

ZT-2005-C8

Wireless 8-ch Thermistor Input Module

Features

- ISM 2.4 GHz Operating Frequency
- Fully Compliant with IEEE802.15.4/ZigBee Specifications (ZigBee Pro/ZigBee 2007)
- Wireless Transmission Range up to 700 meters (Line of Sight)
- Supports ZigBee Repeater Function
- Supports DCON and Modbus RTU protocols
- 8-Channel Thermistor Input
- DIN-Rail Mountable

Introduction

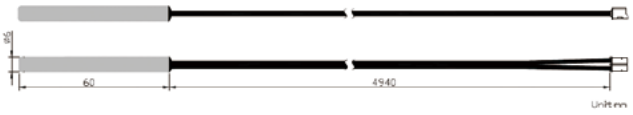
The ZT-2005-C8 is an 8-channel thermistor input module of ZigBee. It based on the IEEE802.15.4 standard that allows users to measuring temperature via a thermistor in a personal area ZigBee network. The typical transmission of ZT-2005-C8 is 700 meters (LOS, line of sight), with a transmission frequency range of between 2.405 GHz and 2.48 GHz, separated into 5 MHz sectors, providing 16 channels. Users can easily configure the module address, protocol, checksum, ZB-PID and ZB-channel settings using a combination of rotary and DIP switches. ZT-2005-C8 has 4 kV ESD protection and 1000 VDC intra-module isolation.

System Specifications

Communication Interface	
Wireless Standards	ZigBee 2007 Pro
Transmission Power	11 dBm (FCC Certificated) (Max 19 dBm)
Antenna	2.4 GHz - 5 dBi Omni-directional Antenna
Transmission Range (LoS)	700 m (Typical)
Max. Slaves in a ZigBee Network	255
Protocols	Supports DCON and Modbus RTU Protocols
Wireless Encryption	AES-128
LED Indicators	
ZigBee Communication	1 LED, Green
ZigBee RxD	1 LED, Yellow
Power	1 LED, RED
Isolation	
Intra-module Isolated, Field-to-Logic	1000 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 W(Max.)
Mechanism	
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)

I/O Specifications

Analog Input	
Input Channels	8
Input Type	Thermistor
Resolution	12 bits
Sampling Rate	10 Hz total
Accuracy	±1°C
Thermistor (CA-TM-M100-L050P)	
Pipe	φ6x60mm, stainless stell (SUS304)
Wire	4.94m, UL2651 #24AWG*2C (TS)
Connector	2pin, pitch 2.0mm
Resistance	R25=10K(Ω)±1%
B Constant	R25/85=3435(K)±1%
Dissipation Factor	≧3 (mW/°C)
Thermal Time Constant	≦15 (sec)
Measuring Temperature Range	-40 ~ 105°C



LED Display Status

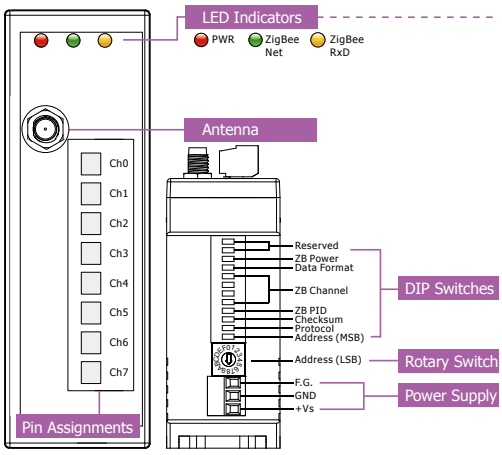
LED	Status	Introduction
ZigBee Net (Green LED)	ZigBee Router (Slave)	
	Steady Lit	The Signal is Strong
	Blinking (500 ms)	The Signal is Available
	Blinking (1s)	The Signal is Weak
	Blinking (2s)	The Signal is Unstable or There is no Available
	Blinking irregularly	Module Node ID conflict, there are same Node IDs in the same network
ZigBee RxD (Yellow LED)	The status of ZigBee communication	
	Blinking	Receiving ZigBee Data
	Steady Unlit	No ZigBee Data Received
ZigBee PWR (Red LED)	The status of module power	
	Steady Lit	Power ON
	Steady Unlit	Power OFF

