

# ZT-2053-IOP

ZigBee I/O Pair-connection Module with the 14-channel Isolated Digital Input

## 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 (Default)
- Adjustable RF Transmission Output Power
- 14 Channels Pair-connection of the Digital Input
- DO Safe Value setting for Wireless Disconnection Monitoring
- Configurable I/O Pairing Number
- Surge and ESD Protection
- Supports AES-128 Encryption for the Wireless Communication
- DIN-Rail Mountable

## Introduction

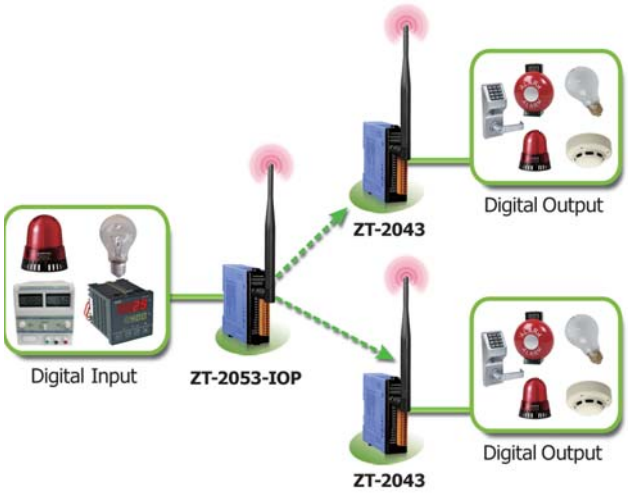
The ZT-2053-IOP module acts as a ZigBee coordinator that provides 14-channel digital input pair-connection function with module of ZT-2043 (14-ch sink type digital output). An embedded I/O channel binding function means that there is no need to use an external controller. The status of each ZT-2053-IOP channel triggers the corresponding remote digital output channels on the ZT-2043 module. The ZT-2053-IOP continually transmits updates on the status of the digital input channels to the remote ZT-2043 to ensure that the digital output channels are synchronized.The ZT-2053-IOP also provides external DIP switches for easy confi guration, which can be used to synchronize the digital signals in any environment where wiring is diffi cult.

## System Specifications

| | |
|---|---|
| **Communication Interface** | |
| Wireless Standards | ZigBee 2007 Pro |
| Transmission Power | 10 dBm to 19 dBm (EIRP) (Adjustable via Utility) |
| Antenna | 2.4 GHz - 5 dBi Omni-directional Antenna |
| Transmission Range (LoS) | 300 m to 700 m (Depending on the RF power setting) |
| Max. Slaves in a ZigBee Network | 255 |
| **LED Indicators** | |
| Power | 1 LED, Red |
| ZigBee Communication | 1 LED, Green |
| Digital Input | 14 LEDs, Green |
| **Isolation** | |
| Intra-module Isolated, Field-to-Logic | 3750 Vrms |
| **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** | |
| OperatingTemperature | -25 ~ +75°C |
| Storage Temperature | -30 ~ +80°C |
| Humidity | 10 ~ 90% RH, Non-condensing |

## Applications

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

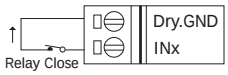
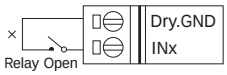
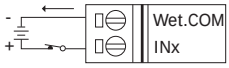
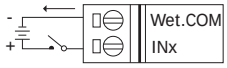
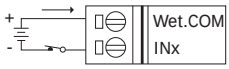
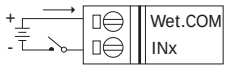



