User's Manual

LN90
Interface Adapter

IM 01W03L01-01EN

YOKOGAWA
Yokogawa Electric Corporation

IM 01W03L01-01EN
5th Edition

LN90
Interface Adapter

IM 01W03L01-01EN 5th Edition

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Revision Information

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1. Introduction

This manual describes how to use LN90 Interface Adapter (hereafter simply referred to as LN90). LN90 is a RS-485 signal relay and power supply for the “Field Wireless Communication Module FN120” or other equipment. LN90 enables to connect PLC/RTU and FN120 with inter module code -R1 via a RS-485 interface. To ensure both safety and efficiency, read this manual and “User’s Manual of FN120 Field Wireless Communication Module” (IM 01W03B02-01EN) carefully before you operate LN90. For operation, maintenance and troubleshooting when connecting LN90 and FN120, refer to the “User’s Manual of FN120 Modbus Communication for PLC/RTU” (IM 01W03B02-21EN).

Table1.1 summarizes the related document list of this manual.

Table 1.1 Related Document List

Title	Document No.
FN120 Field Wireless Communication Module General Specifications	GS 01W03B02-01EN
FN120 Field Wireless Communication Module User’s Manual	IM 01W03B02-01EN
FN120 Modbus Communication for PLC/RTU User’s Manual	IM 01W03B02-21EN
LN90 Interface Adapter General Specifications	GS 01W03L01-01EN

■ Regarding This Manual

- This manual should be provided to the end user.
- This manual and the identification tag attached on packing box are essential parts of the product; keep them in a safe place for future reference.
- The contents of this manual are subject to change without prior notice.
- All rights reserved. No part of this manual may be reproduced in any form without Yokogawa’s written permission.
- Yokogawa makes no warranty of any kind with regard to this manual, including, but not limited to implied warranty of merchantability and fitness for a particular purpose.
- If any question arises or errors are found, or if any information is missing from this manual, please inform the nearest Yokogawa sales office.
- The specifications covered by this manual are limited to those for the standard type under the specified model number break-down and do not cover custom-made products. When products whose suffix code or optional codes contain code “Z” and an exclusive document is attached, please read it along with this manual.
- Please note that changes in the specifications, construction, or component parts of this product may not immediately be reflected in this manual at the time of change, provided that postponement of revisions will not cause difficulty to the user from a functional or performance standpoint.
- Yokogawa assumes no responsibilities for this product except as stated in the warranty.
- If the customer or any third party is harmed by the use of this product, Yokogawa assumes no responsibility for any such harm owing to any defects in the product which were not predictable, or for any indirect damages.
- The following safety symbols are used in this manual:



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 or physical damage. 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.

1.1 Safe Use of This Product

This product is designed to be used by a person with specialized knowledge. For the safety of the operator and to protect this product and the system, please be sure to follow this manual's safety instructions when handling this product. If these instructions are not heeded, the protection provided by this product may be impaired. In this case, Yokogawa cannot guarantee that this product can be safely operated. Please pay special attention to the following points:

(a) Installation

- This product may only be installed by an engineer or technician who has an expert knowledge of this product. Operators are not allowed to carry out installation unless they meet this condition.
- With high process temperatures, care must be taken not to burn yourself by touching this product or its casing.
- All installation shall comply with local installation requirements and the local electrical code.

(b) Wiring

- This product must be installed by an engineer or technician who has an expert knowledge of this product. Operators are not permitted to carry out wiring unless they meet this condition.

(c) Maintenance

- Please carry out only the maintenance procedures described in this manual. If you require further assistance, please contact the nearest Yokogawa office.
- Care should be taken to prevent the build up of dust or other materials on the nameplate. To clean these surfaces, use a soft, dry cloth.

(d) Explosion Protected Type Instrument

- Users of explosion protected instruments should refer first to section 2.6 (Installation of an Explosion Protected Instrument) of this manual.
- The use of this instrument is restricted to those who have received appropriate training in the device.
- Take care not to create sparks when accessing the instrument or peripheral devices in a hazardous location.
- Repair or modification to this instrument by customer will cause malfunction of explosion protect function and hazardous situation. If you need to repair or modification, please contact the nearest Yokogawa office.

(e) Modification

- Yokogawa will not be liable for malfunctions or damage resulting from any modification made to this product by the customer.

(f) Authorized Representative in the EEA

- The Authorized Representative for this product in the EEA is: Yokogawa Europe B.V.
  Euroweg 2, 3825 HD Amersfoort,
  THE NETHERLANDS.

1.2 Warranty

- The warranty shall cover the period noted on the quotation presented to the purchaser at the time of purchase. Problems occurring during the warranty period shall basically be repaired free of change.
- If any problems are experienced with this product, the customer should contact the Yokogawa representative from which this product was purchased or the nearest Yokogawa office.
- If a problem arises with this product, please inform us of the nature of the problem and the circumstances under which it developed, including the model specification and serial number. Any diagrams, data and other information you can include in your communication will also be helpful.
- The party responsible for the cost of fixing the problem shall be determined by Yokogawa following an investigation conducted by Yokogawa.

