



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		
Transmission Power 2.4 GHz Antenna 5 dBi Omni directional Transmission Range (LoS) Certification CE/FCC, FCC ID Max. Slaves in a ZigBee Network Protocols Supports DCON and Modbus RTU Protocols Protocols Supports DCON and Modbus RTU Protocols Yes, Module (1.6 Seconds), Communication (Programmable) Hot Swap Rotary and DIP switch LED Indicators Power 1 LED, Red ZigBee Communication Digital Input and Output 8 Green LEDs for Digital Input 8 Red LEDs for Digital Output Isolation Intra-module Isolated, Field-to-Logic EMS Protection ESD (IEC 61000-4-2) EFT (IEC 61000-4-4) Surge 3 kV for Power Line Surge 3 kV for Power Line Power Input Voltage Range +10 VDC ~ +30 VDC Power Consumption DIN-Rail Environment Operating Temperature -25 ~ +75°C Storage Temperature -25 ~ +75°C Storage Temperature -25 ~ +75°C Storage Temperature -30 ~ +80°C	Communication Interface	
2.4 GHz Antenna Transmission Range (LoS) Certification CE/FCC, FCC ID Max. Slaves in a ZigBee Network Protocols Supports DCON and Modbus RTU Protocols Supports DCON and Modbus RTU Protocols Pual Watchdog Ves, Module (1.6 Seconds), Communication (Programmable) Hot Swap Rotary and DIP switch LED Indicators Power 1 LED, Red ZigBee Communication Digital Input and Output Red LEDs for Digital Input Red LEDs for Digital Output Isolation Intra-module Isolated, Field-to-Logic 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 VDC ~ +30 VDC Power Consumption 2.5 W Max. Mechanical Flammability Fire Retardant Materials (UL94-V0 Level) Dimensions (L x W x H) Dimensions (L x W x H) Din-Rail Environment Operating Temperature -25 ~ +75°C Storage Temperature -25 ~ +75°C Storage Temperature -30 ~ +80°C	Wireless Standards	ZigBee 2007 Pro
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 Pual 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 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 Line Surge 3 kV for Power Line Power Input Voltage Range +10 VDC ~ +30 VDC 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	Transmission Power	11 dBm (FCC Certificated)
Certification CE/FCC, FCC ID Max. Slaves in a ZigBee Network 255 Protocols Supports DCON and Modbus RTU Protocols Ves, Module (1.6 Seconds), Communication (Programmable) Hot Swap Rotary and DIP switch 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 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 VDC ~ +30 VDC 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 -25 ~ +75°C Storage Temperature -25 ~ +80°C	2.4 GHz Antenna	5 dBi Omni directional
Max. Slaves in a ZigBee Network Protocols Supports DCON and Modbus RTU Protocols Yes, Module (1.6 Seconds), Communication (Programmable) Hot Swap Rotary and DIP switch LED Indicators Power 1 LED, Red ZigBee Communication 1 LED, Green Bigital Input and Output Isolation Intra-module Isolated, Field-to-Logic 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 VDC ~ +30 VDC Power Consumption 2.5 W Max. Mechanical Flammability Fire Retardant Materials (UL94-V0 Level) Dimensions (L x W x H) John Max. Power Consument DIN-Rail Environment Operating Temperature -25 ~ +75°C Storage Temperature -25 ~ +75°C Storage Temperature -25 ~ +80°C	Transmission Range (LoS)	700 m (Typical)
Protocols Dual Watchdog Ves, Module (1.6 Seconds), Communication (Programmable) Hot Swap Rotary and DIP switch LED Indicators Power I LED, Red ZigBee Communication Digital Input and Output Isolation Intra-module Isolated, Field-to-Logic EMS Protection ESD (IEC 61000-4-2) FIT (IEC 61000-4-4) Surge 3 kV for Power Line Surge 3 kV for Power Line Power Input Voltage Range +10 VDC ~ +30 VDC Power Consumption Pire Retardant Materials (UL94-V0 Level) Dimensions (L x W x H) Installation END (IEC 6100ment) Fire Retardant Materials (UL94-V0 Level) Dimensions (L x W x H) Din-Rail Environment Operating Temperature -25 ~ +75°C Storage Temperature -25 ~ +75°C Storage Temperature -25 ~ +75°C Storage Temperature -25 ~ +75°C	Certification	CE/FCC, FCC ID
Power Input Voltage Range	Max. Slaves in a ZigBee Network	255
Dual Watchdog (Programmable)	Protocols	Supports DCON and Modbus RTU Protocols
Digital Input and Output September S	Dual Watchdog	, ,
Power 1 LED, Red 2 ZigBee Communication 1 LED, Green 8 Green LEDs for Digital Input 8 Red LEDs for Digital Input 8 Red LEDs for Digital Output 9 South 10 South 10 Soutput 10 South 10 Sou	Hot Swap	Rotary and DIP switch
