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| <b>Models</b><br><b>PEPT-1 &amp; EPT-1XP</b> | <b>Electronic Unscaled Transmitter</b> | <b>Technical<br/>Brief</b> |
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## GENERAL

The Models PEPT-1 and EPT-1XP transmitters are two wire electronic, high resolution pulse transmitters designed for use with Badger Meter's Disc and OP meter lines.

The unscaled pulse output is equal to 21 pulses for every revolution of the flow meter's measuring element. A 1/2" OP meter with this transmitter will produce 1170 pulses for every gallon of fluid passing through the meter.

This output can be connected, via a provided interface module, to almost any controller or device that has scaling capabilities and can provide 12 - 15 VDC for operation of the transmitter. Scaling allows you to convert the unscaled pulse to standard engineering units, such as one pulse per gallon, ounce etc.

## OPERATION

The flow of fluid through the meter causes an internal magnet to rotate. This magnet is coupled to an optical disc which is located in the transmitter housing.

The rotation of this disc is electronically sensed, producing pulses which are directly proportional to the quantity of fluid passing through the meter.

The pulses are sent to a signal processing board where they are conditioned and passed on to a controller or other scaling device. When used with the provided interface module, the amplitude of the output pulse alternates between 1.4 and 10 VDC. This pulse is compatible with 12 Volt CMOS devices such as the Badger PC-100 controller.

## APPLICATIONS

Although this transmitter is specifically designed for use with Badger's PC-100 batch controller, it will interface with any controller or flow computer with scaling capabilities that will accept a 10 volt DC pulse.

The transmitter can be used to provide counts to a controller in a batch operation to a counter for inventory control or to an indicator for flow rate control.



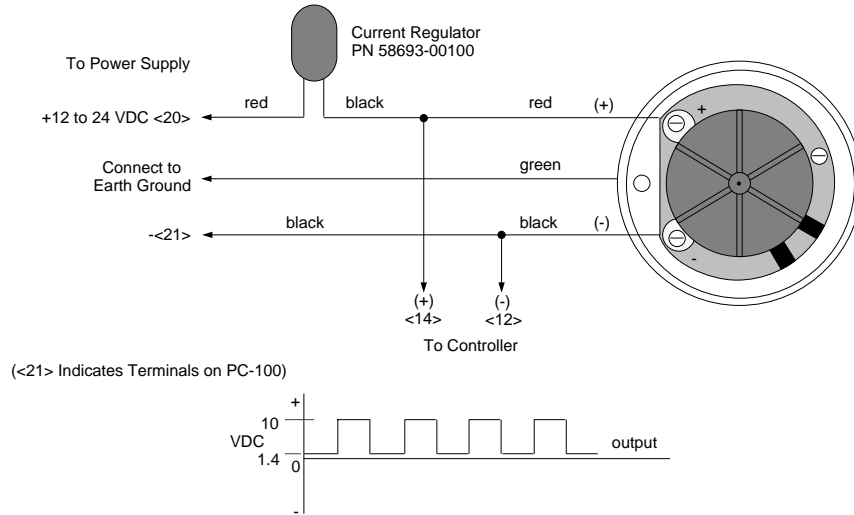
EPT-1XP (rear) and PEPT-1 Transmitters

## FEATURES

- All solid-state circuitry, long life, high reliability
- High resolution (see chart on back page)
- (EPT-1XP) only: CSA listed:  
Class 1 Group D  
Division I & II  
(Hazardous Locations)
- Field retrofit to most Badger flow meters
- Rugged, cast bronze housing (EPT-1XP only)
- Corrosion resistant plastic enclosure (PEPT-1 only)
- Watertight, NEMA 4, EPT-1XP  
NEMA 4X rating: PEPT-1
- Output compatible with most flow controllers



## Wiring Schematic



## TRANSMITTER SPECIFICATIONS

### ● HOUSING:

**Material:** Cast Bronze (EPT-1XP)  
**Mounting:** Bayonet Base  
**Connections:** 18 Gauge Stranded Wire  
**Protection:** Watertight, Dust Tight  
 NEMA 4, 7 & 9  
**CSA Listed:** Class 1 Group D  
 Division I & II, Hazardous Location

**Material:** Corrosion Resistant Plastic (PEPT-1)  
**Mounting:** Bayonet Base  
**Connections:** 18 Gauge Stranded Wire  
**Protection:** NEMA 4X

### ● OPERATION:

**Type:** Solid-state  
**Pulse Generation:** Infrared LED/  
 Slotted Optical Disc  
**Resolution:** 21 pulses per revolution of disc  
**Operating Temperature:** - 40° F to +140° F  
 (-40° C to +60° C)

### ● ELECTRICAL:

**Input Power:** 12 to 24 VDC  
**Output:** 1.4 to 10 VDC Pulse

## SCALE FACTOR CALCULATION

The scale factor equals:

$$\frac{\text{Desired number of pulses per gallon}}{\text{Transmitter output (pulses per gallon)}}$$

The following table lists meter factors for various types and sizes of Badger meters which are compatible with this transmitter. These numbers are approximate. Refer to the number stamped on the transmitter, when figuring scale factors.

| Size (Inches) | Meter Model | Max. Flow (GPM) | Transmitter Output (Pulse/Gal.) | Transmitter Output (Pulse/Liter) |
|---------------|-------------|-----------------|---------------------------------|----------------------------------|
| 1/2           | OP          | 6               | 1170.54                         | 309.22                           |
| 1             | OP          | 30              | 402.36                          | 106.29                           |
| 2             | OP          | 100             | 107.94                          | 28.51                            |
| 5/8           | M25 RCDL    | 25              | 1041.60                         | 275.19                           |
| 3/4           | M35 RCDL    | 35              | 665.03                          | 175.70                           |
| 1             | M40 RCDL    | 40              | 471.45                          | 124.56                           |
| 1             | M70 RCDL    | 70              | 245.70                          | 64.91                            |
| 1 1/2         | M120 RCDL   | 120             | 124.95                          | 33.01                            |
| 2             | M170 RCDL   | 170             | 76.46                           | 20.20                            |

**Example:** You have a 2" OP meter, you want 10 pulses per gallon:

$$\frac{10}{107.94} = 0.0926 \text{ (Scale Factor)}$$



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[www.badgermeter.com](http://www.badgermeter.com)  
 for specific regions and contacts.

Due to continuous research, product improvements and enhancements, Badger Meter reserves the right to change product or system specifications without notice, except to the extent an outstanding bid obligation exists.



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