

# iPERL Smart Water Meter

## Electromagnetic Flow Measurement System

Sensus iPERL® smart water meters are designed to capture both lost water and lost revenue. The innovative magnetic technology delivers unmatched low flow registration and minimal pressure loss. With no moving parts, iPERL maintains its accuracy over a 20 year lifetime and is equipped with smart water alarms – delivering the intelligence you need to quickly resolve issues in the field.

### CAPABILITIES

- The iPERL meter has an operating range of 0.11 gpm (0.025 m<sup>3</sup>/hr) to 55 gpm (12.5 m<sup>3</sup>/hr)—it even starts to register flow as low as 0.03 gpm (0.007 m<sup>3</sup>/hr).
- Sizes include: 5/8" (DN 15mm), 3/4" (DN 20mm) and 1" (DN 25mm)
- iPERL can be installed horizontally, vertically or diagonally.

### BENEFITS

- Maximize investment with iPERL's magnetic technology, which delivers a 20-year accuracy warranty, with no repairs
- Get smart water alarms to detect issues such as leaks, reverse flow, empty pipe, etc.
- Improve low flow accuracy to drive additional revenue

### Industry Leading Performance

The patented measurement technology of the iPERL water meter provides enhanced accuracy at both low and high flows. Over a 20-year lifespan, your iPERL will measure just as accurately as the day it was installed.

### Solid State Magnetic Technology

By avoiding the use of a mechanical measuring element inside the flow tube, metering performance is linear over the entire flow range – ensuring no reduction in accuracy at any flow rate over the life of the meter. The iPERL meter uses our patented remanent magnetic field technology – requiring far less energy and delivering superior accuracy.

### Alarms

Quick resolution of field issues is made possible with smart water alarms including leak detection, reverse flow, empty pipe, magnetic tamper and low battery. When integrated with our FlexNet® communication network, remotely gathering and transmitting data has never been more reliable or profitable.

### Construction

The iPERL meter body is made of composite alloy and contains no metal material. Inside the meter body is an electronic register and a measuring device that is comprised of a composite alloy flow tube. Embedded in the flow tube are coated silver electrodes. iPERL utilizes these to measure the fluid velocity through the flow tube – enabling less power consumption and predictable meter performance. The iPERL meter has a 20-year accuracy warranty and a 20-year battery life guarantee.



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## Electronic Register

The 9-digit hermetically-sealed electronic register with LCD display was designed to eliminate dirt, fog and moisture contamination in pit settings. The large, easy-to-read display includes AMR digits, direction of flow, units of measure and smart water alarms. The AMR digits and units of measure are fully programmable. The register also provides integrated customer data logging.

## AMI / AMR Compatibility

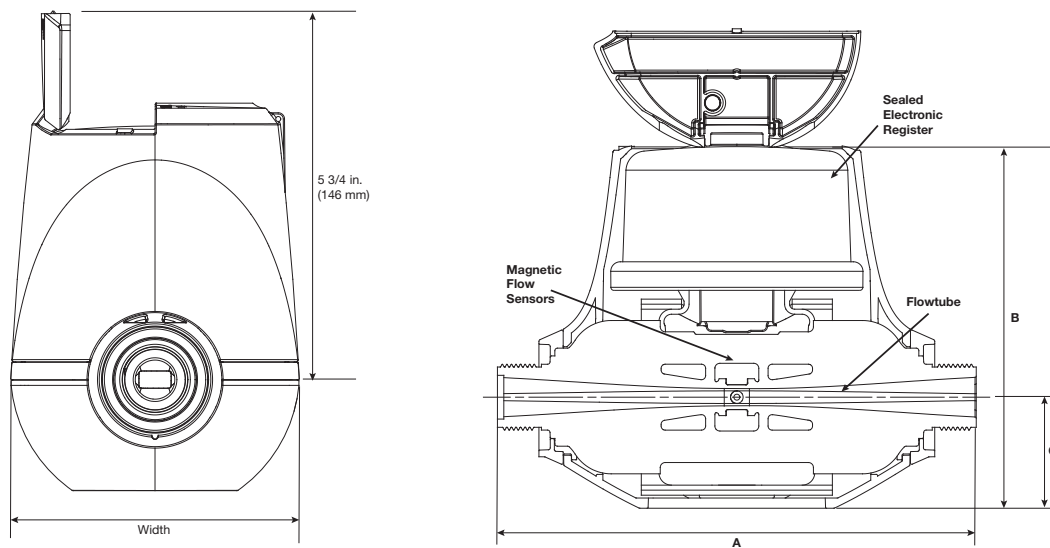
Sensus iPERL meters are compatible with common AMR/AMI systems, including the Sensus FlexNet® communication network.

