



I-7015(P)

M-7015(P)

6-ch RTD Input Module

Features

- 6 RTD Inputs
- Lead Resistance Elimination for 3-wire Connection
- High Resolution: 16-bit
- Open Wire Detection
- Built-in Dual Watchdog



Introduction

The I-7015 is a series of 6-channel RTD input modules that are used for measuring temperatures using RTD sensors and each channel can be connected to a different type of sensor. The I-7015P/M-7015P is specifically designed for long-distance RTD measurement, and features automatic compensation for three-wire RTD, meaning that accurate measurements can be obtained regardless of the length of the wires. The I-7015 series is fully RoHS-compliant and features 4 kV ESD protection as well as 3000 VDC intra-module isolation. The M-7015/M-7015P supports both the Modbus RTU and DCON protocols, which can be configured via software, and all hardware specifications are the same as the I-7015/I-7015P.

Specifications

Model	I-7015	M-7015
	I-7015P	M-7015P
CPU Module		
Watchdog Timer	Module, Communication (Programmable)	
Isolation		
Intra-module Isolation	3000 VDC	
EMS Protection		
EFT (IEC 61000-4-4)	±4 kV for Power Line	
ESD (IEC 61000-4-2)	±4 kV Contact for Each Terminal	
LED Indicators		
Status	1 x Power and Communication	
Analog Input		
Channels	6	
Type	RTD	
Sensor Type	Pt100, Pt1000, Ni120, Cu50, Cu100, Cu1000	
Resistance Measurement	3.2 kΩ Max.	
Resolution	16-bit	
Accuracy	±0.05% of FSR	
Sampling Rate	12 Hz (Total)	
Overvoltage Protection	120 VDC	
Individual Channel Configuration	Yes	
Open Wire Detection	Yes	
3-wire RTD Lead Resistance Elimination	- Yes	
COM Ports		
Ports	1 x RS-485	
Baud Rate	1200 ~ 115200 bps	
Data Format	(N, 8, 1) (N, 8, 2) (E, 8, 1) (O, 8, 1)	
Protocol	DCON	Modbus RTU, DCON
Power		
Reverse Polarity Protection	Yes	
Input Range	+10 ~ +30 VDC	

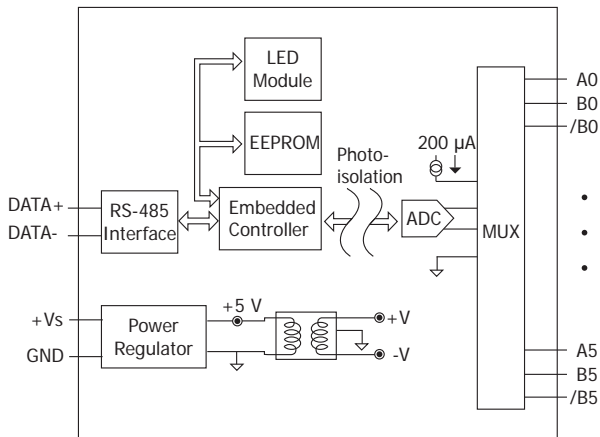
Model	I-7015	I-7015P
	M-7015	M-7015P
Consumption	1.1 W	1.2 W
Mechanical		
Dimensions (mm)	72 x 123 x 35 (W x L x H)	
Installation	DIN-Rail Mounting	
Environment		
Operating Temperature	-25 ~ +75 °C	
Storage Temperature	-40 ~ +85 °C	
Humidity	10 ~ 95% RH, Non-condensing	

RTD Type Settings (TT)

