ZT-2060-IOP

ZigBee I/O Pair-connection Module with the 4-channel Isolated Digital Input and 4-channel Relay Output
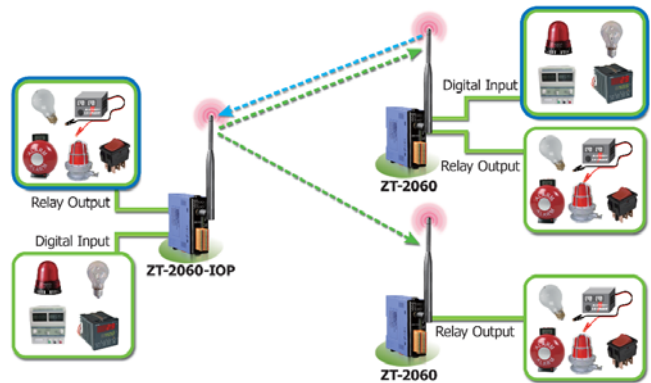
Features

- 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
- Automatic 4 Channels Pair-connection of the Digital Input and Relay Output
- DO Safe Value setting for Wireless Disconnection Monitoring
- Configurable I/O Pairing Number
- External DIP Switch and Rotary Configuration
- Surge and ESD Protection
- Supports AES-128 Encryption for the Wireless Communication
- DIN-Rail Mountable

Introduction

The ZT-2060-IOP module is a ZigBee coordinator that provides both 4-channel digital input and 4-channel digital output. An embedded I/O channel binding function means that there is no need to use an external controller.

The status of each channel is bound to a remote channel of the ZT-2060. The ZT-2060-IOP continually updates the status of the DO channel of the remote ZT-2060 based on its own DI channels. It also reads the status of the DI channel of the remote ZT-2060 to synchronize its own DO channels.

The ZT-2060-IOP also provides external DIP switches for easy configuration, which can be used to synchronize the digital signals in any difficult wiring environment.

Applications

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

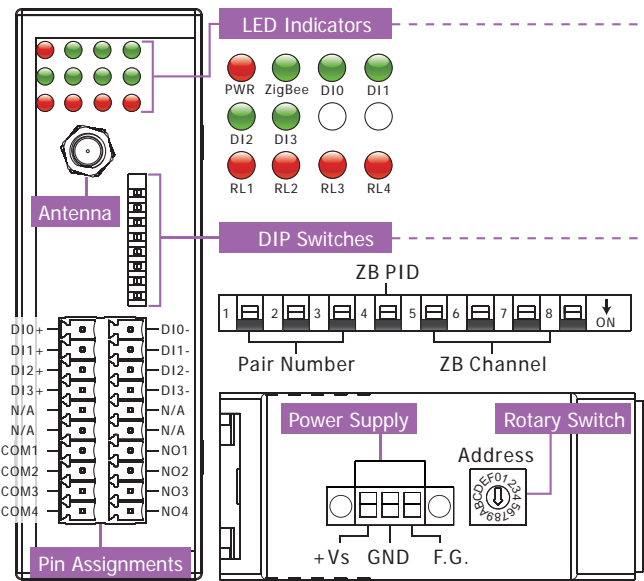## System Specifications

Communication Interface	
Wireless Standards	ZigBee 2007 Pro
Transmission Power	11 dBm (FCC Certificated)
2.4 GHz Antenna	5 dBi Omni directional
Transmission Range (LoS)	700 m (Typical)
Certification	CE/FCC, FCC ID
Max. Slaves in a ZigBee Network	255
Hot Swap	Rotary and DIP switch
LED Indicators	
Power	1 LED, Red
ZigBee Communication	1 LED, Green
Digital Input and Output	4 Green LEDs for Digital Input 4 Red LEDs for Relay Output
Isolation	
Intra-module Isolated, Field-to-Logic	2500 V$_{DC}$
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 Line
Power	
Input Voltage Range	+10 V$_{DC}$ ~ +30 V$_{DC}$
Power Consumption	1.4 W Max.
Mechanical	
Flammability	Fire Retardant Materials (UL94-V0 Level)
Dimensions (L x W x H)	94 mm x 33 mm x 110 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