## Conformance to Standards

The iPERL meter far exceeds the most recent revision of ANSI/AWWA Standard C-700 and C-710 for accuracy and pressure loss requirements. All iPERL meters are NSF/ANSI Standard 61 Annex F and G compliant and tested to AWWA standards.

## Tamper Resistant

The integrated construction of the iPERL water meter prevents removal of the register to obtain free water. The magnetic tamper and low field alarms will both indicate any attempt to tamper with the magnetic field of the iPERL meter.



## Dimensions and Net Weights

Size	A (lay length)	B	C	Spud Ends	NPSM Thread Size	Width	Net Weight
5/8" (DN 15 mm)	7-1/2" (190 mm)	6-1/10" (155 mm)	1-3/4" (44 mm)	5/8" (15 mm)	3/4" (19 mm)	4-1/2" (114 mm)	3.1 lb. (1.4 kg)
3/4" S (5/8" x 3/4") (DN 20 mm)	7-1/2" (190 mm)	6-1/10" (155 mm)	1-3/4" (44 mm)	3/4" (20 mm)	1" (25 mm)	4-1/2" (114 mm)	3.1 lb. (1.4 kg)
3/4" (DN 20 mm)	9" (229 mm)	6-1/10" (155 mm)	1-3/4" (44 mm)	3/4" (20 mm)	1" (25 mm)	4-1/2" (114 mm)	3.2 lb. (1.5 kg)
1" (DN 25 mm)	10-3/4" (273 mm)	6-1/10" (155 mm)	1-3/4" (44 mm)	1" (25 mm)	1-1/4" (32 mm)	4-1/2" (114 mm)	3.3 lb. (1.6 kg)

