



Sentry 4G-900 pico Base™ 900 MHz Broadband Base Station



The Sentry 4G-900 pico Base Station is a secure long range wireless platform based on IEEE 802.16e-2005 (mobile WiMAX) technology delivered in a compact form factor. It is a single sector lightweight base station, with a ruggedized enclosure ideal for all-outdoor installations, and provides connectivity to fixed or mobile end points.

Connected via a single Power over Ethernet (PoE) connection and easily provisioned, the Sentry Base reduces operational cost and complexity. Powered by OFDMA radio technology, it is robust in adverse channel conditions and enables Non-Line-Of-Sight (NLOS) operation. Leveraging link adaptation algorithms, modulation and coding are continuously adapted to prevailing link conditions, ensuring an optimal balance between robustness and efficiency.

The use of MIMO radio technology enables peak link performance by maintaining maximum bandwidth and service coverage.

Key Features

- **Long Range:** Transmit and receive diversity for improved reach and NLOS performance
- **High Bandwidth:** MIMO smart antenna technology increases bandwidth and spectral efficiency
- **Usage Models:** Designed for fixed, portable and mobile end points, it supports seamless mobility when used with an ASN Gateway
- **Quality of Service:** Supports ASN Gateway-controlled QoS profiles, which allows operators to classify and prioritize over-the-air traffic
- **Secure:** Built-in features such as two factor mutual authentication, AES encryption and message integrity protection using CMAC

High Speed

Long Range

Ruggedized

Safe/Secure

Diversity

Connectivity

Sentry 4G-900 pico Base Station

Radio and Modem

Frequency

902-928 MHz ISM band

Radio Access Method

IEEE 802.16e-2005 (S-OFDMA)

Operation Mode

TDD

Channel Bandwidth

3.5, 5, 7, 10 MHz

Frequency Resolution

0.25 MHz

Receiver

7dB NF

Antennas

Omni, Sector Panel

Number of Antennas

2

Default Antenna

Omni

Antenna Connectors

2x N-Type, 50 ohm

Diversity Support

2x2, STC/MIMO-SM

Output Power

2 x 0.5W (average)

FFT/Modulation

512/1024 FFT points; QPSK,
16QAM, 64QAM

FEC

Convolution Code and Turbo Code

TPC

10dB

Synchronization

GPS

Network Interface

Network

10/100BaseT Half/Full Duplex IEEE 802.3
CSMA/CD

ASN GW Compatibility

WiMAX Forum R6, Profile C; Compatible
with Tellabs/WiChorus ASN-GW

Configuration and Management

Management

SNMP, WEB GUI

SNMP Agent

SNMP V2C client: MIB II (RFC 1213),
Private MIBs

Software Upgrade

FTP

Remote Configuration

FTP

Mechanical

Dimensions

[HxWxD] 24cm x 20cm x 4cm

Weight

<4 kg

Power Interface

Input

Custom PoE

Power Consumption

39 Watt (max)

Environmental

Operating Temperature

-30°C to +60°C

Operating Humidity

5%-95% non condensing,
weather protected

Standards Compliance

FCC/IC

FCC Part 15.247 subpart C; IC RSS-210

50 years
1961-2011
KUNDINGER

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Sentry 4G-900™ 900 MHz Broadband Router

To meet the growing need for faster data access, CalAmp introduces the latest broadband platform for both mobile and fixed applications including public safety and transportation, fleet management, SCADA, telemetry, surveillance, wire line replacement and critical infrastructure environments.

Sentry 4G-900 provides high-speed, long-range connectivity in the license-free 900 MHz band. Based on industrial grade IEEE 802.16e-2005 (mobile WiMAX) technology, it features extensive routing capabilities with an easy-to-use interface and comprehensive remote management. Built-in GPS, two Ethernet ports and an optional 802.11 b/g interface with simultaneous access point and client operation allows connectivity in the office or on the road.

Ensuring the protection of even the most sensitive data, Sentry combines security features like AES 128-bit (FIPS 197) and SHA-1-based PKMv2 (FIPS 186-2) for encryption and authentication. Not only versatile and secure, its rugged enclosure withstands even the harshest conditions with an extended temperature range.

Key Features

- 4G broadband router based on IEEE 802.16e-2005 (Mobile WiMAX) technology
- Superior RF performance with MIMO capabilities
- Secure data access with industry-standard 802.16e-2005 security sublayer
- AVL support through integrated GPS with local and remote NMEA data
- 802.16e-2005 EAP-TTLS AAA supplicant for authentication and authorization
- Optional integrated 802.11b/g local wireless connectivity
- Fast handover for real time applications with no service degradation

High Speed

Long Range

Ruggedized

Safe/Secure

Diversity

Connectivity

50 years
1961-2011

KUNDINGER

CalAmp®

Sentry 4G-900 Specifications

General

Frequency Range

- 902-928 MHz ISM Band

Modulation Type

- S-OFDMA Time Division Duplex (TDD),
- QPSK, 16QAM, 64QAM.

Transmitter Power Out

- Base Station controlled, up to 2 x 27 dBm

Data Rate

- True mobility: 1 to 3 Mb/s nominal, up to 6 Mb/s aggregate in 3.5 MHz channels
- Ideal conditions: up to 19 Mb/s aggregate in 10 MHz channels

Number of Channels

- 2 (10 MHz) to 7 (3.5 MHz) non-overlapping channels

Channel Bandwidth

- 3.5, 5, 7, 10 MHz

Input Voltage

- 10 to 30 VDC

Supported Protocols

- Ethernet/IP (IPV4 suite: ICMP, IGMP, TCP, UDP, SNTP), DHCP Client and Server, NAT

Management

- HTTP embedded web server for setup and help, SNMP

Power Consumption

- RX = 4.0 W max
- TX = 25 W max.

Diversity Support

- 2x2 MIMO Matrix A&B downlink
- 2x2 CDD uplink

Security

- Industry-standard 802.16e-2005 security sublayer
- 802.16e-2005 EAP-TTLS AAA supplicant for authentication and authorization

Physical

Ethernet Host Connector

- Two 10/100 BaseT auto-MDIX, RJ-45

Serial Port

- 3-wire serial in a USB mini B female form factor

USB Port

- Type A Female

Antenna Connector

- Dual TNC Female (802.16e-2005 WWAN)
- Dual SMA-RP (802.11 b/g WLAN)
- SMA Female (GPS)

Power Connector

- 4-pin locking connector

Display (5 Bi-Colour status LEDs)

- GPS, STAT, PWR, WLAN, WWAN

Mechanical Dimensions

- 7 x 2.2 x 7 inches (17.8 x 5.6 x 17.8 cm)

Weight

- 2 lbs (0.9 kg)

Mounting

- Integrated mounting brackets

Chassis

- Die-cast aluminum

Environmental

Operating Temperature

- -22° to +140° F (-30° to +60° C)

Humidity

- 5% to 95% non-condensing

Approvals/Certifications

- FCC Part 15.247 subpart C
- IC RSS-210

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The Sentry is a commercial off-the-shelf Information Technology component manufactured in the United States.



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