

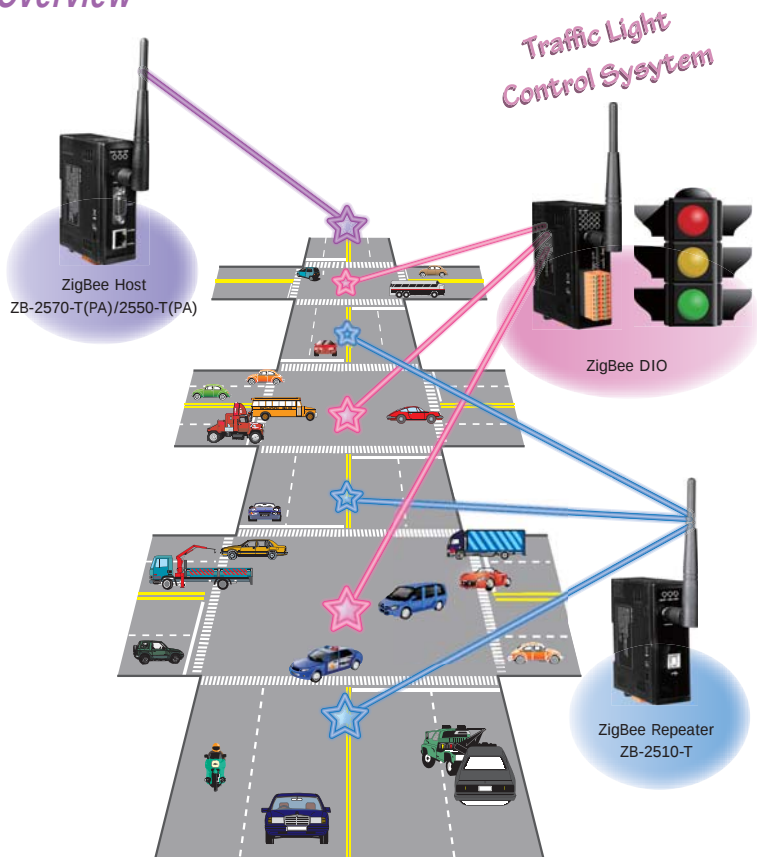
ZigBee Products

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5.1. Overview



Based on the IEEE 802.15.4 standard for Wireless Personal Area Networks (WPANs), ZigBee operates in the ISM radio bands and works as a general purpose, inexpensive, self-organizing, mesh network that can be used for industrial control, embedded sensing, medical data collection, smoke and intruder warning, building automation, and home automation, etc.

ZigBee uses a basic master-slave configuration that is suited to the static star networks of many infrequently used devices that talk via small data packets. ICP DAS provides various ZigBee products such as Ethernet/RS-232/RS-485 to ZigBee converters, ZigBee repeater and ZigBee wireless I/O modules.

Advantages & Benefits

- ISM 2.4 GHz operating frequency and fully compliant 2.4 G IEEE 802.15.4 ZigBee specifications
- Wireless transmission range up to 100m (Line of sight)
- Provide friendly GUI configuration software (Windows Version)
- Support three different types of ZigBee devices (Coordinator, Full function device, Reduced function device) in a ZigBee network.
- Support three topologies (MESH, STAR, CLUSTER TREE) defined in the IEEE 802.15.4

ZigBee Version Comparison

	Normal-version	T-version	P-version	PA-version
Transmission power	9 dBm	3 ~ 4 dBm	22 ~ 24 dBm	22 ~ 24 dBm
Antenna 2.4 GHz --	3 dBi Omni-Directional antenna	3 dBi Omni-Directional antenna	5 dBi Omni-Directional antenna	5 dBi Omni-Directional antenna
Transmission range (LOS)	100 m	100 m	700 m (Typical) 1 km (Max.)	700 m (Typical) 1 km (Max.)
ZB-100R/ZB-100T Supported	No	Yes	No	Yes
Max. Slaves Supported (Host)	60	256	60	256
Certification	No	CE/FCC,FCC ID	No	No

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ZigBee Products

ZigBee Converter Selection Guide



In some existing systems that use an Ethernet, RS-485 or RS-232 network, it is sometimes difficult to extend the new devices due to building structure issues, wiring problems or other reasons. The ZigBee Converter can be easily added to an existing system in order to extend the network

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Overview

Model Name	Interface	Module Type	Transmit Power	Antenna	Distance (LOS)	Page
ZB-2550-T	1 × RS-232 1 × RS-485	Host	3 ~ 4 dBm	2.4GHz - 3dBi Omni-Directional antenna	100 m	5-2-1
ZB-2550-PA	1 × RS-232 1 × RS-485	Host	22 ~ 24 dBm	2.4GHz - 5dBi Omni-Directional antenna	700 m (Typical) 1 km (Max.)	5-2-1
ZB-2551-T	1 × RS-232 1 × RS-485	Slave	3 ~ 4 dBm	2.4GHz - 3dBi Omni-Directional antenna	100 m	5-2-1
ZB-2551-PA	1 × RS-232 1 × RS-485	Slave	22 ~ 24 dBm	2.4GHz - 5dBi Omni-Directional antenna	700 m (Typical) 1 km (Max.)	5-2-1
ZB-2570-T	1 × RS-232 1 × RS-485 1 × Ethernet	Host	3 ~ 4 dBm	2.4GHz - 3dBi Omni-Directional antenna	100 m	5-2-4
ZB-2570-PA	1 × RS-232 1 × RS-485 1 × Ethernet	Host	22 ~ 24 dBm	2.4GHz - 5dBi Omni-Directional antenna	700 m (Typical) 1 km (Max.)	5-2-4
ZB-2571-T	1 × RS-232 1 × RS-485 1 × Ethernet	Slave	3 ~ 4 dBm	2.4GHz - 3dBi Omni-Directional antenna	100 m	5-2-4
ZB-2571-PA	1 × RS-232 1 × RS-485 1 × Ethernet	Slave	22 ~ 24 dBm	2.4GHz - 5dBi Omni-Directional antenna	700 m (Typical) 1 km (Max.)	5-2-4

ZigBee I/O Selection Guide



ICP DAS provides various ZigBee I/O modules. Each module has standard 4 kV ESD protection and 3000/3750 V_{DC} intra-module isolation. Users can easily configure the module address, Protocol, Checksum, ZB-PID, ZB-ch and type code by rotary and DIP switch.

