ZT-2055-IOG

ZigBee I/O Group (Pair-connection) Module with the 8-channel Isolated Digital Input and 8-channel Isolated Digital Output

Features

- ISM 2.4 GHz Operating Frequency
- Fully Compliant with 2.4G IEEE 802.15.4/ZigBee Specifications
- Supports AES-128 Encryption for the Wireless Communication
- Wireless Transmission Range up to 700 m (Default)
- Adjustable RF Transmission Output Power
- Physical Pair-connection Channels of 8 Digital Input and 8 Digital Output
- 280 Logical Pair-connection Channels Supported
- Configurable I/O Pairing Relationship
- DO Safe Value Setting for Wireless Disconnection Monitoring
- Surge and ESD Protection
- DIN-Rail Mountable

Introduction
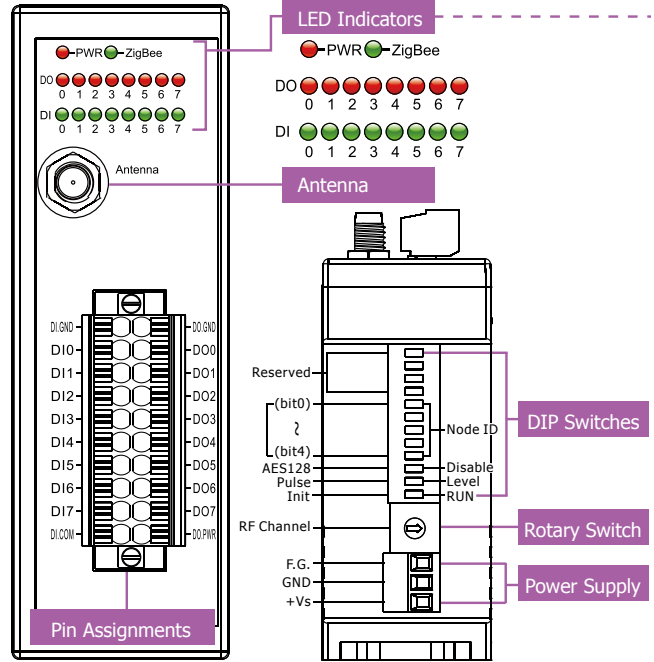
ZT-20xx-IOG series (referred to as ZT-IOG) is a series of ZigBee wireless communication module with Digital Input and Digital Output channels. The "IOG" in the ZT-IOG is the abbreviation for the I/O Group and means the multi-to-multi Pair-connection I/O modules.

The ZT-2055-IOG module is one of the ZT-20xx-IOG series that provides both 8 digital input channels and 8 digital output channels. User can easily configure it as either a ZigBee Coordinator or a ZigBee Router via the external switches.

The ZigBee Coordinator will serve as a message processing and distribution center. In other words, as long as any DI of any ZT-IOG module changes its channel state, it will immediately trigger an event and upload it to the ZigBee Coordinator for I/O updating logic calculations to determine the DO output states of the ZT-IOG system. Then, the ZigBee Coordinator will broadcast a message periodically to all ZT-IOG ZigBee Router modules for synchronizing all DO channel states to achieve the multi-to-multi I/O Pair-connection function.

System Specifications

Communication Interface

Wireless Standards	ZigBee 2007 Pro
Transmission Power	11 dBm (Default, FCC Certificated) (Max 19 dBm)
Antenna	2.4 GHz - 5 dBi Omni-directional Antenna
Transmission Range (LoS)	700 m (Typical)
Max. Slaves in a ZigBee Network	255

LED Indicators

Power	1 Red LED, ZigBee Device Power Indicator
ZigBee Communication	1 Green LED, ZigBee Communication Indicator
Digital Input and Output	8 Green LEDs for Digital Input 8 Red LEDs for Digital 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
Surge	±3 kV for Power Line

Power

Input Voltage Range	+10 V$_{DC}$ ~ +30 V$_{DC}$
Power Consumption	2.5 W Max.

