



FR-2017iT

8/16-channel Isolated Analog Input Distributed I/O Module with High Voltage Protection and Isolated Communication Line

Features

- Built-in wire-saving FRnet control
- High-speed transmission reliability
- 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



Introduction

The FR-2017iT is a 12-bit, 8-channel differential or 16-channel single-ended analog inputs module that provides two ways to select input range (+/-150mV, +/-500mV, +/-1V, +/-5V, +/-10V, +/-20mA, 0~20mA and 4~20mA). One way provides switch selectable the same range at all channels and another each analog channel is allowed to configure an individual range by software selectable. It also has 240Vrms high over voltage protection for all analog inputs.

The FR-2000 I/O module has an FRnet interface. The users can daisy chain several FR-2000 modules together. Via FRnet, the FR-2000 modules can extend the remote I/O control of PC, PAC and PLC easily. Further information about the networking of FR-2017iT/2024iT; refer to literatures related to I-7188EF, I-8172W, and FRB-100/200/200U.

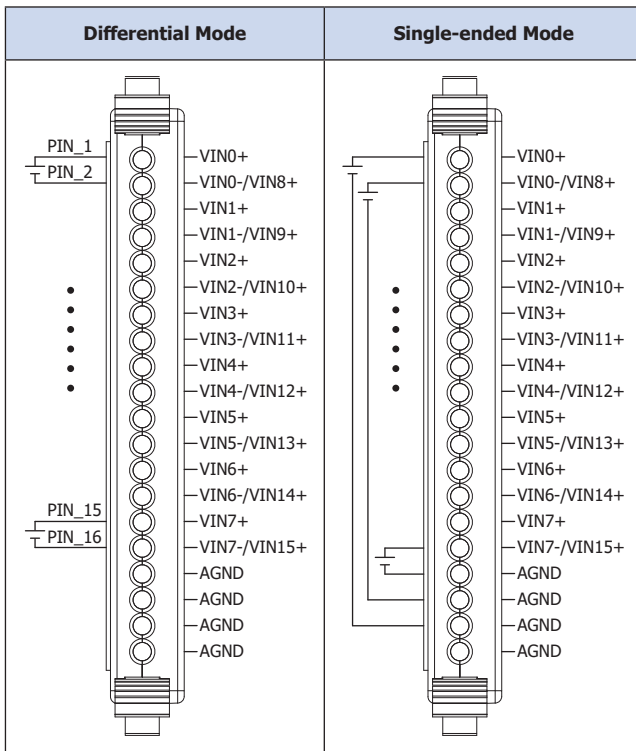
System Specifications

| Interface | |
|--|---|
| Isolation Voltage | 3000 Vrms |
| Wire Cable | Belden 9841 (2P twisted-pair cable), When different cables are used, the transmission distance may be changed |
| Transfer Speed | 250 kbps and 1 Mbps (Default); DIP Switch Selectable |
| Transfer Distance | Max. 400 m for speed 250 K; Max. 100 m for speed 1M (Default) |
| Cyclic Scan Time | 2.88 ms for speed 250 K; 0.72 ms for speed 1 M (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) | ±4 kV contact for power liner, communication line and each channel, ±8 kV air for random point |
| EFT (IEC 61000-4-4) | ±4 kV contact for power liner |
| Surge (IEC 61000-4-5) | ±3 kV for power liner |
| Power | |
| Input Range | +10 ~ +30 VDC (Non-isolation) |
| Power Consumption | 2.4 W Max. |
| Reverse Polarity Protection | - |
| 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 +80°C |
| Humidity | 10 to 90% RH, Non-condensing |

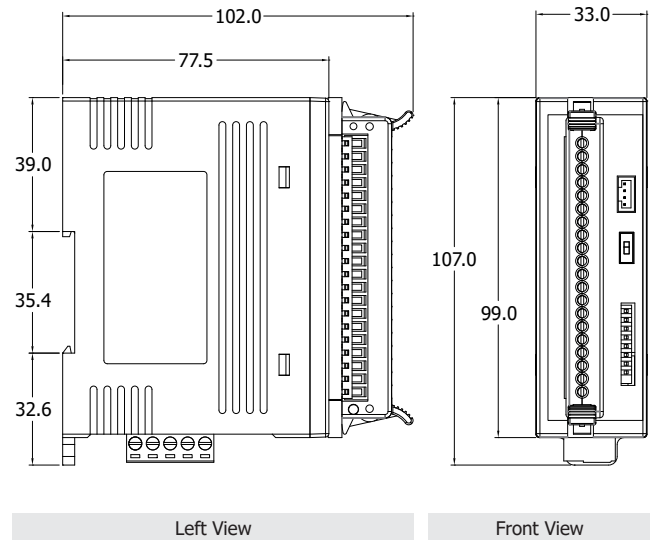
I/O Specifications

| Analog Input | |
|----------------------------------|---|
| Channels | 8 differential or 16 single-ended, switch selectable |
| Type | ±150 mV, ±500 mV, ±1 V, ±5 V, ±10 V ±20 mA, 0 ~ 20 mA, 4 ~ 20 mA (requires optional external 125 Ω resistor for current input) |
| Resolution | 16-bit (1 channel)/12-bit (8/16 channels) |
| Sampling Rate | 10 samples/second (1 channel)/50 samples/second (8/16 channels) total |
| Accuracy | ±0.1% (1 channel)/±0.5% (8/16 channels) or better |
| Bandwidth | 15.7 Hz (1 channel)/78.7Hz (8/16 channels) |
| Zero Drift | ±20 μV/°C |
| Span Drift | ±25 ppm/°C |
| Input Impedance | Voltage: 2 MΩ (Differential), 1 MΩ (Single-ended) |
| Common Mode Rejection | 86 dB Min. |
| Normal Mode Rejection | 100 dB |
| Individual Channel Configuration | Yes (by software, requires optional CA-0904 cable) |
| Overvoltage Protection | Differential: 240 Vrms, Single-ended: 150 Vrms |
| Connection | 20-Pin Removable Terminal Block |

Pin Assignments and Wire Connections



Dimensions (Units: mm)



Ordering Information

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| FR-2017IT | 8/16-channel isolated analog input module with high voltage protection and isolated communication line |
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