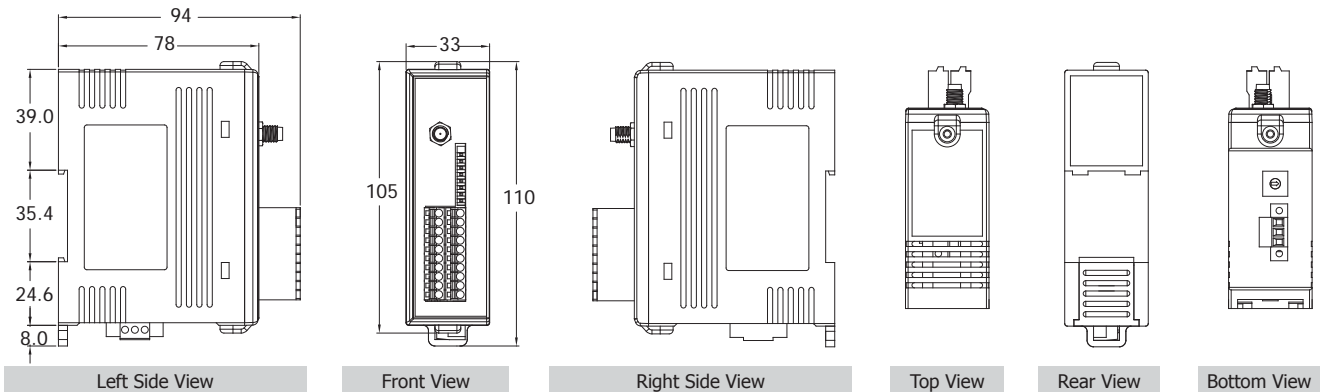| Digital Input		
Input Channels		4
Input Types		Isolated, Wet Contact (Sink/Source)
Input Level	On Voltage Level	+3.5 V$_{DC}$ ~ +30 V$_{DC}$
	Off Voltage Leve	+1 V$_{DC}$ Max.
Input Impedance		3 kΩ, 0.33 W
Relay Output		
Output Channels		4
Output Types		Power Relay, Form A
Contact Rating		5 A @ (250 V$_{AC}$/30 V$_{DC}$)
Max. Contact Voltage		270 V$_{AC}$/125 V$_{DC}$
Operate Time		10 ms max. at Rated Voltage
Release Time		5 ms max. at Rated Voltage
Endurance	Electrical	Resistive Load: 100,000 ops. min. (10 ops/minute)
	Mechanical	At No Load: 20,000,000 ops. min. (300 ops/minute)
Dielectric Strength	Between Contacts	750 V$_{AC}$ for 1 minute
	Between Coil to Contacts	3,000 V$_{AC}$ for 1 minute
Insulation Resistance		5,080 V (1.2/50 μs)
Surge Strength		5 ms max. at Rated Voltage
ESD Protection		+/-4 kV contact for each channel

Wiring

Digital Input/ Counter	ON State Readback as 1	OFF State Readback as 0
Sink	+3.5 ~ +30 V_{DC}	OPEN or <1 V_{DC}
Source	+3.5 ~ +30 V_{DC}	OPEN or <1 V_{DC}

Power Relay	ON State Readback as 1	OFF State Readback as 0
Relay Output		

Appearance

LED Indicators

PWR ZigBee DI0 DI1
DI2 DI3
RL1 RL2 RL3 RL4

Antenna

DIP Switches

ZB PID

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | ↓ ON |

Pair Number   ZB Channel

Pin Assignments

DI0+ DI0-
DI1+ DI1-
DI2+ DI2-
DI3+ DI3-
N/A N/A
N/A N/A
COM1 NO1
COM2 NO2
COM3 NO3
COM4 NO4

Power Supply   Rotary Switch

Address

+Vs GND F.G.

Dimensions (Units: mm)

94
78
39.0
35.4
24.6
8.0

Left Side View

33
105   110

Front View

Right Side View

Top View

Rear View

Bottom View

Ordering Information

ZT-2060-IOP CR	ZigBee Pair-connection to the 6-ch Isolated Digital Input and 4-ch Relay Output Module (Host, ZigBee Coordinator) (RoHS)
ZT-2042 CR	ZigBee 4-ch PhotoMOS Relay Output and 4-ch Open Collector Output Module (Slave, ZigBee Router) (RoHS)
ZT-2043 CR	ZigBee 14-ch Isolated Digital Output Module (Slave, ZigBee Router) (RoHS)
ZT-2055 CR	ZigBee 8-channel Isolated Digital Input and 8-channel Isolated Digital Output Module (Slave, ZigBee Router) (RoHS)
ZT-2060 CR	ZigBee 6-ch Isolated Digital Input and 4-ch Relay Output Module (Slave, ZigBee Router) (RoHS)

Important Note: ZigBee Pair-connection module is a ZigBee host to coordinate the ZigBee I/O module. Please order at least one ZT-2000 digital series module to work for ZigBee I/O pairing.

Accessories

ZT-2510 CR	ZigBee Repeater (RoHS)
ZT-USBC CR	USB to ZigBee Converter (Coordinator)
ZT-2550 CR	RS-485/RS-232 to ZigBee Converter (Coordinator)
ZT-2570 CR	Ethernet/RS-485/RS-232 to ZigBee Converter (Coordinator)

Important Note: The default pairing setting of ZT-2055-IOP is paired with the ZT-2055. If there is any pairing requirement with other ZigBee I/O modules, a ZigBee converter is required for doing the software configuration.