EC2-RTD16

EtherCAT Slave I/O Module with 16-channel RTD Inputs

Features

- On the fly processing: EtherCAT
- 2 x RJ-45 bus interface
- Distance between stations up to 100 m (100 BASE-TX)
- Support daisy chain connection
- Built-In 16-channel RTD Intputs

Introduction

The EC2-RTD16 is an industrial slave I/O module built in 16 RTD intputs. That provides 90Hz high-speed measurement and open wire detection for each channel. Each channel can be connected to diff erent types of RTD sensors and supports 3-wire RTD lead wire compensation, ensuring accurate measurements regardless of wire length. It is equipped with the EtherCAT protocol and installed by daisy chain connection that provides a more scalable system with fewer wires. The EC2-RTD16 has passed and verified by the conformance test tool, therefore eligible EtherCAT Master or configurator can manipulate it simply and implement your various applications easily.

Specifications

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
Surge (IEC 61000-4-5)		± 1 kV Class A
Analog Input		
Channels		16
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

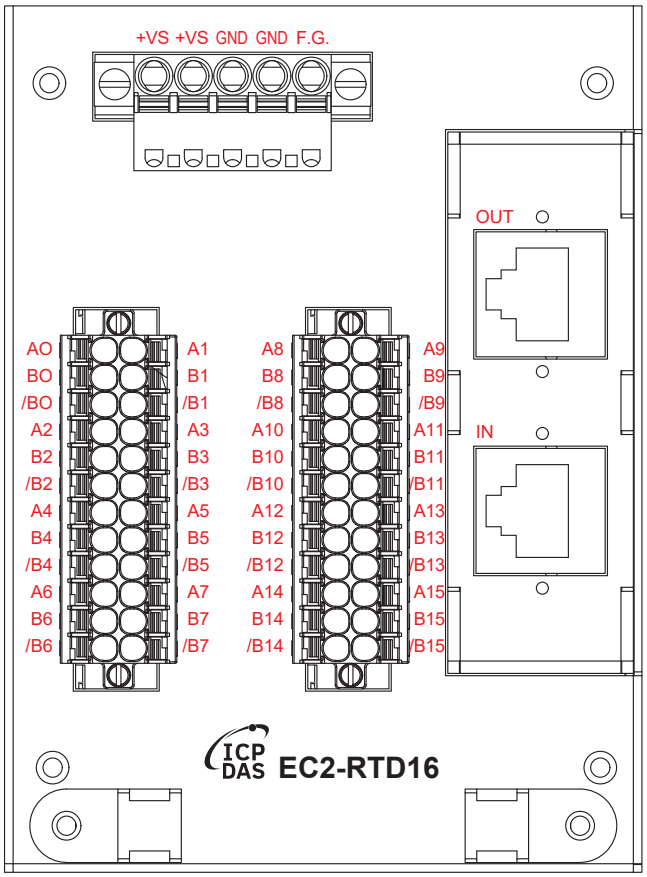
EtherCAT	
Ports	EtherCAT, 2 X RJ45
Distance Between Stations	Max. 100 m (100 Base-Tx)
Data Transfer Medium	Ethernet/EtherCAT cable (min. CAT5), shielded
Cycle Time	100 us
Distributed Clocks	Yes
Node ID	Up to 256
Power	
Input Range	+24 VDC
Consumption	3 W
Mechanical	
Casing	Metal with IP40
Dimensions (mm)	83 x 112 x 68 (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

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

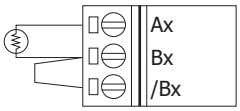
Type Code	RTD Type	Temperature
0x2E	Pt 100, α = 0.00385	-200 ~ +200°C
0x2F	Pt 100, α = 0.003916	-200 ~ +200°C
0x80	Pt 100, α = 0.00385	-200 ~ +600°C
0x81	Pt 100, α = 0.003916	-200 ~ +600°C
0x82	Cu 50	-50 ~ +150°C
0x83	Ni 100	-60 ~ +180°C
0x84	Ni 120	-80 ~ +150°C
0x85	Cu 100, α = 0.00428	0 ~ +150°C
0x86	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

