Backplane Systems Technology Pty Ltd

TEL 02 9457 6400
sales@backplane.com.au
www.backplane.com.au

ZT-2060-IOP

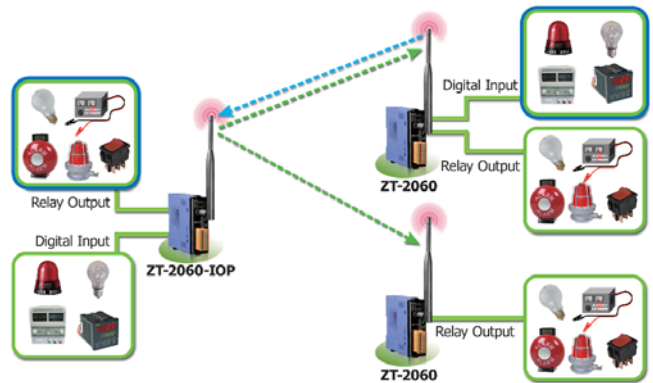ZigBee I/O Pair-connection Module with the 4-channel Isolated Digital Input and 4-channel Relay Output

🅰 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
- 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.

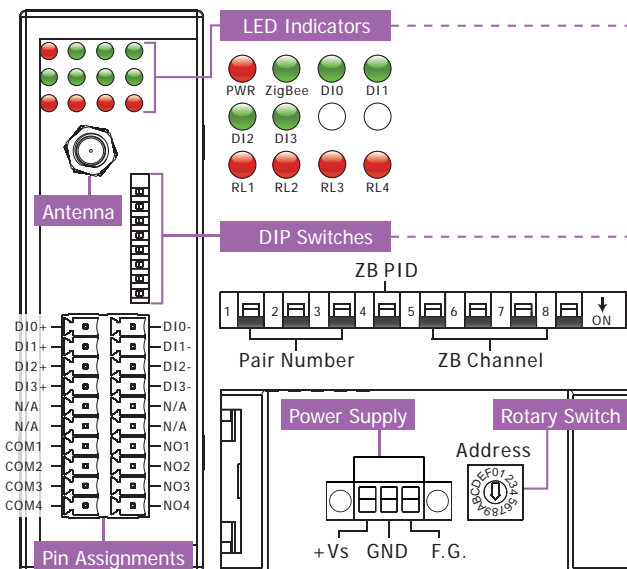## 📁 System Specifications

Communication Interface	
Wireless Standards	ZigBee 2007 Pro
Transmission Power	11 dBm (FCC Certificated) (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
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 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
Power	
Input Voltage Range	+10 VDC ~ +30 VDC
Power Consumption	1.4 W Max.
Mechanical	
Flammability	Fire Retardant Materials (UL 94V-0 Level)
Dimensions (L × W × 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

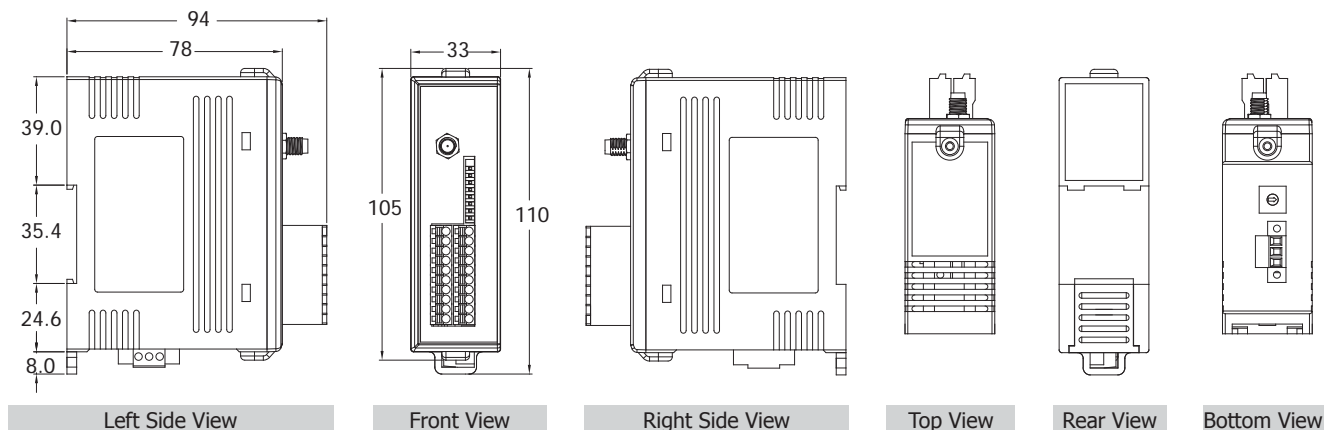| Digital Input		
Input Channels		4
Input Types		Isolated, Wet Contact (Sink/Source)
Input Level	On Voltage Level	+3.5 VDC ~ +30 VDC
	Off Voltage Leve	+1 VDC Max.
Input Impedance		3 kΩ, 0.33 W
Relay Output		
Output Channels		4
Output Types		Power Relay, Form A
Contact Rating		5 A @ (250 VAC/30 VDC)
Max.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

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ZigBee wireless solutions

Wiring

Digital Input	ON State Readback as 1	OFF State Readback as 0
Sink	+3.5 ~ +30 VDC	OPEN or <1 VDC
Source	+3.5 ~ +30 VDC	OPEN or <1 VDC

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

Power Supply   Rotary Switch

Address

+Vs GND F.G.

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

Pin Assignments

Dimensions (Units: mm)

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

Ordering Information

ZT-2060-IOP CR	ZigBee I/O Pair-connection Module with the 4-channel Isolated Digital Input and 4-channel Relay Output (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-USBC CR	USB to ZigBee Converter (ZigBee Full-function) (RoHS)
ZT-2570 CR	Ethernet/RS-485/RS-232 to ZigBee Converter (Host, ZigBee Coordinator) (RoHS)
ZT-2550 CR	RS-485/RS-232 to ZigBee Converter (Host)
ZT-2510 CR	ZigBee Repeater (Slave, ZigBee Router) (RoHS)

Important Note: The default pairing setting of ZT-2060-IOP is paired with the ZT-2060. If there is any pairing requirement with other ZigBee I/O modules, a ZigBee converter is required for doing the software configuration.