FR-2152T/FR-2152TA

8CH Discrete Input Module
for FRnet System

Introduction

The FR-2152T/FR-2152TA has 8-channel isolated photo-coupler input and the transfer speed is fixed at 1M bps. The default signal connector of FR-2152T/FR-2152TA is a 12-pin 0.15" screw terminal connector. FR-2152T and 2152TA each apply respectively to NPN-type and PNP-type discrete output modules.

According to different applications, the users can choose suitable modules. The FR-2100 I/O module has a FRNet interface. The users can daisy chain several FR-2100 modules together. Via FRNet, the FR-2100 modules can extend the discrete I/O control of PC and PAC easily. For further information about the networking of FR-2100 series; please refer to literature related to I-7188EF, I-8122, FRB-100/200.

Specifications

- 6P4C RJ-11 modular connector with Cat.3 cable (2 Pair twisted-pair) for easy wiring (when different cables are used, the transmission distance may change).
- Power consumption: 2.0 W (Max.)
- Power requirement: 12-24V DC
- Operating temperature: -20°C to +75°C
- Operating humidity: 10% ~ 90% RH, non-condensing
- Storage humidity: 5% ~ 95% RH, non-condensing
- Storage temperature: -30°C to +85°C
- Weight: approximately 120g
- Dimensions: 99 mm x 32 mm x 83 mm
- Din-Rail mounting: Yes
- Input Isolation: 1KVdc
- Input Impedance: 4.7K Ohm
- Input points: 8 channels

- Response Time:
    - Turn-on delay time: less than 0.15ms
    - Turn-off delay time: less than 0.05ms
- Input voltage range:
    - Logic H: 10~24V
    - Logic L: 0~3V
- Transmission:

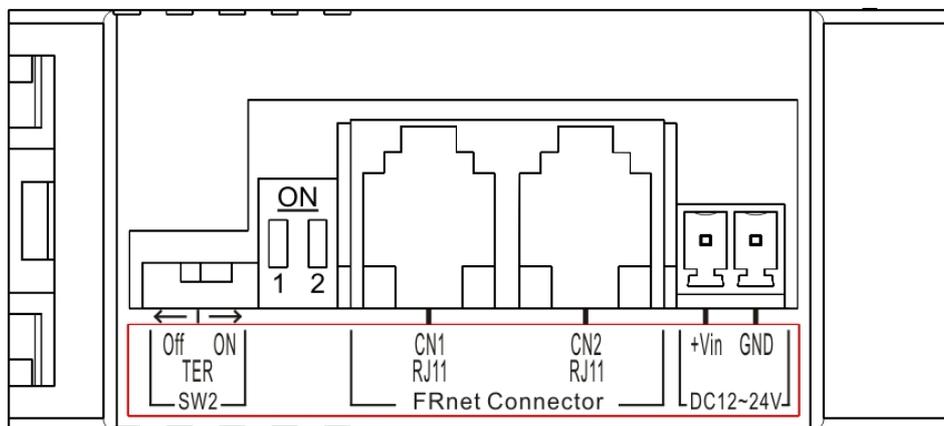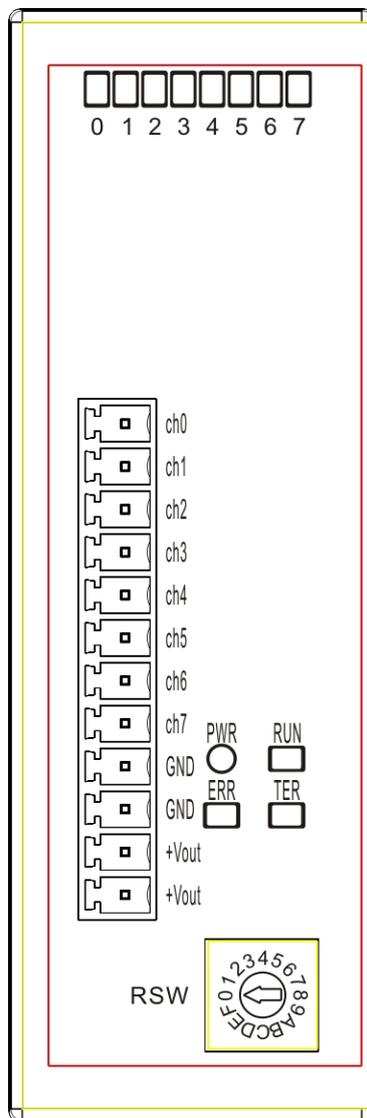|	FR2152T/FR2152TA
Transfer speed	I M bps
Cyclic scan time	0.72ms
Transfer distance	Max. 100m

The 16 bits data send to host from FR-2152T/2152TA San

The digital input channels of FR-2152T (FR-2152TA) are represented by the 16 bits value. FR-2152T (FR-2152TA) provides 8 DI channels. The bits and their corresponding channels are assigned as below.

