



## ZT-2042

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

### 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 VDC 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 Certified) (Max 19 dBm)                     |
| Antenna                               | 2.4 GHz - 5 dBi Omni-directional Antenna                |
| Transmission Range (LoS)              | 700 m (Typical)   |
| Protocols                             | Supports DCON and Modbus RTU Protocols                  |
| Dual Watchdog                         | Yes, Module (1.6 Seconds), Communication (Programmable) |
| LED Indicators                        |   |
| Power                                 | 1 LED, Red  |
| ZigBee Communication                  | 1 LED, Green  |
| Digital Output                        | 8 LEDs, Red   |
| Isolation                             |   |
| Intra-module Isolated, Field-to-Logic | 3000 VDC  |
| EMS Protection                        |   |
| Power                                 | 1 LED, Red  |
| ZigBee Communication                  | 1 LED, Green  |
| Digital Output                        | 8 LEDs, Red   |
| Power                                 |   |
| Input Voltage Range                   | +10 VDC ~ +30 VDC                                       |
| Power Consumption                     | 1.32 W Max.   |
| Mechanical                            |   |
| 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   |
| Humidity                              | 10 ~ 90% RH, Non-condensing                             |

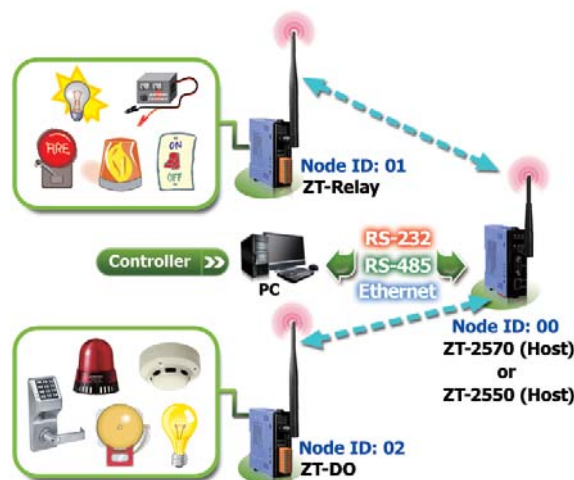
### Features

- ISM 2.4 GHz Operating Frequency
- Fully Compliant with ZigBee 2007 Pro Specifications
- Wireless Transmission Range up to 700 m (Default)
- Supports AES-128 Encryption for the Wireless Communication (Passive)
- 4 PhotoMOS Relay Output Channels and 4 Open Collector Digital Output Channels
- Configurable Power-on Value and Safe Value Settings



### Applications

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



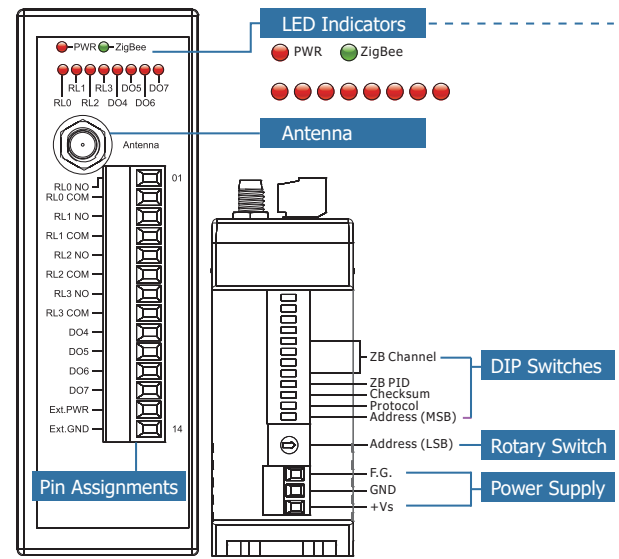
### I/O Specifications

| Relay Output  |   |
|---|---|
| Output Channels   | 4   |
| Output Types  | PhotoMOS Relay, Form A                          |
| Load Voltage  | 60 VDC/VAC                                      |
| 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 VDC ~ +50 VDC                                |
| 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   |