Mechanical

Flammability	Fire Retardant Materials (UL94-V0 Level)
Dimensions (L x W x H)	96 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

Applications

ZT-20xx-IOG Series

I/O Status synchronizing & Device Connection Status Monitoring

Digital Input   Digital Output   Relay Output   RS-232/RS-485 (Modbus RTU)

I/O Specifications

Digital Input

Input Channels		8
Wet Contact (Sink/Source)	On Voltage Level	+10 V$_{DC}$ ~ +50 V$_{DC}$
	Off Voltage Level	+4 V$_{DC}$ Max.
Dry Contact (Source)	On Voltage Level	Close to GND
	Off Voltage Level	Open
Input Impedance		10 KΩ
Intra-module Isolation, Field to Logic		3750 V$_{DC}$
Overvoltage Protection		±70 V$_{DC}$

Digital Output

Output Channels	8
Output Types	Isolated Open Collector
Sink/Source(NPN/PNP)	Sink
Load Voltage	+3.5 ~ 50 V$_{DC}$
Max. Load Current	650 mA/Channel
Overvoltage Protection	60 V$_{DC}$
Overload Protection	1.4 A (with short-circuit protection)

Wiring

Input Type	ON State Readback as 1	OFF State Readback as 0
Dry Contact	Close to GND	Open
Wet Contact (Sink)	+10 ~ +50 VDC	+4 VDC Max.
Wet Contact (Source)	+10 ~ +50 VDC	+4 VDC Max.

Output Type	ON State Readback as 1	OFF State Readback as 0
Digital Output (Resistance Load)		
Digital Output (Inductive Load)		

Appearance

LED Indicators

Antenna

Pin Assignments

DIP Switches

Node ID

Rotary Switch

Power Supply

Dimensions (Units: mm)

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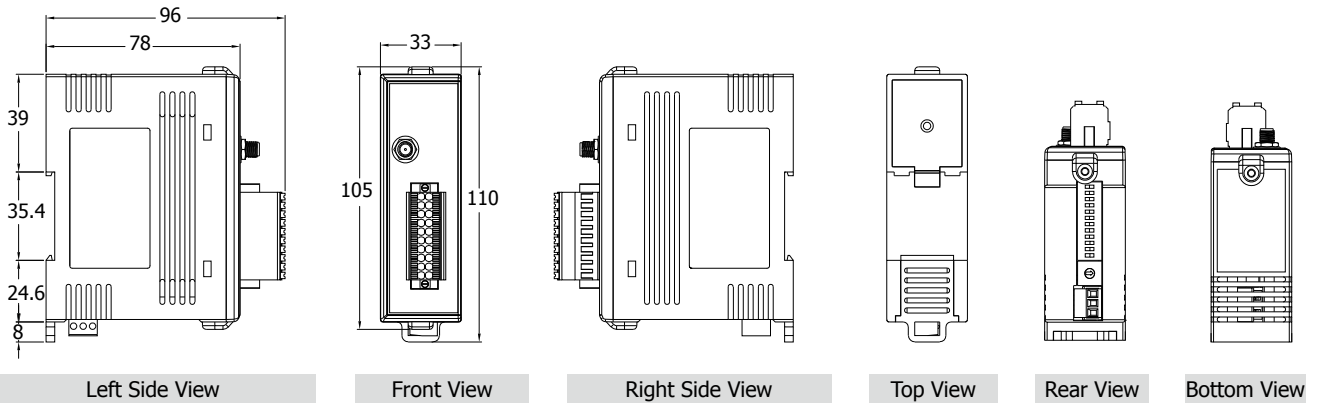
Ordering Information

ZT-2055-IOG CR	ZigBee I/O Group (Pair-connection) Module with the 8-channel Isolated Digital Input and 8-channel Isolated Digital Output (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-2570 CR	Ethernet/RS-485/RS-232 to ZigBee Converter (Host, ZigBee Coordinator) (RoHS)
ZT-2510 CR	ZigBee Repeater (Slave, ZigBee Router) (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)