Attribute： **Read only**

Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Channel	Ch7	Ch6	Ch5	Ch4	Ch3	Ch2	Ch1	Ch0	x	x	x	x	x	x	x	x

Module Outline

Pin Definition

1. External Power Input

Pin Name	Description
GND	External power ground
+Vin	12 to 24V_{DC} External power input

2. FRnet Communication Signal (RJ-11)

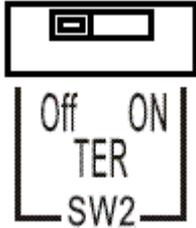| Pin No.	Description
Pin 1	NC
Pin 2	FRnet_A (+)
Pin 3	NC
Pin 4	NC
Pin 5	FRnet_B (-)
Pin 6	NC

3. I/O Connector

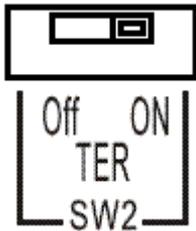| Pin No.	Pin Name	Description
1	Ch0	Input Channel # 0
2	Ch1	Input Channel # 1
3	Ch2	Input Channel # 2
4	Ch3	Input Channel # 3
5	Ch4	Input Channel # 4
6	Ch5	Input Channel # 5
7	Ch6	Input Channel # 6
8	Ch7	Input Channel # 7
9	GND	External power ground
10	GND	External power ground
11	+Vout	12 to 24V_{DC} External power output
12	+Vout	12 to 24V_{DC} External power output

Note: +Vin ●——▶▌——● +Vout

Switch Setting

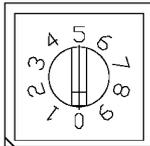**1.** Termination Switch (SW2)

Disable termination resistor (default)

Enable termination resistor

2. Module Address Switch (RSW)

The receiver address (RA) of this module (only 0~7 is available).

LED Indicator

1. Power LED (PWR, Yellow)
Turned on when power is applied.

2. Communication Status LED (RUN, Green)

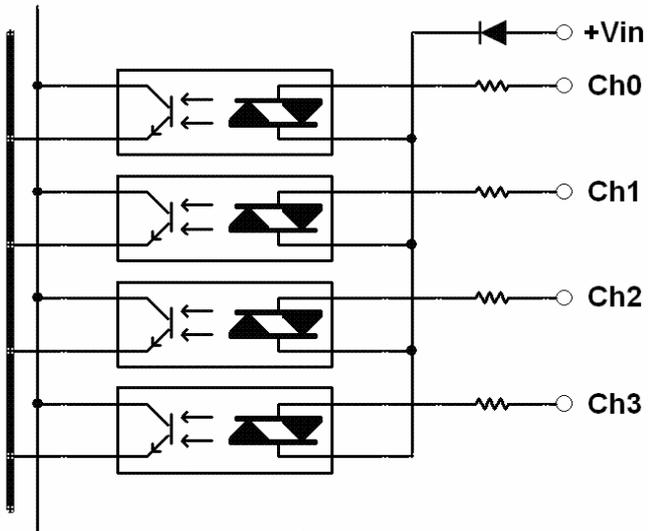| LED	Status
Blinking (about 1 Hz)	Normal Communication
Turned on	Power on, waiting for token
Turned off	Power off

