

DESCRIPTION

When considering the use of a wireless device, take care to properly qualify potential sites. As with most projects, having the right tools makes all the difference. This is where the 350EV Wireless Evaluation Kit comes into play. The Badger Meter® 350EV kit consists of a portable, battery-powered 350R radio frequency (RF) receiver and a 350T RF transmitter. The 350R is mounted in a weatherproof enclosure and is serialized to “listen” to the 350T. This evaluation kit makes it possible to understand how buildings, parking lots and ground features unique to every application affect signal transmission. Using this information can help determine optimal wireless application locations. A typical site evaluation would involve placing the RF transmitter at the desired flow sensor location and the RF receiver where the output signal is necessary. Signal reception would be confirmed by viewing the “RF RCV” LED on the receiver which should flash approximately every 4 seconds. If the testing area allows, it is good practice to test the RF receiver at an additional range of 10 feet so the wireless signal is not borderline in strength and to account for a changing signal environment (for example, tree and bush growth and vehicle traffic).

WIRELESS ORION RF RECEIVER

The ORION® receiver is powered by a 9V battery and installed in a NEMA 4X enclosure complete with ON/OFF switch and low profile type antenna. Wireless communication with the RF transmitter is confirmed by viewing the “RF RCV” LED near the D.I.C. Comm Port, which flashes approximately every 4 seconds.

WIRELESS ORION RF TRANSMITTER

The ORION transmitter operates in the 902...928 MHz frequency band at 916.45 MHz, which requires no FCC licensing. The transmitter sends a fixed value RF signal to the serialized receiver approximately every 4 seconds. The transmitter is powered using an internal lithium battery and is encapsulated to provide moisture resistance. It is factory programmed and requires no configuration in the field. A transmitter mounting kit consisting of a threaded cap and nut is supplied with the kit and can be used to install the transmitter in a valve box cover for testing, if required.



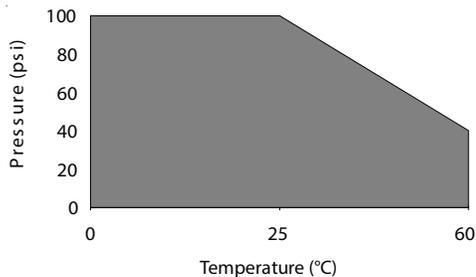
OPERATING INSTRUCTIONS:

1. Turn power switch to the ON position.
 - The “RF RCV” LED flashes twice to confirm that power is on.
 - The “RF RCV” LED flashes approximately every four seconds when transmitter and receiver are communicating.
 - When the “RF RCV” LED stops flashing, the transmitter is out of range.
2. Turn power switch to the OFF position when test is complete.

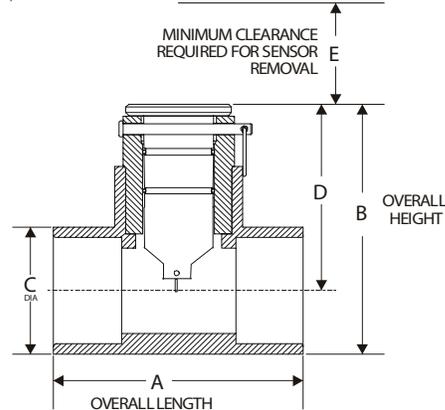
SPECIFICATIONS

Wetted Materials (Except Tee)	Refer to the Sensor Selection Matrix
Tee for 228PV	Schedule 80 PVC per ASTM D-2462 and D-2467. Virgin, unplasticized PVC resin, Type 1 cell classification 12454-B. Fittings and solvent carry approval for potable water by NSF and IAMPO.
Power Requirements	Flow sensor-lithium battery powered (typical battery life > 5yr)
	ORION transmitter, battery powered (typical battery life > 10yr)
	ORION receiver, external power 12...24V AC/DC
	Current Draw
	36 mA @ 12V DC
	16 mA @ 24V DC
	40 mA rms @ 12V AC rms
	30 mA rms @ 24V AC rms
Recommended Flow Range	5...20 fps
Extended Flow Range	1 to 20 fps
Accuracy	Standard $\pm 2\%$ of rate
	Repeatability $\pm 0.5\%$
Maximum Operating Temperature	32...150° F (0...65° C)
Sensor Pressure Drop	0.5 psi or less at 10 fps for all pipe sizes 1.5 in. diameter and larger
Programming	Sensor and transmitter programming is accomplished using PC software via an infrared (IR) link
	ORION RF receiver programming is accomplished using PC software via the A301W-20 connector cable
Flow Sensor Programmable Parameters	K & Offset dependent upon pipe size
	Flow units (gpm, gph, lps, lpm, ft ³ /sec, ft ³ /min, m ³ /sec, m ³ /min)
	Scaled pulse output (units/pulse)
ORION Receiver Programmable Parameters	Serial number (unique to the ORION Transmitter ID)
	Volume units (gallons, ft ³ , m ³ , liters)
	Scaled pulse output (units/pulse)
	Scaled pulse output (pulse width)

SENSOR PRESSURE RATINGS



DIMENSIONS



Tee Size	Gal/Pulse
1.5 in.	1
2 in.	1
3 in.	10
4 in.	10

Dim.	228PV152W-1201	228PV202W-1201	228PV302W-1201	228PV402W-1201
A	5.0 in. (127 mm)	5.63 in. (143 mm)	6.50 in. (165 mm)	7.38 in. (187 mm)
B	5.16 in. (131 mm)	5.64 in. (143 mm)	6.83 in. (173 mm)	6.83 in. (173 mm)
C	2.38 in. (60 mm)	2.88 in. (73 mm)	4.23 in. (107 mm)	5.38 in. (137 mm)
D	3.97 in. (101 mm)	4.20 in. (107 mm)	4.68 in. (119 mm)	5.10 in. (130 mm)
E	5.50 in. (140 mm)			

Control. Manage. Optimize.

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