■ **The purchaser shall bear the responsibility for repair costs, even during the warranty period, if the malfunction is due to:**

- Improper and/or inadequate maintenance by the purchaser.
- Malfunction or damage due to a failure to handle, use, or store this product in accordance with the design specifications.
- Use of the product in question in a location not conforming to the standards specified by Yokogawa, or due to improper maintenance of the installation location.
- Failure or damage due to modification or repair by any party except Yokogawa or an approved representative of Yokogawa.
- Malfunction or damage from improper relocation of the product in question after delivery.
- Reason of force majeure such as fires, earthquakes, storms/floods, thunder/ lightening, or other natural disasters, or disturbances, riots, warfare, or radioactive contamination.

1.3 Copyright and Trademark Notice

■ Copyright

All rights of the media and this manual are reserved. No part of the manual may be transferred, sold, distributed (including delivery via a commercial PC network or the like), or registered or recorded on video tapes or other media.

■ Trademarks

In this document, trademarks or registered trademarks are not marked with “™” or “®”. Product names and company names in this document are trademarks or registered trademarks of the respective companies.

1.4 Control of Pollution Caused by the Product

■ EU RoHS

This product is in conformity with the following standard:
EN IEC 63000 (Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances)

■ China RoHS

Please refer to the IM 01C00A20-01ZH for information on our management status pursuant to “Control of Pollution caused by Electronic Information Products” of the People’s Republic of China. Please search for the IM number in the Yokogawa library “ https://www.yokogawa.com/library/ ”.

2. Notes on Handling

LN90 is fully factory-tested before shipment. When LN90 delivered, check the appearance for damage, and also check that bundled items are included with your shipment.

■ Bundled items

Table 2.1 Bundled Items

Item	Qty
User's manual (IM 01W03L01-01)	1
Remote antenna cable	1
5-pin spring terminal	1
DIN rail attachment	2
Mounting bracket (Mounting parts for FN120, refer to Table 2.2)	1
Ferrite core with cable tie (A1193MN)	2

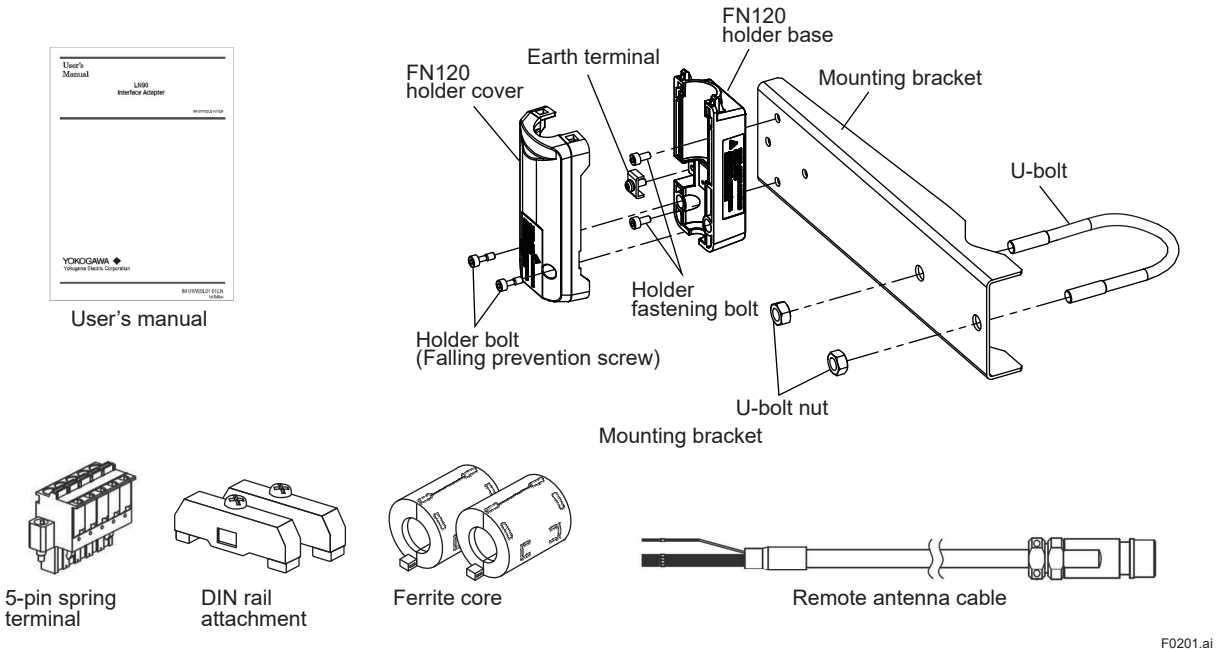


Figure 2.1 Bundled items

Table 2.2 Mounting Parts for FN120

Item	Qty	Item	Qty
FN120 holder base	1	Earth terminal	1
FN120 holder cover	1	Mounting bracket	1
Holder bolt (Falling prevention screw)	2	U-bolt	1
Holder fastenig bolt	2	U-bolt nut	2

2.1 Check the Model Name and Configuration

The model name and configuration are indicated on the nameplate. Verify that the configuration indicated in the “Model and Suffix Code” in subsection 7.2 is in compliance with the specifications written on the order sheet. A manual number omitting the language code at the end is printed on the nameplate.