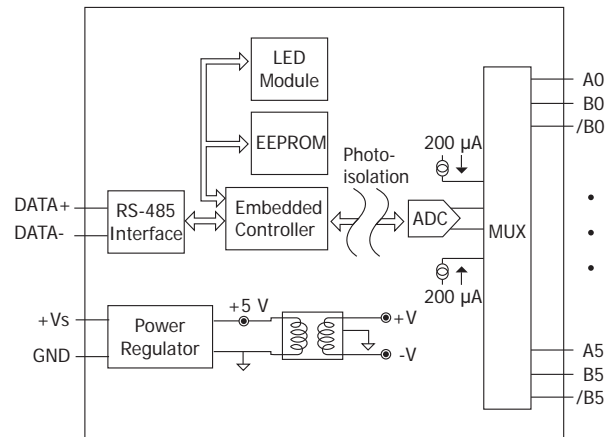
Type Code	RTD Type	Temperature Range
20	Platinum 100, α= 0.00385	-100 to +100°C
21	Platinum 100, α= 0.00385	0 to +100°C
22	Platinum 100, α= 0.00385	0 to +200°C
23	Platinum 100, α= 0.00385	0 to +600°C
24	Platinum 100, α= 0.003916	-100 to +100°C
25	Platinum 100, α= 0.003916	0 to +100°C
26	Platinum 100, α= 0.003916	0 to +200°C
27	Platinum 100, α= 0.003916	0 to +600°C
28	Nickel 120	-80 to +100°C
29	Nickel 120	0 to +100°C
2A	Platinum 1000, α= 0.00385	-200 to +600°C
2B	Cu 100 at 0°C, α= 0.00421	-20 to +150°C
2C	Cu 100 at 25°C, α= 0.00427	0 to +200°C
2D	Cu 1000 at 0°C, α= 0.00421	-20 to +150°C
2E	Platinum 100, α= 0.00385	-200 to +200°C
2F	Platinum 100, α= 0.003916	-200 to +200°C
80	Platinum 100, α= 0.00385	-200 to +600°C
81	Platinum 100, α= 0.003916	-200 to +600°C
82	Cu 50 at 0°C	-50 to +150°C
83	Nickel 100	-60 to +180°C

Internal I/O Structure

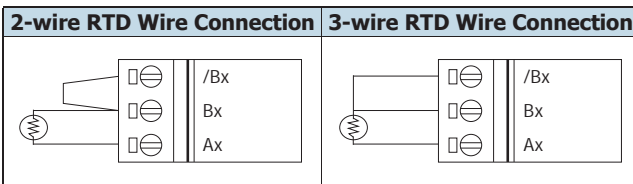
I-7015/M-7015



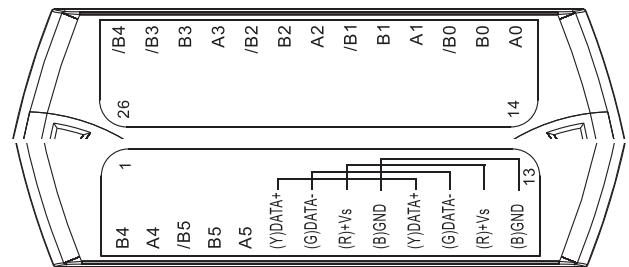
I-7015P/M-7015P



Wire Connections



Pin Assignments









Applications

- Building Automation
- Factory Automation
- Machine Automation
- Remote Maintenance
- Remote Diagnosis
- Testing Equipment

Ordering Information

I-7015 CR	6-ch RTD Input Module using DCON Protocol (Blue Cover) (RoHS)
I-7015-G CR	6-ch RTD Input Module using DCON Protocol (Gray Cover) (RoHS)
I-7015P-G CR	6-ch RTD Input Module with 3-wire Lead Resistance Elimination using DCON Protocol (Gray Cover) (RoHS)
M-7015-G CR	6-ch RTD Input Module using DCON and Modbus Protocols (Gray Cover) (RoHS)
M-7015P-G CR	6-ch RTD Input Module with 3-wire Lead Resistance Elimination using DCON and Modbus Protocols (Gray Cover) (RoHS)

Accessories

tM-7520U CR	 Tiny Isolated RS-232 to RS-485 Converter (RoHS)
tM-7561 CR	 Tiny USB to Isolated RS-485 Converter with CA-USB18 Cable (RoHS)
tM-SG4 CR	 RS-485 Pull-high/Pull-low and Termination Resistor Module (RoHS)
I-7514U CR	 Isolated 4-channel RS-485 Repeater/Hub/Splitter (Gray Cover) (RoHS)
SG-770 CR	 7/14 channel Surge Protector (RoHS)
SG-3000 Series	 Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input Transformers