ZT-2042

Wireless 4-channel PhotoMOS Relay Output and 4-channel Open Collector Output Module
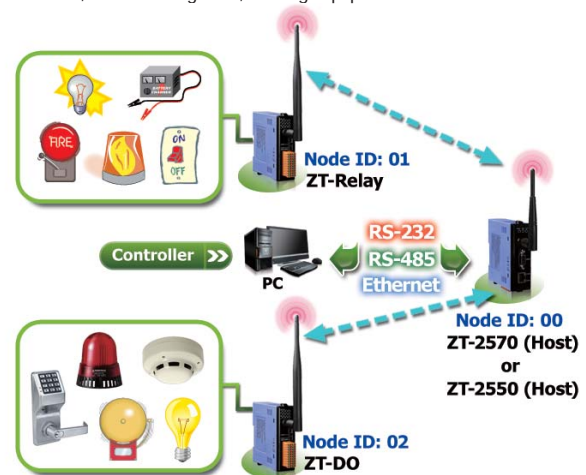
Features

- ISM 2.4 GHz Operating Frequency
- Fully Compliant with 2.4G /ZigBee Specifications
- Wireless Transmission Range up to 700 m
- GUI Configuration Software (Windows Version)
- 4 PhotoMOS Relay Output Channels and 4 Open Collector Digital Output Channels
- Short Circuit Protection
- Surge and ESD Protection
- Configurable Power-on Value Settings
- Configurable Safe Value Settings
- DIN-Rail Mounting

Introduction

The ZT-2042 offers 4 PhotoMOS relay output channels and 4 sink-type digital output channels with short circuit protection. Each channel features photo couple isolation. There are options for configuring power-on and safe digital output values. The ZT-2042 has 8 LED indicators to display the DO channel status. 4 kV ESD protection and 3000 V_{DC} intra-module isolation are the standard. Users can easily 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)
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
ZB-100R/ZB-100T Support	-
Protocols	Supports DCON and Modbus RTU Protocols
Dual Watchdog	Yes, Module (1.6 Seconds), Communication (Programmable)
Hot Swap	Rotary and DIP switch
LED Indicators	
Power	1 LED, red
ZigBee Communication	1 LED, green
Digital Output	8 LEDs, red
Isolation	
Intra-module Isolated, Field-to-Logic	3000 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
Surge (IEC 61000-4-5)	3 kV for Power
Power	
Power Consumption	1.32 W Max.
Mechanical	
Flammability	Fire Retardant Materials (UL94-V0 Level)
Dimensions (L x W x H)	87 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

