ZT-2055

Wireless 8-channel Isolated Digital Input and 8-channel Isolated Digital Output Module

Features

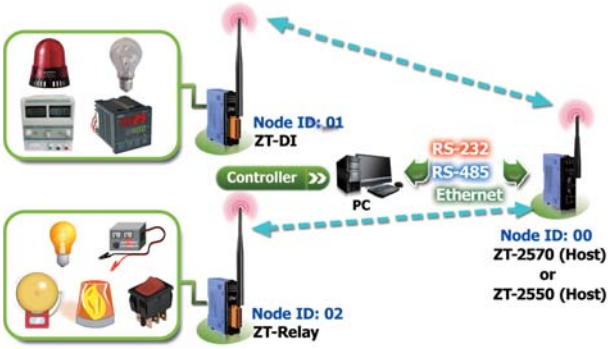
- ISM 2.4 GHz Operating Frequency
- Fully Compliant with 2.4G IEEE 802.15.4 / ZigBee Specifications
- Wireless Transmission Range up to 700 m (Default)
- Adjustable RF Transmission Output Power
- External DIP and Rotary Switches for easy Configuration
- GUI Configuration Software (Windows Version)
- 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

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.

Applications

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



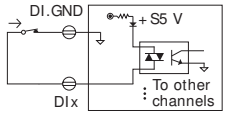
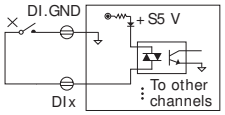
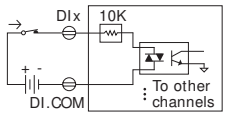
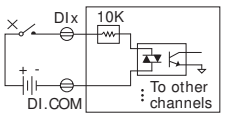
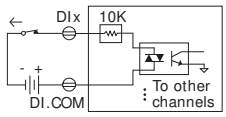
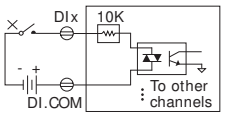
System Specifications

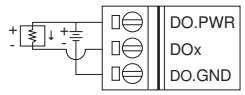
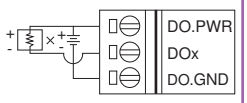
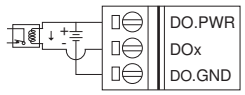
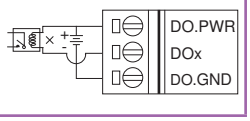
Communication Interface	
Wireless Standards	ZigBee 2007 Pro
Transmission Power	11 dBm (FCC Certificated) (Max 19 dBm)
Antenna	2.4 GHz - 5 dBi Omni-directional Antenna
Transmission Range (LoS)	700 m (Typical)
Certification	CE/FCC, FCC ID
Max. Slaves in a ZigBee Network	255
Protocols	Supports DCON and 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

I/O Specifications

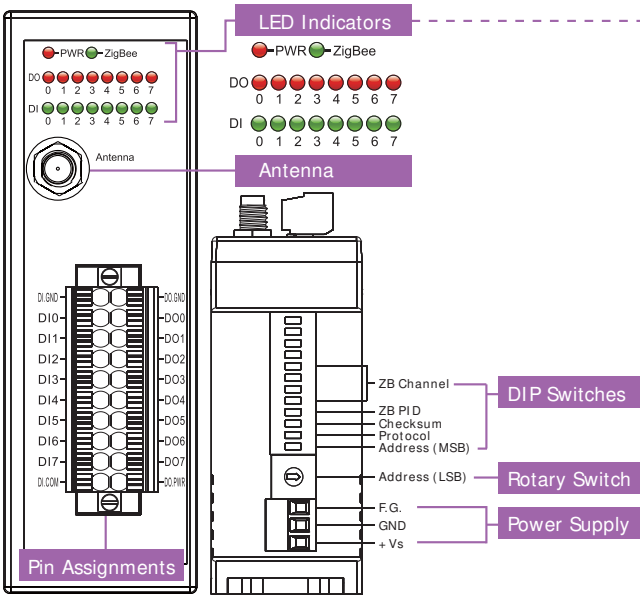
Digital Input/ Counter		
Input Channels		8
Input Types	Dry Contact	Source
	Wet Contact	Sink/Source
Wet Contact	On Voltage Level	+10 VDC ~ +50 VDC
	Off Voltage Level	+4 VDC Max.
Dry Contact	On Voltage Level	Close to GND
	Off Voltage Level	Open
	Effective Distance for Dry Contact	500 meters Max.
Counter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

Wiring

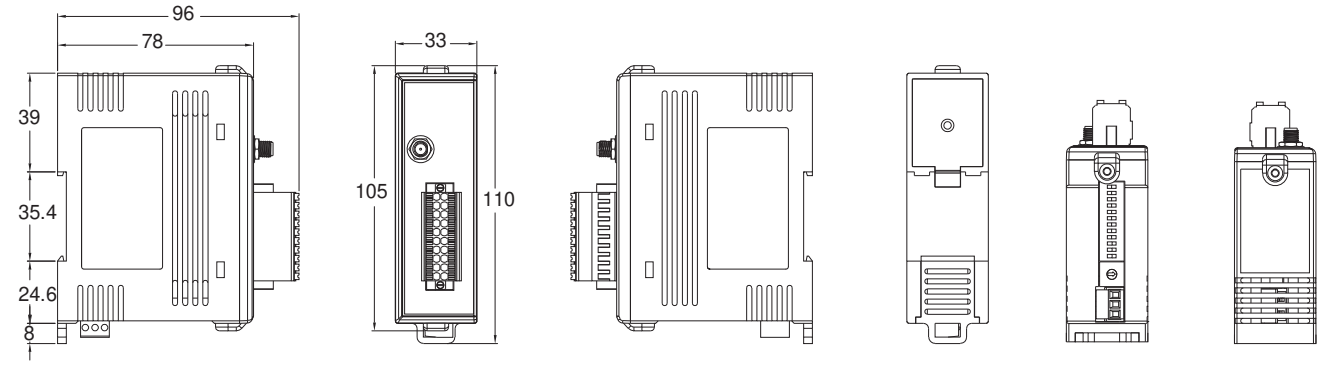
Input Type	ON State Readback as 1	OFF State Readback as 0
Dry Contact	Close to GND	Open
		
Wet Contact (Sink)	+10 ~ +50 VDC	+4 VDC Max.
		
Wet Contact (Source)	+10 ~ +50 VDC	+4 VDC Max.
		

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

Appearance



Dimensions (Units: mm)



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

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 reguire 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)