



Prism® Cellular Register

Product Datasheet

The Prism® is a cellular digital register which mounts on all Metron Spectrum® water meters¹. It can also be adapted to many other traditional water meters providing instant AMI upgrades to deployed meters.

The Prism register senses the meter's magnetic element down to ¼ turn resolution, and stores data at 1-minute intervals, thereby enabling the most advanced water usage data and analytics in the industry. It utilizes the Verizon Wireless™ network to securely and reliably deliver readings, high resolution interval data and diagnostic data to WaterScope®, Metron's cloud-based meter data management system (MDMS). Utilities and consumers can access water usage data via the powerful WaterScope web portal and via email and text notifications.

Design

Construction: The Prism register is a compact, fully encapsulated package designed for all environments.

Meter Attachment: A standard plastic meter housing provides a robust and tamper-resistant attachment to all Metron water meters. Metron can also provide attachment housings for many other meter types.

Outputs: The Prism register can be supplied with a 3-wire standard AMR output. The output cable can be ordered in different lengths and with Itron or Nicor waterproof connectors.

Antennas: The Prism register has an antenna port which can accommodate either a local antenna or a remote antenna for extension through walls or outside pits/vaults.

Activation: All Prism units come from the factory activated and provisioned on the Verizon Wireless network. Consumption data on the WaterScope web portal can be accessed within 24 hours of installation.

Operation

The Prism register has an internal sensor which tracks the meter's measuring element and stores consumption every log interval. The unit will also perform on-board measurement diagnostics regularly. Once per day during super off-peak hours (1am to 6am local time), the unit will negotiate a secure channel with the Verizon Wireless tower and transmit a daily packet with the current meter read, the daily interval logs and other diagnostic data. Following the transmission, the unit waits for any commands from the cloud server (such as configuration or data backfill) prior to returning to normal operational mode.

¹ Except Spectrum Wave, which has an integrated register

Specifications

Operational

Cellular channel carrier:	Verizon Wireless
Method:	LTE Cat-M
FCC/IC:	License exempt
Secondary comms:	Proprietary InfraRed port
Onboard Storage:	5 min intervals: 227 days 1 min intervals: 45 days
LCD:	8 digits
Display:	Duplicates meter/register Configurable digit underlines
Units:	gallons (US), ft ³ or m ³
Battery:	One 19Ahr non-replaceable
Type:	Lithium Thioynl Chloride
Lifetime:	10 years nominal

Physical

Dimensions:	3.6W x 3.6H x 2.5D inches (w/o antenna) (91W x 91W x 63.5D mm)
Weight:	0.70 lb (0.31 kg)
Storage temperature:	-20° to 140° F (-6° to 60° C)
Operating temperature:	-0° to 140° F (-18° to 60° C)
Humidity:	0 to 100% RH condensing
Fully submersible (IP-68)	

Compatibility

The Prism is compatible with a wide range of industry registers and electronic meters.

Metron: Spectrum Jet, Spectrum PD, Spectrum Enduro, Spectrum Hydrant, Challenger

Metron has tested meters from other meter manufacturers and offers compatibility with many meters with magnetic measuring elements. The following shows a sample of the types of meters. Consult with your Metron representative for questions on compatibility or testing.

Badger, Sensus, Neptune, Mueller: PD meters, turbine meters

Master Meter, Elster, Zenner, RG3, HendeY: PD meters

Warranty

Please contact your Metron representative for formal warranty certifications.

Functionality

Configuration: Configuration can be performed via the local InfraRed (IR) port with Metron's IR bridge. The IR bridge can be coupled via USB to a Win10 computer with the Communicator software or be operated in a standalone mode.

Configuration Options

- Index Ratio (meter calibration)
- LCD Configuration
- Measurement units
- Log Interval
- 3-wire output digits

Data resolution:	per Index Ratio
Data intervals:	5-minute or 1-minute
Data backfill:	Automatic from MDMS
OTA updates:	Available
Onboard time:	Synced with Verizon
Security:	VPN and encryption (contact Metron for info)

Flags/Alerts:

Consumption

- Leak / Threshold Leak / Intermittent Leak
- High Usage / Zero Usage
- Backflow
- Unexpected / Unauthorized Usage
- High/Low Temp
- Watering Event

Diagnostic

- Low Signal Strength

Disclaimers

Transportation: The Prism Register contains a lithium battery and thus is prohibited from shipment by AIR. Please conform with all shipping regulations for lithium batteries.

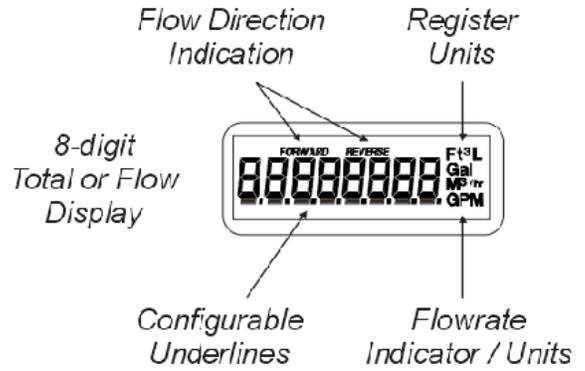
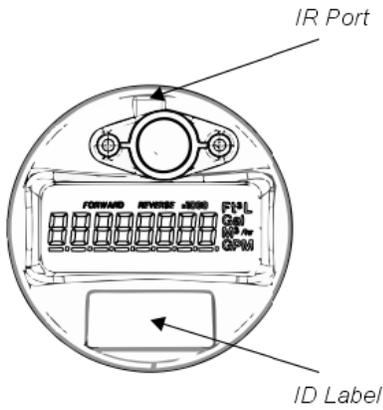
Safety: The Prism operates with radio frequency (RF) during its cellular communications. Metron can provide a whitepaper covering the potential health effects of smart meters.

Disposal: The battery inside the Prism is not replaceable and removal should never be attempted. The Prism units should be disposed of in accordance with local regulations.

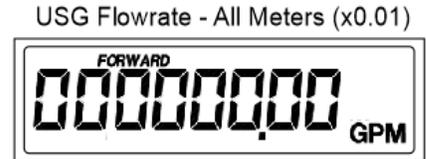
Legal

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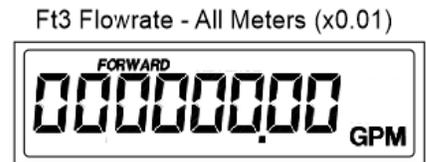
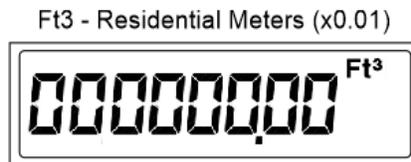
Display



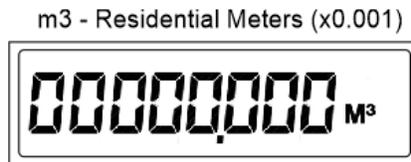
USG Configuration 0.1 Gallon Resolution



Ft3 Configuration 0.01 Ft3 Resolution



m3 Configuration 0.001 m3 Resolution



Antennas

The Prism Register is compatible with several types of antenna for various applications. Extension cables are also available.



Standard "stubby" antenna



Paddle antenna



Pit-cover mounted antenna