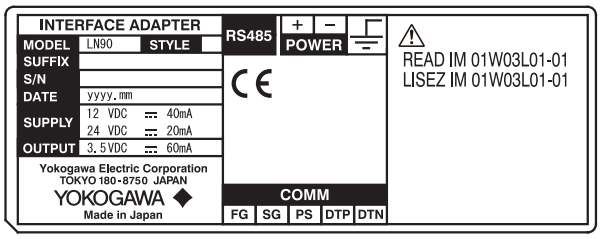


Figure 2.2 Nameplate

MODEL: Specified model code.
SUFFIX: Specified suffix code.
STYLE: Style code
S/N: Serial number
DATE: Date of manufacture.
SUPPLY: Rated input
OUTPUT: Rated output
TOKYO 180-8750 JAPAN: The manufacturer name and the address*1.

*1 “180-8750” is a zip code which represents the following address. 2-9-32 Nakacho, Musashino-shi, Tokyo Japan

2.2 Transport

To prevent damage while in transit, leave the product in the original shipping container until it reaches the installation site.

2.3 Storage

When storing this product, observe the following precautions.

1. Chose a storage location that satisfies the following requirements.
   - A location that is not exposed to rain or water.
   - A location subject to a minimum of vibration or impact.
   - The following temperature and humidity range is recommended. Ordinary temperature and humidity (25°C, 65%) are preferable.
     Temperature: -40 to 85°C
     Humidity : 5 to 95% RH
     (no condensation)
2. If at all possible, store LN90 in factory- shipped condition, that is, in the original shipping container.

2.4 Selecting the Installation Location

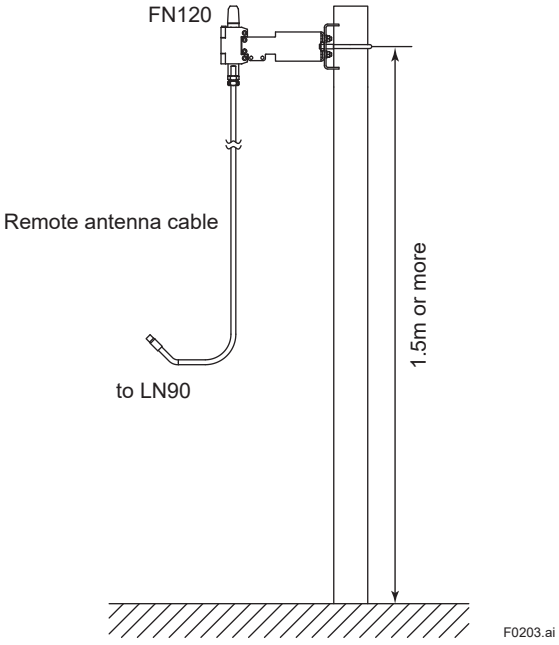
Although this product is designed to operate in a harsh environment, to maintain stability and accuracy, the following is recommended.

■ Wireless Communication

NOTE

The installation location of this product must meet the following conditions:

- Install this product to be perpendicular to the ground.
- Install the FN120 at least 1.5 m above the ground or floor. Connect LN90 and FN120 with a remote antenna cable.



- Ensure that there are no obstacles such as walls or pipes within a 30 cm radius of the FN120.
- Confirm that each field wireless equipment can see the antenna of other devices which locate within its own communication range.

■ Ambient Temperature

It is preferable to not to expose the instrument to extreme temperatures or temperature fluctuations. If LN90 is exposed to radiation heat a thermal protection system and appropriate ventilation is recommended.

■ Environmental Requirements

Do not install LN90 in a place that is exposed to corrosive atmospheric conditions. When using the instrument in a corrosive environment, ensure the location is well ventilated.

■ Impact and Vibration

It is recommended that the instrument be installed in a location that is subject to a minimum amount of impact and vibration.

■ Installation of Explosion Protected Products

An explosion-protected instruments is certified for installation in a hazardous area containing specific gas types. See subsection 2.6 “Installation of an Explosion-Protected Instruments”.

2.5 EMC Conformity Standards

CAUTION

This instrument is a Class A product, and it is designed for use in the industrial environment. Please use this instrument in the industrial environment only.

IMPORTANT

In order to comply with the EMC standard, mount bundled two ferrite cores “A1193MN” to external power source cable of LN90 side.

2.6 Installation of an Explosion Protected Instrument

2.6.1 IECEx Approval

Caution for IECEx Type n Certification

(1) Technical Data

Note 1. Model LN90 Interface Adapter with optional code /SN27 is applicable for use in hazardous area.