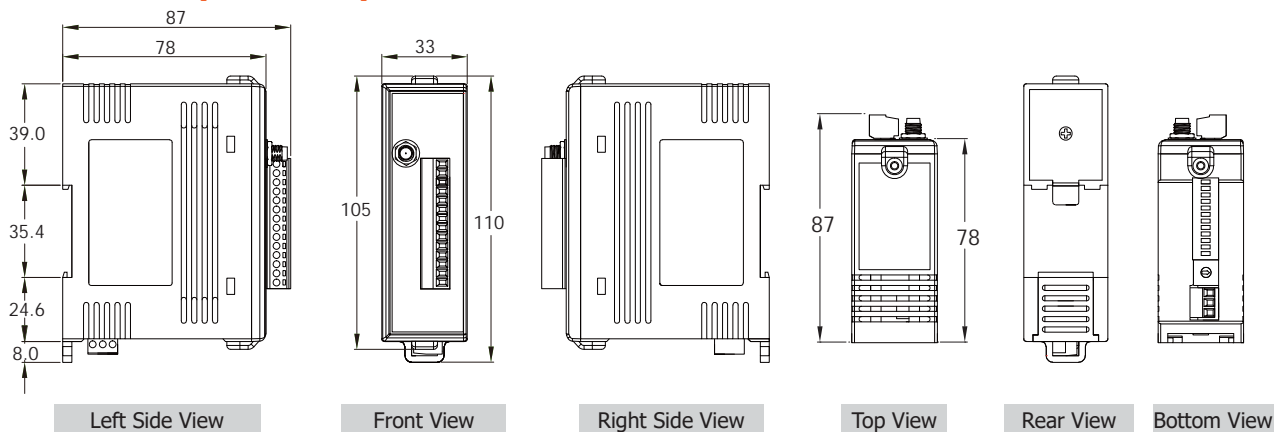
## Wiring

| Relay Output         | ON State LED ON<br>Readback as 1 | OFF State LED OFF<br>Readback as 0 |
|----------------------|----------------------------------|------------------------------------|
|                      | Relay ON                         | Relay OFF                          |
| From A Relay Contact |                                  |                                    |
| Digital Output       | ON State LED ON<br>Readback as 1 | OFF State LED OFF<br>Readback as 0 |
|                      | Relay ON                         | Relay OFF                          |
| Drive Relay          |                                  |                                    |
| Resistance Load      |                                  |                                    |

## Appearance



## Dimensions (Units: mm)



## Ordering Information

|   |  |
|---|--|
| <b>ZT-2042 CR</b>   | Wireless 4-channel PhotoMOS Relay Output and 4-channel Open Collector Output Module (ZigBee Router) (RoHS) |
| <b>Important Note:</b> ZigBee Data Acquisition modules need a ZigBee host converter to coordinate the data transmission route. Please remember to order a ZT-2550, ZT-2570, and ZT-USBC ZigBee host converter when you purchase ZigBee Data Acquisition products. |  |

## Accessories

|                         |  |
|-------------------------|--|
| <b>MDR-20-24</b>        | 24 VDC/1.0 A, 24 W Power Supply with DIN-Rail Mounting         |
| <b>ZT-2510 CR</b>       | ZigBee Repeater (RoHS)   |
| <b>ZT-2550 CR</b>       | RS-485/RS-232 to ZigBee Converter (Host)                       |
| <b>ZT-2570 CR</b>       | Ethernet/RS-485/RS-232 to ZigBee Converter (Host) (RoHS)       |
| <b>External Antenna</b> | 2.4 GHz External Antenna, RP SMA Male (Plug)                   |
| <b>Extension Cable</b>  | 3S00x-1, RG58A/U × Meter Long RP-SMA (male) to RP-SMA (female) |