ZigBee Communication Digital Input and Output 8 Green LEDs for Digital Input 8 Red LEDs for Digital Input 8 Red LEDs for Digital Output 1 solation Intra-module Isolated, Field-to-Logic 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 VDC ~ +30 VDC 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	LED Indicators	
Digital Input and Output 8 Green LEDs for Digital Input 8 Red LEDs for Digital Output 1 Solation Intra-module Isolated, Field-to-Logic 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 VDC ~ +30 VDC 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	Power	1 LED, Red
Intra-module Isolated, Field-to-Logic EMS Protection ESD (IEC 61000-4-2) EFT (IEC 61000-4-4) Surge 3 kV for Power Line Yor Power Line Power Input Voltage Range +10 VDC ~ +30 VDC Power Consumption Fire Retardant Materials (UL94-V0 Level) Dimensions (L x W x H) Installation ENGRET (IEC 61000-4-4) 8 Red LEDs for Digital Output 4 kV Contact for Power Line, Communication Line and each Channel, 8 kV Air for Random Point 4 kV for Power Line 9 We To Power Line 10 VDC ~ +30 VDC 2.5 W Max. 11 We Chanical 12 Fire Retardant Materials (UL94-V0 Level) 13 Installation 14 Installation 15 Installation 16 Installation 17 Installation 18 Red LEDs for Digital Output 4 kV Contact for Power Line, Communication Line and each Channel, 8 kV Air for Random Point 18 KV For Power Line 9 We Wall Surger Fine Power Line 19 Surger Fine Random Point 10 June Line 11 June Line 12 June Line 13 June Line 14 KV Contact for Power Line 16 June Line 16 June Line 16 June Line 17 June Line 18 June Line 25 June Line 25 June Line 26 June Line 26 June Line 27 June Line 28 June Line 28 June Line 28 June Line 28 June Line 29 June Line 20 June Line 21 Jun	ZigBee Communication	1 LED, Green
Intra-module Isolated, Field-to-Logic EMS Protection ESD (IEC 61000-4-2)	Digital Input and Output	
Field-to-Logic EMS Protection ESD (IEC 61000-4-2)	Isolation	
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 3 kV for Power Line Power Input Voltage Range +10 VDC ~ +30 VDC 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	'	2500 VDC
and each Channel, 8 kV Air for Random Point EFT (IEC 61000-4-4) 4 kV for Power Line 3 kV for Power Line Power Input Voltage Range +10 VDC ~ +30 VDC Power Consumption 2.5 W Max. Mechanical Flammability Fire Retardant Materials (UL94-V0 Level) Dimensions (L x W x H) 10 mm x 33 mm x 110 mm Installation DIN-Rail Environment Operating Temperature -25 ~ +75°C Storage Temperature -30 ~ +80°C	EMS Protection	
Surge 3 kV for Power Line Power Input Voltage Range +10 VDC ~ +30 VDC 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	ESD (IEC 61000-4-2)	•
Power Input Voltage Range +10 VDC ~ +30 VDC 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	EFT (IEC 61000-4-4)	4 kV for Power Line
Input Voltage Range +10 VDC ~ +30 VDC 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	Surge	3 kV for Power Line
Power Consumption 2.5 W Max. Mechanical Flammability Fire Retardant Materials (UL94-V0 Level) Dimensions (L x W x H) 10 mm x 33 mm x 110 mm Installation DIN-Rail Environment Operating Temperature -25 ~ +75°C Storage Temperature -30 ~ +80°C	Power	
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	Input Voltage Range	+10 VDC ~ +30 VDC
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	Power Consumption	2.5 W Max.
Dimensions (L x W x H) 96 mm x 33 mm x 110 mm Installation DIN-Rail Environment -25 ~ +75°C Storage Temperature -30 ~ +80°C	Mechanical	
InstallationDIN-RailEnvironment-25 \sim +75°CStorage Temperature-30 \sim +80°C	Flammability	Fire Retardant Materials (UL94-V0 Level)
Environment Operating Temperature -25 ~ +75°C Storage Temperature -30 ~ +80°C	Dimensions (L x W x H)	96 mm x 33 mm x 110 mm
Operating Temperature $-25 \sim +75^{\circ}\text{C}$ Storage Temperature $-30 \sim +80^{\circ}\text{C}$	Installation	DIN-Rail
Storage Temperature -30 ~ +80°C	Environment	
The second secon	Operating Temperature	-25 ~ +75°C
Relative Humidity 10 ~ 90% RH, Non-condensing	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
- GUI Configuration Software (Windows Version)
- 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 Settings
- Configurable Safe Value Settings
- DIN-Rail Mountable