- Certificate No:
  IECEx PRE 17.0019X
- Applicable Standards:
  IEC 60079-0: 2011, IEC 60079-15: 2010
- Type of Protection:
  nA (non-sparking low power equipment)
- Marking:
  Ex nA IIC T4 Gc
- Ambient Temperature:
  -40 to 70°C (altitude : up to 3000 m)
- Rated Input:
  12 VDC, 40 mA or 24 VDC, 20 mA
- Rated Outputt:
  3.5 V, 60 mA

(2) Specific Condition of Use

- Equipment must be installed so that pollution degree 2 in accordance with IEC 60664-1 is maintained inside the enclosure.
- Equipment shall be installed in an enclosure that complies with requirements of the standard IEC60079-15, and provide a degree of ingress protection not less than IP54. Alternatively it shall be installed in an Ex e enclosure.

(3) Installation

WARNING

WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT, DO NOT OPEN THE CABINET WHILE THE EQUIPMENT ARE ENERGIZED. DO NOT SEPARATE THE CONNECTIONS WHEN ENERGIZED.

- The equipment must be installed in accordance with IEC 60079-14 and relevant local codes.
- To connect external wires, follow the instructions below.

  RS-485 connector:
  Make sure that the connection is effectively secured with the latch of the connector.
  POWER terminal:
  The conductors of the cable must be equipped with crimp terminals.
  Recommended torque value of tightening screws: 1.2 Nm
  COMM terminal:
  The COMM terminal consists of a 5-pin plug and a socket. A remote antenna cable equipped with ferrule must be used. The conductors of the cable must be inserted into the plug according to the colors:
  FG – Uncolored
  SG – Black
  PS – Red
  DTP – Blue
  DTN – White
  Make sure that the conductors are effectively secured to the plug.
  The plug must be secured to the socket with the screws on the flange.
- Care must be taken to avoid multi-point earthing since the equipment is not galvanically isolated from the power supply.

(4) Operation

WARNING

Take care not to generate mechanical sparking when access to the instrument and peripheral devices in hazardous area.

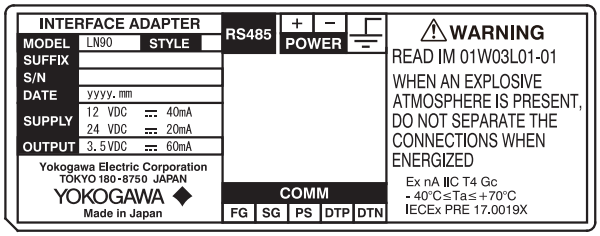
(5) Maintenance and Repair

WARNING

- Inspections and maintenance of the equipment and installations shall be carried out only by qualified personnel and in accordance with EN 60079-17.
- Repair, overhaul, reclamation of the equipment shall be carried out only by qualified personnel and in accordance with EN 60079-19.
- Repairs of the equipment shall be carried out only by trained, experienced, skilled, knowledgeable and/or supervised personnel, or by the service engineers recognized by Yokogawa. Otherwise, the type of protection may be invalidated.
- Modifications shall not be made to the equipment which are operated in hazardous areas.

- When opening the cabinet, the enclosure should be dry and clean to prevent the ingress of water and dust.

(6) Name Plate



F0204.ai

MODEL: Specified model code.
SUFFIX: Specified suffix code.
STYLE: Style code
S/N: Serial number
DATE: Date of manufacture.
SUPPLY: Rated input
OUTPUT: Rated output
TOKYO 180-8750 JAPAN: The manufacturer name and the address*1.

*1: "180-8750" is a postal code which represents the following address.
2-9-32 Nakacho, Musashino-shi, Tokyo Japan

2.7 Preparation required for operation

The work required to use LN90 is as follows.It also shows the main references in this document.

■ Check the appearance and bundled items

Check the appearance for damage, and also check that bundled items are included with your shipment. For more details, refer to chapter 2 “Notes on Handling”.

■ Install LN90, FN120 and host system

Install LN90 and wire the other equipment. For more details, refer to chapter 4 “Installation” and chapter 5 “Wiring”. For FN120 installation and wiring, refer to “FN120 Field Wireless Communication Module (IM 02W03B02-01EN). For instructions on engineering of FN120, refer to “User’s Manual of FN120 Modbus Communication for PLC/RTU”(IM 01W03B02-21EN).

2.8 Safety Requirement Standards

Applicable standard: EN61010-1

(1) Pollution Degree 2

“Pollution degree” describes the degree to which a solid, liquid, or gas which deteriorates dielectric strength or surface resistivity is adhering. “2” applies to normal indoor atmosphere. Normally, only non-conductive pollution occurs. Occasionally, however, temporary conductivity caused by condensation must be expected.

(2) Installation Category I

“Overvoltage category (Installation category)” describes a number which defines a transient overvoltage condition. It implies the regulation for impulse withstand voltage. “I” applies to electrical equipment which is supplied from the circuit when appropriate transient overvoltage control means (interface) are provided.

