

# EnergyAxis® Water Module



The Elster Electricity EnergyAxis System, used to collect electricity meter reads and usage data, also includes the remote collection of register readings and usage data from water meters. The water meter module is provided in a molded enclosure that connects to either digital (pulse) or encoded registers used with water meters. Modules can be used in pit applications, remote mounting applications, and direct mounted to the water meter.

Modules transmit meter readings, usage data, and local status and warnings over the Elster 900 MHz RF network used for metering communications. This frequency hopping, spread spectrum RF network provides a very secure and robust communication network to retrieve the desired information concerning water usage. Transmissions from the water meter enter into the 900 MHz mesh network used in Elster's electricity metering communication system. The water meter data is directed through the mesh network to an area collector, where the data is stored for retrieval by the EnergyAxis Metering Automation Server (MAS). Use of the Elster mesh network provides the greatest assurance that meter readings will be received at the collector and available for retrieval by MAS.

## Application

The communication module may be ordered for use with water meter registers that have a digital output or those that have an encoded output. Modules may be connected to the water meter register at the water meter factory or added at the meter shop location.

Modules may be ordered for water meter pit settings or above grade remote or direct connect applications. Modules used in the pit setting may be fitted to the metal lid cover through a hole in the cover or they can be used with a composite cover using a molded bracket in the cover to support the module.

A unique LAN identification number exists for each module. This number is printed on the module and also shown in bar code format. Modules attached to water meters at the factory will come with a file identifying the module and meter combination.

The modules support the unit of measure as provided by the water meter register and no on-site programming is required.

## Operation

Periodically throughout the day, the module reports the water usage reading, status and warning messages, and interval data. The local EnergyAxis collector will store this data for retrieval by MAS. If the collector is not nearby, a nearby electricity meter receives the module transmission and will forward this information to the collector through the Elster 900 MHz mesh network. Water meter data is stored within the electricity meter until the collector acknowledges receipt of the data. With multiple paths for the water module's data through the mesh network, there is the same robust communications performance and data collection reliability as exists with the electricity meters in the EnergyAxis System.

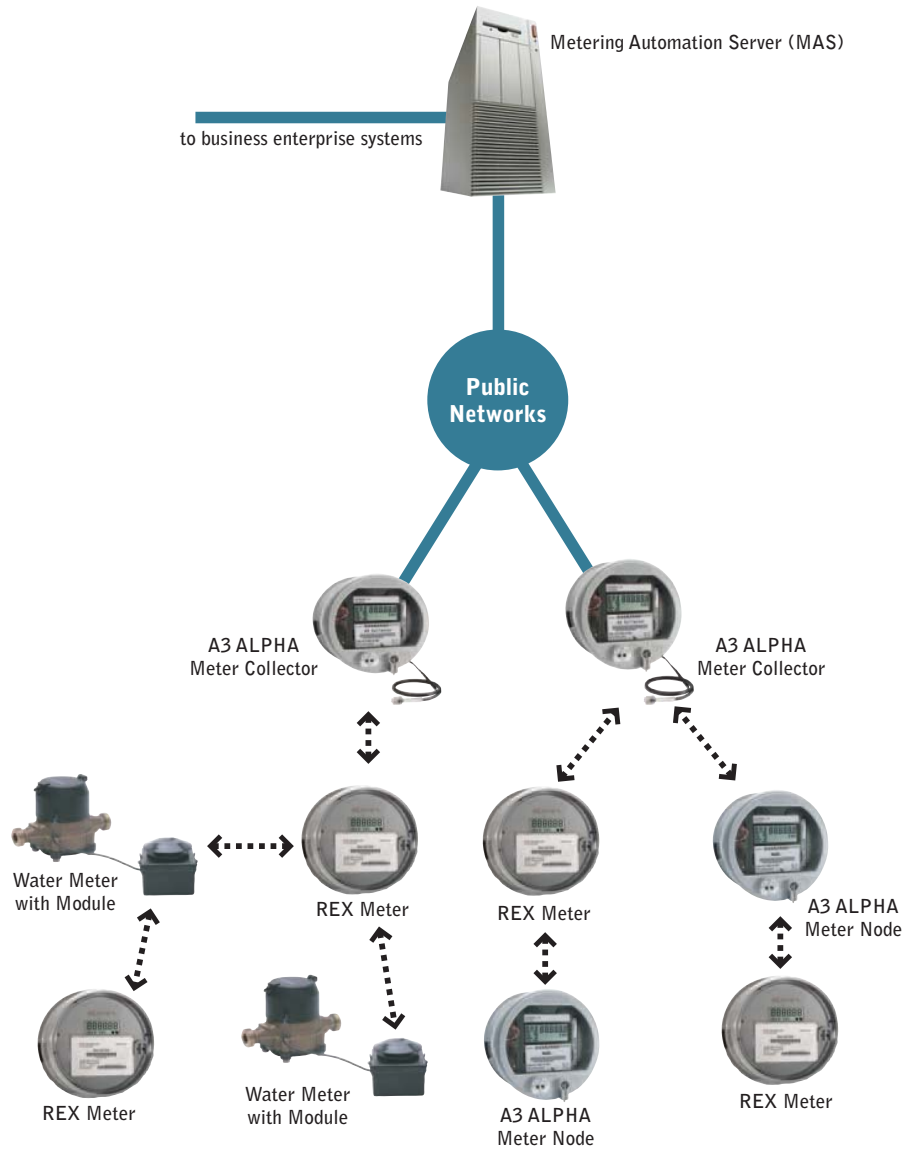
The EnergyAxis MAS manages the retrieval of the metering information and provides initial reporting of the water usage data and exports the water meter reads and other information to the appropriate system for billing or other processing.

Power for communications is provided using a battery. The battery life is rated for 20 years of operational life.

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# EnergyAxis System Architecture



## Water Module Specifications

<b>Communications</b>	902 to 928 MHz
<b>RF technology</b>	Unlicensed, spread spectrum, frequency hopping
<b>Industry standards</b>	FCC Rules, Part 15 Industry Canada RSS-210
<b>Temperature range</b>	-40 °C to +85 °C
<b>Humidity range</b>	0 % to 100 %



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