General Specifications

LN90
Interface Adapter

GS 01W03L01-01EN

■ GENERAL

This General Specification (GS) describes the specification for Interface Adapter. This product is a RS-485 signal relay and power supply for the "Field Wireless Communication Module FN120" or other equipment. This product enables to connect PLC/RTU and FN120 with inter module code -R1 via a RS-485 interface.
For more details, refer to General Specification of "Field Wireless Communication Module FN120".



■ STANDARD SPECIFICATION

□ POWER SUPPLY SPECIFICATIONS

Input voltage range: 10 to 30 V DC
Rated input: 12 V DC 40 mA or 24 V DC 20 mA
Rated Output: 3.5 V DC 60 mA

□ PERFORMANCE SPECIFICATIONS

Digital Communication:
Communication Mode: RS-485 Half-duplex (2-wire type)
Communication Speed: Max. 38400 bps
Communication Distance: Max. 20 m*1*2
Number of connectable RTU: 1 unit*3

*1: Total length of RTU to FN120.
*2: Dedicated remote antenna cable (3 m length) for connecting to FN120 [Inter module communication code: -R1] is bundled. Please contact us if you want to extend the cable length.
*3: Multidrop connection is not supported.

□ INSTALLATION ENVIRONMENT

Ambient Temperature Limits:
Operating: –40 to 70°C (altitude up to 3000 m)
Storage: –40 to 85°C

Ambient Humidity Limits:
Operating: 5 to 95%RH (non-condensation)
Storage: 5 to 95%RH (non-condensation)

Noise Resistance:
Electric Field : 3 V/m or less (80 to 1000 MHz)
Electrostatic Discharges: 4 kV or less (contact discharge), 8 kV or less (aerial discharge)

Installation location:
Indoors

Vibration Resistance:
0.15 mm P-P (5 to 58 Hz) , 1 G (58 to 150 Hz)

Shock Resistance:
15 G 11 ms

□ REGULATORY COMPLIANCE STATEMENTS

CE Conformity:
EMC Directive:
EN61326-1 Class A Table 2, EN55011 Class A*1
RoHS Directive:
EN IEC 63000
Other Normative Standards:
Safety: EN61010-1 (Indoor use)*2

*1: In order to comply with the EMC standard, mount bundled two ferrite cores "A1193MN" to external power line of this product side.
*2: The EN 62368-1 certified external power source is necessary to comply with safety standards.

□ PHYSICAL SPECIFICATIONS

Housing Material:
Aluminum alloy plate

External Dimension:
95 x 83 x 25.4 mm (not include projection)

Weight:
Approx. 200 g

Mounting:
DIN RAIL Mounting

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GS 01W03L01-01EN
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□ SOFTWARE SPECIFICATIONS

ISA100 Wireless Gateway Assistant:
ISA100 Wireless Gateway Assistant is a software application and included in FieldMate R3.03 or later version. This tool can be used when detailed configurations are required for FN120.

Software License:
1 License

Language:
Software(GUI): English
Manual: English

■ MODEL AND SUFFIX CODES

Model	Suffix Codes		Description
LN90	.....		Interface Adapter
General Specifications	Mounting Bracket	**-B**.....	For FN120
	Software Media	**1**	None*1
Option codes			/□ Optional specifications

*1: The software is published on the Yokogawa member site, Customer Portal (https://myportal.yokogawa.com/). Please refer to IM 01W03B02-21EN for details about the software.

■ OPTIONAL SPECIFICATIONS (For Explosion Protected Types)

Please select appropriate equipment in accordance with the laws and regulations of the relevant country/region, when it is used in a location where explosive atmospheres may be present.

