everydrop™ TECHNOLOGIES
Advanced Water Management

www.everydropmeters.com

Product Description

Everydrop’s Model 1004-EX is a 1” vortex flowmeter that provides highly accurate, real time flow monitoring with totalization. It provides an always-on digital display with flowrate in gallons/minute, totalization in gallons, leak detect, and over range. Model 1004-EX is a 2 wire meter that provides power and pulse signal over the 2 wires. (Compatible with other meters on the market)

General Specifications

Size	1”
Flow Range (Indicated)	0.5 to 30.0 GPM (0.1 GPM resolution)
Accuracy	
- RANGE 1.0 to 20.0 GPM - RANGE 20.1 to 30.0 GPM: - RANGE 0.5 to 0.9 GPM:	+/-2% of reading Usable Over-range, Accuracy Not Guaranteed (~2%) Leak Detect Range
Update Rate	
-RANGE 1.0 to 30.0 GPM -RANGE 0.5 to 0.9 GPM	1.5 seconds < 1 minute (typically 7 seconds)
Pressure Loss at 20GPM	Less than 1.5 psid
Burst Pressure	350 psi minimum (Meter body)
Operating Temperature	32 F to 140 F
Construction Materials	
-Vortex Generator	Stainless Steel
-Vortex Sensor	EPDM Rubber (wetted surface)
-Meter Body	ABS (and PVC pipe 6” extension)
LCD Display	
-Flowrate (GPM)	3 digit, 0.1 GPM resolution
-Flow Total (Gallons)	8 digit, 0.1 Gallon resolution
-Alerts	Out of flow range, Leak Detect
-Auto Reset	10 Million gallons or power cycle

See www.everydropmeters.com for Warranty Information

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Installation Specifications:

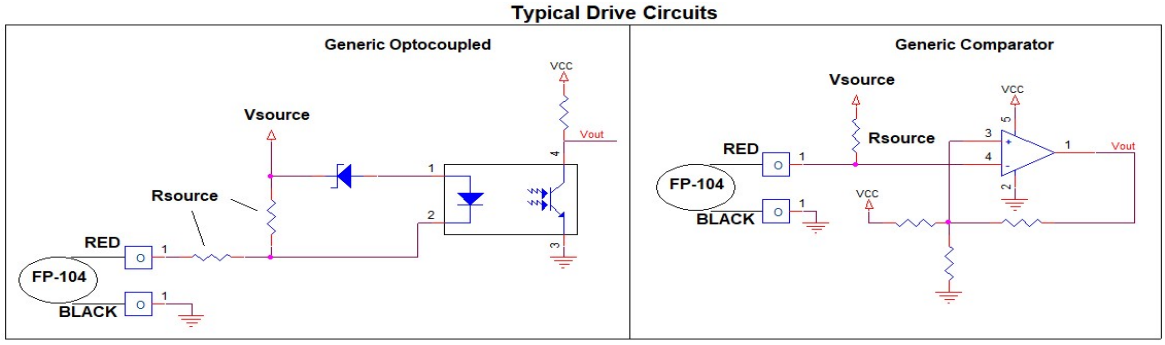
Connections	PVC 1” Union adapter included
Meter Orientation	All orientations acceptable *pipe must be full
Special Requirements	Pipe must be full for operation. **Flows over 30gpm may shorten life of meter.**

Electrical Interface Specifications:

Frequency	1.35Hz to 93Hz
Pulse Width	1ms
Current	900uA @ 0.5Vdc to 40Vdc
Vhigh	Supply voltage – (900uA * Supply/Source Impedance)
Vlow (ON state)	0.4Vdc @ up to 25mA
Vsource (min)	9V @ Max Source Impedance 1000 ohms (*See Note 1)

NOTE 1: Maximum impedance at any source voltage can be determined by the following equation:

Rsource-max = Vsource/(0.08/Vsource)



Cable Specifications:

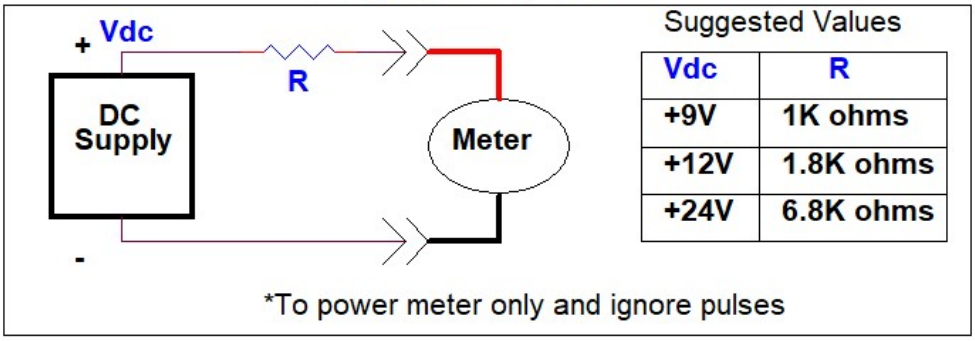
Included cable	18awg solid copper, Red for positive, Black for negative
Attached Lead Length	12”
Maximum Lead Extension	1000 feet with twisted pair shielded
Connection	Leak tight wire nuts preferred; Shielded wire recommended

Conversion Equations:

Frequency = (GPM/0.322) – 0.2 **GPM = (Frequency + 0.2) * 0.322**

K = 0.322; Offset = 0.2

Display Only Power*



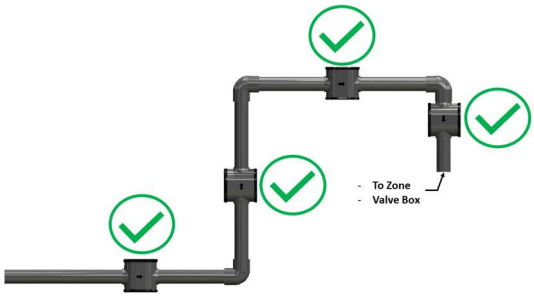
Installation Guidelines

The Model 1004-EX Everydrop vortex flowmeter includes the upstream straight pipe run needed for proper operation. The pipe must also be **FULL AT ALL TIMES** for the Vortex meter to function and tips to achieve that are shown in Diagram A.

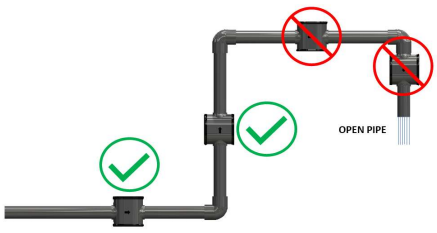
The included unions (unscrew from meter before installing) are made of PVC. Use proper PVC cement and primer to bond union to PVC pipe. (such as Oatey Regular Clear PVC Cement and Purple Primer)

For irrigation timers that have a drop down list, choose the Everydrop 1004/1104 or if not listed and you can't manually input, use the CST 1" paddle meter which has same K factor.

Diagram A: General installation guidelines to ensure a full flow meter



Pipe with back pressure



Open pipe w/o back pressure

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NOTE BEFORE INSTALLING:

-Remove the unions from each end of the meter being careful to not lose the O-ring seated in one half of the union. See picture below:

-Union is made of PVC. Attach using appropriate PVC cement and primer to bond the union to the PVC pipe. (such as Oatey Regular Clear PVC Cement and Purple Primer found at any hardware store)

-Make sure to leave enough slack in the pipe so that union can be properly tightened so that O-ring is compressed.

-Pipe must be full at all times for proper operation. See User Manual for details. Any orientation is acceptable as long as pipe is full.

-Exposure to flows over 30gpm will invalidate performance specifications AND warranty.

-For operation with popular irrigation timers, choose the Everydrop 1004/1104 or CST 1” paddle meter if the timer doesn’t list or allow you to enter the K factor and offset manually. Follow the wiring instructions given by timer manufacturer. Shielded wire is recommended to prevent interference.

-This meter has NOT been certified for potable water. (Wetted materials are ABS, PVC, stainless steel, and EPDM rubber)