METRON
Prism R

Prism R Cellular Register

Product Datasheet

The Prism R is a cellular water meter endpoint remote which interfaces with most industry water meters, registers and flowmeters. This remote utilizes the Verizon Wireless ™ network to securely and reliably deliver readings, high resolution interval data and diagnostic data to the cloud-based meter data management system (MDMS). Utilities and consumers can access data via the powerful WaterScope® web portal and via email notifications.

The Prism R provides an efficient means to adapt commercial, industrial and institutional meters to a state-of-the-art AMI system. High resolution data and analytics provide immediate insights into the account consumption.

Design

Construction: The Prism R is a compact, fully encapsulated package for all environments. The endpoint has an outer housing which can be attached to interior or exterior walls, posts or internal pits. The unit also has a LCD which duplicates the display of the meter/register read.

Connections: The Prism R connects to the water meter or register with a cable consisting of 3 wires with 22AWG solid-core conductors. The cable connection is provided as loose leads (field splice required) or with Nicor Hydroconn® waterproof connectors. Other connectors or methods may be available on a special order basis.

Antennas: The Prism R 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 R 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 R will query the attached meter/register and store consumption every log interval. The unit will also perform on-board measurements 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.

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), ft³ or m³
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)

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
- Input type (see compatibility section)
- Number of encode digits
- Or pulse resolution
- Measurement units
- Log Interval

Data resolution:	matching meter/register
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
- Comm error (cut cable / tamper)
- Low Signal Strength

Compatibility

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

3-wire Encoders (4 to 9 dials)

Metron:	innov8 / Prism register
	Hawkeye OER register
Diehl Metering:	Hydrus™
Badger:	E-Series® Ultrasonic
	HR-E® Mechanical
	HR-E® LCD
	ADE®
Sensus:	Omni™
	iPerl®
	ICE®
	ECR-II

Neptune:	Mach 10®
	ProRead® / Auto
	E-Coder®
Master Meter:	ELinx®
	Octave®
Elster:	evoQ4® (ECR)
Kamstrup:	FlowIQ®

Check with your Metron representative for other meter/register types.

Pulse (Switch closure)

The Prism R can accept a passive and active pulse output from many flowmeters and older water meters. Due to electrical variations in typical pulse interfaces, customers should consult with Metron prior to the application.

Warranty

Please contact your Metron representative for formal warranty certifications.
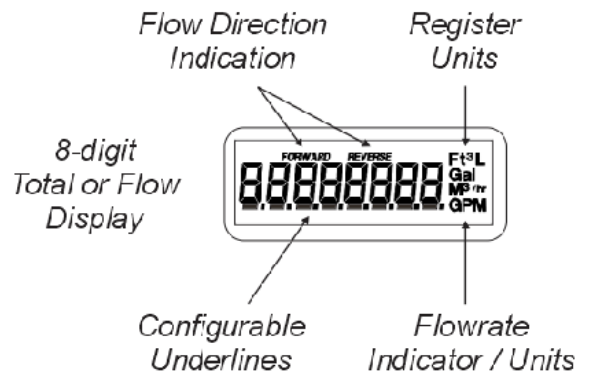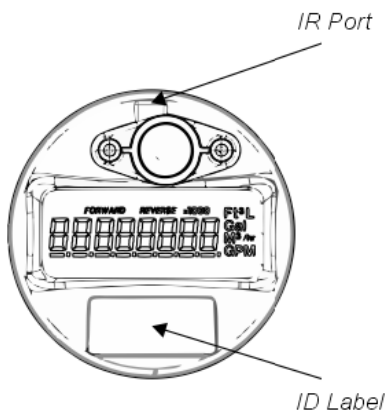
Disclaimers

Transportation: The Prism R 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 R operates with radio frequency (RF) during its cellular communications. Metron can provide a whitepaper covering the potential health effects of smart meters.
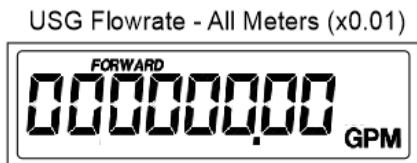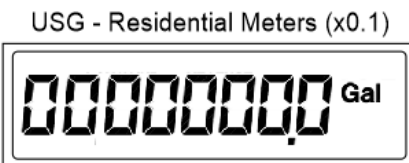
Disposal: The battery inside the Prism R is not replaceable and removal should never be attempted. The Prism R units should be disposed of in accordance with local regulations.
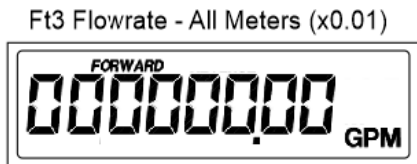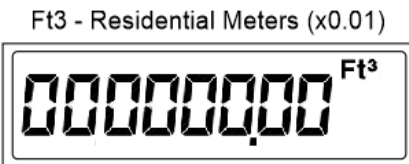
Legal

WaterScope is a registered trademark of Metron-Farnier, LLC. All other trademarks and company names listed in this document are the property of the associated companies.

IR Port

8-digit Total or Flow Display

Flow Direction Indication

Register Units

Configurable Underlines

Flowrate Indicator / Units

ID Label

USG Configuration
0.1 Gallon Resolution

USG - Residential Meters (x0.1)

`00000000` Gal

USG Flowrate - All Meters (x0.01)

FORWARD
`00000000` GPM

Ft3 Configuration
0.01 Ft3 Resolution

Ft3 - Residential Meters (x0.01)

`00000000` Ft^3

Ft3 Flowrate - All Meters (x0.01)

FORWARD
`00000000` GPM

m3 Configuration
0.001 m3 Resolution

m3 - Residential Meters (x0.001)

`00000000` M^3

m3 Flowrate - All Meters (x0.001)

FORWARD
`00000000` M^3/hr