Model Name	Protocol	Input Channel	Output Channel	Transmit Power	Antenna	Distance (LOS)	Page
ZB-2015-T	DCON Modbus RTU	6 × AI	-	4 dBm	2.4GHz - 3dBi Omni-Directional antenna	100 M	5-3-1
ZB-2018-T	DCON Modbus RTU	8 × AI	-	4 dBm	2.4GHz - 3dBi Omni-Directional antenna	100 M	5-3-3
ZB-2052-T	DCON Modbus RTU	8 × DI	-	4 dBm	2.4GHz - 3dBi Omni-Directional antenna	100 M	5-3-5
ZB-2053-T	DCON Modbus RTU	14 × DI	-	4 dBm	2.4GHz - 3dBi Omni-Directional antenna	100 M	5-3-7
ZB-2060-T	DCON Modbus RTU	6 × DI	4 × Relay Out	4 dBm	2.4GHz - 3dBi Omni-Directional antenna	100 M	5-3-9

5.2. ZigBee Converters



Features

- ISM 2.4 GHz Operating Frequency
- Fully Compliant with 2.4 G IEEE802.15.4/ZigBee Specifications
- Wireless transmission Range up to 100 m (ZB-2550-T/ZB-2550-PA/ZB-2551-T/ZB-2551-PA)
- Wireless Transmission Range up to 700 m (ZB-2550-PA/ZB-2551-PA)
- GUI Configuration Software (Windows Version)
- DIN-Rail Mountable



Introduction

The ZB-2550 and ZB-2551 series are small-sized wireless ZigBee converters based on the IEEE 802.15.4 standard. The converters allow the devices which have RS-485/RS-232 interfaces, to transfer and transmit the data to a ZigBee wireless network.

Only one ZB-2550-T series (host) is allowed in a ZigBee network and used to initialize and manage the data transmission routes. The ZB-2551-T series (slave) ZigBee router is responsible for transmitting/receiving data from its child/parent router or the host. ICP DAS ZigBee products are designed for low data rates. The main benefit of ICP DAS ZigBee products is that they can be used to define a general-purpose, self-organizing mesh network, which can be highly advantageous for industrial control.

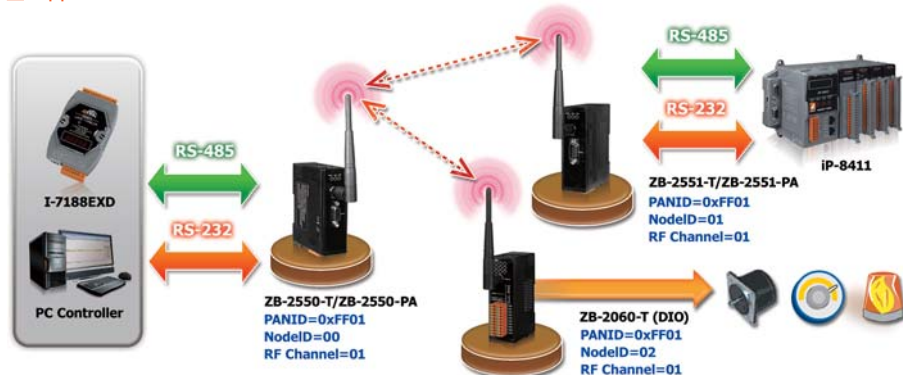
The typical transmission range of the ICP DAS ZigBee ZB-2550-T/ZB-2551-T converter is 100m, and 700m for the ZB-2550-PA/ZB-2551-PA.

Specifications

Models	ZB-2550-T	ZB-2550-PA	ZB-2551-T	ZB-2551-PA
ZigBee Module				
RF Channels	16			
Receiving Sensitivity	-102 dBm			
Transmit Power	3 ~ 4 dBm	22 ~ 24 dBm	3 ~ 4 dBm	22 ~ 24 dBm
Network Topology	Star, Mesh and Cluster tree			
Antenna (Omni-Directional antenna)	2.4 GHz – 3 dBi	2.4 GHz – 5 dBi	2.4 GHz – 3 dBi	2.4 GHz – 5 dBi
Transmission Range	100 m	700 m	100 m	700 m
General				
Module Type	Host		Slave	
Communication Interface				
COM 0	D-Sub 9 Female Non-isolated ; RS-232 (TxD, RxD, GND); RS-485 (D+, D-;internal Self-Tuner ASIC)		D-Sub 9 Male Non-isolated; RS-232 (TxD, RxD, GND); RS-485 (D+, D-;internal Self-Tuner ASIC)	
Baud Rate	1200 ~ 115200 bps			
LED Indicators				
ZigBee Net State	Green			
ZigBee Rx/D	Yellow			
Power	Red			
Power				
Protection	Power reverse polarity protection			
EMS Protection	ESD, Surge, EFT			
Required Supply Voltage	+10 Vdc ~ +30 Vdc			
Power Consumption	0.5 W	2.0 W (max.)	0.5 W	2.0 W (max.)
Connector	5-Pin 5.08 mm Removable Terminal Block			
Mechanical				
Casing	Plastic			
Flammability	UL 94V-0 fire-retardant materials			
Dimensions (W x L x H)	33 mm x 107 mm x 78mm			
Installation	DIN-Rail			

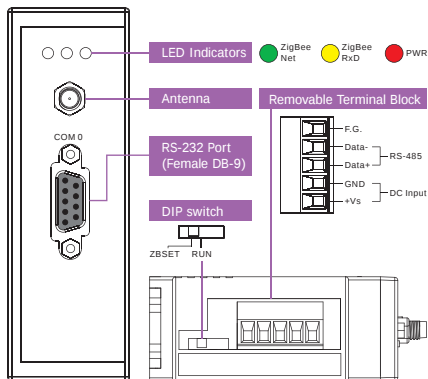
Models	ZB-2550-T	ZB-2550-PA	ZB-2551-T	ZB-2551-PA
Environment				
Operating Temperature	-25 °C ~ +75 °C			
Storage Temperature	-40 °C ~ +80 °C			
Relative Humidity	5% ~ 90% RH, Non-condensing			

