

# EnerNex® SCADASentry™

## Application Server

*Quickly Deploy Custom, Embedded,  
Project Oriented Data Collection,  
Protocol Conversion and Gateway  
Applications*

The EnerNex SCADASentry is intended for the deployment of EnerNex project specific firmware custom designed to the needs of our clients. The SCADASentry is based on the ETRAX 100LX MCM 2+8 chip and device server. With a sturdy industrial design, the hardware fits most deployment requirements.

### Complete 'ready-to-use' product

The SCADASentry is equipped with external connectors for dual\* 100 MBit Ethernet, USB, COM1, COM2, and RS-485 connection. It is also equipped with internal connectors that accommodate one parallel port and an additional serial port.

Enclosed in a black aluminum casing, the SCADASentry is compliant with immunity, emission and safety standards, and is ready for immediate deployment into industrial and other environmentally hostile environments.

### Reduce your implementation time

Although designed as a platform to deploy custom data collection, protocol conversion, and gateway applications, the SCADASentry is shipped as a ready-to-use device. This means that you spend no time at all worrying about custom hardware development, authority approval testing, purchasing, or programming Ethernet addresses. Once EnerNex has completed your custom embedded application, the software is simply flash-loaded to the SCADASentry, using SFTP (Secure File Transfer Protocol). With the SCADASentry you enjoy the flexibility of a custom embedded data management gateway without the risk associated with custom, low volume hardware platforms.



### Secure

The core SCADASentry firmware platform utilizes the Secure Sockets Layer (SSL) and Transport Layer Security (TLS) protocols to ensure that your data is encrypted and secure from unauthorized access. X.509 digital certificates are used to authenticate access to the device and to verify the identity of the SCADASentry to the systems that access it.

- **Programmable Device Server**
- **Data Collection**
- **Protocol Conversion**
- **Secure Gateway**
- **SSL/TLS and X.509 Certificates**
- **Support SFTP, SSH, and HTTP**
- **Optional IEC 61850, AGA12-1, ModBUS, and other protocols**
- **100 MIPS Performance**
- **Certified for Industrial Use**

# EnerNex SCADASentry Application Server

## Technical Overview

- Data collector, protocol converter, and secure gateway server platform based on the ETRAX 100LX MCM 2+8 chip.
- The product ships with pre-installed application firmware by EnerNex that implements the specific data management needs of the client. The device comes pre-programmed with an Ethernet address.

## Ethernet Network Connection

- Primary Physical network connection on 10BaseT Ethernet or 100BaseTX Fast Ethernet networks using RJ45 twisted pair cable.
- Secondary Physical network connection on 10BaseT Ethernet or 100BaseTX Fast Ethernet, but limited in speed to 12 MBit/s since it is connected through an internal USB port. Actual routing speed is 4.5 MBit between the two interfaces.

## Serial Connection

- Two RS232 serial ports terminated with 9 pin MALE D-SUB connectors, both ports support RXD, TXD, RTS, CTS, DSR, DTR, RI (not on COM1) and CD at baud rates up to 115200 bps.

Pinout:			
1	CD	Carrier detect	(Input)
2	RxD	Receive Data	(Input)
3	TxD	Transmit Data	(Output)
4	DTR	Data Terminal Ready	(Output)
5	GND	Ground	
6	DSR	Data Set Ready	(Input)
7	RTS	Request To Send	(Output)
8	CTS	Clear To Send	(Input)
9	RI	Ring Indicator	(Input)



## RS485/422 Terminal Block

- One RS485/422 serial port supported on a single screw terminal block. Supports baud rates up to 1843200 bps

Pinout:	
1	AC Power
2	AC Power
3	GND
4	RS422 GND Connected to GND through 100 ohm resistor
5	RX/TX-A Use pin 5 and 6 for 2-wire RS-485
6	RX/TX-B Use pin 5 and 6 for 2-wire RS-485
7	TX-
8	TX+

## USB 1.1 Port

- Compliant USB 1.1 (host) port for connection to USB storage devices (up to 512 MB for data collection applications) and other peripherals supported by the EnerNex customer and project specific firmware.
- The port can provide +5.0 VDC, 500 mA to the attached device.

## Application Flash-loading

- The customer's project specific application can be flash loaded to the SCADASentry Platform over the network using SFTP (Secure File Transfer Protocol)

## Hardware

- CPU: 32 bit RISC processor (AXIS ETRAX 100LX MCM 2+8) 100 MIPS Performance
- Flash memory: 6 Mbytes 4-4.5 Mbytes available for EnerNex application and data storage.
- RAM: 16 Mbytes

## Power Supply

- Power: 9-24 VAC (or DC), 9.6 VA, via external power supply (included) or on screw terminal block.
- Power consumption typically between 2.8 VA and 3.2 VA. With load on USB Vbus, between 5.0 VA and 7.2 VA

## Operating Environment

- Temperature: +5°C to +50°C
- Humidity: 8-80% RHG, non-condensing

## Product Warranty

- One-year warranty is included

## Mechanical Design

- Stable aluminum casing that can be conveniently mounted on a wall (mounting brackets are included)

## Metrics

- Height: 41 mm
- Width: 140 mm
- Length: 118 mm
- Weight: 420 g

## Product Identification

- Sticker label on the underside, which identifies the unit as an EnerNex SCADASentry AXIS 83 Device Server and also identifies the Ethernet address of the unit

## Approvals\*

- EnerNex SCADASentry AXIS 83 Device Server compliant with both industrial and light industrial/commercial EMC standards for both emission and immunity
- Immunity Standards:  
EN 55024:1998  
EN 61000-6-2:2001  
EN 61000-6-1:2001
- Emission Standards:  
EN 55022:1998+A1 Class B (CISPR 22:1997+A1, Class B)  
FCC Part 15, Subpart B, Class A  
FCC Part 15, Subpart B, Class B  
EN 61000-3-2:2000  
EN 61000-3-3:1995+A1
- Safety:  
EN 60950

\*The approvals are made with the aluminum casing and cannot be guaranteed when the PCB is not mounted in a similar box

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