

Features

- Built-in Wire-saving FRnet DI/DO control
- Simple synchronization mechanism
- No software overhead on protocol processing
- Supporting broadcasting (1:n data transmission)
- Duplicating output easily
- Fixed I/O scan-time and I/O synchronization
- DIN-Rail mountable
- High-speed transmission reliability (only for FR-2053HT and FR-2053HTA)

FR-2053T/HT/TA/HTA/iT/iTA

16-channel Isolated Digital Input Distributed I/O Module

Introduction

The FR-2053T/HT/TA/HTA/iT/iTA series I/O module has an FRnet interface. The users can daisy chain several FR-2053T/HT/TA/HTA/iT/iTA modules together. Via FRnet, the FR-2053T/HT/TA/HTA/iT/iTA modules can extend the remote I/O control of PC, PAC and PLC easily. Further information about the networking of FR-2053T/HT/TA/HTA/iT/iTA; refer to literature related to I-8172W, FRB-100U/200U. According to different applications, the users can choose suitable modules.

The FR-2053T/FR-2053HT has 16-channel isolated photo coupler input.
The FR-2053TA/FR-2053HTA has 16-channel isolated Sink/Source input.
The FR-2053iT/FR-2053iTA has 16-channel isolated Sink/Source input.

System Specifications

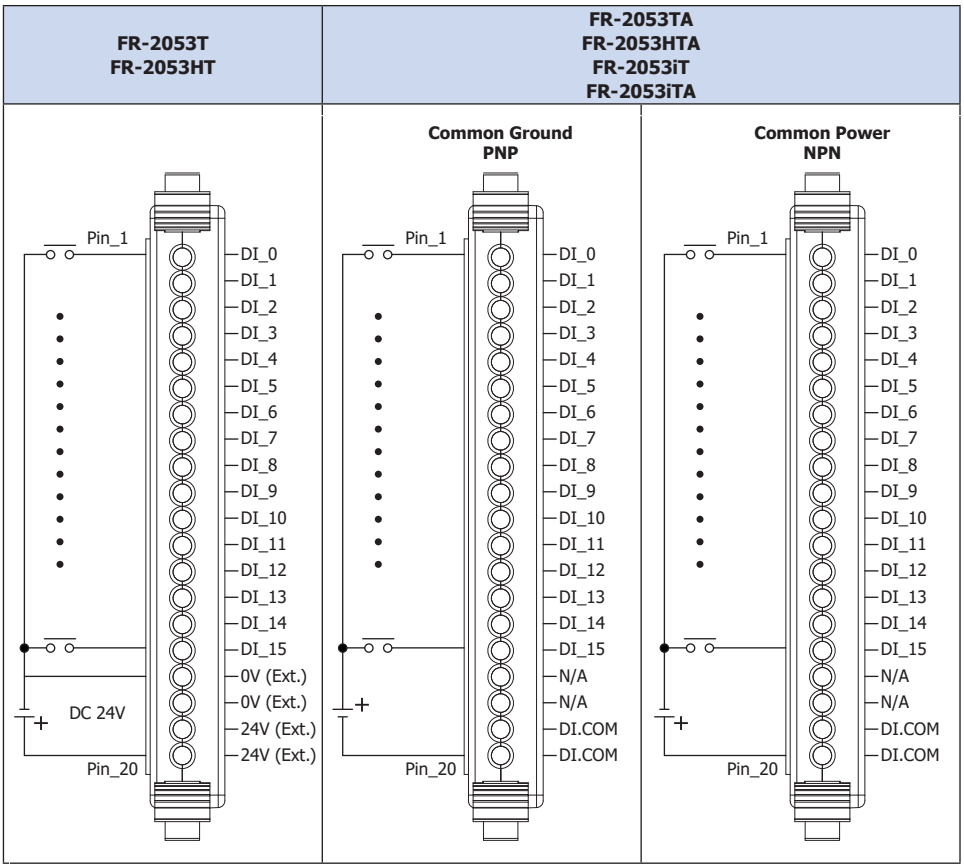
Models	FR-2053T	FR-2053HT	FR-2053TA	FR-2053HTA	FR-2053iT	FR-2053iTA
Interface						
Isolation Voltage	-				3000 Vrms	
Wire Cable	2-wire cabling Belden 9841 (2P twisted-pair cable), When different cables are used, the transmission distance may change					
Transfer Speed	250 kbps	1 Mbps	250 kbps	1 Mbps	250 kbps and 1Mbps (Default); DIP Switch Settings	
Transfer Distance	Max. 400 m	Max. 100 m	Max. 400 m	Max. 100 m	Max. 400 m for speed 250 kbps; Max. 100 m for speed 1M (Default)	
Cyclic Scan Time	2.88 ms	0.72 ms	2.88 ms	0.72 ms	2.88 ms for speed 250 K; 0.72 ms for speed 1M (Default)	
LED Indicators						
Power LED Indicator	Yes					
I/O LED Indicator	Yes					
Isolation						
Intra-module Isolation, Field-to-Logic	3000 Vrms					
EMS Protection						
ESD (IEC 61000-4-2)	Yes					
EFT (IEC 61000-4-4)	Yes					
Surge (IEC 61000-4-5)	Yes					
Power						
Input Range	+10 VDC ~ +24 VDC (Non-isolated)		+10 ~ +30 VDC (Non-isolation)			
Consumption	2 W Max.		2.4 W Max.			
Reverse Polarity Protection	Yes					
Connector	5-Pin Removable Terminal Block					
Mechanical						
Casing	Plastic					
Flammability	UL 94V-0 materials					
Dimensions (W x L x H)	33 mm x 102 mm x 107 mm					
Installation	DIN-Rail Mounting					
Environment						
Operating Temperature	-25 to +75°C					
Storage Temperature	-30 to +85°C					
Humidity	10 to 90% RH, Non-condensing					

