



ZT-2053

Wireless 14-channel Isolated Digital Input Module

Features

- ISM 2.4 GHz Operating Frequency
- Fully Compliant with 2.4G / ZigBee Specifications
- Wireless Transmission Range up to 700 m (Default)
- Adjustable RF Transmission Output Power
- External DIP and Rotary Switches for easy Configuration
- GUI Configuration Software (Windows Version)
- Supports AES-128 Encryption for the Wireless Communication (Passive)
- Supports ZigBee Repeater Function
- 14 Dry or Wet Contact Digital Input Channels
- Supports 16-bit Counters for Digital Input Channels
- Surge and ESD Protection
- DIN-Rail Mountable



Introduction

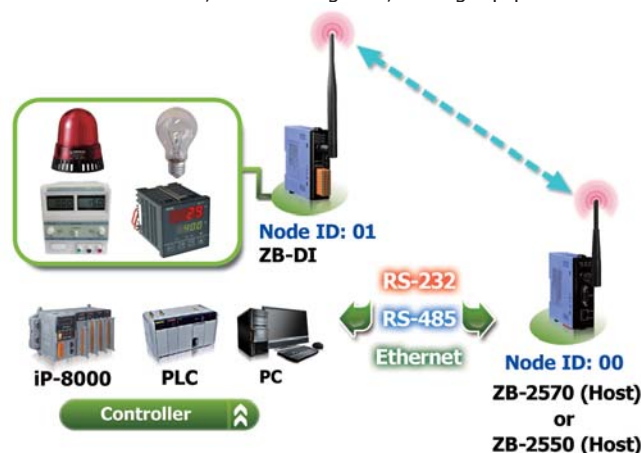
The ZT-2053 offers 14 digital input channels which can be used for either dry or wet contact. Its effective distance for dry contact is up to 500 meters. All channels are able to be used as 16-bit counters. The ZT-2053 includes 14 LED indicators to display the channel status as well as 4 kV ESD protection 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.

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) |
| Certification | CE/FCC, FCC ID |
| Max. Slaves in a ZigBee Network | 255 |
| Protocols | Supports DCON and Modbus RTU Protocols |
| Dual Watchdog | Yes, Module (1.6 Seconds), Communication (Programmable) |
| LED Indicators | |
| Power | 1 LED, Red |
| ZigBee Communication | 1 LED, Green |
| Digital Input | 14 LEDs, Green |
| Isolation | |
| Intra-module Isolated, Field-to-Logic | 3750 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 |
| Surge (IEC 61000-4-5) | ±3 kV for Power |
| Power | |
| Input Voltage Range | +10 VDC ~ +30 VDC |
| Power Consumption | 0.72 W Max. |
| Mechanical | |
| Flammability | Fire Retardant Materials (UL 94V-0 Level) |
| Dimensions (L × W × H) | 87 mm × 33 mm × 110 mm |
| Installation | DIN-Rail |
| Environment | |
| Operating Temperature | -25 ~ +75°C |
| Storage Temperature | -30 ~ +80°C |
| Relative Humidity | 10 ~ 90% RH, Non-condensing |

Applications

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



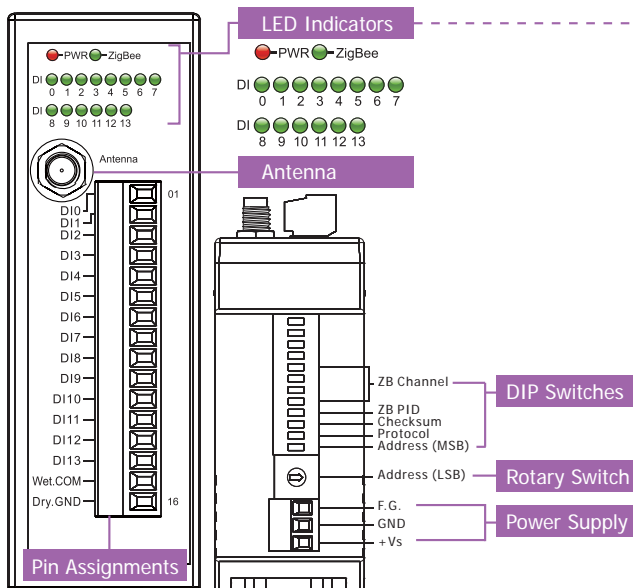
I/O Specifications

| Digital Input | |
|---------------------------|------------------------------------------------|
| Input Channels | 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 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 |

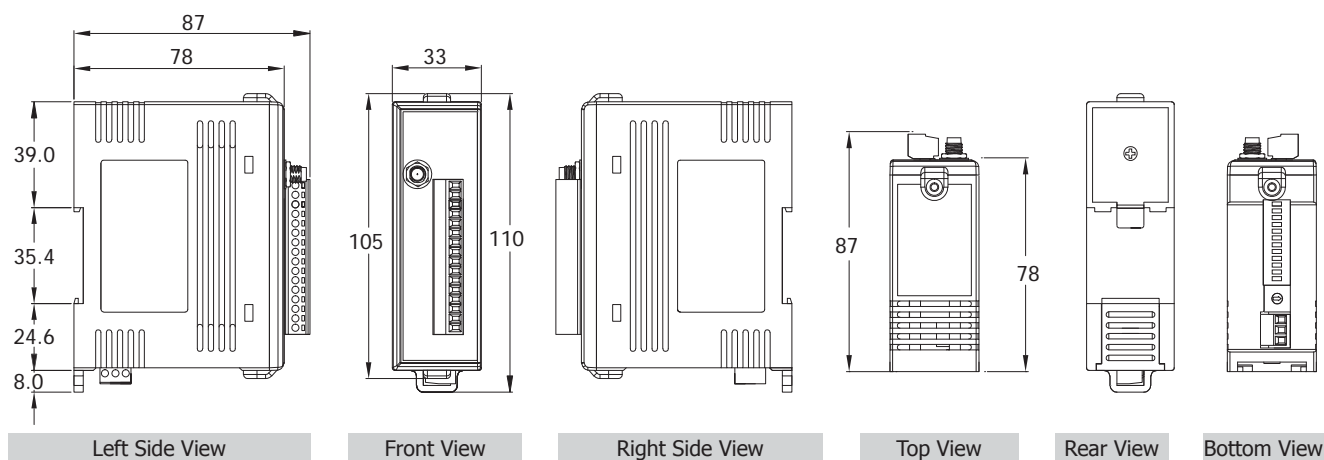
Wiring

| 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

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| ZT-2053 CR | Wireless 14-channel Isolated Digital Input Module (ZigBee Router) (RoHS) |
| Important Note: ZigBee Data Acquisition modules need a ZigBee host converter to coordinate the data transmission route. Please remember to order a ZT-2550, ZT-2570, and ZT-USBC 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 |
| ZT-2510 CR | ZigBee Repeater (RoHS) |
| ZT-2550 CR | RS-485/RS-232 to ZigBee Converter (Host) |
| ZT-2570 CR | Ethernet/RS-485/RS-232 to ZigBee Converter (Host) (RoHS) |
| External Antenna | 2.4 GHz External Antenna, RP SMA Male (Plug) |
| Extension Cable | 3S00x-1, RG58A/U × Meter Long RP-SMA (male) to RP-SMA (female) |