Applications

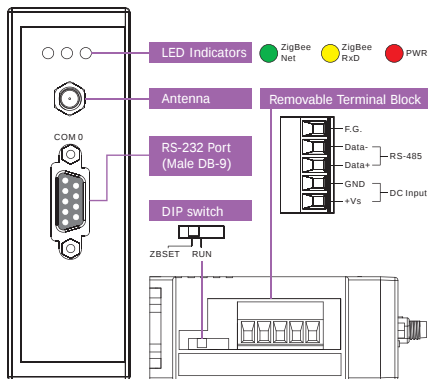


Appearance

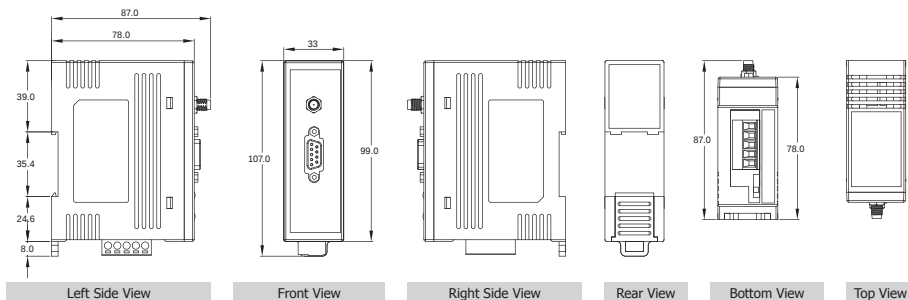
ZB-2550-T/2550-PA



ZB-2551-T/2551-PA

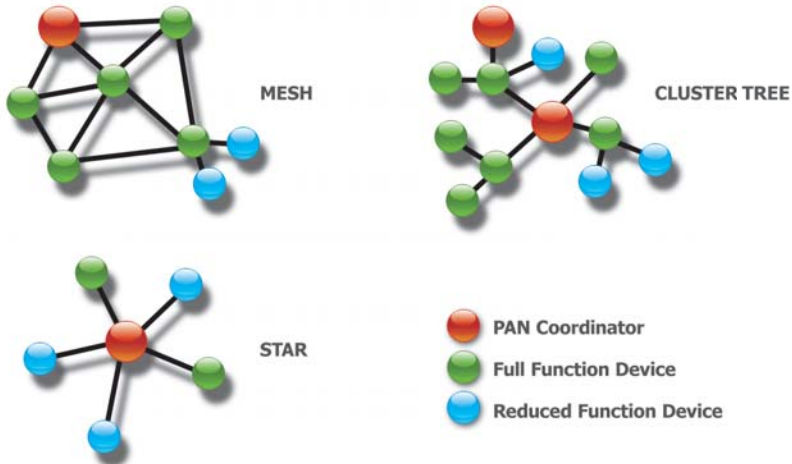


Dimensions (Units: mm)



Operation Mode

There are three topologies defined in the IEEE 802.15.4 standard, Star, Cluster Tree and Mesh.



Ordering Information

ZB-2550-T CR	RS-485/RS-232 to ZigBee Converter (Host) (RoHS)
ZB-2550-T/S CR	RS-485/RS-232 to ZigBee Converter (Host) (RoHS) + GPSU06U-6 (Power Supply)
ZB-2550-PA CR	RS-485/RS-232 to High Power Amplifier ZigBee Converter (Host) (RoHS)
ZB-2550-PA/S CR	RS-485/RS-232 to High Power Amplifier ZigBee Converter (Host) (RoHS) + GPSU06U-6 (Power Supply)
ZB-2551-T CR	RS-485/RS-232 to ZigBee Converter (Slave) (RoHS)
ZB-2551-T/S CR	RS-485/RS-232 to ZigBee Converter (Slave) (RoHS) + GPSU06U-6 (Power Supply)
ZB-2551-PA CR	RS-485/RS-232 to High Power Amplifier ZigBee Converter (Slave) (RoHS)
ZB-2551-PA/S CR	RS-485/RS-232 to High Power Amplifier ZigBee Converter (Slave) (RoHS) + GPSU06U-6 (Power Supply)

Accessories

ZB-2570-T CR	Ethernet/RS-485/RS-232 to ZigBee Converter (Host) (RoHS)
ZB-2571-T CR	Ethernet/RS-485/RS-232 to ZigBee Converter (Slave) (RoHS)
ZB-2570-PA CR	Ethernet/RS-485/RS-232 to High Power Amplifier ZigBee Converter (Host) (RoHS)
ZB-2571-PA CR	Ethernet/RS-485/RS-232 to High Power Amplifier ZigBee Converter (Slave) (RoHS)
ZB-2510-T CR	ZigBee Repeater (RoHS)
ZB-2510-PA CR	High Power Amplifier ZigBee Repeater (RoHS)

NEW



ZB-2570-T/ZB-2570-PA

ZB-2571-T/ZB-2571-PA

Ethernet/RS-485/RS-232 to ZigBee Converter

Features

- ISM 2.4 GHz Operating Frequency
- Fully Compliant with 2.4 G IEEE802.15.4/ZigBee Specifications
- Wireless transmission range up to 100 m (ZB-2570-T/ZB-2571-T)
- Wireless Transmission Range up to 700 m (ZB-2570-PA/ZB-2571-PA)
- Topologies Supported: Star, Cluster Tree, and Mesh
- GUI Configuration Software (Windows Version)
- DIN-Rail Mountable



Introduction

The ZB-2570 series is a host ZigBee converter, and the ZB-2571 series is a slave ZigBee converter. Each features an Ethernet/RS-485/RS-232 interface. Devices that have an Ethernet/RS-485/RS-232 interface are also able to be connected using the ZB-2570 and ZB-2571 series. By distributing host and slave ZigBee converters in the field, users can easily build a wireless network for monitoring and control.

ZigBee is based on the IEEE 802.15.4 standard for wireless personal area networks (WPANs). It is aiming at applications that require secure networking as well as high flexibility for network expansion anytime. It is also widely used in the industrial control field, hospitals, labs and building automation.

