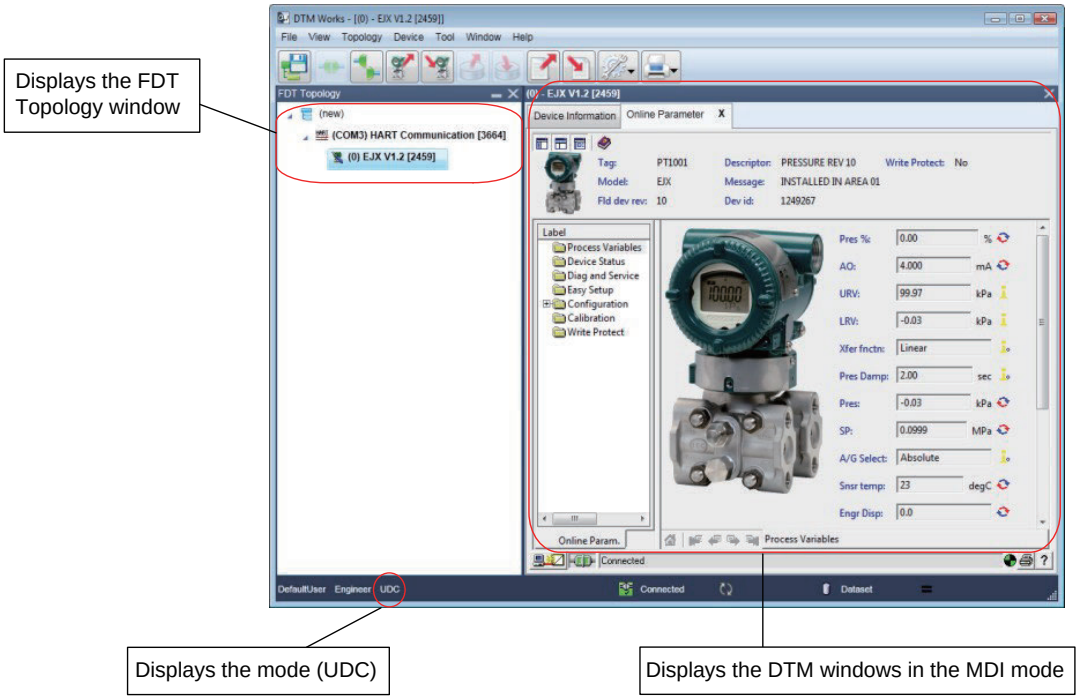


Figure Q-2-1 DTM Works (UDC Mode)

Startup

You can start up DTM Works with New or Open.

Event Viewer

Event Viewer shows the logs of operation and system activities that are handled by DTM Works. You can use this information for audit purposes.

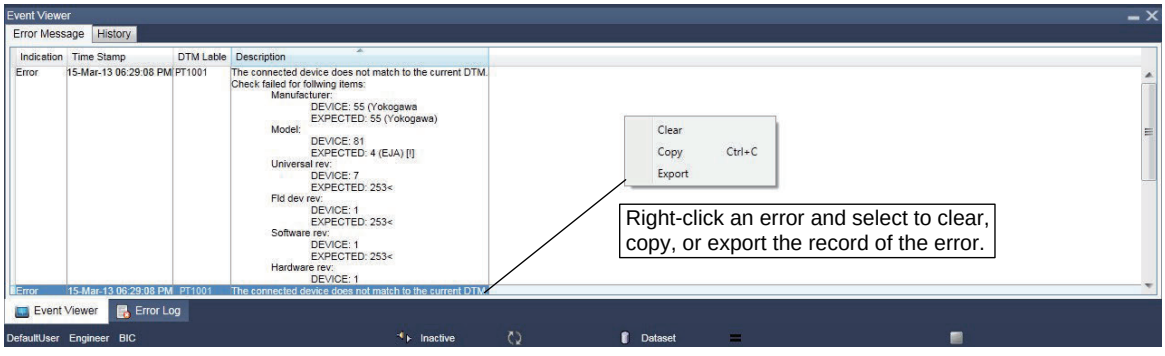
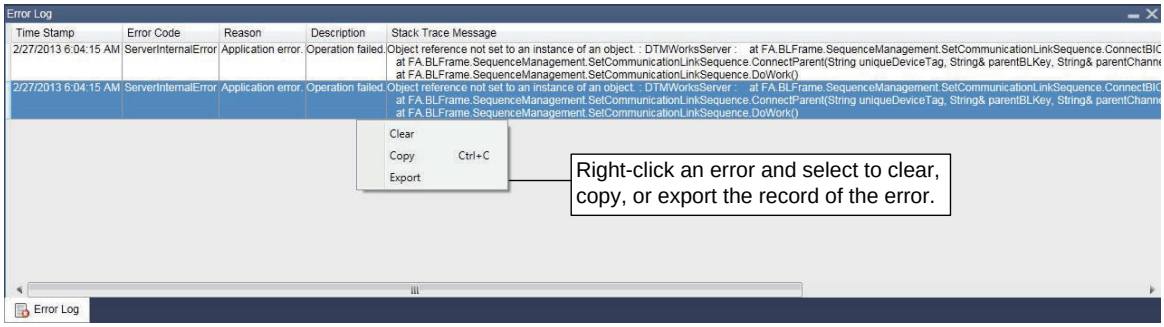


Figure Q-2-2 Event Viewer

Error Log

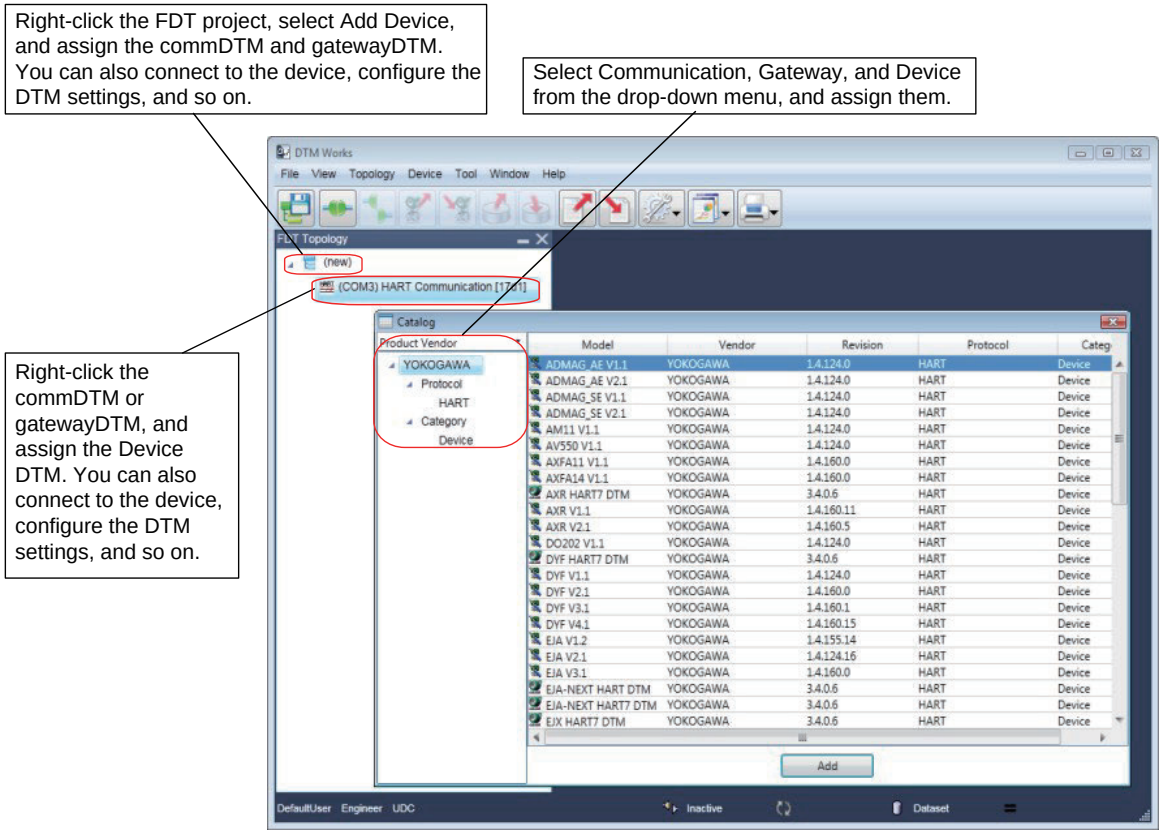
Error Log displays the logs of errors that occurred during the operation and system activities that are handled by DTM Works. You can use this information for maintenance purposes.



Q020003E.ai

Figure Q-2-3 Error Log

FDT Project Window



Q020004E.ai

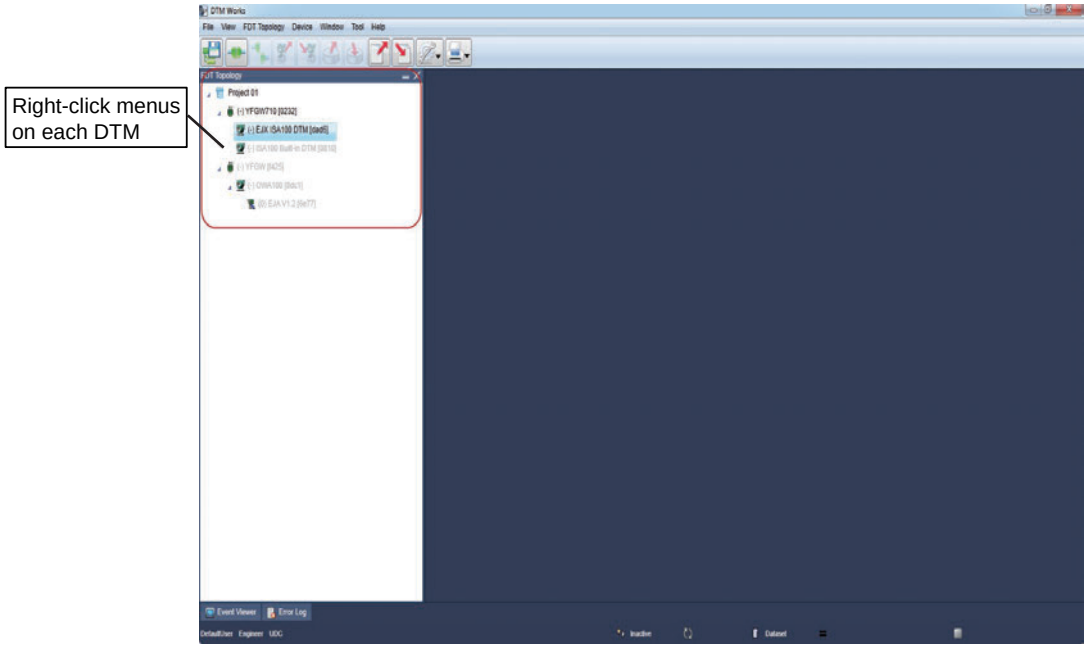
Figure Q-2-4 Creating Network Topology

FDT Project Menu

Table Q-2-1

Menu		Description
File	Load from Database	Loads DTM data from the database.
	Save to Database	Saves DTM data to the database.
	Load from File	Loads DTM data from an external file.
	Save to File	Saves DTM data to an external file.
	Save Project	Saves the FDT Project.
	Exit	Exits DTM Works.
View	FDT Topology	Selects whether to show or hide the FDT Topology pane.
	DTM Catalog	Selects whether to show or hide the DTM Catalog window.
	Toolbar	Selects whether to show or hide the tool bar.
	Status bar	Selects whether to show or hide the status bar.
	Event Viewer	Selects whether to show or hide the Event Viewer window.
	Error Log	Select whether to show or hide the Error Log window.
Topology	Add	Adds a commDTM, gateway DTM, or device DTM.
	Remove	Removes a commDTM, gatewayDTM, or device DTM.
	Rename	Renames a commDTM, gatewayDTM, or device DTM.
	Set Address	Sets the address of the device.
	Scan and Build	Scans all connected devices and builds the FDT topology.
Device	Connect	Connects to a device.
	Disconnect	Disconnects from a device.
	Upload	Uploads parameters from a device. This command is enabled only when connection is established.
	Download	Downloads parameters to a device. This command is enabled only when connection is established.
	Configuration	Displays the configuration of the devices.
	Documents	Opens the Help file of the DTM.
	Offline Parameter	Displays offline parameters.
	Online Parameter	Displays online parameters.
	The parameters differ, depending on the communication protocol and model.	
	Additional Functions	Displays the additional functions that are available for the device.
	The functions differ, depending on the communication protocol and device model.	
	Reports	Displays reports that can be generated.
	The report options differ, depending on the communication protocol and device model.	
	Properties	Displays device DTM information.
Tool	Options	Displays the Options window.
Window	Close	Closes the corresponding active window.
	Close All	Closes all the windows.
Help	About	Displays information about DTM Works.

Right Click DTM Menus in FDT Topology



Q020005E.ai

Figure Q-2-5

Table Q-2-2

	FDT Project	commDTM	gatewayDTM	Device DTM
Add	App.	App.	App.	N/A
Remove	N/A			App.
Rename	App.			
Set Address	N/A	N/A	N/A	N/A
Scan & Build	N/A	App.	App.	
Connect/Disconnect				App.
Upload				
Download				
Configuration				N/A
Additional functions				App.
Offline Parameter		N/A		
Online Parameter				
Diagnosis				
Observe				
Documents		App.	N/A	N/A
Reports			App.	App.
Properties				

TIP

The available DTM functions vary, depending on the selected DTM.

DTM Catalog

This window enables you to assign the communication path (for the commDTM and gatewayDTM) and the Device DTM.

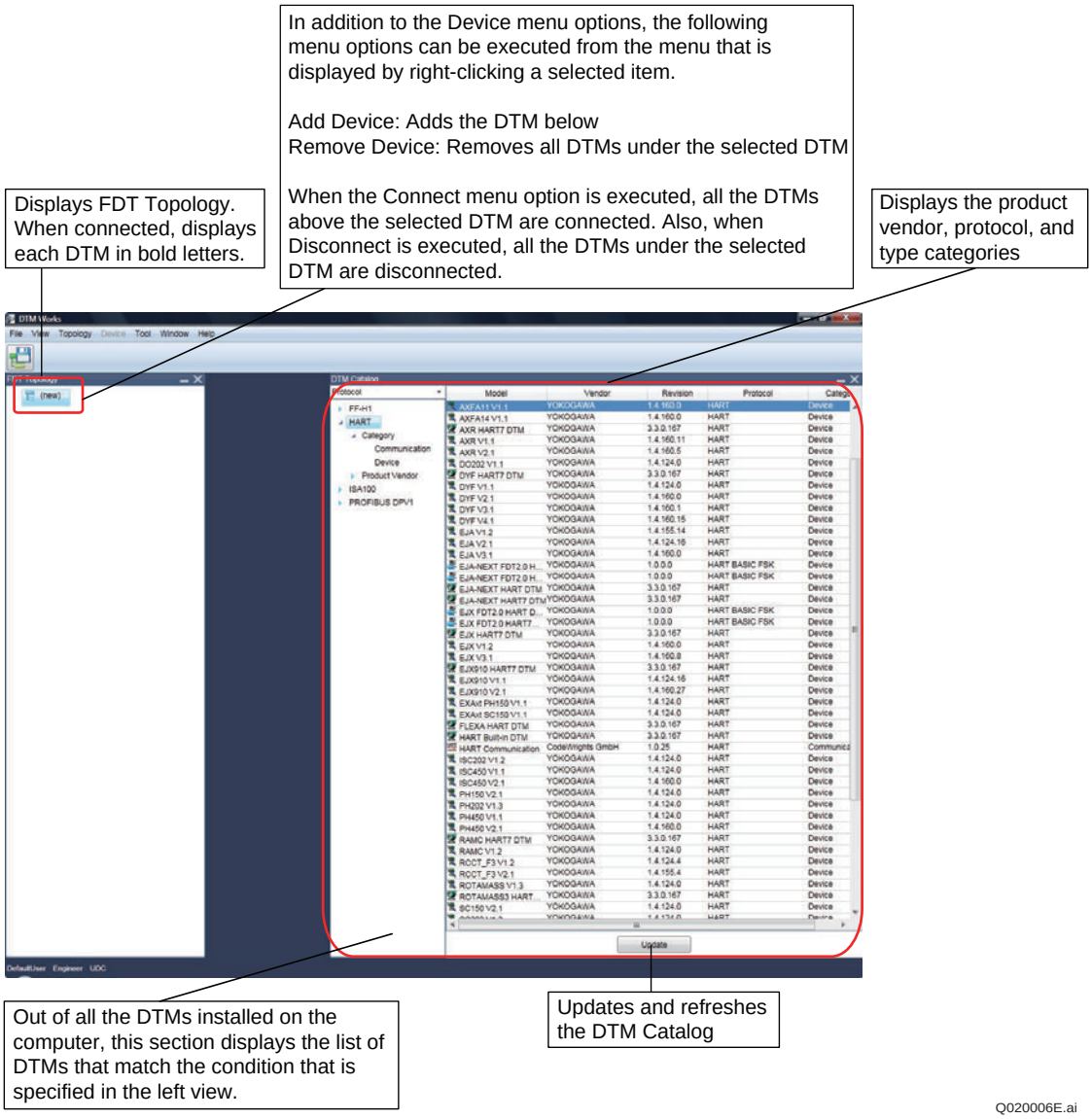


Figure Q-2-6 DTM Catalog

Scan and Build Feature

The Scan and Build function can be used to scan a communication, gateway, or field device. This function is enabled only when the commDTM or gatewayDTM is connected.

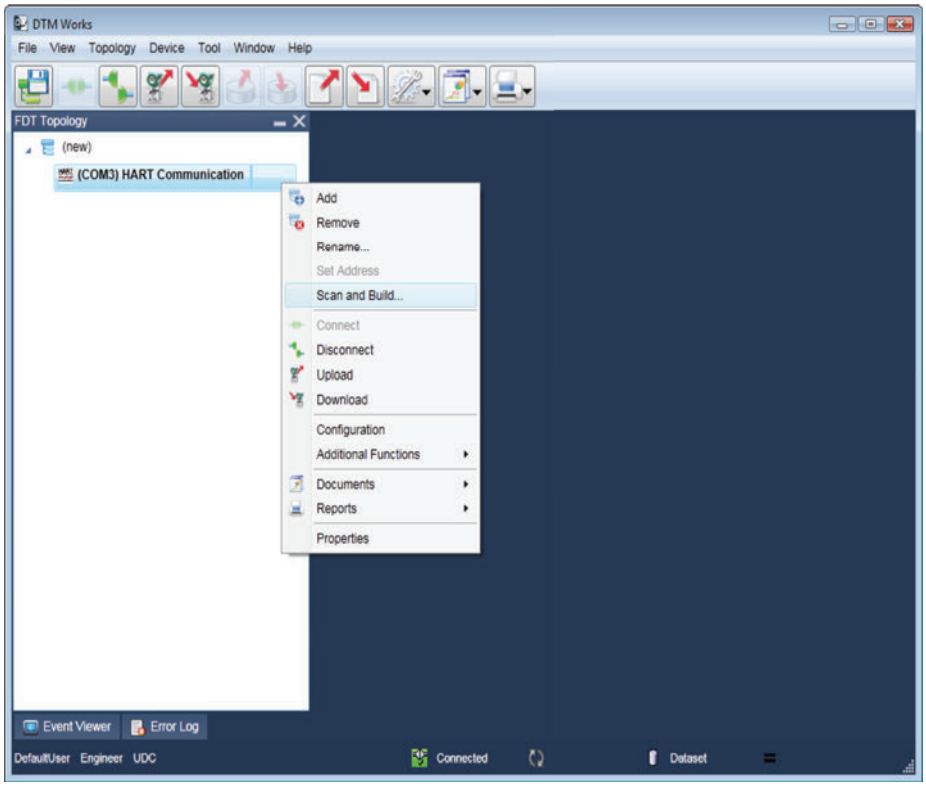
When you run the scan function on a communication device or gateway device, it scans the selected channel and displays a list of gateway devices and field devices that are directly connected to it. You can choose to add newly detected gateway devices and field devices to the FDT project. For gateway devices and field devices that already exist in the FDT project, you can choose to update their information.

The maximum number of devices that you can add to a single FDT project is 100.

Scanning Communication or Gateway Devices

Follow these steps to scan a communication or gateway device:

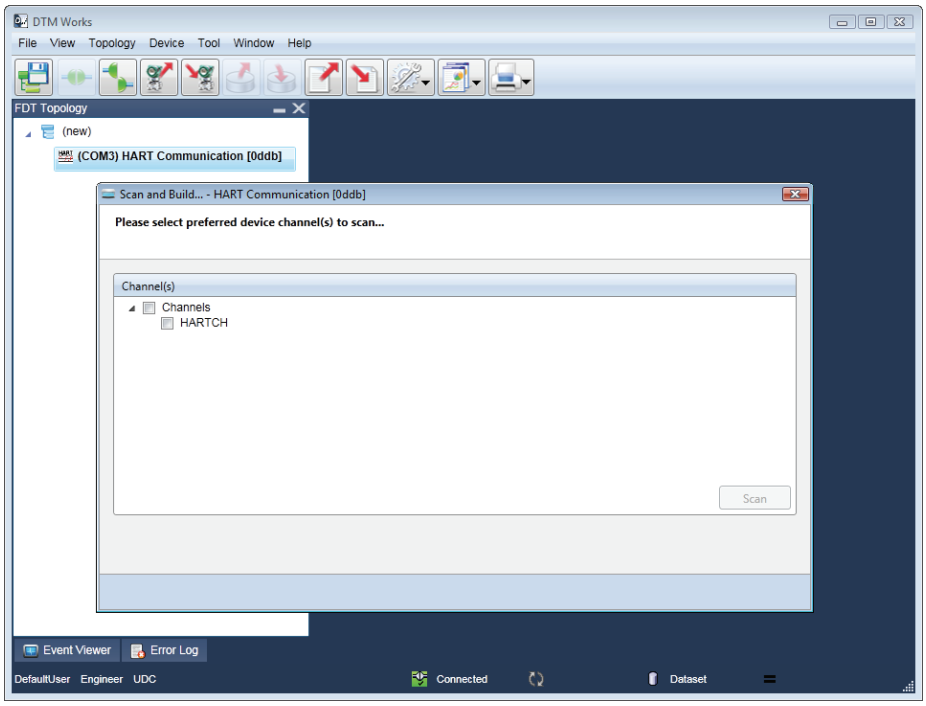
1. On the FDT Topology, from the FDT Project, select the communication or gateway device that you want to scan.
2. Connect the communication or gateway device.
3. Right-click the selected DTM and select [Scan and Build].



Q020007E.ai

Figure Q-2-7

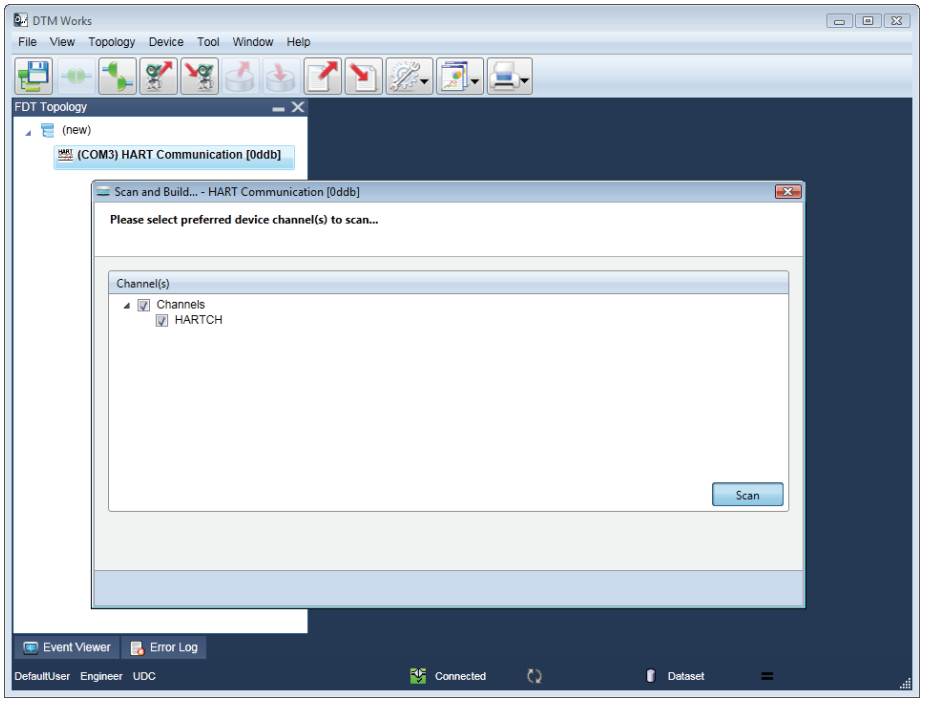
4. The available channels for the selected communication or gateway device appear.



Q020008E.ai

Figure Q-2-8

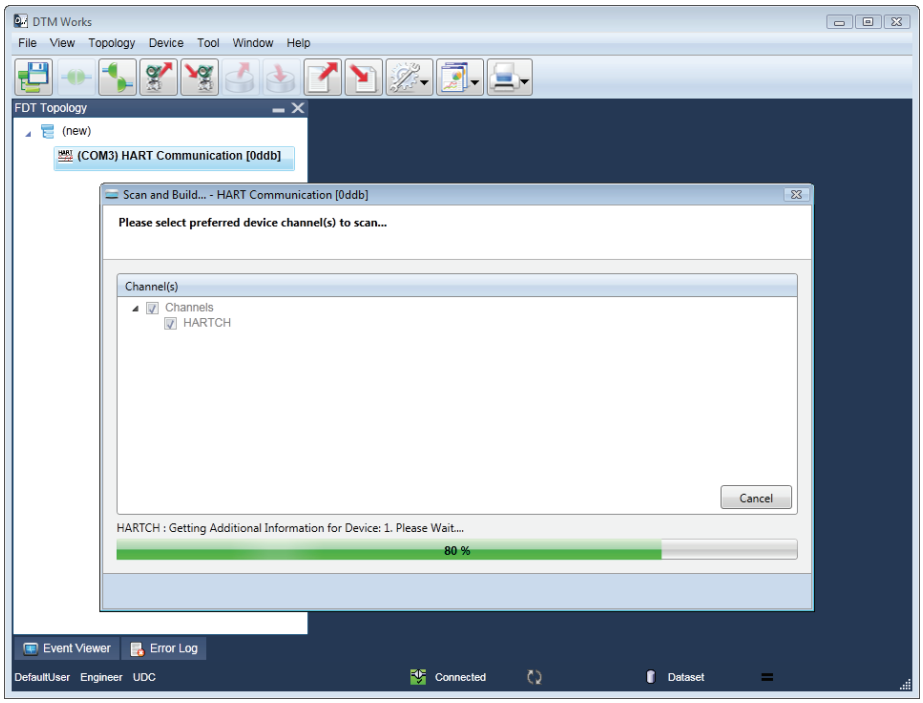
5. Select the preferred device channel to scan, and then press [Scan].



Q020009E.ai

Figure Q-2-9

6. DTM Works starts scanning the selected device channel.



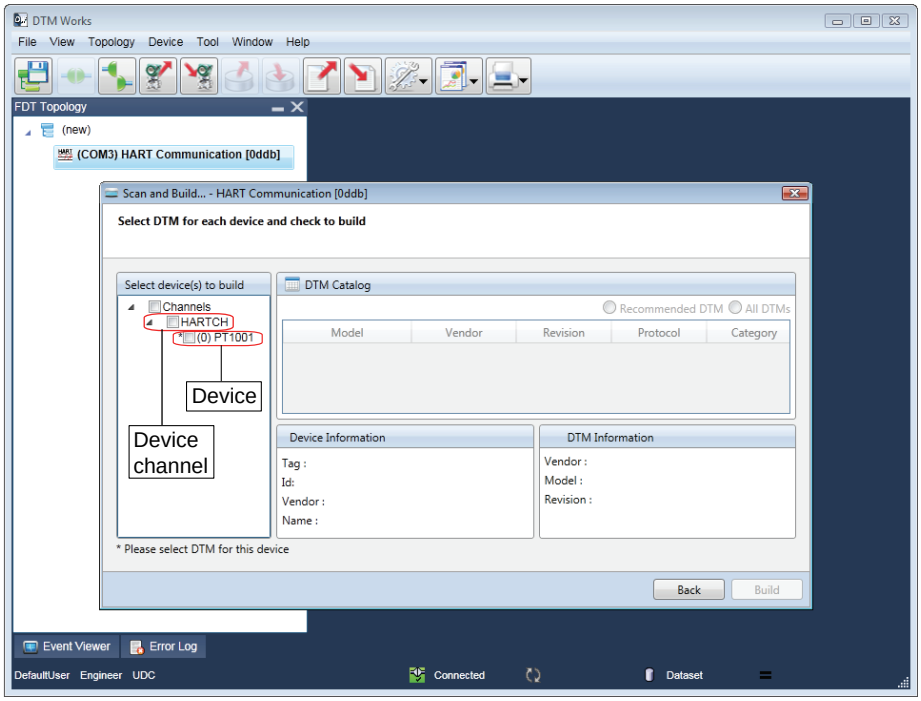
Q020010E.ai

Figure Q-2-10

At any time, you can cancel the scanning process by clicking [Cancel].

7. After the scan process is completed, the results of the scan appear.

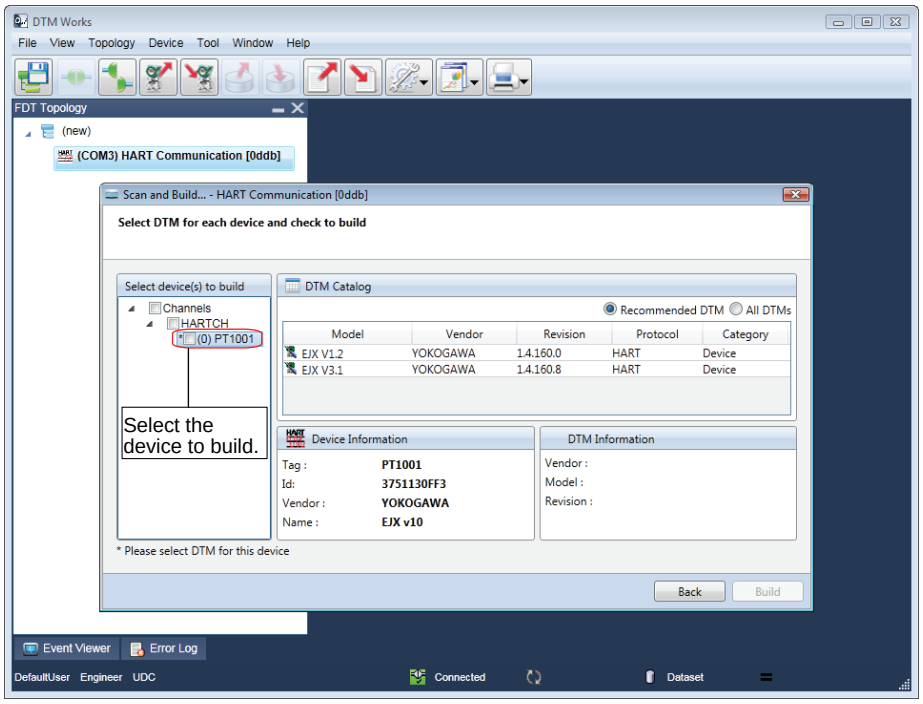
   Note: There must be at least one device that is connected to FieldMate for the scan results to appear. The following window appears, showing the available devices that you can select to build.



Q020011E.ai

Figure Q-2-11

8. Select the device to build.

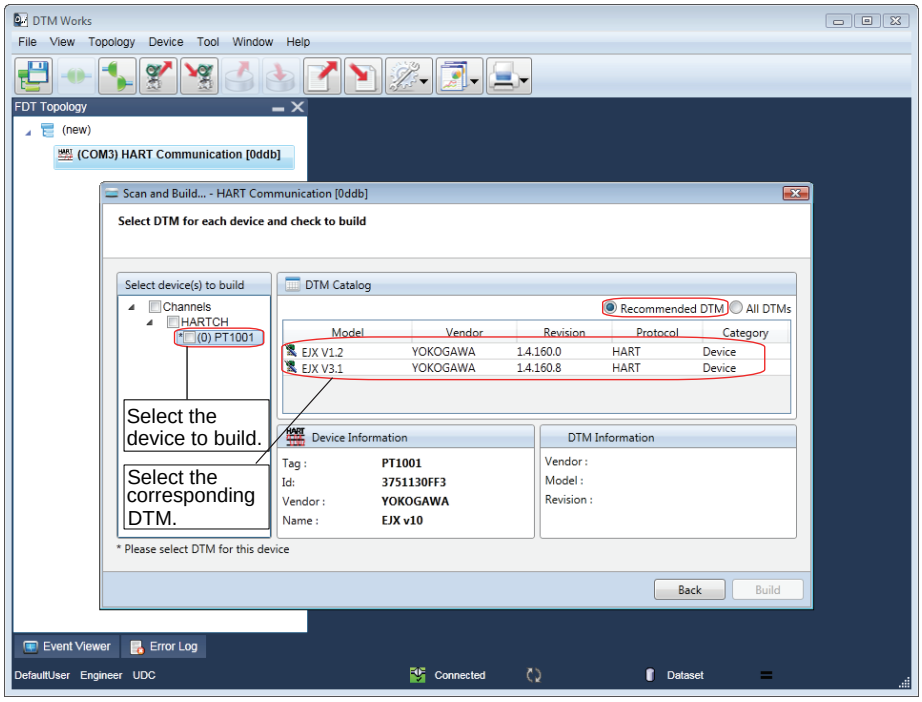


Q020012E.ai

Figure Q-2-12

9. In the DTM Catalog section, select the corresponding DTM.

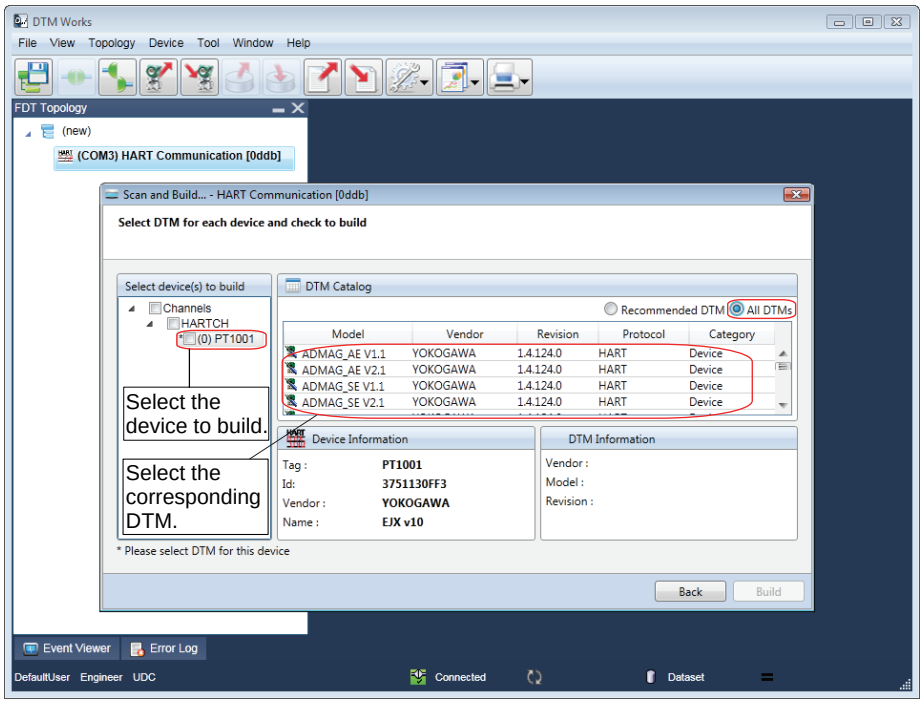
   When selecting the DTM, you can view the recommended gateway or device DTMs that are supported.



Q020013E.ai

Figure Q-2-13

You can also view other supported gateway or device DTMs by selecting [All DTMs].

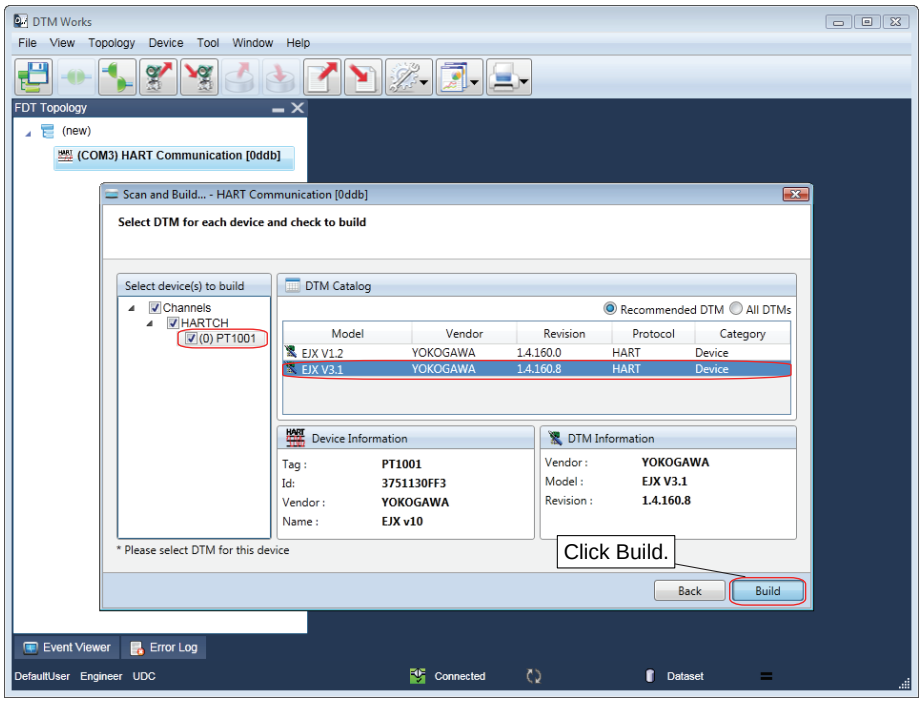


Q020014E.ai

Figure Q-2-14

Repeat steps 8 and 9 for all the devices that you want to build.

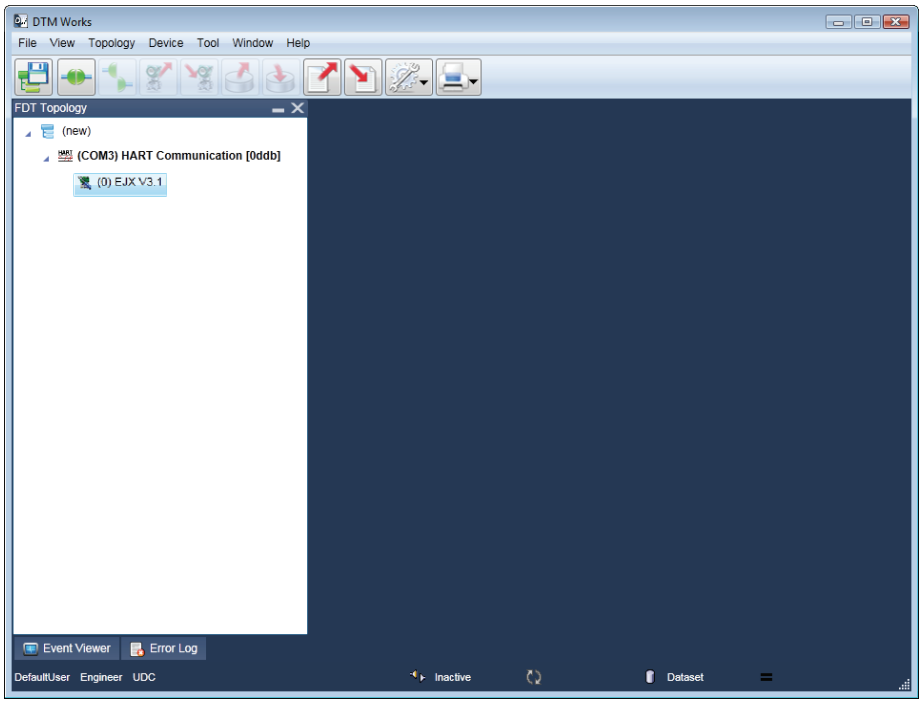
10. Click [Build].



Q020015E.ai

Figure Q-2-15

11. The device is added to the FDT Project.



Q020016E.ai

Figure Q-2-16

FDT Topology

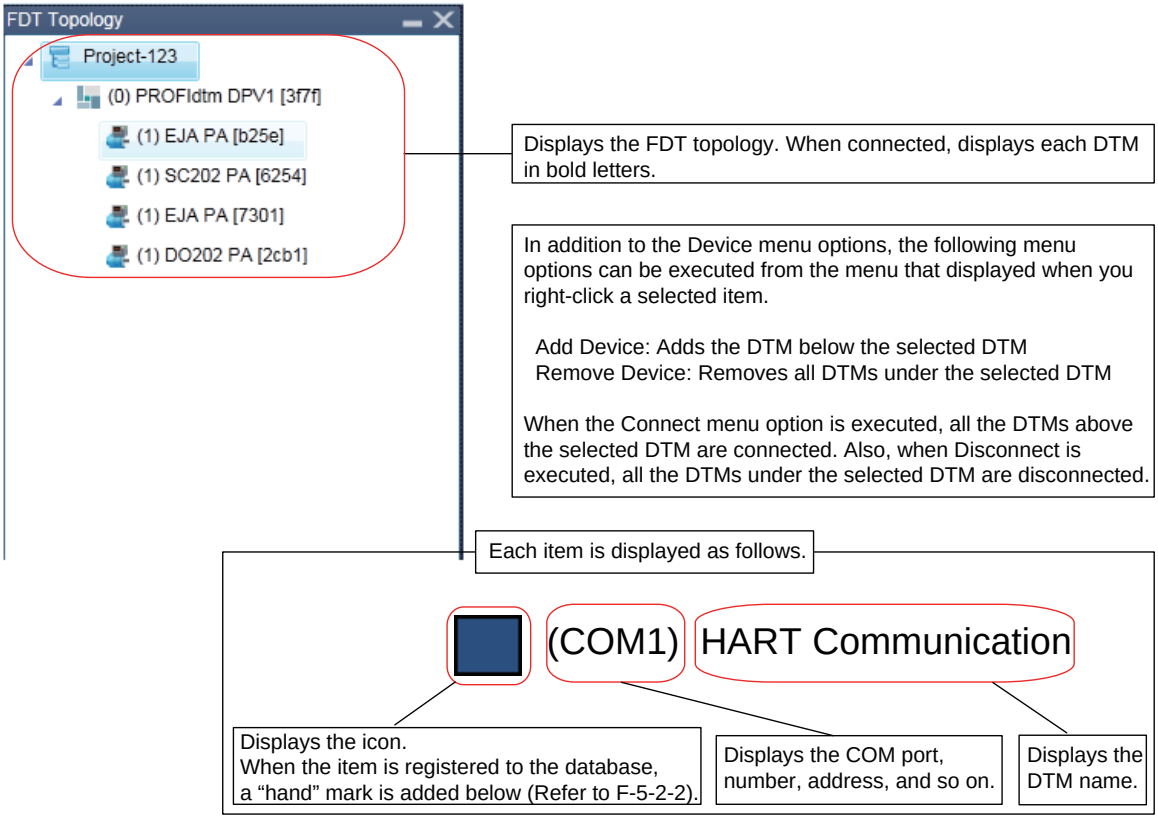


Figure Q-2-17 FDT Topology

R Adding/Deleting Device Files

The DD and selected device DTM of Yokogawa devices are installed with FieldMate. The selected DD/DTM of other manufacturers are also installed.

In the following cases, it is necessary to start Device Files Setup or use the Device Files Media and install additional DD and DTM separately.

Table R-1

Expected Case	Media to Use	Requirement for DTM Setup*
The installation of the Yokogawa device DTM or the DD/DTM of other manufacturers' is required after you install FieldMate.	Device Files Media	Not required
Adding DD/DTM of Yokogawa or other manufacturers' after the Device Files Media was issued.	Media for the device files.	Required

* DTM Setup means assigning the device DTM to the model.

R-1 Installation of DD File and Setting Device Icon

The following case describes the installation of the additional DD for a HART/FOUNDATION fieldbus/PROFIBUS/ISA100 device that is directly connected to FieldMate on the Segment Viewer or Device Navigator. The HART/FOUNDATION fieldbus/PROFIBUS /BRAIN/ISA100 device icon can also be changed.

R-1-1 Installation of DD File

To check the device settings and status, you need to access the device parameters. For HART, Foundation fieldbus H1, and ISA100 devices, the detailed information of the target device is required to access their parameters. The detailed information of the device is defined on a file.

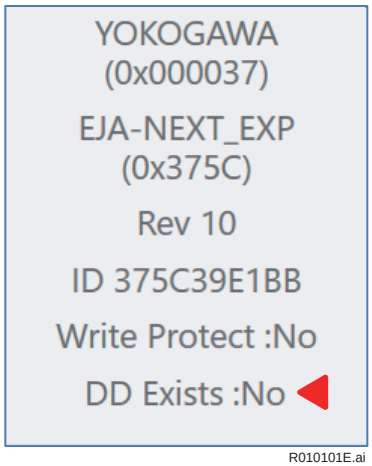
- HART : DD file
- Foundation fieldbus H1 : Capability file / DD file
- ISA100 : Capability file / DD file

The above files are provided by the device vendor and can be obtained from the device vendor's website. You can also download HART and Foundation fieldbus H1 from the FieldComm Group home page.

FieldComm Group: <https://fieldcommgroup.org>

For Yokogawa devices, the DD files can be downloaded as "Device Files" from the FieldMate user site.

If you connect a device to FieldMate without DD file for the device, "DD Exists: No" is displayed in the lower left of the segment viewer. In this case, you need to install the DD file.



R010101E.ai

Figure R-1-1 DD file information

This section describes how to install the detailed device information (hereafter called the DD file) in FieldMate.

DD File Utility

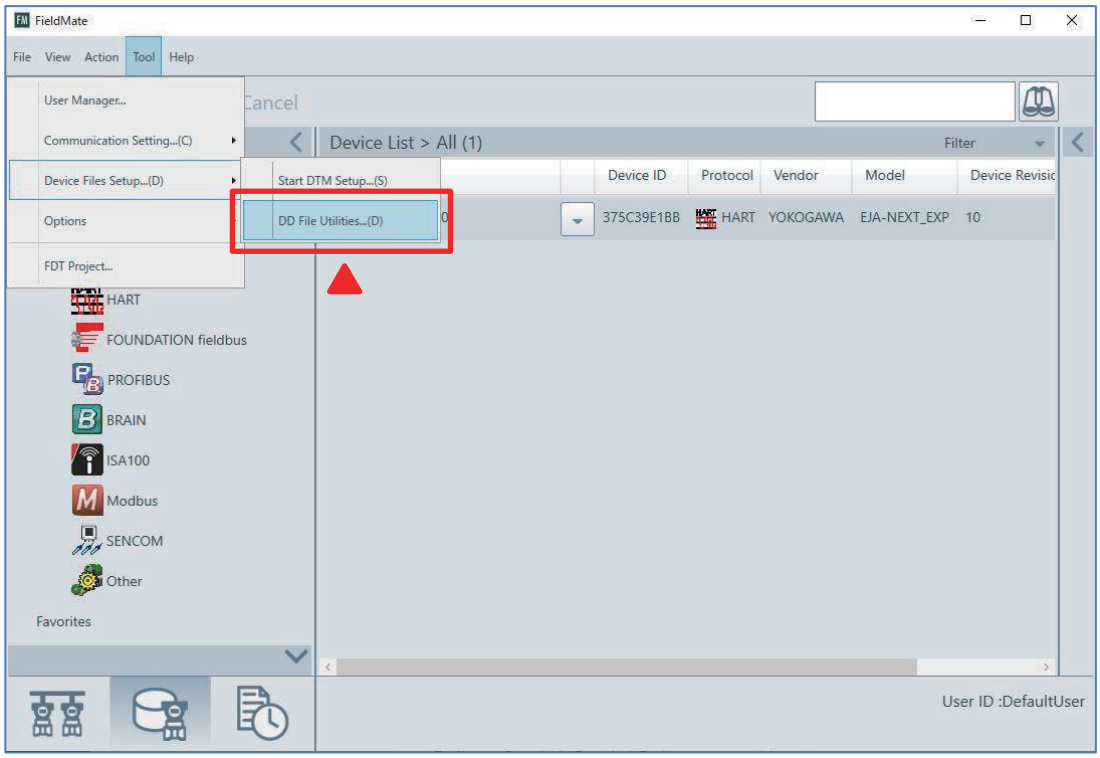
With DD File Utility, you can install DD files in FieldMate and confirm the DD files already installed in FieldMate.

NOTE

FieldMate R3.04.10 or later is required.

Startup

1. Select [Device Files Setup] - [DD File Utilities] from the [Tools] menu of the segment viewer or device navigator.



R010102E.ai

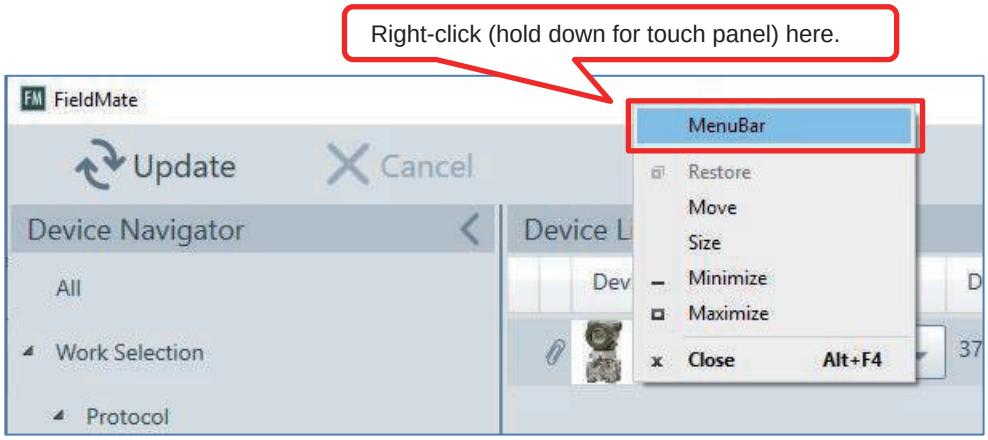
Figure R-1-2 Start DD File Utility

NOTE

The switching time of the test signal on the screen during test execution is the time when the test signal output command is output to the device. Therefore, a delay of several seconds might occur before the test signal is output from the device.

