



Introduction

The ZT-2055 offers 8 isolated channels for digital input and 8 isolated channels for digital output. Either sink-type or source-type digital input can be selected via wire connections. All digital input channels are also able to be used as 16-bit counters. The ZT-2055 supports source-type output with short circuit protection. There are options for configuring power-on and safe digital output values. The ZT-2055 has 16 LED indicators to display the channel status, and has 4 kV ESD protection and 2500 VDC intra-module isolation. 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)
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
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 Input and Output	8 Green LEDs for Digital Input 8 Red LEDs for Digital 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
Surge (IEC 61000-4-5)	±3 kV for Power
Power	
Input Voltage Range	+10 Vdc ~ +30 Vdc
Power Consumption	2.5 W Max.
Mechanical	
Flammability	Fire Retardant Materials (UL 94V-0 Level)
Dimensions (L × W × 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

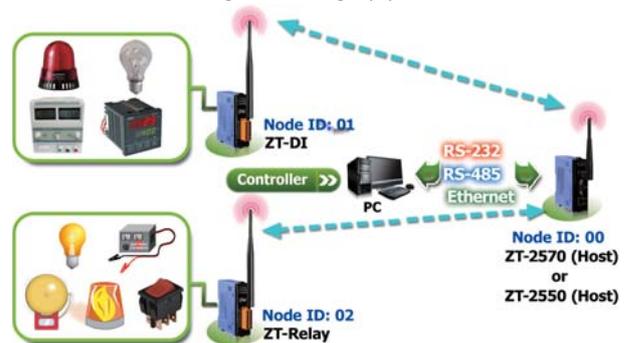
Features

- 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
- External DIP and Rotary Switches for easy Configuration
- GUI Configuration Software (Windows Version)
- Supports AES-128 Encryption for the Wireless Communication (Passive)
- Supports ZigBee Repeater Function
- 8 Digital Input Channels and 8 Digital Output Channels
- All Digital Input Channels can be used as 16-bit Counters
- Sink-type Digital Output Channels with Overload Protection
- Surge and ESD Protection
- Configurable Power-on Value and Safe Value Settings
- DIN-Rail Mountable



Applications

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



I/O Specifications

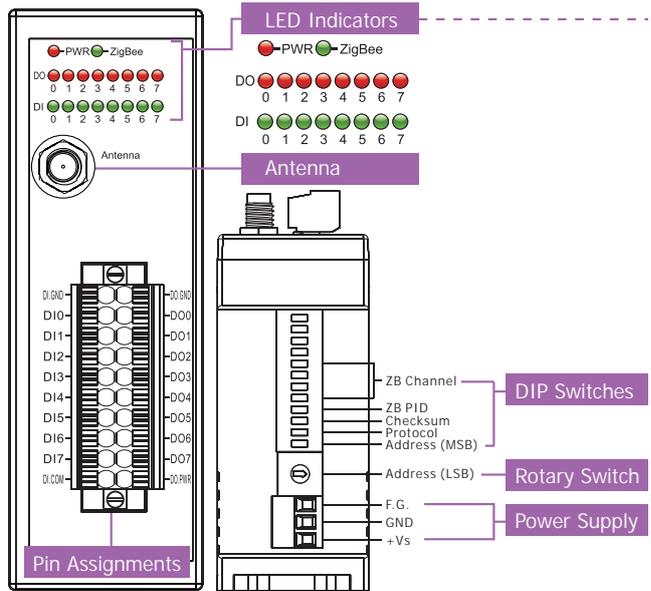
Digital Input/ Counter		
Input Channels	8	
Input Types	Dry Contact	Source
	Wet Contact	Sink/Source
Wet Contact	On Voltage Level	+10 Vdc ~ +50 VDC
	Off Voltage Level	+4 Vdc Max.
Dry Contact	On Voltage Level	Close to GND
	Off Voltage Level	Open
	Effective Distance for Dry Contact	500 meters Max.
Counter	Max. Count	16-bit (65535)
	Max. Input Frequency	100 Hz
	Min. Pulse Width	5 ms
Input Impedance	10 KΩ	
Oversvoltage Protection	±70 Vdc	
Digital Output		
Output Channels	8	
Output Types	Open Collector	
Sink/Source (NPN/PNP)	Sink	
Load Voltage	+3.5 ~ 50 Vdc	
Max. Load Current	650 mA/Channel	
Oversvoltage Protection	60 Vdc	
Overload Protection	1.4 A (with short-circuit protection)	
Power-on Value	Yes, Programmable	
Safe Value	Yes, Programmable	

Wiring

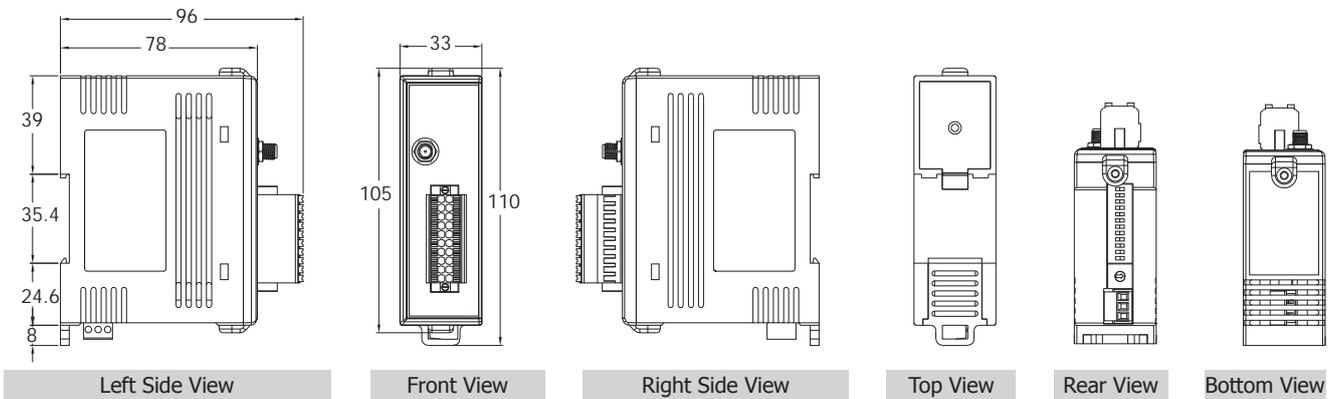
Input Type	ON State Readback as 1 Close to GND	OFF State Readback as 0 Open
Dry Contact		
Wet Contact (Sink)		
Wet Contact (Source)		

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

Appearance



Dimensions (Units: mm)



Ordering Information

ZT-2055 CR	Wireless 8-channel Isolated Digital Input and 8-channel Isolated Digital Output Module (ZigBee Router) (RoHS)
Important Note: ZigBee Data Acquisition modules require a ZigBee host converter to coordinate the data transmission path. Remember to order a ZT-2550 or ZT-2570 ZigBee host converter when purchasing 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 ZigBee Converter (Host)
ZT-2570 CR	Ethernet/RS-485/RS-232 to ZigBee Converter (Host) (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)