Item	Description	Code
IECEx	IECEx Type n Approval Applicable Standards: IEC 60079-0, IEC 60079-15 Certificate: IECEx PRE 17.0019X*1 Ex nA IIC T4 Gc Amb. Temp. (Tamb): –40 to 70°C (–40 to 158°F)	SN27

*1: Symbol 'X' denotes the following specific conditions 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 such as metal cabinets with locks and keys and provide a degree of ingress protection not less than IP54. Alternatively it shall be installed in an Ex e enclosure.

■ OPTIONAL SPECIFICATIONS

Item	Description	Code
Remote Antenna Cable	Remote Antenna Cable 10 m*1	EC1

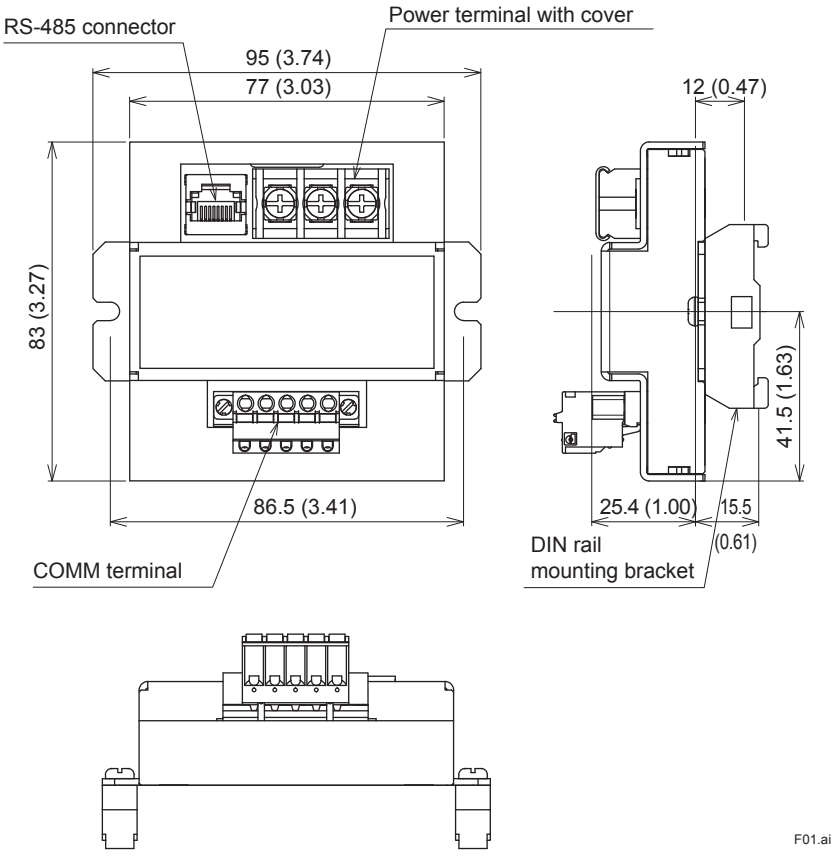
*1: This is enclosed instead of 3 m length remote antenna cable.

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■ EXTERNAL DIMENSIONS

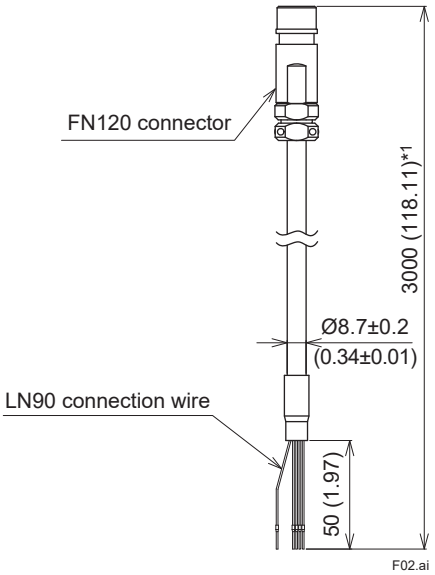
□ Body

Unit: mm (approx. inch)



□ Remote antenna cable

Unit: mm (approx. inch)