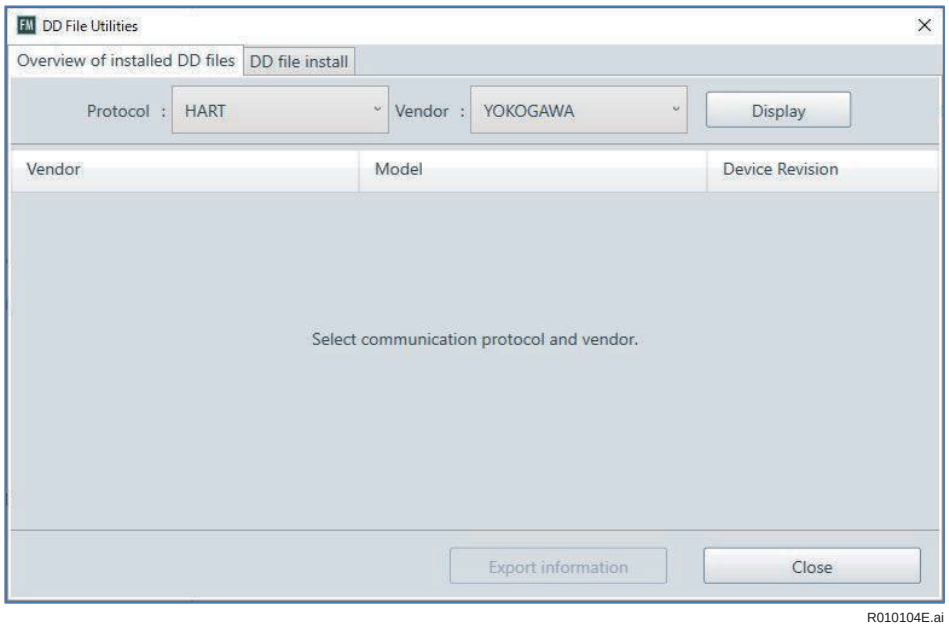
When using FieldMate on a PC with a small screen, FieldMate hides the menu bar to secure the information to be displayed. In such a case, right-click (hold down on the touch panel) the title bar of the FieldMate window to display the menu bar display / non-display selection menu (MenuBar).

If you select the “MenuBar”, the item is checked, and the menu bar is displayed.



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2. DD file Utility dialog appears.



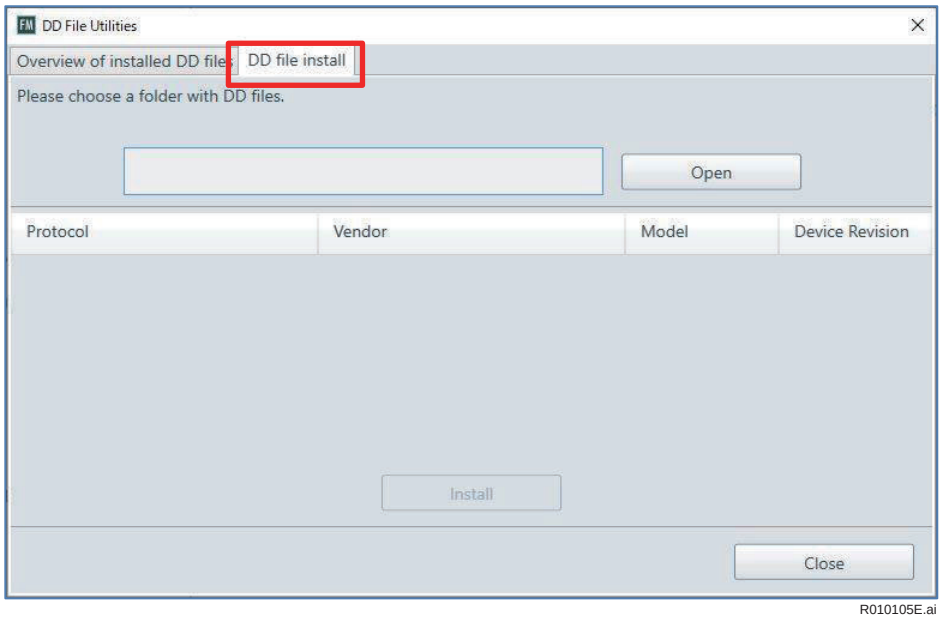
R010104E.ai

Figure R-1-3 DD File Utility dialog

Installation of DD file

You can install the DD file in FieldMate on the [DD file install] tab.

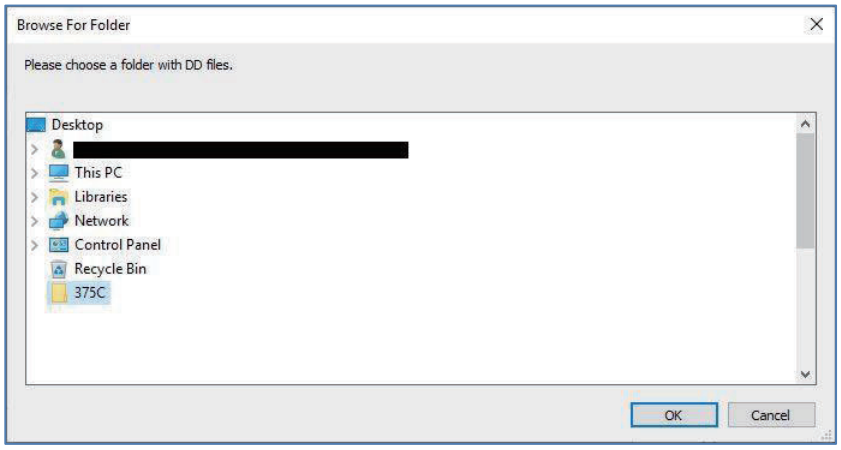
1. Select [DD file install] tab.



R010105E.ai

Figure R-1-4 DD file install tab

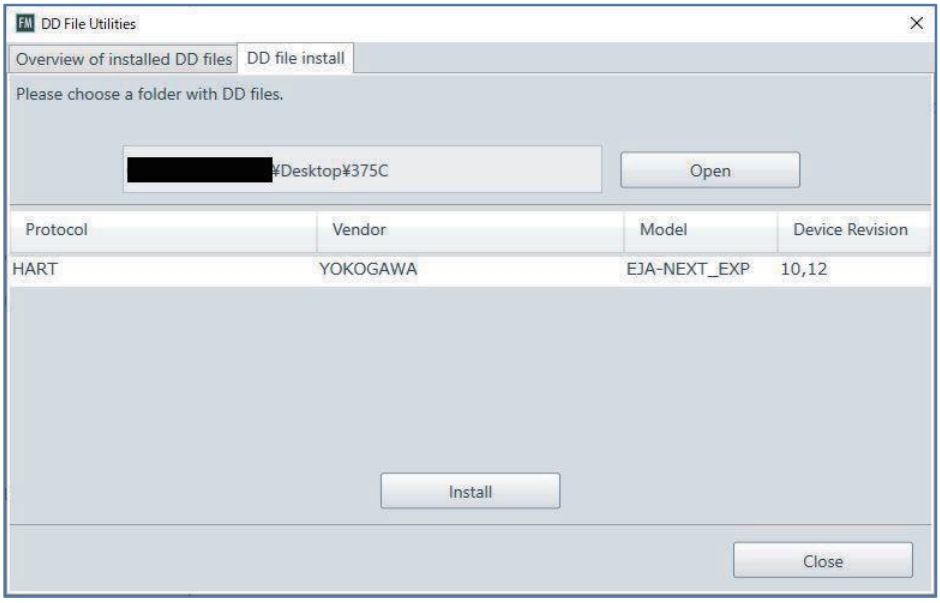
2. Click [Open] button to open the folder selection window, specify the folder with DD file, and click [OK] button.



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Figure R-1-5 Select the folder with DD file

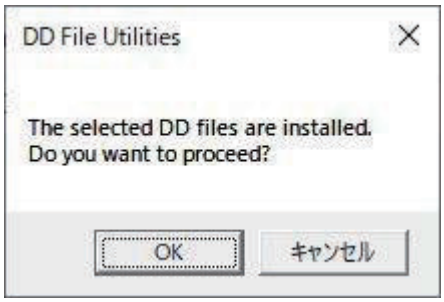
3. The information of the DD file in the selected folder is displayed.



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Figure R-1-6 The information of the DD file in the selected folder

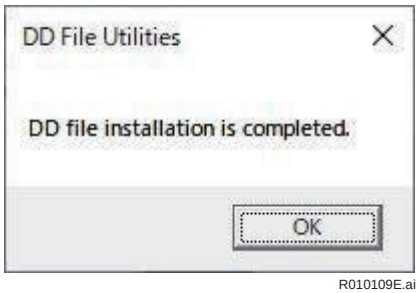
4. Click the [Install] button to install the DD file. A confirmation message is displayed and then click [OK] button.



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Figure R-1-7 Confirmation message

5. A message is displayed when the installation is complete. Click the [OK] button to finish the installation operation.



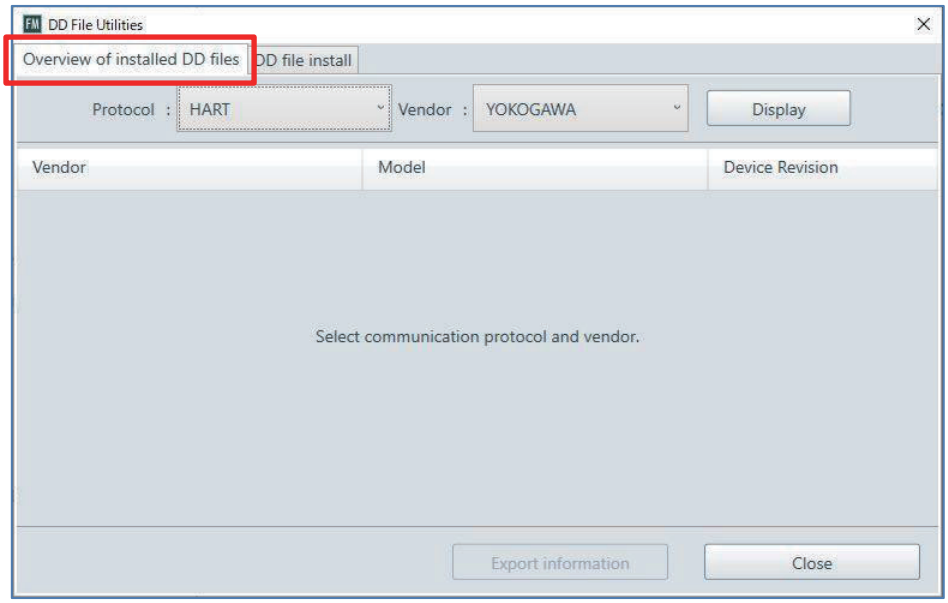
R010109E.ai

Figure R-1-8 A message of installation complete

Confirmation the installed DD files

In the [Overview of installed DD files] tab, the list of devices on which the DD file is currently installed in FieldMate is displayed.

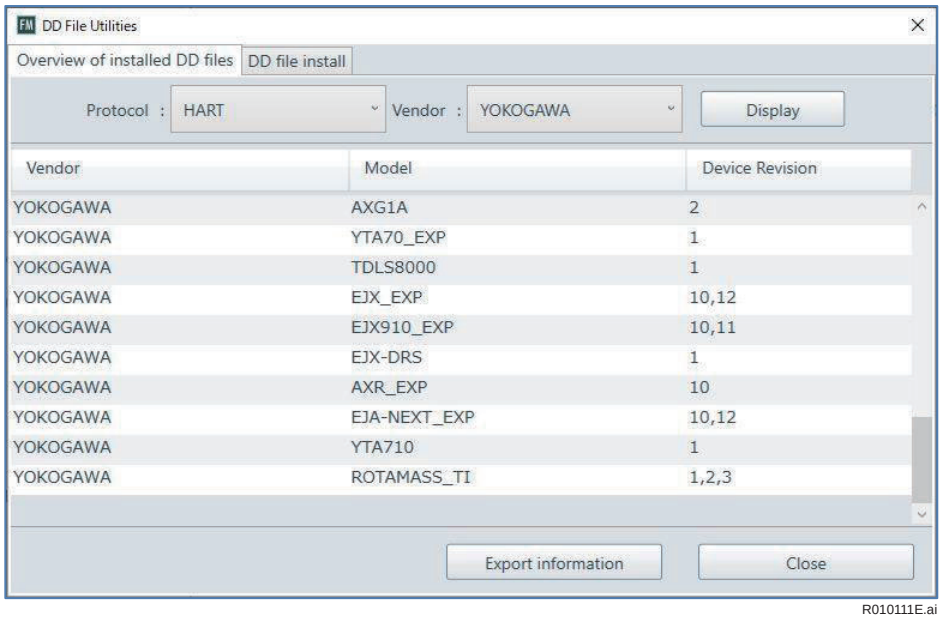
1. Select [Overview of installed DD files] tab.



R010110E.ai

Figure R-1-9 DD File Utility dialog

2. Specify the “Protocol” and “Vendor”, and then click the [Display] button. A list of devices in which DD files are installed in FieldMate is displayed. The list can be output as a text file by clicking the [Export Information] button.



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Figure R-1-10 The list of the devices that installed DD file

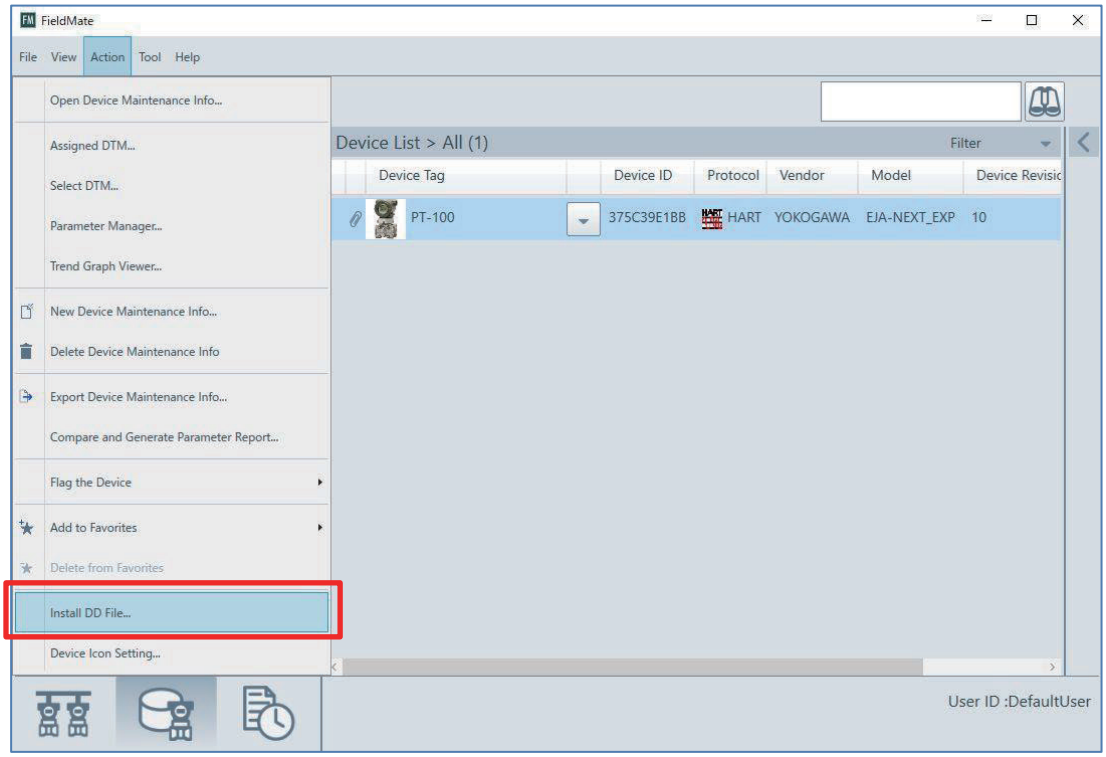
Install DD Files for the Device After Installation in Field

The DD file differs depending on the revision of the device. Since it is difficult to identify the device revision from the appearance of the device, it may not be possible to install the DD file in advance for the installed devices in field.

In such a case, you can connect FieldMate to the device to acquire the revision information of the device for preparing the DD file, and then install the DD file to FieldMate at office. You can also prepare the DD file in advance and install the DD file when connecting to the device at field.

Startup

1. Select a device from Segment Viewer or Device Navigator, and then start it from [Operation] menu - [Install DD File].



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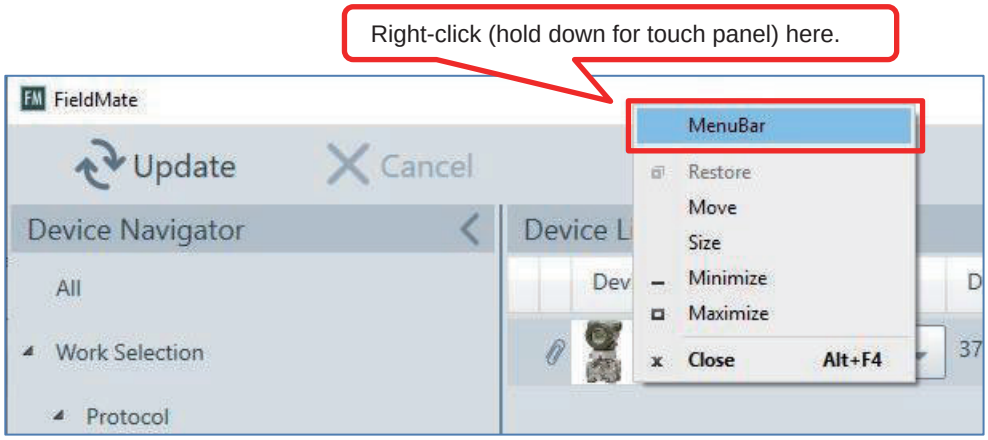
Figure R-1-11 Select “Install DD file”

NOTE

The switching time of the test signal on the screen during test execution is the time when the test signal output command is output to the device. Therefore, a delay of several seconds might occur before the test signal is output from the device.

When using FieldMate on a PC with a small screen, FieldMate hides the menu bar to secure the information to be displayed. In such a case, right-click (hold down on the touch panel) the title bar of the FieldMate window to display the menu bar display / non-display selection menu (MenuBar).

If you select the “MenuBar”, the item is checked, and the menu bar is displayed.



2. “Install DD File” dialog appears.

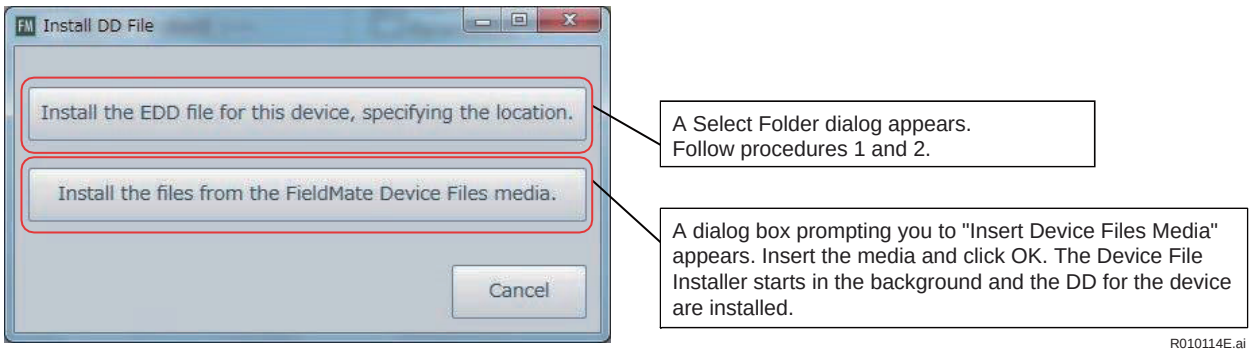
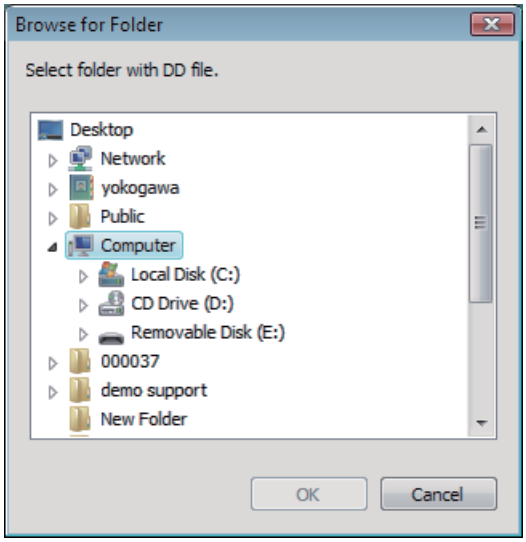


Figure R-1-12 Install DD File dialog

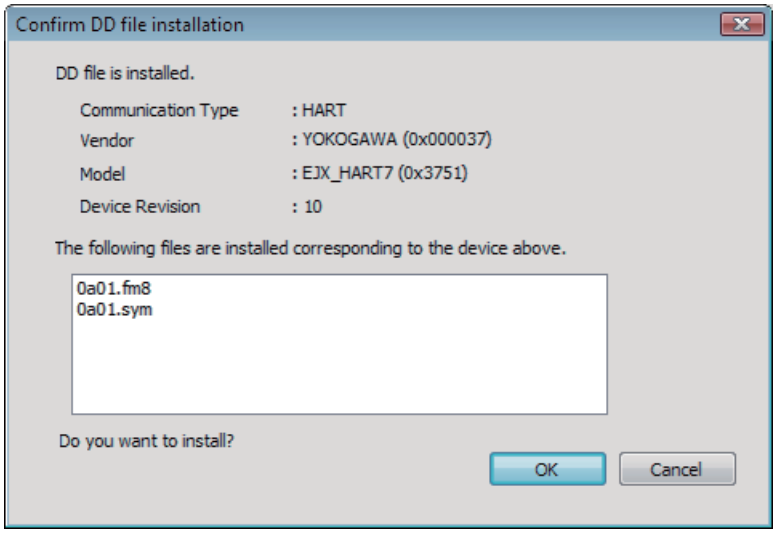
3. In the folder selection dialog, select the folder containing the DD file you want to install and click the [OK] button.



R010115E.ai

Figure R-1-13 Select the folder

4. Confirm the contents in the confirmation dialog.



R010116E.ai

Figure R-1-14 Confirm DD file information

5. Click [OK] button to install the DD file in FieldMate.

R-1-2 Device Icon

Startup

Select a device in Segment Viewer or Device Navigator and start the setup by selecting “Device Icon Setup” from the Operations menu. The following dialog box appears.

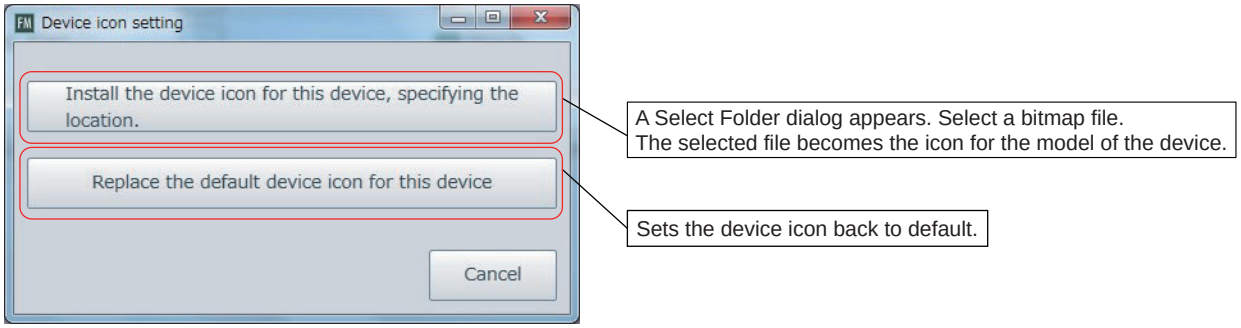


Figure R-1-15 Device Icon

- File size of device icon should be less than 100k byte.

R-2 Device Files Media

This installer is for installing device files (DD, device DTM, device icon, Device Viewer definition file, and device and DTM assignment file). There is no need for FieldMate and the device to be connected.

Startup

NOTE

The Device Files Media cannot be used for installation on a PC that is not installed with FieldMate.

Insert the Device Files Media in the media drive. Autorun starts and a device files installation window appears.

NOTE

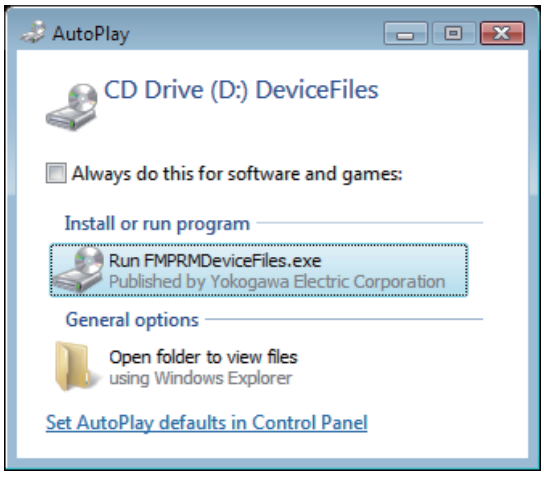
If Autorun does not start after you insert the Media, double-click the following file.

Device files Media\PRMFMDeviceFiles.exe

TIP

Due to user account control, the following windows may be displayed and confirmation operation is required.

(1) Auto Play

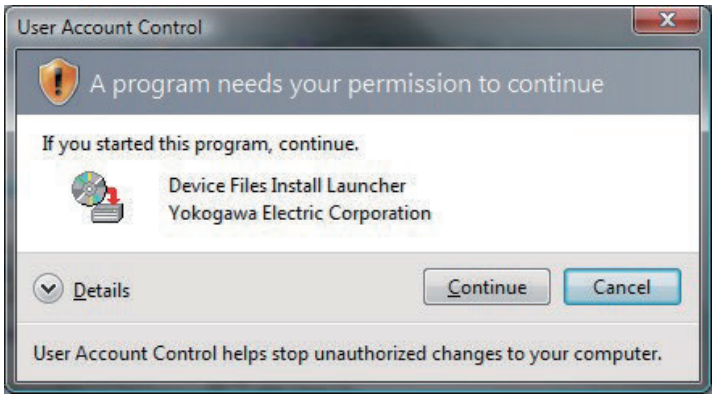


R020101E.ai

Figure R-2-1

Click “Run FMPRMDeiceFiles.exe” and proceed.

(2) User Account Control

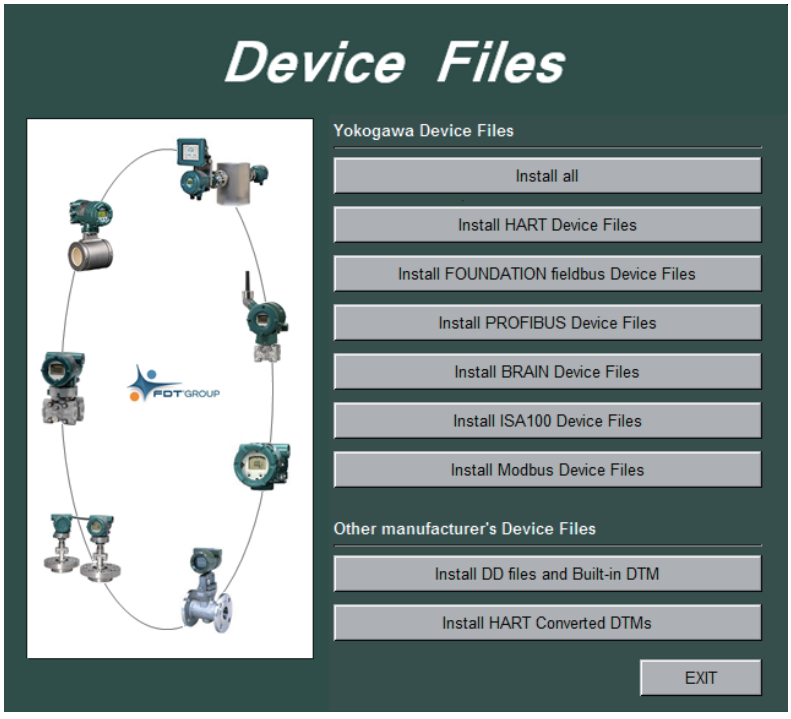


R020102E.ai

Figure R-2-2

Click “Continue” and proceed.

Window



R020103E.ai

Figure R-2-3 Device Files Installer Initial Screen

Yokogawa Device Files

Install all

- Common file
  HART device vendor name/model name file, FOUNDATION fieldbus H1 device vendor name/model name file, BRAIN device model name file, ISA100 device vendor name/model name, PROFIBUS device vendor name/model name file, Modbus device vendor name/model name file.
- Yokogawa HART device DTM libraries and assigned files, Yokogawa device DD, and Device Viewer definition file.
- Yokogawa FOUNDATION fieldbus H1 device DTM libraries and assigned files, Yokogawa device DD, and Device Viewer definition file.
- Yokogawa BRAIN device DTM libraries and assigned files.
- Yokogawa ISA100 device DTM libraries and assigned files.
- Yokogawa Built-in DTM (FOUNDATION fieldbus H1 Built-in DTM and HART Built-in DTM).
- Yokogawa PROFIBUS device DTM libraries and assigned files, Yokogawa device DD.
- Yokogawa Modbus device DTM libraries and assigned files.

Install Yokogawa HART Device File

- Common file
  HART device vendor name/model name file, FOUNDATION fieldbus H1 device vendor name/model name file, BRAIN device model name file, ISA100 device vendor name/model name, PROFIBUS device vendor name/model name file, Modbus device vendor name/model name file.
- Yokogawa HART device DTM libraries and assigned files, Yokogawa device DD, and Device Viewer definition file.
- Yokogawa Built-in DTM (HART Built-in DTM).

Install Yokogawa FOUNDATION fieldbus Device File

- Common file
  HART device vendor name/model name file, FOUNDATION fieldbus H1 device vendor name/model name file, BRAIN device model name file, ISA100 device vendor name/model name, PROFIBUS device vendor name/model name file, Modbus device vendor name/model name file.
- Yokogawa FOUNDATION fieldbus H1 device DTM libraries and assigned files, Yokogawa device DD, and Device Viewer definition file.
- Yokogawa Built-in DTM (FOUNDATION fieldbus H1 Built-in DTM).

Install Yokogawa BRAIN Device File

- Common file
  HART device vendor name/model name file, FOUNDATION fieldbus H1 device vendor name/model name file, BRAIN device model name file, ISA100 device vendor name/model name, PROFIBUS device vendor name/model name file, Modbus device vendor name/model name file.
- Yokogawa BRAIN device DTM libraries and assigned files.

Install Yokogawa ISA100 Device File

- Common file
  HART device vendor name/model name file, FOUNDATION fieldbus H1 device vendor name/model name file, BRAIN device model name file, ISA100 device vendor name/model name, PROFIBUS device vendor name/model name file, Modbus device vendor name/model name file.
- Yokogawa ISA100 device DTM libraries and assigned files.

Install Yokogawa PROFIBUS Device File

- Common file
  HART device vendor name/model name file, FOUNDATION fieldbus H1 device vendor name/model name file, BRAIN device model name file, ISA100 device vendor name/model name, PROFIBUS device vendor name/model name file, Modbus device vendor name/model name file.
- Yokogawa PROFIBUS device DTM libraries and assigned files, Yokogawa device DD.

Install Yokogawa Modbus Device File

- Common file
  HART device vendor name/model name file, FOUNDATION fieldbus H1 device vendor name/model name file, BRAIN device model name file, ISA100 device vendor name/model name, PROFIBUS device vendor name/model name file, Modbus device vendor name/model name file.
- Yokogawa Modbus device DTM libraries and assigned files.

Device Files of Other Manufacturers

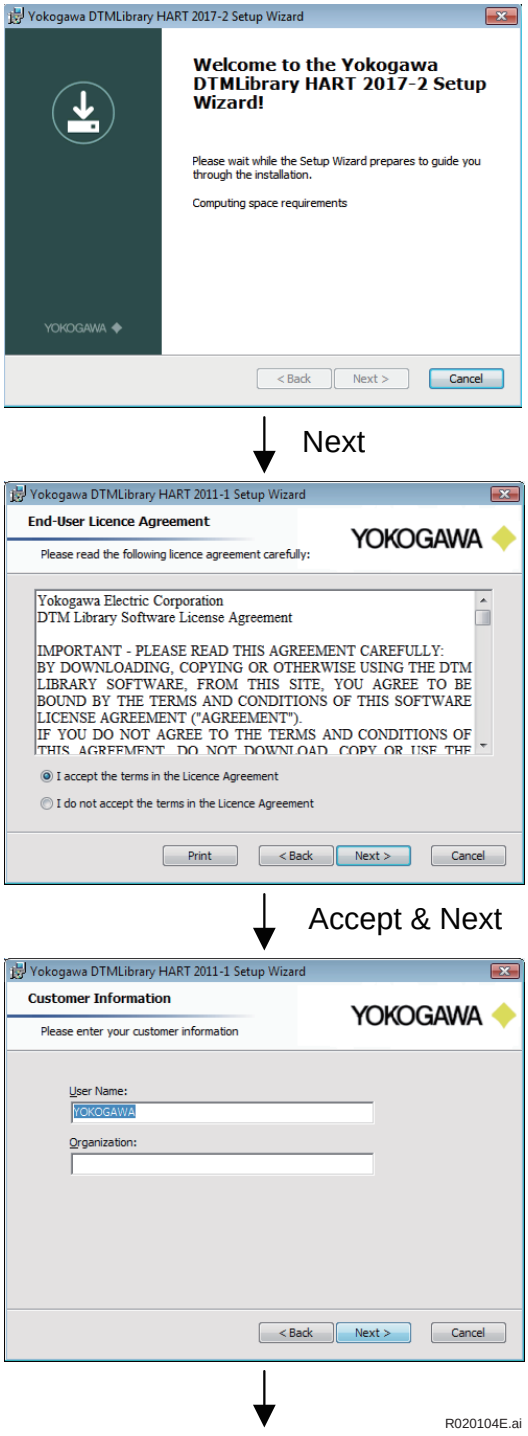
- Common file
  HART device vendor name/model name file, FOUNDATION fieldbus H1 device vendor name/model name file, BRAIN device model name file, and ISA100 device vendor name/model name, Modbus device vendor name/ model name file.
- Other manufacturers' FOUNDATION fieldbus H1 DD.
- Other manufacturers' Built-in DTM (FOUNDATION fieldbus H1 Built-in DTM, HART Built-in DTM, and ISA100 Built-in DTM).

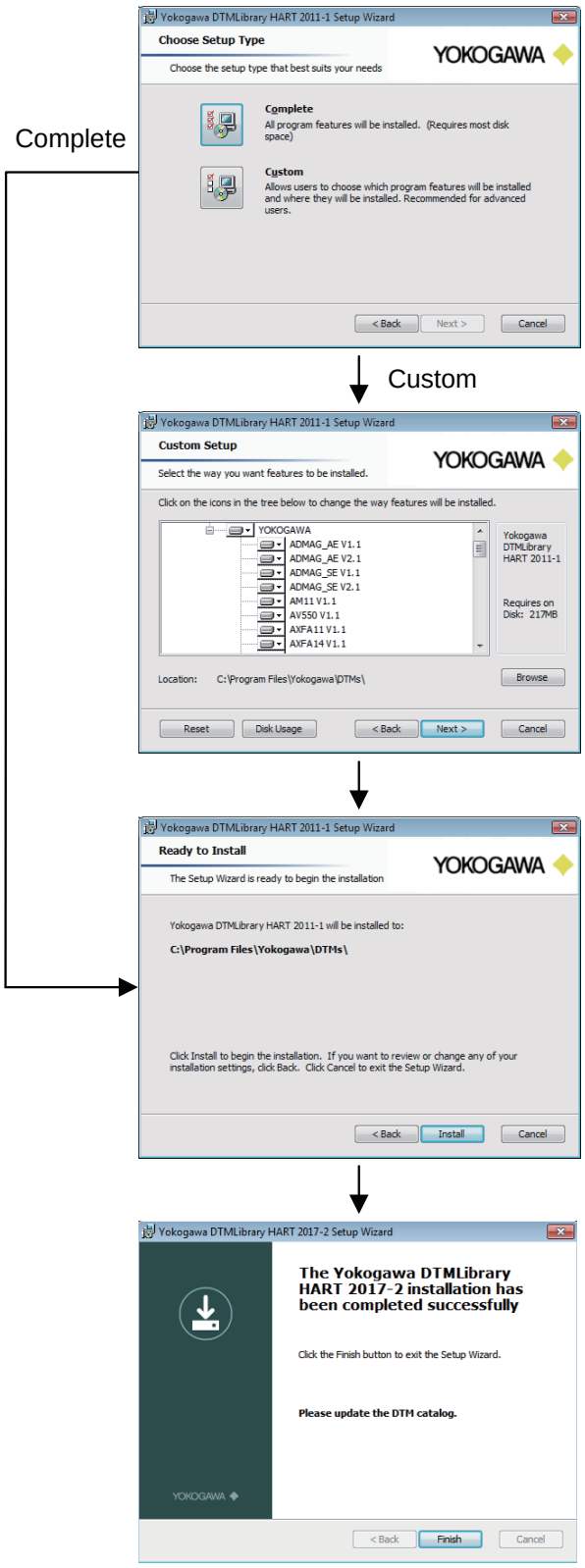
Operation

Install all

Automatic Yokogawa Device Files installation will be executed.

HART/FOUNDATION fieldbus/PROFIBUS Device File





You can select whether or not to install the DTM library for each device.

Clicking the icon on the device name, the following menu appears.

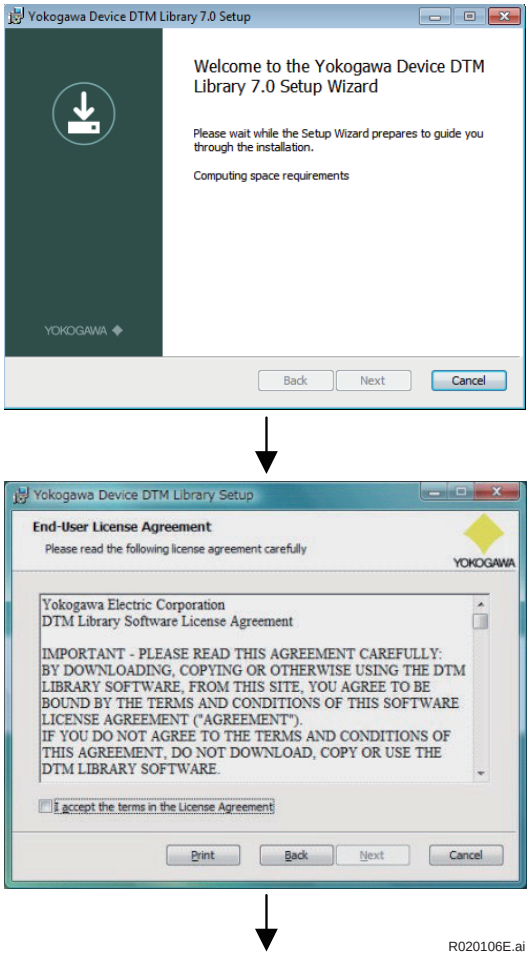
1. Will be installed on local hard drive
2. Entire feature will be installed on local hard drive
3. Entire feature will be unavailable

By default, 1 is selected.
When 1 or 2 is selected, this device DTM is installed in the local hard disk.
When 3 is selected, this entire device DTM becomes unavailable.
When this is selected, the device DTM is not installed. If the device DTM is already installed, it is uninstalled.

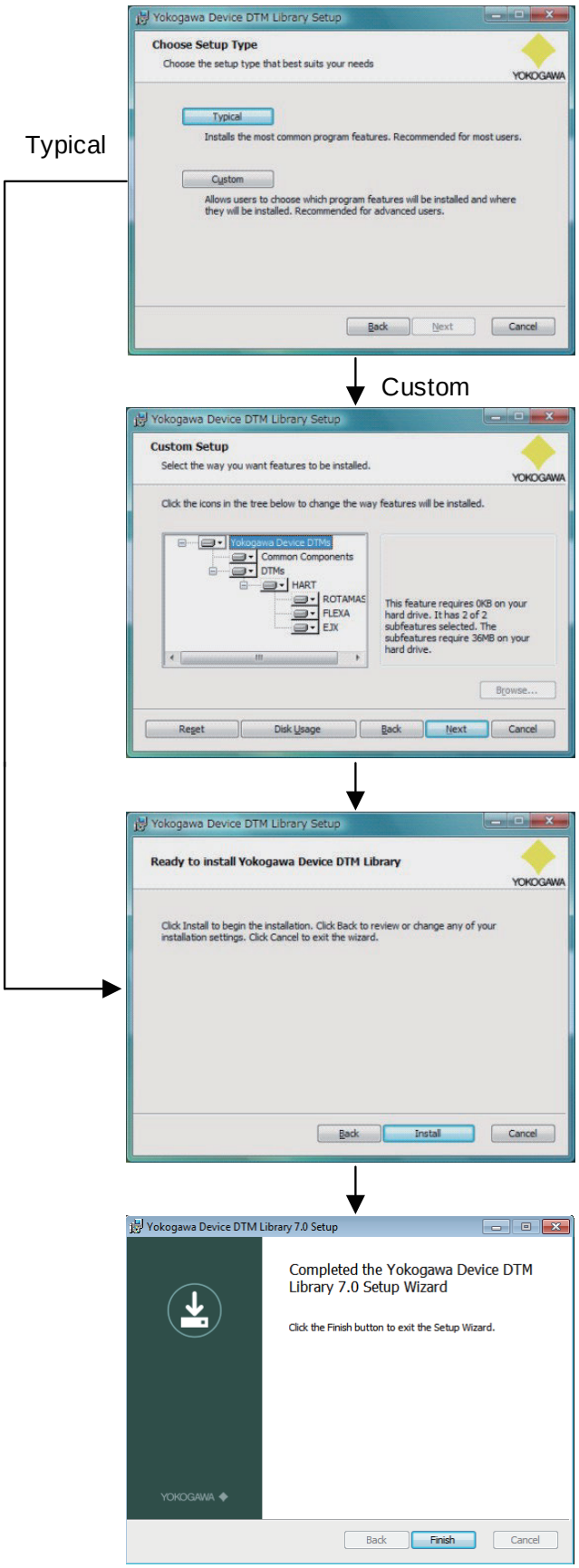
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Yokogawa DTM Library

The following path is not applicable for PROFIBUS.



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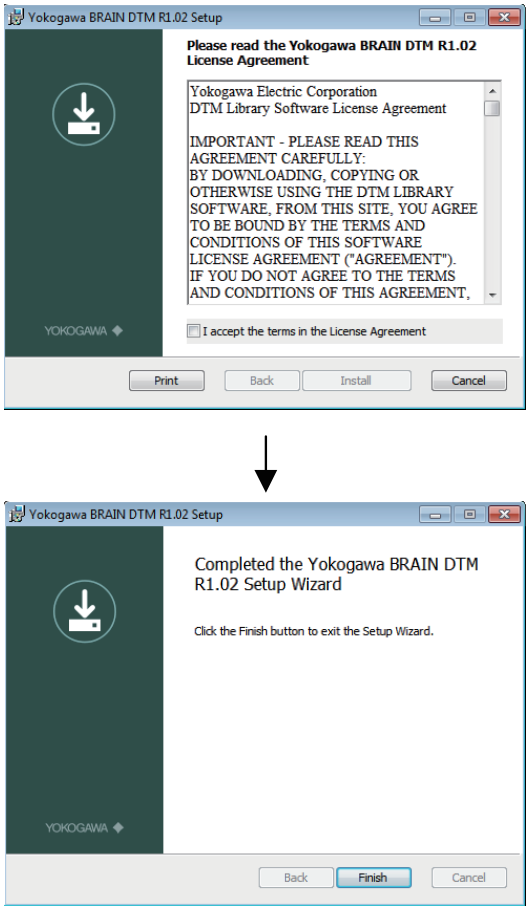


Reset Return to the previous condition.
Disk Usage Select the drive to be installed.

R020107E.ai

Figure R-2-4 Yokogawa Device DTM Library Install (Ex. HART)

BRAIN Device File

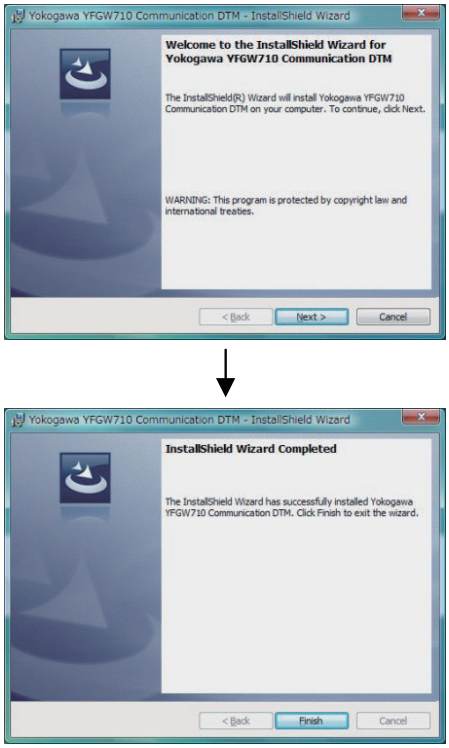


R020108E.ai

Figure R-2-5 Yokogawa Device DTM Library Install (Ex. BRAIN)

ISA100 Device File

<Communication DTM>



R020109E.ai

<Device DTM>

See above procedure of Yokogawa DTM Library part.

Device File Installer of DD Files

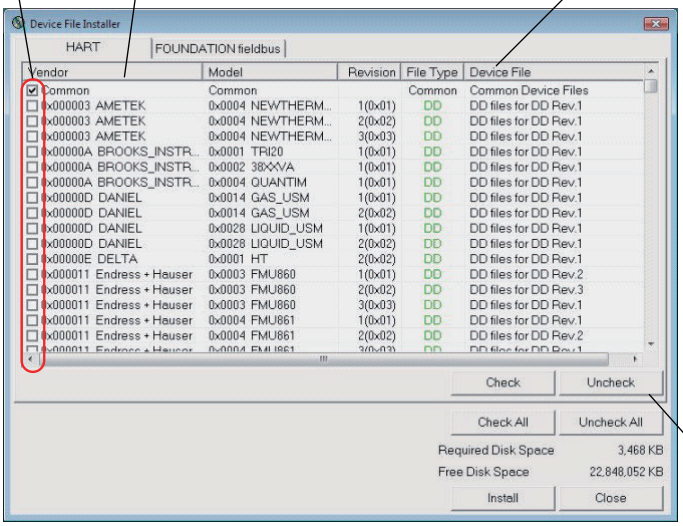
Device File Installer is applied for DD/files of other manufacturers.

Window

Displays a list of DDs that can be installed. Select the checkbox of any DD you want to install and click the Install button to start installation.
You can also use the Check and Uncheck buttons.
Use the Shift and Control keys to select multiple checkboxes.

DD files for DD Rev.N: Indicates DD revision is “N”

Click a title to sort the items accordingly



Selecting or unselecting a checkbox causes the required disk space to change. If the required disk space exceeds the free disk space on the PC, the Install button becomes unavailable.

All checkboxes are not selected by default. Device icons and the Device Viewer definition files are always installed regardless of the checkboxes selected. However, if a file of the same name already exists, the file is not installed if the corresponding file on the PC has a more recent date.

R020110E.ai

- Built-in DTM for other vendor will be installed automatically.

Figure R-2-7

Device File Installer of Converted HART DTM

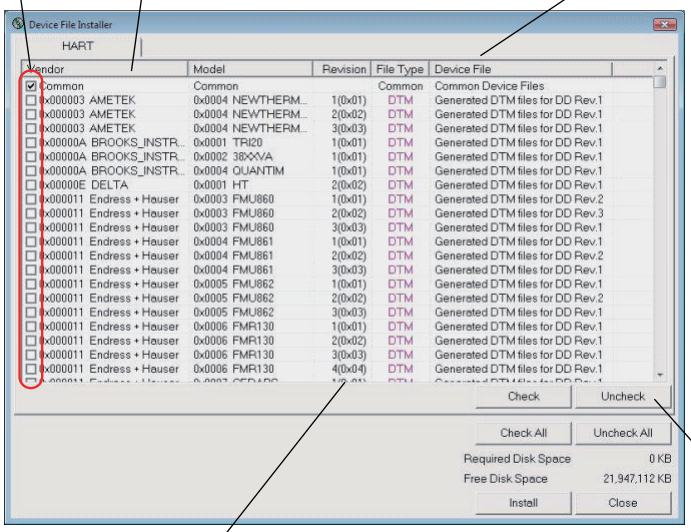
Device File Installer is applied for Converted HART DTM of other manufacturers.

Window

Displays a list of DTMs that can be installed. Select the checkbox of any DTM you want to install and click the Install button to start installation.
You can also use the Check and Uncheck buttons.
Use the Shift and Control keys to select multiple checkboxes.

Click a title to sort the items accordingly

Converted DTM files for DD Rev.N: Indicates the DTM converted from DD revision “N”



For DTM supporting multiple device revisions, the supported device revision numbers that are displayed are separated by a comma (eg. 1, 2, 3)
For DTM supporting all device revisions, “ALL” is displayed.

Selecting or unselecting a checkbox causes the required disk space to change. If the required disk space exceeds the free disk space on the PC, the Install button becomes unavailable.

All checkboxes are not selected by default. Device icons and the Device Viewer definition files are always installed regardless of the checkboxes selected. However, if a file of the same name already exists, the file is not installed if the corresponding file on the PC has a more recent date.

R020111E.ai

Figure R-2-8

R-3 DTM Setup

It is used to assign the DTM of other manufacturers' HART/FOUNDATION fieldbus/ PROFIBUS/ ISA100 devices with a device of a specific model after installing the DTM.

Assignment is allowed that single DTM supports more than single device model in DTM Setup.

Startup

Start DTM Setup by clicking the Start button, pointing to YOKOGAWA FieldMate → DTM Setup.

Window

The DTM Setup Tool has two windows, the Main window and the Edit window.

