

AP240-E ACCESS POINT

VDS240 Wireless Vehicle Detection System

High-End Access Point

Accurate Counts, Speeds, and Occupancy

Remote Wireless Backhaul

Linux-Based for Customized Applications

Installs in Minutes and Requires No Calibration



SENSYS
Networks

The Sensys Networks AP240-E is the high-end access point for the VDS240 family of wireless sensor vehicle detection products. It offers a rich set of features that simplify installation, traffic monitoring, and data reporting. The AP240-E contains both a host processor and a number of communications interfaces, including a radio transceiver to the VSN240 in-pavement wireless sensors, an Ethernet port, 2 serial ports, and options for GPRS/CDMA and GPS radios.

The AP240-E communicates with VSN240 sensors using the Sensys NanoPower (SNP) Protocol, an advanced wireless communications protocol designed to minimize power consumption, and extend battery life, in wireless sensors.

The AP240-E supports a single SNP radio, operating in the 2.4GHz ISM band, based on the IEEE 802.15.4 standard. It performs functions including control, synchronization, and provisioning of SNP networks. It also supports the real-time uploading of data and downloading of both commands and software to SNP-based wireless sensors.

The AP240-E has a powerful host processor running Linux®, which allows sophisticated user applications

to run directly in the AP240-E. Typical applications include: aggregating, processing, and reporting VSN240 data to a Traffic Management Center (TMC), parking control applications, or web-based configuration applications.

The AP240-E has a 10/100BaseT Ethernet port with full Linux TCP/IP support.



The AP240-E also has two serial ports, one of which can be connected to an on-board GPRS or CDMA 1xRTT cellular modem, the other can be connected either to an on-board GPS radio or to an external RS232 or RS485 equipped device.

The API to the Sensys NanoPower Protocol is TCP-based, allowing software development to take place at an external workstation, and then optionally ported to the host processor.

The AP240-E is typically mounted at a height of 10 ft or more on an existing pole, sign, or traffic signal. Its quick installation is straightforward, requiring no precise measurements or calibration.

The AP240-E is DC-powered and can support input voltages from 9V to 24V, or from 36V to 60V allowing solar or line powering with battery backup, or standard POE powering.

See back for detailed product specifications —>

WIRELESS SENSOR NETWORKS FOR THE TRANSPORTATION INDUSTRY

PRODUCT SPECIFICATIONS



Host Processor

- 66MHz 5272 Coldfire processor
- 4MB of Flash memory
- 16MB of DRAM

SNP-based wireless interface to the VSN240 sensors

- Conforms to Sensys SNP
- IEEE 802.15.4 Standard Compliant
- Distance from AP240-E to sensors: 35m to 100m, depending on AP240-E antenna height and terrain.
- Operates in any one of 16 5MHz channels in the 2.4 – 2.48 GHz ISM band.
- The maximum number of sensors that can be managed by an AP240-E is 64,000. Typical deployments will range from 2 sensors per traffic lane to a few thousand sensors for a parking lot.

Ethernet Interface

- 10/100 BaseT
- IP address via DHCP or static
- IP67 RJ45 bulkhead connector
- Proprietary Power Over Ethernet (12V to 24V)
- Standard Power Over Ethernet (36V to 60V)

Serial Port A Interface

- GPRS or CDMA 1xRTT modem (optional)
- Up to 115,200kbps RS232C

Serial Port B Interface

- GPS (optional)
- External via IP67 RJ45 bulkhead connector (optional)
- Up to 115,200kbps RS232C or RS485
- Proprietary Power over Serial Port (optional)

TCP/IP Support

- Protocols supported: telnet, ftp, http, ppp, pptp
- Tunneling to VPN allows connection to AP240-E without a static address
- Encryption over Tunnel (optional)

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Powering

- 9VDC to 24VDC or 36V to 60V input
- 1 W to 1.5 W depending on options.
- POE injector with 110VAC to 240VAC 50Hz-60Hz DC supply (optional)
- Solar power panel (12V, 10W with battery back-up) (optional)

Environmental

- NEMA 4X / IP 67 Enclosure, 6 x 5 x 2.5"
- Temperature: -40F to +176F (-40C to +80C)

SNP-TCP/IP Gateway

- Supports TCP streams to applications
- Transparent access to sensor data
- Multiple applications can ask for SNP packets based on packet type
- Can supply synchronization to applications

Software Download

- Can store download image locally in host
- Can download new software to one or more sensor simultaneously

Sensor Statistics

- Computes counts, speed, occupancy, vehicle length, & other statistics per lane over various intervals
- Data can be pulled via telnet/ftp or pushed via PEMs Interface
- On-board storage eliminates dropped data
- Can operate over Ethernet or GPRS Interface.

Web-based Network Configuration and Monitoring

- Password protected access
- Built-in web server compatible with standards browsers
- Configuration via telnet/ftp interface

Custom Applications

- Can be developed over IP (Ethernet or GPRS) then ported to AP240-E
- Forward and backward compatible IP interface
- Messaging-based protocol
- Message buffering during network down-time
- C API's available

TO ORDER OR FOR MORE INFORMATION

Sensys Networks, Inc.

2560 Ninth Street, Suite 211

Berkeley, CA 94710

Tel: (510) 548.4620

info@sensysnetworks.com

www.sensysnetworks.com

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