Wire Color	Signal
Uncolored	Frame ground
Black	Signal ground
Red	Power supply
Blue	Transmit/receive data positive
White	Transmit/receive data negative

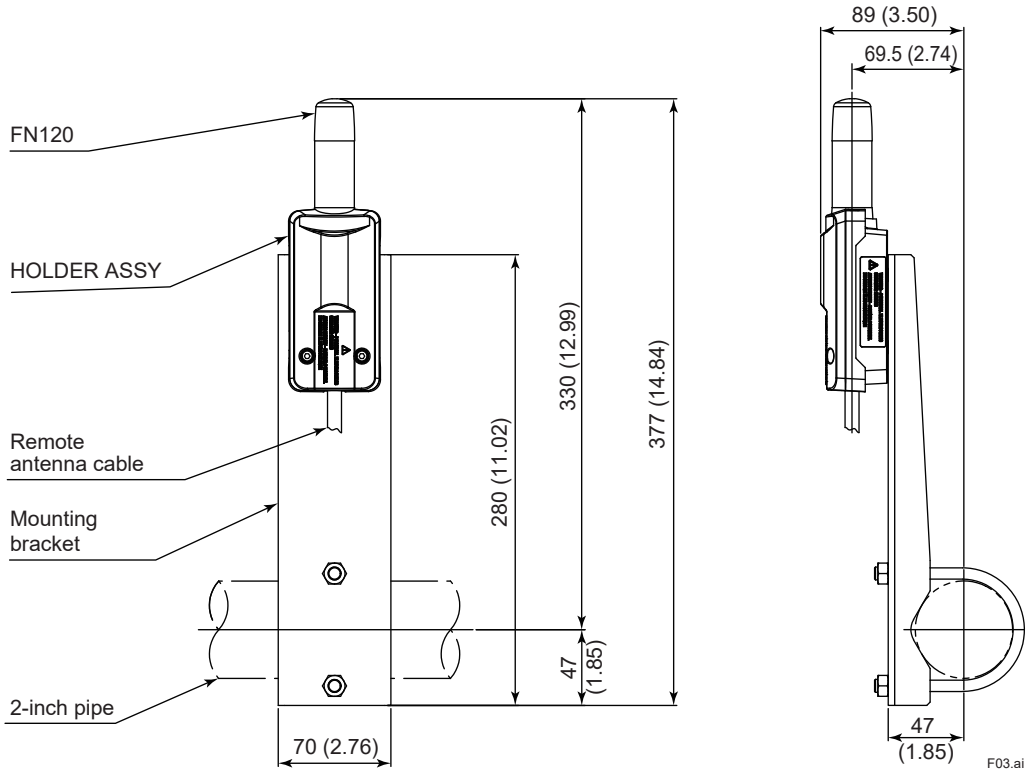
*1: For optional code /EC1, the dimension is 10,000 (393.70).