Specifications

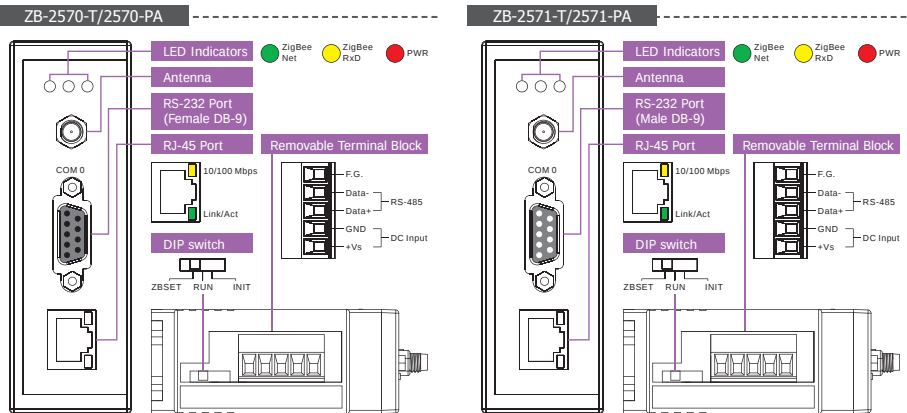
Models	ZB-2570-T	ZB-2570-PA	ZB-2571-T	ZB-2571-PA
ZigBee Module				
RF Channels	16			
Receiving Sensitivity	-102 dBm			
Network Topology	Star, Mesh and Cluster tree			
Antenna (Omni-Directional)	2.4 GHz – 3 dBi	2.4 GHz – 5 dBi	2.4 GHz – 3 dBi	2.4 GHz – 5 dBi
Transmission Range	100 m	700 m	100 m	700 m
General				
Module Type	Host		Slave	
Communication Interface				
COM 0	D-Sub 9 Female Non-isolated ; RS-232 (Tx,D, Rx,D, GND); RS-485 (D+, D-,internal Self-Tuner ASIC)		D-Sub 9 Male Non-isolated; RS-232 (Tx,D, Rx,D, GND); RS-485 (D+, D-,internal Self-Tuner ASIC)	
Ethernet	10/100 Base-TX (Auto-negotiating, auto MDI/MDI-X, LED indicators)			
LED Indicators				
ZigBee Net State	Green			
ZigBee Rx/D	Yellow			
Power	Red			
Power				
Protection	Power reverse polarity protection			
EMS Protection	ESD, Surge, EFT			
Required Supply Voltage	+10 V _{DC} ~ +30 V _{DC}			
Power Consumption	2.5 W	4 W (max.)	2.5 W	4 W (max.)
Connection	5-Pin 5.08 mm Removable Terminal Block			
Mechanical				
Casing	Plastic			
Flammability	UL 94V-0 fire-retardant materials			
Dimensions (W x L x H)	33 mm x 107 mm x 78mm			
Installation	DIN-Rail			

Models	ZB-2570-T	ZB-2570-PA	ZB-2571-T	ZB-2571-PA
Environment				
Operating Temperature	-25 °C ~ +75 °C			
Storage Temperature	-40 °C ~ +80 °C			
Relative Humidity	5% ~ 90% RH, Non-condensing			

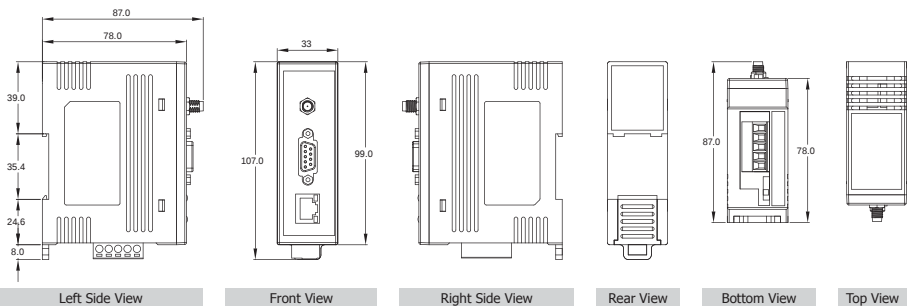
Applications



Appearance



Dimensions (Units: mm)



Ordering Information

ZB-2570-T CR	Ethernet/RS-485/RS-232 to ZigBee Converter (Host) (RoHS)
ZB-2570-T/S CR	Ethernet/RS-485/RS-232 to ZigBee Converter (Host) (RoHS) + GPSU06U-6 (Power Supply)
ZB-2570-PA CR	Ethernet/RS-485/RS-232 to High Power Amplifier ZigBee Converter (Host) (RoHS)
ZB-2570-PA/S CR	Ethernet/RS-485/RS-232 to High Power Amplifier ZigBee Converter (Host) (RoHS) + GPSU06U-6 (Power Supply)
ZB-2571-T CR	Ethernet/RS-485/RS-232 to ZigBee Converter (Slave) (RoHS)
ZB-2571-T/S CR	Ethernet/RS-485/RS-232 to ZigBee Converter (Slave) (RoHS) + GPSU06U-6 (Power Supply)
ZB-2571-PA CR	Ethernet/RS-485/RS-232 to High Power Amplifier ZigBee Converter (Slave) (RoHS)
ZB-2571-PA/S CR	Ethernet/RS-485/RS-232 to High Power Amplifier ZigBee Converter (Slave) (RoHS) + GPSU06U-6 (Power Supply)

Accessories

ZB-2550-T CR	RS-485/RS-232 to ZigBee Converter (Host) (RoHS)
ZB-2551-T CR	RS-485/RS-232 to ZigBee Converter (Slave) (RoHS)
ZB-2550-PA CR	RS-485/RS-232 to High Power Amplifier ZigBee Converter (Host) (RoHS)
ZB-2551-PA CR	RS-485/RS-232 to High Power Amplifier ZigBee Converter (Slave) (RoHS)
ZB-2510-T CR	ZigBee Repeater (RoHS)
ZB-2510-PA CR	High Power Amplifier ZigBee Repeater (RoHS)

5.3. ZigBee I/O Modules



ZB-2015-T

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

Introduction

The ZB-2015-T offers 6 channels, each of which could be connected with different kinds of RTD. It features automatic compensation for 3-wire RTD with long-distance measurement so that it can measure right regardless of the length of wires. Also, ZB-2015-T is fully RoHS-compliant and has qualification for 4 kV ESD protection as well as 3000 V_{DC} intra-module isolation. Users can easily configure the module address, Protocol, Checksum, ZB-PID, ZB-ch and type code by rotary and DIP switch.

