General Specifications

Serial Communication Module

STARDOM™
FCN

GS 34P02Q36-01E

■ GENERAL

This GS covers hardware specifications for communication modules that can be installed for FCN autonomous controllers.

■ STANDARD SPECIFICATIONS

● Serial Communication Module

Serial communication modules exchange data with such devices as PLC via serial communication lines.

Item	Specifications	
Model	**NFLR111**	**NFLR121**
Interface	RS-232-C (2 ports)	RS-422/RS-485 (2 ports)
How connected	Point-to-point	Multipoint
How communicates	Half-duplex/Full-duplex (*1)	
How synchronizes	Start-stop synchronization	
Communication speed	0.3, 1.2, 2.4, 4.8, 9.6, 14.4, 19.2, 28.8, 38.4, 57.6, 76.8, 115.2 kbps	
Transmission code	ASCII/binary	
Character length	7/8 bits	
Stop bit	1/2 bits	
Parity check	None/even/odd	
Transmission distance	Maximum 15 m	Maximum 1200 m (total extended length)
Wiring connection (*2)	D-sub 9-pin (female x 2) (*3)	Clamped with terminal block's M4 screws (5 poles x 2) (*4)
Current consumption	500 mA	
Weight	0.3 kg	0.3 kg

*1:   Only half-duplex communication is supported when communication of NFLR121 is done through a two-wiring system.
*2:   For connection terminals and cables, refer to "Field Connection Specifications" (GS 34P02Q30-01E).
*3:   Connectors are fastened using metric screw threads (M2.6).
      RS-232C interface uses CD line (for input signal monitor) and CS line (for transmission of flow controls). Wiring of these signal lines is necessary.
*4:   Comes with two terminator of 120 ohm.

● NFLR111 RS-232-C Communication Module

Connectors (D-sub 9-pin, female)

Pin No.	Abbreviation	Signal Name	Function
1	CD	Carrier Detect	Data channel reception Carrier detection
2	RD	Received Data	Data reception
3	SD	Send Data	Data transmission
4	ER	Equipment Ready	Data equipment ready
5	SG	Signal Ground	Signal grounding
6	DR	Dataset Ready	Dataset ready
7	RS	Request to Send	Request for transmission
8	CS	Clear to Send	Transmission is allowed
9	–	–	N.C.

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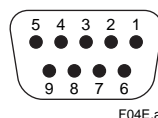
Figure Pin No. of Connectors On the D-sub 9-pin Module

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GS 34P02Q36-01E
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● **NFLR121 RS-422/RS-485 Communication Module Terminal Block (M4 Screws)**

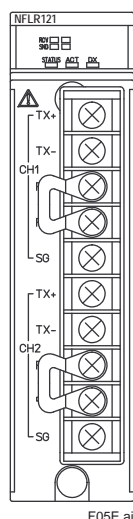| Terminal Symbol	Signal Name	Function
TX+	Send Data	Data transmission (common mode signal)
TX-	Send Data	Data transmission (reverse phase signal)
RX+	Received Data	Data reception (common mode signal)
RX-	Received Data	Data reception (reverse phase signal)
SG	Signal Ground	Signal grounding

Figure Terminal Symbols for RS-422/RS-485 Communication Module

■ **EXTERNAL DIMENSIONS**

● **NFLR111 RS-232-C Communication Module**

Unit; mm (inch)

● **NFLR121 RS-422/RS-485 Communication Module**

Unit: mm (inch)
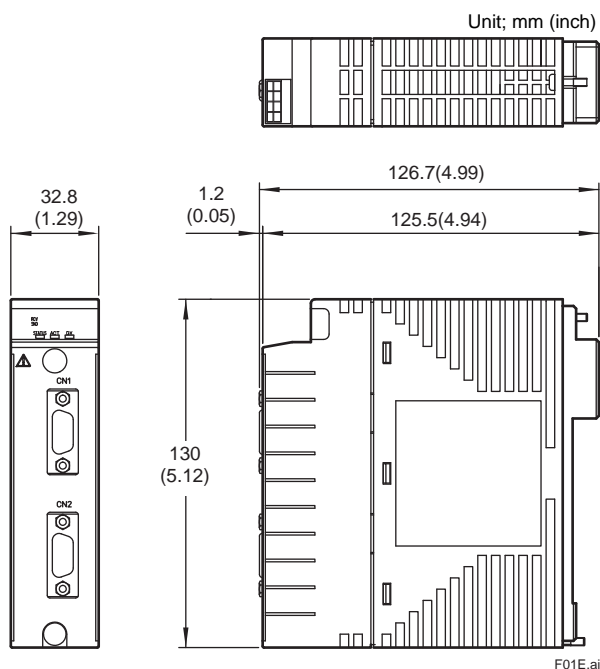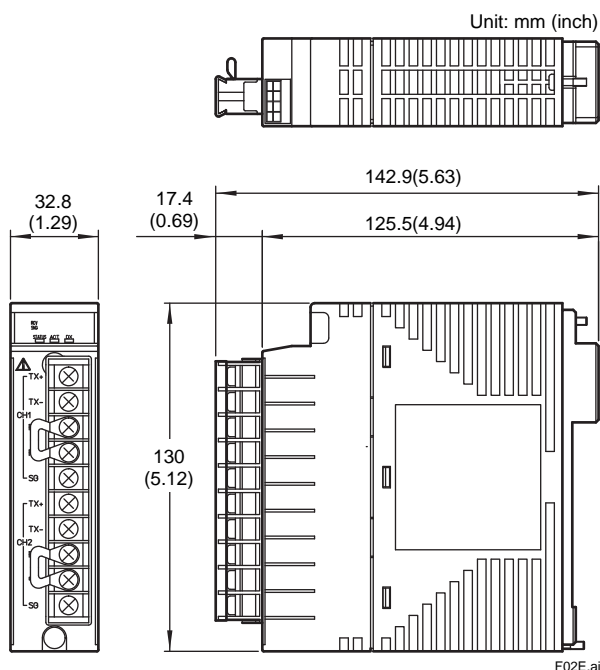
■ LEDs

● Operation Status Display LEDs

Display LED	Display Color	Description
STATUS	Green	Lights when the hardware is normal
ACT	Green	Lights when input/output actions are carried out
DX	Green	(Not used)

● Communication State Display LED

Display LED	Display Color	Description
RCV (1/2)	Green	Reception in progress
SND (1/2)	Green	Transmission in progress
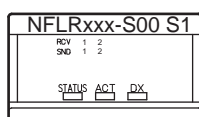
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Figure LED of NFLRxxx

■ RESTRICTIONS AND PRECAUTIONS ON INSTALLATION

Up to eight RS-232-C and RS-422/RS-485 communications modules can be mounted on each FCN.

■ MODELS AND SUFFIX CODES

		Description
Model	NFLR111	RS-232-C Communication Module (2-port, 300 bps to 115.2 kbps)
Suffix Codes	-S	Standard Type
	5	With no explosion protection
	E	With explosion protection
	0	Basic Type
	1	With ISA Standard G3 option

		Description
Model	NFLR121	RS-422/RS-485 Communication Module (2-port, 300 bps to 115.2 kbps)
Suffix Codes	-S	Standard Type
	5	With no explosion protection
	E	With explosion protection
	0	Basic Type
	1	With ISA Standard G3 option

■ ORDERING INFORMATION

Specify model and suffix code.
For selecting the right products for explosion protection, please refer to "STARDOM FCN/FCJ Installation Guide" (TI 34P02Q91-01E) without fail.

■ TRADEMARK ACKNOWLEDGMENTS

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