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□ FN120 Mounting Bracket

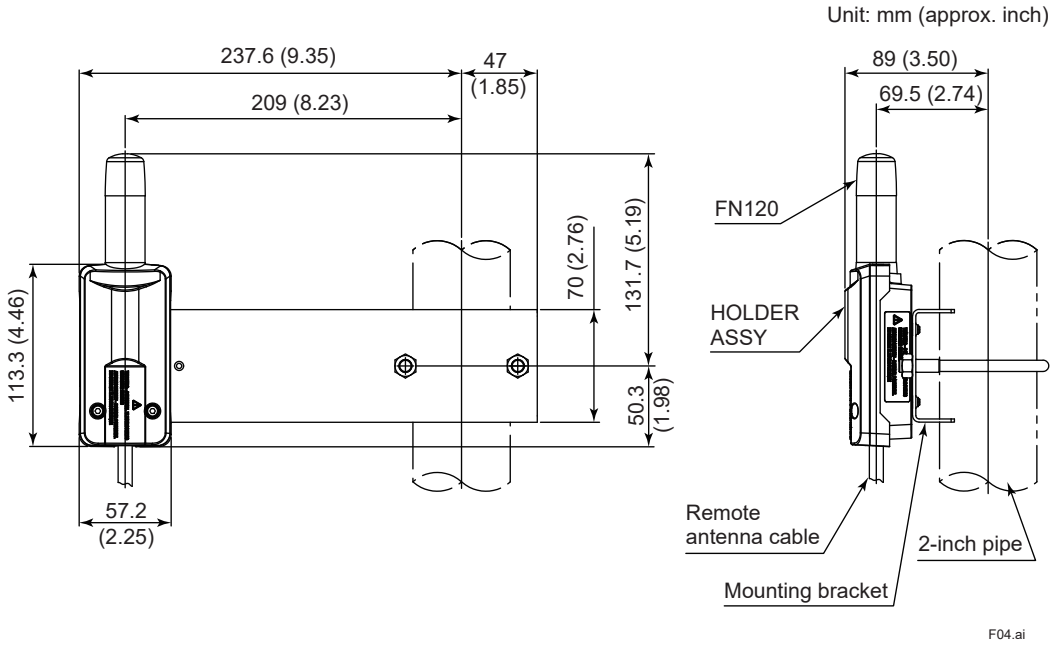
● 2-inch pipe mounting (for horizontal piping)

Unit: mm (approx. inch)



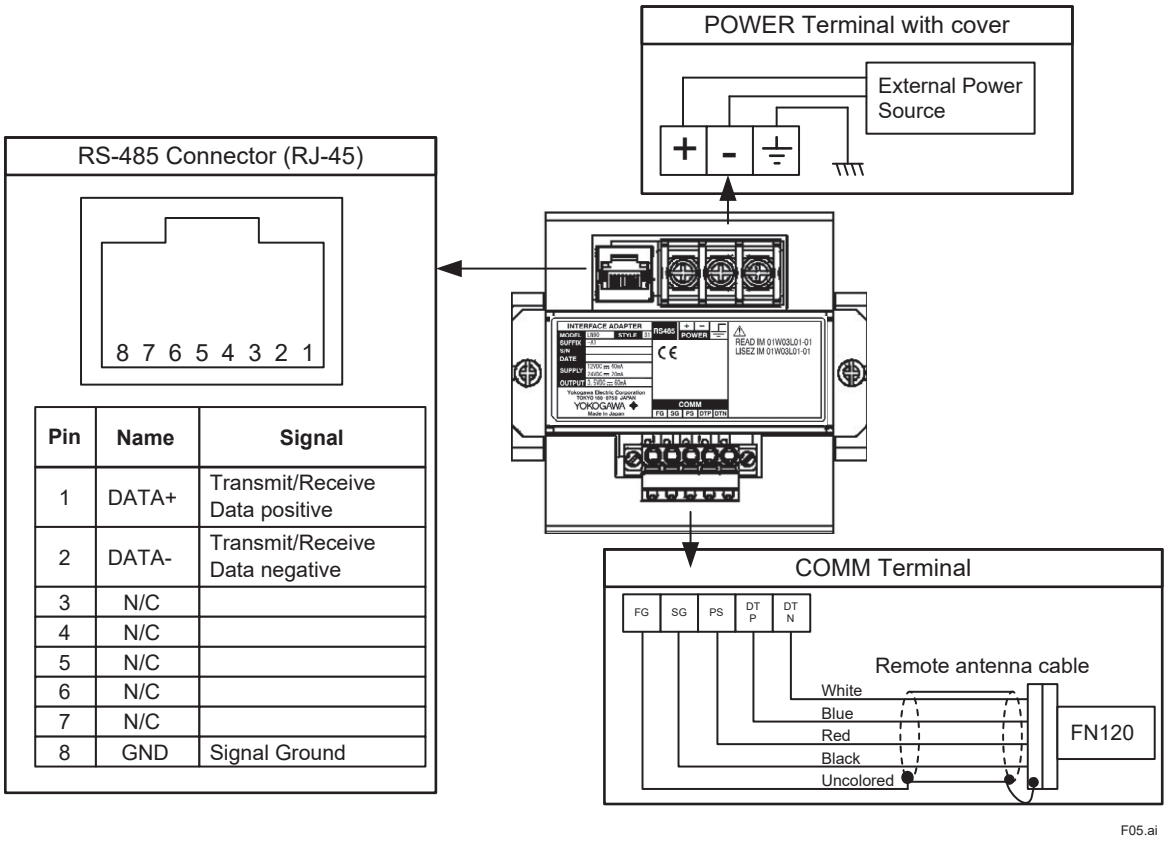
● 2-inch pipe mounting (for vertical piping)