Main window

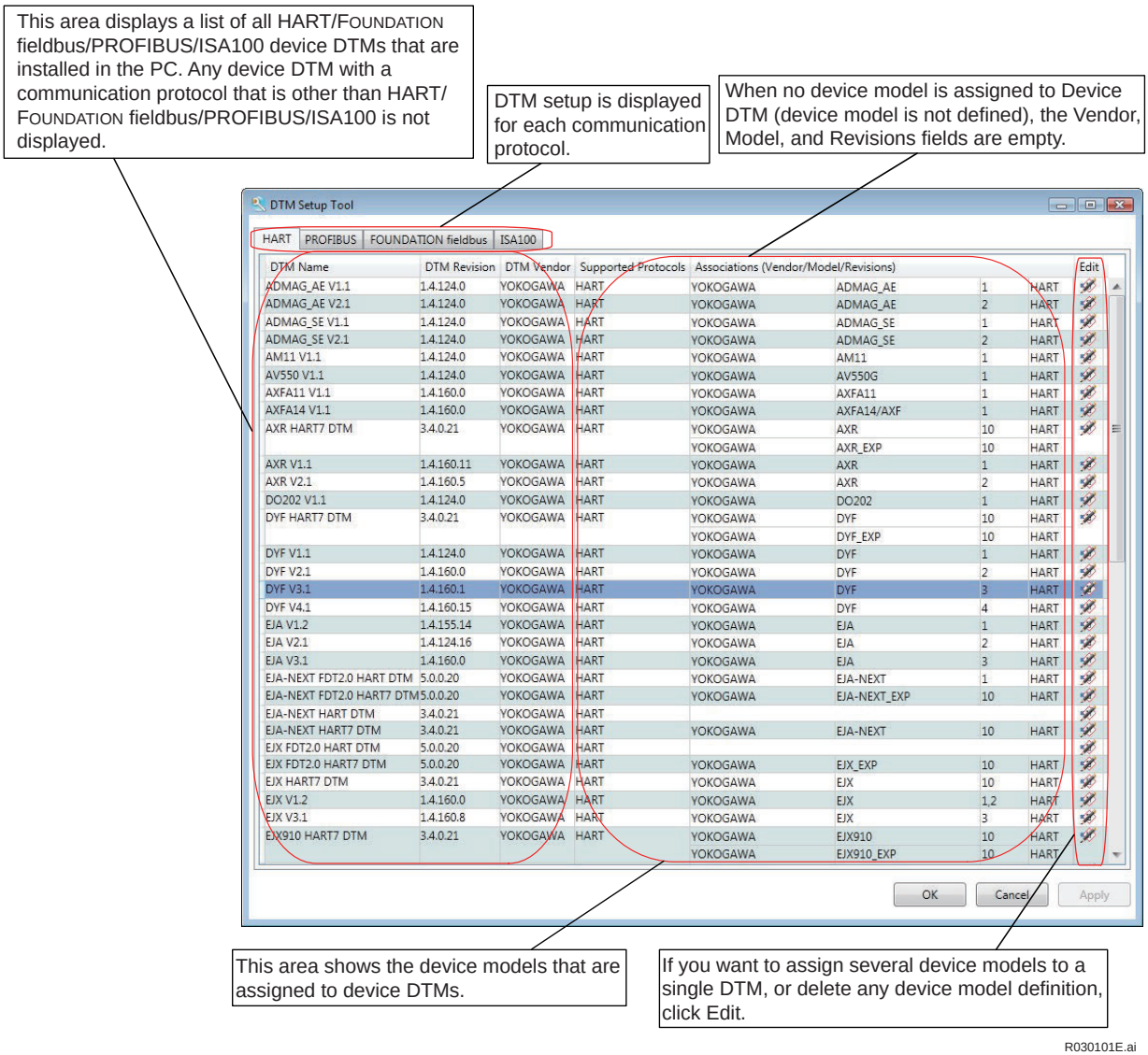
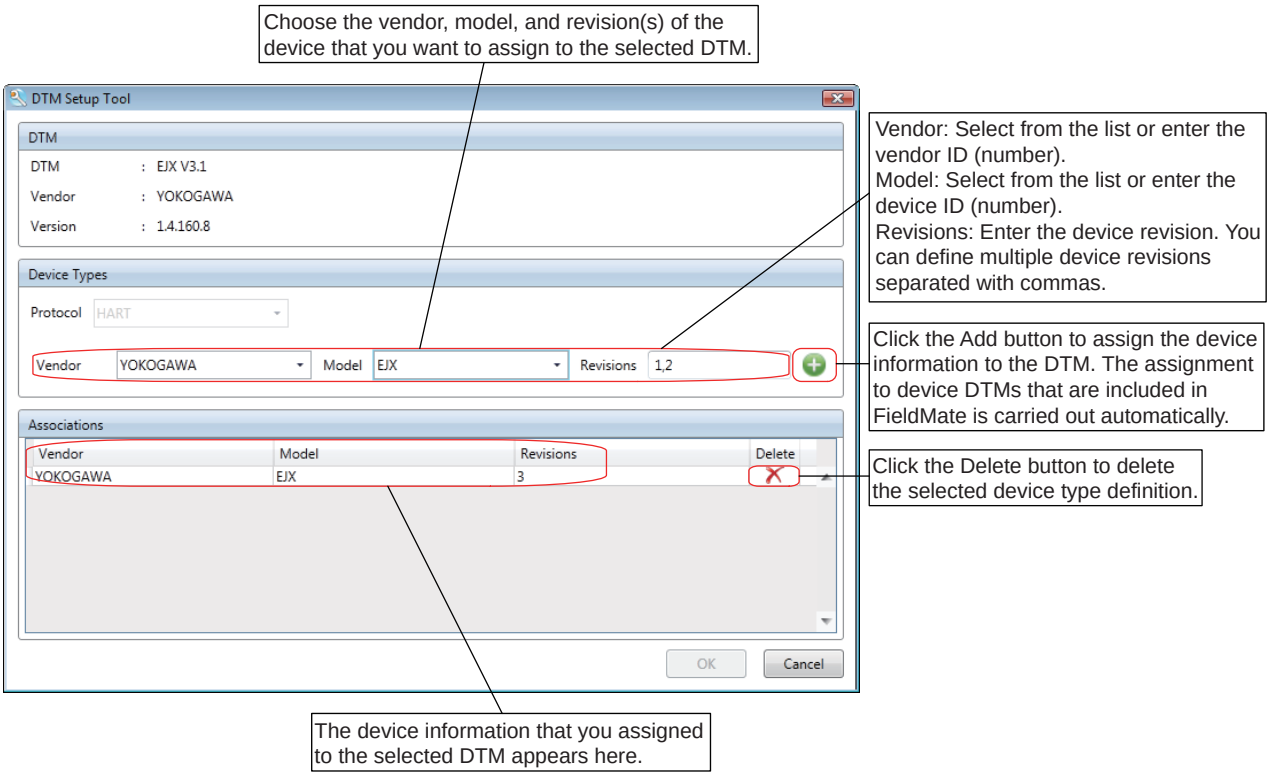


Figure R-3-1 DTM Setup Tool (1/2)

Edit window



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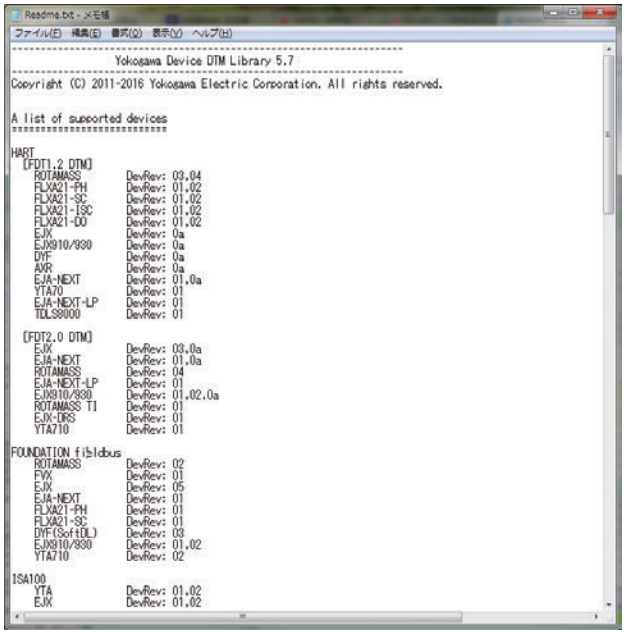
Figure R-3-2 DTM Setup Tool (2/2)

R-4 Yokogawa Type B/C DTM Library Overview

Startup

Start → Yokogawa Device DTM Library → Read Me

Window



R040101E.ai

Figure R-4-1

S Calibration Support

S-1 Overview

FieldMate can support Calibration works for pressure transmitter with CA700 Pressure Calibrator provided from Yokogawa Meters & Instruments Corporation.

This support function provides settings, status confirmation, and saving result for calibrating a pressure transmitter without the operation on CA700.

For devices that can communicate with FieldMate, such as BRAIN devices and HART devices, the device information such as tag and ranges can be acquired from the device and used for calibration settings.

For Non-Communication device, this function can be used by registering them with FieldMate in advance.

SEE ALSO Refer to “J-3 Registration of Non-Communication device” about Non-Communication device.

Functions

Calibration Support function has the following functions.

- The procedure of calibration works is displayed
- The settings for calibration are configured on FieldMate. Also the settings can be saved and loaded.
- User can perform calibration work for a pressure transmitter without operating the calibrator.
- User can input the pressure by pressure pump with checking the trend graph of pressure value.
- The data of test points can be recorded automatically in automatic mode.
- The calibration results can be saved to database and output for calibration reports.
- Calibration works can be interrupted and resumed.

Auto Recording of Calibration Data

Calibration Support function can record the data of test points automatically. In automatic mode, if the pressure to be inputted to the pressure transmitter is maintained within a preset range for a certain period of time against the pressure specified at the test point, the pressure value and current value at the test point is recorded as the calibration values automatically. With this function, user can perform calibration work only by operating the pressure pump.

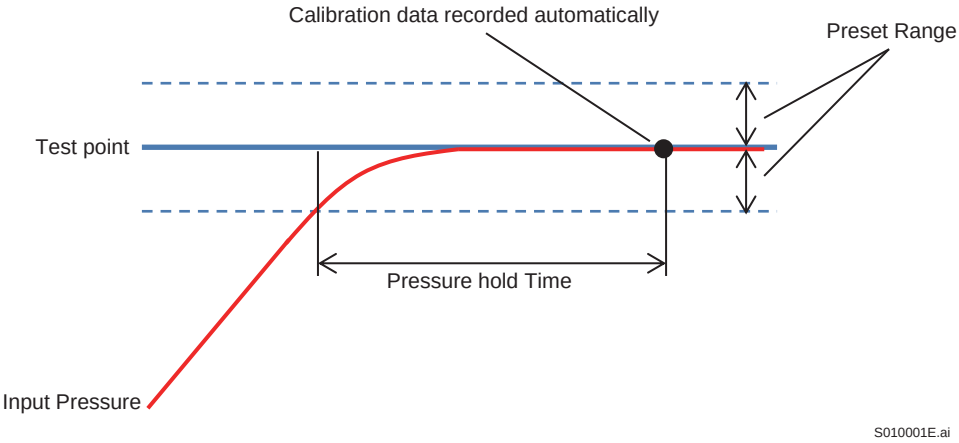


Figure S-1-1 Auto recording of calibration data

Scaling

If CA700 does not support the physical quantity of the target device, the calibration Support function can deal with it with the scaling settings.

By assigning scale values to the pressure at the lower span limit and the pressure at the upper span limit, you can view and record measured values converted in any physical quantity.

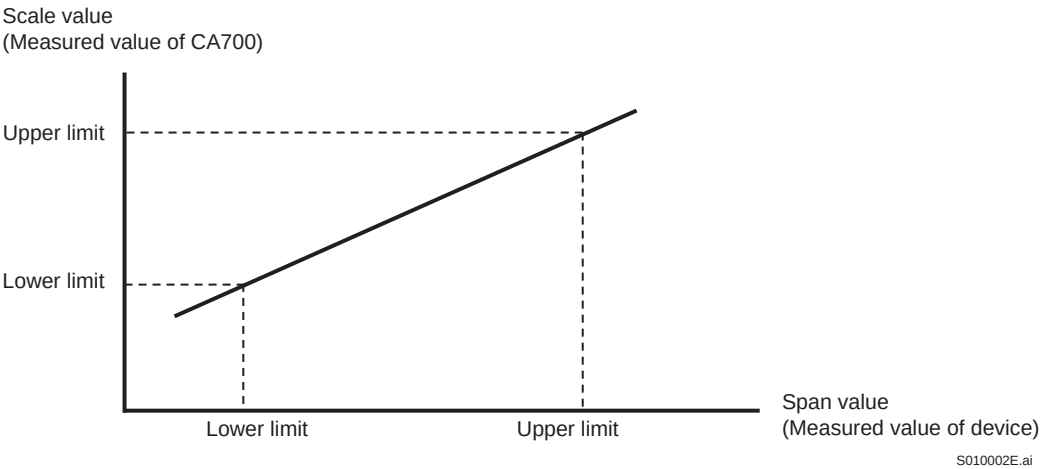


Figure S-1-2 Scaling settings

S-2 Using Calibration Support Function

S-2-1 Calibration Workflow

The calibration workflow with Calibration Support function is as flows.

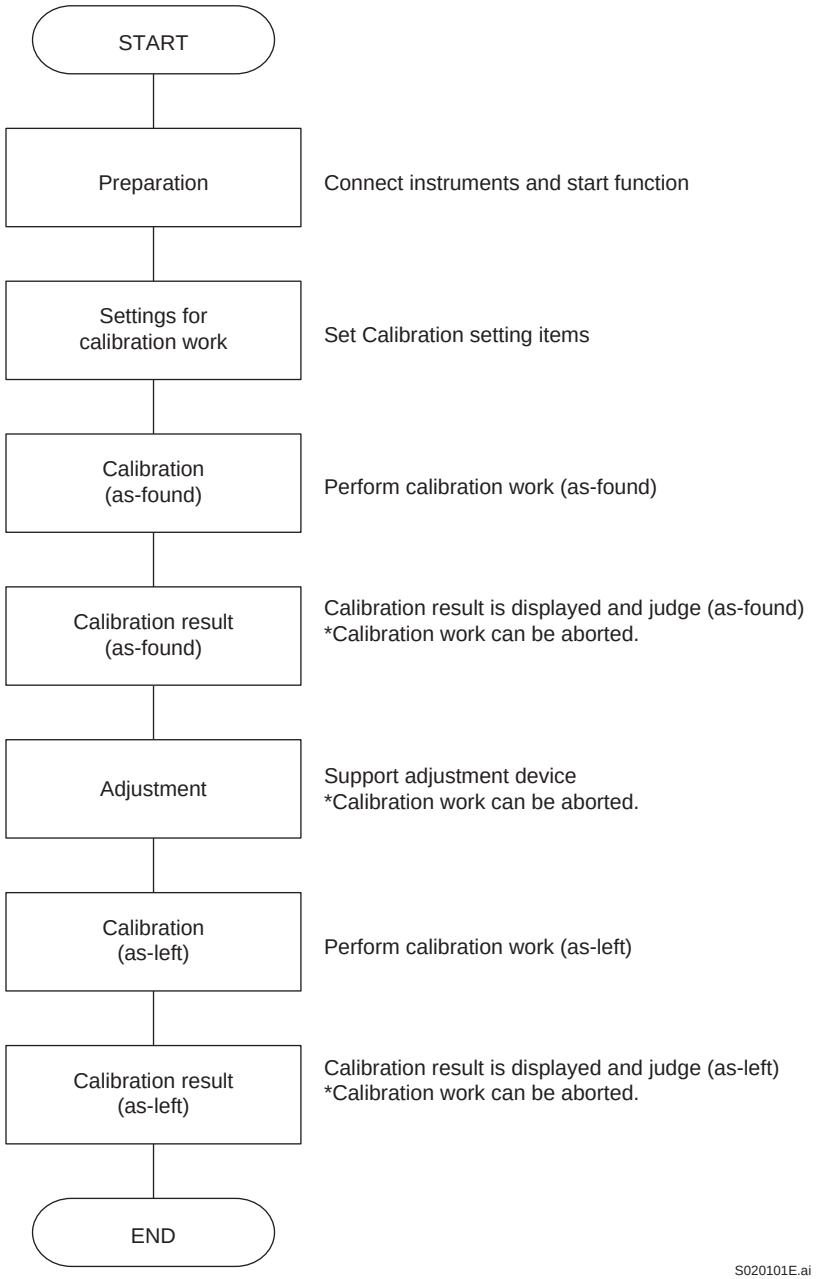


Figure S-2-1 Calibration workflow

S-2-2 Connecting Instruments

The following describes the connecting instruments for using Calibration Support function.

BRAIN/HART Device

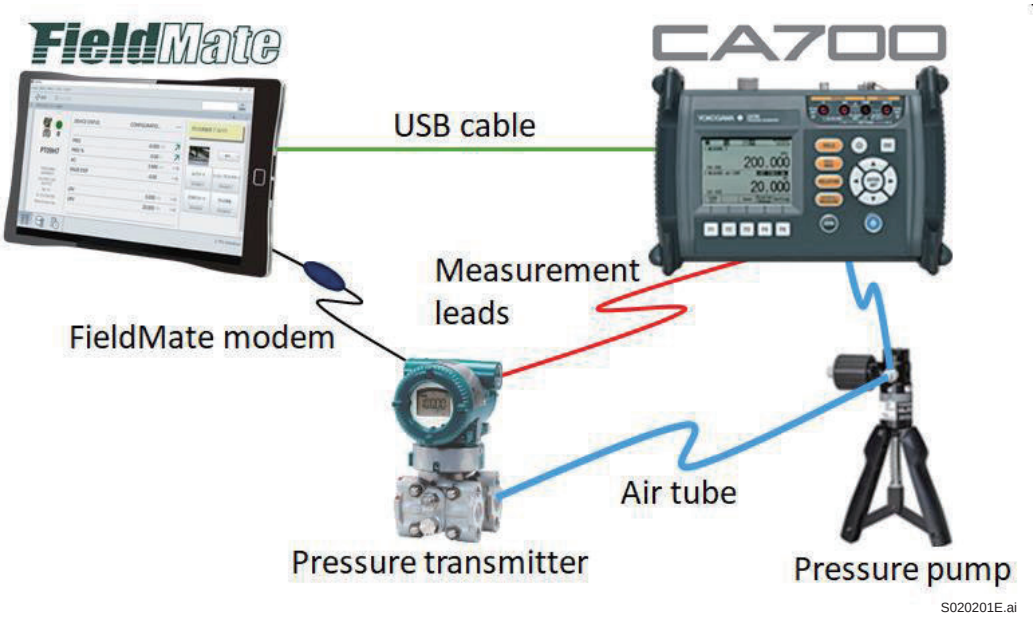


Figure S-2-2 Connecting instruments (BRAIN/HART device)

Non-Communication Device

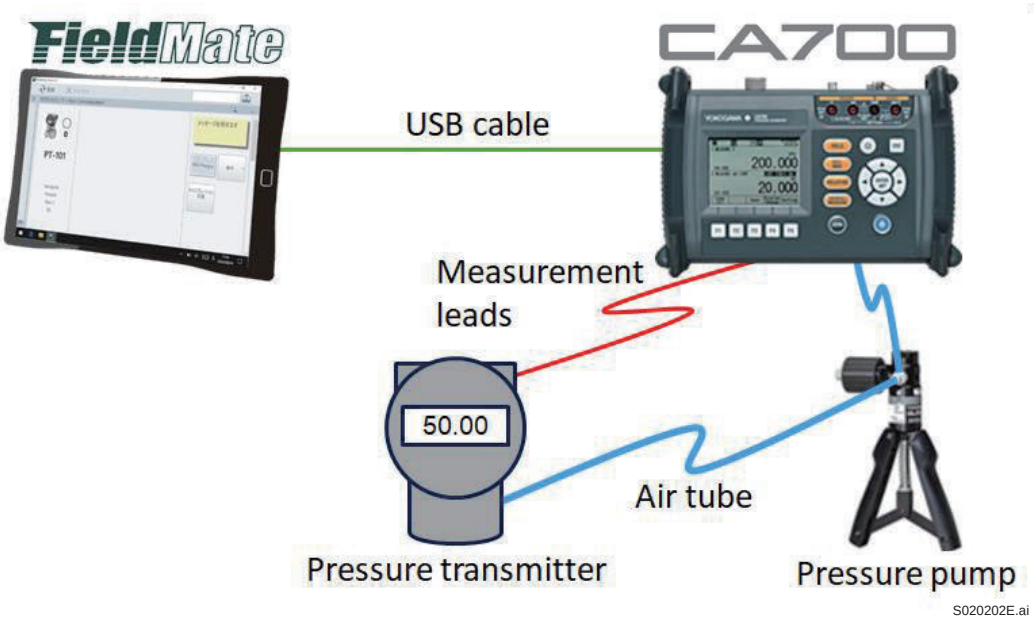


Figure S-2-3 Connecting instruments (Non-Communication device)

Instruments for Calibration Support Function

To use the calibration support function, the following equipment is required in addition to the pressure transmitter to be calibrated.

- FieldMate
- CA700 pressure calibrator
- USB cable for connecting FieldMate and CA700
- FieldMate modem
- Pressure pump
- Air tube



NOTE

FieldMate modem is not required for Non-Communication device.



NOTE

“USB Driver for CA series” or “YKCDC USB Driver” needs to be installed to the PC installed FieldMate for using Calibration Support function.



NOTE

PM100 External pressure sensor for CA700 is supported from FieldMate R3.03.02.



NOTE

The USB feature at Device Setting of CA700 has to be set the following for using Calibration Support function. Refer to CA700 Pressure Calibrator User’s Manual (IM CA700-01EN) about the detail information of USB feature of CA700.

- USB Connection: Function
- USB Function: Communication

NOTE

The following settings need to be set manually on CA700 if the firmware version of CA700 is not 1.10 or later.

- Averaging
- Scaling

The power supply function from the CA 700 to the device is turned off after the CA700 manual setting, so turn on the power supply function (Loop ON) manually.

The firmware version of CA700 can be confirmed on the starting window of CA700 and the start dialog of Calibration Support function. The firmware of CA700 can be downloaded from the web site of CA700.

NOTE

If Calibration work is finished with clicking [Finish] button, all calibration data are deleted. Click [Abort] button for finishing Calibration Support function if the Calibration data want to be remained for resuming calibration work.

S-2-3 Start Calibration Support Function

The calibration support function can be started by pressing the [Pressure Calibration Support] button on the segment viewer.

NOTE

FieldMate starts Calibration Support function automatically in the case of finding to connect to CA700. In the case of not using Calibration Support function, FieldMate disconnect to CA700 or CA700 is powered off.

NOTE

CA700 has to be no operated during using Calibration Support function if the firmware of CA700 is 1.10 or later.

S-2-4 Operation

The procedure of operating Calibration Support function is as follows.

Preparation

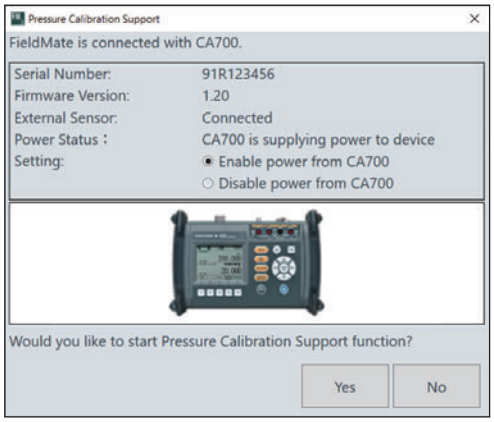
1. Power on CA700.
2. Connect instruments according to Figure S-2-2 or Figure S-2-3.

Start FieldMate

1. Start FieldMate
2. Press the [Pressure Calibration Support] button on the segment viewer.

Start Calibration Support Function

1. FieldMate starts Calibration Support function automatically when finding to connect to CA700. Then Start dialog appears.

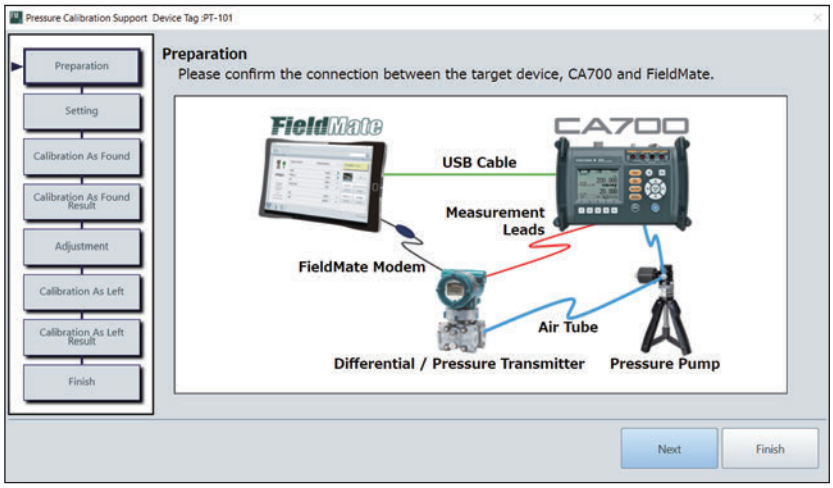


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Figure S-2-4 Start dialog

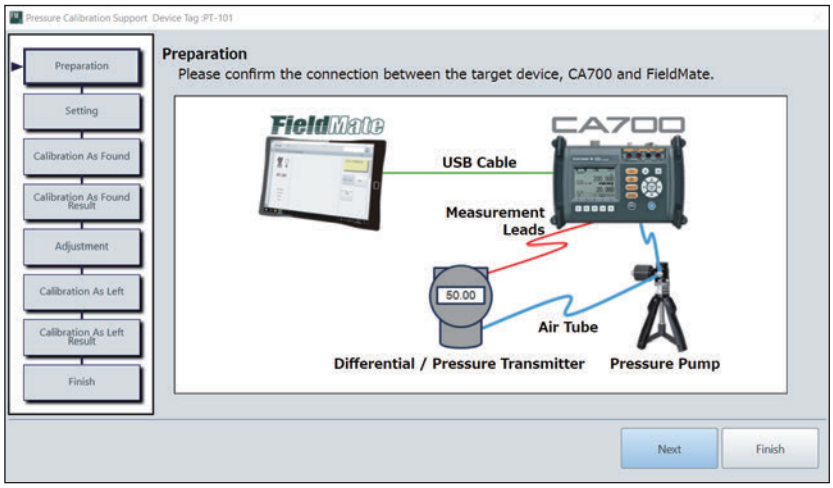
2. CA700 can apply the loop voltage for the target device. Check “Enable power from CA700” if this function is used.

3. Click “Yes” for starting Calibration Support function.



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Figure S-2-5 Preparation dialog (BRAIN/HART device)

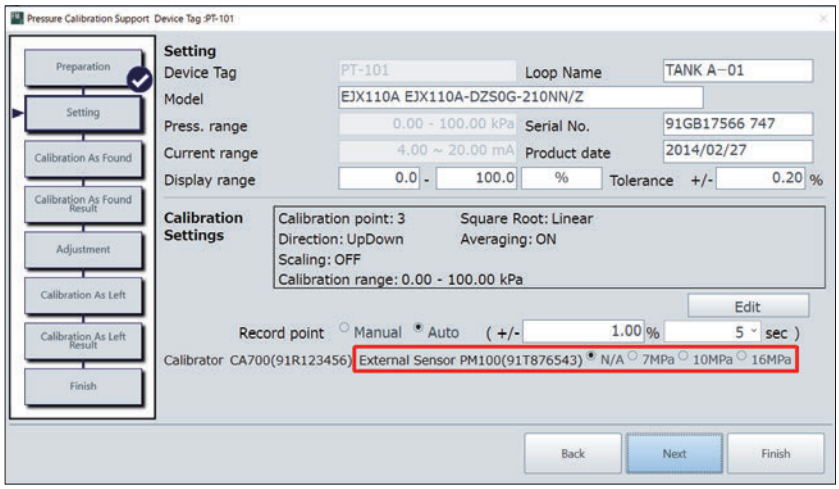


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Figure S-2-6 Preparation dialog (Non-Communication device)

Settings for Calibration Work

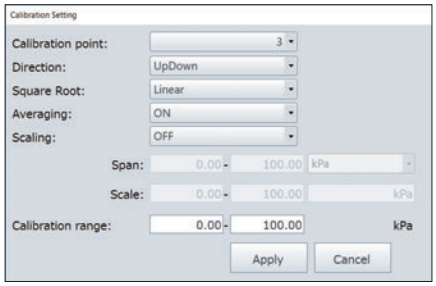
1. Setting dialog appears.
   The configuration items for the external pressure sensor are displayed at the bottom of the dialog when the PM100 external pressure sensor is connected to the CA700.



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Figure S-2-7 Setting dialog

2. Configure the setting data for calibration work. The detail setting dialog appears if clicking Edit button



S020405E.ai

Figure S-2-8 Detail setting dialog

The setting items are following tables.

Table S-2-1 Setting items

Item	Attribute	Remarks
Device Tag	Display only	Device Tag name of the target device
Loop Name		Loop name of the target device
Model		Model name of the target device. The device information is displayed as initial value if the target device is Yokogawa pressure transmitter.
Press. range	Display only	Input value range of the target device
Current range	Display only	Output value range of the target device
Display Range		Display range of the target device
Serial No.		Serial Number of the target device
Product Date		Product date of the target device
Tolerance		Tolerance for pass/fail judgment
Record Point	Manual Auto	Set the record mode for calibration data
Target Range for Automatic mode	0.01 to 5.00%	The range for the test point This item is enabled if Automatic mode.
Target Time for Automatic mode	1 to 1000 sec.	The remain time for the test point This item is enabled if Automatic mode.
Calibrator	Display only	The serial number of CA700
Calibration point	1 to 10	Set the number of calibration points. Set the number of measurement points 0% to 100%. The range is 1 to 10. If you specify 1, the calibration is performed at 0% if the calibration direction (Direction) is set to Up or Up/Down and 100% if set to Down. If you specify a number between 2 and 10, the calibration is performed for the number of specified points. This includes calibration at 0% and 100%. The calibration points are at equally divided points between 0% and 100%. For example, if the number of calibration points is set to 5, the calibration points are 0%, 25%, 50%, 75%, and 100%.
Direction	Up Down Up/Down	Set whether to start calibrating from 0% (Up), from 100% (Down), or from 0% to 100% back down to 0% (Up/Down). Up: 0% to 100% Down: 100% to 0% Up/Down: 0% to 100% to 0% If the calibration direction is Up/Down, the number of calibration points is given by Number of calibration points = (Number Of Points setting) x 2 – 1. For example, if the number of calibration points is set to 5, the calibration points are 0%, 25%, 50%, 75%, 100%, 75%, 50%, 25%, and 0% (total of 9 points).
Square Root	Linear Square Root	Set the device configuration of square root setting.
Averaging	ON OFF	CA700 displays moving average results.
Scaling	ON OFF	CA700 displays linearly scaled results. You can assign a unit appropriate for the values after scaling.
Scaling - Span		The base value of liner scaling function This item is enabled if scaling is ON.
Scaling - Scale		The transferred value of liner scaling function This item is enabled if scaling is ON.
Calibration range		Set the 0% and 100% of the calibration range in terms of the calibration target input and output (which corresponds to the input).

NOTE

About the tolerance:

Tolerance = ±((100% value of the measurement function – 0% value of the measurement function) × tolerance setting / 100)

For example, when the calibration target output is 4 mA to 20 mA and this range is assigned to 0 to 100%, if the tolerance range is set to 0.02%, the tolerance is given by

±(20 mA – 4 mA)×0.02/100 = ±0.0032 mA.

NOTE

About the tolerance in the case of “Square Root” setting:

Current output is 50% or over:
”Toleramce setting”

Current output is 0% or over and less than 50%:
”Toleramce setting” * 50 / Current output (%)

Current output is 0%:
”Toleramce setting”

3. Click [Next] button and then Calibration As Found dialog appears.

Calibration As Found

Zero calibration of CA700 is performed before device calibration work.

Zero calibration of CA700 can be performed with pressing [CA700 ZERO] button in Calibration dialog.

NOTE

Refer to CA700 Pressure Calibrator User’s Manual (IM CA700-01EN) about the detail information of Zero Calibration of CA700.
Zero calibration of CA700 can be performed in Adjustment phase and Calibration As Left phase.

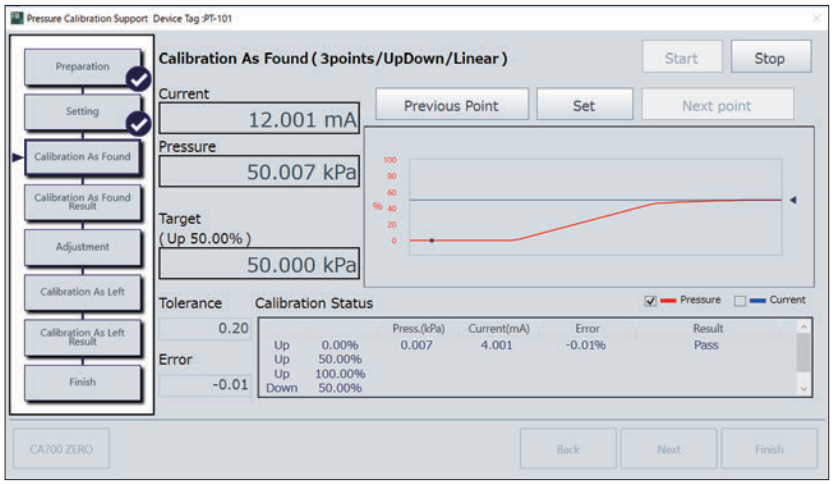
Calibration As Found has two modes of Manual and Automatic.

In Manual mode, the calibration data is recorded by user.

In Automatic mode, the calibration data is recorded automatically according to the configured condition.

Manual mode

1. Calibration As Found dialog appears.



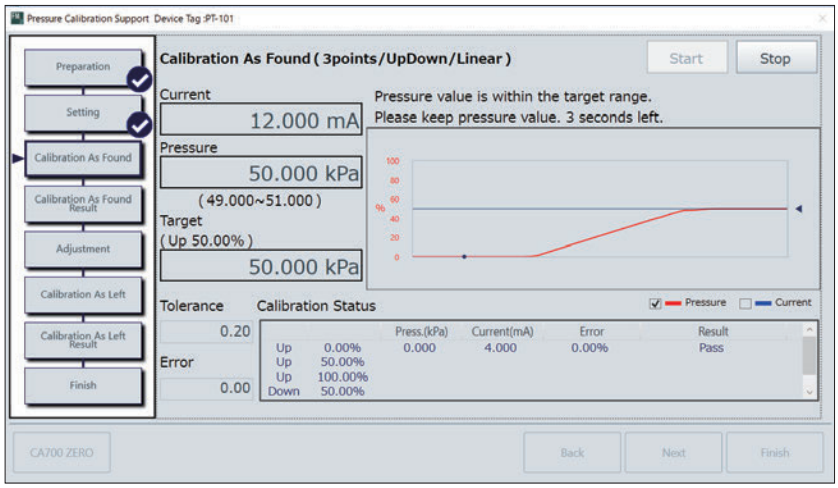
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Figure S-2-9 Calibration As Found dialog (Manual mode)

2. Click [Start] button and then Calibration Support function start to plot pressure value on a trend graph.
3. The current value and pressure value are displayed in the Current and Pressure text box. The calibration point (pressure) is displayed in the Target text box. The pressure value (red line) and the target value (blue line) are displayed as trend graph in graph area. Pressure line and Current line graph are displayed if each check box below the graph area is checked.
4. User inputs the pressure to the pressure transmitter with pressure pump to refer to the trend graph.
5. Click [Set] button when the output signal from the target device is stabilized and then the current value and pressure value are recorded as the calibration data. The calibration data is displayed in the result area.
6. Click [Next point] button to proceed to the next calibration point. User repeats step 3 to 5. User can re-record the calibration data of previous point with pressing [Previous point] button.
7. Click [Next] button after recording the calibration data of every calibration point and then Calibration As found Result dialog appears.

Automatic mode

1. Calibration As Found dialog appears.



S020407E.ai

Figure S-2-10 Calibration As Found dialog (Automatic mode)

2. Click [Start] button and then Calibration Support function start to gather current value and pressure value from CA700.
3. The current value and pressure value are displayed in the Current and Pressure text box. The calibration point (pressure) is displayed in the Target text box. The pressure value (red line) and the target value (blue line) are displayed as trend graph in graph area.
   Pressure line box and Current line box graph are displayed if each check box below the graph area is checked.
4. User inputs the pressure to the pressure transmitter with pressure pump to refer to the trend graph.
5. The message for keeping input pressure is displayed when the input pressure is in the target range. Keep the input pressure for the target time.
6. After target time, the current value and pressure value are recorded as the calibration data automatically. The calibration data is displayed in the result area.
7. The calibration support function proceeds to the next calibration point automatically. User repeats step 4 to 6.
   User can re-record the calibration data of previous point with pressing [Previous point] button. [Previous point] button is not enabled during the input pressure is in the target range.
8. Click [Next] button after recording the calibration data of every calibration point and then Calibration As Found Result dialog appears.

NOTE

In the case that the target device uses the Signal Characterizer function, the result at each calibration point is not judged correctly because the relationship between the input and output is judged as linear.

Calibration As Found Result

User can confirm the calibration result (as-found).

User selects “Pass”, “Fail” or ”Other” as the calibration result. Also user can output report.

In the case that the target device is BRAIN/HART device, all parameter value can be saved before the next step.

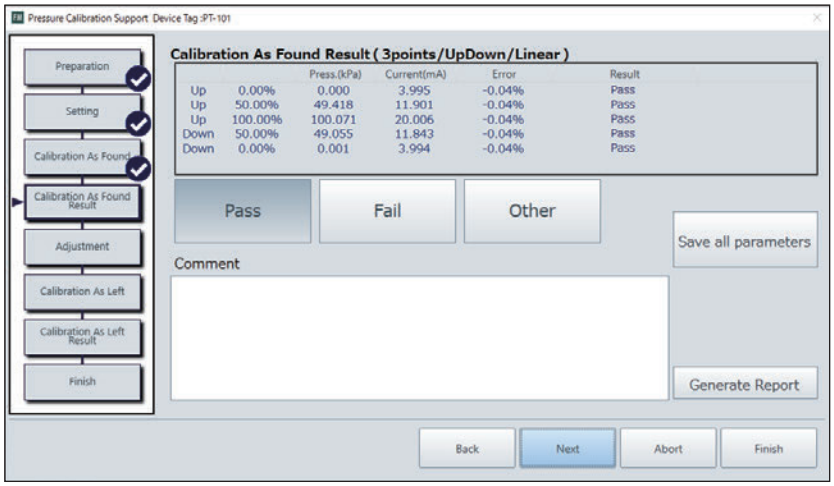
NOTE

In the case that the target device uses the Signal Characterizer function, the result at each calibration point is not judged correctly because the relationship between the input and output is judged as linear.

NOTE

The parameter save function of the device cannot be operated if the BT200 tablet function or DTM Works is running when the calibration support function is executed.
In this case, after closing the BT200 tablet function / DTM Works, save all the parameters again.

1. Calibration As Found Result dialog appears.



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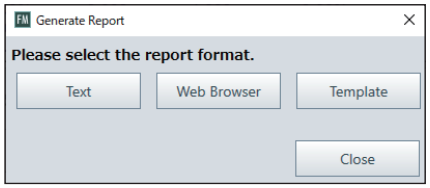
Figure S-2-11 Calibration As Found Result dialog

2. Select “Pass”, “Fail”, or ”Other” as the calibration. If “Other” is selected, the comment has to be entered.
3. Click the [Save all parameters] button to start the “All Parameters acquisition” function. After completing the acquisition of the device parameters, click the [Close] button to return to the Calibration As Found Result dialog. When saving parameters is completed normally, “Saved” is displayed on the [All Parameters] button.

NOTE

In the case that the target device is Non-Communication device, All parameter acquisition function is invalid.

4. Click [Generate Report] button and then Report dialog appears. In this dialog the calibration result can be exported to an external file. The calibration result can be exported in History window.



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Figure S-2-12 Report dialog

NOTE

"Template" button is enabled if Microsoft excel or Word are installed in PC.

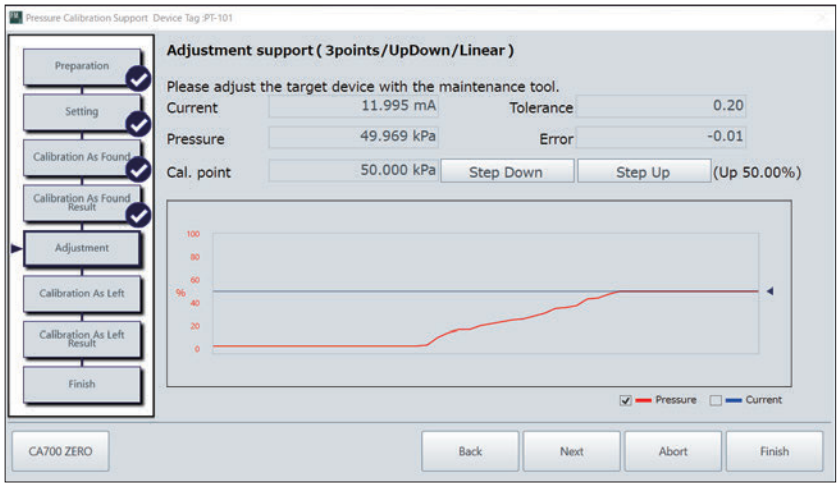
5. Click [Next] button and then Adjustment dialog appears.

Adjustment Support

Calibration Support function can support the device adjustment work.

In this dialog, the calibration point (pressure), input pressure value, and output current value are displayed. User can perform device adjustment work with reference to these information.

After adjustment, click [Next] button and then Calibration As Left dialog appears.



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Figure S-2-13 Adjustment Support dialog

Calibration As Left

Calibration As Left has two modes of Manual and Automatic as same as Calibration As Found. The operation of this dialog is same as Calibration As Found.

Click [Next] button after recording the calibration data of every calibration point and then Calibration As Left Result dialog appears.

SEE ALSO See Calibration As Found about operation of Calibration As Left dialog.

Calibration As Left Result

User can confirm the calibration result (as-left).

User selects “Pass”, “Fail” or ”Other” as the calibration result. Also user can output report.

In the case that the target device is BRAIN/HART device, all parameter value can be saved before the next step.

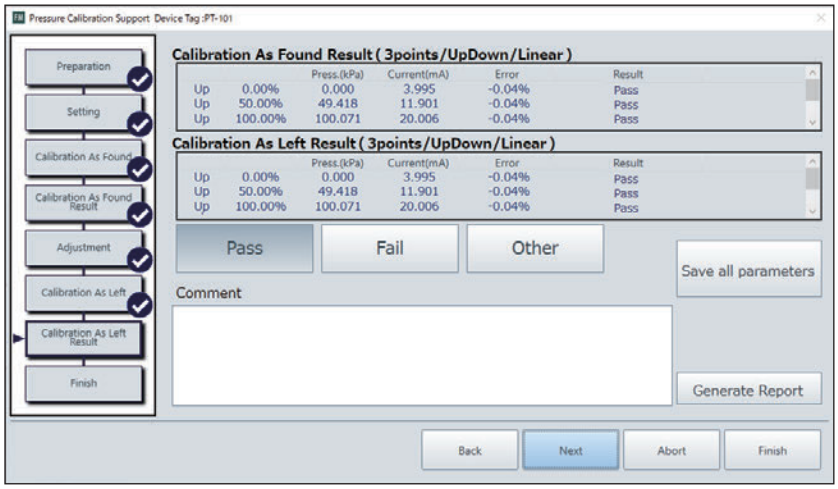
NOTE

In the case that the target device uses the Signal Characterizer function, the result at each calibration point is not judged correctly because the relationship between the input and output is judged as linear.

NOTE

The parameter save function of the device cannot be operated if the BT200 tablet function or DTM Works is running when the calibration support function is executed.
In this case, after closing the BT200 tablet function / DTM Works, save all the parameters again.

1. Calibration (as-left) dialog appears.



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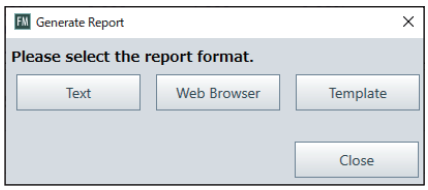
Figure S-2-14 Calibration As Left Result dialog

2. Select “Pass”, “Fail”, or ”Other” as the calibration. If “Other” is selected, the comment has to be entered.
3. Click the [Save all parameters] button to start the “All Parameters acquisition” function. After completing the acquisition of the device parameters, click the [Close] button to return to the Calibration As Left Result dialog. When saving parameters is completed normally, “Saved” is displayed on the [All Parameters] button.

NOTE

In the case that the target device is Non-Communication device, All parameter acquisition function is invalid.

4. Click [Generate Report] button and then Report dialog appears. In this dialog the calibration result can be exported to an external file. The calibration result can be exported in History window.



S020412E.ai

Figure S-2-15 Report dialog

NOTE

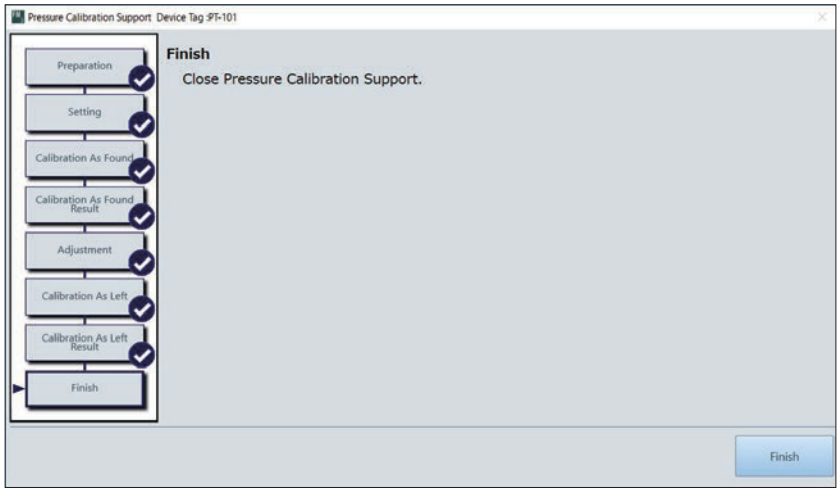
"Template" button is enabled if Microsoft excel or Word are installed in PC.

5. Click [Next] button and then Finish dialog appears.

Finish Calibration Work

Finish dialog appears.

Click [Finish] button for finishing Calibration Support function.



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Figure S-2-16 Finish dialog

S-2-5 Abort and Resume the Calibration Work

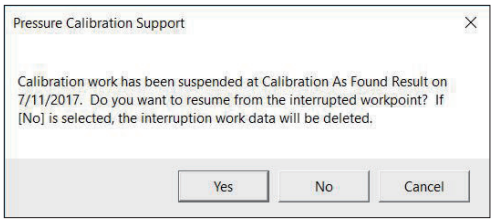
The Calibration support function can be aborted in the middle of work and restarted from the abort point.

The abort-capable work dialogs are the calibration (As Found / As Left) result dialog and adjustment dialog. User can abort the work with clicking [Abort] button on these dialogs.

When the Calibration support function is activated, if the calibration work is suspended for the connected target device, the message as to whether to proceed with the calibration working is displayed.

The following operations can be selected in this message dialog.

- [Yes]: Restarts processing that was interrupted.
- [No]: Perform calibration of the instrument from the beginning.
- [Cancel]: Ends the linkage function (does not restart)The procedure of operating Calibration Support function is as follows.



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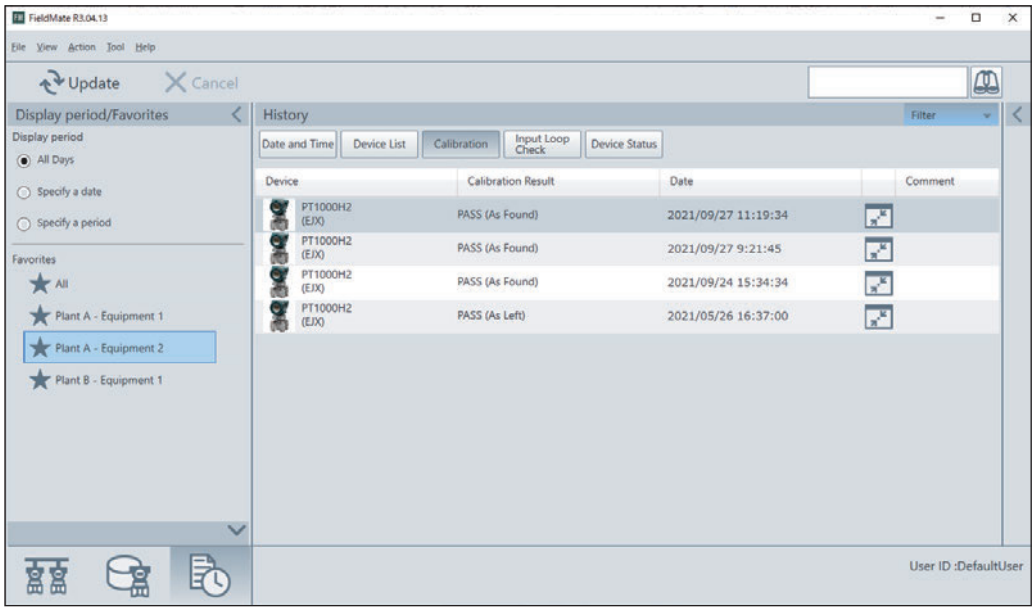
Figure S-2-17 Confirmation message dialog

S-3 Confirmation the Calibration Results

S-3-1 Conformation the Calibration Result in History Window

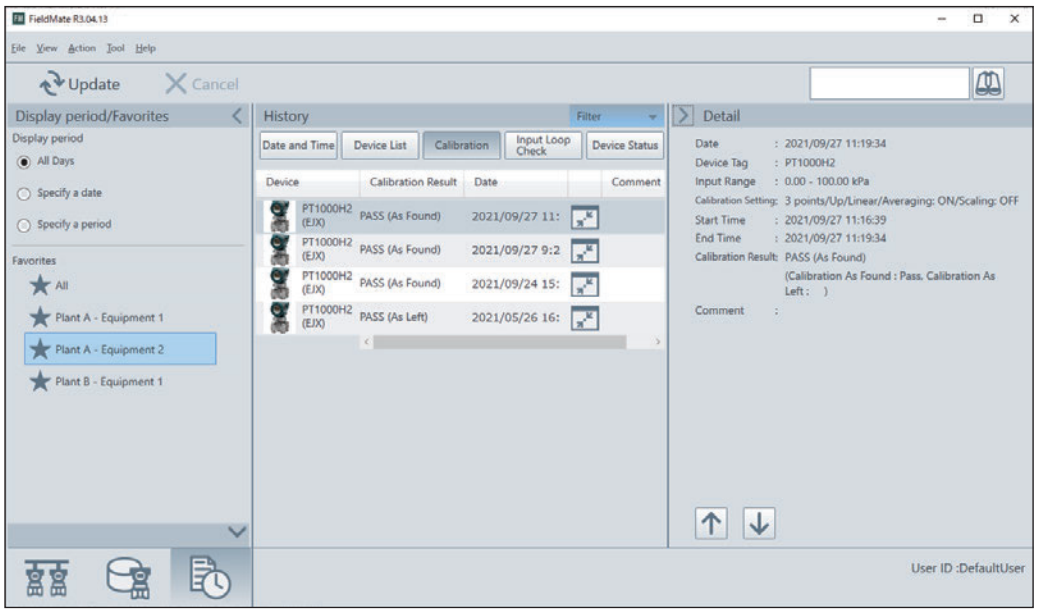
The Calibration results can be confirmed in History window.

1. Click History icon ( ) and then History window appears.
2. Select [Calibration] and then Calibration result list is displayed.



S030101E.ai

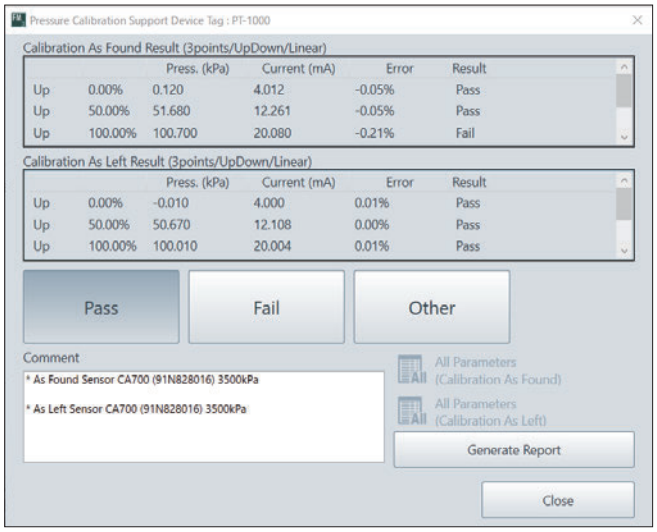
Figure S-3-1 Calibration result list



S030102E.ai

Figure S-3-2 Calibration result

3. Click Detail button ( ) of target work and then the detail calibration information of the target work. Also, user can output the calibration result as report.
If All parameter of the device has been acquired in the calibration result dialog, each parameter information van be output with pressing [All Parameters (Calibration As Found (Left))] icon.



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Figure S-3-3 Detail calibration result information dialog

S-4 Reporting with Template File

S-4-1 Template File

The template file is made with Microsoft® Word/Excel®.

Report file is made as the Microsoft® Word/Excel® file for inserting data into the file.