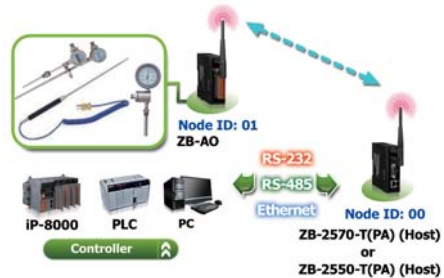
Features

- ISM 2.4 GHz Operating Frequency
- Fully Compliant 2.4 G IEEE802.15.4/ZigBee Specifications
- Wireless Transmission Range up to 700 m (PA-Version)
- Wireless Transmission Range up to 100 m (None/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



Applications

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



I/O Specifications

Analog Input	
Input Channel	6
Input Type	2/3-wire RTD
RTD Type	Pt100, Pt1000, Ni120, Cu100, Cu1000
Resolution	16-bit
Sampling Rate	12 Sample/Sec. (Total)
Accuracy	+/-0.05%
Zero Drift	+/-0.5 μ V/ $^{\circ}$ C
Span Drift	+/-20 μ V/ $^{\circ}$ C
Common Mode Rejection	150 dB
Normal Mode Rejection	100 dB
Open Wire Detection	Yes
Overvoltage Protection	120 V _{DC} /110 V _{AC}
Individual Channel Configurable	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 Isolated, Field-to-Logic	3000 V _{DC}

System Specifications

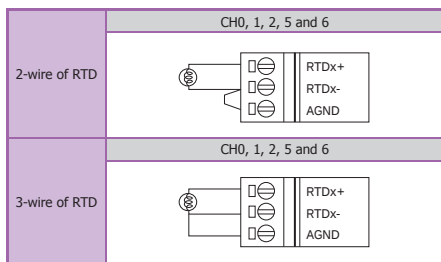
Communication Interface	
Wireless	ZigBee, IEEE 802.15.4 Standard
Antenna	2.4 GHz-3 dBi Omni-Directional antenna
Protocols	Supports DCON and Modbus RTU Protocols
Hot Swap	By Rotary and DIP switch
LED Indicators	
Power	1 LED, red
ZigBee Communication	1 LED, green
Power	
Power Consumption	1.5 W max.
Mechanical	
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 $^{\circ}$ C ~ +75 $^{\circ}$ C
Storage Temperature	-30 $^{\circ}$ C ~ +80 $^{\circ}$ C
Humidity	10% ~ 90% RH, Non-condensing

RTD Type Setting (TT)

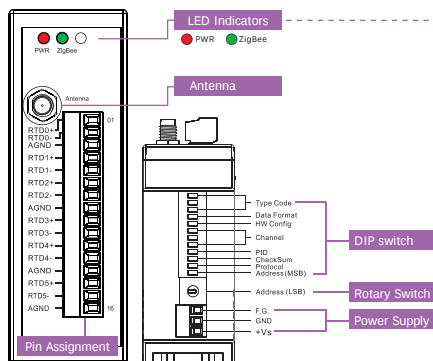
Type Cod	RTD Type	Temperature Range
20	Platinum 100, $\alpha=0.00385$	-100 °C ~ +100 °C
21	Platinum 100, $\alpha=0.00385$	0 °C ~ +100 °C
22	Platinum 100, $\alpha=0.00385$	0 °C ~ +200 °C
23	Platinum 100, $\alpha=0.00385$	0 °C ~ +600 °C
24	Platinum 100, $\alpha=0.003916$	-100 °C ~ +100 °C
25	Platinum 100,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

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

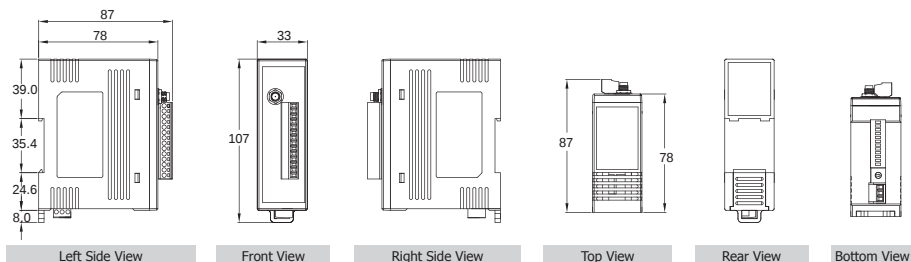
Wiring



Appearance



Dimensions (Units: mm)



Ordering Information

ZB-2015-T CR	Wireless 6-ch RTD Input Module with 3-wire RTD Lead Resistance Elimination (RoHS)
Important Note: The ZigBee AIO modules need a ZB-2570 to coordinate the data transmission route, please remember to also order a ZB-2570 when you purchase the ZB DIO products.	

Accessories

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



ZB-2018-T

Wireless 8-ch Analog Input Module with
High Voltage Protection

Introduction

The ZB-2018-T is an analog input module with an extremely excellent protection mechanism where overvoltage protection is up to 240 V_{rms}. Its input type includes current, voltage as well as thermocouple. It is much more suitable for critically harsh environment! Moreover, a newly-added feature for open thermocouple detection makes ZB-2018-T more sweet than ever. ZB-2018-T also has qualification for 4 kV ESD protection and 3000 V_{oc} intra-module isolation. Users can easily configure the module address, Protocol, Checksum, ZB-PID, ZB-ch and type code by rotary and DIP switch.

I/O Specifications

Analog Input	
Input Channel	8 Differential
Input Type	+/-15 mV, +/-50 mV, +/-100 mV, +/-500 mV, +/-1V, +/-2.5V, +/-20 mA, 0 ~ 20 mA, 4 ~ 20 mA (Requires Optional External 125 Ω Resistor). Thermocouple (J, K, T, E, R, S, B, N, C, L, M, LDIN43710)
Resolution	16-bit
Sampling Rate	10 Samples/Sec. (Total)
Accuracy	+/-0.1% of FSR
-3dB Bandwidth	15.7 Hz
Zero Drift	+/-10 μV/°C
Span Drift	+/-25 ppm/°C
Common Mode Rejection	86 dB min.
Normal Mode Rejection	100 dB
Input Impedance	>400 kΩ
Open Thermocouple Detection	Yes
Overvoltage Protection	240 V _{rms}
Intra-module Isolated, Field-to-Logic	3000 V _{oc}
ESD Protection	+/-4 kV Contact for Each Channel

Thermocouple Type

Type Cod	Temperature Range	Type Cod	Temperature Range
J	-210 °C ~ +760 °C	B	0 °C ~ +1820 °C
K	-270 °C ~ +1372 °C	N	-270 °C ~ +1300 °C
T	-270 °C ~ +400 °C	C	0 °C ~ +2320 °C
E	-270 °C ~ +1000 °C	L	-200 °C ~ +800 °C
R	0 °C ~ +1768 °C	M	-200 °C ~ +100 °C
S	0 °C ~ +1768 °C	L2 (DIN43710)	-200 °C ~ +900 °C

