EnergyAxis® REX2-EA meter

The robust features and flexible architecture of the REX2-EA® meter provides a solid foundation for implementing the smart grid of the future.

REX2-EA meters bring to the REX meter family many enhancements designed to support emerging needs of smart grid initiatives. REX2® meters include enhanced memory, greater security, remote upgradeability, and additional capabilities to support smart grid needs such as outage and voltage monitoring.

Developed with technology and communications flexibility in mind, the REX2 platform is both a smart metering endpoint and gateway into the home supporting both 900 MHz and 2.4 GHz ZigBee communications. It also provides an open architecture framework for third party technology innovation supporting the Advanced Grid Infrastructure Initiative.

Optimal functionality

- Proven 2-way communications using EnergyAxis 900 MHz FHSS RF technology, providing the ideal combination of speed, penetration, and RF power

- On request energy, demand, status, and instrumentation data read support

- 2 configurable metered quantities supporting bidirectional metering, ideal for net metering and co-generation applications

- 3 demand quantities with 5-, 15-, 30-, or 60-minute block demand, including remote demand reset and demand limiting

- Support for up to 4-tier, 4-season time-of-use energy and demand with critical tier pricing

- 2 channel interval data collection with EOI energy snapshot for improved data validation

- Flexible water, gas, and third party device support through integrated or add-on communication modules

- Advanced energy theft and meter tampering detection technology

- Wide array of status, warning, and error conditions reportable through the network

- Future upgradeability for reactive metering, rolling demand, and other feature enhancements

- Advanced security with full 128-bit AES encryption

- Support for ANSI C12.19 and C12.22

- Nonvolatile memory rated for 1,000,000 write cycles, ensuring data integrity for the life of the meter

- Optimized for very low burden on utility distribution system

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Built on the proven REX meter design with enhanced technology and communications flexibility, the REX2 meter platform provides an optimum combination of innovation with real world field experience.

Internal service control switch

REX2 meters are available with an optional 200 A integrated service control switch. Based on significant field experience, the REX2 service control switch has been optimized to provide low contact resistance for increased life. REX2 meters with switches are externally indistinguishable from REX2 meters without switches, thereby protecting utilities from consumer concerns about deployment. REX2 meters support advanced demand limiting and lockout functionality, and switches may be operated by authorized utility personnel through the network or locally at the meter.

Over the air upgrades

Using proven code management architecture, REX2 technology allows remote upgrade of meter and communications firmware while ensuring endpoint network functionality remains intact without loss of metering data. Remote upgradeability of the entire firmware image protects your AMI investment and allows you to meet future requirements of the smart grid without concern of technology obsolescence. In addition to remote firmware upgradeability, the meter also supports remote reconfiguration of many metering parameters.

Outage and restoration functionality

The REX2 meter provides advanced outage and restoration support, enhancing the ability to more quickly identify the scope of outages and to receive positive restoration messages to validate that power has been restored to every endpoint..
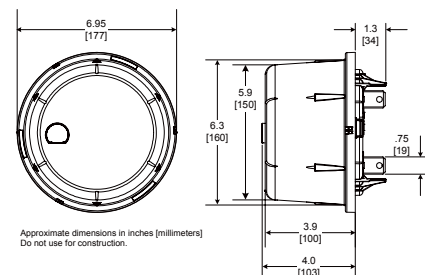
Features include the following:

- Count of momentary and sustained outages
- Total cumulative time of sustained outages
- Outage time and date stamp
- Qualified restoration notification with service voltage

Available forms

REX2 meters are available in standard residential metering form factors (1S, 2S, 3S, 4S, and 12S).

About Byram Labs

Byram, a global leader in smart metering and smart grid solutions, has delivered smart metering devices worldwide for over 100 years. Byram smart metering system solutions provide energy conservation capabilities via demand response programs, smart grid applications, and operational efficiencies resulting in significant value creation across the customer enterprise.

Approximate dimensions in inches [millimeters]
Do not use for construction.

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Operating ranges			
Voltage		Nameplate nominal	Operating
	Forms 1S and 12S	120 V	96 V to 144 V
	Form 2S	240 V	192 V to 288 V
	Form 3S and 4S	120 V	96 V to 144 V
		240 V	192 V to 288 V
Current		0 to Class ampere rating	
Frequency		Nominal 50 Hz or 60 Hz ± 5 %	
Temperature		-40 °C to +85 °C (inside meter cover)	
Humidity		0 % to 100 % (noncondensing)	
General performance characteristics			
Starting current		Forms 1S, 2S, and 12S	100 mA for Class 200
			160 mA for Class 320
		Forms 3S and 4S	10 mA for Class 20
Creep 0.000 A (no current)		No more than 1 pulse measured per quantity, conforming to ANSI C12.1 requirements	
Burden		Less than 1.5 W	
Primary time base		Relative time is maintained by a crystal; real time is provided by the EnergyAxis network	
Communication frequency		902 MHz to 928 MHz (unlicensed)	

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