ProBee-ZS10

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.
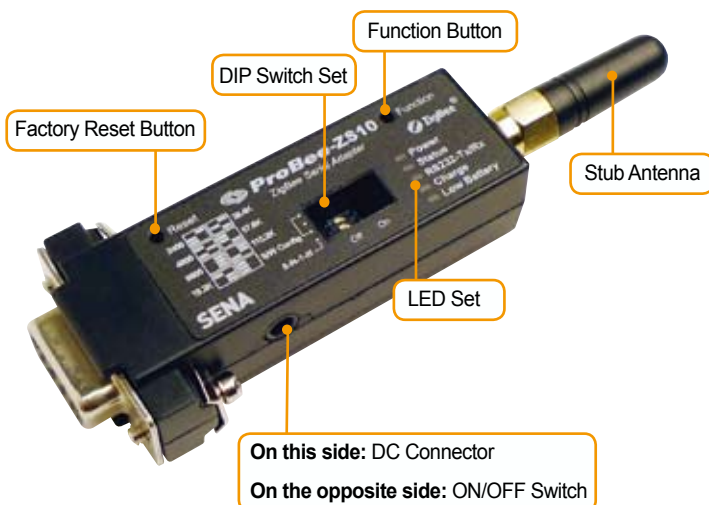
Features

· 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

Function Button

DIP Switch Set

Factory Reset Button

Stub Antenna

LED Set

On this side: DC Connector

On the opposite side: ON/OFF Switch

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: ≤ 10uA

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

Optional Accessories

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

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U.S. / Canada / South America
Tel: 408-448-1997   Fax: 408-907-3738
Toll Free (US/Canada): 8668-US-SENA (866-887-7362)

EU / Africa
Tel: +33 (0)1 53 53 16 29   Fax: +33 (0)1 70 24 70 90

Asia / Pacific
Tel: +82-2-576-7362 Fax: +82-2-573-7710

Contact us via E-mail
General Information: info@sena.com
Sales & Distribution: sales@sena.com
Technical Support: support@sena.com

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