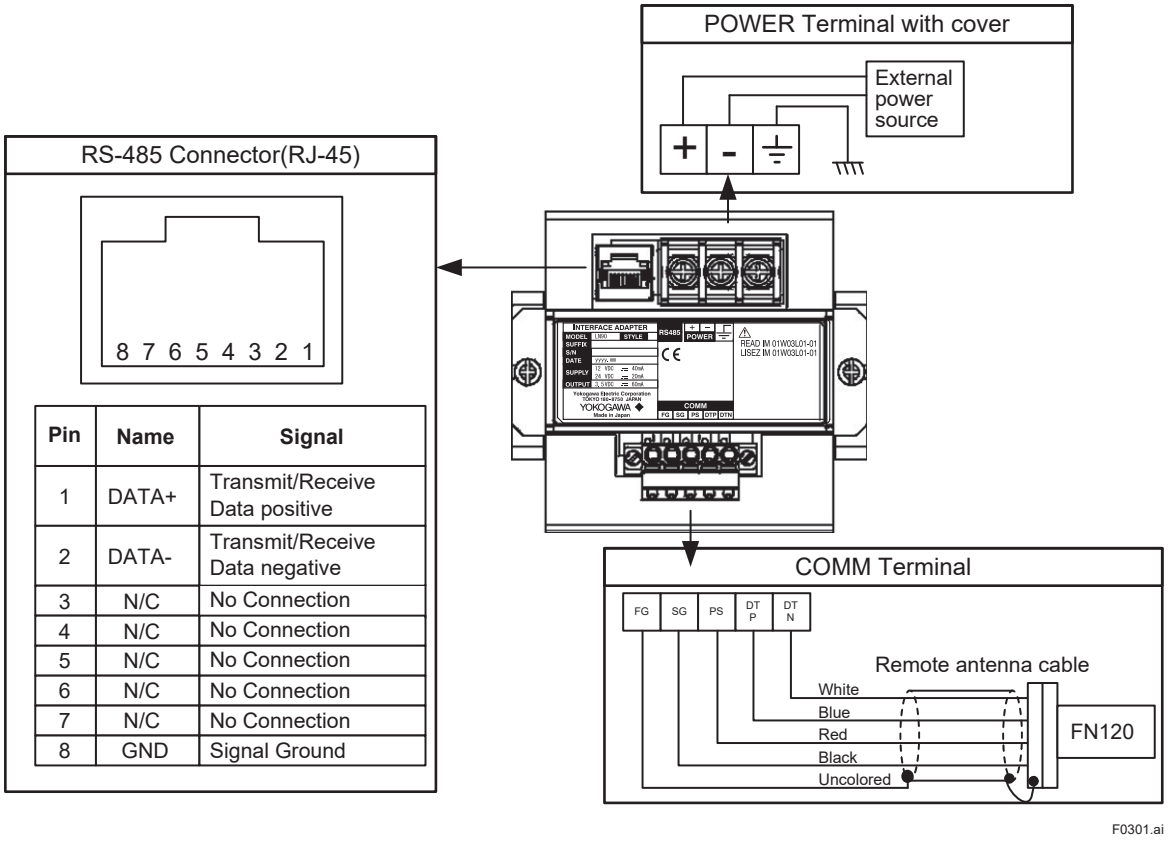
(3) Indoor use only

It can be used in indoors only.

(4) Altitude of installation site

Max. 3,000 m above sea level

3. Component Names



Pin	Name	Signal
1	DATA+	Transmit/Receive Data positive
2	DATA-	Transmit/Receive Data negative
3	N/C	No Connection
4	N/C	No Connection
5	N/C	No Connection
6	N/C	No Connection
7	N/C	No Connection
8	GND	Signal Ground

4. Installation

4.1 Installation Environment

- Before installing LN90 , read the cautionary notes in subsection 2.4 “Selecting the Installation Location”.
- When installing this product outdoors, accommodate it in a metal cabinet with appropriate dustproof and waterproof performance.
- When pulling out the wiring cable from the cabinet, attach a proper cable gland to the cabinet withdrawal port and take waterproof measures.
- For additional information on the ambient conditions allowed at the installation location, refer to GS 01W03L01-01EN.

WARNING

- Take care not to let water enter the instrument or to allow it to get wet. Failure to observe this may result in fire, electric shock or breakdown.
- Do not insert metal bars or such like into gaps on the instrument. Doing so may result in fire, electric shock or accident.

IMPORTANT

- Avoid exposing LN90 to direct sunlight.
- Prevent condensation under any circumstance.
- The dust level of the room should not exceed 0.3 mg/m^3. Under any circumstance, avoid iron flakes, carbon particles, or any other type of dust that are conductive.
- Avoid existence of corrosive gases such as hydrogen sulfide, sulfurous acid gas, chlorine, and ammonia.

4.2 External Power Source

Required external power source specification;

- Output voltage: 12 V DC or 24 V DC
- Output capacity: 1 W or more

WARNING

- LN90 does not have a power switch. For maintenance and safety, it is recommend installing a power switch close to LN90 and clearly indicating the OFF position of the switch.
- The overcurrent protection circuit of the external power source, it is recommended to use the automatic-recover type with the reverse L-shaped.

IMPORTANT

When using the commercial power, the EN 62368-1 certified external power source is necessary to comply with safety standards.

4.3 Grounding

Ground the ground terminal of LN90 according to the standards of each country and region.
For details of ground wiring, refer to 5.2 Power Terminal Connection.

WARNING

- Ground host system and LN90 to the same point to equalize an electrical potential.
- Select the host system with the isolated RS-485 port, when the host system and LN90 are installed in different place.

