

EnergyAxis® System

Release 8.0

With over 100 EnergyAxis systems deployed worldwide and over 5.4 million smart endpoints installed and used every day for both advanced metering infrastructure (AMI) and distribution automation (DA) applications. EnergyAxis is a utility-grade, Internet protocol (IP)-based two-way communications system based on a dynamic, flexible and scalable architecture. EnergyAxis supports utility applications including revenue metering, outage management, remote network device control operations, demand response, voltage conservation, transformer monitoring, and distribution automation applications.

System release 8.0

Elster, with a drive and vision to solve the utility industry's most pressing smart grid challenges, proudly announces the release of the EnergyAxis System 8.0. Release 8.0 builds on the field proven performance of EnergyAxis System 7.5 in support of today's smart grid applications.

System highlights

Enhanced security: The EnergyAxis System provides a layered end-to-end security architecture based on NIST, NEMA, and FIPS approved standards. EnergyAxis supports AES-128 bit encryption for any inter-network device communication session. Release 8.0 expands the head-end's security management role to include the management of both WAN and LAN security keys. In addition, all EnergyAxis field tools (including Metercat™ and the EA_Inspector) use the head-end's security key management services to communicate with any network device.

Multi-technology WAN communication

Release 8.0 expands on prior releases' introduction of both the wireless and Ethernet WIC communications card to provide network configuration and network fault information to permit the monitoring of WAN-connected devices via TCP/IP. The WIC communication card enables the rapid introduction of additional communication technologies. The EnergyAxis System enlarges the public and private wireless solutions portfolio.

- Verizon Network CDMA certified wireless WIC network devices
- CalAmp 900 MHz point-to-point and point-to-multipoint WAN radio solutions
- Tropos GridCom outdoor mesh router WAN solutions that use either Ethernet or fiber optical WAN backhaul

Features and benefits

- A multi-utility AMI system built on open standards to ease integration
- Communication interoperability and options to use public and/or private wireless WAN backhaul solutions
- Proven best in class security model to execute AMI and DA applications over EnergyAxis
- Distributed architecture with scalability to meet any size AMI network deployment
- Smart metering endpoints with robust features sets that support revenue metering, grid monitoring, voltage conservation, residential home automation, and C&I load control applications

Head-end platform robustness

The EnergyAxis Management System (EA_MS) head-end introduces operating system support for the Microsoft Windows Server 2008 (R2) edition to improve system performance, scalability and application functionality. All EnergyAxis applications run on a 64-bit Intel-based processor architecture. EA_MS adds utility-grade improvements to increase the data retrieval performance of interval data, on-demand network service operations, and real-time notification of device events, including both outage and non-outage related events.

User interface enhancements

Release 8.0 continues the head-end's thin-client strategy to improve application performance based on deployment experiences with EnergyAxis' largest customer deployments. Included are improved system dashboards, network statistics, LAN visualization, and HAN device management.

Voltage conservation

Release 8.0 builds on prior releases' voltage conservation feature to provide enhanced application controls and web services to configure voltage thresholds (both minimum and maximum) and the retrieval of both voltage events and logs from residential REX2™ meters. Visibility of voltage event notifications provides a safety net particularly useful when feeder voltages are adjusted downward as a part of a utility voltage based energy conservation initiative.

Demand response

Release 8.0 includes Smart Energy Profile (SEP) 1.0 ZigBee compliant functionality in support of utility demand response programs. The head-end provides both application interface controls and web services for transmitting load control, messaging, and pricing commands to SEP compliant HAN devices such as thermostats, in home displays and load control devices

EA_Water 2.0 module

Release 8.0 takes water AMI functionality to the next level incorporating encrypted two-way communications, the ability to upgrade water module firmware in the field, and determination of the best network communications route. All head-end device life-cycle management functions are supported including interval data collection and low battery device fault notification. Elster supports all major water meter suppliers' encoded or digital registers.

EA_Gas 2.0 module

The EA_Gas 2.0 module offers cutting-edge communications and maintenance functions while supporting all major suppliers' gas meters for in-place retrofit or new-meter installations. Automated installation tools help insure accurate data is captured in all installation situations from simple re-use of existing meter indexes to full meter change-out.

DA-AMI convergence solutions

Release 8.0 implements support for Elster's IP AxisLink platform. This platform, composed of the Secure Tunnel Server and the Router Gatekeeper Gateway, allows a utility to leverage their existing EnergyAxis AMI network to access DA devices left stranded by AMI or SCADA network.



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