ZB-2015-T/ZB-2015-PA

Wireless 6-channel RTD Input Module
with 3-wire RTD Lead Resistance Elimination

Features

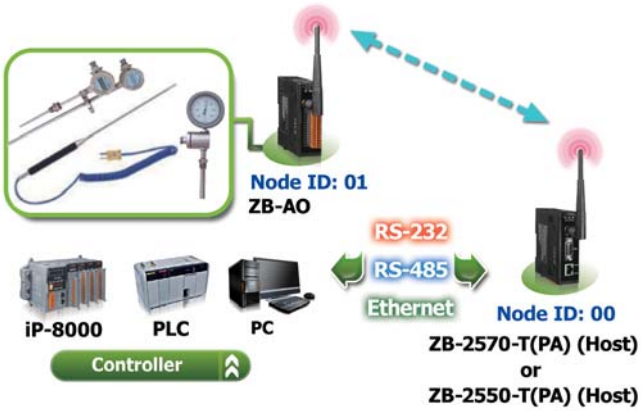
- ISM 2.4 GHz Operating Frequency
- Fully Compliant with 2.4G IEEE 802.15.4/ZigBee Specifications
- Wireless Transmission Range up to 700 m (PA-Version)
- Wireless Transmission Range up to 100 m (T-Version)
- GUI Configuration Software (Windows Version)
- 3-wire RTD Input with Lead Resistance Elimination
- Individual Channel Configuration
- Open Wire Detection
- Overvoltage Protection
- DIN-Rail Mounting

Introduction

The ZB-2015-T/ZB-2015-PA offers 6 wireless input channels, each of which can be connected to different kinds of RTD sensors. It features automatic compensation for 3-wire RTD, with long-distance measurement capabilities so that it can measure accurately regardless of the length of the wires. Also the ZB-2015-T/ZB-2015-PA is fully RoHS-compliant and has qualification for 4 kV ESD protection as well as 3000 VDC intra-module isolation. Users can easily configure the module address, protocol, checksum, ZB-PID, ZB-channel and type code settings using a combination of rotary and DIP switches.

Applications

Building Automation, Factory Automation, Machine Automation, Remote Maintenance, Remote Diagnosis, Testing Equipment.



System Specifications

Model	ZB-2015-T	ZB-2015-PA
Communication Interface		
Wireless Standards	ZigBee, IEEE 802.15.4	
Transmission Power	4 dBm	22 dBm
2.4 GHz Antenna	3 dBi Omni directional	5 dBi Omni directional
Transmission range (LOS)	100 m	700 m (Typical) 1 km (Max.)
Certification	CE/FCC, FCC ID	-
Max. Slaves in a ZigBee Network	254	
ZB-100R/ZB-100T Support	Yes	
Protocols	Supports DCON and Modbus RTU Protocols	
Hot Swap	Rotary and DIP switch	
LED Indicators		
Power	1 LED, red	
ZigBee Communication	1 LED, green	
Power		
Power Consumption	1.5 W Max.	
Mechanical		
Flammability	Fire Retardant Materials (UL94-V0 Level)	
Dimensions (W x L x H)	33 mm x 87 mm x 107 mm	
Installation	DIN-Rail	
Environment		
Operating Temperature	-25 °C ~ +75 °C	
Storage Temperature	-30 °C ~ +80 °C	
Relative Humidity	10 ~ 90% RH, Non-condensing	

I/O Specifications

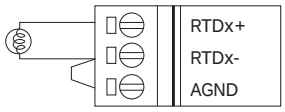
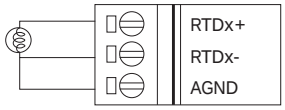
Model	ZB-2015-T	ZB-2015-PA
Analog Input		
Input Channels	6	
Input Type	2/3-wire RTD	
RTD Types	Pt100, Pt1000, Ni120, Cu100, Cu1000	
Resolution	16-bit	
Sampling Rate	12 Samples/Sec. (Total)	
Accuracy	+/-0.05%	
Zero Drift	+/-0.5 μV/°C	
Span Drift	+/-20 μV/°C	
Common Mode Rejection	150 dB	
Normal Mode Rejection	100 dB	
Open Wire Detection	Yes	
Overvoltage Protection	120 VDC/110 VAC	
Individual Channel Configuration	Yes	
3-wire RTD Lead Resistance Elimination	Yes	
ESD Protection	+/-4 kV contact for each channel and +/-8 kV air for random point	
Intra-module Isolation, Field to Logic	3000 VDC	

RTD Type Setting (TT)