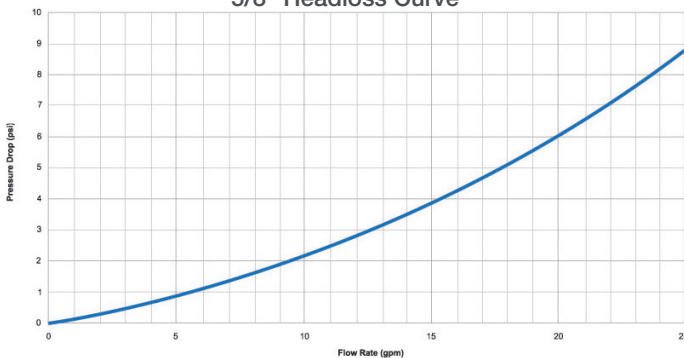


## Specifications

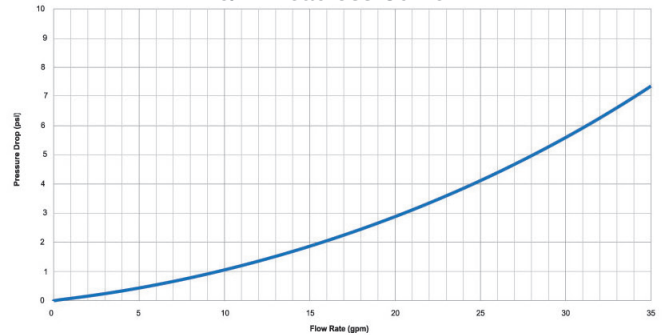
Service	Measurement of potable and reclaimed water. Water operating temperature range of 33°F (0.56°C) -80°F (26.7°C)
Starting Flow	5/8" (DN 15mm) size: 0.03 gpm (0.007 m <sup>3</sup> /h) 3/4" (DN 20mm) size: 0.03 gpm (0.007 m <sup>3</sup> /h) 1" (DN 25mm) size: 0.11 gpm (0.025 m <sup>3</sup> /h)
Low Flow Range (±3%)	5/8" (DN 15mm) size: >0.11 gpm (0.025 m <sup>3</sup> /hr) to <0.18 gpm (0.041 m <sup>3</sup> /hr) 3/4" (DN 20mm) size: >0.11 gpm (0.025 m <sup>3</sup> /hr) to <0.18 gpm (0.041 m <sup>3</sup> /hr) 1" (DN 25mm) size: >0.3 gpm (0.068 m <sup>3</sup> /hr) to <0.4 gpm (0.09 m <sup>3</sup> /hr)
Normal Water Operating Flow Range (±1.5%)	5/8" (DN 15mm) size: 0.18 to 25 gpm (0.04 to 5.7 m <sup>3</sup> /hr) 3/4" (DN 20mm) size: 0.18 to 35 gpm (0.04 to 8.0 m <sup>3</sup> /hr) 1" (DN 25mm) size: 0.4 to 55 gpm (0.09 to 12.5 m <sup>3</sup> /hr)
Maximum Operating Pressure	5/8" and 3/4" size: 200 psi (13.8 bar) 1" size: 175 psi (12.1 bar)
Measurement Technology	Solid state electromagnetic flow
Register	Hermetically sealed, 9-digit programmable electronic register; AMR/AMI compatible; iPERL register programmable using the UniPro® communicator and FieldLogic™ software
Materials	External housing – Thermal plastic; Flowtube – Polyphenylene sulfide alloy; Electrode – Silver/silver chloride; Register cover – Tempered glass
Alarm Defaults	Alarm Duration – 90 days; Leak Duration before alarm is triggered – 24 hours; Datalog Interval – 1 hour; Alarm Mask

## Headloss Curves

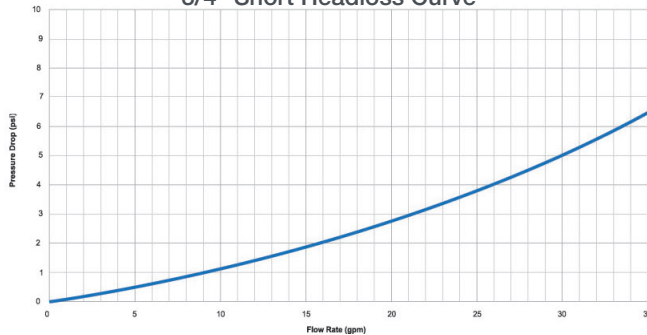
5/8" Headloss Curve



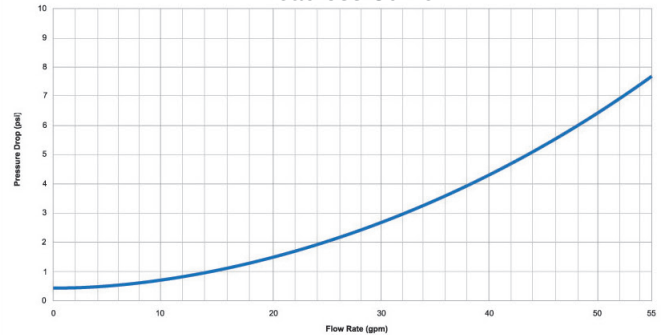
3/4" Headloss Curve



3/4" Short Headloss Curve



1" Headloss Curve





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