

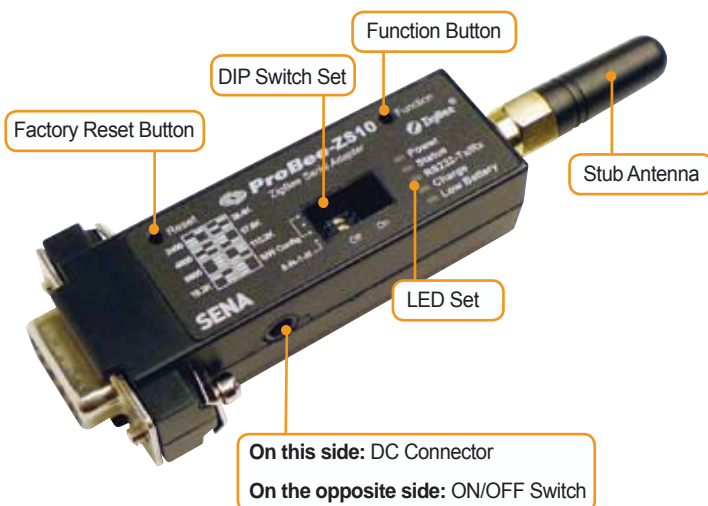
# ZigBee Serial Adapter, ProBee-ZS10



## Features

- Fully supports ZigBee 2007 / ZigBee Pro stack
- Integrated 2.4GHz, IEEE 802.15.4-compliant coprocessor
- Various antenna options according to users' requirement, up to 1.6km (1 mile) with optional 5 dBi dipole antenna
- Supports RS232 serial communication with up to 115 kbps baud rate
- Supports remote management features wirelessly such as firmware upgrade and system configuration by using modem AT command set
- Enhanced portability: standard & extended battery pack
- Easy to use Windows configuration tool available

## Panel Layout



The **ProBee-ZS10** is an ZigBee RS232 Serial Adapter with integrated ZigBee core and radio/antenna circuits.

The ZS10 Serial Adapter is designed to meet specific requirements to low cost and low power wireless applications such as Home Automation, Smart Energy, Health care, Building Automation and Telecom Services by adopting the ZigBee technology.

Despite of its cost effective and low power consumptions, the ZS10 provides high performance and robust data transfer capability for wide range of applications. The ZS10 can transfer data at up to 250 kbps and reach up to 1.6 km (1 mile) outdoor line-of-sight.

## Specifications

### **RF Characteristics**

- Frequency Band: 2.4 GHz
- Interface Immunity: DSSS
- Transmit Power: +20dBm E.I.R.P (max.)
- Receiver Sensitivity: -102dBm @1% BER
- RF Data Rate: 250 kbps
- Working Distance: Up to 1.6km using 5 dBi dipole antenna
- Various Antenna Options from standard 1 dBi antenna to 3/5 dBi dipole antenna
- Channels: 14
- Channel Spacing: 5 MHz

### **ZigBee Network**

- Network topology: Mesh
- Stack profile: ZigBee 2007 / ZigBee Pro
- Network addressing: Channel, PAN ID, EPID

### **ZigBee Data Transmission**

- Unicasting
- Multicasting
- Broadcasting
- Many-to-One Communication
- Enhanced Reliability based on data retransmission

### **ZigBee Security**

- Network Layer security with one Trust Center for efficient operation
- 128 bit AES encryption algorithms
- Strong, NIST-approved security

### **Power Requirements**

- Supply Voltage: 3.3~12.0 VDC
- TX Current: 200mA @5.0V (max.)
- RX Current: 55mA @5.0V (max.)
- Sleep Current:  $\leq 10\mu\text{A}$

# ZigBee Serial Adapter, ProBee-ZS10

## Specifications

### Device Management and Configuration

- Configuration Method: AT Commands, ProBee Manager
- Remote Configuration
- Remote Firmware Upgrade using both Cloning and Pass-thru methods
- Supports rich neighborhood device scanning and monitoring using AT commands

### Antenna

- 1 dBi default Stub Antenna
- Optional Dipole Antenna: 3/5 dBi
- RP-SMA connector

### Interfaces

- Serial Data Interface: RS232
- Serial Data Rate up to 115 kbps

### Power

- Power supply options
  - Power via a standard AC-plug DC-adapter
  - Power via USB power cable
  - Power via DC power cable
  - Power via pin 9 of DB9 connector
  - Battery Pack (Standard & Extended)

### Battery Pack

- Capacity
  - 240 mAh (standard)
  - 900 mAh (extended)
- Charging Power: minimum 5V/200mA
  - Approximately 2 hours (standard)
  - Approximately 5 hours (extended)
- Battery life (Test based on 9600bps data loopback. Actual battery life varies by configuration, operating conditions and other factors)
  - Approximately 4.5 hours (standard)
  - Approximately 16.5 hours (extended)

### Physical Properties

- Dimension (L x W x H)
  - 73.9 x 31 x 16(mm) / 2.9 x 1.2 x 0.6(in) (No battery pack)
  - 73.9 x 31 x 19.5(mm) / 2.9 x 1.2 x 0.8(in) (with standard battery pack)
  - 73.9 x 31 x 31.4(mm) / 2.9 x 1.2 x 1.2(in) (with extended battery pack)
- Weight
  - 24 g / 0.85 oz (No battery pack)
  - 30 g / 1.1 oz (with standard battery pack)
  - 42 g / 1.5 oz (with extended battery pack)

**Certification:** FCC, CE, TELEC, KCC

**Warranty:** 3-year limited warranty

## Ordering Information

| Part number     | Description   |
|-----------------|---|
| <b>ZS10-A1</b>  | ProBee ZS10 ZigBee Serial Adapter single-unit only pack, ZigBee/ZigBee Pro, No antennas and accessories included                      |
| <b>ZS10-01</b>  | ProBee ZS10 ZigBee Serial Adapter single-unit pack, ZigBee/ZigBee Pro, Int'l DC power adapter included (US/EU), battery-pack optional |
| <b>ZS10-B10</b> | ProBee ZS10 ZigBee Serial Adapter 10-unit bulk pack, ZigBee/ZigBee Pro, DC power adapter and battery-pack optional                    |

## Optional Accessories

| Part number      | Description   |
|------------------|---|
| <b>SAT-G01R</b>  | 1 dBi Stub Antenna, RP-SMA Plug, Right-hand Thread  |
| <b>DAT-G01R</b>  | 3 dBi Dipole Antenna, RP-SMA Plug, Right-hand Thread  |
| <b>DAT5-G01R</b> | 5 dBi Dipole Antenna, RP-SMA Plug, Right-hand Thread  |
| <b>SEC-G01R</b>  | 15cm RPSMA Antenna Extension Cable, Right-Hand Thread   |
| <b>DPA-G01</b>   | DC power cable for ZS series  |
| <b>UPA-G01</b>   | USB Power Cable   |
| <b>OPA-G01</b>   | External Power Adaptor - Includes one of four (EU, America, UK, Australia) regional power plugs |
| <b>BPC-G02</b>   | Standard Battery Pack for ZS10  |
| <b>BPC-G03</b>   | Extended Battery Pack for ZS10  |
| <b>FM9GD-G01</b> | DB9 Female to Male Gender Changer   |

## Applications

- Advanced Metering Infrastructure
- Home Area Networks (HAN)
- Neighborhood Area Networks (NAN)
- Home Automation
- Advanced Lighting, Entertainment, and Climate Control Systems
- Service-based Monitoring, Security, and Awareness Systems
- Commercial Building Automation
- Climate & Lighting Control Systems
- Industrial and Domestic Applications