MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

YOKOGAWA

NFSBT02 S1

SB BUS T-JOINT WITH BUILT-IN TERMINATOR

Used with the applicable STARDOM FCN configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Yokogawa GS 34P02Q14-01E, SB bus repeat module section

■ SB BUS REPEAT MODULE

Used to connect a control unit to I/O extension units.

To duplex the SB bus, install two SB bus repeat modules in each unit.

Each SB bus repeat module is connected to another via a dedicated T-joint and cable.

● Model and Suffix Codes

		Description
Model	NFSB100	SB bus repeat module for FCN
Suffix Codes	-S	Standard model
	5	With no explosion protection
	E	With explosion protection
	0	Basic type
	1	With ISA Standard G3 option
Option Codes	/SBT01	With an SB bus T-joint
	/SBT02	With an SB bus T-joint with built-in terminator

Note: When connecting a control unit and extension units, install at both ends a T-joint with built-in terminator on each SB bus repeat module.

		Description
Models	NFSBT01	SB bus T-joint
	NFSBT02	SB bus T-joint with built-in terminator

		Description
Model	NFCB301	SB bus cable
Suffix Codes	-C030	Cable length 30 cm
	-C100	Cable length 1 m
	-C200	Cable length 2 m
	-C400	Cable length 4 m
	-C800	Cable length 8 m

● Specifications

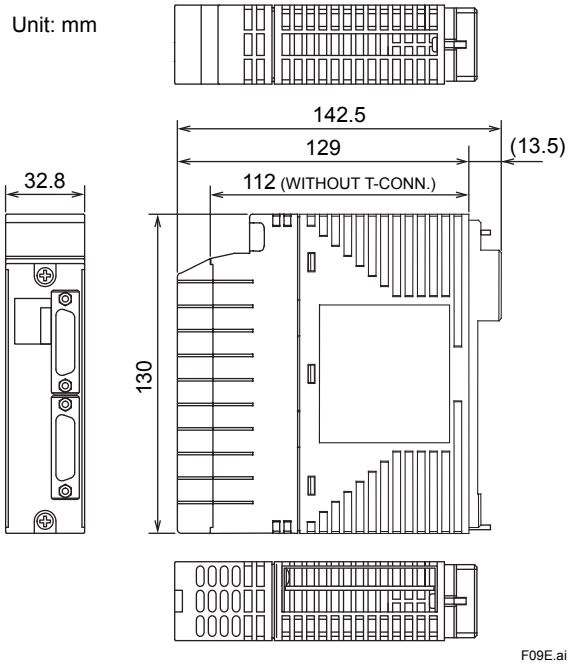
Item		Specification
Model		NFSB100
Transmission method		Serial communication
Baud rate		128 Mbps
Transmission distance		Max. 8 m per line
Extension units		Max. 2 units (3 units including a control unit)
Duplex configuration		Possible
Power supply	Supply voltage	5 V DC±5%
	Current dissipation	Max. 500 mA
Weight		0.2 kg
Size	Dimensions (W x H x D)	32.8 x 130 x 142.5 mm
	Occupying slots	1
Slots to be installed in		Slot No. 10 (for single SB bus) Slot Nos. 9 and 10 (for duplexed SB bus)

● LEDs

LED Indicator	Color	Description
STATUS	Green	Lights when the hardware is normal.
SND	Green	Lights when the transmission is on.
RCV	Green	Lights when the reception is on.

● Dimensions

Unit: mm



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Table List of FCN's Modules and Compliant Standards, Installation Limitations (2/4)

Type	Model	Function
Digital I/O Modules (*1)	NFDV151	Digital Input Module (32-channel, 24 V DC, Isolated)
	NFDV161	Digital Input Module (64-channel, 24 V DC)
	NFDV532	Pulse Width Output Module (4-channel : Up Pulse/Down Pulse, 24 V DC, Isolated)
	NFDV551	Digital Output Module (32-channel, 24 V DC, Isolated)
	NFDV561	Digital Output Module (64-channel, 24 V DC)
	NFDR541	Relay Output Module (16-channel, 24 V DC, Isolated)
Turbomachinery I/O Modules	NFGS813	Servo Module
	NFGP813	High Speed Protection Module
Communication Modules	NFLC121	CANopen Communication Module(1-port, 10 kbps to 1 Mbps)
	NFLF111	Foundation fieldbus communication module (4-port)
	-S□0 -S□1	Basic type
	-S□4 -S□5	With Extended Temperature Range option
	NFLP121	PROFIBUS-DP Communication Module (1-port, 9.6 kbps to 12 Mbps)
	NFLR111	RS-232-C Communication Module (2-port, 300 bps to 115.2 kbps)
	NFLR121	RS-422/RS-485 Communication Module (2-port, 300 bps to 115.2 kbps)
Pressure Clamp Terminal Block	NFTA4S	Pressure Clamp Terminal Block for Analog (16-channel)
	NFTT4S	Pressure Clamp Terminal Block for Thermocouple/mV (16-channel)
	NFTR8S	Pressure Clamp Terminal Block for RTD (12-channel)
	NFTB5S	Pressure Clamp Terminal Block for Digital Input (32-channel)
	NFTD5S	Pressure Clamp Terminal Block for Digital Output (32-channel)
	NFTI3S	Pressure Clamp Terminal Block for Isolated Analog Module and Pulse Module (for NFAI135, NFAP135, NFAF135: 8-channel, NFAI835: 4-channel input, 4-channel output)
	NFTC4S	Pressure Clamp Terminal Block for Digital (16-channel, with dedicated connector, without surge absorber)
	NFTF9S	Pressure Clamp Terminal Block for Foundation Fieldbus
Terminal Block	TAS40	MIL Connector Terminal Block (40 Pole Plug Types, M3.5)
	TAS50	MIL Connector Terminal Block (50 Pole Plug Types, M3.5)
Cable	NFCB301	SB Bus Cable
	KMS40	MIL Connector Cable (40 Pole Plug Types)
	KMS50	MIL Connector Cable (50 Pole Plug Types)
SB Bus T-joint	NFSBT01	SB Bus T-joint
	NFSBT02	SB Bus T-joint with Built-in Terminator
Dummy Cover	NFDCV01	Dummy Cover for I/O Module Slot
	NFDCV02	Dummy Cover for Power supply Module Slot
	NFCCC01	MIL Cable Connector Cover