IMPORTANT

Proper grounding is necessary to maintain the function and performance of this product. When the grounding is inadequate, the equipment may be damaged. Refer to TI 01W01A58-01EN for details of grounding method and precautions.

- Use a grounding cable of AWG 14 (2 mm^2) or more between the grounding electrode and the grounding terminal of this product, and connect with the shortest route.
- Select the grounding cable that has a structure of adequately protects against mechanical damage, chemical or electrical degradation, electrodynamic force and thermodynamic force for connection of the grounding electrode and the ground terminal of this product.

4.4 Installation Example

An example of installing RTU, LN90 and FN120 is shown below. This figure is an example of putting RTU and LN90 in the same cabinet. In this example, LN90 and RTU ground the equipotential bonding bar to equalize an electrical potential. Also, the power supply of LN90 and RTU is shared.

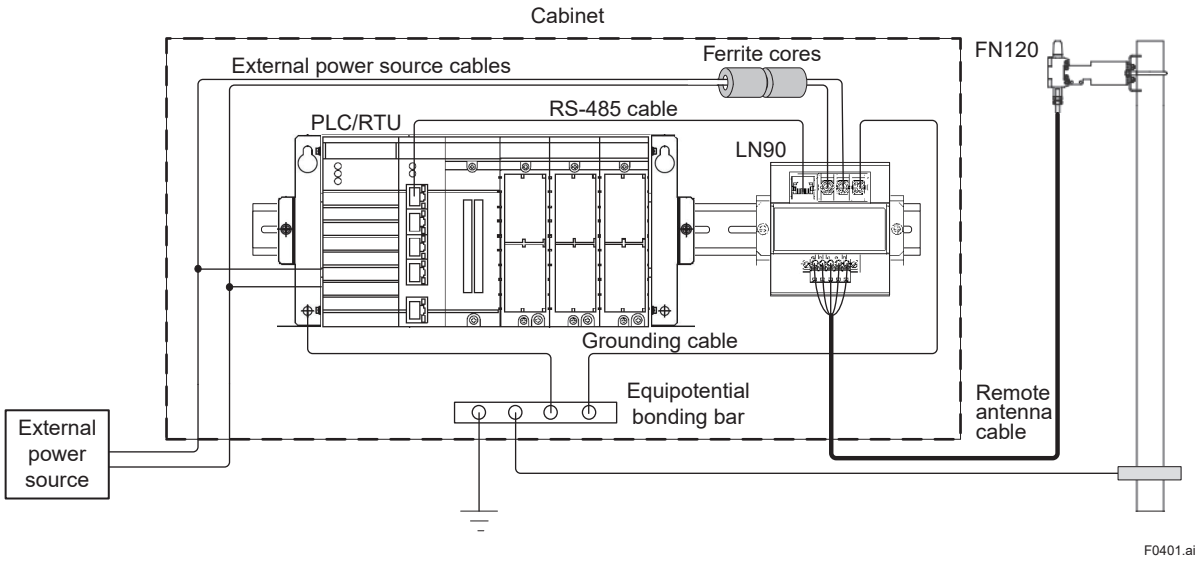


Figure 4.1 Installation Example

4.5 Mounting

4.5.1 Installation of FN120

■ Location of FN120

Mount FN120 at the proper location according to the wireless environment described in subsection 2.4 “Selecting the Installation Location”. The mounting to the pipe such as 50 A (2-inch) pipe needs to secure the enough durability to endure a strong wind, vibration and so on. FN120 must be mounted vertically.

■ Fixing of FN120

Fix the FN120 on a 50 A (2-inch) pipe with the mounting bracket provided as the remote antenna cable option.
For installation with remote antenna cable, refer to “FN120 Field Wireless Communication Module (IM 01W03B02-01EN).

CAUTION

Turn off a power to LN90 before installing FN120.

4.5.2 Mounting of LN90

Follow the procedures below to mounting of LN90.

1. Snap the supplied DIN rail attachment to the DIN rail (See Figure 4.2).
   - 1.1. Hook the nail on the DIN rail attachment to the bottom of the DIN rail.
   - 1.2. Hook the top nail by pulling the attachment upwards.
   - 1.3. Bring it down slightly while hooking both nails of the DIN rail attachment.
2. Attach LN90 by aligning the screws of the attachment to the installation holes on the left and right of LN90 (See Figure 4.3).
3. Tighten the screws and secure LN90 to the DIN rail.

IMPORTANT

Attach the supplied DIN Rail Attachment correctly; if attached upside down, it might get out of place.

