EC4-RTD8

EtherCAT Slim I/O Module with 8-ch High Speed RTD Inputs

Features

- On the fly processing: EtherCAT
- Removable terminal block connector
- Built-In 8-channel RTD Intputs
- 3-wire RTD Lead Resistance Compensation
- 90 Hz High-speed Sampling Rate for each Channel
- Open Wire Detection
- Individual Channel Configuration

Introduction

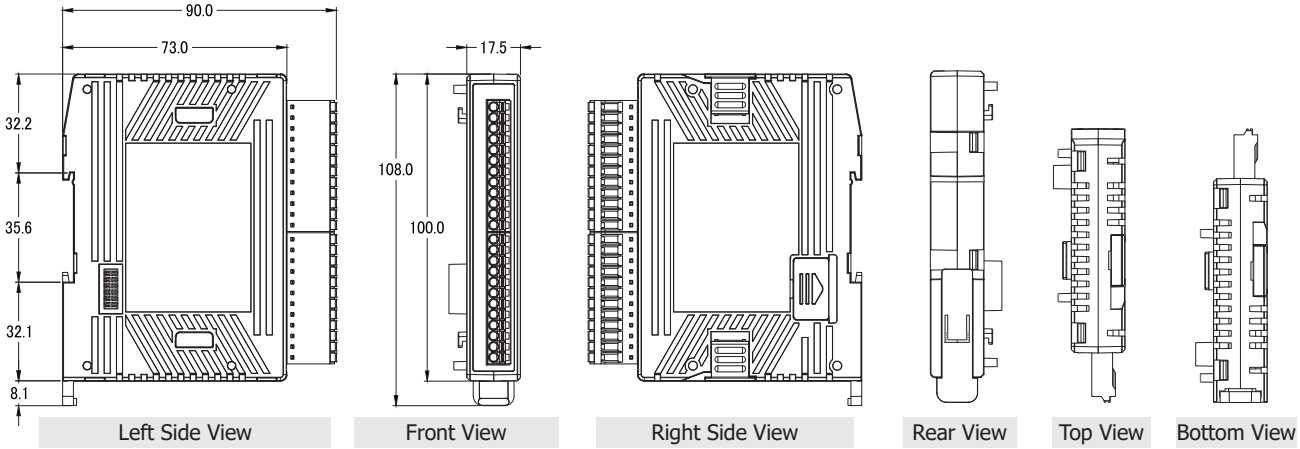
The EC4-RTD8 is an industrial I/O module built in 8 RTD intputs, based on the slim-type design. That provides 90Hz high-speed measurement and open wire detection for each channel. Each channel can be connected to different types of RTD sensors and supports 3-wire RTD lead wire compensation, ensuring accurate measurements regardless of wire length. It features the EtherCAT protocol, providing a system with higher scalability and fewer cables. Having passed consistency tests and verification, the EC4-RTD8 can be easily operated by compatible EtherCAT MainDevice, facilitating the implementation of various applications.

Specifications

Analog Input		
Channels		8
Sensor Type		Pt100, Ni120, Cu50, Cu100
Resolution		16-bit
Accuracy	Fast Mode	±0.1 % of FSR (25°C)
	Normal Mode	±0.05 % of FSR (25°C)
Sampling Rate	Fast Mode	90 Hz (per channel)
	Normal Mode	1.5Hz (per channel)
Input Impedance		> 1 MΩ
Individual ChannelConfiguration		Yes
3-wire RTD Lead Resistance Elimination		Yes
Open Wire Detection		Yes

EMS Protection	
EFT (IEC 61000-4-4)	Signal: 1 KV Class B; Power: 1 KV Class B
ESD (IEC 61000-4-2)	±4 kV Contact for Each Terminal
EtherCAT	
Cycle Time	100 us
Distributed Clocks	Yes
Power	
Input Range	+24 VDC
Consumption	1 W (max.)
Mechanical	
Casing	Plastic
Dimensions (mm)	17.5 x 108 x 90 (W x L x D)
Installation	DIN-Rail or Wall Mounting
Environment	
Operating Temperature	-25 ~ +75°C
Storage Temperature	-30 ~ +80°C
Humidity	10 ~ 90% RH, Non-condensing

Dimensions (Units: mm)

