BYRAM LABS
AN ENERGY TECHNOLOGY COMPANY

Byram Laboratories' SM23 Smart Meter w/ Pulse Counting Transmitter

Byram's smart meters are electronic electricity meters designed to meet residential metering requirements and provide remote communications. As a component of the EnergyAxis® System, our smart meters bring advanced metering infrastructure capabilities to residential metering applications. Utilities can obtain interval data, bidirectional energy, critical tier, and time-of-use (TOU) data through the EnergyAxis® network. Byram's smart meters are available in most common residential wiring configurations

The pulse counting transmitter provides the means for tracking pulse meter usage information. The meter generated pulses or switch closures are counted by the transmitter and the data is transmitted periodically to the remote data logger

Pulse Counting Transmitters:

The following pulse counting transmitters are compatible with any Byram SM Series meters and are available for purchase with your meter.

- Inovonics EN1501
- Tehama Wireless TE-140B-P
- Next Century Transceiver

Key Features

- Proven 2-way communications using EnergyAxis® 900 MHz FHSS RF technology, providing the ideal combination of speed, penetration, and RF power.
- 3 Demand quantities with 5-, 15-, 30-, or 60-minute block demand, including remote demand reset and demand limiting.
- 2 Channel interval data collection with EOI energy snapshot for improved data validation.
- Support for ANSI C12.19 and C12.22.
- Support for 4-tier, 4-season, time-of-use energy and demand with critical tier pricing.
- On request energy, demand, status, and instrumentation data read support.
- Quick and easy to install.
- UL recognized safety.
- 2 Configurable metered quantities supporting bidirectional metering, ideal for net metering and co-generation applications.
- Future upgradability with over the air firmware upgrades.
- Advanced energy theft and meter tampering detection technology.
- Advanced security with full 128-bit AES encryption.

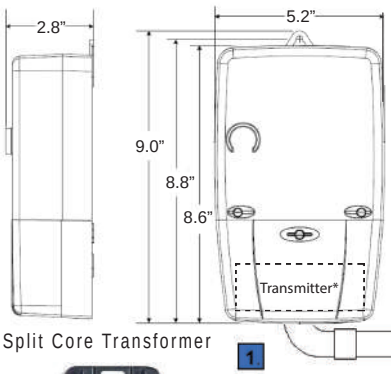
Specifications

Byram SM23 Smart Meter

Voltage	
1 phase, 3 wire network	120/208 VAC ± 20%
Current	200A
Frequency	Nominal 60 Hz ± 5%
Temperature	-40°F to +131°F (ambient)
Humidity	0% to 100 % (non-condensing)
General performance characteristics	
Starting current	100mA
Creep 0.000 A (no current)	No more than 1 pulse measured per quantity, conforming to ANSI C12.1 requirements
Burden	Less than 1.5W
Primary time base	Relative time is maintained by a crystal, real time is provided by the EnergyAxis network
Communications frequency	902 MHz to 928 MHz (unlicensed)
Communications rate	17,600 bps (900 MHz radio)
IEC standards compliance	IEC 62052-11, IEC 62052-21, IEC 62053-21
Additional standards	C12.19, C12.22, AS/NZS 4268, NMI M6
Ordering #	• with Inovonics Transmitter - 1C6322 • with Tehama Transmitter - 1C6323 • with Next Century Transmitter - 1C6324

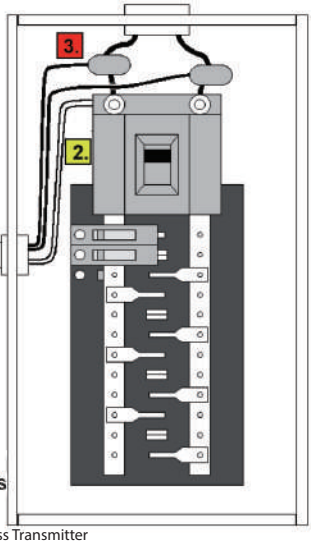
Side

Front



Split Core Transformer

Installation



* Will require an additional enclosure to house the Tehama Wireless Transmitter

Tehama Wireless MDT

- Time of Use (ToU) interval data with on-board memory and time-stamping at 15 minute or 5 minute intervals
- 2nd Pulse input
- Encoded meter input
- 24VAC Runtime timer/counter

Specifications

Inputs Options	• Pulse signal from electric, run-time, gas or water meters • Optional temperature sensor • Other inputs also supported
Data Resolution	• 1 hour interval
Radio	• 902 - 928 MHz; FCC Certified
Operating Temperature	• -20 to 145°F
Dimensions	• 4.3" x 2.2" x 1.2"

Inovonics EN1501

- Case tamper protection
- Compatible with virtually any meter with a pulse output.

Specifications

Inputs Options	• Pulse signal from utility meter (consult Byram for list of compatible meters)
Transmission Freq.	• Approximately once an hour
Radio	• 902 - 928 MHz
Operating Temperature	• 32 to 145°F
Dimensions	• 3.5" x 1.7" x 0.9"

Next Century Transceiver

- Compatible with any standard pulse output measuring device
- Increase coverage by amplifying signals in the mesh network
- Battery monitoring technology provides long lasting battery life

Specifications

Data Resolution	• Typical 12 hour interval • Adjustable up to 15 minutes • Integrated leak and drip detection
Communications	• 900mHz extended long distance radio; FCC Certified, Integrated encryption Engine
Operating Temperature	• -20 to 140°F
Dimensions	• 2.9" x 1.6" x 1.1"

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