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Table List of FCN's Modules and Compliant Standards, Installation Limitations (4/4)

Model	Safety			EMC				Explosion protection				RoHS (*8)	Installation Limitations	
	CSA	CE	EAC	CE	RCM	KC	EAC	US (FM) NI	ATEX Type "n"	Canada (CSA) NI	IECEx Type "n"		Temperature [°C]	Altitude [m]
NFDV151	X	X	X	X	X	X	X	X	X	X	X	X	-20 to +70	2000
NFDV161	X	X	X	X	X	X	X	N.A.	N.A.	N.A.	N.A.	X	0 to +55	
NFDV532	X	X	X	X	X	X	X	N.A.	N.A.	N.A.	N.A.	X	0 to +55	
NFDV551	X	X	X	X	X	X	X	X	X	X	X	X	-20 to +70	
NFDV561	X	X	X	X	X	X	X	N.A.	N.A.	N.A.	N.A.	X	0 to +55	
NFDR541	X	N.A. (*9)	X	N.A. (*9)	X	X	X	X	N.A.	X	N.A.	N.A.	-20 to +70 (*3)(*4)	
NFGS813	X	X	X	X	X	X	X	N.A.	N.A.	N.A.	N.A.	X	0 to +55	
NFGP813	X	X	X	X	X	X	X	N.A.	N.A.	N.A.	N.A.	X	0 to +55	
NFLC121	X	X	X	X	X	X	X	N.A.	N.A.	N.A.	N.A.	X	0 to +55	
NFLF111	X	X	X	X	X	X	X	X	X	X	N.A.	X	-	
-S□0 -S□1													0 to +55	
-S□4 -S□5													-20 to +70 (*5)	
NFLP121	X	X	X	X	X	X	X	N.A.	N.A.	N.A.	N.A.	X	0 to +55	
NFLR111	X	X	X	X	X	X	X	X	X	X	N.A.	X	0 to +55	
NFLR121	X	X	X	X	X	X	X	X	X	X	N.A.	X	-20 to +70	
NFTA4S	X	X	X	X	X	X	X	X	X	X	X	X	-20 to +70	
NFTT4S	X	X	X	X	X	X	X	X	X	X	N.A.	X	0 to +55	
NFTR8S	X	X	X	X	X	X	X	X	X	X	X	X	-20 to +70	
NFTB5S	X	X	X	X	X	X	X	X	X	X	X	X	-20 to +70	
NFTD5S	X	X	X	X	X	X	X	X	X	X	X	X	-20 to +70	
NFTI3S	X	X	X	X	X	X	X	X	X	X	X	X	-20 to +70	
NFTC4S	X	X	X	X	X	X	X	X	X	X	N.A.	X	0 to +55	
NFTF9S	X	X	X	X	X	X	X	X	X	X	N.A.	X	-20 to +70	
TAS40	X	X	X	X	X	X	X	X	X	X	X	X	-20 to +70	
TAS50	X	X	X	X	X	X	X	X	X	X	X	X	-20 to +70	
NFCB301	X	X	X	X	X	X	X	X	X	X	N.A.	X	0 to +55	
KMS40	X	X	X	X	X	X	X	X	X	X	X	X	-20 to +70	
KMS50	X	X	X	X	X	X	X	X	X	X	X	X	-20 to +70	
NFSBT01	X	X	X	X	X	X	X	X	X	X	N.A.	X	0 to +55	
NFSBT02	X	X	X	X	X	X	X	X	X	X	N.A.	X	0 to +55	
NFDCV01	X	X	X	X	X	X	X	X	X	X	X	X	-20 to +70	
NFDCV02	X	X	X	X	X	X	X	X	X	X	X	X	-20 to +70	
NFCCC01	X	X	X	X	X	X	X	X	X	X	X	X	-20 to +70	

X: Conforming
XX: Conforming conditionally
N.A.: Not applicable
*1: To use modules as hazardous location equipment (non-incendive), use the specified pressure-clamp terminal blocks or MIL connector cables (KMS40, KMS50) / MIL connector terminal blocks (TAS40 and TAS50) .
*2: I/O modules with suffix code "with HART communication" do not conform to the explosion-proof standards.
*3: When ambient temperature is higher than 55°C, a blank slot on one side is required to NFAV144 and NFDR541 modules.
*4: When ambient temperature is higher than 55°C, available channels of NFDR541 are up to eight.
*5: When ambient temperature is higher than 55°C, NFAR181, NFAP135 and NFLF111 modules cannot be installed in next slot of the NFAI841.
*6: When ambient temperature is higher than 55°C, NFPW444 module is restricted to 75% of rated output current.
*7: NFAI841, NFAI543 and NFAI835 modules are restricted to the external load and module installation. Refer to "Table Module Arrangement and Restrictions on Installation."
*8: The products with the condition of not only adapted models on the table, but also manufactured from September, 2016, compliant with RoHS directive. Manufacturing month and year are marked on the each product.
*9: NFDR541 modules do not conform to CE Marking after July 22, 2017 due to non-conformity to RoHS. In areas requiring CE marking, these modules cannot be used except repair purpose only.

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