



ZB-2053-T/ZB-2053-PA

Wireless 14-channel Isolated Digital Input Module

Introduction

The ZB-2053-T/ZB-2053-PA offers 14 digital input channels which can be used for either dry or wet contact. Its effective distance for dry contact is up to 500 meters. All channels are able to be used as 16-bit counters. The ZB-2053-T/ZB-2053-PA includes 14 LED indicators to display the channel status as well as 4 kV ESD protection and 3750 Vrms intra-module isolation. Users can easily to configure the module address, protocol, checksum, ZB-PID and ZB-channel settings using a combination of rotary and DIP switches.

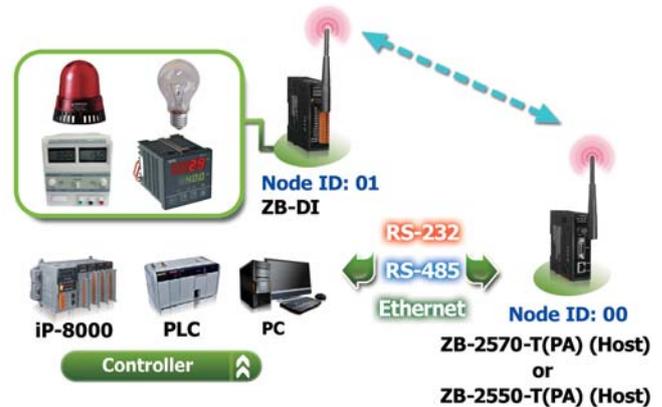
Features

- 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)
- 14 Dry or Wet Contact Digital Input Channels
- Supports 16-bit Counters for Digital Input Channels
- Surge and ESD Protection
- DIN-Rail Mountable



Applications

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



System Specifications

Model	ZB-2053-T	ZB-2053-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	
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 ~ +75°C	
Storage Temperature	-30 ~ +80°C	
Relative Humidity	10 ~ 90% RH, Non-condensing	

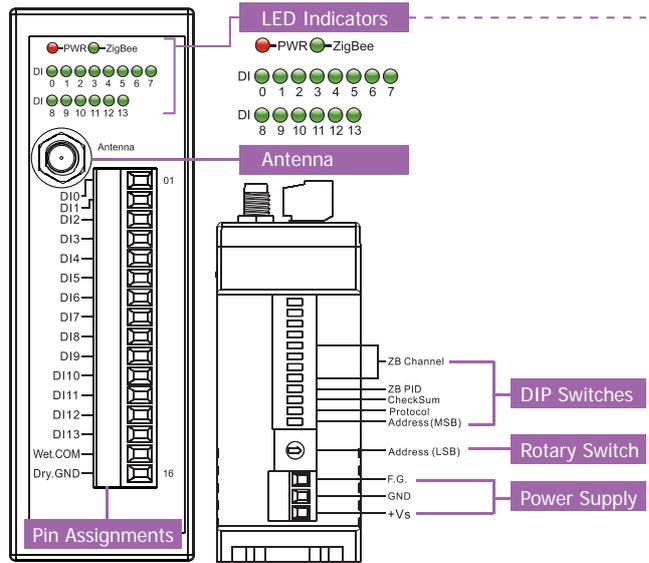
I/O Specifications

Model	ZB-2053-T	ZB-2053-PA
Digital Input		
Input Channels	14	
Dry Contact (Sink)	On Voltage Level: Close to GND	
	Off Voltage Level: Open	
Wet Contact (Sink/Source)	Effective Distance for Dry Contact: 500 m Max.	
	On Voltage Level: +3.5 Vdc ~ +30 Vdc	
	Off Voltage Level: +1 Vdc Max.	
Input Impedance	3 kΩ, 0.33 W	
Counter	Channels: 14	
	Max. Count: 16-bit (65535)	
	Max. Input Frequency: 100 Hz	
	Min. Pulse Width: 5 ms	
Intra-module Isolation, Field to Logic	3750 Vdc	
ESD Protection	+/-4 kV contact for each channel	

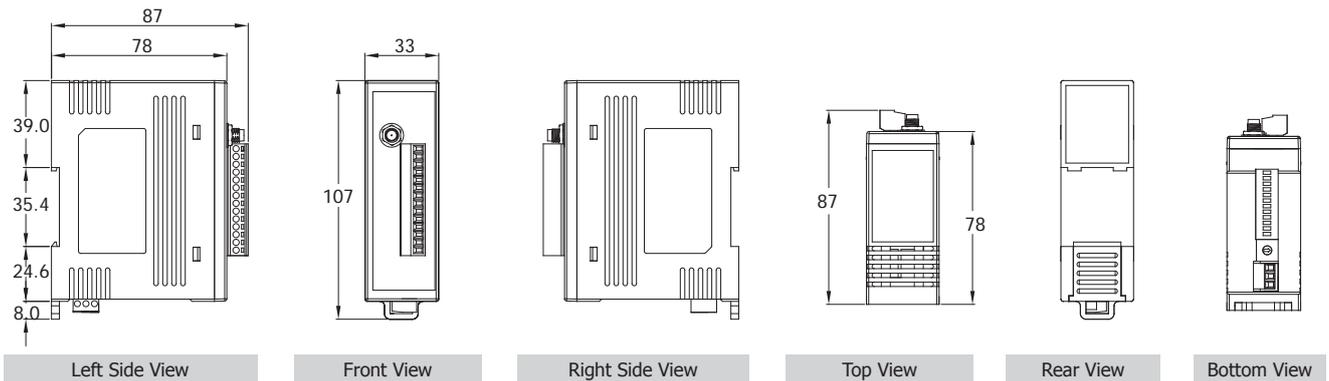
Wiring

Input Type	ON State LED ON Readback as 1	OFF State LED OFF Readback as 0
	Relay ON	Relay OFF
Dry Contact		
	Voltage > 3.5V	Voltage < 1V
Wet Contact (Source)		
	Open Collector ON	Open Collector OFF
Wet Contact (Sink)		

Appearance



Dimensions (Units: mm)



Ordering Information

ZB-2053-T CR	Wireless 14-channel Isolated Digital Input Module (RoHS)
ZB-2053-PA CR	Wireless 14-channel Isolated Digital Input Module (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)