SEE ALSO See “Templates for inserting data into Microsoft® Word/Excel® files” in H-2-2 All Parameters/ Adjustment Parameters about Template file for reporting.

S-4-2 IDs and Parameters

The table below describes the IDs and parameters.

Table S-4-1 IDs and Parameters (1/2)

ID	Parameter
(Device Tag)	Device Tag
(Model)	Model
(Serial No)	Serial No.
(Product Date)	Product date
(Loop Name)	Loop Name
(Press. Range Lower)	Press. range (Lower)
(Press. Range Upper)	Press. Range (Upper)
(Press. Range Unit)	Press. Range (Unit)
(Output Range Lower)	Current range (Lower)
(Output Range Upper)	Current Range (Upper)
(Output Range Unit)	Current Range (Unit)
(Display Range Lower)	Display range (Lower)
(Display Range Upper)	Display Range (Upper)
(Display Range Unit)	Display Range (Unit)
(Tolerance)	Tolerance
(Square Root Output)	Square Root setting
(As Found CPnn Point Input)	As Found Calibration point nn (Base input)
(As Found CPnn Point Output)	As Found Calibration point nn (Base output)
(As Found CPnn Pressure)	As Found Calibration point nn (Press. value)
(As Found CPnn Current)	As Found Calibration point nn (Current value)
(As Found CPnn Error%)	As Found Calibration point nn (Error%)
(As Found CPnn Judge)	As Found Calibration point nn (Judge)
(As Found CPnn Time)	As Found Calibration point nn (Time)
(As Found Judge)	As Found Calibration (Judge)
(As Found Sensor Model)	As Found Calibration (Ext. Sensor Model)
(As Found Sensor Serial)	As Found Calibration (Ext. Sensor Serial No.)
(As Found Sensor Range)	As Found Calibration (Ext. Sensor Range)
(As Found Comment)	As Found Comment
(As Found Comment Line n)	As Found Comment (Line n)
(As Found Calibrator Model)	As Found Calibration (Calibrator Model)
(As Found Calibrator Serial)	As Found Calibration (Calibrator Serial No.)
(As Found User)	As Found Calibration (User)
(As Left CPnn Point Input)	As Left Calibration point nn (Base input)
(As Left CPnn Point Output)	As Left Calibration point nn (Base output)
(As Left CPnn Pressure)	As Left Calibration point nn (Press. value)
(As Left CPnn Current)	As Left Calibration point nn (Current value)
(As Left CPnn Error%)	As Left Calibration point nn (Error%)
(As Left CPnn Judge)	As Left Calibration point nn (Judge)
(As Left CPnn Time)	As Left Calibration point nn (Time)
(As Left Judge)	As Left Calibration (Judge)
(As Left Sensor Model)	As Left Calibration (Ext. Sensor Model)

Table S-4-1 IDs and Parameters (2/2)

ID	Parameter
(As Left Sensor Serial)	As Left Calibration (Ext. Sensor Serial No.)
(As Left Sensor Range)	As Left Calibration (Ext. Sensor Range)
(As Left Comment)	As Left Comment
(As Left Comment Line n)	As Left Comment (Line n)
(As Left Calibrator Model)	As Left Calibration (Calibrator Model)
(As Left Calibrator Serial)	As Left Calibration (Calibrator Serial No.)
(As Left User)	As Left Calibration (User)
(Final CPnn Point Input)	Latest Calibration point nn (Base input)
(Final CPnn Point Output)	Latest Calibration point nn (Base output)
(Final CPnn Pressure)	Latest Calibration point nn (Press. value)
(Final CPnn Current)	Latest Calibration point nn (Current value)
(Final CPnn Error%)	Latest Calibration point nn (Error%)
(Final CPnn Judge)	Latest Calibration point nn (Judge)
(Final CPnn Time)	Latest Calibration point nn (Time)
(Final Judge)	Latest Calibration (Judge)
(Final Sensor Model)	Latest Calibration (Ext. Sensor Model)
(Final Sensor Serial)	Latest Calibration (Ext. Sensor Serial No.)
(Final Sensor Range)	Latest Calibration (Ext. Sensor Range)
(Final Comment)	Latest Comment
(Final Comment Line n)	Latest Comment (Line n)
(Final Calibrator Model)	Latest Calibration (Calibrator Model)
(Final Calibrator Serial)	Latest Calibration (Calibrator Serial No.)
(Final User)	Latest Calibration (User)
(Calibration Start Date)	Calibration Start Date
(Calibration End Date)	Calibration End Date
(Calibrator Model)	Calibrator Model
(Calibrator Serial)	Calibrator Serial No.
(Calibrator Firm)	Calibrator Firmware version
(Calibration Point)	Quantity of Calibration point
(Direction)	Calibration direction
(Averaging)	Averaging setting
(Scaling)	Scaling setting
(Scaling Span Lower)	Scaling Span (Lower)
(Scaling Span Upper)	Scaling Span (Upper)
(Scaling Span Unit)	Scaling Span (Unit)
(Scaling Scale Lower)	Scaling Scale (Lower)
(Scaling Scale Upper)	Scaling Scale (Upper)
(Scaling Scale Unit)	Scaling Scale (Unit)
(Calibration range Lower)	Calibration range (Lower)
(Calibration range Upper)	Calibration range (Upper)
(Record Mode)	Record mode
(Record Range)	Record mode (Auto) - Range
(Record Time)	Record mode (Auto) - Time

T BT200 Tablet

T-1 Overview

FieldMate has the device configuration tool like BT200 BRAIN TERMINAL provided from Yokogawa Electric Corporation. This tool, BT200 Tablet, can be configured field devices like a operation with BT200.

Also, by using “Dedicated adapter” included in “Model VJ77 PC-based Parameters Setting Tool”, Signal Conditioner Card / Nest of CENTUM can be configured and adjusted.

The information on the device connected with the BT200 Tablet function is automatically stored in FieldMate database (Device Maintenance Information).

Also, the parameter information of the device acquired with the “All Parameter Read” function is stored in “Parameters” of FieldMate Device Maintenance Information, and output in arbitrary format and comparison as same as “All Parameter” function of FieldMate.



NOTE

Please contact Yokogawa Electric Sales Representative about “Dedicated adapter” for VJ77.



NOTE

The information on Signal Conditioner Card is NOT stored in FieldMate database (Device Maintenance Information).

SEE ALSO “T-3-2 Read All parameters” about “All Parameter Read” function.

SEE ALSO “H-2-3 All Parameters/Adjustment Parameters” about “All Parameter” function.



NOTE

BT200 Tablet Supports only field devices and Signal Conditional Card / Nest. Use JHT200 for the configuration of Yokogawa panel instruments (JUXTA, YS series).

T-2 Basic Operations

The operation of BT200 Tablet is as almost same as BT200. So the deferential operation from BT200 is explained in this chapter.

SEE ALSO See BT200 BRAIN TRMINAL (IM 01C00A11-01E) about basic operation of BT200.

T-2-1 Using BT200 Tablet

There are two ways to start the BT200 tablet.

- Start from the operation menu in the Segment Viewer of FieldMate
- Start from the start window of FieldMate



NOTE

FieldMate R3.04.20 or later is required.



NOTE

FieldMate cannot connect to the signal conditioner card if BT200 tablet is started from the Segment Viewer,



NOTE

The following functions cannot be activated while the BT200 tablet is running from the Segment Viewer.

- Segment viewer update function
- All parameter acquisition function
- Zero Adj. parameter acquisition function
- Input loop test support function
- Calibration support function
- Zero Adjustment function
- Device icon setting
- DTM
- BRAIN Modem Configuration

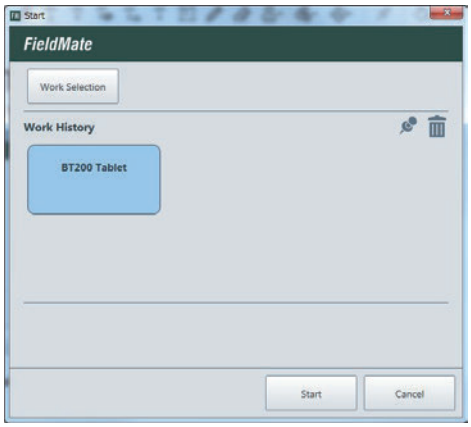


NOTE

The BT200 tablet cannot be started from the FieldMate segment viewer during DTM is running.

The case of stating BT200 Tablet from the start window of FieldMate

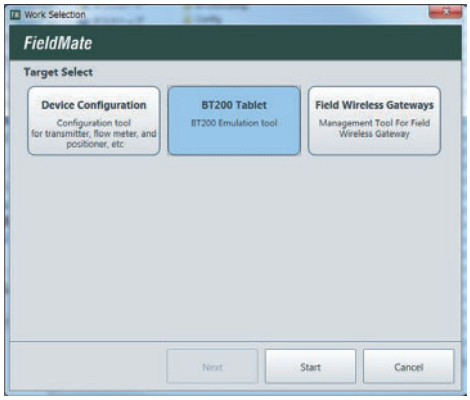
BT200 Tablet is started from the Start Window of FieldMate.



T020101E.ai

Figure T-2-1 Start Window

If “BT200 Tablet” button appears in Start dialog, click “Work Selection” button and then Work Selection Window appears. Select “BT200 Tablet” and then click [Start] button for starting BT200 Tablet.



T020102E.ai

Figure T-2-2 Work Selection Window

SEE ALSO See “E FieldMate Startup” about Work Selection window.

T-2-2 Close BT200 Tablet

Click  button In the upper right corner for closing BT200 Tablet.

T-2-3 Operation

The basic operation of BT200 Tablet is as follows.

■ Connection to Device or Signal Conditioner Card / Nest

Connect FieldMate to device or Signal Conditioner Card for CENTUM.

● Connect to device

Refer to “C-3 System Configuration/Connection Examples”.

● Connect to Signal Conditioner Card / Nest

To connect to Signal Conditioner Card, use a dedicated connector for BT200 BRAIN TERMINAL connection that is provided on ESC Card of Signal Conditioner Nest or Extension Card (Model: EXT) with “Dedicated Adapter (5-pin connector)” included in “Model VJ77 PC-based Parameters Setting Tool”.

SEE ALSO See BT200 BRAIN TERMINAL (IM 01C00A11-01E) for connection with of Signal Conditioner Nest ESC (Signal Conditioner communication card) and Extension Card (Model: EXT).



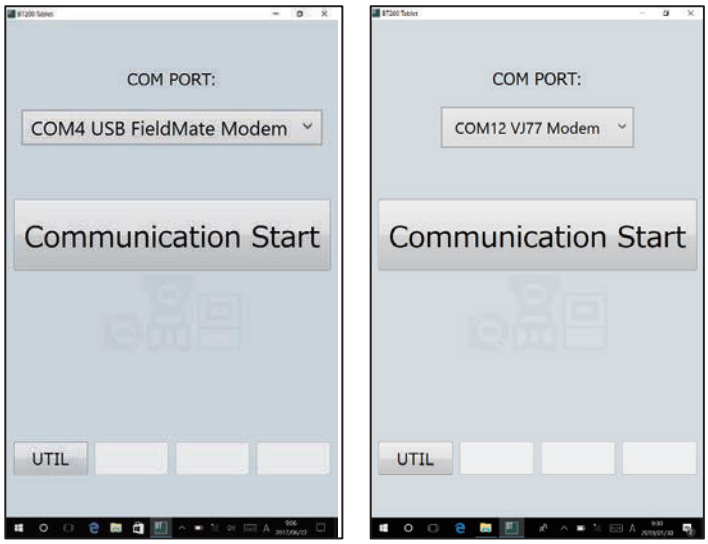
NOTE

FieldMate R3.04.10 or later is required.

Select the COM Port Number for Modem and Connect Device

BT200 Tablet is started and then the Start panel appears.

Select “USB FieldMate Modem” for connecting BRAIN device. Also, select “VJ77 Modem” for connecting Signal Conditioner Card / Nest.



T020301E.ai

Figure T-2-3 Start panel

After selecting the COM port number connected the modem, click “Communication” button and then BT200 tablet tries to connect to device. If connecting to device, Initial Data panel appears.



T020302E.ai

Figure T-2-4 Initial Data panel

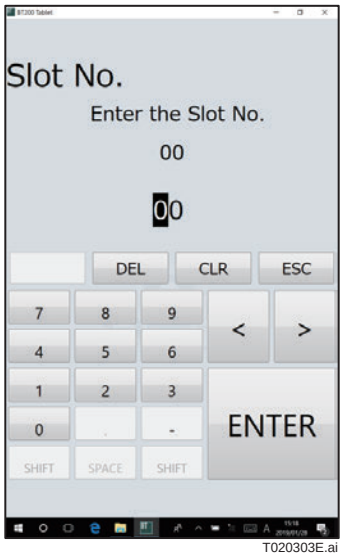
Confirm the model and Tag No. connected the device.

Click “OK” button and then Menu panel appears.

Connect to Signal Conditioner Card / Nest

In the case of connecting to Signal Conditioner Card directly with the extension card (Model: EXT), Initial Data panel appears.

In the case of connecting to the Signal Conditioner Nest, Slot panel appears. Enter the Slot No. of Signal Conditioner Card and press the [ENTER] button, Initial Data panel appears.

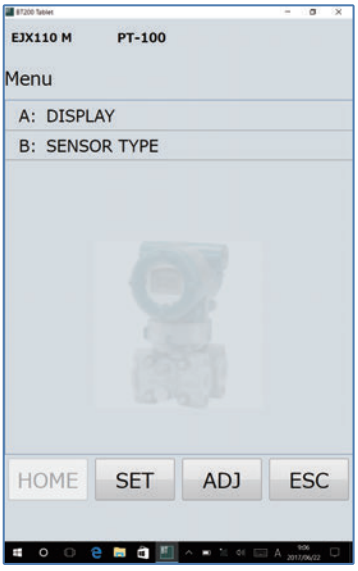


T020303E.ai

Figure T-2-5 Slot panel

NOTE

The Tag No. is not displayed with Extended Device Tag in Initial Data panel.



T020304E.ai

Figure T-2-6 Menu panel

NOTE

BT200 Tablet has “ESC” button in Initial Data panel.

Click “ESC” button and then Start panel appears for changing the target device.

Operation at Menu Panel

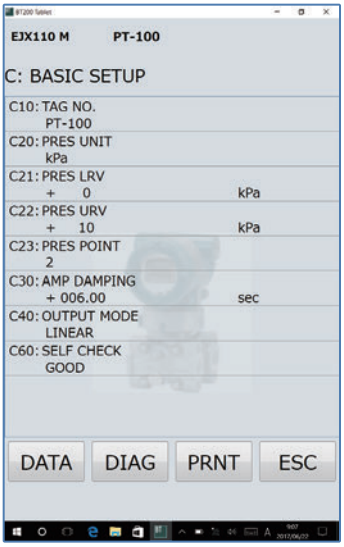
The operation in Manu panel is as same as BT200.

- “HOME” Displays the menu panel.
- “SET” Displays the SET menu panel.
- “ADJ” Displays the ADJ menu panel.
- “ESC” Returns the command panel.

SEE ALSO See BT200 BRAIN TRMINAL (IM 01C00A11-01E) about basic operation of BT200.

Operation at Parameter Panel

Select a menu choice from menu panel to call parameter panel.



T020305E.ai

Figure T-2-7 Parameter panel

The operation in Parameter panel is as almost same as BT200.

- “DATA” Updates the current parameter.
- “DIAG” Calls the self-check panel.
- “PRNT” Calls the parameter print panel.
- “ESC” Returns to the previous panel (menu panel).

Click the parameter name and then Setup panel is called.

Self-check Panel

Click “DIAG” button on Parameter panel to call Self-check panel. The Self-check panel displays self-check information on the connected device.

The operation in Self-check panel is as follows.

- “PRNT” Calls the parameter print panel.
- “ESC” Returns to the previous panel (Parameter panel).



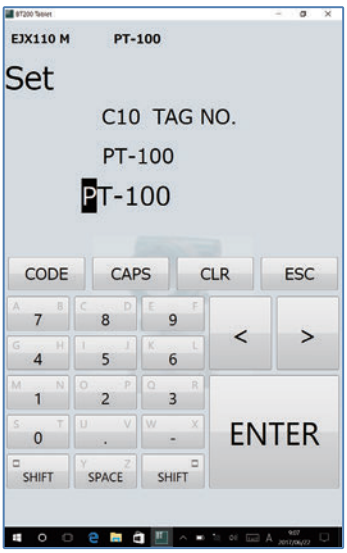
T020306E.ai

Figure T-2-8 Self-check panel

Setup Panel

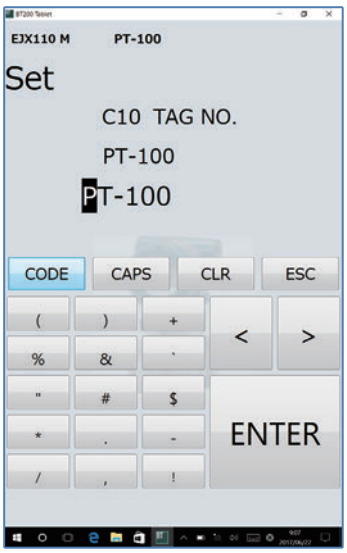
Click the parameter on Parameter panel to call Setup panel.

The operation of this panel is as same as BT200. Click “CODE” and then the key pad is changed to enter symbols.



T020307E.ai

Figure T-2-9 Setup panel



T020308E.ai

Figure T-2-10 Setup panel (Code key)

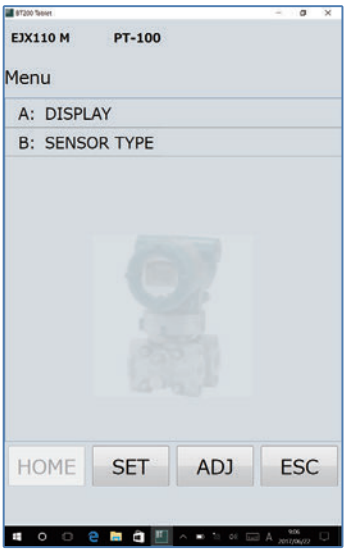
NOTE

“Printing Changed Setup Data” function of BT200 is performed at Log panel in BT200 Tablet.
See T-4-3 Show Log data about Log panel.

T-3 Operation

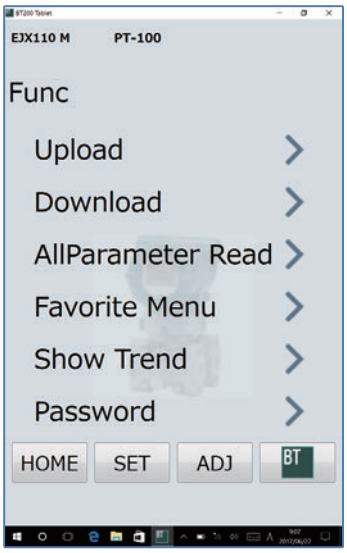
BT200 Tablet has Command panel like BT200.

Click “ESC” button on Menu panel to call Command panel.



T030001E.ai

Figure T-3-1 Menu panel



T030002E.ai

Figure T-3-2 Command panel

T-3-1 Setting Up Data in Batch

Where a number of devices are used, many units might have virtually identical settings. In this situation, the setup procedure can be simplified by copying the settings for one device into another in a batch, then making necessary modifications to that data. This setup technique helps standardize the operating state of each individual instrument and reduces the chances of improper settings.

Upload

Click “Upload” for starting to upload parameter values from device. The uploaded parameters are defined each device.

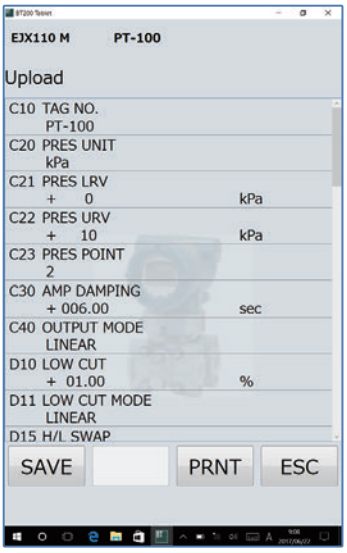
After uploading, click “SAVE” button to call Save panel. In this panel, the uploaded parameters can be saved to database.

Click “PRNT” button to enter Print panel. In this panel, the saved parameters are transferred to pdf file. After transformation, click “Show” button to open the pdf file.

Click “ESC” button to return to Command panel.

Saved parameters can be displayed in Print data list panel.

SEE ALSO See “T-4-2 Show Print data” about Print datalist panel.



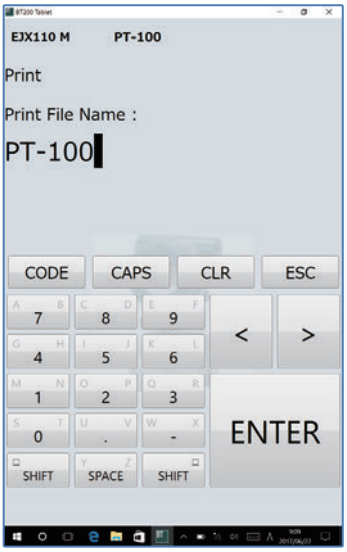
T030101E.ai

Figure T-3-3 Upload panel



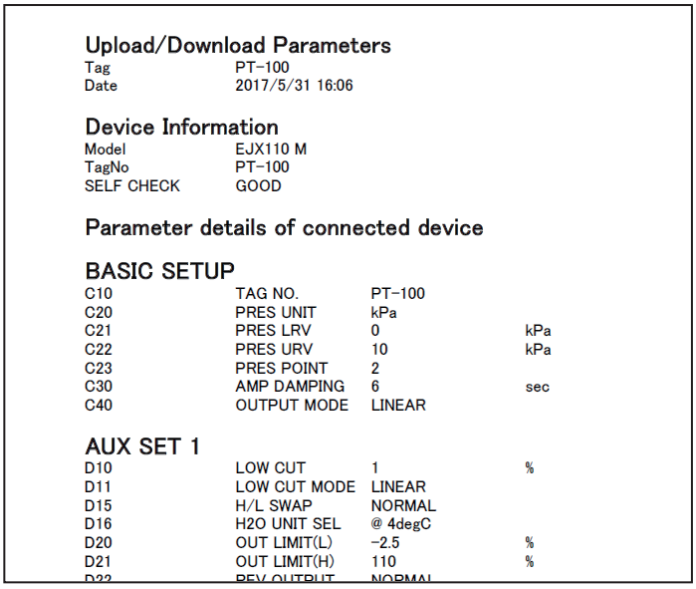
T030102E.ai

Figure T-3-4 Save panel



T030103E.ai

Figure T-3-5 Print panel



Upload/Download Parameters

Tag	PT-100
Date	2017/5/31 16:06

Device Information

Model	EJX110 M
TagNo	PT-100
SELF CHECK	GOOD

Parameter details of connected device

BASIC SETUP

C10	TAG NO.	PT-100	
C20	PRES UNIT	kPa	
C21	PRES LRV	0	kPa
C22	PRES URV	10	kPa
C23	PRES POINT	2	
C30	AMP DAMPING	6	sec
C40	OUTPUT MODE	LINEAR	

AUX SET 1

D10	LOW CUT	1	%
D11	LOW CUT MODE	LINEAR	
D15	H/L SWAP	NORMAL	
D16	H2O UNIT SEL	@ 4degC	
D20	OUT LIMIT(L)	-2.5	%
D21	OUT LIMIT(H)	110	%
D22	REV OUTPUT	NORMAL	

T030104E.ai

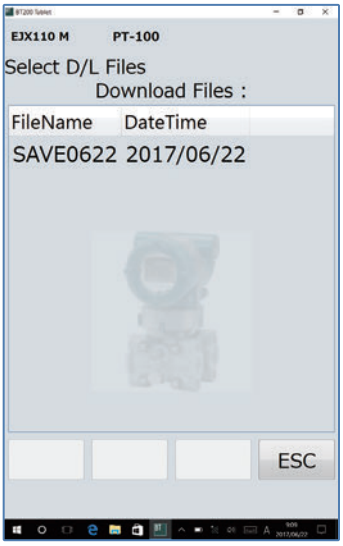
Figure T-3-6 Example of output data

Download

Downloading copies the settings stored in database into other devices in a batch, but not into different models.

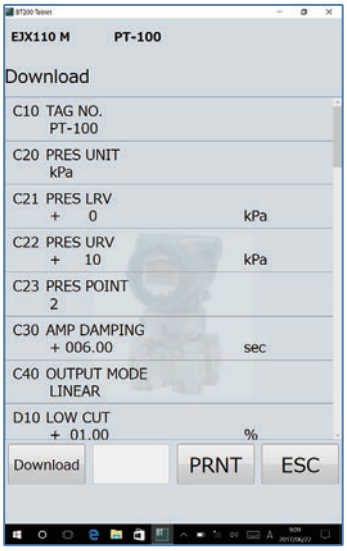
Click “Download” to enter File select panel. Select file to download to device and then Download panel is called. In this panel, click “Download” button to start to download parameters to the device.

Click “ESC” button to return to Command panel.



T030105E.ai

Figure T-3-7 File select panel



T030106E.ai

Figure T-3-8 Download panel

T-3-2 Read All Parameters

Click “All Parameter Read” on Command panel to start to read all parameter values from device.

Click “PRNT” button to enter Print panel. In this panel, the saved parameters are transferred to pdf file. After transformation, click “Show” button to open the pdf file.

Click “ESC” button to return to Command panel.

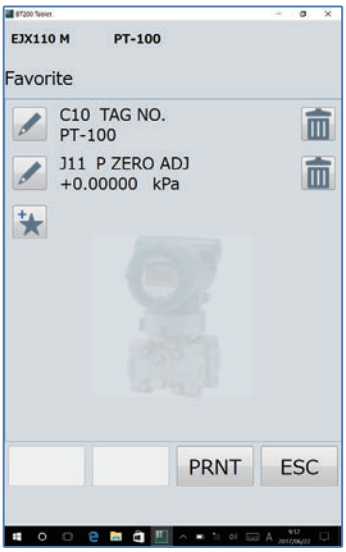
Saved parameters can be displayed in Print data list panel.

SEE ALSO See “T-4-2 Show Print data” about Print datalist panel.

T-3-3 Favorite Menu

Click “Favorite Menu” on Command panel to enter Favorite panel.

In this panel, user can confirm and set the parameters defined as favorite list. The favorite lists are defined to each model.



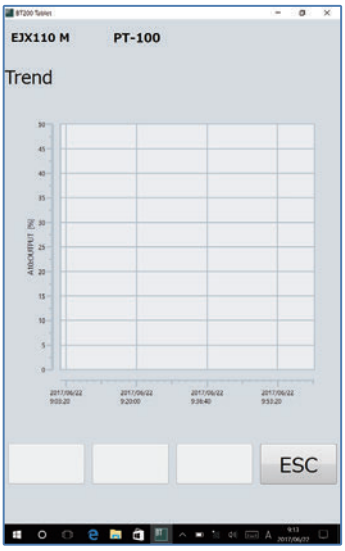
T030301E.ai

Figure T-3-9 Favorite panel

T-3-4 Display Trend Graph

Click “Show Trend” on Command panel to enter Trend panel.

In this panel, the value of Address A10 parameter is gathered every 5 (five) seconds and the values are displayed as trend graph.



T030302E.ai

Figure T-3-10 Trend panel

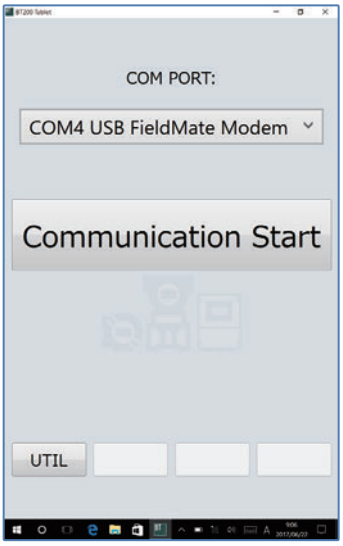
T-3-5 Password

Click “Password” on Command panel to enter Password panel.

This panel is used for only YOKOGAWA service member.

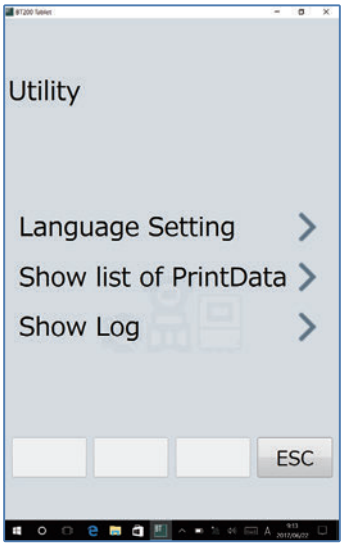
T-4 Utility

Click “UTIL” button on Start panel to enter Utility panel.



T040001E.ai

Figure T-4-1 Start panel



T040002E.ai

Figure T-4-2 Utility panel

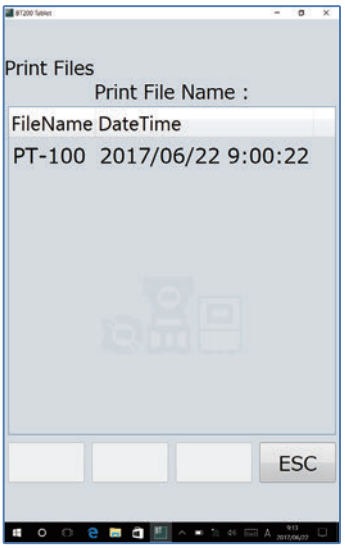
T-4-1 Language Setting

BT200 tablet can be selected the language between English and Japanese.

T-4-2 Show Print Data

Click “Show list of PrintData” on Utility panel to enter Print data list panel.

In this panel, the parameters saved each panel can be displayed.



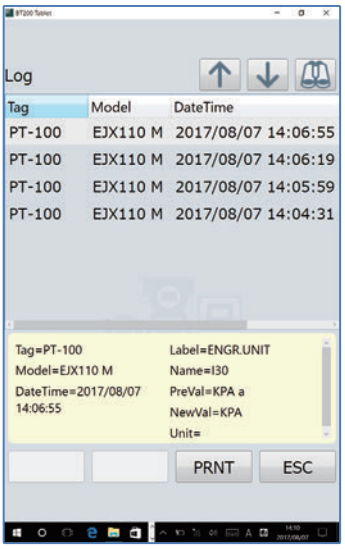
T040201E.ai

Figure T-4-3 Print data list panel

T-4-3 Show Log Data

Click “Show Log” on Utility panel to enter Log panel.

In this panel, the logs can be confirmed.



T040301E.ai

Figure T-4-4 Log panel

Click Search button ( ) to filter logs.

Click “PRNT” button to show log data as pdf file.

U Calibration Management for Liquid Analyzers

U-1 Overview

The dedicated screen is prepared for the new 4-Wire Converter FLXA402 and the SENCOM™ Smart adapter SA11 are supported the following functions.

Local Display System for FLXA402

It can be connected to the FLXA402 via the dedicated interface, and the measured value / set value / history display of FLXA402 can be displayed with graphical display and comfortable operability.

NOTE

The target FLXA402 must support Bluetooth, Modbus TCP/IP, or Modbus RTU (RS-485) for using Local Display system.

Direct Access System for SA11

FieldMate connects directly to SA11 and can perform calibration work for the sensor (SA11) and setting parameter management in work space other than the site.

NOTE

The Bluetooth interface box IB100 is required for using Direct access system.

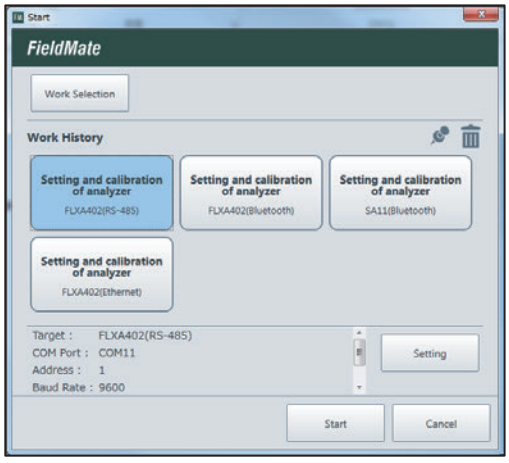
U-2 Operations

The procedure of starting Calibration Management for Liquid Analyzers function is as follows.

SEE ALSO See Calibration Management for Liquid Analyzers (IM 01R01A07-01EN) about this function.

U-2-1 Using Calibration Management for Liquid Analyzers

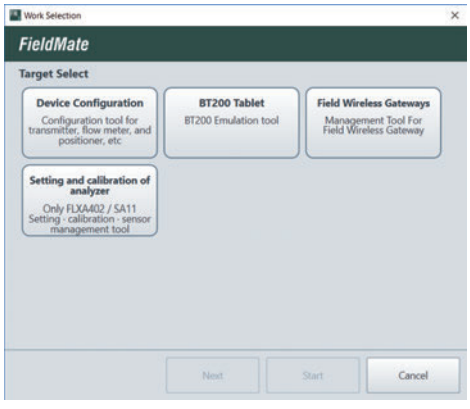
Calibration Management for Liquid Analyzers function is started from the Start Window of FieldMate.



U020101E.ai

Figure U-2-1 Start Window

If “SENCOM” button does not appear in Start dialog, click “Work Selection” button and then Work Selection Window appears. Select “Setting and calibration of analyzer” and then click [Next] button, and then Setting and calibration of analyzer Window appears.



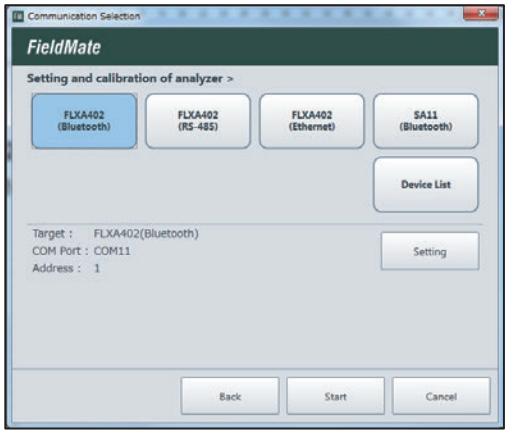
U020102E.ai

Figure U-2-2 Work Selection Window

The following function can be selected in Setting and calibration of analyzer Window.

- Local Display system (Bluetooth) :FLXA402 Bluetooth
- Local Display system (RS485) :FLXA402 RS485(Converter)
- Local Display system (Ethernet) :FLXA402 Ethernet
- Direct access system :SA11 Bluetooth

Select function and then click [Start] button for starting Calibration Management for Liquid Analyzers function.



U020103E.ai

Figure U-2-3 Setting and calibration of analyzer Window

SEE ALSO See “E FieldMate Startup” about Work Selection window.

Appendix A Usage Examples of Offline Function in Type B/C DTM

The following operations can be carried out by using the offline function of Type B and Type C DTM designed by Yokogawa.

FieldMate R3.04 supports the following DTMs with the offline function:

Table App.-A-1 New Created Specified Parameters of Device Maintenance Information (1/2)

	DTM	Protocol	Vendor	Model	Device Revision
FDT1.2 (Type B)	EJX HART7 DTM	HART	YOKOGAWA	EJX_EXP	10
	EJX910 HART7 DTM			EJX910_EXP	10
	EJA-NEXT HART7 DTM			EJA-NEXT_EXP	10
	EJA-NEXT HART DTM			EJA-NEXT	1
	AXR HART7 DTM			AXR_EXP	10
	DYF HART7 DTM			DYF_EXP	10
	YTA70 HART7 DTM			YTA70_EXP	10
	ROTAMASS3 HART DTM			RCCT_F3	4
	EJA-NEXT-LP HART7 DTM			EJA-NEXT-LP	1
	TDLS8000 HART7 DTM			TDLS8000	1,2
	RAMC HART7 DTM			RAMC_EXP	10
	EJX-DRS HART7 DTM			EJX-DRS	1
	YTA710 HART7 DTM			YTA710	1
	YTA610 HART7 DTM			YTA610	1
	ROTAMASS TI HART7 DTM			ROTAMASS_TI	1,2,3
	AXG4A HART7 DTM			AXG4A	1,3
	AXW4A HART7 DTM			AXW4A	1,3
	AXG1A HART7 DTM			AXG1A	3
	ZR802 HART7 DTM			ZR802	1
	FLXA402 HART7 DTM			FLXA402	1
	FVX FF DTM	FOUNDATION Fieldbus H1		FVX	1
	EJX FF DTM			EJX	5
	EJA-NEXT FF DTM			EJA-NEXT	1
	FLEXA FF DTM			FLXA21-PH FLXA21-SC	1 1
	EJX910 FF DTM			EJX910	1,2
	DYF(SoftDL) FF DTM			DYF (Software Download)	3
	YTA710			YTA710	2
	EJX ISA100 DTM	ISA100		EJX	1,2
	YTA ISA100 DTM			YTA510	1,2
	YTMX ISA100 DTM			YTMX580	1
	FN510 ISA100 DTM (DIDOAI)			FN510 (DIDOAI)	1
	FN510 ISA100 DTM (ACAI)			FN510 (ACAI)	1
	FN910 ISA100 DTM			FN910	1
FDT2.0 (Type C)	EJX FDT2.0 HART7 DTM	HART		EJX_EXP	10
	EJX FDT2.0 HART DTM			EJX	3
	EJA-NEXT FDT2.0 HART7 DTM			EJA-NEXT_EXP	10
	EJA-NEXT FDT2.0 HART DTM			EJA-NEXT	1
	ROTAMASS3 FDT2.0 HART DTM			RCCT_F3	4
	EJA-NEXT-LP FDT2.0 HART7 DTM			EJA-NEXT-LP	1
	EJX910 FDT2.0 HART7 DTM			EJX910_EXP	10,11
	EJX910 FDT2.0 HART DTM			EJX910	1,2
	ROTAMASS TI FDT2.0 HART7 DTM			ROTAMASS_TI	1,2
	EJX-DRS FDT2.0 HART7 DTM			EJX-DRS	1
	YTA710 FDT2.0 HART7 DTM			YTA710	1
	AXG4A FDT2.0 HART7 DTM			AXG4A	1,3
	AXW4A FDT2.0 HART7 DTM			AXW4A	1,3

Table App.-A-1 New Created Specified Parameters of Device Maintenance Information (2/2)

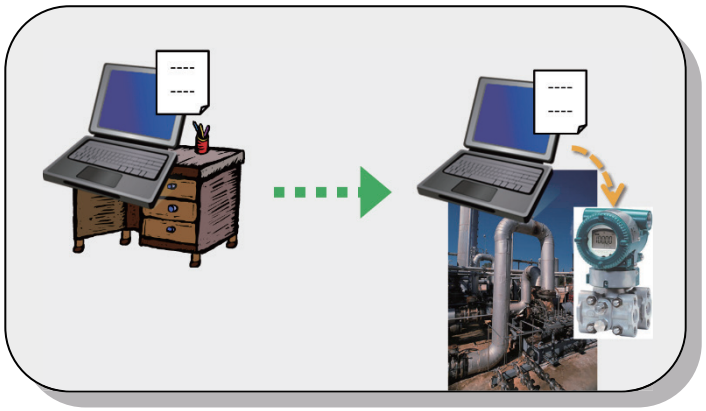
	DTM	Protocol	Vendor	Model	Device Revision
FDT2.0 (Type C)	AXG1A FDT2.0 HART7 DTM	HART	YOKOGAWA	AXG1A	3
	ZR802 FDT2.0 HART7 DTM			ZR802	1
	YTA610 FDT2.0 HART7 DTM			YTA610	1
	FLXA402 FDT2.0 HART7 DTM			FLXA402	1

(Note) For FOUNDATION fieldbus H1 devices, the offline menu is provided in each function block. All procedures for operations including Save and Read must be performed for each function block.

Offline Operations

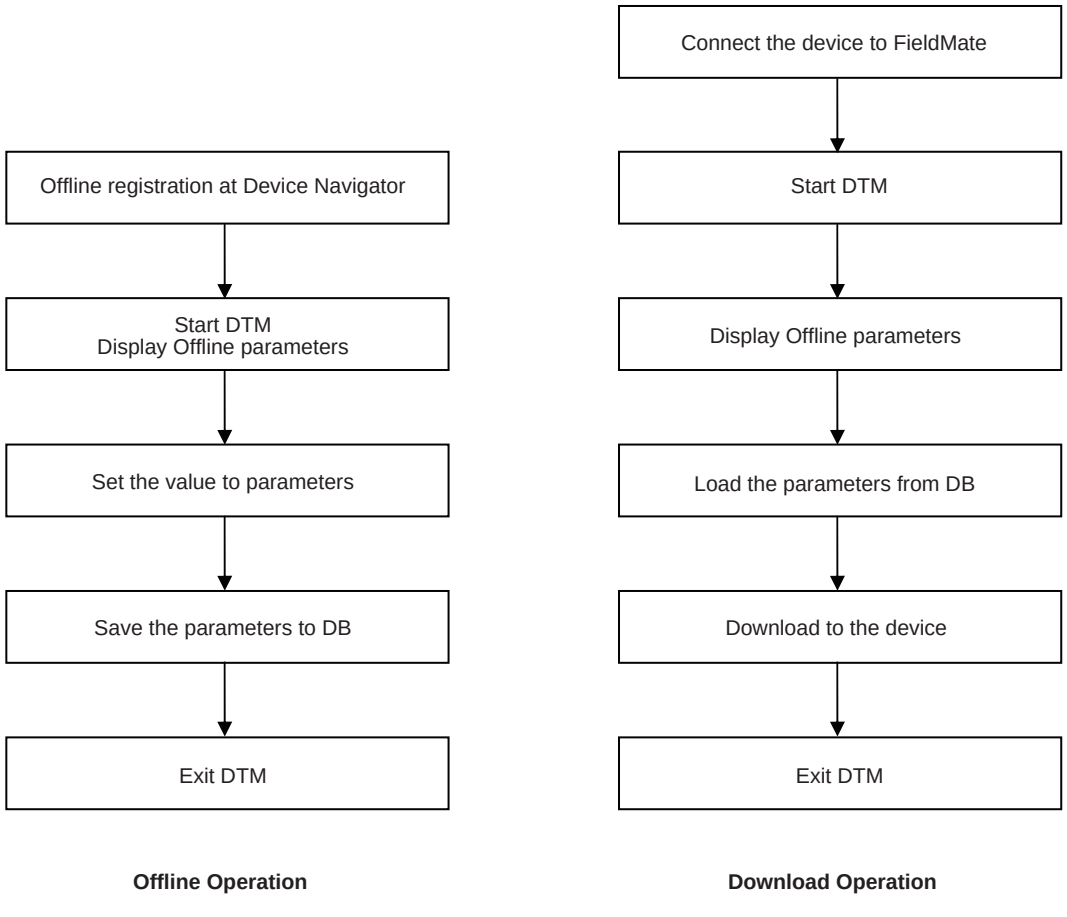
Even when FieldMate is not connected to field devices, it can set their parameters by using the offline function of the database device and then download the parameters to the field devices.

The parameter values can be saved as a snapshot for later reference.



App.A01E.ai

Figure App.-A-1 Offline operation image

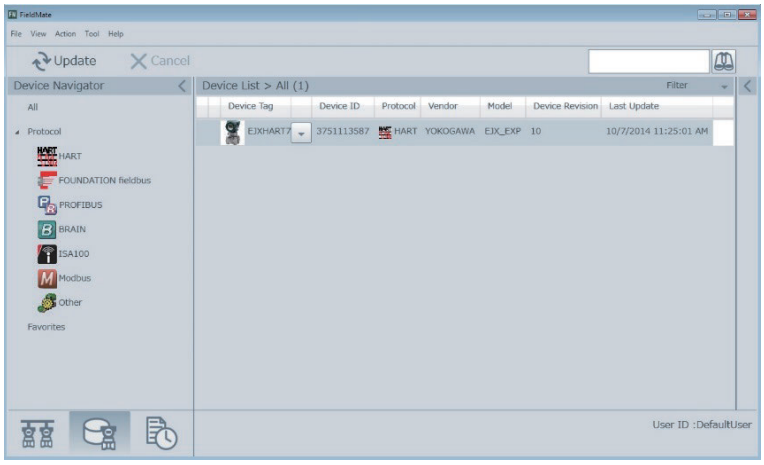


App.A02E.ai

Figure App.-A-2 Operation Flow of Device Set up

Offline operation

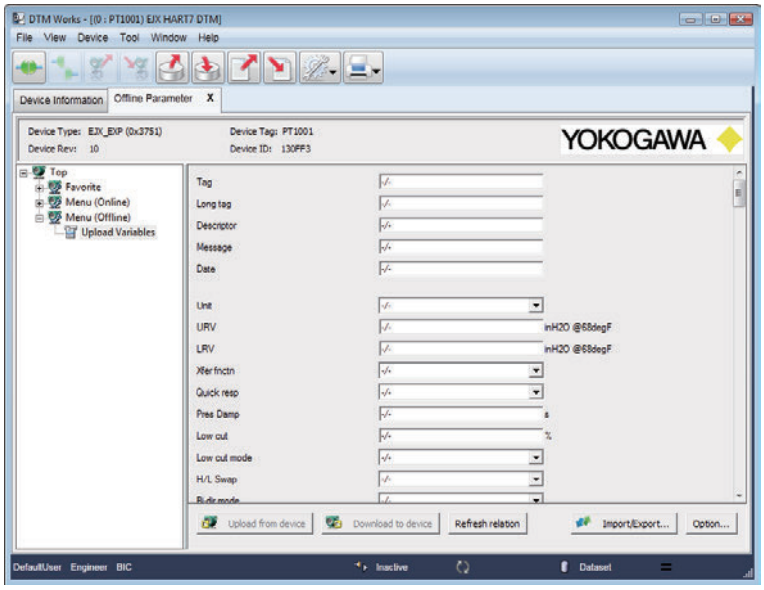
1. Register the device offline to the Device Maintenance Information from Device Navigator.



App.A03E.ai

Figure App.-A-3

2. Start the DTM for the device that was offline-registered from Device Navigator.
   The offline parameters appear.
   The default is blank “-/-”.

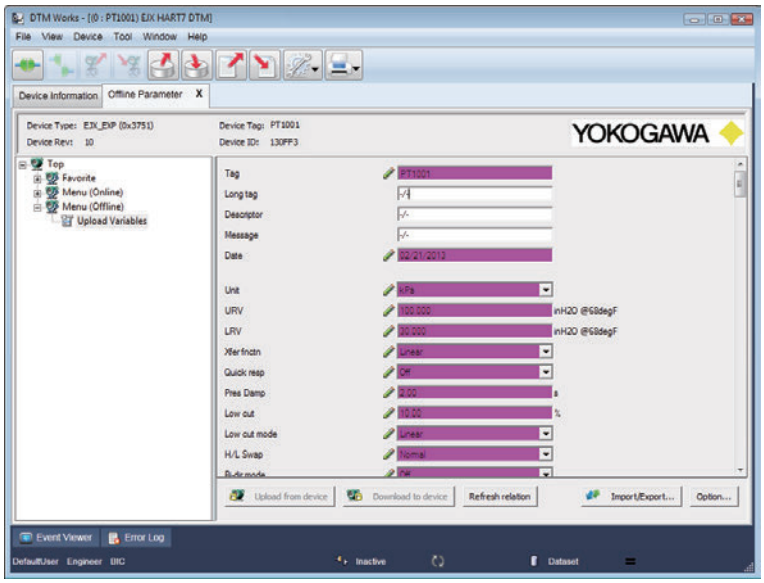


App.A04E.ai

Figure App.-A-4 Example display of Type B

3. Change the parameters to the desired values. The changed parameters are displayed in magenta. (An Edit mark is added in case of Type C.)
   Leave other parameters “-/-”.
   Only the parameters in magenta will be downloaded at one time to the connected devices.

4. Some devices use their own units or setting modes.
   In Type B DTM only, click the “Refresh relation” button to reflect units or settings modes.

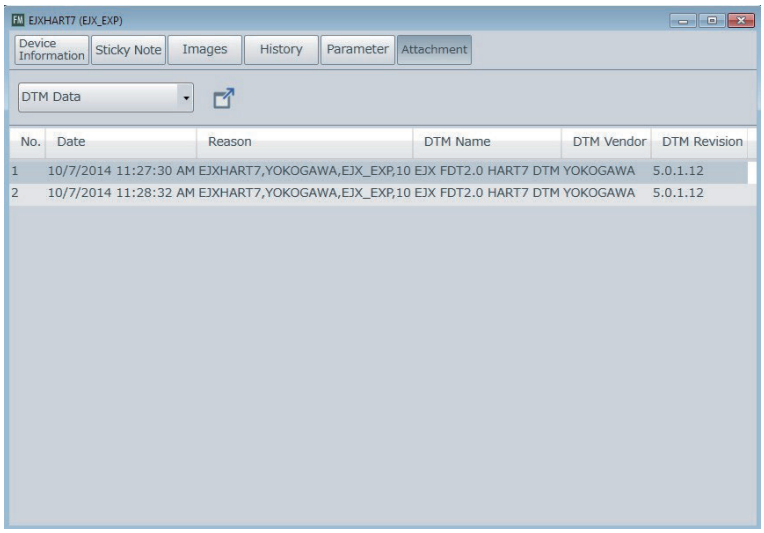


App.A05E.ai

Figure App.-A-5 Example display of Type B

5. Click the “Save to Database” button to save the information during the procedure. (In case of Type C, select “Apply” button before pressing “Save to Database”.)
   You can restart the procedure from Step 2.