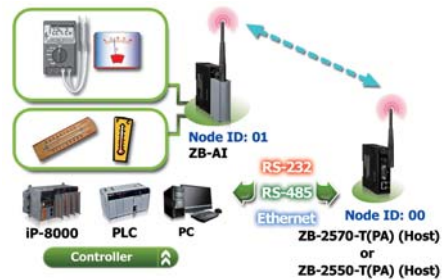
Features

- ISM 2.4 GHz Operating Frequency
- Fully Compliant 2.4 G IEEE802.15.4/ZigBee Specifications
- Wireless Transmission Range up to 700 m (PA-Version)
- Wireless Transmission Range up to 100 m (None/T-Version)
- GUI Configuration Software (Windows Version)
- 8 Differential AI (TC, mV, V)
- Individual Channel Configuration
- Open Thermocouple Detection
- Overvoltage Protection is up to 240 V_{rms}
- DIN-Rail Mounting



Applications

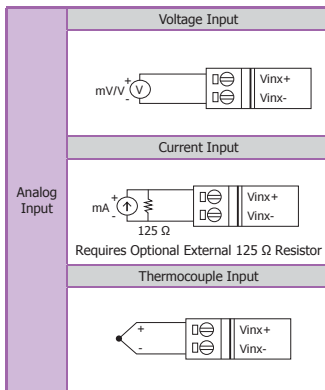
Building Automation, Factory Automation, Machine Automation, Remote Maintenance, Remote diagnosis, Testing Equipment.



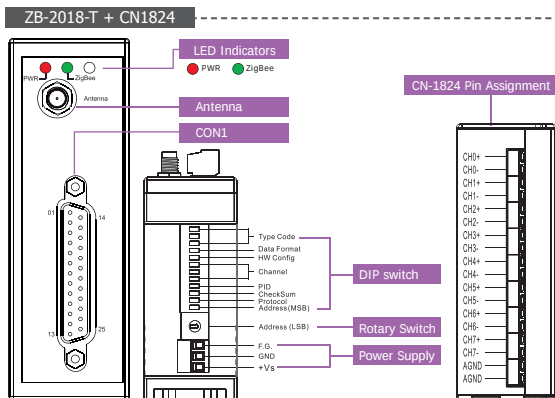
System Specifications

Communication Interface	
Wireless	ZigBee, IEEE 802.15.4 Standard
Antenna	2.4 GHz-3 dBi Omni-Directional antenna
Protocols	Supports DCON and Modbus RTU Protocols
Hot Swap	By Rotary and DIP switch
LED Indicators	
Power	1 LED, red
ZigBee Communication	1 LED, green
Power	
Power Consumption	0.88 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
Humidity	10% ~ 90% RH, Non-condensing

Wiring

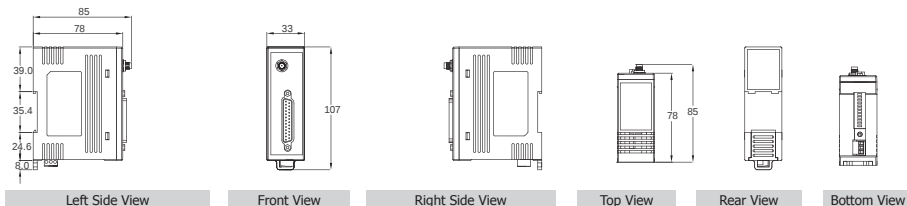


Appearance

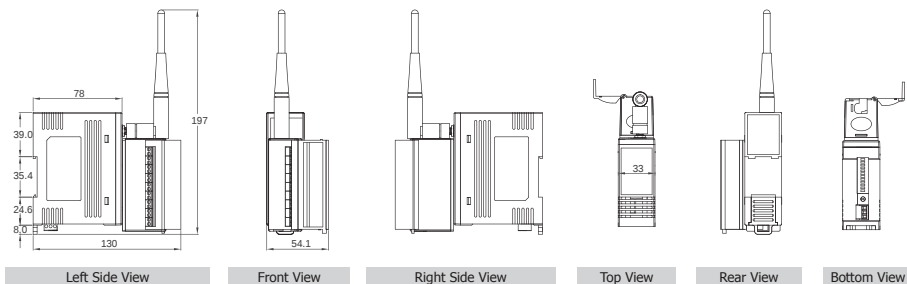


Dimensions (Units: mm)

ZB-2018-T



ZB-2018-T + CN1824



Ordering Information

ZB-2018-T CR	Wireless 8-ch Analog Input Module with High Voltage Protection (RoHS)
Important Note: The ZigBee AIO modules need a ZB-2570 to coordinate the data transmission route, please remember to also order a ZB-2570 when you purchase the ZB DIO products.	

Accessories

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



Introduction

The ZB-2052-T offers 8-ch for digital input, each of which features photo couple isolation. Moreover, you can choose sink type or source type input by wire connections. All channels can be used as 16-bit counters. ZB-2052-T not only has 8 LED indicators for channel status but also gets qualification for 4 kV ESD protection and 3000 V_{oc} intra-module isolation. Users can be easy to configure the module address, Protocol, Checksum, ZB-PID and ZB-ch by rotary and DIP switch.

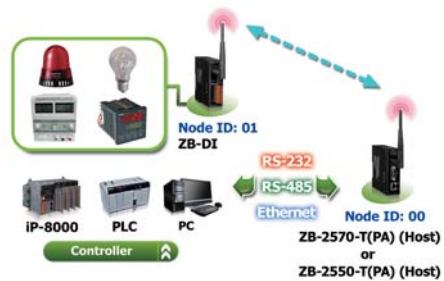
Features

- ISM 2.4 GHz Operating Frequency
- Fully Compliant 2.4 G IEEE802.15.4/ZigBee Specifications
- Wireless Transmission Range up to 700 m (PA-Version)
- Wireless Transmission Range up to 100 M (None/T-Version)
- GUI Configuration Software (Windows Version)
- 8 Digital Input for Wet Contact
- Supports 16-bit Counters for Digital Inputs
- Surge and ESD Protection
- DIN-Rail Mounting



Applications

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



I/O Specifications

Digital Input	
Input Channel	8
Wet Contact (Sink/Source)	On Voltage Level: +3.5 V _{oc} ~ +30 V _{oc} Off Voltage Level: +1 V _{oc} max.
Input Impedance	3 kΩ, 0.33 W
Counter	Channels: 8
	Max. Counts: 16-bit (65535)
	Max. Input Frequency: 100 Hz Min. Pulse Width: 5 ms
Intra-module Isolated, Field-to-Logic	3750 V _{rms}
ESD Protection	+/-4 kV Contact for Each Channel