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

I/O Specifications
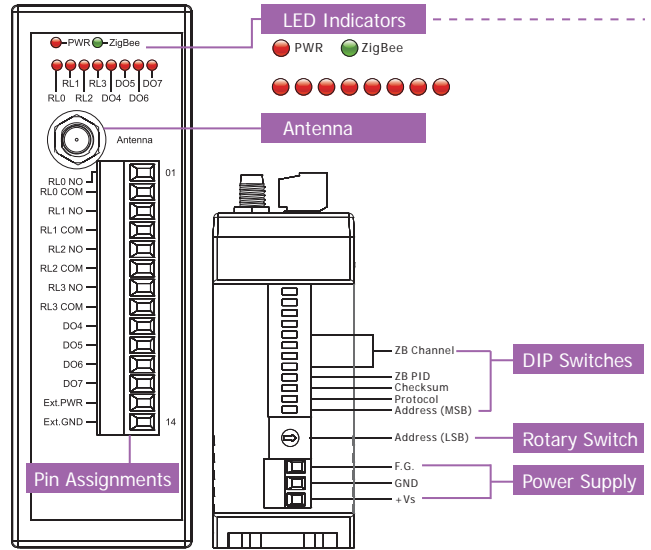
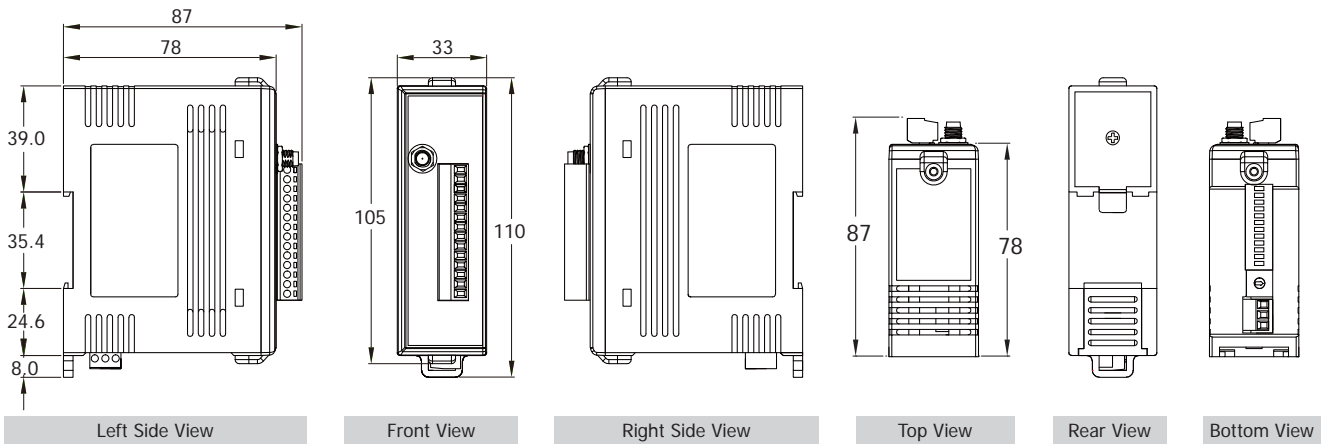| Relay Output	
Output Channels	4
Output Types	PhotoMOS Relay, Form A
Load Voltage	60 V_{DC}/V_{AC}
Max. Load Current	60 V/1.0 A (Operating Temperature: -25 ~ +40°C)
	60 V/0.8 A (Operating Temperature: +40 ~ +60°C)
	60 V/0.7 A (Operating Temperature: +60 ~ +75°C)
Power-on Time	5.0 ms
Power-off Time	0.5 ms
Power-on Value	Yes
Safe Value	Yes
Digital Output	
Output Channels	4 (Sink)
Output Types	Isolated Open Collector
Max. Load Current	700 mA/channel
Load Voltage	+5 V_{DC} ~ +50 V_{DC}
Power-off Time	0.5 ms
External Power Reversed Protection and Short Circuit Protection	Yes
Current Limited Protection	1.1 A
Power-on Value	Yes
Safe Value	Yes

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Wiring

Relay Output	ON State LED ON Readback as 1	OFF State LED OFF Readback as 0
From A Relay Contact	Relay ON	Relay OFF
	Load — NOx / COMx (AC/DC)	Load × NOx / COMx (AC/DC)

Digital Output	ON State LED ON Readback as 1	OFF State LED OFF Readback as 0
Drive Relay	Relay ON	Relay OFF
	DO.PWR / DOx / DO.GND	DO.PWR / DOx / DO.GND
Resistance Load	Relay ON	Relay OFF
	DO.PWR / DOx / DO.GND	DO.PWR / DOx / DO.GND

Appearance

LED Indicators
- PWR
- ZigBee

Antenna

Pin Assignments:
RL0 NO, RL0 COM, RL1 NO, RL1 COM, RL2 NO, RL2 COM, RL3 NO, RL3 COM, DO4, DO5, DO6, DO7, Ext.PWR, Ext.GND

DIP Switches — ZB Channel, ZB PID, Checksum, Protocol, Address (MSB)
Rotary Switch — Address (LSB)
Power Supply — F.G., GND, +Vs

Dimensions (Units: mm)

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

Left Side View: 87, 78, 39.0, 35.4, 24.6, 8.0
Front View: 33, 105, 110
Top View: 87, 78

Ordering Information

ZT-2042 CR	Wireless 4-channel PhotoMOS Relay Output and 4-channel Open Collector Output Module (RoHS) (Long Range)

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 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 High Power Amplifier ZigBee Converter (Host) (RoHS)
ZT-2570 CR	Ethernet/RS-485/RS-232 to High Power Amplifier ZigBee Converter (Host) (RoHS)

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