ZB-2052/ZB-2052-T/ZB-2052-PA

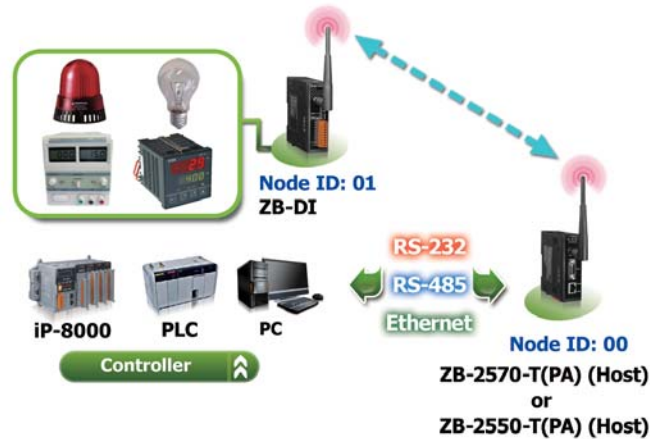Wireless 8-channel Isolated Digital Input Module with 16-bit Counters

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 (None/T-Version)
- GUI Configuration Software (Windows Version)
- 8 Wet Contact Digital Input Channels
- Supports 16-bit Counters for Digital Input Channels
- Surge and ESD Protection
- DIN-Rail Mountable

Introduction

The ZB-2052-T/ZB-2052-PA offers 8 digital input channels, each of which features photocouple isolation. In addition, you can choose either sink-type or source-type input via wire connections. All channels are able to be used as 16-bit counters. The ZB-2052/ZB-2052-T/ZB-2052-PA has 8 LED indicators to display the channel status and also includes 4 kV ESD protection and 3000 V_{DC} intra-module isolation. Users can easily configure the module address, protocol, checksum, ZB-PID and ZB-channel settings using a combination of rotary and DIP switches.

Applications

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

System Specifications
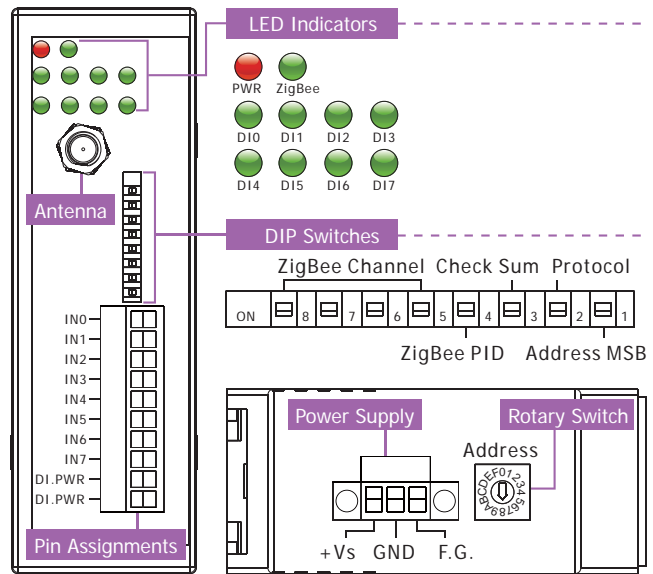
Model	ZB-2052	ZB-2052-T	ZB-2052-PA
Communication Interface			
Wireless Standards	ZigBee, IEEE 802.15.4		
Transmission Power	4 dBm		22 dBm
2.4 GHz Antenna	3 dBi Omni directional		5 dBi Omni directional
Transmission Range (LoS)	100 m		700 m (Typical) 1 km (Max.)
Certification	CE/FCC, FCC ID		-
Max. Slaves 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	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 ~ +75°C		
Storage Temperature	-30 ~ +80°C		
Relative Humidity	10 ~ 90% RH, Non-condensing		

I/O Specifications

Model	ZB-2052	ZB-2052-T	ZB-2052-PA
Digital Input			
Input Channels	8		
Wet Contact (Sink/Source)	On Voltage Level: +3.5 V_{DC} ~ +30 V_{DC}		
	Off Voltage Level: +1 V_{DC} Max.		
Input Impedance	3 kΩ, 0.33 W		
Counter	Channels: 8		
	Max. Count: 16-bit (65535)		
	Max. Input Frequency: 100 Hz		
	Min. Pulse Width: 5 ms		
Intra-module Isolation, Field to Logic	3750 V_{rms}		
ESD Protection	+/-4 kV contact for each channel		

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📁 Wiring

Input Type	ON State LED ON Readback as 1	OFF State LED OFF Readback as 0
TTL/ CMOS Logic	Voltage > 3.5V	Voltage < 1V
	Logic Level High / Logic GND — DI.PWR INx	Logic Level Low / Logic GND — DI.PWR INx
Relay Contact	Relay ON	Relay OFF
	+ / - Relay Close — DI.PWR INx	+ / - Relay Open — DI.PWR INx
Open Collector	Open Collector ON	Open Collector OFF
	ON — DI.PWR INx	ON — DI.PWR INx

📁 Appearance

LED Indicators

PWR   ZigBee

DI0 DI1 DI2 DI3

DI4 DI5 DI6 DI7

Antenna

IN0
IN1
IN2
IN3
IN4
IN5
IN6
IN7
DI.PWR
DI.PWR

Pin Assignments

DIP Switches

ZigBee Channel   Check Sum   Protocol

ON   8 7 6 5 4 3 2 1

ZigBee PID   Address MSB

Power Supply   Rotary Switch

Address

+Vs   GND   F.G.

📁 Dimensions (Units: mm)

87

107.0

33

104

87.0   77.5

Left Side View	Front View	Right Side View	Top View	Rear View	Bottom View
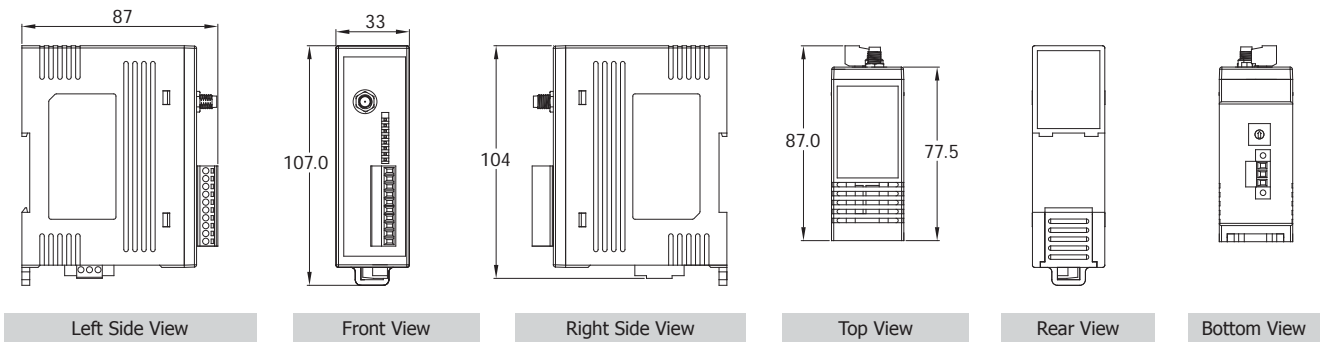
📁 Ordering Information

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

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