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I/O Specifications

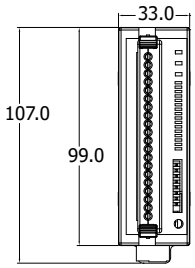
Models		FR-2053T	FR-2053HT	FR-2053TA	FR-2053HTA	FR-2053iTA	FR-2053iT
Digital Input							
Channels		16					
Type		Wet Contact					
Sink/Source (NPN/PNP)		Sink (NPN)		Sink/Source (NPN/PNP)			
Input Impedance		4.7 KΩ		3 KΩ			3.25 KΩ, 0.25 W
Isolation		1500 Vrms		3750 Vrms			
Wet Contact	OFF Voltage Level	+3 VDC Max.		+1 VDC Max.			+11 VDC Max.
	ON Voltage Level	+20 ~ 24 VDC		+3.5 ~ +30 VDC			+19 ~ +30 VDC
Connection		20-Pin Removable Terminal Block					

Pin Assignments and Wire Connections

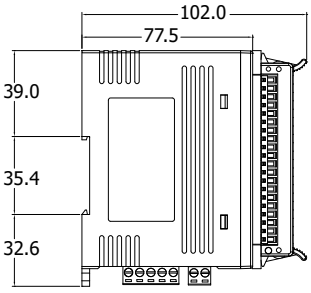


Dimensions (Units: mm)

FR-2053T/FR-2053HT
FR-2053TA/FR-2053HTA
FR-2053iT/FR-2053iTA



Front View



Left View

Ordering Information

FR-2053T CR	FRnet I/O Module with 16-channel Isolated DI (20~24VDC) (250 kbps, Max. 400m) ((RoHS)
FR-2053HT CR	High-speed FRnet I/O Module with 16-channel Isolated DI (20~24VDC) (1 Mbps, Max. 100m) (RoHS)
FR-2053TA CR	1FRnet I/O Module with 16-channel Isolated DI (3.5~30VDC) (250 kbps, Max. 400m) (RoHS)
FR-2053HTA CR	High-speed FRnet I/O Module with 16-channel Isolated DI (3.5~30VDC) (1 Mbps, Max. 100m) (RoHS)
FR-2053iT CR	16-channel Sink/Source Type Isolated Digital Input Module With Isolated Communication line (RoHS)
FR-2053iTA CR	FRnet I/O Module with 16-channel Isolated DI (3.5~30VDC) and Isolated Communication Line (RoHS)

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