

ZT-2015

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

Features

- ISM 2.4 GHz Operating Frequency
- Fully Compliant with 2.4 G / ZigBee Specifications
- Wireless Transmission Range up to 700 m
- External DIP and Rotary Switches for easy Configuration
- 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

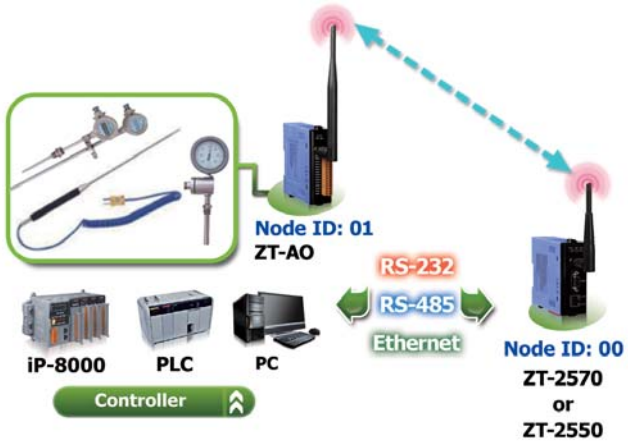
The ZT-2015 offers 6 wireless input channels, each of which can be connected to different kinds of RTD sensors. It features automatic compensation for 3-wire RTD, with long-distance measurement capabilities so that it can measure accurately regardless of the length of the wires. Also the ZT-2015 is fully 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.

System Specifications

Communication Interface	
Wireless Standards	ZigBee 2007 Pro
Transmission Power	10 dBm to 19 dBm (EIRP) (Adjustable via Utility)
Antenna	2.4 GHz - 5 dBi Omni-directional Antenna
Transmission Range (LoS)	300 m to 700 m (Depending on the RF power setting)
Certification	CE/FCC, FCC ID
Max. Slaves in a ZigBee Network	255
ZB-100R/ZB-100T Support	-
Protocols	Supports DCON and Modbus RTU Protocols
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)
LED Indicators	
Power	1 LED, Red
ZigBee Communication	1 LED, Green
Isolation	
Intra-module Isolated, Field-to-Logic	3000 VDC
EMS Protection	
ESD (IEC 61000-4-2)	±4 kV Contact for Power Line, Communication Line and each Channel, ±8 kV Air for Random Point
EFT (IEC 61000-4-4)	±4 kV for Power Line
Surge (IEC 61000-4-5)	±3 kV for Power Line
Power	
Input Voltage Range	+10 VDC ~ +30 VDC
Power Consumption	1.5 W Max.
Mechanical	
Flammability	Fire Retardant Materials (UL 94V-0 Level)
Dimensions (L x W x H)	87 mm x 33 mm x 110 mm
Installation	DIN-Rail
Environment	
Operating Temperature	-25°C ~ +75°C
Storage Temperature	-30°C ~ +80°C
Relative Humidity	10 ~ 90% RH, Non-condensing

Applications

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



I/O Specifications

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%
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

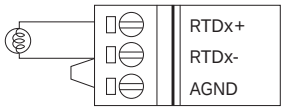
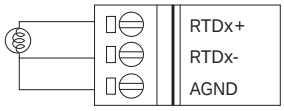
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RTD Type Setting(TT)

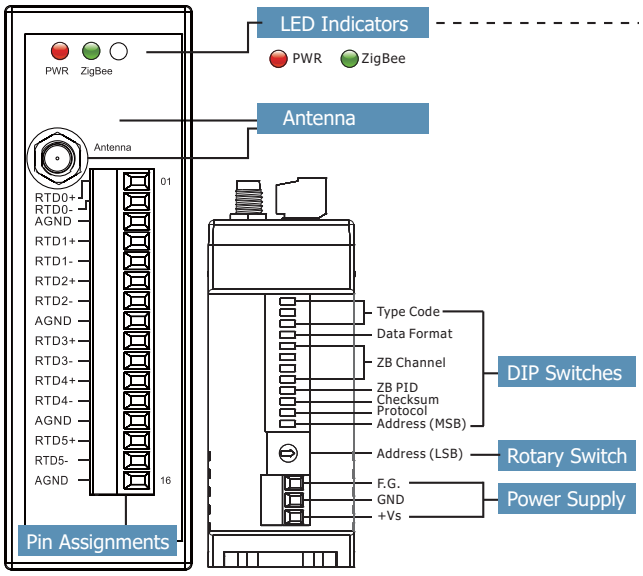
Type Code	RTD Type	Temperature Range
20	Platinum 100, α=0.00385	-100 ~ +100°C
21	Platinum 100, α= 0.00385	0 ~ +100°C
22	Platinum 100, α= 0.00385	0 ~ +200°C
23	Platinum 100, α= 0.00385	0 ~ +600°C
24	Platinum 100, α= 0.003916	-100 ~ +100°C
25	Platinum 100, α= 0.003916	0 ~ +100°C
26	Platinum 100, α= 0.003916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

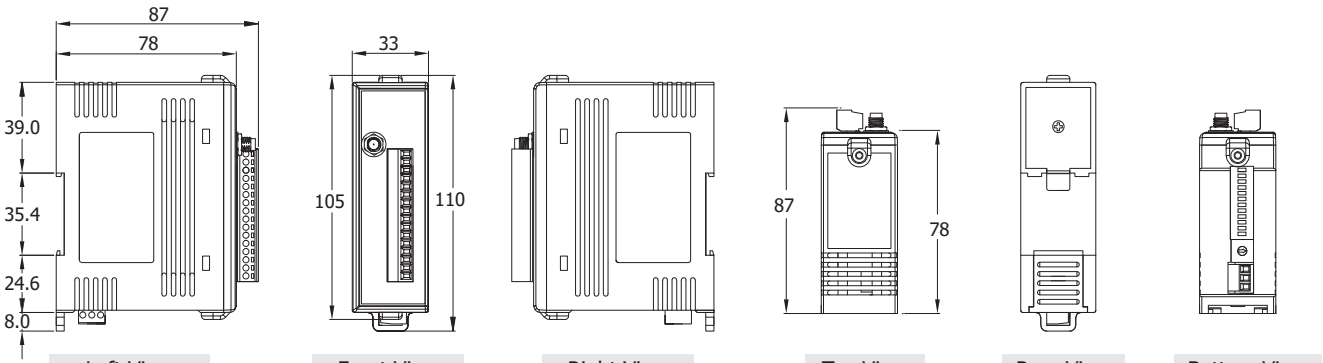
Wiring

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

Appearance



Dimensions (Units: mm)



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

Ordering Information

ZT-2015 CR	Wireless 6-channel RTD Input Module with 3-wire RTD Lead Resistance Elimination (ZigBee Router) (RoHS)
Important Note: ZigBee Data Acquisition modules need a ZigBee host converter to coordinate the data transmission route. Please remember to order a ZT-2550, ZT-2570, and ZT-USBC ZigBee host converter when you purchase ZigBee Data Acquisition products.	

Accessories

MDR-20-24 CR	24 VDC/1.0 A, 24 W Power Supply with DIN-Rail Mounting
ZT-2510 CR	ZigBee Repeater (RoHS)
ZT-2550 CR	RS-485/RS-232 to ZigBee Converter (Host)
ZT-2570 CR	Ethernet/RS-485/RS-232 to ZigBee Converter (Host) (RoHS)
External Antenna	2.4 GHz External Antenna, RP SMA Male (Plug)
Extension Cable	3S00x-1, RG58A/U × Meter Long RP-SMA (male) to RP-SMA (female)

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