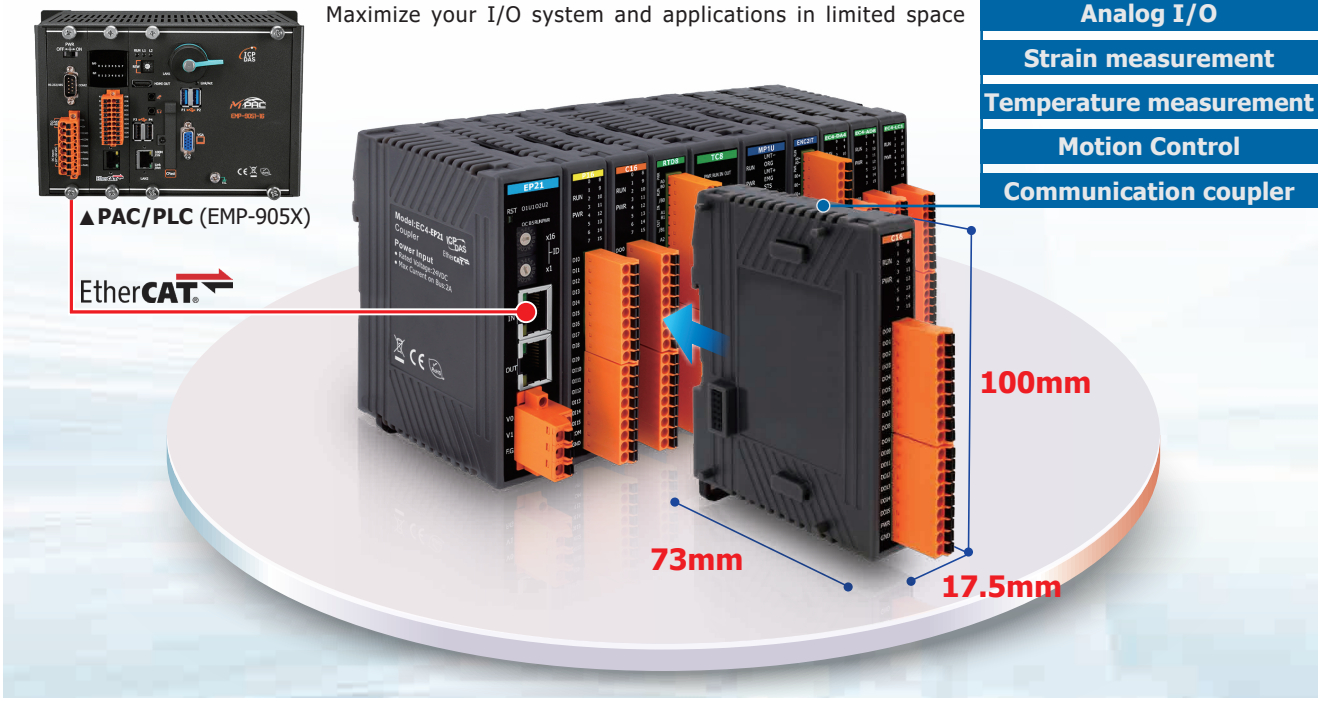


Applications

Create your own I/O module

Maximize your I/O system and applications in limited space

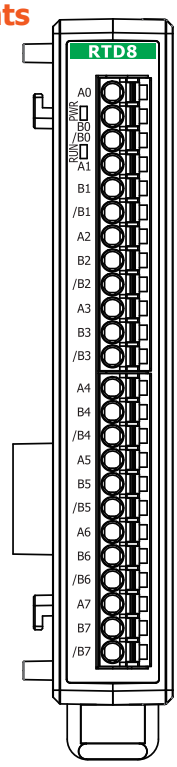
- Digital I/O
- Analog I/O
- Strain measurement
- Temperature measurement
- Motion Control
- Communication coupler



RTD Type Code Table

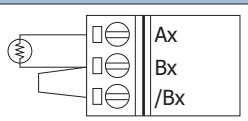
Type Code	RTD Type	Temperature
0x20	Pt 100, α = 0.00385	-100 ~ +100°C
0x21	Pt 100, α = 0.00385	0 ~ +100°C
0x22	Pt 100, α = 0.00385	0 ~ +200°C
0x23	Pt 100, α = 0.00385	0 ~ +600°C
0x24	Pt 100, α = 0.003916	-100 ~ +100°C
0x25	Pt 100, α = 0.003916	0 ~ +100°C
0x26	Pt 100, α = 0.003916	0 ~ +200°C
0x27	Pt 100, α = 0.003916	0 ~ +600°C
0x28	Ni 120	-80 ~ +100°C
0x29	Ni 120	0 ~ +100°C
0x2B	Cu 100, α = 0.00421	-20 ~ +150°C
0x2C	Cu 100, α = 0.00427	0 ~ +200°C
0x2E	Pt 100, α = 0.00385	-200 ~ +200°C
0x2F	Pt 100, α = 0.003916	-200 ~ +200°C
0x80	Pt 100, α = 0.00385	-200 ~ +600°C
0x81	Pt 100, α = 0.003916	-200 ~ +600°C
0x82	Cu 50	-50 ~ +150°C
0x83	Ni 100	-60 ~ +180°C
0x84	Ni 120	-80 ~ +150°C
0x85	Cu 100, α = 0.00428	0 ~ +150°C
0x86	Pt 100, α = 0.00385	-100 ~ +300°C
0x87	Pt 100, α = 0.003916	-100 ~ +300°C
0x2B	Cu 100, α = 0.00421	-20 ~ +150°C
0x2C	Cu 100, α = 0.00427	0 ~ +200°C

Pin Assignments

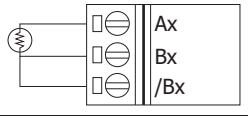


Wire Connections

2-wire RTD Connection



3-wire RTD Connection



Ordering Information

EC4-RTD8 CR	EtherCAT Slim I/O Module with 8-ch High Speed RTD Inputs, 90 S/s (RoHS)