3. Error LED (ERR, Red)
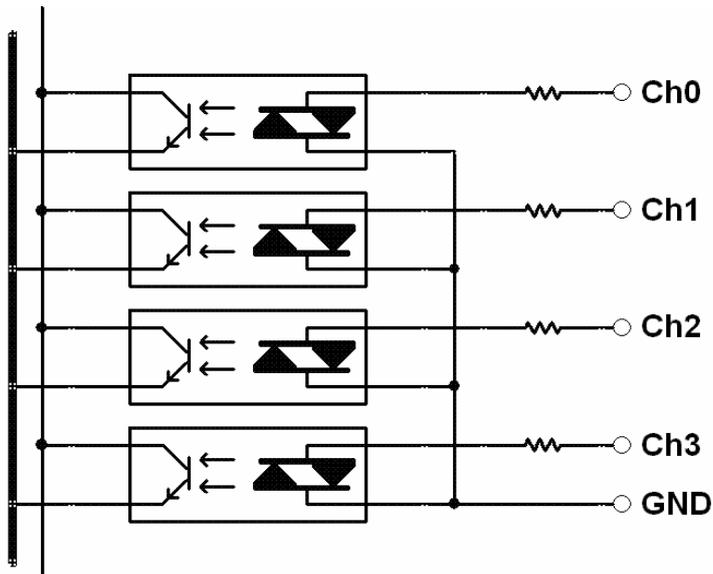Turned on when communication error occurs.

4. Termination LED (TER, Yellow)
Turned on when termination resistor is enabled.
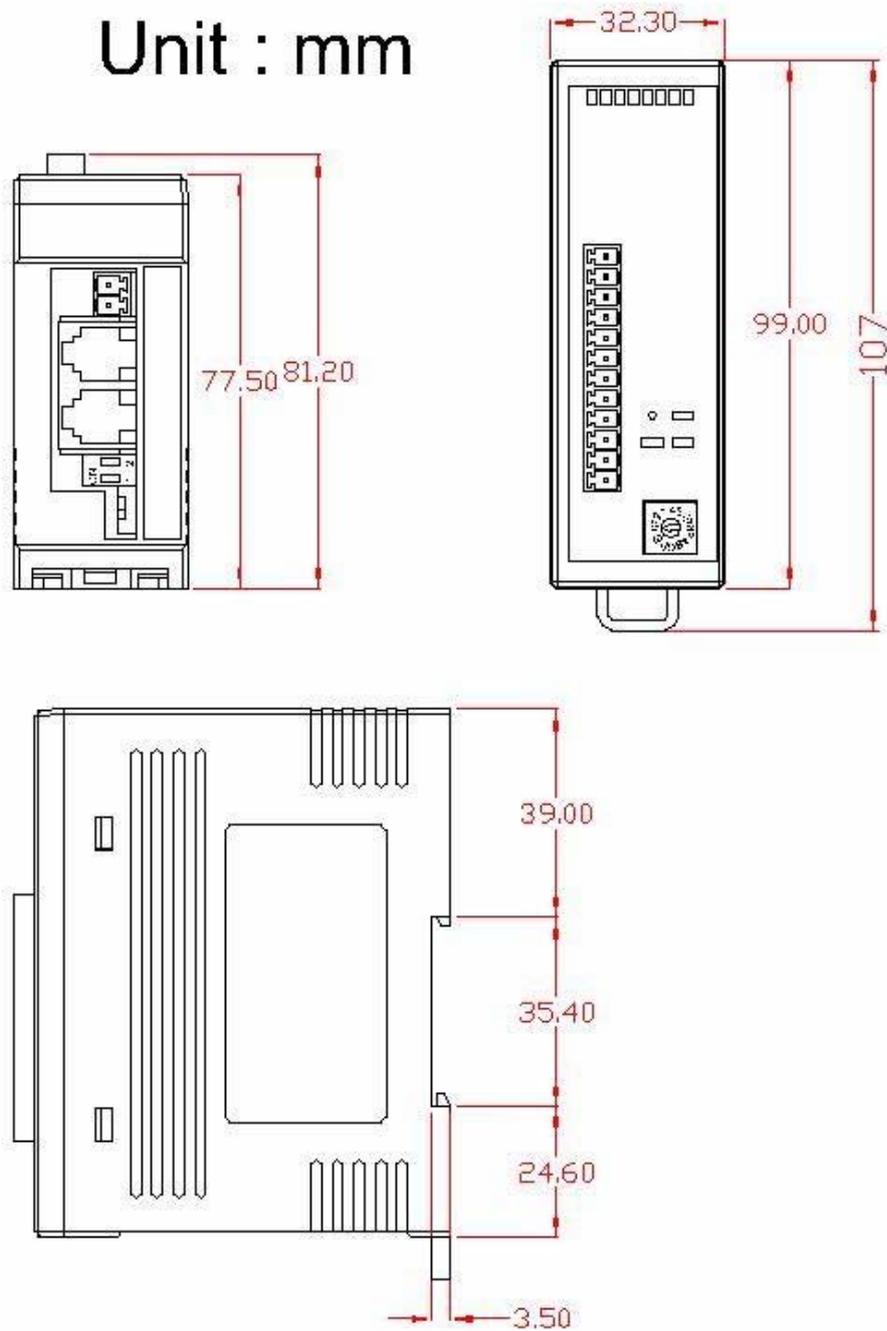
Wiring description

FR2152T

FR2152TA

Dimension

Unit : mm

32.30

99.00

107

77.50 81.20

39.00

35.40

24.60

3.50

FR-2152T/FR2152TA Dimension

Ordering Information

FR-2152T: 8-channel isolated digital input module with 12-pin screw terminal connector with NPN-type DO module

FR-2152TA: 8-channel isolated digital input module with 12-pin screw terminal connector with PNP-type DO module