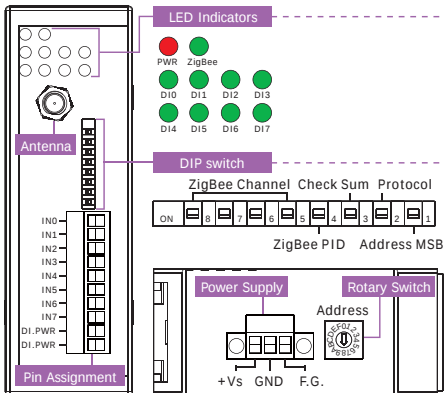
System Specifications

Communication Interface	
Wireless	ZigBee, IEEE 802.15.4 Standard
Antenna	2.4 GHz-3 dBi Omni-Directional antenna
Protocols	Supports DCON and Modbus RTU Protocols
Hot Swap	By Rotary and DIP switch
LED Indicators	
Power	1 LED, red
ZigBee Communication	1 LED, green
Digital Input	8 LEDs, green
Power	
Power Consumption	1 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
Humidity	10% ~ 90% RH, Non-condensing

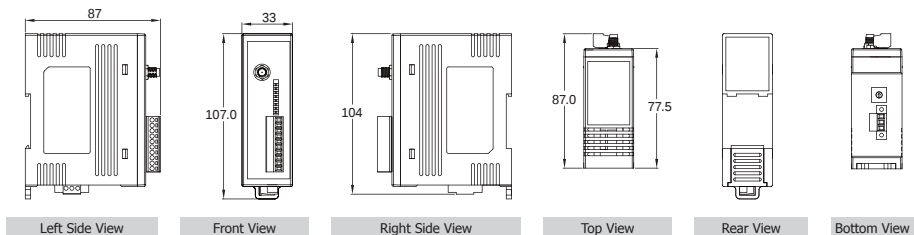
Wiring

Input Type	ON State LED ON Readback as 1 Voltage > 3.5V	OFF State LED OFF Readback as 0 Voltage < 1V
TTL/ CMOS Logic		
Relay Contact		
Open Collector		

Appearance



Dimensions (Units: mm)



Ordering Information

ZB-2052-T CR Wireless 8-ch Isolated Digital Input Module with 16-bit Counters (RoHS)

Important Note: The ZigBee AIO modules need a ZB-2570 to coordinate the data transmission route, please remember to also order a ZB-2570 when you purchase the ZB DIO products.

Accessories

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



ZB-2053-T

Wireless 14-ch Isolated Digital Input Module

Introduction

The ZB-2053-T offers 14-ch for digital input which cover dry contact and wet contact as well. Its effective distance for dry contact is up to 500 meters. All of its channels are not only with isolation but also able to be used as counter. ZB-2053-T has 14 LED indicators for channel status as well as qualification for 4 kV ESD protection and 3750 V_{rms} intra-module isolation. Users can easily configure the module address, Protocol, Checksum, ZB-PID and ZB-ch by rotary and DIP switch.

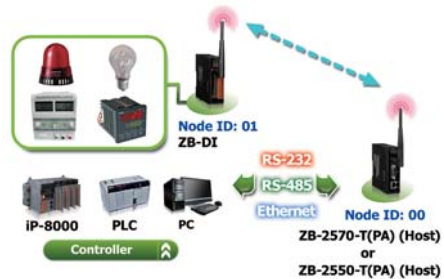
Features

- ISM 2.4 GHz Operating Frequency
- Fully Compliant 2.4 G IEEE802.15.4/ZigBee Specifications
- Wireless Transmission Range up to 700 m (PA-Version)
- Wireless Transmission Range up to 100 m (None/T-Version)
- GUI Configuration Software (Windows Version)
- 14 Digital Input for Dry Contact and Wet Contact
- Supports 16-bit Counters for Digital Inputs
- Surge and ESD Protection
- DIN-Rail Mounting



Applications

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



I/O Specifications

Digital Input	
Input Channel	14
Dry Contact (Sink)	On Voltage Level: Close to GND
	Off Voltage Level: Open
	Effective Distance for Dry Contact: 500 m max.
Wet Contact (Sink/Source)	On Voltage Level: +3.5 V _{oc} ~ +30 V _{oc}
	Off Voltage Level: +1 V _{oc} max.
Input Impedance	3 kΩ, 0.33 W
Counter	Channels: 14
	Max. Counts: 16-bit (65535)
	Max. Input Frequency: 100 Hz
	Min. Pulse Width: 5 ms
Intra-module Isolated, Field-to-Logic	3750 V _{oc}
ESD Protection	+/-4 kV Contact for Each Channel

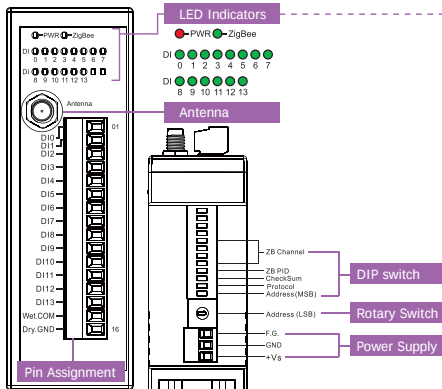
System Specifications

Communication Interface	
Wireless	ZigBee, IEEE 802.15.4 Standard
Antenna	2.4 GHz-3 dBi Omni-Directional antenna
Protocols	Supports DCON and Modbus RTU Protocols
Hot Swap	By Rotary and DIP switch
LED Indicators	
Power	1 LED, red
ZigBee Communication	1 LED, green
Digital Input	14 LEDs, green
Power	
Power Consumption	0.84 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
Humidity	10% ~ 90% RH, Non-condensing

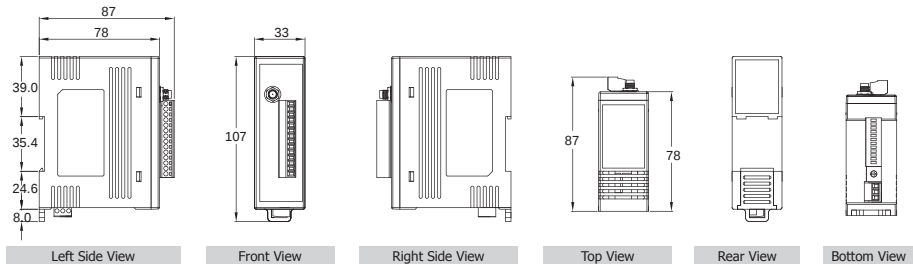
Wiring

Input Type	ON State LED ON Readback as 1	OFF State LED OFF Readback as 0
	Relay ON	Relay OFF
Dry Contact		
Wet Contact (Source)		
Wet Contact (Sink)		

Appearance



Dimensions (Units: mm)



Ordering Information

ZB-2053-T CR	Wireless 14-ch Isolated Digital Input Module (RoHS)
Important Note: The ZigBee AIO modules need a ZB-2570 to coordinate the data transmission route, please remember to also order a ZB-2570 when you purchase the ZB DIO products.	