6. Click the “Save to Database” button after the setting is completed.



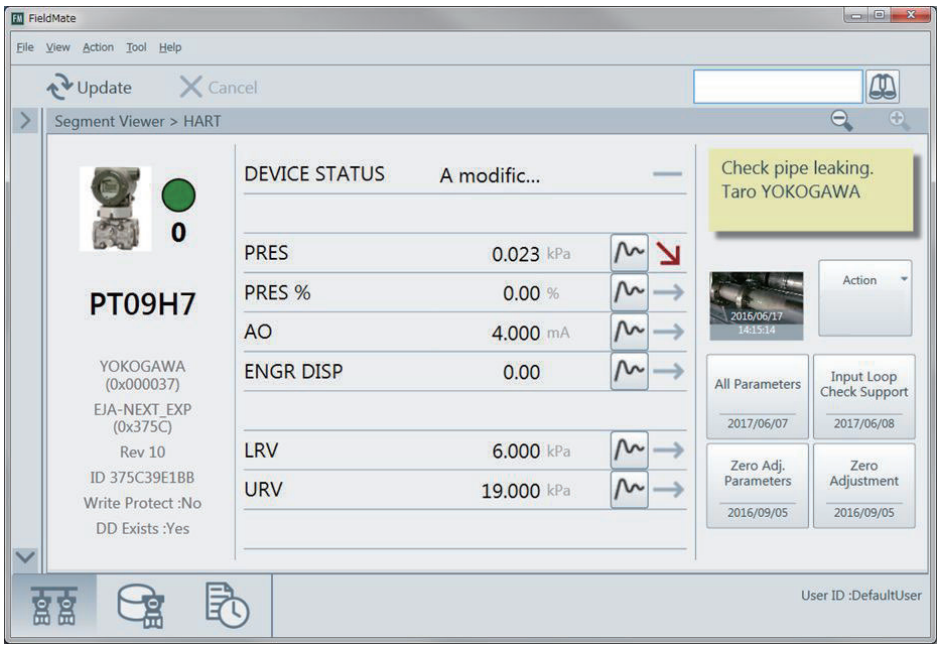
App.A06E.ai

Figure App.-A-6

7. Exit DTM.

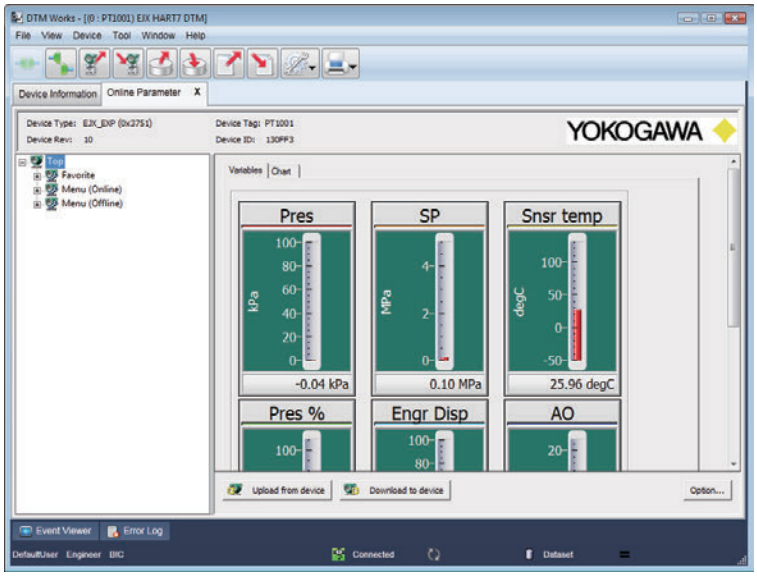
Download operation

8. Connect the device to FieldMate.
9. Select the device from Segment Viewer and start the DTM for the device.



App.A07E.ai

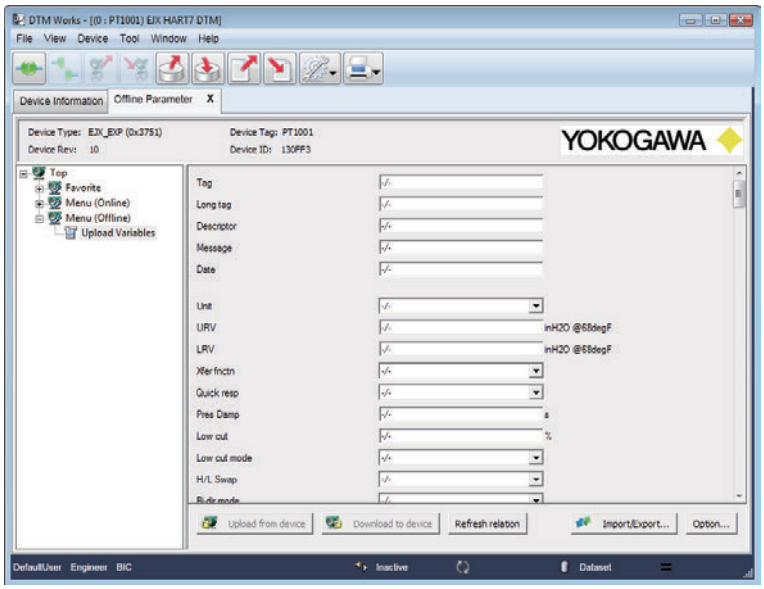
Figure App.-A-7 Segment Viewer



App.A08E.ai

Figure App.-A-8 Example display of Type B

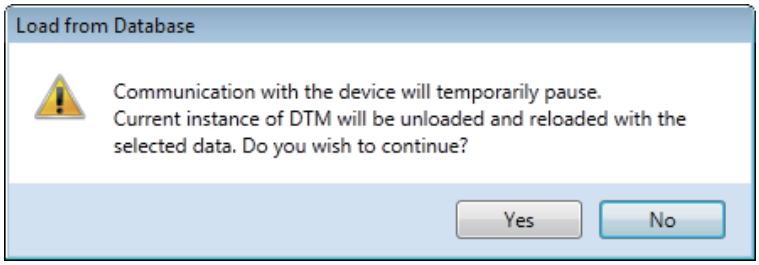
10. The offline parameters appear.



App.A09E.ai

Figure App.-A-9 Example display of Type B

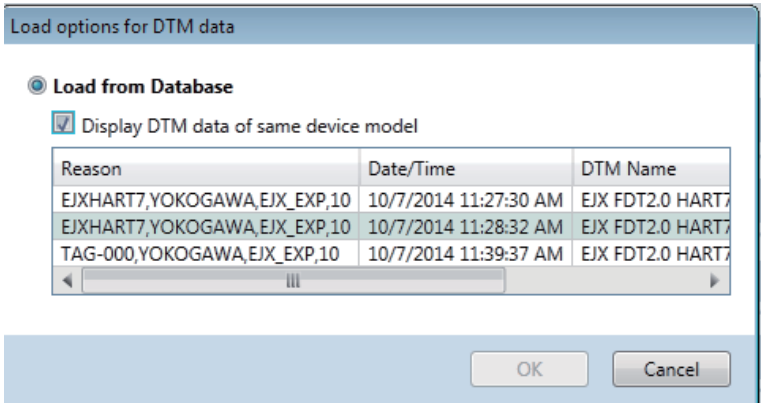
11. Load the parameters saved in DB at 6.



App.A10E.ai

Figure App.-A-10

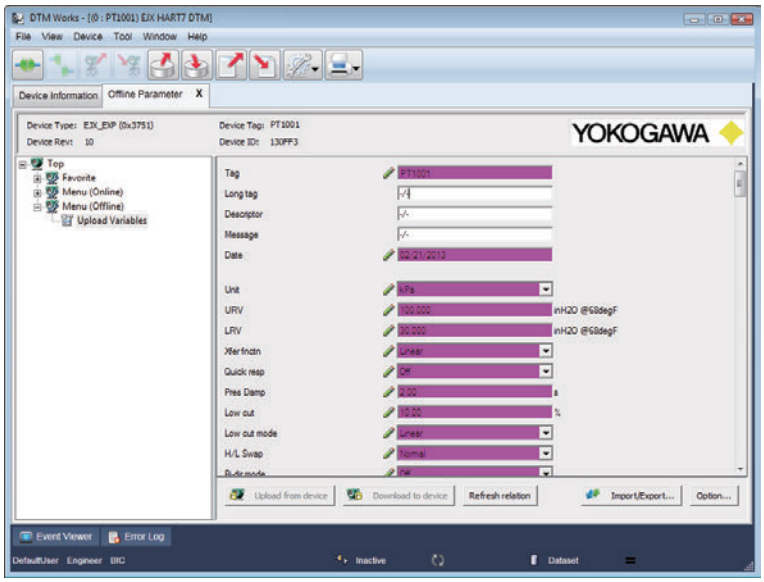
12. Select DB and proceed.



App.A11E.ai

Figure App.-A-11

13. Offline window with parameters loaded from DB is displayed.



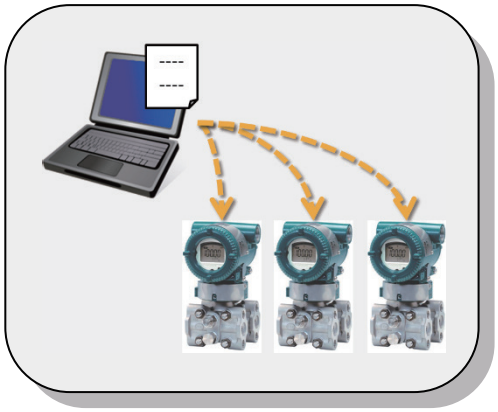
App.B12E.ai

Figure App.-A-12 Example display of Type B

14. Click the “Download to device” button to download the parameters in magenta. (In case of Type C, parameters with Edit marks will be downloaded.)
    After the download, FieldMate reloads the parameters. Be sure to confirm the values.
15. Refer to History of the device maintenance information to make sure that the desired value has been set.

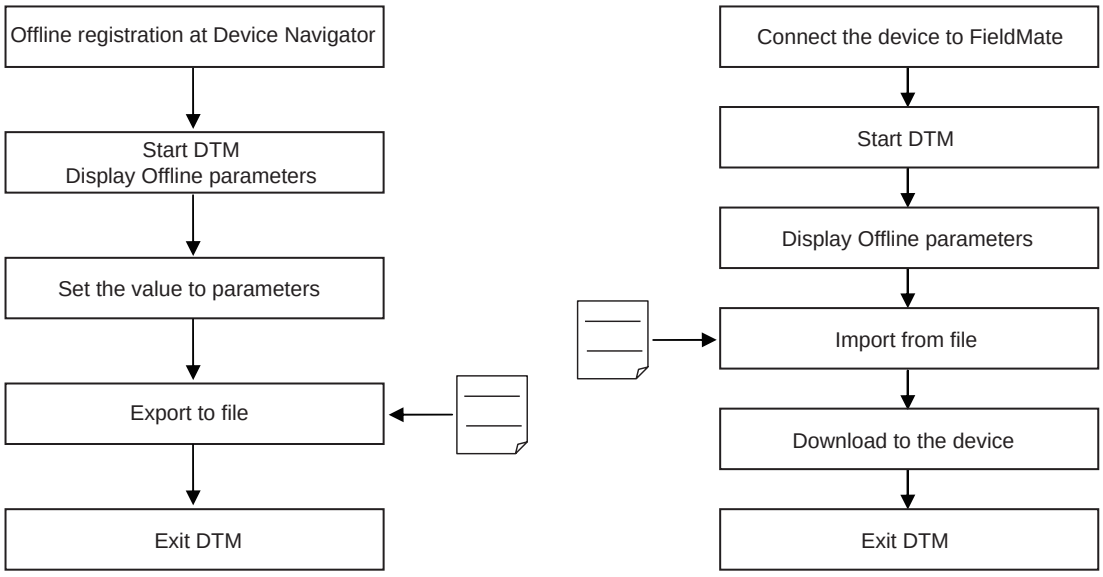
Device Clone

Even when FieldMate is not connected to field devices, it can create a template DB by using the offline function of the database device and then download the same parameters to field devices of the same kind.



App.A13E.ai

Figure App.-A-13 Device Cloning image

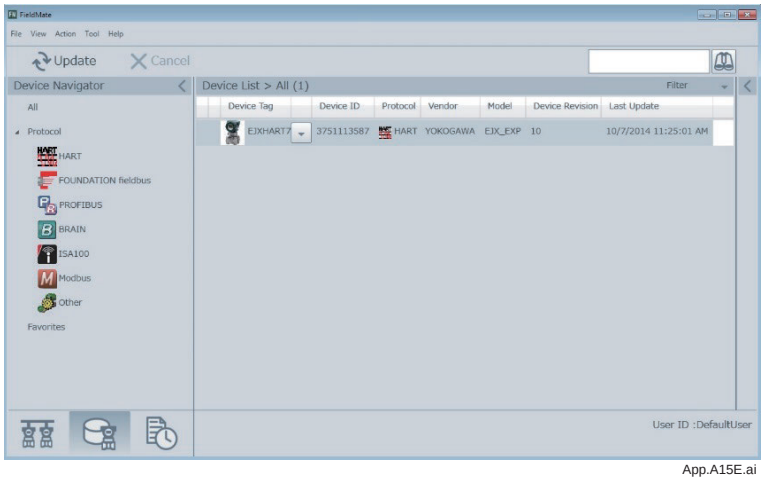


App.A14 E.ai

Figure App.-A-14

Create a template on DB

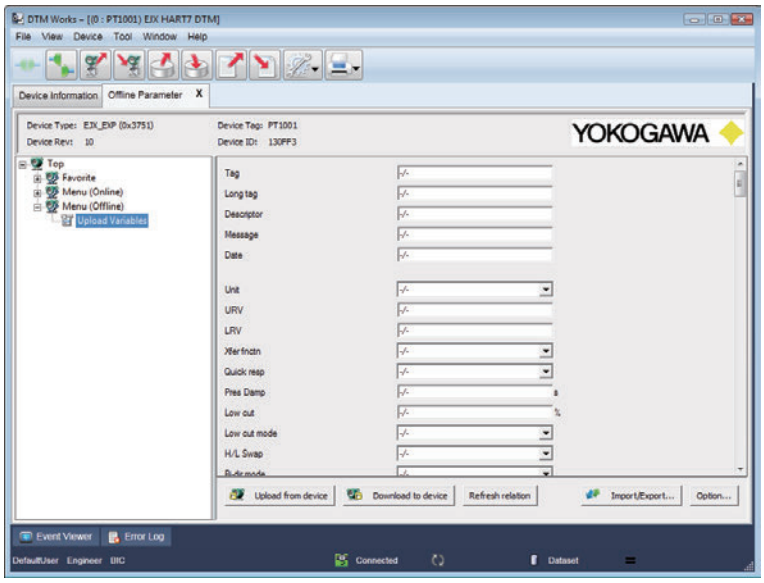
1. Register the device offline to the Device Maintenance Information from Device Navigator.



App.A15E.ai

Figure App.-A-15

2. Start the DTM for the device that was offline-registered from Device Navigator.
   The offline parameters appear.
   The default is blank “-/-”.

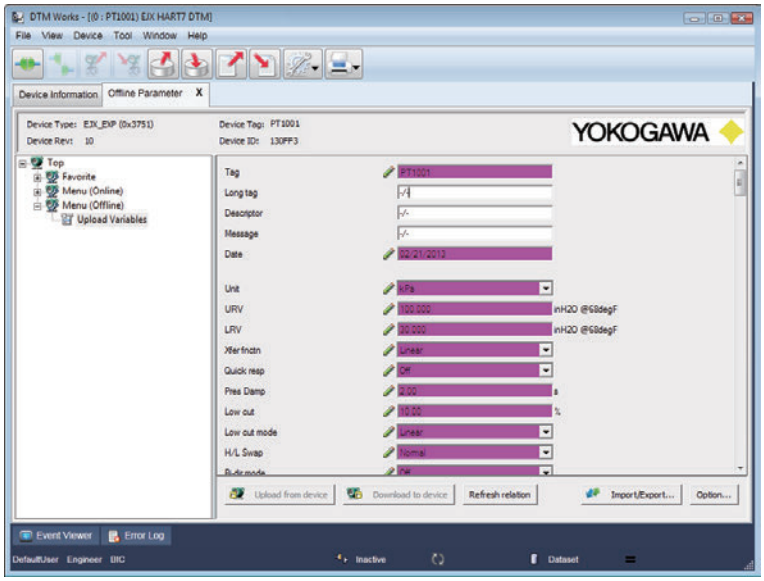


App.A16E.ai

Figure App.-A-16 Example display of Type B

3. Change the parameters to the desired values. The changed parameters are displayed in magenta. (An Edit mark is added in case of Type C.)
   Leave other parameters “-/-”.
   Only the parameters in magenta will be downloaded at one time to the connected devices.

4. Some devices use their own units or setting modes.
   In Type B DTM only, click the “Refresh relation” button to reflect units or settings modes.



App.A17E.ai

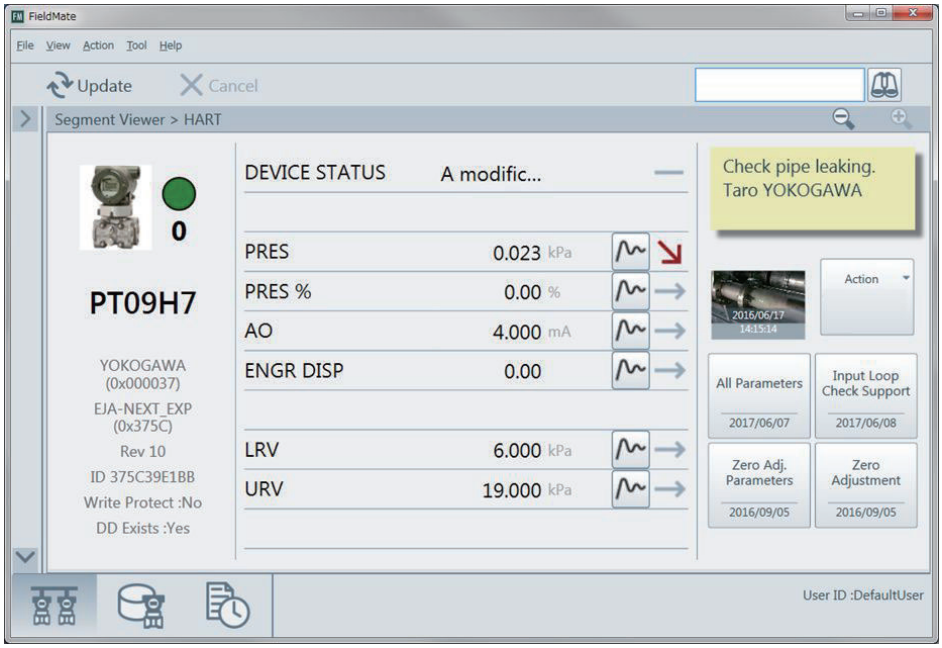
Figure App.-A-17 Example display of Type B

5. Click the “Import/Export” button (Type B), and then the “Export to file” button. A template is created.

6. Exit DTM.

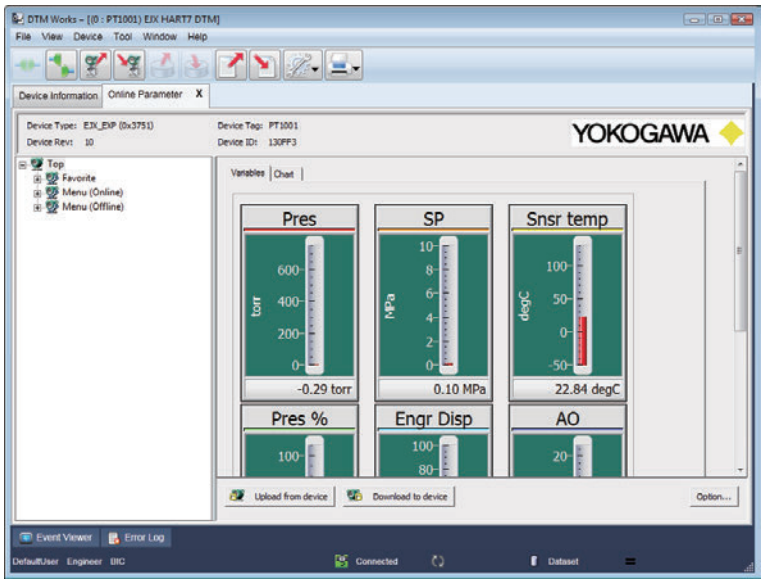
Download operation

7. Connect the device to FieldMate.
8. Select the device from Segment Viewer and start the DTM for the device.



App.A18E.ai

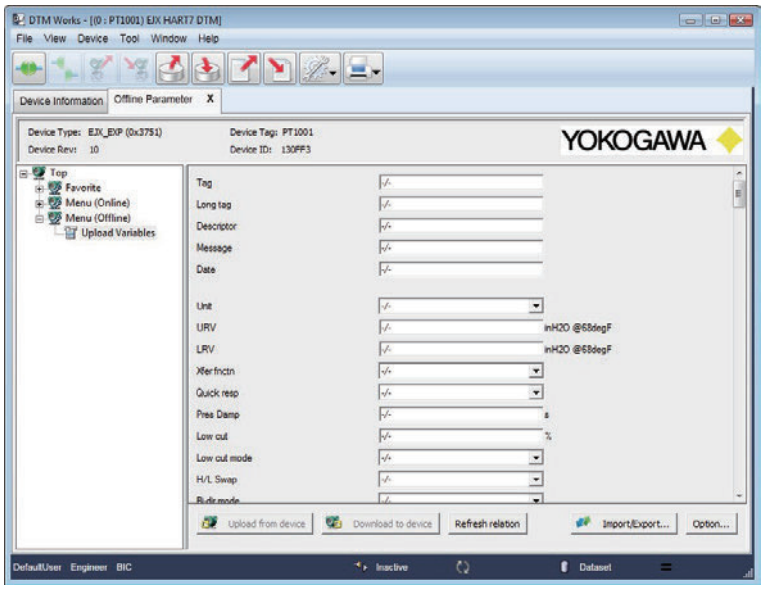
Figure App.-A-18 Segment Viewer



App.A19E.ai

Figure App.-A-19 Example display of Type B

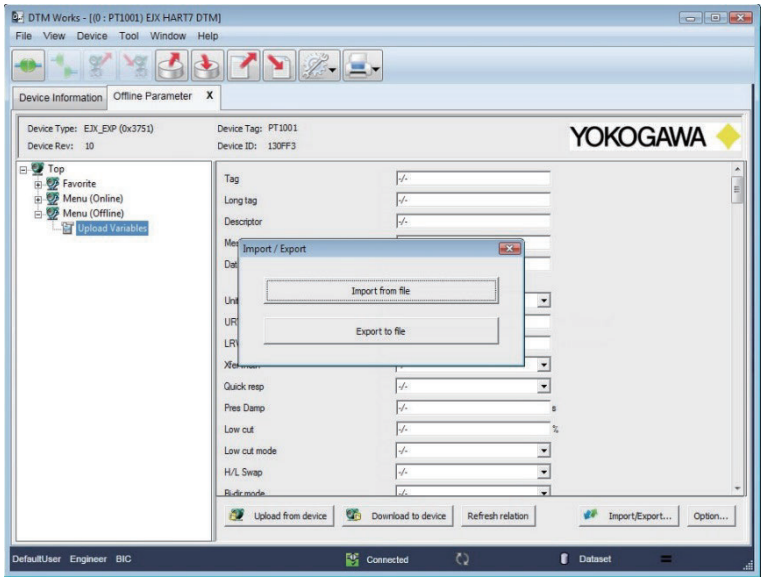
9. The offline parameters appear.



App.A20E.ai

Figure App.-A-20 Example display of Type B

10. Click the “Import/Export” button (Type B), and then the “Import from file” button. The template DB is retrieved.



App.A21E.ai

Figure App.-A-21

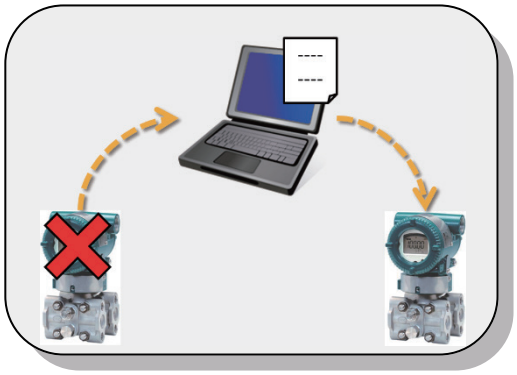
11. Click the ”Download to device” button to download the parameters.

    After the download, FieldMate reloads the parameters. Be sure to check the values.

12. For other devices, connect each of them in turn and repeat Steps 7 to 11.

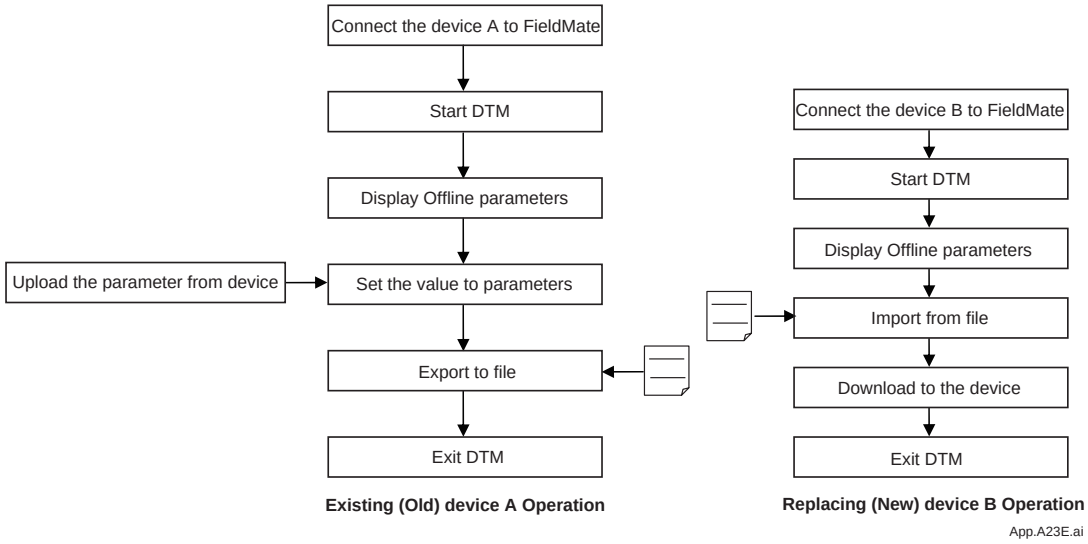
Device Replacement

The parameters of Device A that have been set by using the offline function can be downloaded to Device B of the same model.



App.A22E.ai

Figure App.-A-22 Device Replacement Image

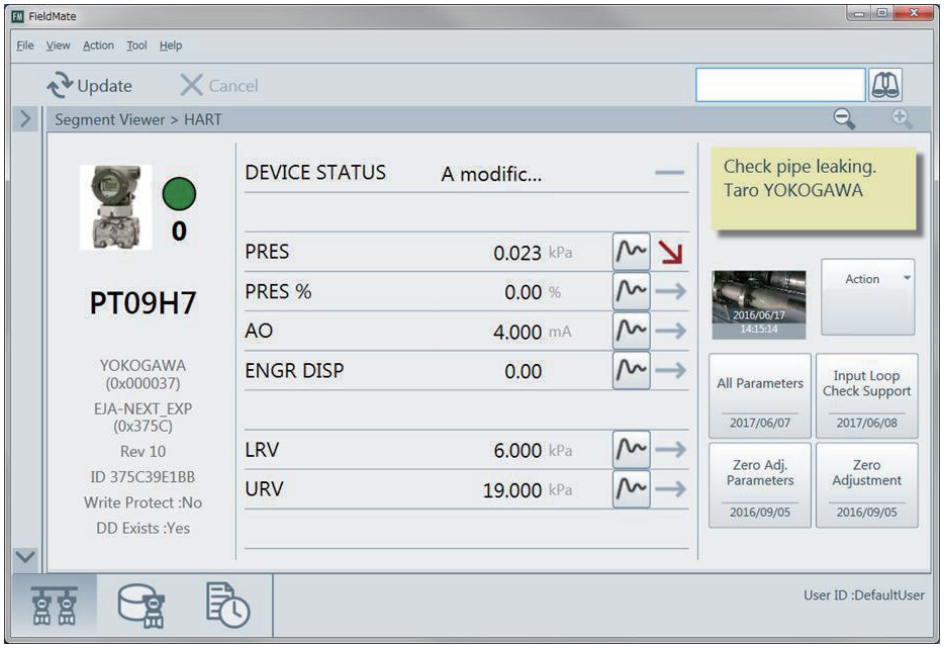


App.A23E.ai

Figure App.-A-23 Operation Flow of Device Setup

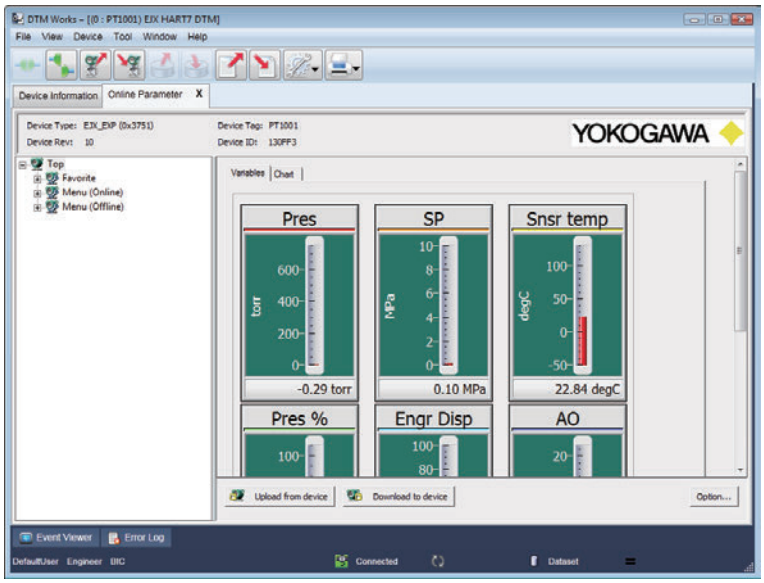
Procedures for Device A (Existing device)

1. Connect Device A to FieldMate
2. Select it from Segment Viewer and start the DTM for Device A.



App.A24E.ai

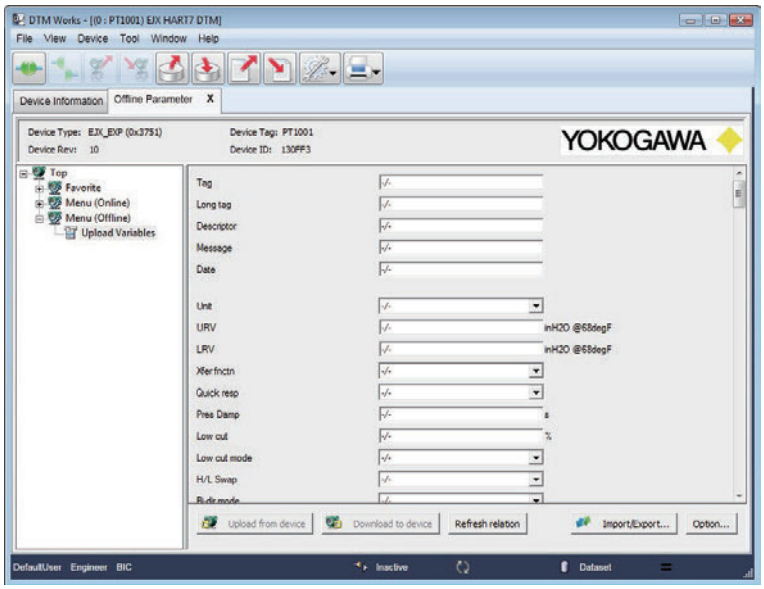
Figure App.-A-24 Segment Viewer



App.A25E.ai

Figure App.-A-25 Example display of Type B

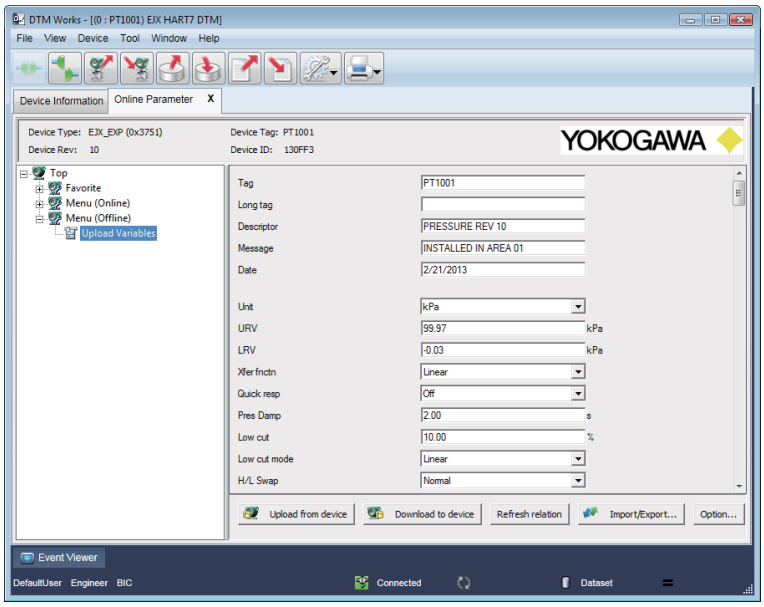
3. The offline parameters appear.



App.A26E.ai

Figure App.-A-26 Example display of Type B

4. Click the “Upload from device” button to upload the offline parameters of Device A.



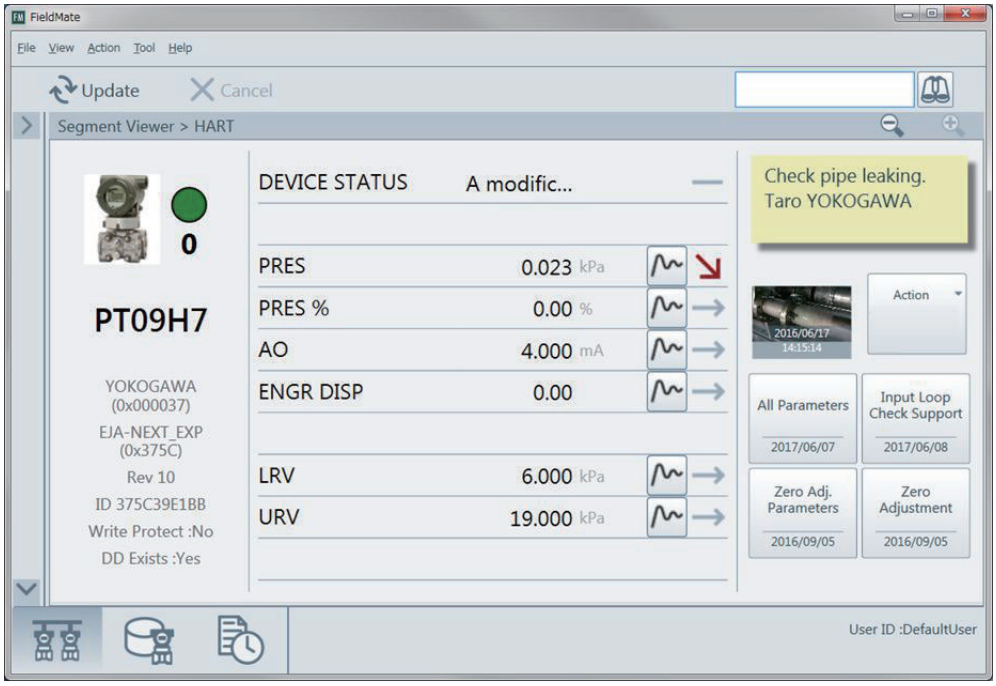
App.A27E.ai

Figure App.-A-27 Example display of Type B

5. Click the “Import/Export” button (Type B), and then the” Export to file” button. The template DB is created.
6. Exit DTM.

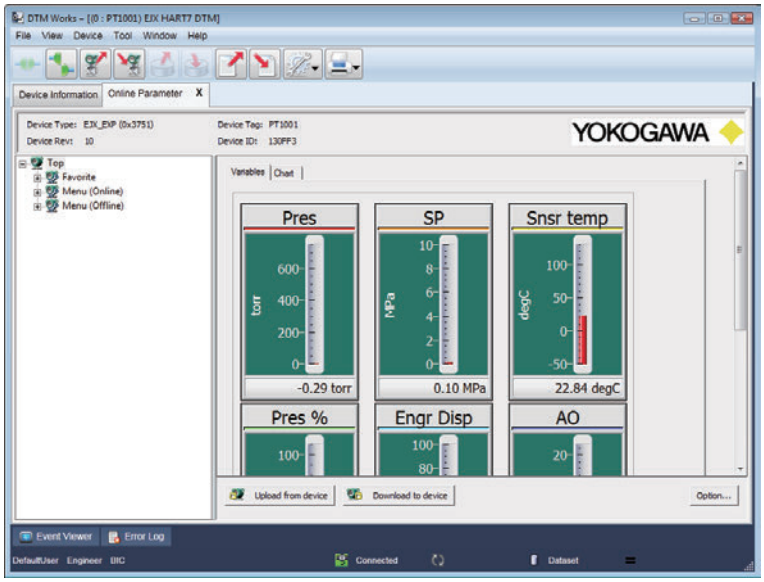
Operation in Device B (New device)

7. Connect Device B to FieldMate.
8. Select it from the Segment Viewer and start the DTM for Device B.



App.A28E.ai

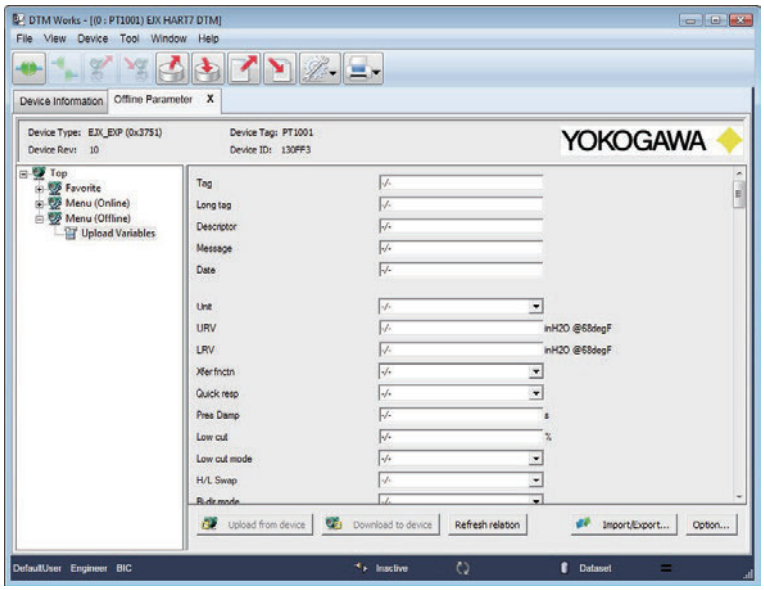
Figure App.-A-28 Segment Viewer



App.A29E.ai

Figure App.-A-29 Example display of Type B

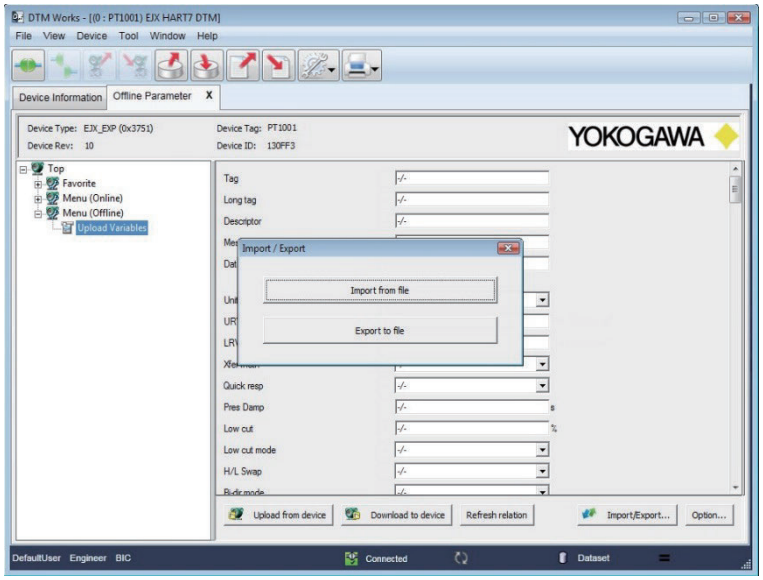
9. The offline parameters appear.



App.A30E.ai

Figure App.-A-30 Example display of Type B

10. Click the “Import/Export” button (Type B), and then the “Import from file” button. The DB for Device A is retrieved.



App.A31E.ai

Figure App.-A-31 Example display of Type B

11. Click the “Download to Device” button to download the parameters in magenta to Device B. (In case of Type C, parameters with Edit marks will be downloaded.)
After the download, FieldMate reloads the parameters. Be sure to check the values.

Appendix B Device Replacement Tool

Appendix B-1 HART Device

1. Overview

The device replacement tool simplifies the replacement of Rosemount's field devices with Yokogawa's. This tool converts the parameters of the original device and downloads them to the replacing device.
This tool can also be used for replacement between Yokogawa's field devices.

2. Devices

The tool supports the following combinations of Rosemount's and Yokogawa's field devices.

Table App.-B-1 Combinations of Field Devices Supported by the Device Replacement Tool

		Yokogawa				
Replacing device / **Original device**		**EJA-A/EJA HART5**	**EJA-E HART5**	**EJA-E HART7**	**EJX HART5**	**EJX HART7**
Rosemount	1151	√	√	√	√	√
	2051	√	√	√	√	√
	3051C	√	√	√	√	√
	3051S	√	√	√	√	√
Yokogawa	EJA-A/EJA HART5	–	√	√	√	√
	EJA-E HART5	–	–	√	√	√
	EJA-E HART7	–	–	–	–	√
	EJX HART5	–	√	√	–	√
	EJX HART7	–	–	√	–	–

This tool supports HART devices.

The number 1151, 2051, 3051C, and 3051S are model names of Rosemount's pressure transmitters.

3. Parameters to be converted

The following parameters can be converted:

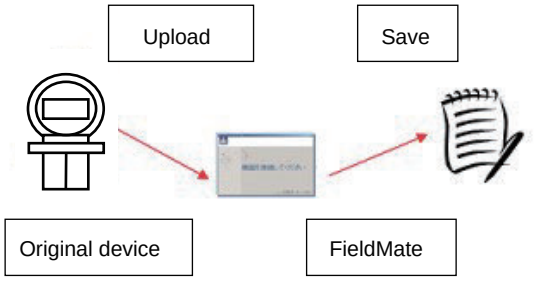
Tag, Long Tag, LRV, URV, Unit, Pres Damp, Descriptor, Message, Xfer fnctn

4. Operation Procedure

The parameters are converted in two steps as described below.

● Step 1

Upload the parameters of the original device to FieldMate and save them in a file.

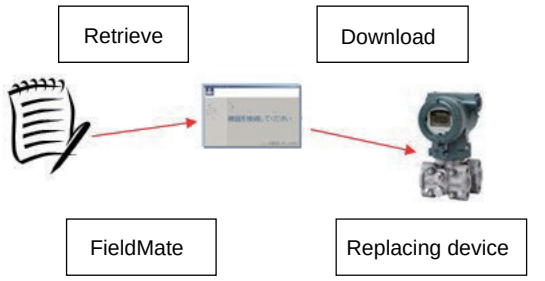


App.B01E.ai

Figure App.-B-1

● Step 2

Retrieve the parameters from the file and download them to the replacing device.



App.B02E.ai

Figure App.-B-2

- At the end of Step 1, the parameters are automatically saved in a file (cannot be canceled).
- Step 1 and 2 can be consecutively performed. Or, after Step 1 is finished, Step 2 can be done later.

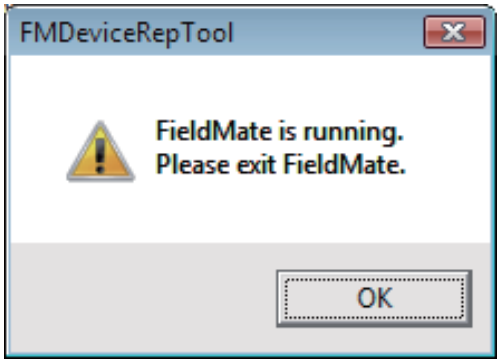
(Note) This tool works only for the combinations of devices listed in Table C-1.

5. Operation

5-1 Startup

Start → YOKOGAWA FieldMate → Device Replacement Tool.

This tool does not start if FieldMate is already running.
If the following message appears, exit FieldMate and then start this tool.



App.B03E.ai

Figure App.-B-3 Error Message when FieldMate is Already Running

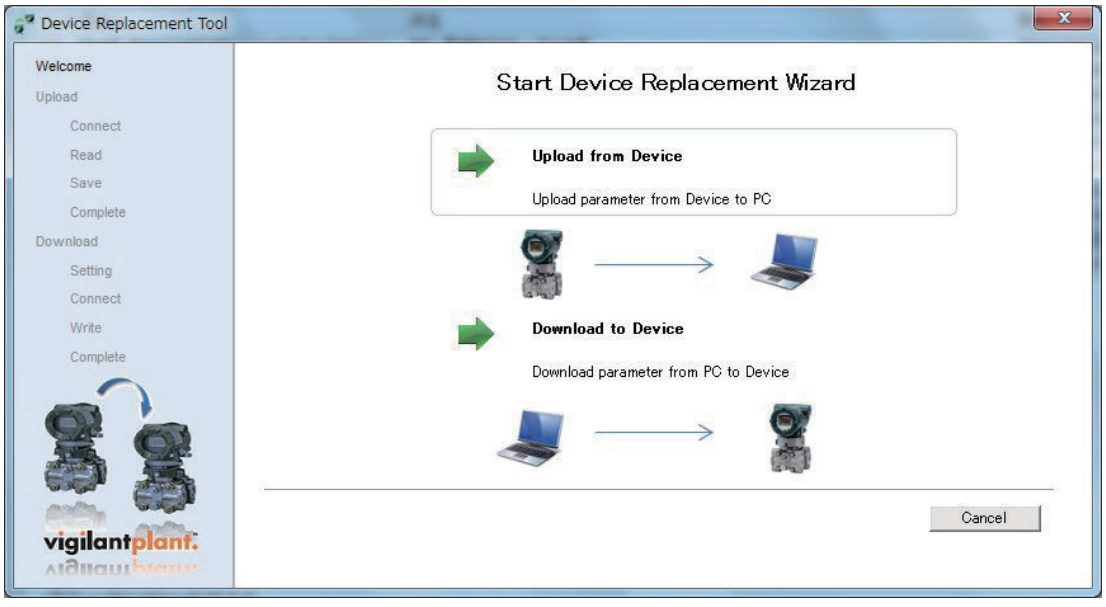
(Note) This tool allows only one device to be connected at one time. The original and replacing devices cannot be connected simultaneously.

5-2 Step 1

Upload the parameters of the original device and saving them in a file.

Step 1-1 Select a mode

Select “Device -> File”



App.B04E.ai

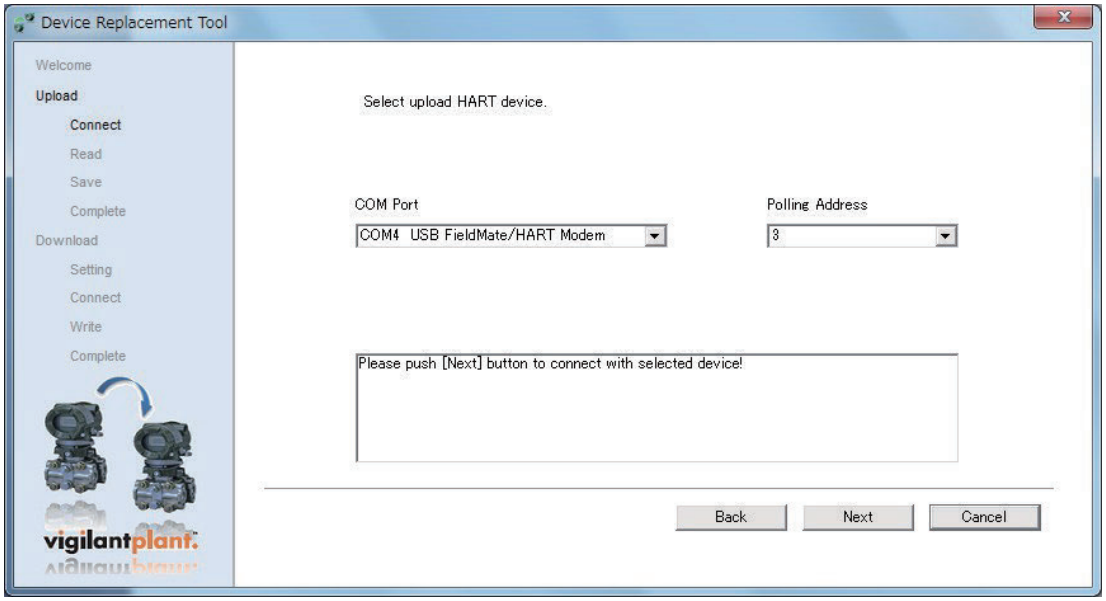
Figure App.-B-4 Mode Selection Display

Step 1-2 Setting COM port and polling address (Upload – Connect)

Select a COM port of the FieldMate modem and the polling address of the original device.

Connect the device to the modem. Select the desired COM port and device address, and then click the “Next” button.

When the USB FieldMate modem is connected, this tool automatically selects the COM port to which the modem is connected. Polling address is not recognized automatically. Please confirm the polling address in advance.



App.B05E.ai

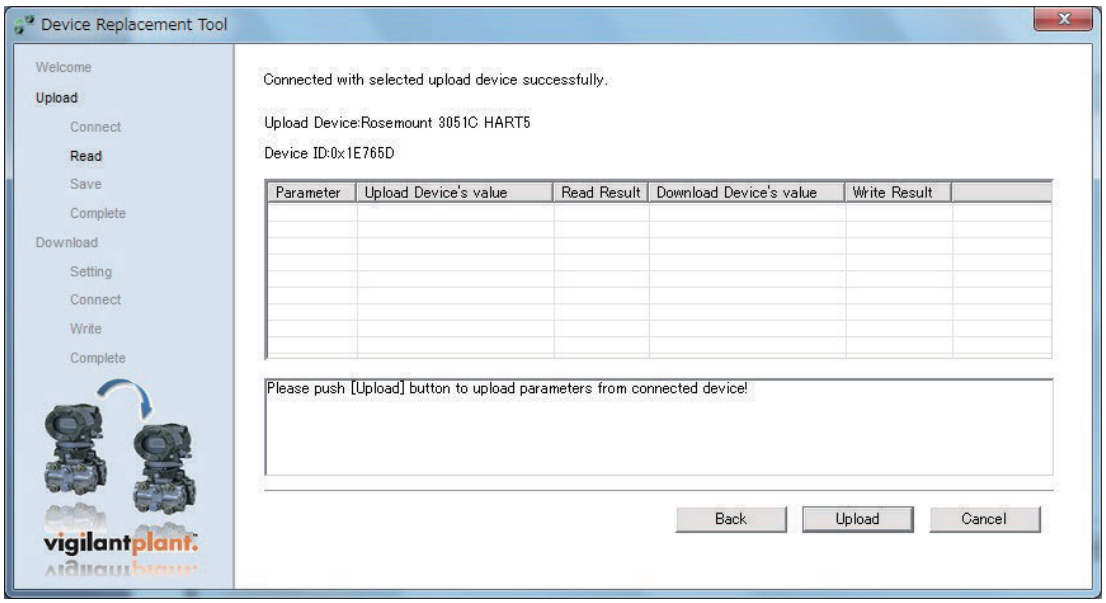
Figure App.-B-5 COM Port and Polling Address Setting Display

Step 1-3 Upload (Upload – Read)

Upload the parameters of the original device

The vendor’s name and model name of the original device appear.

Check the identity of the connected device and then click the “Upload” button.



App.B06E.ai

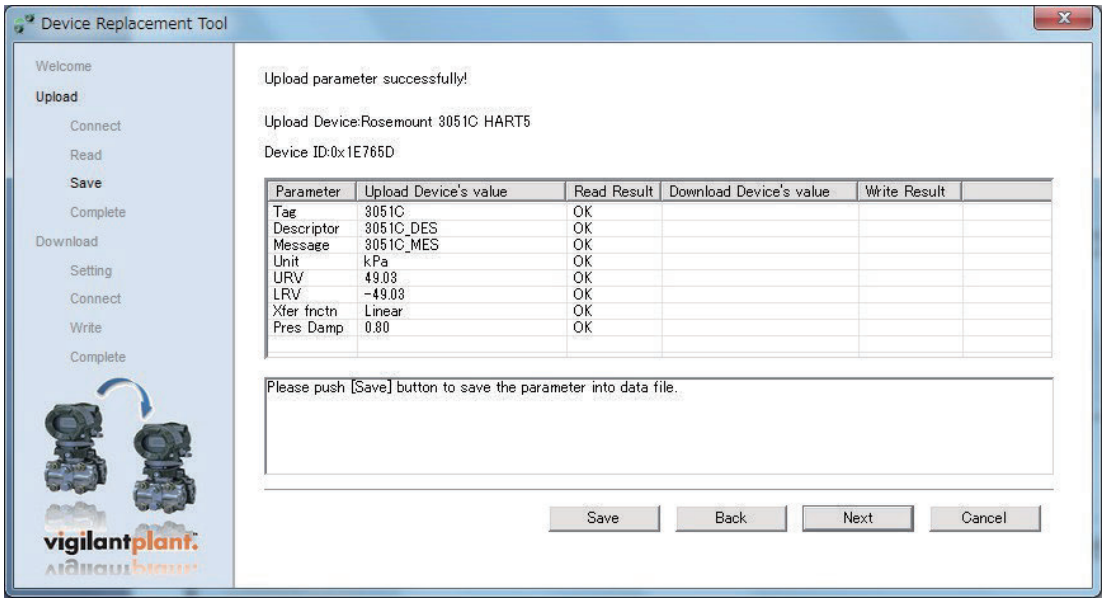
Figure App.-B-6 Upload Display

Step 1-4 Save a file (Upload – Save)

Check the parameters and save them in a file

The uploaded parameters appear.