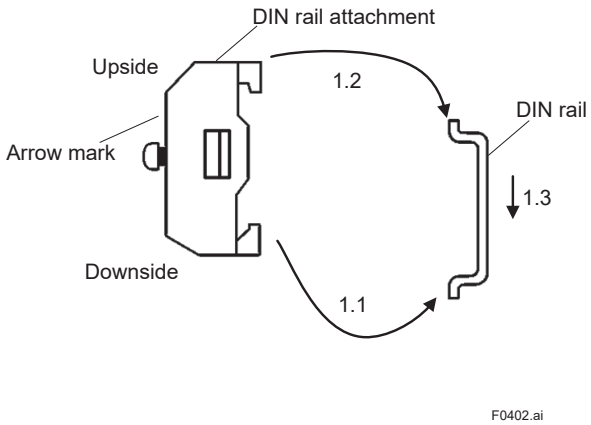


Figure 4.2 Installing DIN rail Attachment to DIN rail

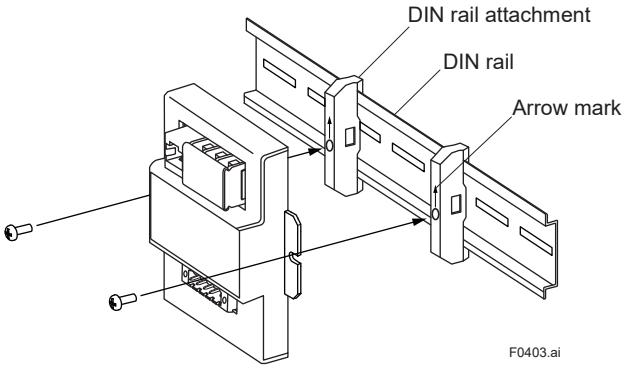


Figure 4.3 Mount LN90 on DIN rail

5. Wiring

5.1 Notes on Wiring

LN90 has a 3-pole M4 terminal with terminal cover for power supply, RJ-45 connecter for RS-485 communication, and a 5-pin connecter with a spring terminal and its socket on the body for communication to the field wireless communication module. The spring terminal base is secured by two screws at both ends. To connect external wires, follow the instructions below.

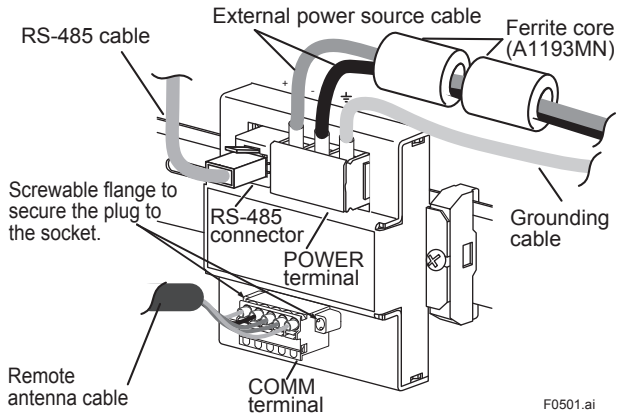


Figure 5.1 Wiring of LN90

NOTE

- When wiring where the ambient temperature is high or low, use the cable or wire that appropriate to that place.
- When the maximum operating temperature is more than 60°C, use the cable of 85°C or higher temperature rating.
- After wiring, properly fix the wiring so that no stress is applied to the terminal and connector.

5.2 Power Terminal Connection

The provedure of wiring to the power terminal is following.

1. Remove the cover on the power terminal.
2. Wire the power terminals.
3. Attach the removed cover to the power terminal.

■ Applicable Cables

Insulated cables for industrial equipment such as;

- 600 V polyvinyl chloride insulated wires (IV); JIS C3307
- Polyvinyl chloride insulated wires for electrical apparatus (KIV); JIS C3316
- 600 V grade heat-resistant polyvinyl chloride insulated wires (HIV); JIS C3317
- Heatproof vinyl insulated wires VW-1 (UL1015/ UL1007) Wire size

■ Wire size

- For external power source: 0.5 mm^2 to 2.0 mm^2 (AWG 20 to 14)
- For grounding: 2.0 mm^2 to 2.6 mm^2 (AWG14 to 13)

■ Termination

- A ring terminal for M4 terminals with an insulation covers

IMPORTANT

- LN90 does not have a power switch. It is recommended that a power switch be installed near LN90 and to clearly display the OFF position of the switch, for maintenance and safety requirements.
- The overcurrent protection circuit of the external power source, it is recommended to use the automatic-recover type with the reverse L-shaped.

■ Installation of ferrite cores

After wiring the power terminal, install two ferrite cores (A1193MN) to the external power source cable according to the Figure 5.2.

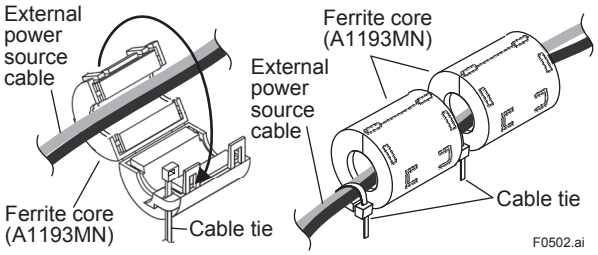


Figure 5.2 Installation of Ferrite Cores

IMPORTANT

- Do not apply mechanical shocks such as dropping to the ferrite core.
- Do not perform installation work at ambient temperature below 0°C.

■ Grounding

Appropriate grounding is necessary for the stable operation of LN90. Connect the grounding cable from the ground at POWER terminal to the ground.