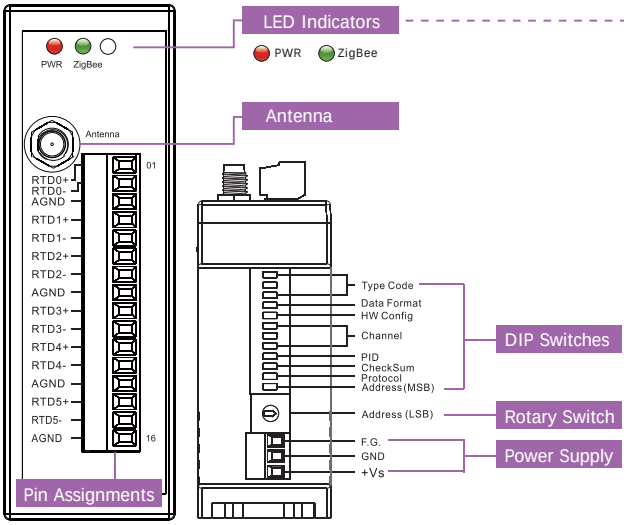
Type Code	RTD Type	Temperature Range
20	Platinum 100, α=0.00385	-100 ~ +100°C
21	Platinum 100, α= 0.00385	0 ~ +100°C
22	Platinum 100, α= 0.00385	0 ~ +200°C
23	Platinum 100, α= 0.00385	0 ~ +600°C
24	Platinum 100, α= 0.003916	-100 ~ +100°C
25	Platinum 100, α= 0.003916	0 ~ +100°C
26	Platinum 100, α= 0.003916	0 ~ +200°C
27	Platinum 100, α= 0.003916	0 ~ +600°C

Type Code	RTD Type	Temperature Range
28	Nickel 120	-80 ~ +100°C
29	Nickel 120	0 ~ +100°C
2A	Platinum 1000, α= 0.00385	-200 ~ +600°C
2E	PT 100, α= 0.00385	-200 ~ +200°C
2F	PT 100, α= 0.003916	-200 ~ +200°C
80	PT 100, α= 0.00385	-200 ~ +600°C
81	PT 100, α= 0.003916	-200 ~ +600°C

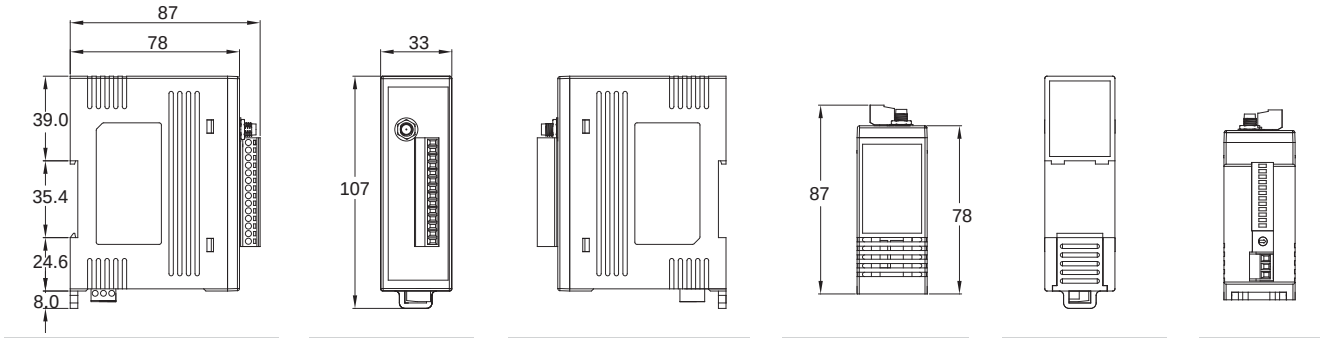
Wiring

	CH0, 1, 2, 5 and 6
2-wire RTD	
3-wire RTD	

Appearance



Dimensions (Units: mm)



Left Side View | Front View | Right Side View | Top View | Rear View | Bottom View

Ordering Information

ZB-2015-T CR	Wireless 6-channel RTD Input Module with 3-wire RTD Lead Resistance Elimination (RoHS)
ZB-2015-PA CR	Wireless 6-channel RTD Input Module with 3-wire RTD Lead Resistance Elimination (RoHS) (long range)

Important Note: ZigBee Data Acquisition modules need a ZigBee host converter to coordinate the data transmission route. Please remember to order a ZB-2550-T, ZB-2550-PA, ZB-2570-T or ZB-2570-PA ZigBee host converter when you purchase ZigBee Data Acquisition Products.

Accessories

MDR-20-24	24 VDC/1.0 A, 24 W Power Supply with DIN-Rail Mounting
ZB-2510-T CR	ZigBee Repeater (RoHS)
ZB-2510-PA CR	ZigBee Repeater (RoHS)
ZB-2550-T CR	RS-485/RS-232 to ZigBee Converter (Host)
ZB-2550-PA CR	RS-485/RS-232 to High Power Amplifier ZigBee Converter (Host) (RoHS)
ZB-2570-T CR	Ethernet/RS-485/RS-232 to ZigBee Converter (Host) (RoHS)
ZB-2570-PA CR	Ethernet/RS-485/RS-232 to High Power Amplifier ZigBee Converter (Host) (RoHS)