Click the “Save” button to save the parameters in a file.



App.B07E.ai

Figure App.-B-7 File Saving Confirmation Display

A file with a given name is created in the “My Documents” folder. Users can also specify the file name and its location.

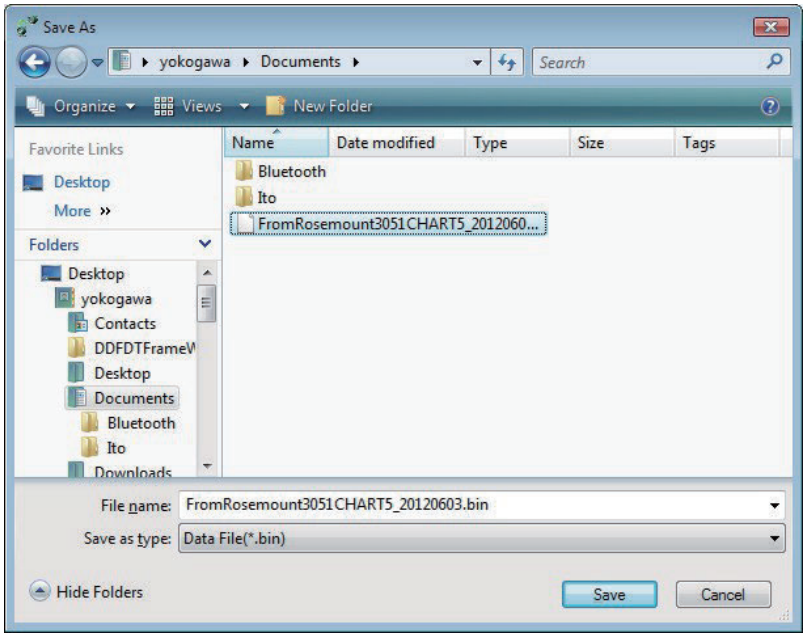
Default folder:

\UserProfile\Documents

Default file name:

From [Device name] [Date].bin

Example: FromRosemount3051SHART5_20120314.bin

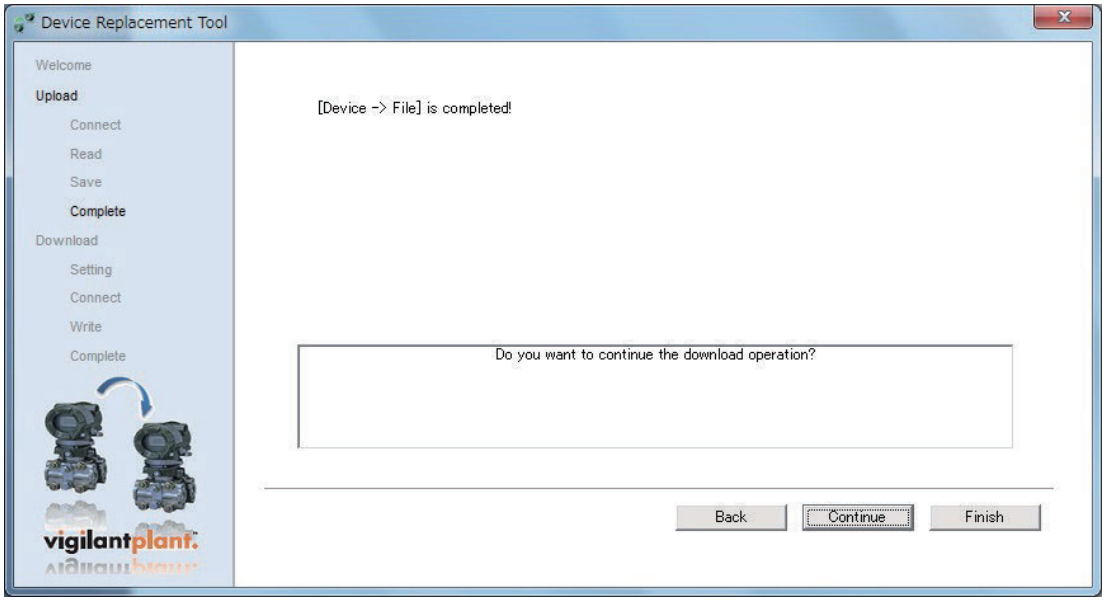


App.B08E.ai

Figure App.-B-8 File Saving Display

Step 1-5 Complete upload (Upload – Complete)

Click the “Finish” button to complete Step 1. To continue with downloading the parameters, click the “Continue” button, which will take you to Step 2-2. (Figure APP-B-13)



App.B09E.ai

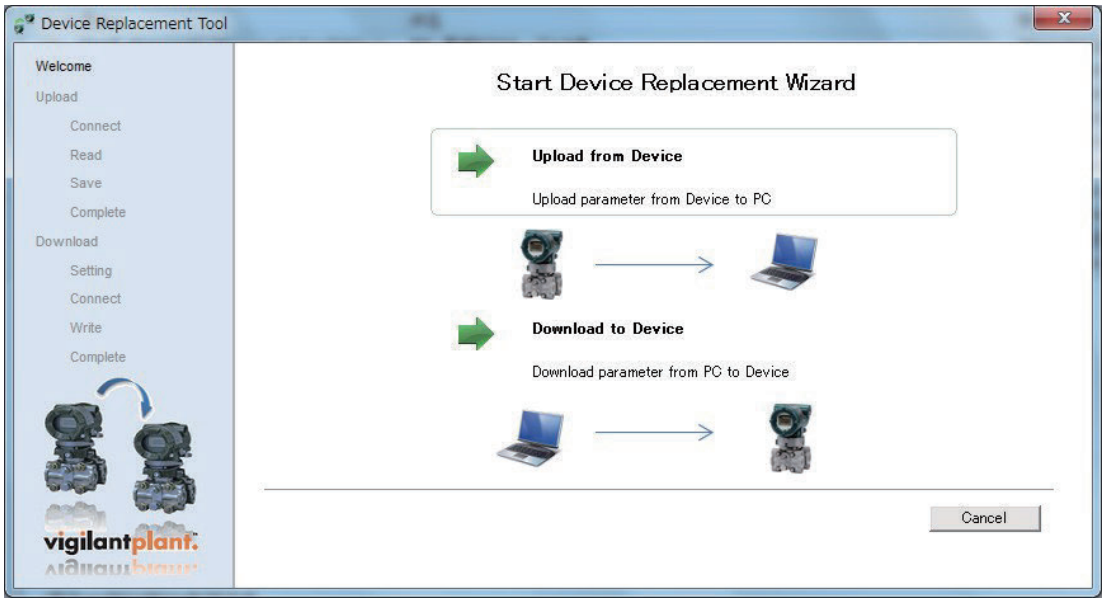
Figure App.-B-9 Upload Complete Display

5-2 Step 2

Retrieve the parameters and download them into the replacing device.

Step 2-1 Select a mode

Select File -> Device.



App.B10E.ai

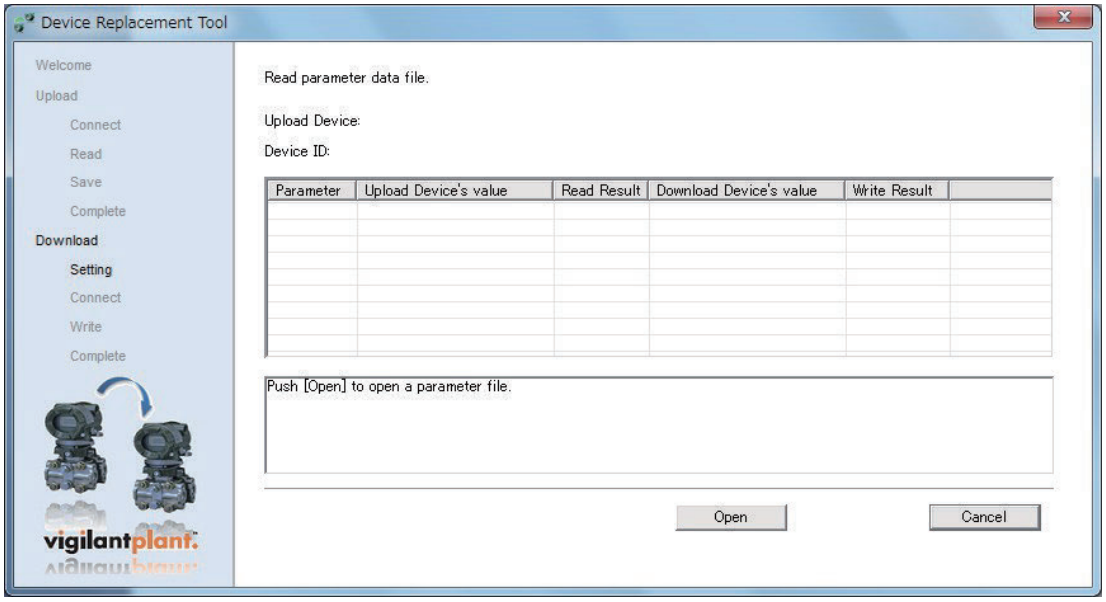
Figure App.-B-10 Mode Selection Display

Step 2-2 Reading the file (Download – Setting)

Read the file.

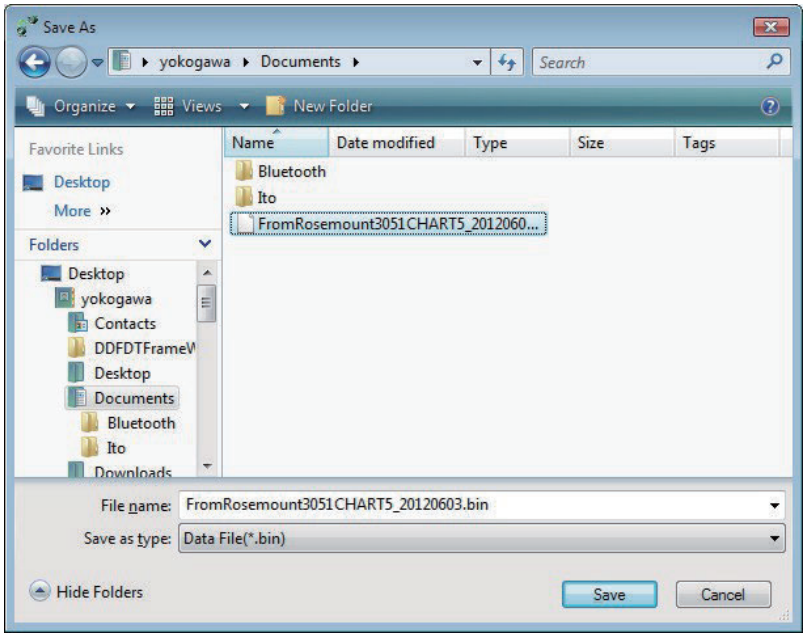
Click the “Open“ button to display files.

After the File Selecting Display appears, select the file from which to retrieve the parameters.



App.B11E.ai

Figure App.-B-11 File Reading Confirmation Display

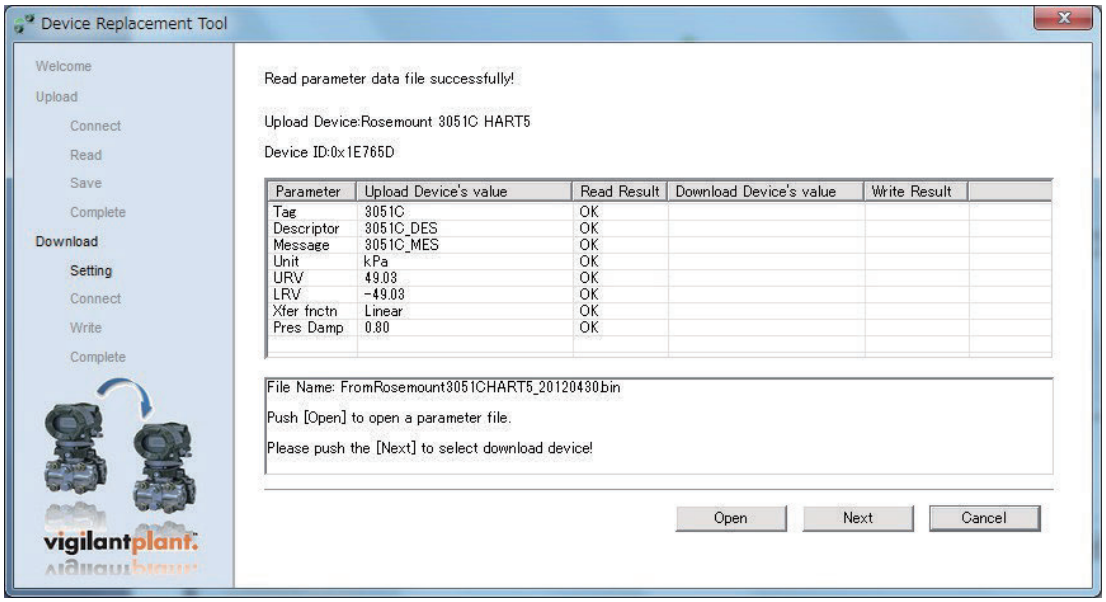


App.B12E.ai

Figure App.-B-12 File Selection Display

The retrieved parameters are displayed.

Click the “Open” button to proceed to the next step.



App.B13E.ai

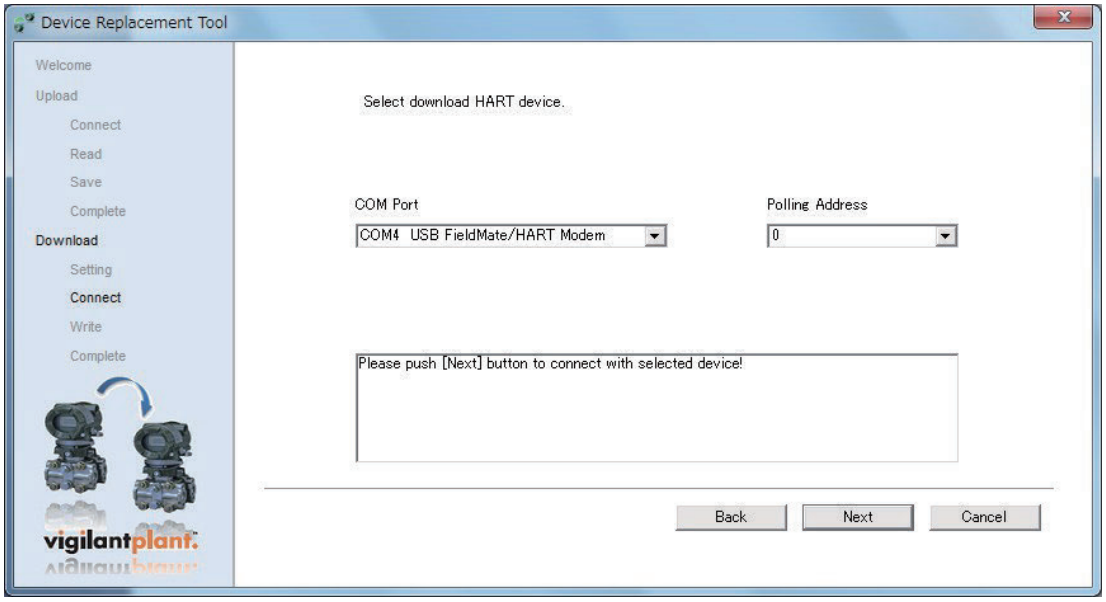
Figure App.-B-13 File Reading Confirmation Display

Step 2-3 Set a COM port and polling address (Download – Connect)

Selecting a COM port and the polling address of the replacing device.

Connect the device to the modem. Select the desired COM port and device address, and then click the “Next” button.

When the USB FieldMate modem is connected, the tool automatically selects the COM port to which the modem is connected.



App.B14E.ai

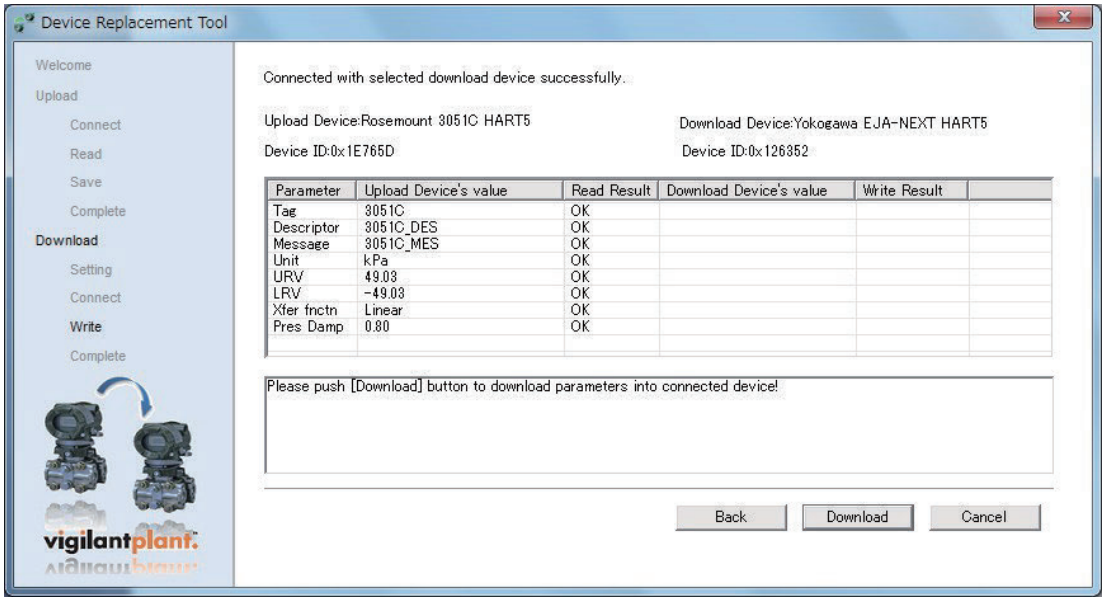
Figure App.-B-14 COM Port and Polling Address Setting Display

Step 2-4 Download (Download – Write)

The information in the file and the information of the replacing device are displayed.

Check both, then click the “Download” button.

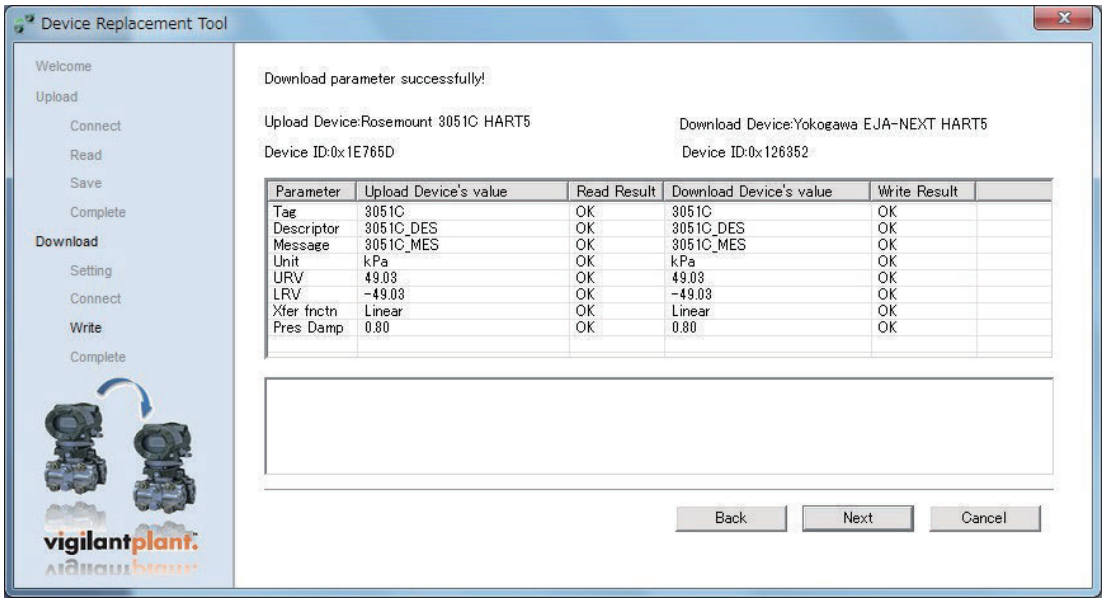
The parameters of the original device are downloaded to the replacing device.



App.B15E.ai

Figure App.-B-15 Download Display

The results of download are displayed.

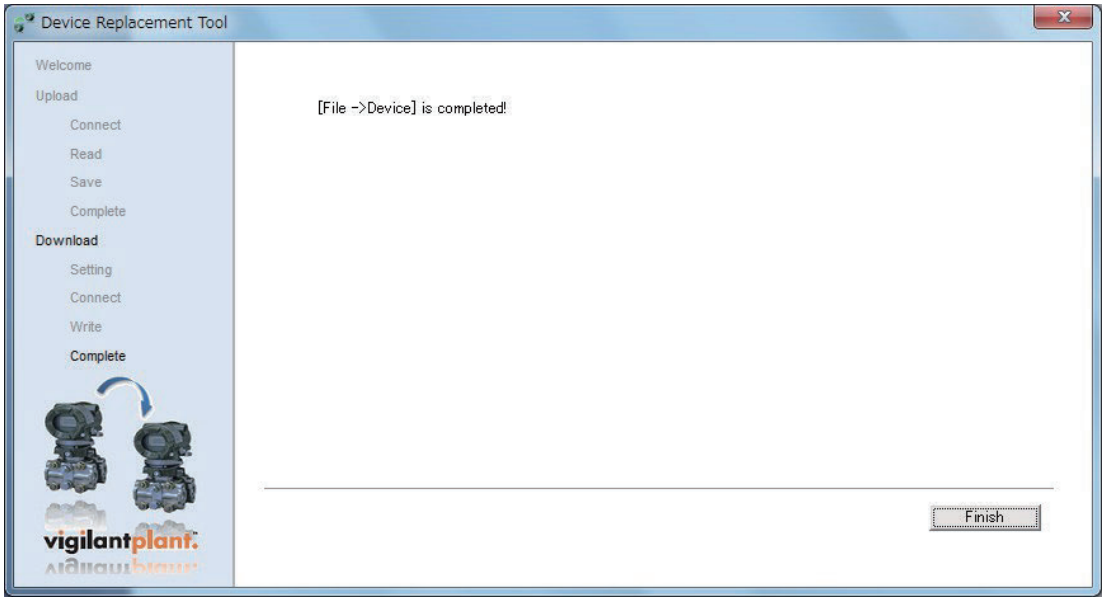


App.B16E.ai

Figure App.-B-16 Download Completion Display

● Step 2-5 Completing download (Download – Complete)

Click the “Next” and “Finish” button to complete the process in the replacing device.



App.B17E.ai

Figure App.-B-17 Process Completion Display

■ History

● All operation logs of Device Replacement Tool can be checked by using History of FieldMate.

The operation logs are categorized in the Configuration.
Open History to check the operation logs.

Appendix B-2 Modbus Device

Overview

A) Obtain some parameters from the source device and save them in a file.

B) Obtain parameters from the file and write them to the target device.

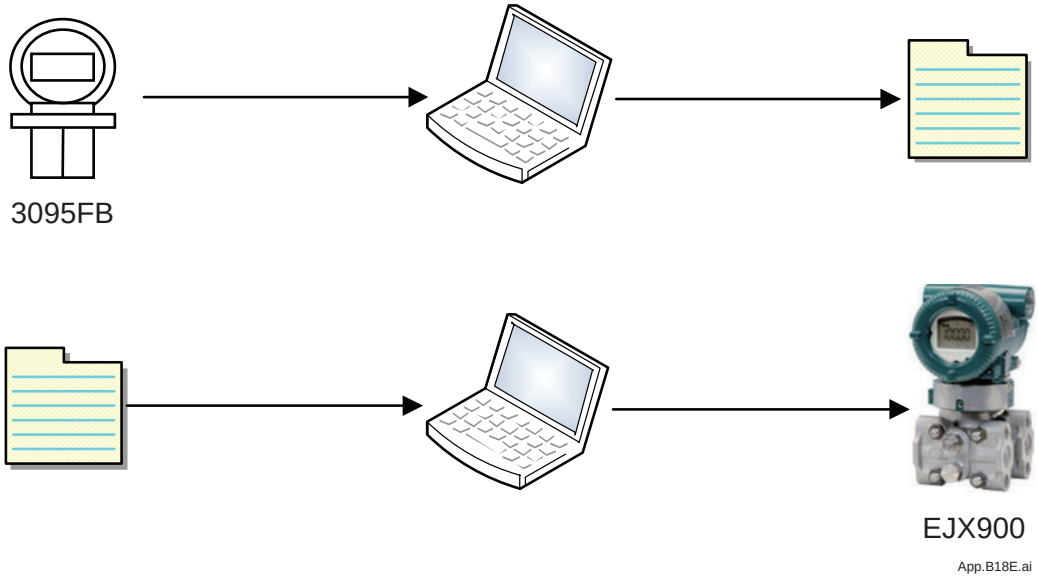


Figure App.-B-18

- Step A and B can be separately performed. Step B can be directly performed after performing Step A.
- Step A and B can be performed repeatedly.

Note : The tool only works for the combinations of devices listed below.

Devices

Source device: Rosemount 3095FB MultiVariable™ Transmitter

Target device: Yokogawa EJX910 Multivariable Transmitter

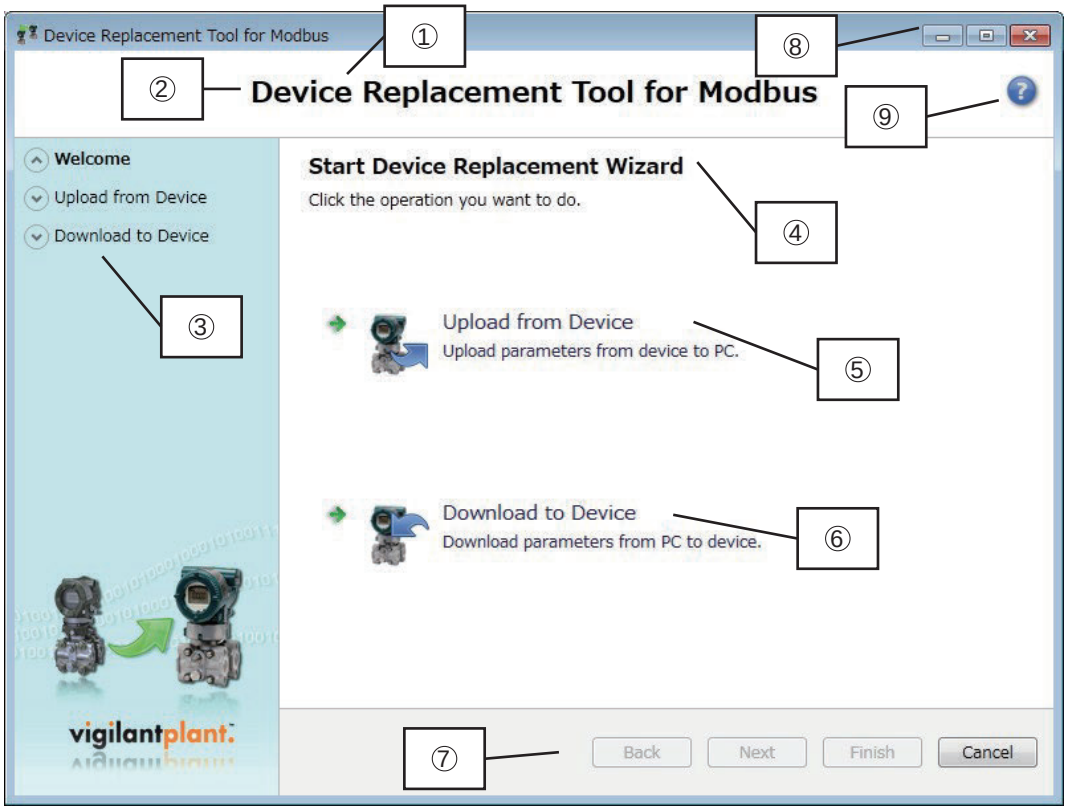
Operation

Startup

Start - YOKOGAWA FieldMate - Device Replacement Tool. Select Modbus Communication.

This tool does not start if FieldMate is already running.

If the following message appears, exit FieldMate and then start this tool.



App.B19E.ai

Figure App.-B-19

The window above appears when you start Device Replacement Tool. The following is information displayed.

① and ② Show the product name.

③ Navigation of the wizard. If Step (5) or (6) is performed in the right pane, the text of the appropriate step in the navigation is changed to bold. If there is a sub step, it is also changed to bold.

④ Shows the name of the appropriate steps and provides an operating procedure.

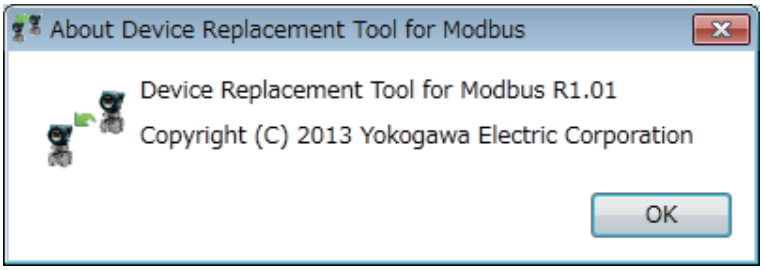
⑤ Upload button used to upload parameters from 3095FB.

⑥ Download button used to download parameters from PC to EJX910.

⑦ Wizard buttons. Only the [Cancel] button is enabled. When you press [Cancel], a confirmation message will be displayed, and then the wizard will close.

⑧ System buttons for the wizard window.

⑨ Display the About Device Replacement Tool for Modbus dialog as shown below.

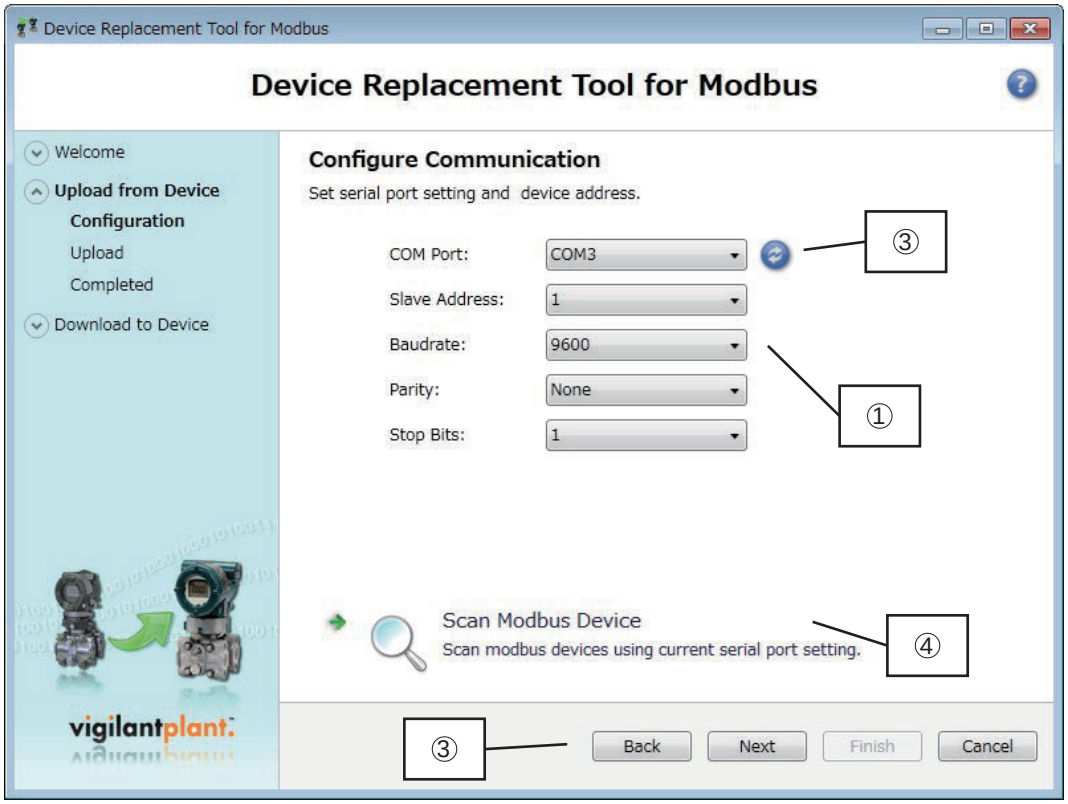


App.B20E.ai

Figure App.-B-20

Uploading

(1) Step 1: Source device settings



App.B21E.ai

Figure App.-B-21

① COM port related settings

A) COM Port: Specify the serial port of RS485 USB Adapter installed on your PC.

B) Slave Address: Specify the address of the device used for uploading in a range of 1–247.

C) Baudrate: Select one of 1200, 2400, 4800, 9600, and 19200. The default value is 9600.

D) Parity: Select Odd, Even or None. The default value is None.

E) Stop Bits: Select 1, 1.5, or 2 (bits). The default value is 1 (bit).

② COM port update button

COM Port selection items can be updated by pressing this button if a USB cable is connected or disconnected while this screen is open.

③ Wizard buttons

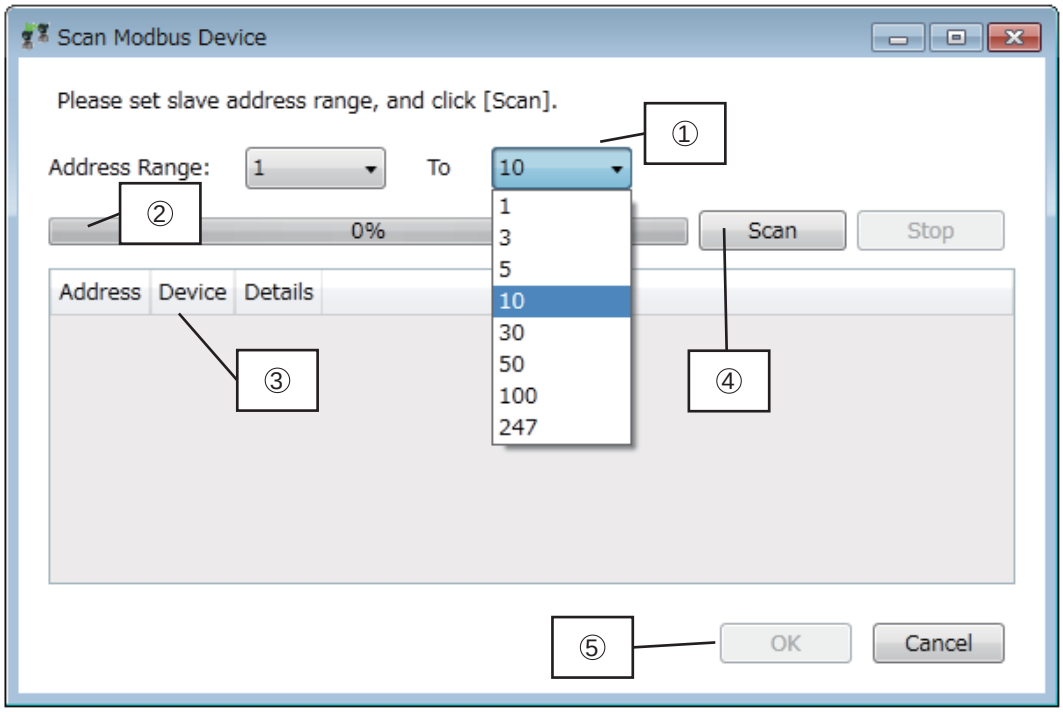
Pressing [Back] returns you to the initial startup window.

Pressing [Next] connects the appropriate device and starts uploading.

[Finish] is disabled. [Cancel] is enabled.

④ Allow the user to scan the Modbus device with the appropriate COM port settings.

(2) Step 2: Scan



App.B22E.ai

Figure App.-B-22

① Specify the range of slave addresses. Options are 1, 3, 5, 10, 30, 50, 100, and 247.

② Show the progress of scanning.

③ Display a list of device information.

- "Address" lists slave addresses in a range of 1–247.
- "Device" lists device models that can be identified from Input Register addresses (1, 2, and 3).
- "Unknown" appears for a device model that cannot be identified.
- "Details" lists addresses and values of parameters for device models that were identified.

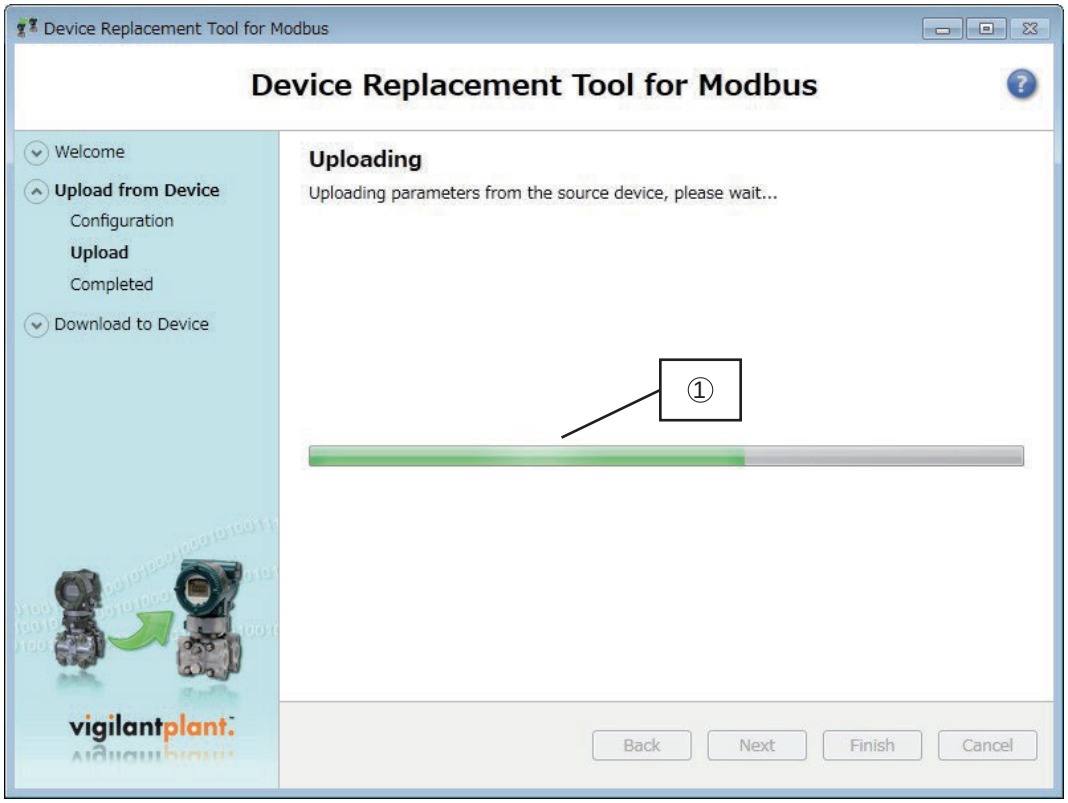
④ Pressing [Scan] starts scanning. Pressing [Stop] stops scanning.

⑤ Pressing [OK] returns you to the source device settings window with the address of the device specified in the Scan window selected in [Slave Address]. Pressing [Cancel] returns you to the source device settings window.

(3) Step 3: Upload

A: Uploading

Display the progress of uploading of parameters. Once uploading is complete, the progress bar reaches 100% and a window showing the results of uploading appears.



App.B23E.ai

Figure App.-B-23

① Vary according to the number of parameters loaded.

B: Results of uploading

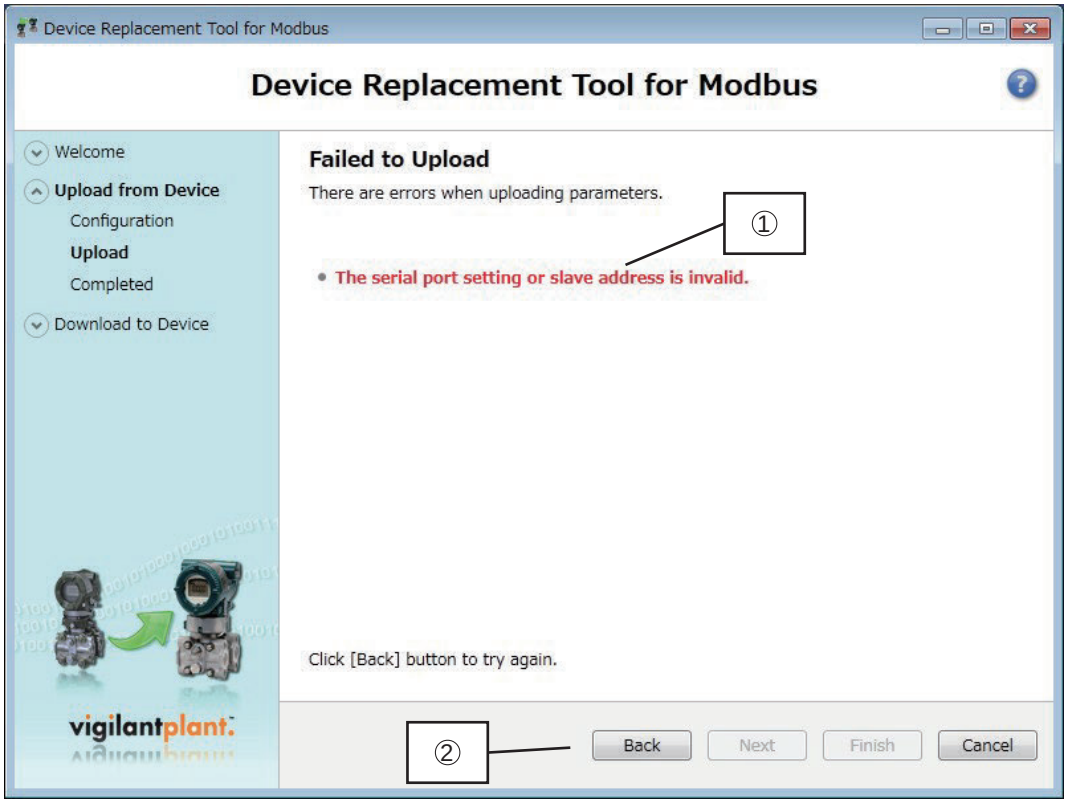
Uploading may fail if:

A) The COM port cannot be opened

B) The specified model is not supported

C) The specified model cannot be identified

If uploading fails, the following window is displayed.



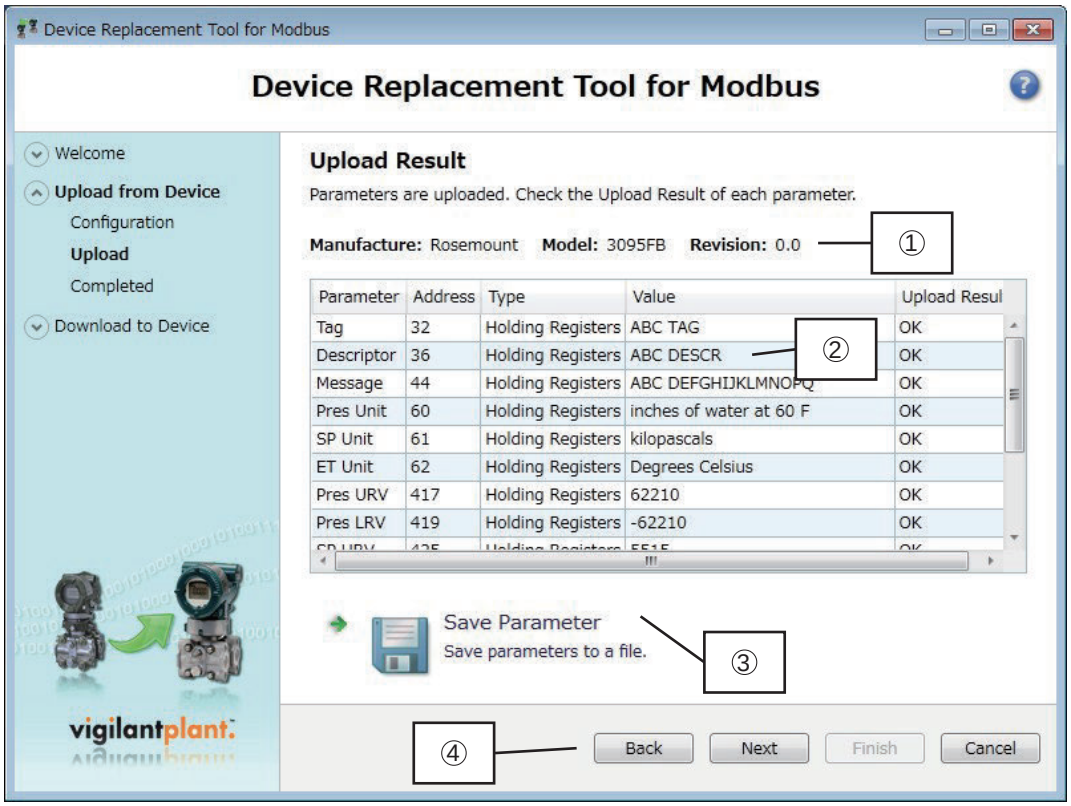
App.B24E.ai

Figure App.-B-24

① Show the cause of the error.

② Pressing [Back] returns you to the device settings window.
[Next] and [Finish] are disabled.

If uploading succeeds, the following window is displayed.



App.B25E.ai

Figure App.-B-25

① Provide information about the source device: “Manufacture”, “Model” (3095FB), and “Revision”.

② List the following parameters.

A) Parameter: Name of parameter

B) Address: Address of Modbus

C) Type: Type of Modbus. One of Coil, Discretes Input, Input Registers, and Holding Registers.

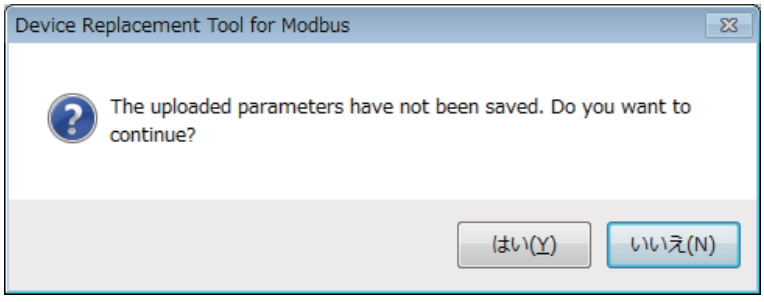
D) Value: Value of parameter

E) Upload Result: “OK” or “NG”. “NG” cells appear in red.

③ Pressing [Save Parameter] opens the File dialog in which you save parameters.

④ Pressing [Back] returns you to the window in Step 1. [Next] goes to the window in Step 3.

If [Save Parameter] is not performed and [Back] or [Next] is pressed, a confirmation message will be displayed as shown below.

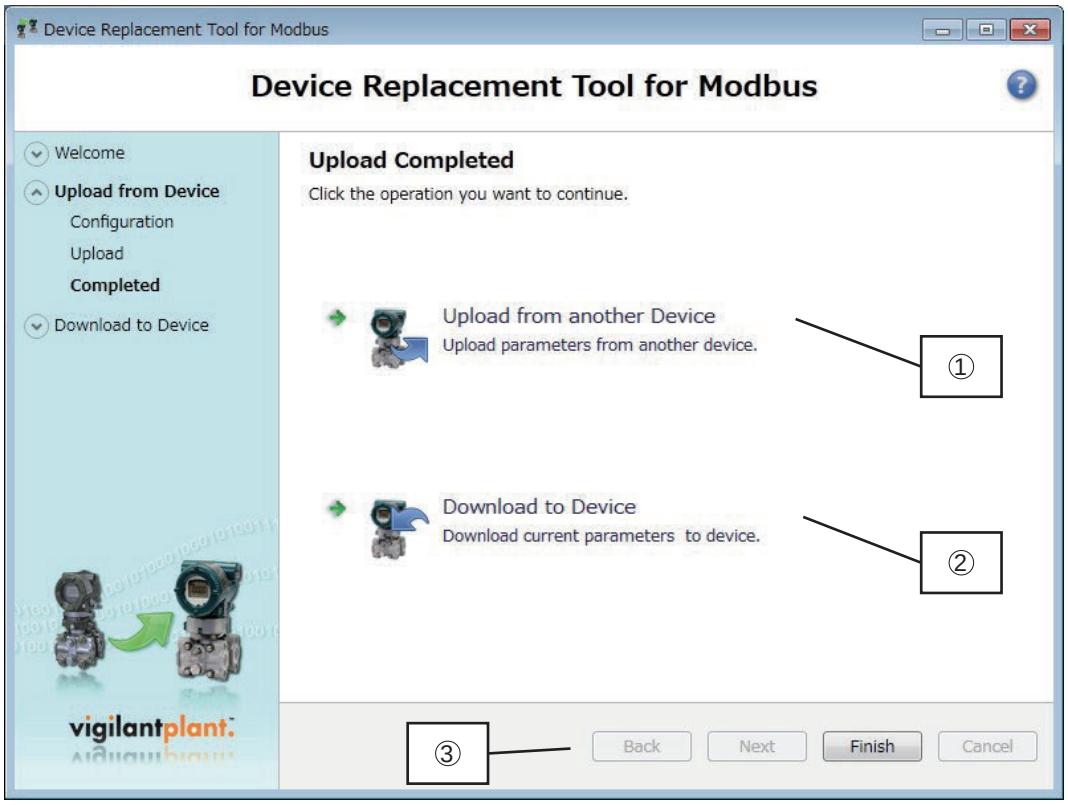


App.B26E.ai

Figure App.-B-26

(4) Step 4: Upload Completed

The window shown below is used to select the next operation after the completion of uploading.



App.B27E.ai

Figure App.-B-27

① Upload button returns you to Step 1 of Uploading.

