



ZB-2026-T/ZB-2026-PA

Wireless 4-channel Voltage Input, 2-channel Voltage Output, 2-channel Digital Input and 2-channel Digital Output Module

Introduction

The ZB-2026-T/ZB-2026-PA is a wireless ZigBee module that offers 4 differential analog input channels, 2 analog output channels, 2 digital input channels and 2 digital output channels and provides a programmable analog input and output range. Each analog input channel can be configured to an individual range and each has 240 Vrms overvoltage protection. There are also options for a power-on value and a safe value. Users can easily configure the module address, protocol, checksum, ZB-PID, ZB-channel and type code settings using a combination of rotary and DIP switches.

System Specifications

| Model | ZB-2026-T | ZB-2026-PA |
|---------------------------------------|---|--------------------------------|
| Communication Interface | | |
| Wireless Standards | ZigBee, IEEE 802.15.4 | |
| Transmission Power | 4 dBm | 22 dBm |
| 2.4 GHz Antenna | 3 dBi Omni directional | 5 dBi Omni directional |
| Transmission Range (LoS) | 100 m | 700 m (Typical) 1 km (Max.) |
| Certification | CE/FCC, FCC ID | - |
| Max. Slaves in a ZigBee Network | 254 | |
| ZB-100R/ZB-100T Support | Yes | |
| Protocols | Supports DCON and Modbus RTU Protocols | |
| Hot Swap | Rotary and DIP switch | |
| LED Indicators | | |
| Power | 1 LED, red | |
| ZigBee Communication | 1 LED, green | |
| Isolation | | |
| Intra-module Isolated, Field-to-Logic | 2500 Vdc (for AI, AO, DI and DO) | |
| 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 | |
| Power | | |
| Input Voltage Range | +10 Vdc ~ +30 Vdc (Reverse Polarity Protection) | |
| Power Consumption | 2.1 W Max. | |
| Mechanical | | |
| Flammability | Fire Retardant Materials (UL94-V0 Level) | |
| Dimensions (W x L x H) | 33 mm x 87 mm x 107 mm | |
| Installation | DIN-Rail | |
| Environment | | |
| Operating Temperature | -25 °C ~ +75 °C | |
| Storage Temperature | -30 °C ~ +80 °C | |
| Relative Humidity | 10 ~ 90% RH, Non-condensing | |

Features

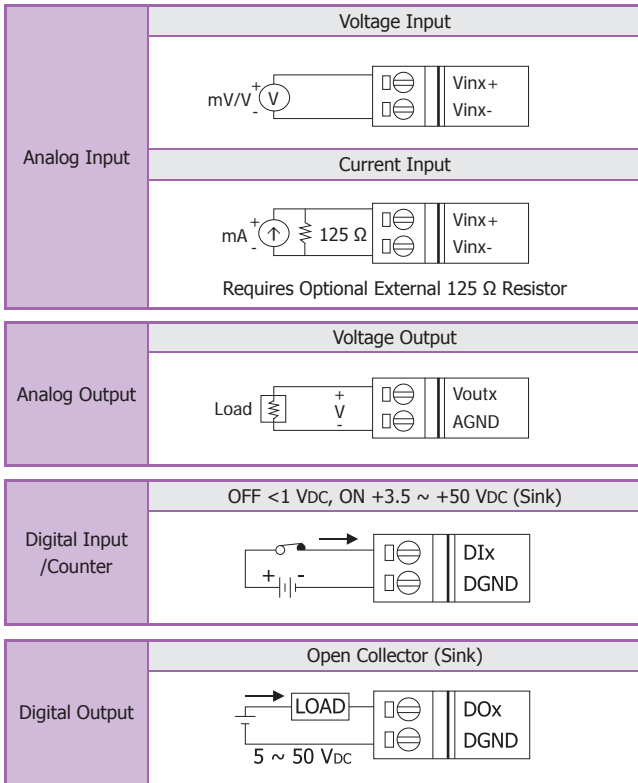
- ISM 2.4 GHz Operating Frequency
- Fully Compliant with 2.4G IEEE 802.15.4/ZigBee Specifications
- Wireless Transmission Range up to 700 m (PA-Version)
- Wireless Transmission Range up to 100 m (T-Version)
- GUI Configuration Software (Windows Version)
- 4 AI, 2 AO, 2 DI and 2 DO Channels
- Individual Channel Configuration
- Overvoltage Protection is up to 240 Vrms
- Surge and ESD Protection
- DIN-Rail Mountable