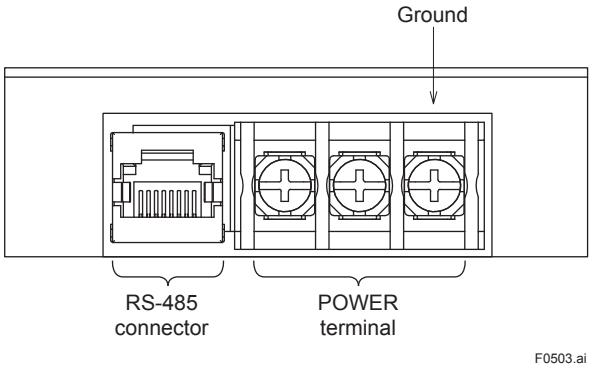


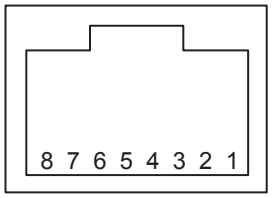
Figure 5.3 The ground at POWER terminal

5.3 RS-485 Connector

■ Applicable Cables

Prepare an RJ-45 plug that matches the pin assignment of the RS-485 connector shown in Figure 5.4. Using Category 5 UTP cable or more that is commercially available is recommended.

RS-485 Connector(RJ-45)



Pin	Name	Signal
1	DATA+	Transmit/Receive Data positive
2	DATA-	Transmit/Receive Data negative
3	N/C	No Connection
4	N/C	No Connection
5	N/C	No Connection
6	N/C	No Connection
7	N/C	No Connection
8	GND	Signal Ground

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Figure 5.4 Pin Assignment of the RS-485 Connector

When connecting to the RS-485 port of Yokogawa's FCN-RTU (CPU Module NFCP 050), use a straight cable.

■ Cable Connection

Connect the RS-485 connector of the host system and the RS-485 connector of the LN90 with the RJ-45 plug. Make sure that the connection is effectively secured with the latch of the connector.

NOTE

The GND of the RS-485 connector is connected to the ground potential inside LN90.

■ Host System Configuration

The RS-485 port of host system to be connected to this product, should be configurated shown in Table 5.1. These should be set before connecting this product to the host system. For details, refer to the User's Manual of the host system.

Table 5.1 RS-485 configuration of host system

Item	Configuration
Connection Type	2-wire (half duplex)
Termination resistance	None

5.4 COMM Terminal

The COMM terminal consists of a 5-pin connector and a socket. A remote antenna cable equipped with ferrule must be used. The conductors of the cable must be inserted into the connector according the colors.

- FG: Uncolored
- SG: Black
- PS: Red
- DTP: Blue
- DTN: White

Make sure that the conductors are effectively secured to the plug.
The plug must be secured to the socket with the screws on the flange.

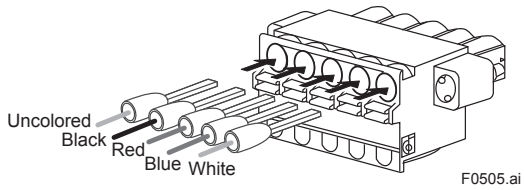


Figure 5.5 Insert Ferrule to the Connector

IMPORTANT

The connector on FN120 side of the remote antenna cable is mated waterproof specification. For this reason, install the remote antenna cable outdoors and apply appropriate waterproof treatment to the connector part during FN120 is not attached.

6. General Specifications

Please refer to GS 01W03L01-01EN for the specifications, model, suffix and option codes, and external dimensions of each product.
The General Specifications can be downloaded from the website of Yokogawa.
Website address: https://www.yokogawa.com/solutions/products-platforms/field-instruments/

■ General Specifications List

Model	Document Title	Document No.
YFGW410	Field Wireless Management Station	GS 01W02D01-01EN
YFGW610	Field Wireless Media Converter	GS 01W02D02-01EN
YFGW510	Field Wireless Access Point	GS 01W02E01-01EN
YFGW520	Field Wireless Access Point	GS 01W02E02-01EN
FN120	Field Wireless Communication Module	GS 01W03B01-01EN
FN310	Field Wireless Multi-Protocol Module	GS 01W03D01-01EN
FN510	Field Wireless Multi-Function Module	GS 01W03E01-01EN
LN01	Piezoelectric Accelerometer (for FN series)	GS 01W03H01-01EN
LN90	Interface Adapter	GS 01W03L01-01EN
YTMX580	Multi-Input Temperature Transmitter	GS 04R01B01-01EN

If you cannot find it on our website, please contact your nearest YOKOGAWA sales office.

Revision Information

Title : LN90 Interface Adapter
Manual No. : IM 01W03L01-01EN

Edition	Date	Page	Revised item
1st	July 2017	—	New Publication
2nd	Aug. 2018	4-1 5-2	Add warning message about grounding. Add description about the host system configuration.
3rd	July 2021	1-3 2-5 7-1	1.4 Add the description for EU RoHS and China RoHS. Add 2.8. 7. Delete the description for general specifications and add the General Specifications list.
4th	June 2026	1-3	1.4 Change the description for China RoHS.
5th	Aug. 2026	ALL	Replaced FN110 with FN120.