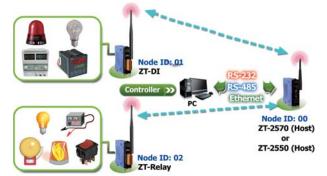






Applications _

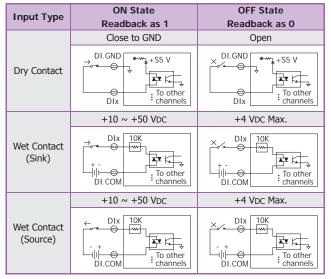
Building Automation, Factory Automation, Machine Automation, Remote Maintenance, Remote Diagnosis, Testing Equipment.



I/O Specifications _

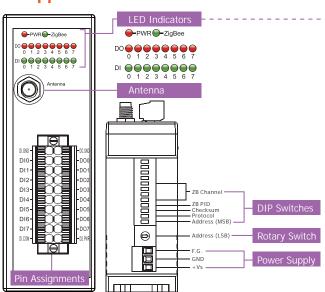
Digital Input/ Counter			
Input Ch	annels	8	
Input Dry Contact		Source	
Types	Wet Contact	Sink/Source	
Wet On Voltage Level		+10 VDC ~ +50 VDC	
Contact	Off Voltage Level	+4 VDC Max.	
	On Voltage Level	Close to GND	
Dry	Off Voltage Level	Open	
Contact	Effective Distance for Dry Contact	500 meters Max.	
	Max. Count	16-bit (65535)	
Counter	Max. Input Frequency	100 Hz	
	Min. Pulse Width	5 ms	
Input Impedance		10 ΚΩ	
Overvoltage Protection		±70 VDC	
Digital Output			
Output Channels		8	
Output Types		Open Collector	
Sink/Source(NPN/PNP)		Sink	
Load Voltage		+3.5 ~ 50 V _{DC}	
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

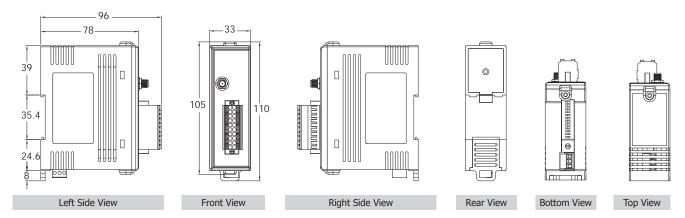


Output Type	ON State Readback as 1	OFF State Readback as 0	
Digital Output (Resistance Load)	DO.PWR DOX DO.GND	DO.PWR DOX DO.GND	
Digital Output (Inductive Load)	DO.PWR DOX DO.GND	DO.PWR DOX DO.GND	

■ Appearance _



■ Dimensions (Units: mm)



Ordering Information

ZT-2055 CR Wireless 8-channel Isolated Digital Input and 8-channel Isolated Digital Output Module (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)

Website: http://www.icpdas.com E-mail: sales@icpdas.com Vol. IWCP 20140523

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