Unit: mm (approx. inch)



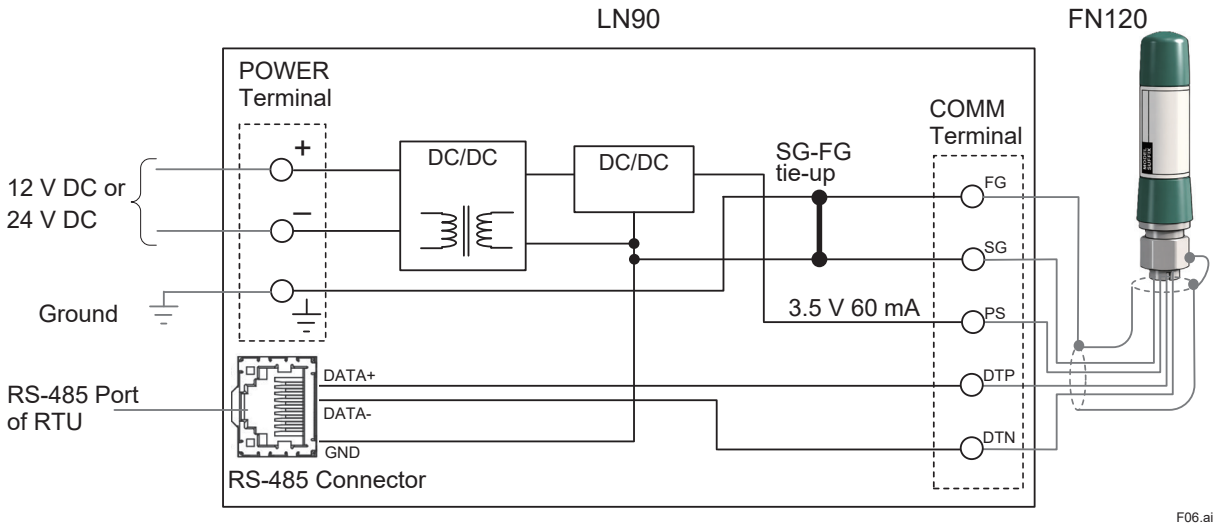
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■ PIN ASSIGNMENT



Pin	Name	Signal
1	DATA+	Transmit/Receive Data positive
2	DATA-	Transmit/Receive Data negative
3	N/C	
4	N/C	
5	N/C	
6	N/C	
7	N/C	
8	GND	Signal Ground

■ BLOCK DIAGRAM



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< Ordering Information >

Specify the following when ordering.

1. Model, suffix codes, and option codes.

< Related Products General Specifications >

Field Wireless System Overview:
Refer to GS 01W01A01-01EN
Field Wireless Communication Module:
Refer to GS 01W03B02-01EN

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This instrument is intended to be sold and used only as a part of equipment which is excluded from WEEE Directive, such as large-scale stationary industrial tools, a large-scale fixed installation and so on, and, therefore, subjected to the exclusion from the scope of the WEEE Directive. The instrument should be disposed of in accordance with local and national legislation/regulations.

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