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Applications

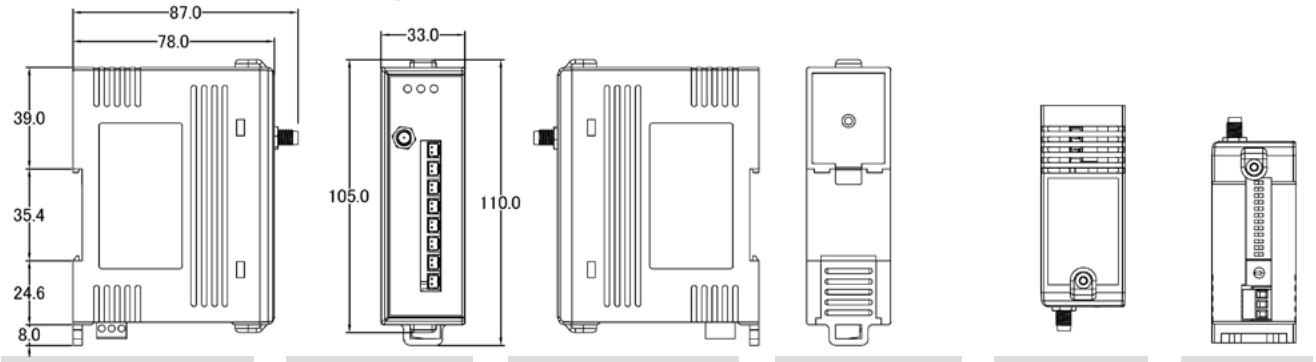


Appearance



DIP Switch	Item	Status	Description
1	Address MSB	OFF / ON	Address (Node ID) from 0x00 to 0x0F / 0x10 to 0x1F
2	Protocol	OFF / ON	DCON / Modbus RTU protocol
3	Checksum	OFF / ON	Disabled / Enabled (DCON protocol)
4	ZigBee Pan ID	OFF / ON	Pan ID = 0x0000 / 0x0001
5	ZigBee RF channel	OFF / ON	---- / 0x08
6		OFF / ON	---- / 0x04
7		OFF / ON	---- / 0x02
8		OFF / ON	---- / 0x01
9	Data Format	OFF / ON	Engineering units / 2's complement hexadecimal
10	ZigBee RF Power	OFF / ON	Default, about 11±1 dBm / Maximal, about 19 dBm

Dimensions (Units: mm)



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

Ordering Information

ZT-2005-C8 CR	Wireless 8-ch Thermistor Input Module (RoHS)

Important Note:

1. Zigbee Data Acquisition modules need a Zigbee host converter to coordinate the data transmission route. Please remember to order a ZT-2550, ZT-2570 ZigBee host converter when you purchase Zigbee Data Acquisition products.
2. There is a thermistor attached in the package, if users want to purchase more thermistors, please refer to accessories.

Accessories

MDR-20-24	24 VDC/1.0 A, 24 W Power Supply with DIN-Rail Mounting
ZT-2550 CR	RS-485/RS-232 to ZigBee Converter (Host, ZigBee Coordinator) (RoHS)
ZT-2570 CR	Ethernet/RS-485/RS-232 to ZigBee Converter (Host, ZigBee Coordinator) (RoHS)
ZT-2510 CR	ZigBee Repeater (Slave, ZigBee Router) (RoHS)
External Antenna	2.4GHz External Antenna, RP SMA Male (Plug)
Extension Cable	3S00x-1, RG58A/U x Meter Long RP-SMA male to RP-SMA Female
Thermistor	NTC thermistor (-40°C~+105°C)

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000