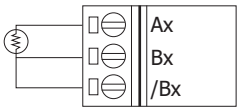


Wire Connections

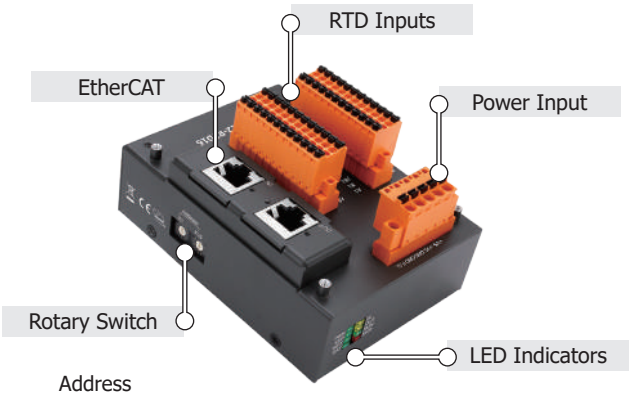
2-wire RTD Connection

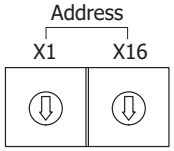


3-wire RTD Connection



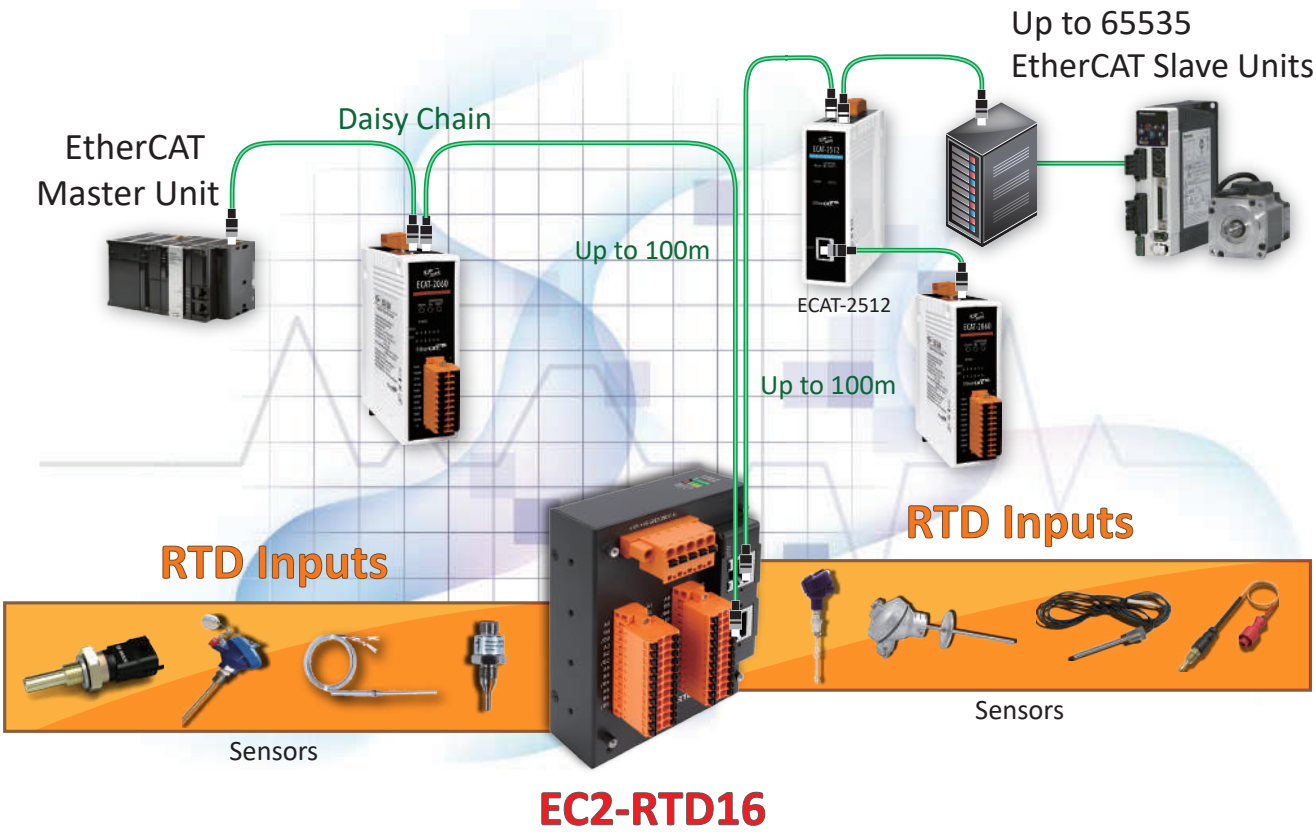
Appearance



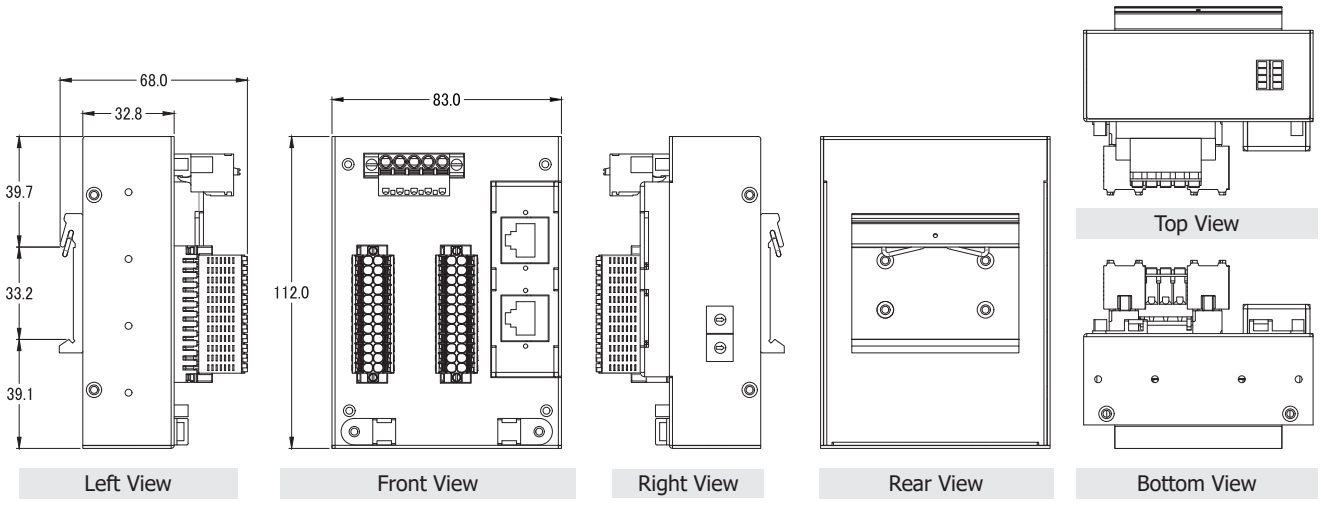


Rotary Switch is Hex
Address is double digits
X16 is High digit
X1 is Low digit

Applications



Dimensions (Units: mm)



Ordering Information

EC2-RTD16 CR	EtherCAT Slave I/O Module with 16-channel RTD Inputs (RoHS)