



## FR-2057TA/HTA/TW/iT

16-channel Isolated Digital Output Distributed I/O Module

### 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-2057HTA, FR-2057iT and FR-2057TW)



### Introduction

The FR-2057TA/2057TW/2057iT I/O module has an FRnet interface. The users can daisy chain several FR-2057TA/2057TW/2057iT modules together. Via FRnet, the FR-2057TA/2057TW/2057iT modules can extend the remote I/O control of PC, PAC and PLC easily.

Further information about the networking of FR-2057TA/2057TW/2057iT; refer to literature related to I-8172W, FRB-100U/200U. According to different applications, the users can choose suitable modules.

The FR-2057TA/FR-2057HTA has 16-channel isolated source output.  
The FR-2057iT/FR-2057TW has 16-channel isolated sink output.

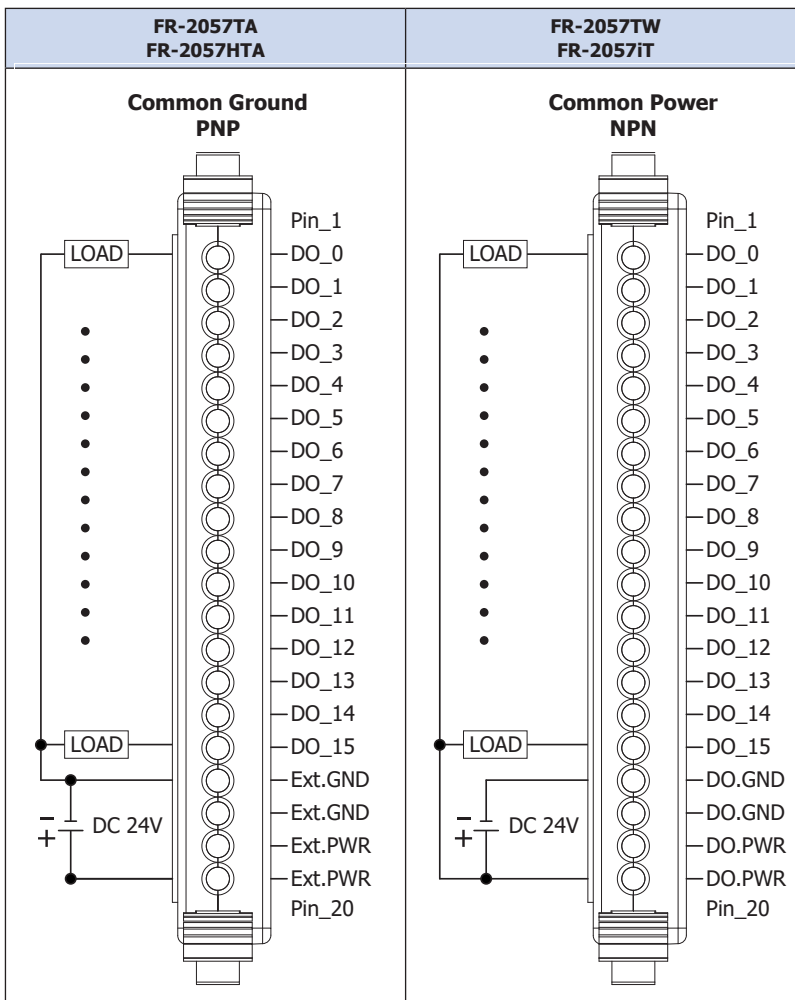
### System Specifications

Models	FR-2057TA	FR-2057HTA	FR-2057TW	FR-2057iT
<b>Interface</b>				
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 and 1 Mbps (Default); DIP Switch Settings	
Transfer Distance	Max. 400 m	Max. 100 m	Max. 400 m for speed 250 kbps; Max. 100 m for speed 1 Mbps (Default)	
Cyclic Scan Time	2.88 ms	0.72 ms	2.88 ms for speed 250 kbps; 0.72 ms for speed 1 Mbps (Default)	
<b>LED Indicators</b>				
Power LED Indicator	Yes			
I/O LED Indicator	Yes			
<b>Isolation</b>				
Intra-module Isolation, Field-to-Logic	3750 Vrms			
<b>EMS Protection</b>				
ESD (IEC 61000-4-2)	Yes			
EFT (IEC 61000-4-4)	Yes			
Surge (IEC 61000-4-5)	Yes			
<b>Power</b>				
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			
<b>Mechanical</b>				
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			
<b>Environment</b>				
Operating Temperature	-25 to +75°C			
Storage Temperature	-30 to +85°C			
Humidity	10 to 90% RH, Non-condensing			

## I/O Specifications

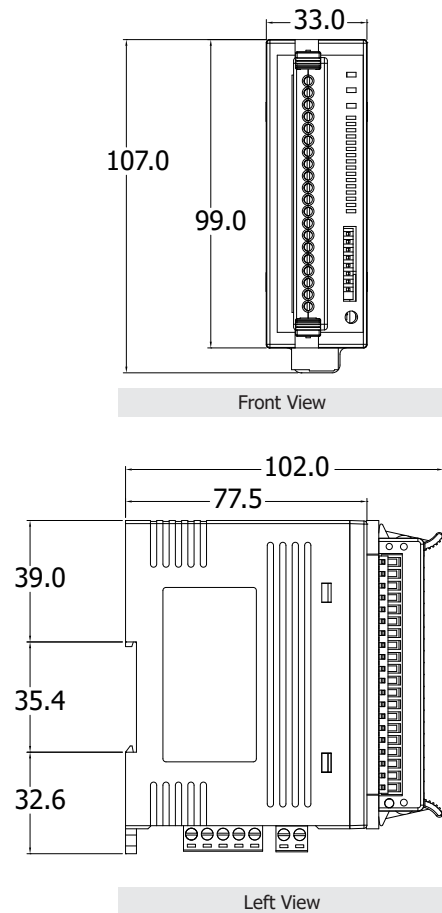
Models	FR-2057TA	FR-2057HTA	FR-2057TW	FR-2057iT
<b>Digital Output</b>				
Channels	16			
Type	Open-Collector			
Sink/Source (NPN/PNP)	Source (PNP)		Sink (NPN)	
Isolation	3750 Vrms			
Load Voltage	30 VDC Max.			+5 VDC ~ +30 VDC Max.
Max. Load Current	100 mA Max.		250 mA Max.	100 mA Max.
Connection	20-Pin Removable Terminal Block			

## Pin Assignments and Wire Connections



## Dimensions (Units: mm)

FR-2057TA/FR-2057HTA/FR-2057TW/FR-2057iT



## Ordering Information

<b>FR-2057TA CR</b>	16-channel isolated Source output module with 20-pin screw terminal connector (RoHS)
<b>FR-2057HTA CR</b>	High-speed 16-channel isolated Source output module with 20-pin screw terminal connector (RoHS)
<b>FR-2057TW CR</b>	16-channel Sink type Isolated High Current Output Module (RoHS)
<b>FR-2057iT CR</b>	16-channel Sink Type Isolated Output Module With Isolated Communication line (RoHS)