I/O Specifications

| Model | ZB-2026-T | ZB-2026-PA |
|----------------------------------|---|------------|
| Analog Input | | |
| Input Channels | 4 Differential | |
| Input Types | +/-10 V, +/-5 V, +/-1 V, +/-500 mV, +/-150 mV or -20 mA ~ +20 mA (Requires Optional External 125 Ω Resistor) | |
| Resolution | 16-bit | |
| Sampling Rate | 10 Samples/Second (Total) | |
| Accuracy | +/-0.1% of FSR | |
| -3dB Bandwidth | 15.7 Hz | |
| Zero Drift | +/-20 μV/°C | |
| Span Drift | +/-25 ppm/°C | |
| Common Mode Rejection | 86 dB | |
| Normal Mode Rejection | 100 dB | |
| Input Impedance | >2 MΩ | |
| Overvoltage Protection | 240 Vrms | |
| Individual Channel Configuration | Yes | |
| Analog Output | | |
| Output Channels | 2 | |
| Output Types | +/-10 Vdc, +/-5 Vdc, 0 ~ 10 Vdc or 0 ~ 5 Vdc | |
| Resolution | 12-bit | |
| Accuracy | +/-0.1% of FSR | |
| Zero Drift | +/-30 μV/°C | |
| Span Drift | +/-25 ppm/°C | |
| Programmable Output Slope | 0.0625 ~ 512 V/Second | |
| Voltage Capability | 20 mA @ 10 V | |
| Power-on and Safe Value | Yes | |
| Digital Input | | |
| Input Channels | 2 (Sink) | |
| On Voltage Level | 3.5 Vdc ~ 50 Vdc | |
| Off Voltage Level | 1 Vdc Max. | |
| Input Impedance | 10 KΩ | |
| Event Counters | Channels : 2 | |
| | Max. Count: 16-bit (65535) | |
| | Max. Input Frequency: 50 Hz Min. Pulse Width: 10 ms | |
| Digital Output | | |
| Output Channels | 2 (Sink) | |
| Output Types | Isolated Open Collector | |
| Max. Load Current | 700 mA/channel | |
| Load Voltage | +5 Vdc ~ +50 Vdc | |
| Short Circuit Protection | Yes | |

Wiring

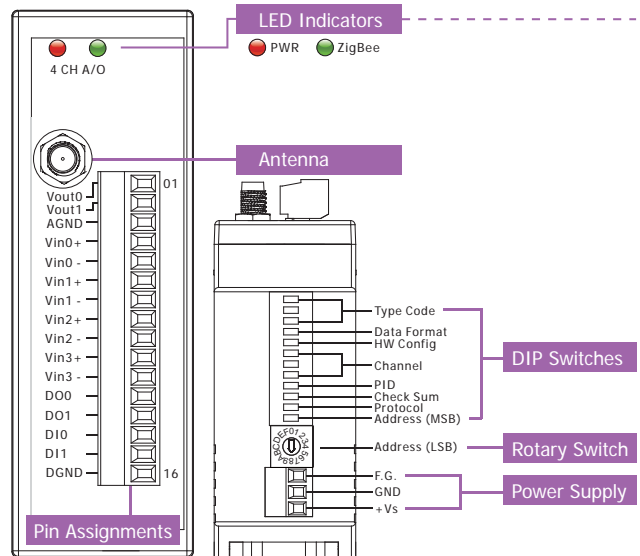


Applications

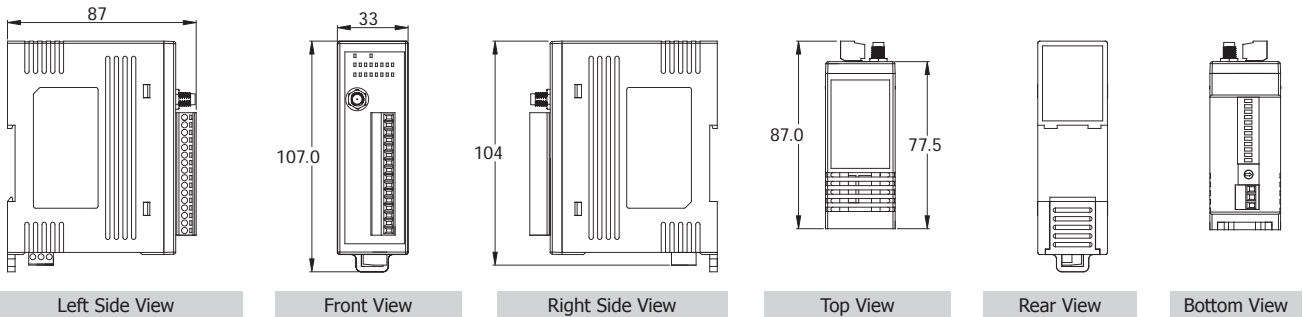
Building Automation, Factory Automation, Machine Automation, Remote Maintenance, Remote Diagnosis, Testing Equipment.



Appearance



Dimensions (Units: mm)



Ordering Information

| | |
|---------------|--|
| ZB-2026-T CR | Wireless 4-ch Voltage Input, 2-channel Voltage Output, 2-channel Digital Input and 2-channel Digital Output Module (RoHS) |
| ZB-2026-PA CR | Wireless 4-ch Voltage Input, 2-channel Voltage Output, 2-channel Digital Input and 2-channel Digital 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 ZB-2550-T, ZB-2550-PA, ZB-2570-T or ZB-2570-PA 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 |
| ZB-2510-T CR | ZigBee Repeater (RoHS) |
| ZB-2510-PA CR | ZigBee Repeater (RoHS) |
| ZB-2550-T CR | RS-485/RS-232 to ZigBee Converter (Host) |
| ZB-2550-PA CR | RS-485/RS-232 to High Power Amplifier ZigBee Converter (Host) (RoHS) |
| ZB-2570-T CR | Ethernet/RS-485/RS-232 to ZigBee Converter (Host) (RoHS) |
| ZB-2570-PA CR | Ethernet/RS-485/RS-232 to High Power Amplifier ZigBee Converter (Host) (RoHS) |