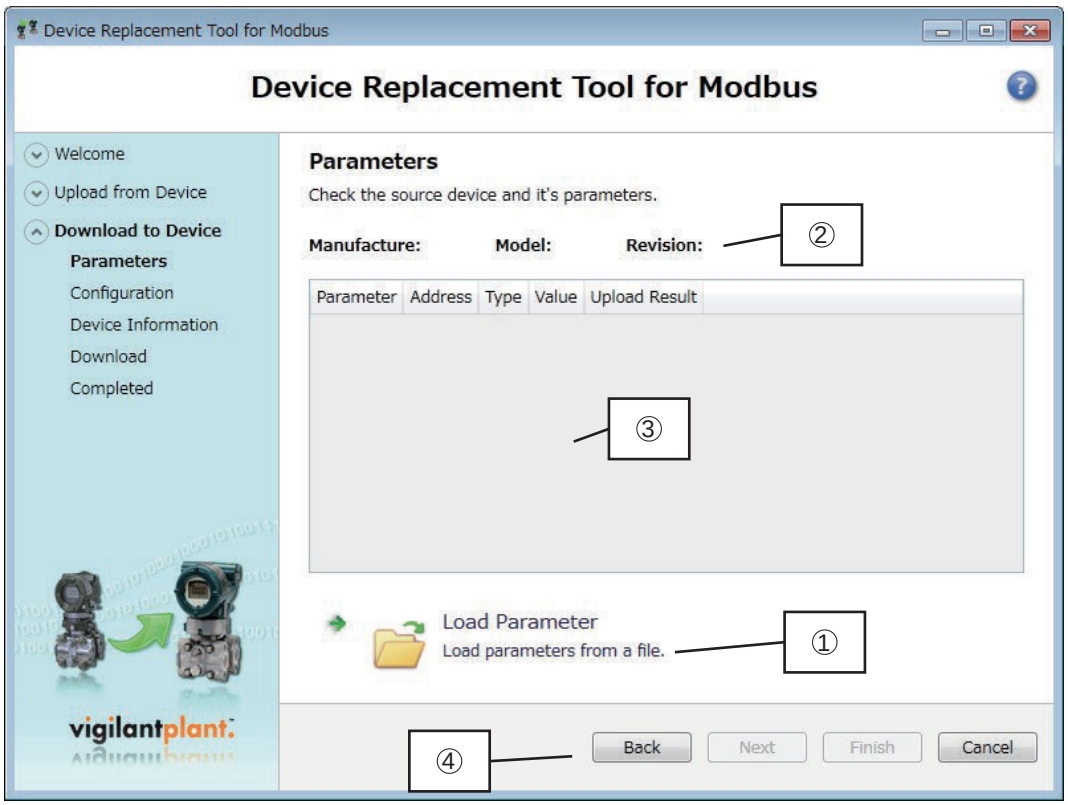
② Download button returns you to Step 1 of Downloading.

③ Since uploading has been completed, [Back], [Next], and [Cancel] are disabled. [Finish] exists the wizard.

Downloading

(1) Step 1: Source device parameters

Obtain parameters for the source device.



App.B28E.ai

Figure App.-B-28

① Select parameters saved in the file and obtain source device parameters.

② The same device information as the one in Step 3 of Uploading.

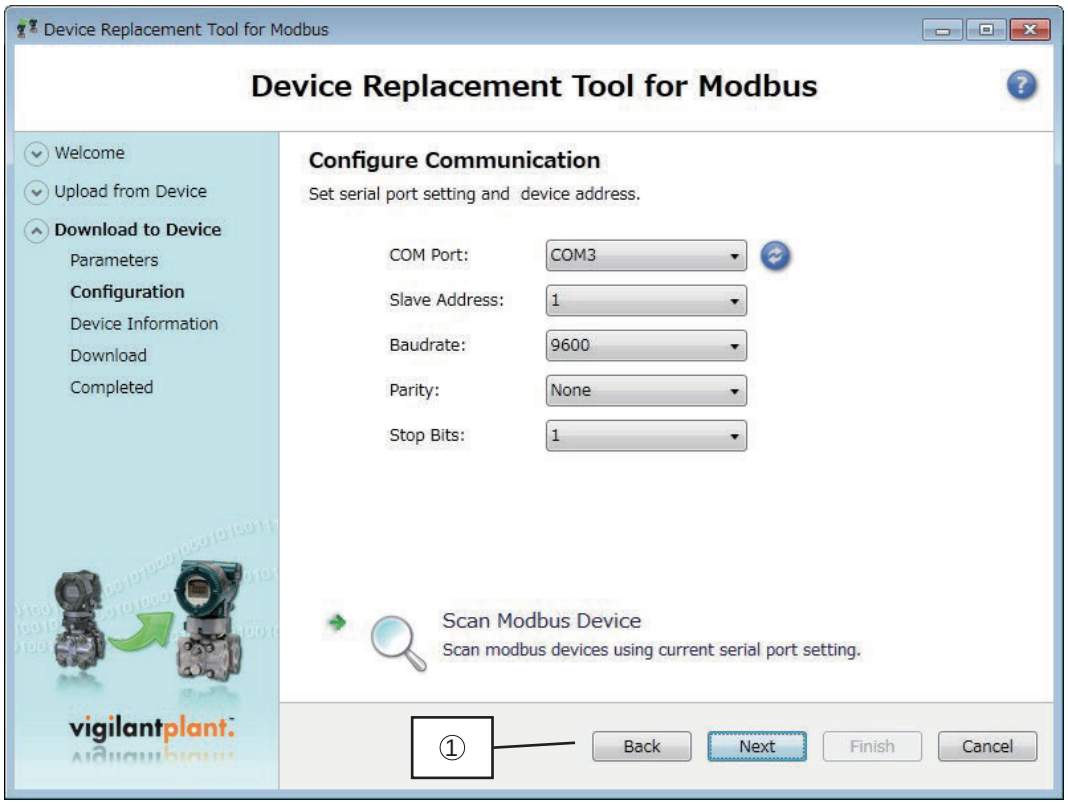
③ The same list of parameters as the one in Step 3 of Uploading.

④ Pressing [Back] returns you to the initial startup window.

[Next] goes to Step 2 of Downloading. It is enabled only when there are source device parameters.

(2) Step 2: Target device settings

Specify the target device settings as you would with the source device settings in Uploading.



App.B29E.ai

Figure App.-B-29

① Pressing [Back] returns you to the window for obtaining parameters of the source device. [Next] goes to Step 3.

(3) Step 3: Confirm information on source and target devices

Connect to the target device to obtain device information.

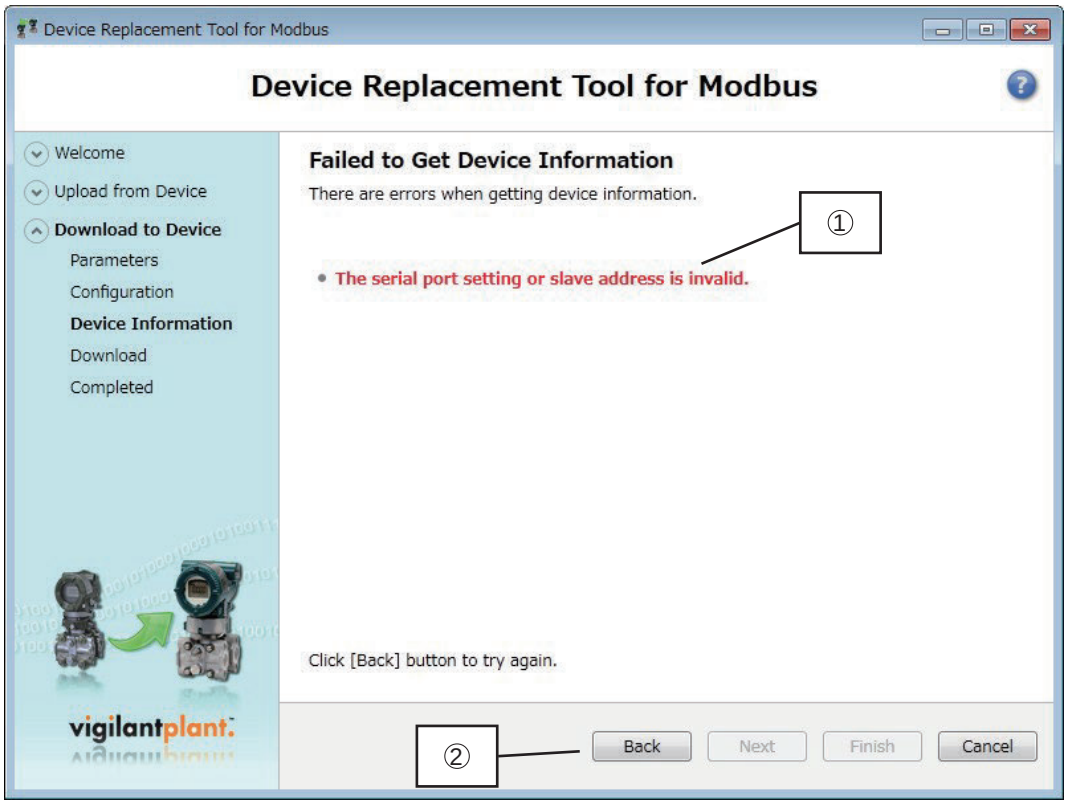
Uploading may fail if:

A) The COM port cannot be opened

B) The specified model is not supported

C) The specified model cannot be identified

If uploading fails, the following window is displayed.



App.B30E.ai

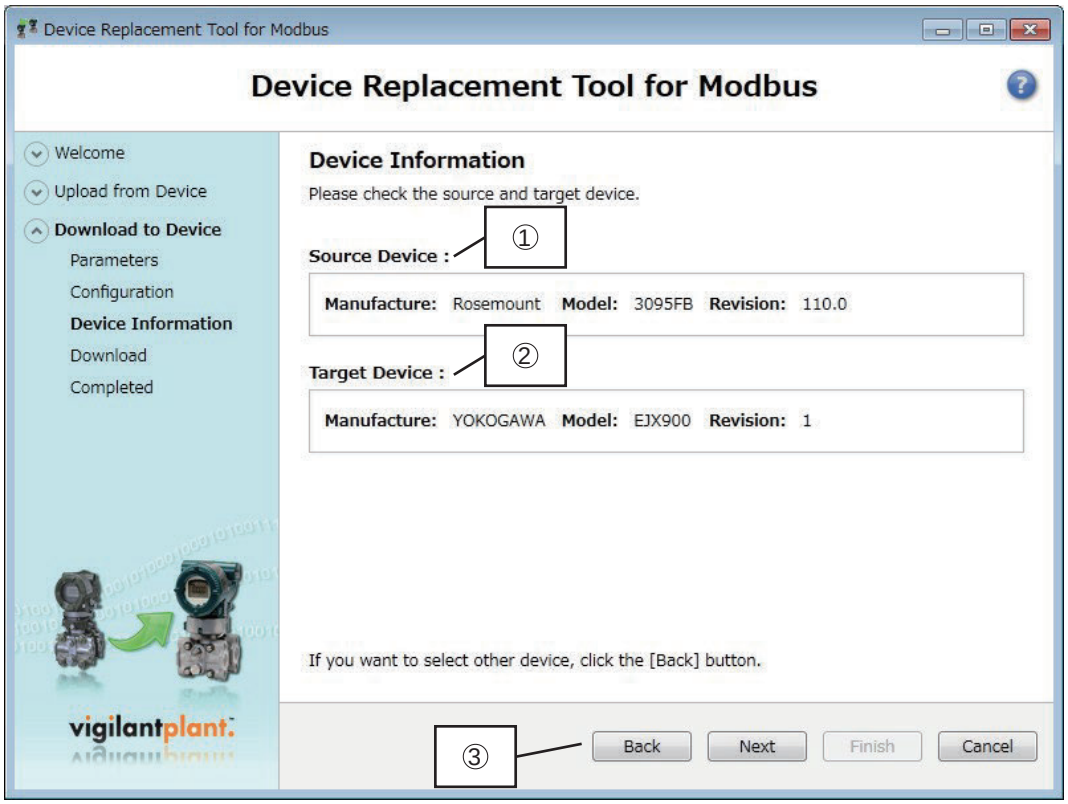
Figure App.-B-30

① Show the cause of the error.

② Pressing [Back] returns you to the target device settings window in Step 2.

[Next] is disabled.

If the target device information has been successfully obtained, the following window appears.



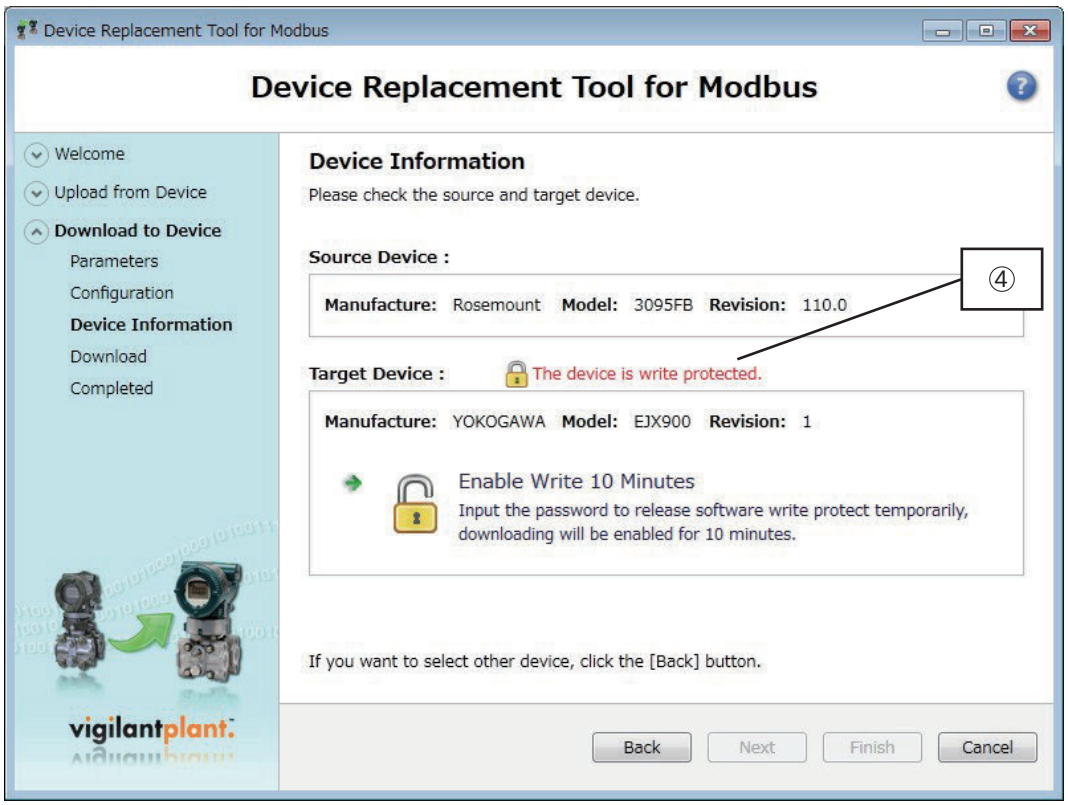
App.B31E.ai

Figure App.-B-31

① Provide information about the source device: “Manufacture”, “Model”, and “Revision”.

② Provide information about the target device: “Manufacture”, “Model”, and “Revision”.

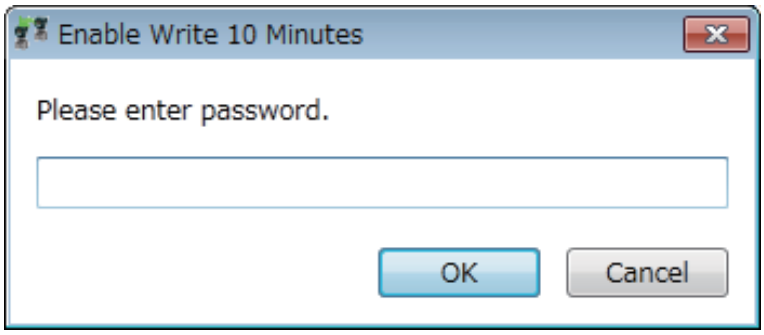
③ Pressing [Back] returns you to the target device settings window in Step 2.
Pressing [Next] goes to Step 4.



App.B32E.ai

Figure App.-B-32

④ If the target device is write-protected, the window shown above appears.
Click this button and enter the appropriate password to remove write protection.



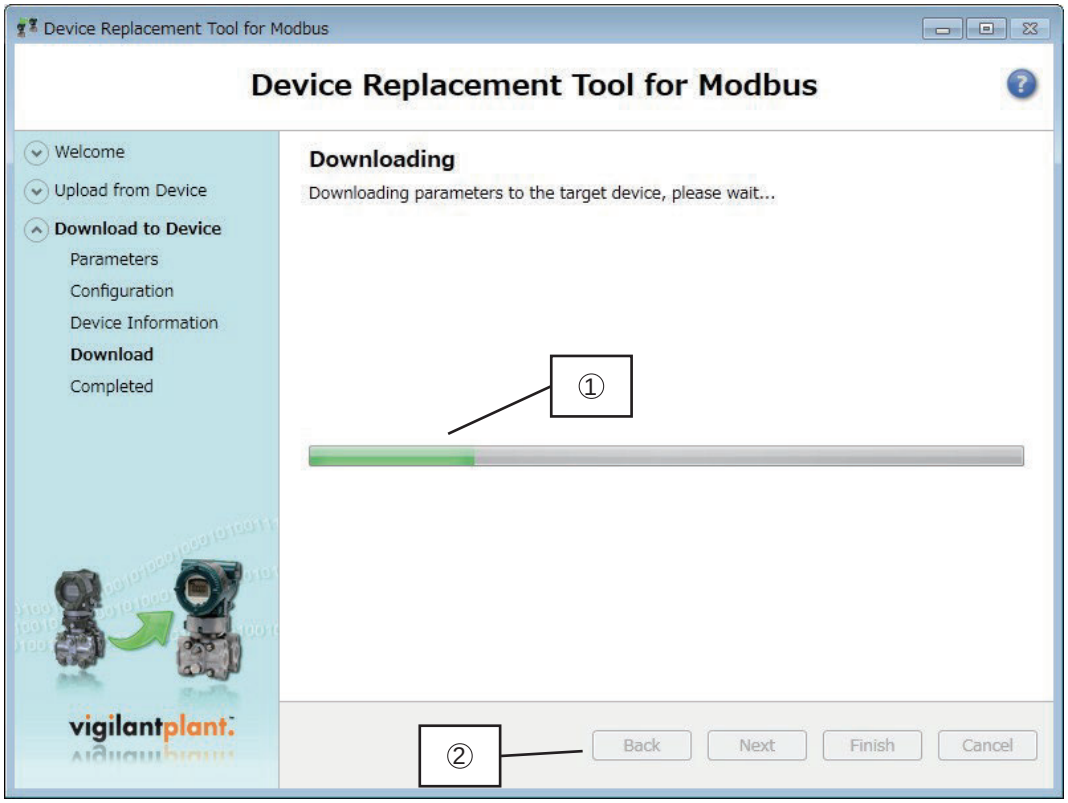
App.B33E.ai

Figure App.-B-33

(4) Step 4: Download

A: Downloading

Display the progress of downloading of parameters. Once downloading is complete, a window showing the results of downloading appears.



App.B34E.ai

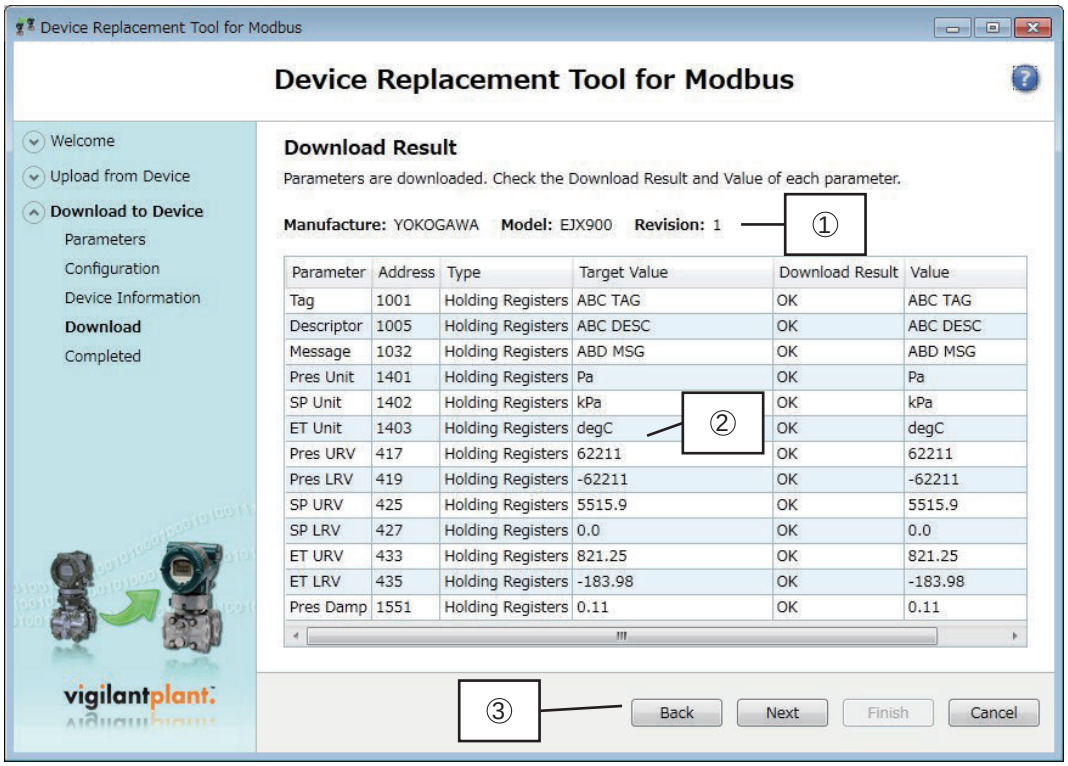
Figure App.-B-34

① Vary according to the number of parameters downloaded.

② All buttons are disabled.

B: Results of downloading

Display a list of results for downloading parameters.



App.B35E.ai

Figure App.-B-35

① Provide information about the target device: “Manufacture”, “Model”, and “Revision”.

② List the following parameters.

A) Parameter: Name of parameter

B) Address: Address of Modbus

C) Type: Type of Modbus. One of Coil, Discretes Input, Input Registers, and Holding Registers.

D) Target Value: Uploaded value

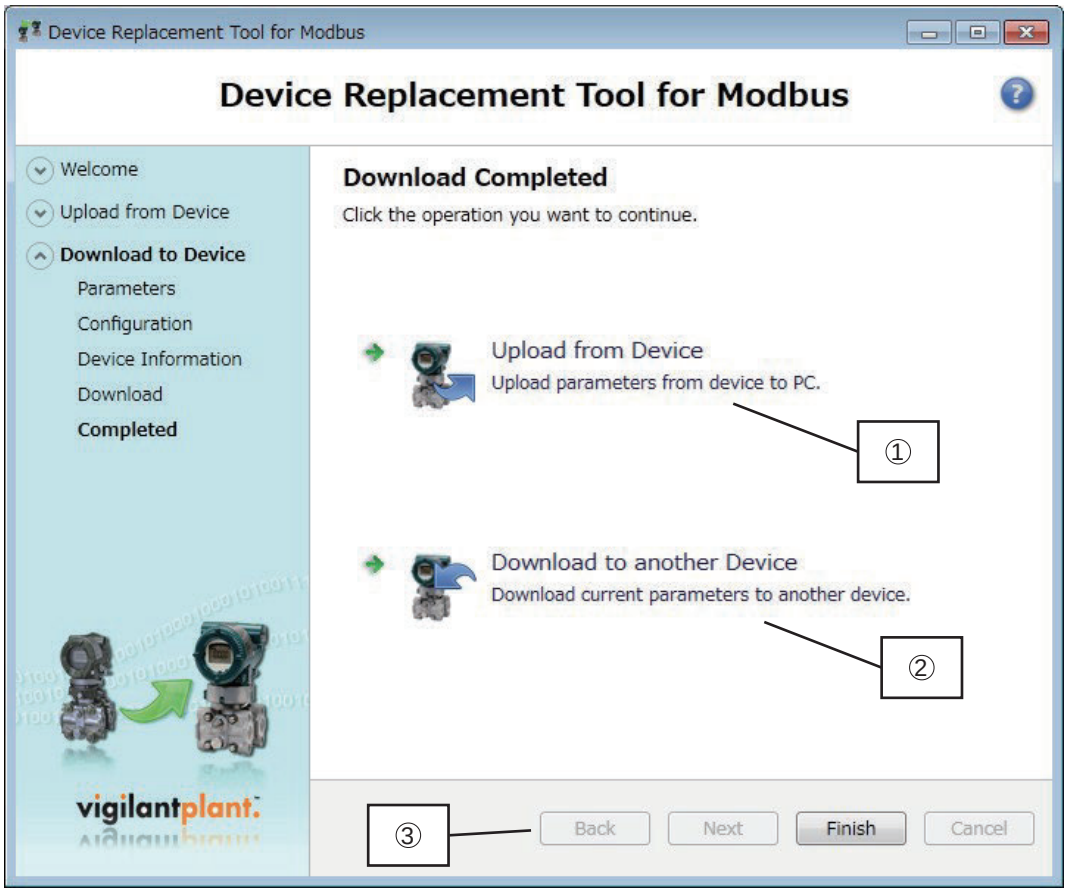
E) Download Result: Succeeded = OK, Failed = NG, Unit is not supported = Not Supported. “NG” cells appear in red.

F) Value: Downloaded value

③ [Back] returns you to the window in Step 3.

[Next] goes to the window in Step 5.

(5) Step 5: Download Completed



App.B36E.ai

Figure App.-B-36

① Pressing [Upload from Device] returns you to Step 1 of Uploading.
② Pressing [Download to another Device] returns you to Step 1 of Downloading.
③ [Back], [Next], and [Cancel] are disabled. [Finish] exists the wizard.

History

All operation logs of Device Replacement Tool can be checked by using History of FieldMate.
The operation logs are categorized as “Configuration”.
Open History to check the operation logs.

Appendix C User Definition of Vendor Name and Model Name

When you manually create a database device using the New Device Maintenance Info menu item, you can add an arbitrary vendor name and model name.

Table App.-C-1

Communication Protocol	Description
HART/FOUNDATION fieldbus	Vendor name: Defines Vendor and Manufacturer ID. Model name: Defines Model and Device Type.
PROFIBUS	Vendor name: Defines “Other Vendors”. Model name: Defines Model and IDENT number.
BRAIN	Vendor name is YOKOGAWA only. No model name can be added.
ISA100	Vendor name is YOKOGAWA or Honeywell. Model name: Defines Model and Device Type.

Appendix D Software Download Function for FOUNDATION fieldbus

This function enables you to download software to field devices via a FOUNDATION fieldbus to update their software.

Typical usage is to add new features such as function blocks and diagnostics to the existing devices. Software download file supplied by device vendor is required when operation above is performed by FieldMate to update field device function enhancement.



IMPORTANT

Do not hook up the software download tool to a fieldbus segment while the plant is in operation as it may temporarily disturb the communication. Always connect the tool before starting operation.



IMPORTANT

Carrying out a software download leaves the PD tag, node address, and transducer block calibration parameters that are retained in the nonvolatile memory inside the target device, but may reset other parameters to the defaults (except a minor update that does not change the number of parameters). Hence, where necessary, save the parameters using an engineering tool, parameter setting utility, or the like before carrying out a software download, and then reconfigure the field device(s) after the download.

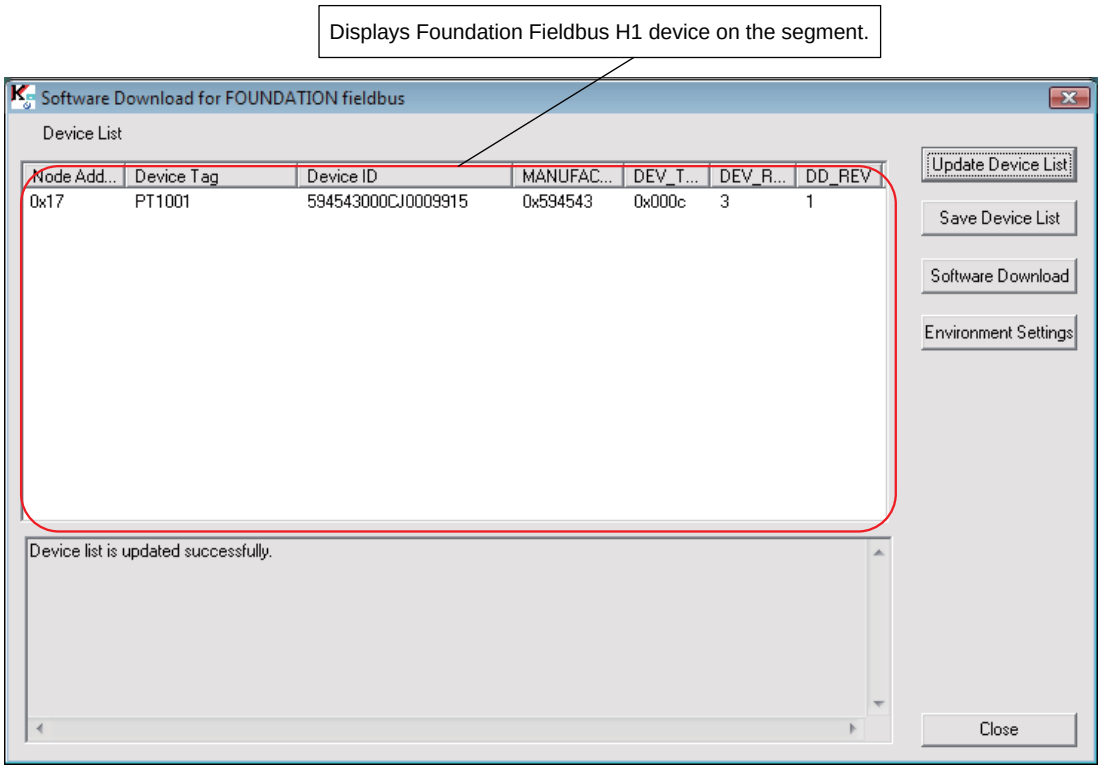
- **Calling**

  Start → YOKOGAWA FieldMate → Software Download for FOUNDATION fieldbus.

  Software Download for FOUNDATION fieldbus is displayed.

  Software Download for FOUNDATION fieldbus does not start if FieldMate is already running.

Software Download for FOUNDATION fieldbus.



App.D01E.ai

Figure App.-D-1 Fieldbus Device Tool

Update Device List: This is to display overview of FOUNDATION fieldbus H1 devices on the segment.

Save Device List: This is to save information of the displayed FOUNDATION fieldbus H1 devices in CSV format.

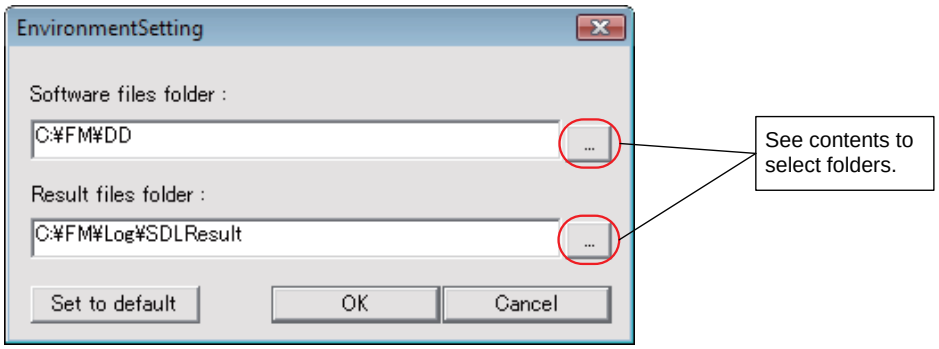
Software Download: This is to call Download Setting window, selecting the displayed FOUNDATION fieldbus H1 devices.

Environment Settings: This is to specify the folder with Software Download file.

Environment Settings

Calling

Software Download for FOUNDATION fieldbus → click Environment Settings



App.D02E.ai

Figure App.-D-2 Environment Settings window

Software files folder: Default is Install drive: FM\DD

This is to specify the location of software files for download.

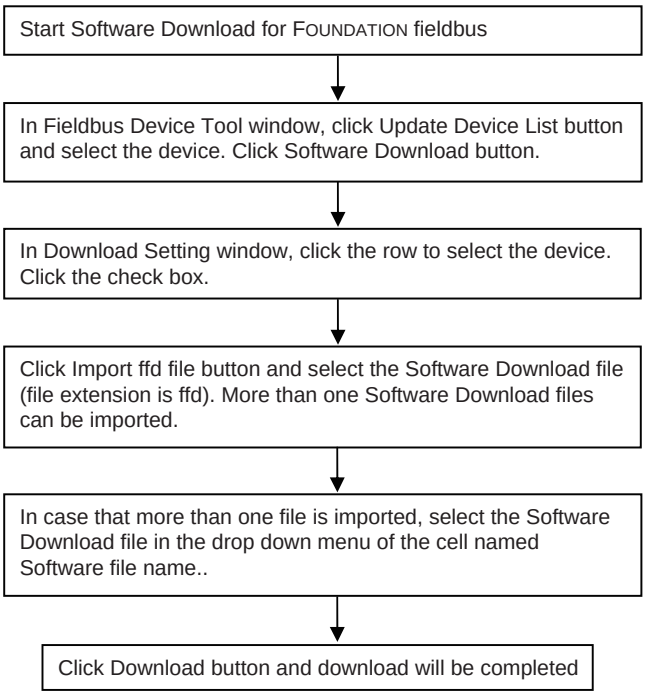
Result files folder: Default is Install drive: FM\Log\SDLResult

This is to specify the location of information log on downloading.

Set to default button: This is to return the setting to default.

Contents specified in the Environment Settings window remains until next setting change will be specified.

Software Download Operation Procedure



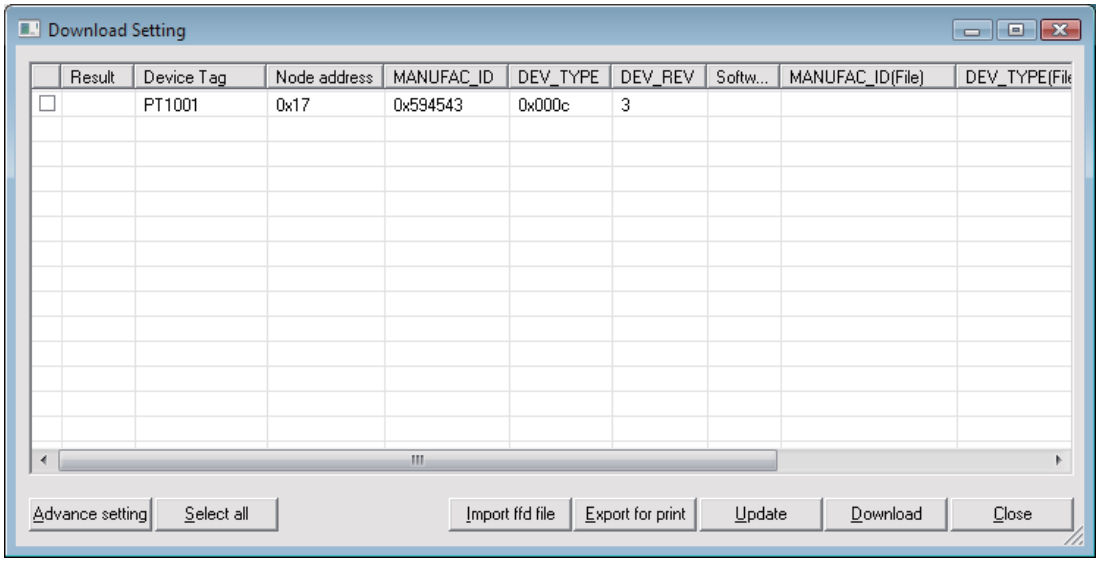
App.D03E.ai

Figure App.-D-3 Software Download Operation Procedure

Downloading Setting

Calling

Software Download for FOUNDATION fieldbus → click Update Device List and select the device → click Software Download.



App.D04E.ai

Figure App.-D-4 Download Settings Window

Advanced setting:

This is to display the option window specifying the operation on downloading.

Select all:

This is to select all the device displayed currently and apply them for downloading.

Import ffd file:

This is to import Software download files.

Export for print:

This is to export information in the Download Setting window to CSV file.

Update:

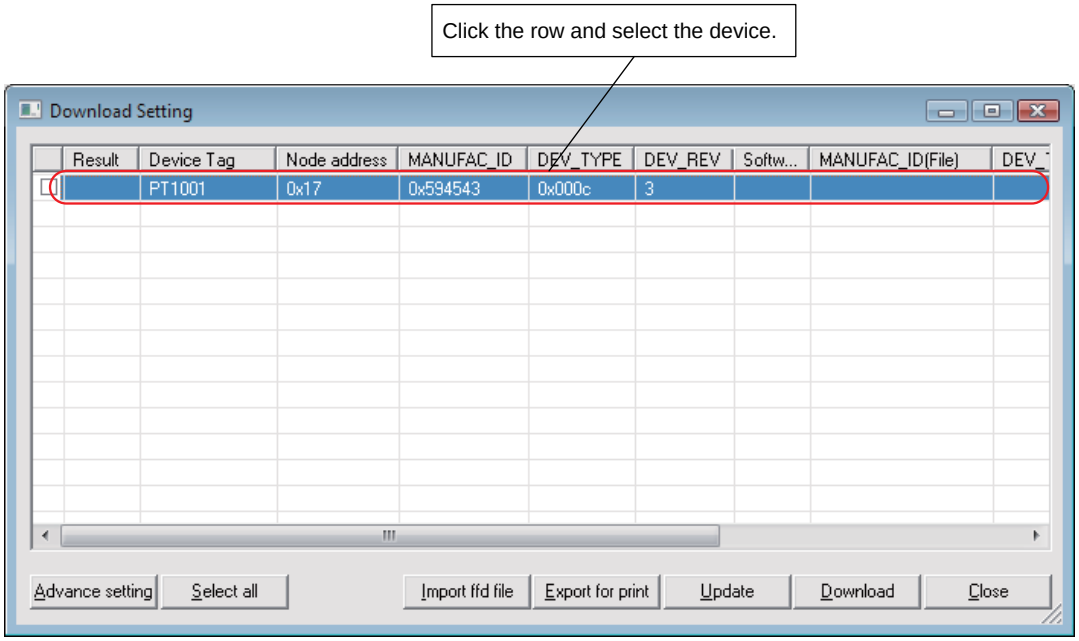
This is to update the contents displayed currently.

Download:

This is to start downloading of the selected devices.

Close:

This is to exit the Download Setting window.

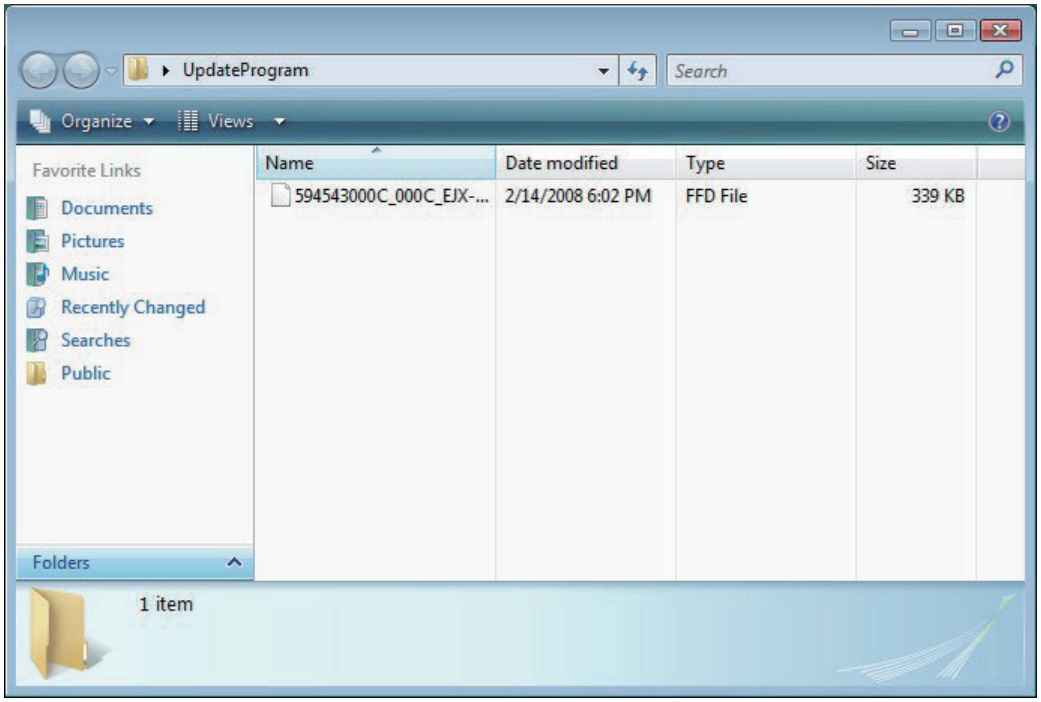


App.D05E.ai

Figure App.-D-5 Select the Device for Downloading

Import Download File

After selecting the device, click import ffd file button and select Software download file from folder in your PC.



App.D06E.ai

Figure App.-D-6 Software Download File in Folder

The location of the imported files is shown below as default.

I.e. Install Drive: FM\DD\MANUFC_ID\DEV_TYPE

This is to import the files to the designated folder.

<Example>

The following is the location of files of EJX manufactured by Yokogawa Electric Corporation.

When C drive is FieldMate installed drive:

Yokogawa Electric Corporation MANUFC_ID: 0x59543

EJX DEV_TYPE: 0x000C

The location is C:\FM\DD\59543\000C\ file neme.ffd

Advanced Setting

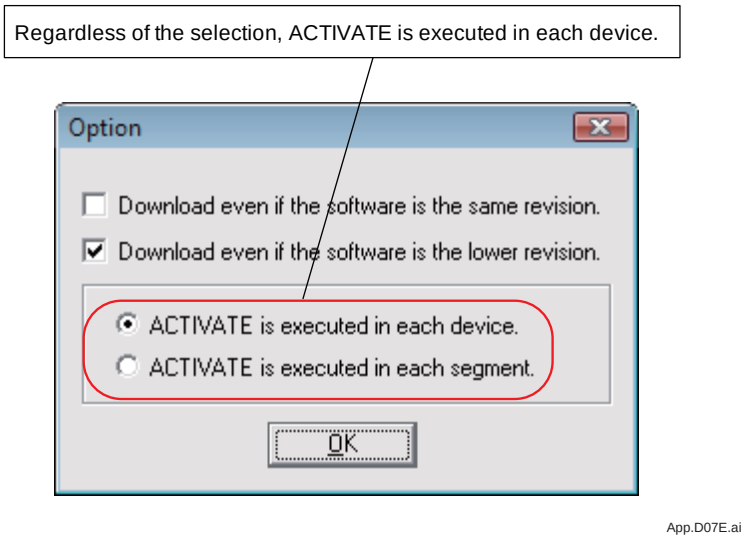


Figure App.-D-7 Option Dialog Box

It is necessary to confirm the options before downloading. If required, the options should be changed accordingly.

- Software Revisions

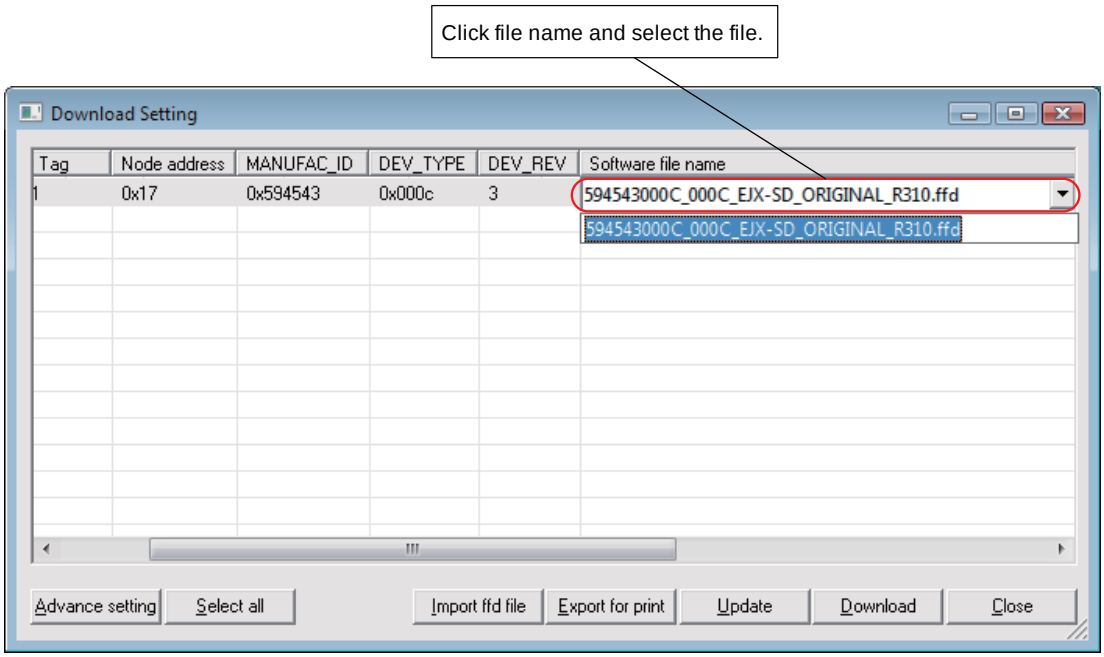
  When downloading software to the physical devices, if the downloaded software has the same revision with the software in the physical device; with the option [Download even if the software is same revision] checked, the downloaded software would overwrite the existing software in the physical device. Otherwise, if the option [Download even if the software is same revision] is not checked, the same revision software will not overwrite the existing software in the physical device. By default, this option is not checked.

  If the downloaded software has the older revision comparing with the revision in the physical device; with the option [Download even if the software is lower revision] checked, the old software would overwrite the existing software in the physical device. Otherwise, if the option [Download even if the software is lower revision] is not checked, the old software will not overwrite the existing software in the physical device. By default, this option is checked.

- ACTIVATE processing

  ACTIVATE processing is to perform switching of the existing software to the downloaded software. The software download and ACTIVATE processing will be performed successively for each target device.

Selection of Software Download Files



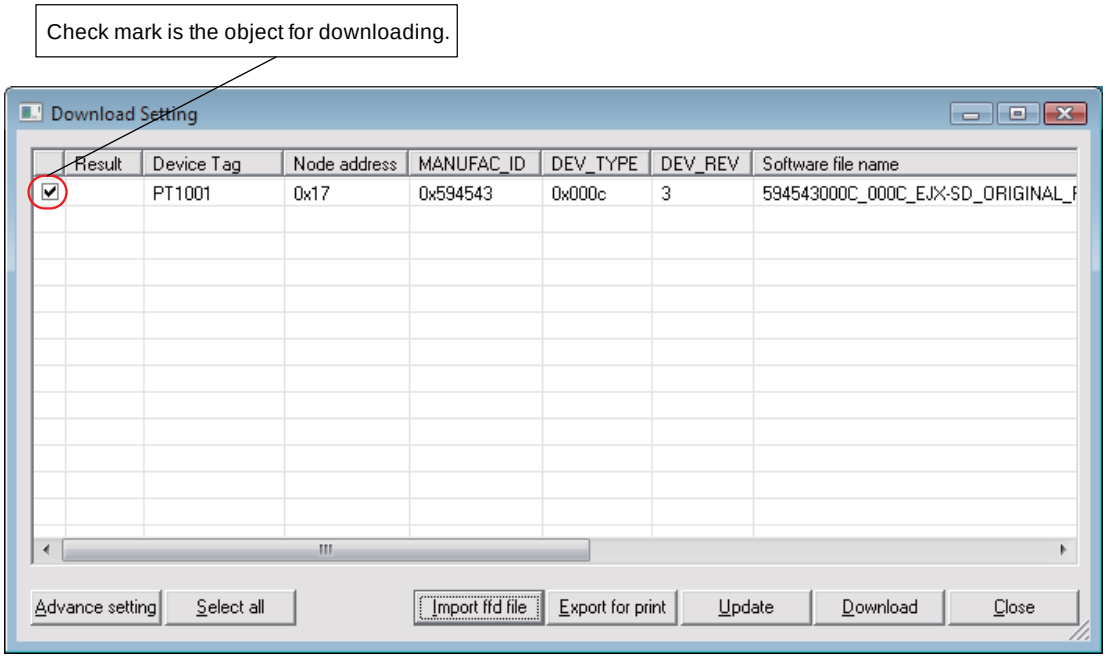
App.D08E.ai

Figure App.-D-8 Selection of Software Download Files

Downloading Software

The procedure to download the software is as follows:

1. Select a device from the downloading target devices on the Device Setting dialog box. And then check the checkbox at the left end of the device list.

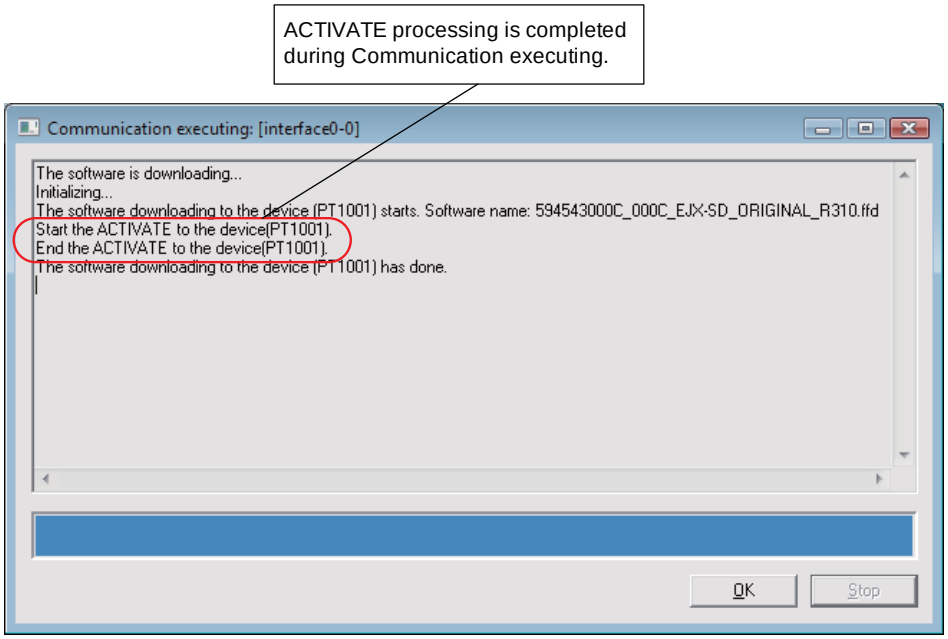


App.D09E.ai

Figure App.-D-9 Downloading Device Confirmation

2. Click [Download] button.

   A dialog box showing the communication progress will be displayed indicating the download is running.



App.D10E.ai

Figure App.-D-10 Communication Executing Dialog Box

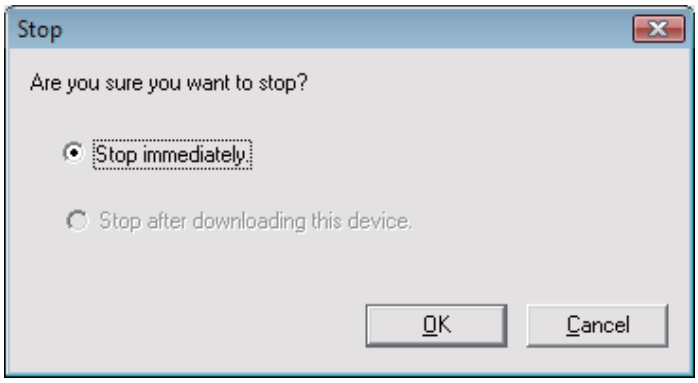
IMPORTANT

When a communication error occurs, retry software download again. In that case, if procedure of software download fails due to internal status of FOUNDATION fieldbus device, retry software download once again.

3. Clicking [Stop] button on the Communication Executing dialog box can stop the downloading. After clicking this button, a confirmation dialog box displays, clicking [OK] will stop the downloading. However, if the following message occurs during the downloading communication, the downloading process cannot be stopped.

   • The software downloading to the device <Device Tag Name> starts.