Accessories

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



ZB-2060-T

Wireless 6-ch Isolated Digital Input and
4-ch Relay Output Module

Introduction

The ZB-2060-T offers 4-ch form power relay outputs and 6-ch digital input, each of which features photo couple isolation. Moreover, you can choose sink type or source type input by wire connections. All channels can be used as 16-bit counters. ZB-2060-T not only has 10 LED indicators for channel status but also gets qualification for 4 kV ESD protection and 3000 V_{ac} intra-module isolation. Users can easily configure the module address, Protocol, Checksum, ZB-PID and ZB-ch by rotary and DIP switch.

I/O Specifications

Digital Input		
Input Channel	6	
Input Type	Isolated, Wet Contact (Sink/Source)	
Input Level	On Voltage Level: +3.5 V _{oc} ~ +30 V _{oc} Off Voltage Level: +1 V _{oc} max.	
Input Impedance	3 kΩ, 0.33 W	
Counters	Channels: 6	
	Max. Count: 16-bit (65535)	
	Max. Input Frequency: 100 Hz	
	Min. Pulse Width: 5 ms	
Relay Output		
Output Channel	4	
Output Type	Power Relay, Form A	
Contact Rating	5 A @ (250 V _{AC} /30 V _{oc})	
Max. Contact voltage	270 V _{AC} /125 V _{oc}	
Operate Time	10 ms max. at rated voltage	
Release Time	5 ms max. at rated voltage	
Endurance	Electrically	Resistive Load: 100,000 ops. min. (10 ops/minute)
	Mechanically	At No Load: 20,000,000 ops. min. (300 ops/minute)
Dielectric Strength	Between Contacts	750 V _{AC} for 1 minute
	Between Coil to Contacts	3,000 V _{AC} for 1 minute
Insulation Resistance	5,080 V (1.2/50 μs)	
Surge Strength	5 ms max. at rated voltage	
ESD Protection	+/-4 kV Contact for Each Channel	

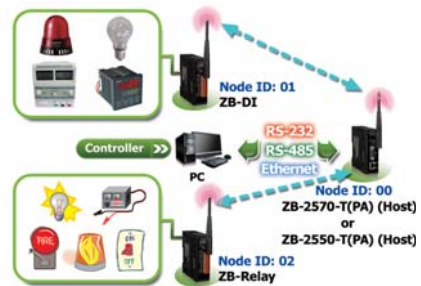
Features

- ISM 2.4 GHz Operating Frequency
- Fully Compliant 2.4 G IEEE802.15.4/ZigBee Specifications
- Wireless Transmission Range up to 700 m (PA-Version)
- Wireless Transmission Range up to 100 m (None/T-Version)
- GUI Configuration Software (Windows Version)
- 6 Digital Input & 4 Relay Output
- Supports 16-bit Counters for Digital Inputs
- Surge and ESD Protection
- DIN-Rail Mounting



Applications

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



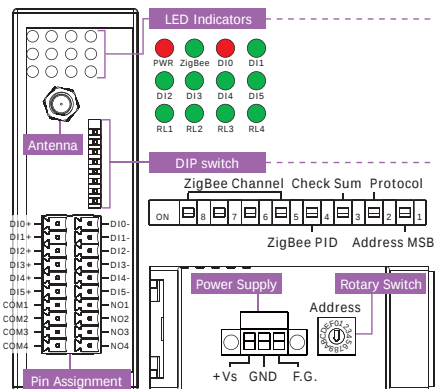
System Specifications

Communication Interface	
Wireless	ZigBee, IEEE 802.15.4 Standard
Antenna	2.4 GHz-3 dBi Omni-Directional antenna
Protocols	Supports DCON and Modbus RTU Protocols
Hot Swap	By Rotary and DIP switch
LED Indicators	
Power	1 LED, red
ZigBee Communication	1 LED, green
Digital Input & Output	10 LEDs, green
Power	
Power Consumption	1.2 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
Humidity	10% ~ 90% RH, Non-condensing

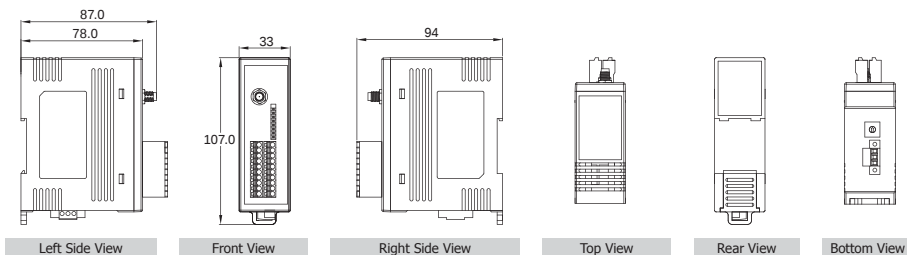
Wiring

Input Type	ON State LED ON Readback as 1	OFF State LED OFF Readback as 0
	Voltage > 3.5V	Voltage < 1V
TTL/ CMOS Logic		
	Relay ON	Relay OFF
Relay Contact		
	Open Collector ON	Open Collector OFF
Open Collector		
Output Type	ON State LED ON Readback as 1	OFF State LED OFF Readback as 0
	Relay ON	Relay OFF
Relay Contact		

Appearance



Dimensions (Units: mm)



Ordering Information

ZB-2060-T CR Wireless 6-ch Isolated Digital Input and 4-ch Relay Output Module (RoHS)

Important Note: The ZigBee AIO modules need a ZB-2570 to coordinate the data transmission route, please remember to also order a ZB-2570 when you purchase the ZB DIO products.

Accessories

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