## I/O Specifications

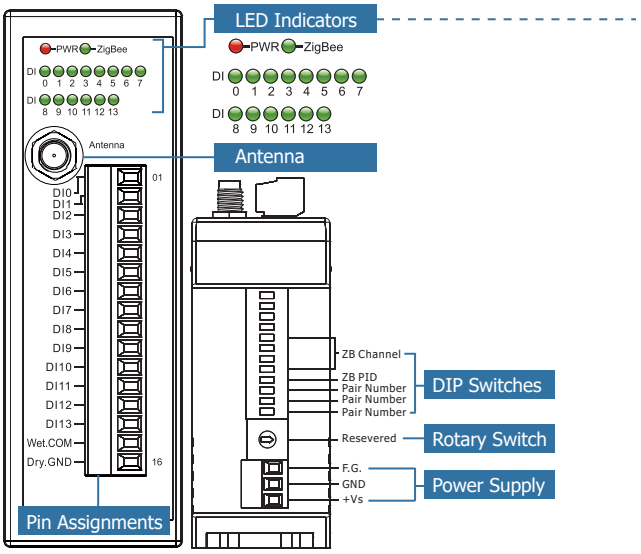
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|---|---|
| **Digital Input** | |
| Input Channels | 14 |
| Dry Contact (Sink) | On Voltage Level: Close to GND |
| | Off Voltage Level: Open |
| | Effective Distance for Dry Contact: 500 m Max. |
| Wet Contact (Sink/Source) | On Voltage Level: +3.5 VDC ~ +30 VDC |
| | Off Voltage Level: +1 VDC Max. |
| Input Impedance | 3 kΩ, 0.33 W |

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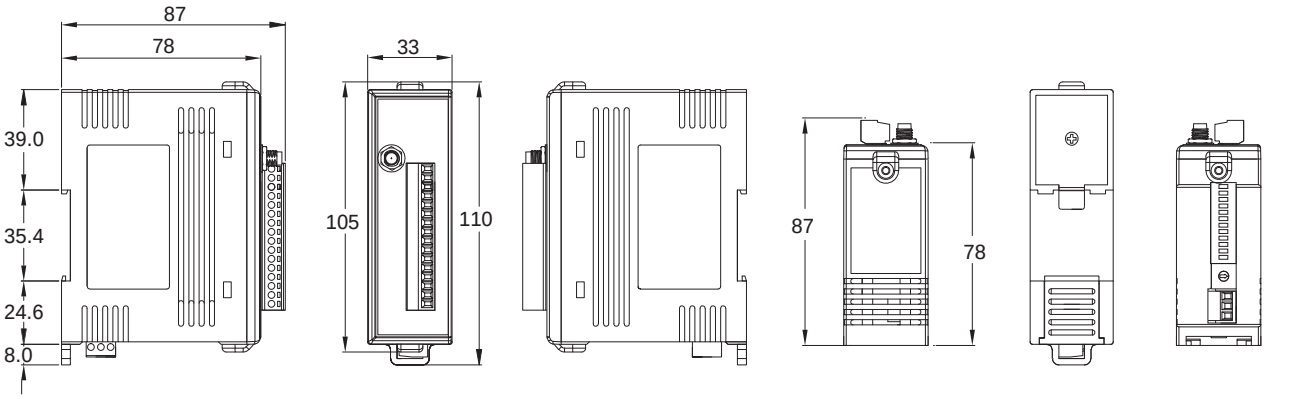
## Wiring

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

## Appearance




## Dimensions (Units: mm)




Left Side View | Front View | Right Side View | Top View | Rear View | Bottom View

## Ordering Information

| | |
|---|---|
| **ZT-2053-IOG CR** | ZigBee I/O Group (Pair-connection) Module with the 14-channel Isolated Digital Input (Full-function) (RoHS) |
| Important Note: If there is any requirement to do the advanced configuration, please remember to order at least one ZT-USBC or ZT-2570 ZigBee converter. | |

## Accessories

| | |
|---|---|
| **ZT-USBC CR** | USB to ZigBee Converter (ZigBee Full-function) (RoHS) |
| **ZT-2510 CR** | ZigBee Repeater (RoHS) |
| **ZT-2550** | RS-485/RS-232 to ZigBee Converter (Host) |
| **ZT-2570 CR** | Ethernet/RS-485/RS-232 to ZigBee Converter (Host) (RoHS) |
| Important Note: The default pairing setting of ZT-2053-IOP is paired with the ZT-2043. If there is any pairing requirement with other ZigBee I/O modules, a ZigBee converter is required for doing the software configuration. | |

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