   Software Name: <Software File Name>



App.D11E.ai

Figure App.-D-11 Stop Confirmation Dialog Box

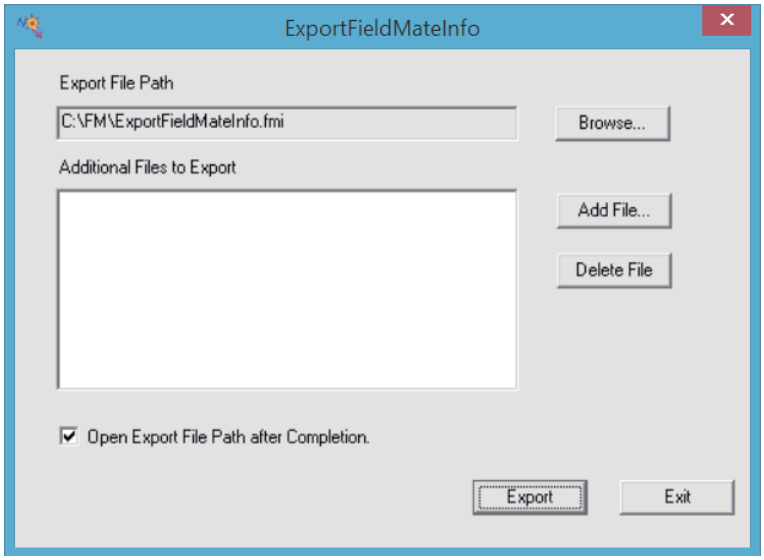
Appendix E Troubleshooting Information

If FieldMate appears to be operating incorrectly, follow the procedure below and send the created file to a Yokogawa sales office or your nearest sales representative.

Select Start → YOKOGAWA FieldMate → Export FieldMate Info.

This causes a list of the device information files that have been installed and detailed logs such as installation logs and communication logs to be compressed into one file. The export and creation destination directory and file name are as follows:

FieldMate installation drive\FM\ExportFieldMateinfo.fmi



App.E01E.ai

Figure App.-E-1

The export destination directory and file name are as follows:
FieldMate installation drive\FM\ExportFieldMateinfo.fmi

Appendix F Troubleshooting for USB Modem

Please confirm the following points first if the modem does not seem to function properly.

If the problem (s) persists, please contact our service representative in your region.

(Note): Figures in brackets () indicate document number.

Table App.-F-1

#	Problem	Symptoms and Counter measures
1	USB Modem cannot be recognized. Check Device Manager on your PC. If not found, see solution (s) at right. - Relating to install procedure	Driver software for USB Modem is not installed properly. - If in Device Manager “CP210xUSB to UART Bridge Controller,” is indicated as an unknown device, disconnect the modem from the USB port and Double-click the following file. FieldMate CD-ROM\USB_Modem_Drive\Common \ CP210xVCPInstaller.exe.
	Ditto - Relating to your PC environment	An “unknown device” may have hampered the driver software for the USB Modem. - Delete the “unknown device” in Device Manager, disconnect the modem from the USB port and then connect the modem again.
	Ditto - Relating to your PC environment	COM Port is being occupied by other devices. - Disconnect the other devices using COM port, disconnect the modem and then connect it again.
	Ditto - Relating to current operation	COM Port is being occupied by another communication application. - Terminate another communication application first, Disconnect the modem from the USB port, wait for more than 30 seconds, and then connect the modem again. If the problem persists, restart the PC and check whether the modem can be recognized.
	Ditto - Relating to current operation	COM Port is being occupied by FieldMate (i.e., in cases where the modem has been disconnected then reconnected unexpectedly) - Disconnect the modem from the USB port, wait for more than 30 seconds, and then connect the modem again. If the problem persists, restart the PC and check whether the modem can be recognized.
2	Communication with field device cannot be established.	PC does not recognize the modem, or driver software cannot be installed properly. → Refer to Problem #1.
	Ditto	USB Modem is not connected to the PC. → Confirm that the modem is connected to the USB port of the PC.
	Ditto	USB Modem is not connected to the 4-20mA line with communication. → Confirm that the current setup follows the description in Part C-3 of this document.
	Ditto	Field device is not connected. → Confirm that the current setup follows the description in Part C-3 of this document.
	Ditto	Power line for the field device is OFF. → Confirm that the current setup follows the description and power-on procedure in Part C-3 of this document. Also confirm that the required power is supplied to the four wired device. - On a field device with an external indicator, check that power is supplied. - On a field device with no external indicator, check the voltage on both sides of the load register according to Part C-3 of this document.
	Ditto	Load resistor’s resistance is too low. - More than 250 OHM is required for stable communication. Check the load resistor currently being used, change or replace it accordingly.
3	When connecting the USB Modem, the PC hangs up or reboots.	Modem consumes current in excess of that which the USB can accommodate. - Using a USB hub, disconnect the other USB devices. If the problem persists, contact our service representative in your region.

Appendix G How to clear VCR (NI-FBUS only)

Outline

Although FieldMate has adopted NI-FBUS communication card of National Instrument for FOUNDATION fieldbus H1, the communication card itself contains the following glitches.

If the specific operation continues, VCR, FOUNDATION fieldbus H1 communication resources, may reach the maximum limit (100) eventually communication with FOUNDATION fieldbus H1 device cannot be established thereafter.

Note : the specific operation

After starting NI-FBUS Communications Manager, PC is off or stand-by (not shutdown) and start again. Then change the FOUNDATION fieldbus H1 segment connection.

If the problem above is encountered, clear VCR of NI-FBUS card by this tool incorporated in FieldMate.

VCR (Virtual Communication Relationship)

A Fieldbus device has many VCRs so that it can communicate with various devices or applications at the same time. It is possible because the VCR guarantees the message goes to the correct partner without risks of losing information. A VCR is identified by an application with device-local identifier called “index” specified in Application Layer. It is also identified from other devices with DL-address specified in Data Link Layer. A VCR has a queue (fast-in, fast-out memory) or a buffer (memory to store data) to save messages.

It is the responsibility of network configuration to give the correct information of the index and DL-address as well as other operating information to VCRs through Network Management.

Screen

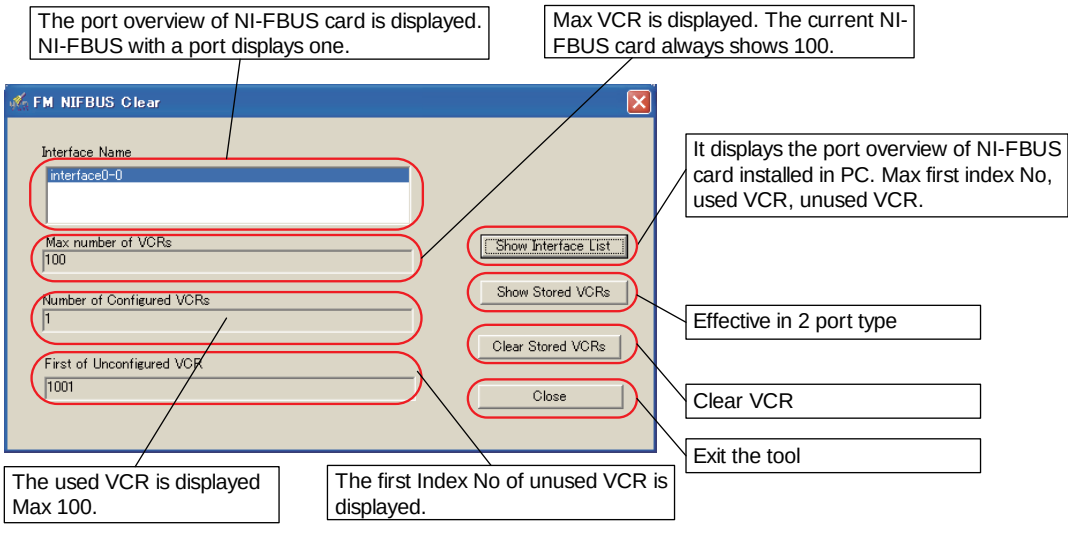


Figure App.-G-1 FM NIFBUS Clear

Operation Procedure

In case that FOUNDATION fieldbus H1 communication suddenly stops, which functioned properly on FieldMate before, execute the following operation procedure.

1. Exit FieldMate.
2. Activate /FM/Tool/FMNIFBUSClear.exe
3. A window above is displayed. Check “Number of Configured VCRs”. If the values are close to 100, VCR needs to be cleared. Proceed 3. If the valued are small, the other cause of trouble such as communication card disorder is expected.
4. Select “Clear Stored VCRs” and exit.
5. Restart FieldMate and check whether FOUNDATION fieldbus H1 communication functions properly.

Appendix H Assignment Change of FDT 1.2 and FDT 2.0 DTM

Outline

From Segment Viewer or Device Navigator, when you right-click a device and select Assigned DTM, the DTM that is previously assigned to the device is started up in DTM Works. The DTM that starts up is dependent on the model and the device revision that is previously assigned.

Assignment Change from FDT 1.2 DTM to FDT 2.0 DTM

A device revision must be assigned to a device DTM only once. If device revision 3 of EJX is assigned to EJX V3.1 DTM, this device revision can no longer be assigned. Each device revision must be unique for a device DTM.

Follow these steps to change the device DTM assignment from FDT 1.2 DTM to FDT 2.0 DTM:

1. From your desktop, select [Start] > [YOKOGAWA FieldMate] > [DTM Setup].

   The DTM Setup Tool window appears.

2. Delete the device revision information assigned to the FDT 1.2 DTM by performing these steps:

   a. Double-click the FDT 1.2 DTM.

      Alternatively, select the FDT 1.2 DTM and click the [Edit] button.

      The Edit window of the DTM Setup Tool appears.

   b. In the Associations section, select the device revision information.

   c. Click the [Delete] button.

   d. Click [OK].

3. Assign new device revision information to the FDT 2.0 DTM by performing these steps:

   a. Double-click the FDT 2.0 DTM.

      Alternatively, select the FDT 2.0 DTM and click the [Edit] button.

      The Edit window of the DTM Setup Tool appears.

   b. In the Device Types section, from the Vendor drop-down list, select a vendor.

   c. From the Model drop-down list, select a device model.

   d. In the Revisions box, type the device revision. For multiple device revisions, separate the device revisions with a comma.

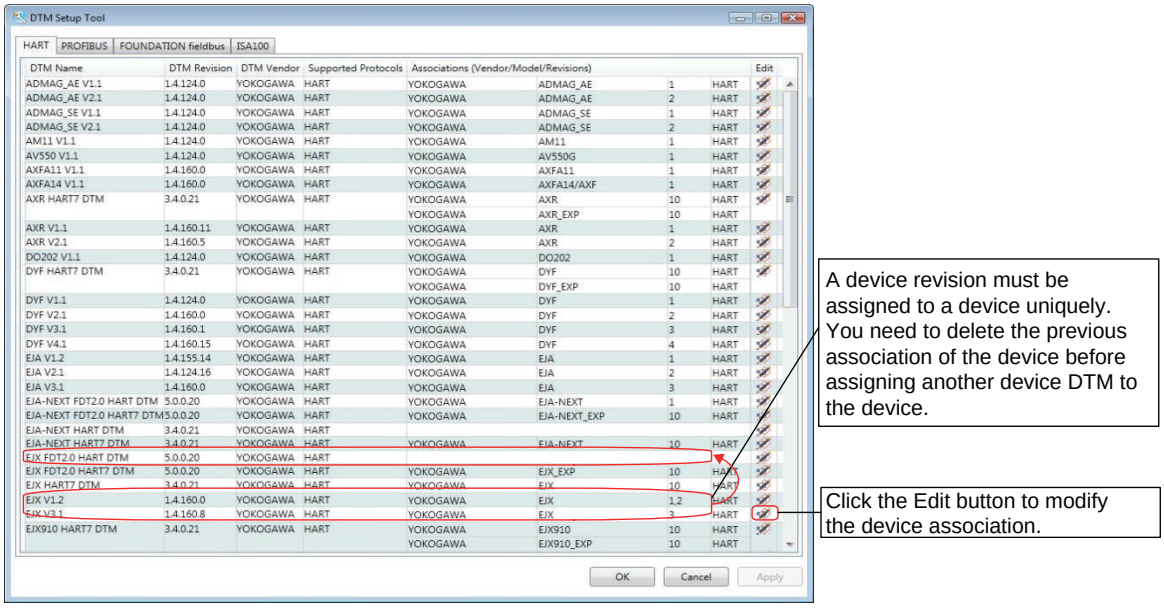
   e. Click the [Add] button.

      The Edit window of the DTM Setup Tool closes.

4. In the DTM Setup Tool window, click [Apply].

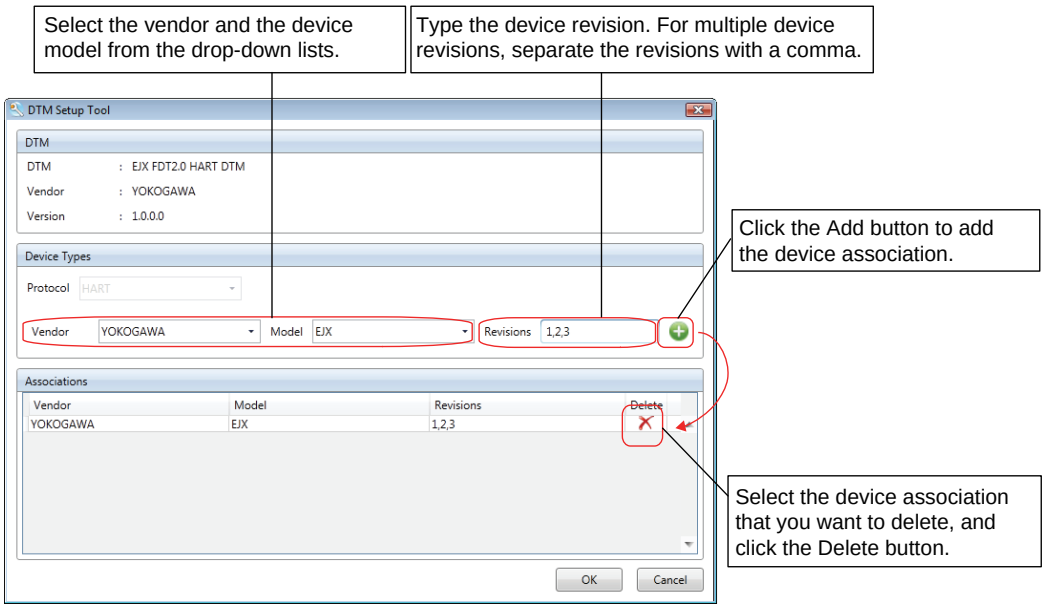
5. Click [OK].

   The device revision information is assigned to the FDT 2.0 DTM.



App.H01E.ai

Figure App.-H-1 DTM Setup Tool



App.H02E.ai

Figure App.-H-2 Edit Window of DTM Setup Tool

Appendix I Report Generator

The Report Generator is a tool that converts the calibration data recorded by CA550 Multi-Function Process Calibrator (manufactured by Yokogawa Test & Measurement Corporation) into a report in any format and outputs it.

NOTE

FieldMate R3.04.20 or later is required.

NOTE

The firmware version of CA550 must be 2.03.000 or higher.

Refer to the CA550 instruction manual about the CA550 firmware.

NOTE

It is necessary to set and operate the CA550 as follows.

- If “Decimal Point” is set to “COMMA”, “CSV Separator” must be set to a value other than “COMMA”.
- The calibration work must be performed using “Program Sweep” function.

Refer to the CA550 instruction manual about the operation and setting method of CA550.

Procedure

The procedure for outputting the calibration data saved in the CA550 as a report is shown below.

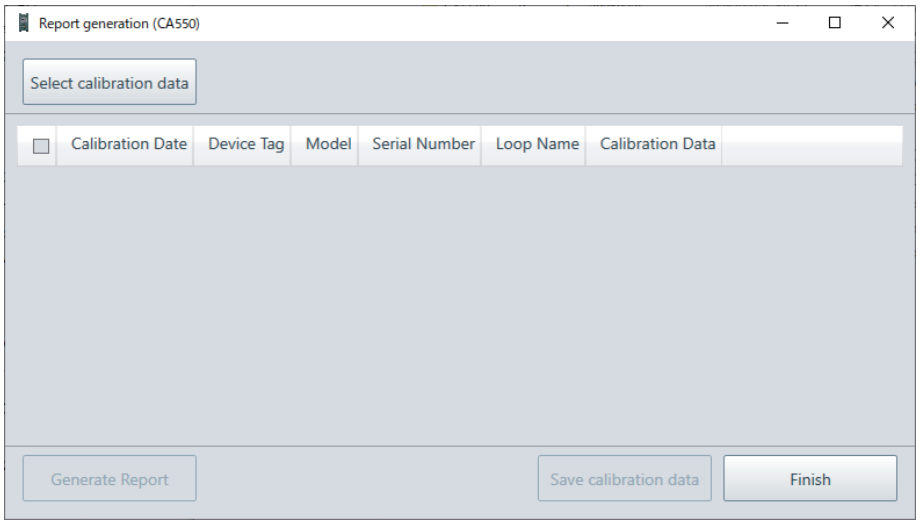
1. Connect the CA550 and the PC with a USB cable, and use Explorer to copy the calibration data to any location on the PC. The calibration data is saved as a CSV file under “ROOT \ CalibrationData” folder in the CA550.
   Refer to the instruction manual of CA550 about the connection between CA550 and PC.
2. Load the calibration data into this tool.
3. If necessary, edit the information such as the tag name and serial number in the calibration data.
4. Select the calibration data and output it as a report.
   There are three output types: text file, display on a Web browser, and output as a Microsoft® Word or Excel file using the template function.

Detail

Start up

This tool is started from the Windows start menu.

Select [YOKOGAWA Field Mate] - “Report generation (CA550)” in (Start Menu). The screen shown below is displayed.



App.I01E.ai

Figure App.-I-1 Report Generator

Select calibration data

Load the calibration data for generating a report into the tool.

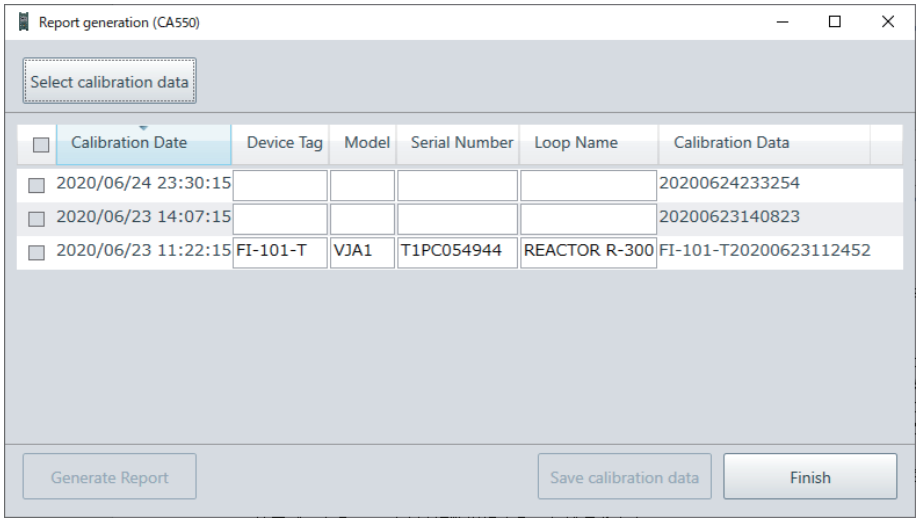
The CA550 saves the calibration data as a csv file. this calibration data file can be selected and loaded by clicking the [Select calibration data] button on the upper left of the screen of this function.

In the file selection dialog displayed by clicking the [Select calibration data] button, the “(Account)\ Documents” folder is selected by default, so select the folder in which the CA550 calibration data file is saved.

If FieldMate and CA550 are connected via a USB cable when selecting a file, the folder (ROOT \ CalibrationData) in CA550 is automatically selected.

Multiple calibration data files can be selected.

The selected calibration data is displayed in a list as shown in the figure below.



App.I02E.ai

Figure App.-I-2 After the calibration data selection

If select calibration data again after displaying the list and the selected data is not in the list, it will be added to the list. If it is in the list, the edited information of that data is discarded and the selected data is displayed again.



NOTE

The calibration data is displayed in the order in which the selected files are loaded. To organize the data, it is recommended to sort by items such as “Calibration Date” before starting work.

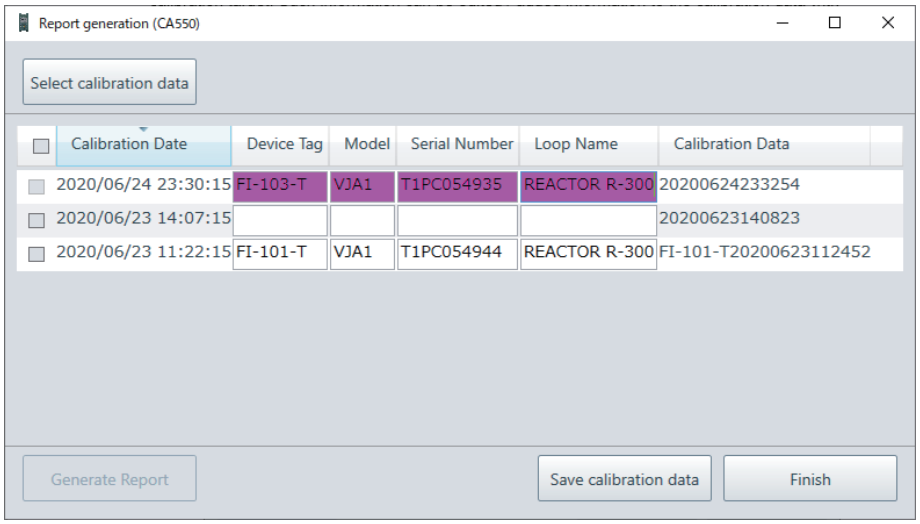
Edit calibration data

The calibration data saved by the CA550 may not contain information that identifies the calibration target. Such information can be edited / added information to the calibration data with this tool.

The items that can be edited are as follows.

- Device Tag
- Model
- Serial Number
- Loop Name

The cell of the edited item becomes magenta. And, the [Save calibration data] button at the bottom of the screen is enabled.



App.I03E.ai

Figure App.-I-3 Edit calibration data

Save calibration data

After editing the calibration data, click the [Save calibration data] button to save the edited calibration data. In the calibration data that has been saved, the magenta cell turns white. Also, the [Save calibration data] button at the bottom of the screen is disabled.

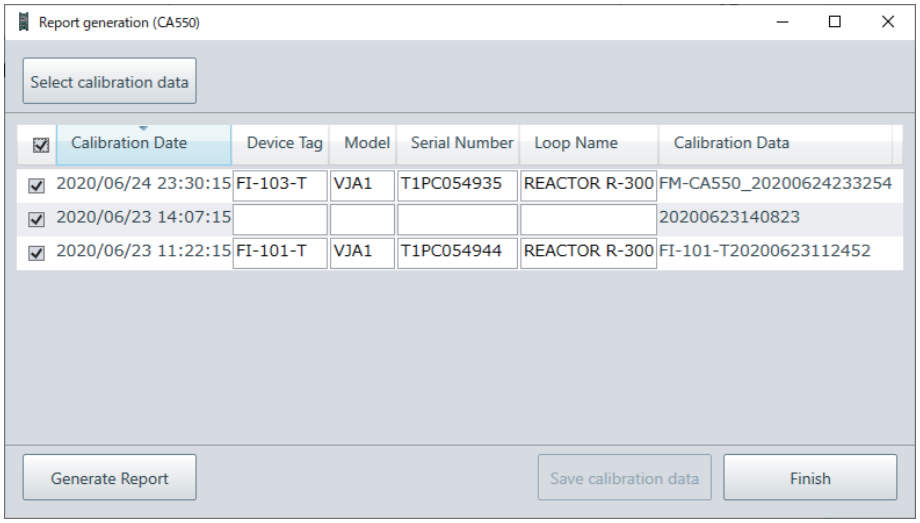
- The default save folder is the “(Account)\Documents”, so select any folder if necessary. Also, a folder in CA550 can not be selected as the save destination.
- The save file name of the calibration data is as follows.

  FM-CA550_(original file name).csv

  * The file name is the content displayed in “Calibration Data” on the list dialog.

Generate report

The calibration data can be output as a calibration report.

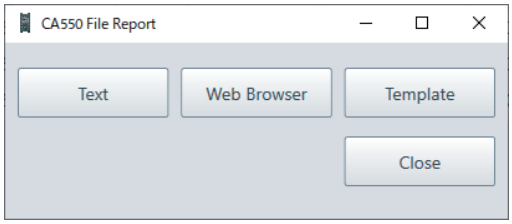


App.I04E.ai

Figure App.-I-4 Generate report

Select the calibration data for outputting as a report in the check box on the left side of the screen, and [Generate Report] button at the bottom right of the screen is enabled. However, if the selected calibration data contains the data being edited (cells are magenta), it will not be valid. Be sure to select the calibration data after performing “Save calibration data”.

Click the [Generate Report] button to display the dialog shown below.



App.I05E.ai

Figure App.-I-5 Select report format

NOTE

Of the proofreading report output formats, “Text” and “Web browser” are valid only when only one report output data is selected. Also, “Template” is valid only when Microsoft® Word or Excel is installed on the PC.

The operation after selecting each output format is as follows.

- Text:

  Outputs a text format report and displays it in Notepad.

  The output folder of the report is the “(account)\Documents\FM-CA550”.

  The file name is CalReport_(device tag)_YYYYMMDDhhmmss.txt.

  * If the device tag is not set,“(device tag)” is omitted.
  * YYYYMMDDhhmmss: Calibration date and time YYYY/MM/DD hh:mm:ss

- Web Browser:

  View the tabular report in a web browser.

- Template:

  The template file selection dialog is displayed.

  after select a template file, the calibration data is output as a report in the template format.

  - If only one proofreading data is selected, the created report will be displayed in Microsoft® Word or Excel.
  - If more than one calibration data is selected, open the folder to which the report is output.

    The output folder of the report is the “(account)\Documents”.

    The file name is CalReport_(device tag)_YYYYMMDDhhmmss.(Extension).

    * If the device tag is not set,“(device tag)” is omitted.
    * YYYYMMDDhhmmss: Calibration date and time YYYY/MM/DD hh:mm:ss

Template

ID is assigned to each calibration data saved by this tool.

In template file, write sentences, tables, etc. in a Microsoft® Word or Excel file, and enter the ID corresponding to the calibration data in the place where display the calibration data.

In the report output function “Template”, a report is generated by replacing the ID in the selected template file with the value of the calibration data.

The relationship between ID and calibration data is shown below. For the meaning of “Item name (CA550)” column, refer to the CA550 instruction manual.

Table App.-I-1 ID and Item name

ID	Item name (CA550)
(TAG NO)	TAG NO. (Editable)
(MODEL NO)	MODEL NO. (Editable)
(SERIAL NO)	SERIAL NO. (Editable)
(LOOP NAME)	LOOP NAME. (Editable)
(FUNCTON1 RANGE)	FUNCTION1 RANGE
(FUNCTON1 UNIT)	FUNCTION1 UNIT
(FUNCTON1 0%VALUE)	FUNCTION1 0% VALUE (Range)
(FUNCTON1 100%VALUE)	FUNCTION1 100% VALUE (Range)
(FUNCTON2 RANGE)	FUNCTION2 RANGE
(FUNCTON2 UNIT)	FUNCTION2 UNIT
(FUNCTON2 0%VALUE)	FUNCTION2 0% VALUE (Range)
(FUNCTON2 100%VALUE)	FUNCTION2 100% VALUE (Range)
(CONTACT INPUT)	CONTACT INPUT
(TC SETTING TERMINAL)	TC SETTING TERMINAL
(TC SETTING TC-B RJC)	TC SETTING TC-B RJC
(TC SETTING BURNOUT)	TC SETTING BURNOUT
(TC SETTING SCALE)	TC SETTING SCALE
(FREQUENCY SETTING VOLT)	FREQUENCY SETTING VOLT
(FREQUENCY SETTING COUNT)	FREQUENCY SETTING COUNT
(CONTACT OUTPUT)	CONTACT OUTPUT
(CPnn DATE)	DTAE of calibration point nn
(CPnn TIME)	Time of calibration point nn
(CPnn FUNCTION1)	FUNCTION1 VALUE of calibration point nn
(CPnn FUNCTION2)	FUNCTION2 VALUE of calibration point nn
(CPnn ERROR%)	ERROR% of calibration point nn
(CPnn PASS/FAIL)	Result of calibration point nn
(MODEL)	CA550 (Model of calibrator)
(CALIBRATION DATE)	CALIBRATION DATE
(CALIBRATOR S/N)	CALIBRATOR S/N

Appendix J Enhanced Favorite function

With the extended favorite function, devices are automatically registered in the selected favorite group when the device is recognized.

This function makes it easy to manage devices.

NOTE

FieldMate R3.04.20 or later is required.

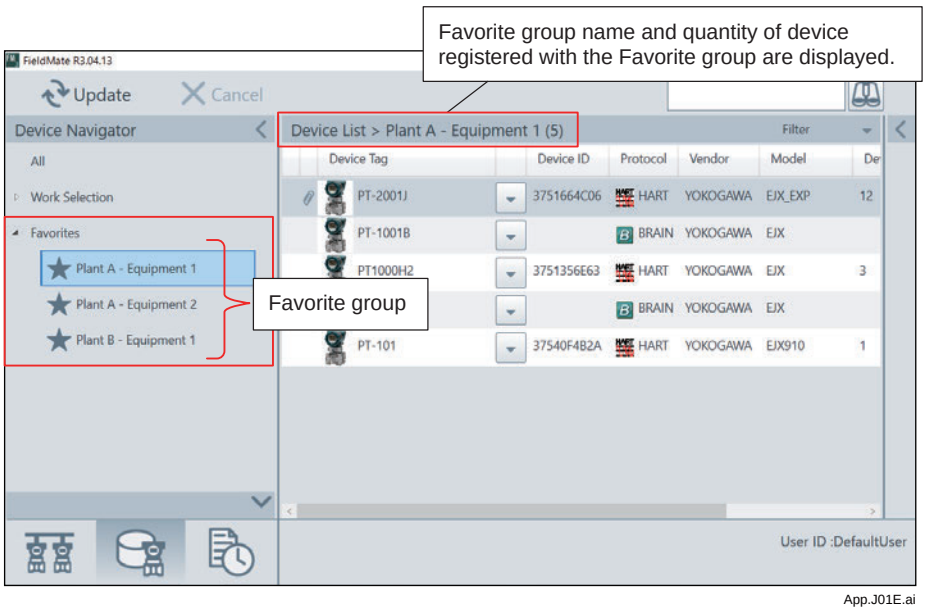
Appendix J-1 Favorite function

The favorite function manages the device information in FieldMate by classifying it into arbitrarily set groups.

The group can be created in “Favorites” in the left pane of the device navigator window and device maintenance information is assigned.

By default, all device information is displayed as a list on the device navigator window. Therefore, management becomes difficult if there are many registered devices.

So, this function sorts by favorite groups so that only the necessary device information can be extracted and displayed.



App.J01E.ai

Figure App.-J-1-1 Device navigator window (Favorite function)

Favorite group management

Create and add a favorite group

Favorite group can be created and added in the following ways:

1. Select [Add Favorites] from the right-click menu (a menu that is displayed by hold down on a touch panel) on [Favorites] in the left pane of device navigator window.
2. Enter the favorite name in the text box and click the [OK] button.

Delete a favorite group

Favorite group can be deleted in the following ways.

1. Select [Delete Favorites] from the right-click menu (the menu displayed by hold down on a touch panel) on the favorite group
2. Click the [OK] button in the confirmation dialog.

Even if the favorite group in which the device is registered is deleted, the device information is not deleted.

Rename a favorite group

Favorite group can be renamed in the following ways.

1. Select [Rename Favorites] from the right-click menu (the menu displayed by hold down on a touch panel) on the favorite group.
2. Enter the favorite group name in the text box and click the [OK] button.

Registration device in favorite group

Follow the procedure below to register a device as a favorite item.

You can also register the device in multiple favorite items.

Operation with [Action] menu

Select a device from the device list and then click the [Action] menu or [Add to Favorites] displayed on the [▼] button.

If there is already the target favorite group, register by selecting it.

If [New] is selected, a new favorite group will be created, and the device will be registered in that group.

Operation with dragging and dropping

If there is already the target favorite group, register it by dragging and dropping the device to the favorite group.



NOTE

"Dragging and dropping" may not be available by touch operation in touchscreen.

Remove device from favorite group

Follow the procedure below to remove the device registered from the favorite group.

Operation with [Action] menu

Select a device in the favorite group and remove it from the [Action] menu or [Delete from Favorites] displayed on the [▼] button.

Note that this operation only removes the device information from the favorite group, not the device information.

Appendix J-2 Enhanced Favorite function

With the existing favorite function, the information (device information) in the FieldMate database is registered in the favorite group on device navigator window. Therefore, for devices newly recognized by the segment viewer or BT200 tablet and registered in the database, it is necessary to register them in the favorite group again on the device navigator window manually.

With the enhanced favorite function, by specifying a favorite group in advance on Start dialog, Work selection dialog, or Segment viewer, even devices newly recognized by the segment viewer or BT200 tablet will be automatically registered in the favorite group. Also, favorite group for automatic device registration can be changed on segment viewer.

This makes it easier to manage which group the target device corresponds to by classifying the favorite groups by plant, equipment, construction, etc.

Enhanced favorite function can be changed enable or disable.

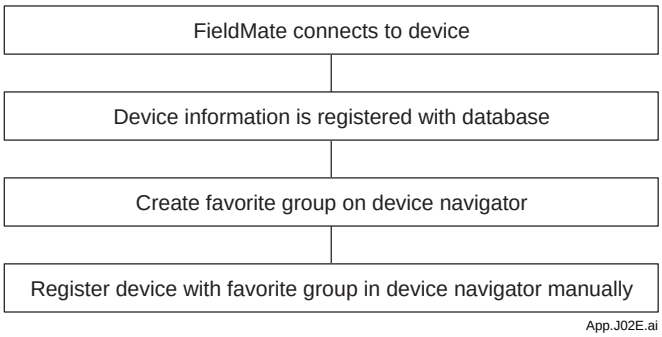


Figure App.-J-2-1 Favorite function

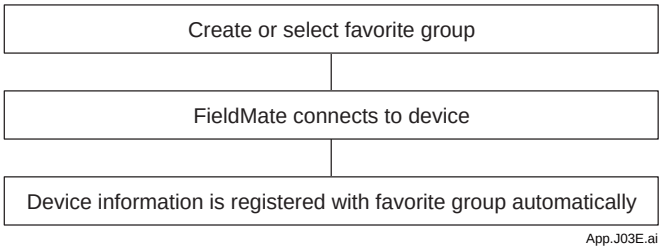
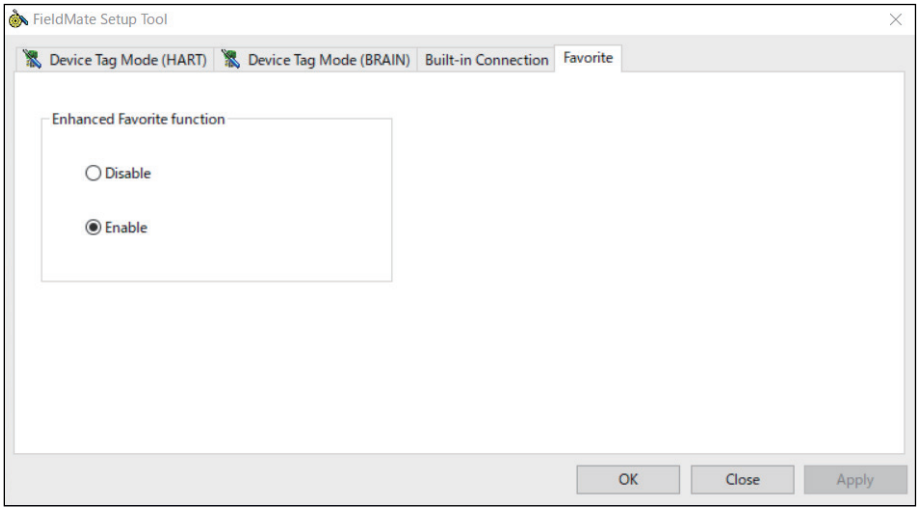


Figure App.-J-2-2 Enhanced favorite function

Enable/Disable of Enhanced favorite function

Changing enable and disable of Enhanced favorite function in FieldMate Setup Tool.

1. If FieldMate is running, exit FieldMate.
2. Select [YOKOGAWA FieldMate] – [FieldMate Setup] in the Windows Start menu.
   * Click the [OK] button when asked whether to start with user account control.
3. The FieldMate Setup Tool starts.
4. Select the Favorite tab.
5. Select whether to enable or disable the enhanced favorite function, and then click the [OK] button.



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Figure App.-J-2-3 FieldMate Setup Tool (Favorite function)

Windows of Enhanced favorite function

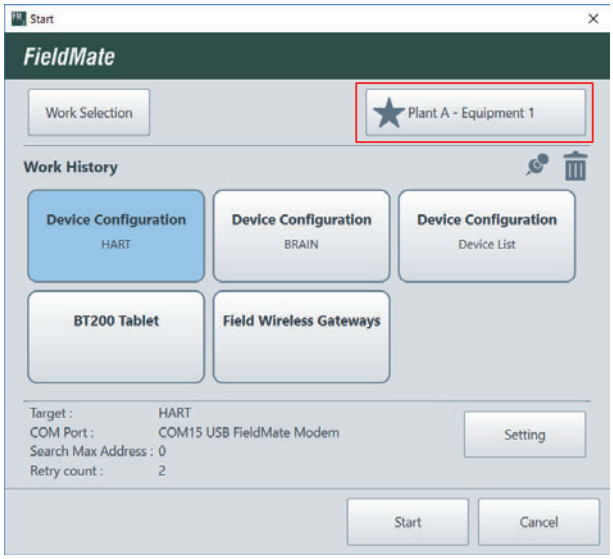
When the enhanced favorite function is enabled, favorite information is displayed on the following window.

- Start dialog
- Work selection dialog
- Segment viewer
- BT200 tablet

Favorite group can be selected and created on the start dialog, work selection dialog, and segment viewer.

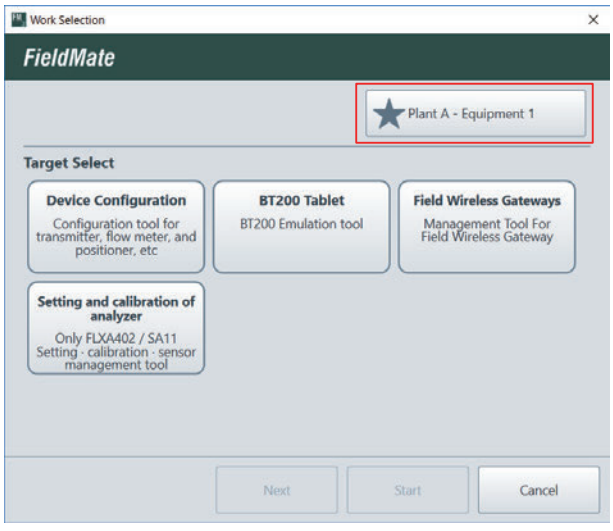
On the BT200 tablet, favorite group can only be displayed.

In the initial state, “Not Selected” is displayed as favorite group, and when FieldMate is restarted, the last selected favorite group on Start dialog, Work selection dialog and Segment viewer is selected.



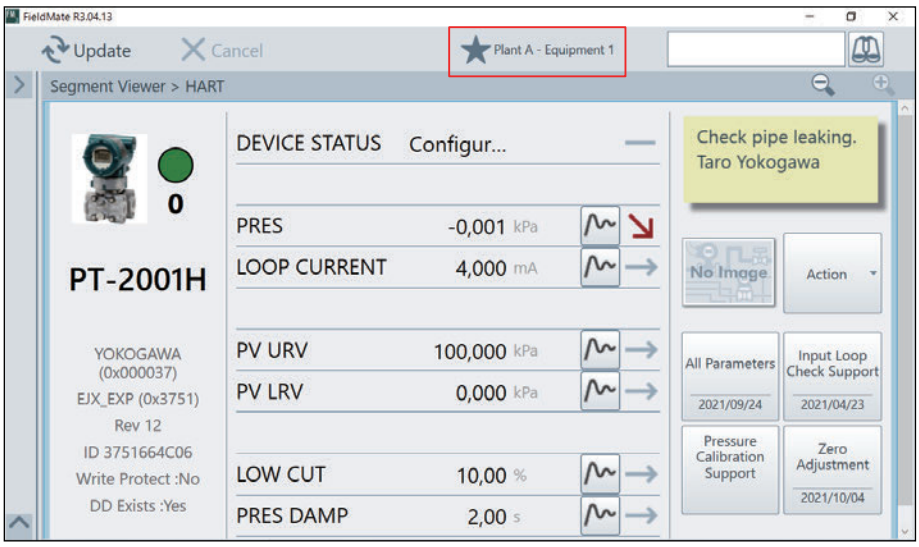
App.J05E.ai

Figure App.-J-2-4 Start dialog (Enhanced favorite function)



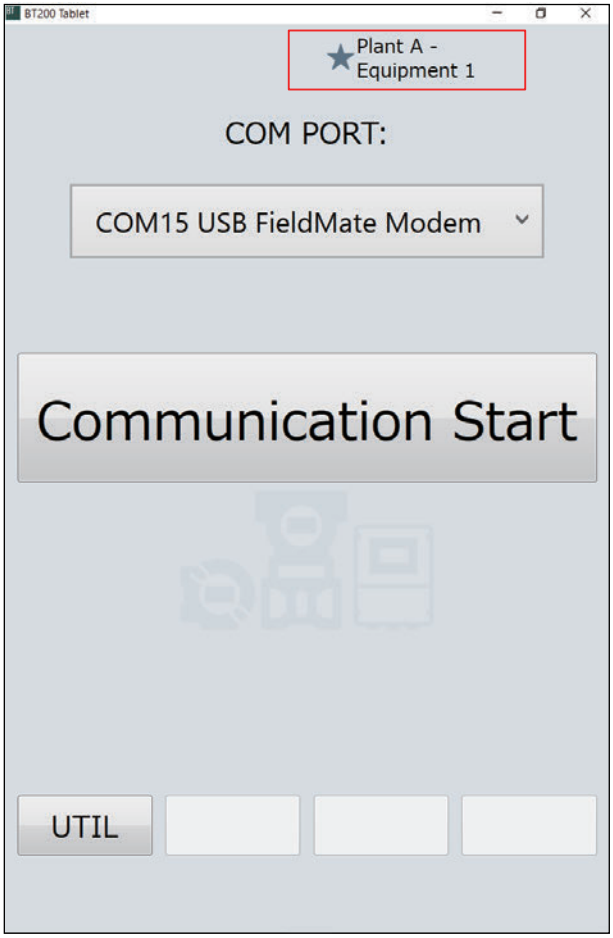
App.J06E.ai

Figure App.-J-2-5 Work selection dialog (Enhanced favorite function)



App.J07E.ai

Figure App.-J-2-6 Segment viewer (Enhanced favorite function)



App.J08E.ai

Figure App.-J-2-7 BT200 tablet (Enhanced favorite function)

NOTE

Note that on the BT200 tablet, the number of characters that can be displayed for the favorite group name is limited, and it may be displayed shorter than Start dialog, Work selection dialog, and Segment viewer.

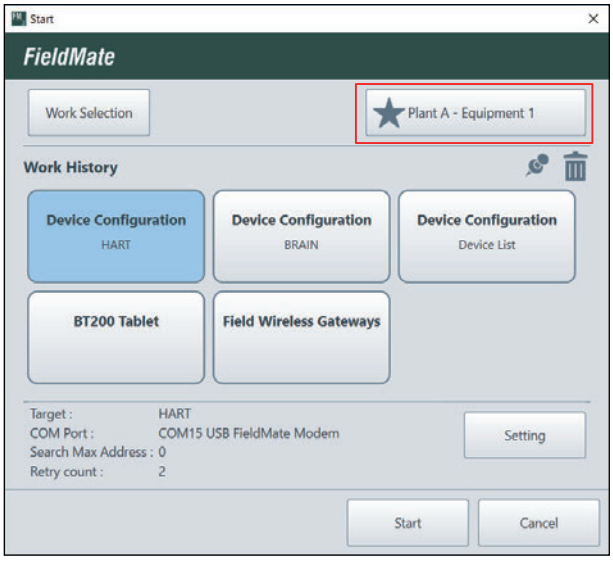
Create and select Favorite group

Favorite group can be created and selected on Start dialog, work selection dialog, and segment viewer. This operation can be performed by clicking (touching on a touch panel) the favorite group of each screen.

The following is an example of the start dialog.

On the initial state, “Not Selected” is displayed as favorite group, and when FieldMate is restarted, the last selected favorite group on Start dialog, Work selection dialog and Segment viewer is selected.

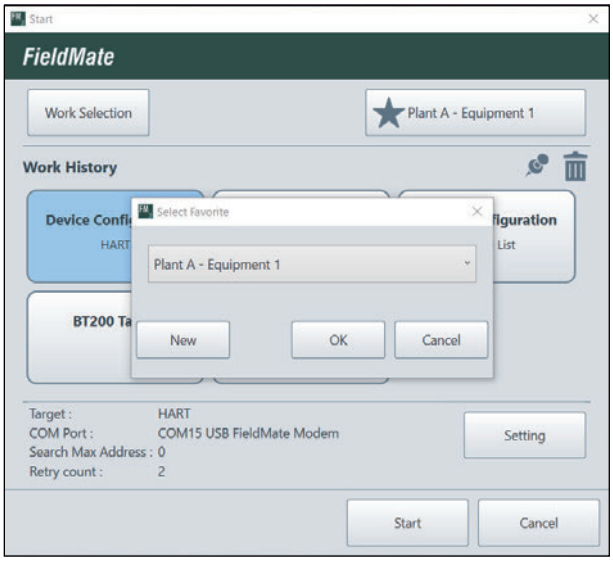
1. Click (touch) the favorite group on the start dialog.



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Figure App.-J-2-8 Start dialog (Enhanced favorite function)

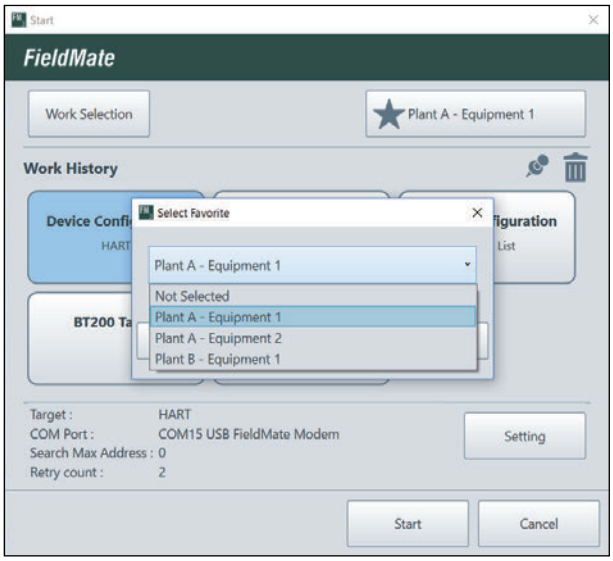
2. Select favorite dialog appears.



App.J10E.ai

Figure App.-J-2-9 Select favorite dialog

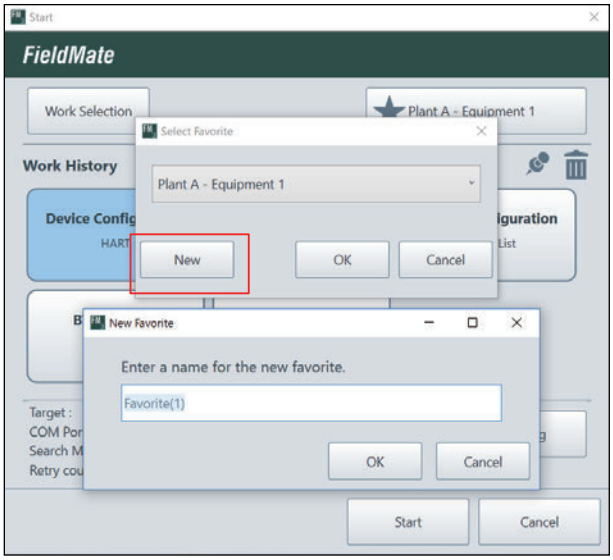
3. Select favorite group from the pull-down menu in Select favorite dialog, and then click [OK] button for selecting favorite group.



App.J11E.ai

Figure App.-J-2-10 Select favorite group

4. Click [New] button in the Select Favorite dialog to display a text box. Enter the name of added favorite group and click the [OK] button to add the favorite and this group is selected.



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Figure App.-J-2-11 Create favorite group

Device registration after changing favorite group

If another favorite group for a device that has already been registered as a favorite item is selected, the device is registered in the newly selected favorite group in addition to the already registered group.

Appendix K FieldMate Related Documents

Table App.-K-1 FieldMate Related Documents

Title	Document No.
FieldMate Versatile Device Management Wizard	IM 01R01A01-01E
FieldMate R3.04 Operational Precaution	IM 01R01A01-91E
FieldMate Versatile Device Management Wizard Getting Started	IM 01R01A04-01E
Calibration Management for Liquid Analyzers	IM 01R01A07-01EN
PRM Synchronization Tool	IM 01R01A20-01E
AXF Verification Tool	IM 01R01A11-01E
NE-107 Field Diagnostics Functions	IM 01R01A15-01E
Safety Instruction Manual	IM 00C01C01-01Z1

Revision Information

- Title : FieldMate: Versatile Device Management Wizard
- Manual No. : IM 01R01A01-01E

The following table describes the changes on this User's Manual.

Revision No.	Revised Date	Major Changes
1st Edition	July 2006	Newly published
2nd Edition	February 2008	R1.03 revision up
3rd Edition	January 2009	R2.01 revision up: supports Windows Vista
4th Edition	April 2009	R2.01.10 revision up: supports Extended Device Tag for HART devices
5th Edition	June 2010	R2.02 revision up: supports HART7
6th Edition	February 2011	R2.03 revision up: supports Windows 7 and ISA100 devices
7th Edition	September 2011	R2.04 revision up: supports ISA100 gateway
8th Edition	August 2012	R2.05 revision up: supports device serial number and the device replacement tool enhanced ISA100 gateway function
9th Edition	May 2013	R2.06 revision up: supports FDT 2.0 and NE 107 Field Diagnostics Functions
10th Edition	October 2014	R3.01 revision up: supports Windows 8.1
11th Edition	April 2015	Remove Appendix-H FieldMate Provisioning Device Tool
12th Edition	November 2015	Remove Appendix-J Importing Type B Yokogawa DTM Data to Type C Yokogawa DTM
13th Edition	August 2016	R3.02 revision up: • supports Windows 10 • improves Segment Viewer and History • supports Input Loop Check Support, Zero-point Adjustment, Parameter Comparison, and Typical Parameter Customization
14th Edition	April 2017	Updating: Terms and Conditions of the Software License
15th Edition	August 2017	R3.03 revision up: • improves History and Parameter Manager • supports Calibration, BT200Tablet, and Trend for Typical Parameter
16th Edition	December 2017	Contents revised for new USB FieldMate modem (F9197UF)
17th Edition	April 2018	R3.03.10 revision up
18th Edition	November 2018	R3.04 revision up
19th Edition	October 2020	R3.04.10 revision up
20th Edition	February 2022	R3.04.20 revision up
21st Edition	September 2025	R3.04 Readability improvement