

## 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.

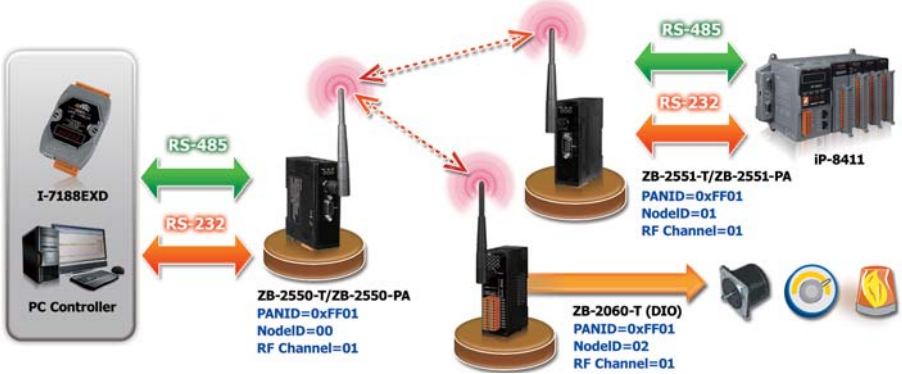
The typical transmission range of the ICP DAS ZigBee ZB-2550-T/ZB-2551-T converter is 100m, and 700m for the ZB-2550-PA/ZB-2551-PA.

### Specifications

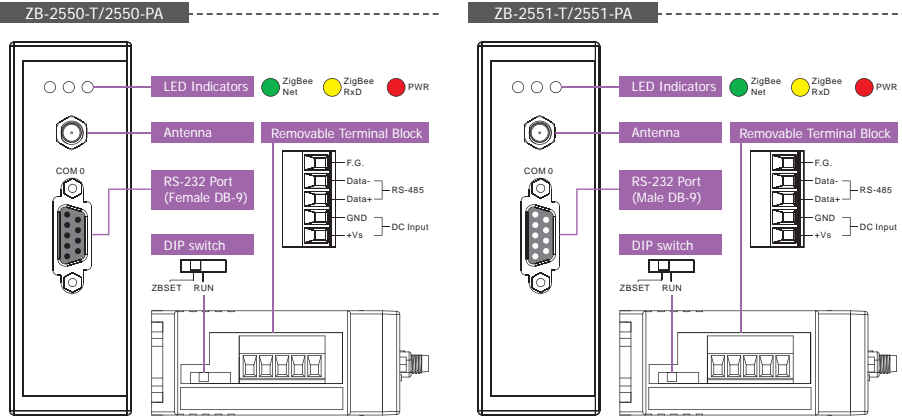
Models	ZB-2550-T	ZB-2550-PA	ZB-2551-T	ZB-2551-PA
<b>ZigBee Module</b>				
RF Channels	16			
Receiving Sensitivity	-102 dBm			
Transmit Power	3 – 4 dBm	22 – 24 dBm	3 – 4 dBm	22 – 24 dBm
Network Topology	Star, Mesh and Cluster tree			
Antenna (Omni-Directional antenna)	2.4 GHz – 3 dBi	2.4 GHz – 5 dBi	2.4 GHz – 3 dBi	2.4 GHz – 5 dBi
Transmission Range	100 m	700 m	100 m	700 m
<b>General</b>				
Module Type	Host		Slave	
<b>Communication Interface</b>				
COM 0	D-Sub 9 Female Non-isolated ; RS-232 (Tx,D, Rx,D, GND); RS-485 (DATA+, DATA-, internal self-tuner ASIC)		D-Sub 9 Male Non-isolated; RS-232 (Tx,D, Rx,D, GND); RS-485 (DATA+, DATA-, internal self-tuner ASIC)	
Baud Rate	1200 – 115200 bps			
<b>LED Indicators</b>				
ZigBee Net State	Green			
ZigBee Rx/D	Yellow			
Power	Red			
<b>Power</b>				
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			
<b>Mechanical</b>				
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
<b>Environment</b>				
Operating Temperature	-25 °C ~ +75 °C			
Storage Temperature	-40 °C ~ +80 °C			
Relative Humidity	5% ~ 90% RH, Non-condensing			

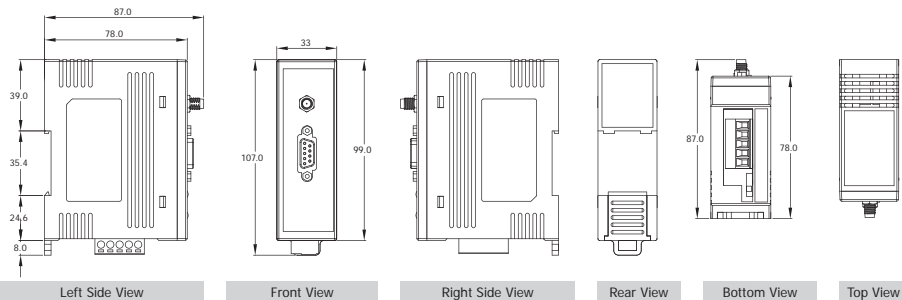
## Applications



## Appearance

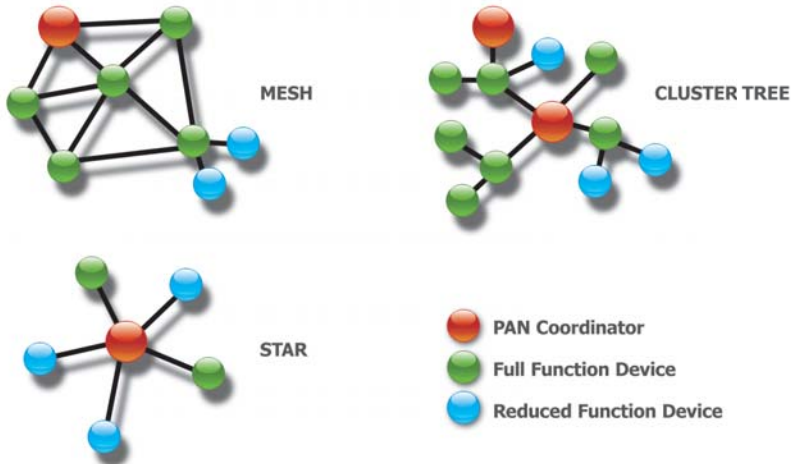


## Dimensions (Units: mm)



## 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)