DESCRIPTION

The Badger Meter® Model ER-10 electronic register is a meter-mounted totalizer and rate indicator designed for use with all Badger Meter product lines.

The ER-10/R is the remote version and can be used with any Badger Meter flow meter that is equipped with a compatible pulse endpoint. A rear adapter plate is provided with the remote version for attaching the unit to a wall or other suitable surface.

The ER-10 series electronic register simultaneously displays rate-of-flow and totalization at the push of a button.

The unit is battery powered. Optical sensors and other electronic sensors with open collector outputs must be externally powered.

The totalizing function uses an easy-to-read, 8-digit numeric LCD display. The rate mode uses a similar 4-digit display. Step-by-step independent programming of scale factors for the rate and totalization functions allows you to program any engineering unit such as gallons per minute and total gallons.

When the indicator is used as a totalizer, the display can be reset to zero from the front panel button or from an external switch wired directly to a rear terminal. The front panel reset function can be inhibited.

You can backlight the display by connecting a DC power source to the unit.

OPERATION

Flow through the meter causes pulses to be generated by the sensor or endpoint. Each pulse represents a specific volume of fluid. Using the Model 25 Disc meter as an example, 198 pulses are generated every time one gallon of fluid passes through the meter. Entering an appropriate scale factor independently for the rate and totalization modes results in the pulse indication on the display showing a meaningful unit of measure for each.

FEATURES

- All solid-state components for long life
- Battery powered
- Corrosion-resistant plastic housing built to NEMA 4X specifications
- Programmable for rate of flow and totalization
- Backlit display available
- Front panel totalizer Reset switch can be disabled
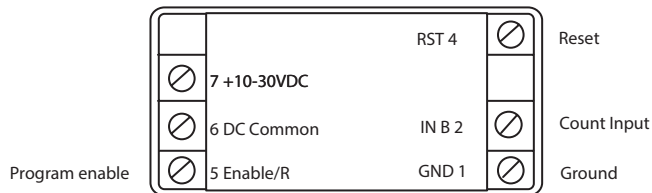- Reprogramming can be inhibited

Product Data Sheet

SPECIFICATIONS

Power	
Internal battery	3V, Lithium
Battery life expectancy	5 years
Replacement part #	65765-001
External DC power source	10…30V DC
Maximum current draw	30 mA

Backlight	
Required power input	10…30V DC
Maximum current draw	30 mA
• Derate operating temperature 1° C/Volt above 17V DC	
• Reverse polarity protected	

Physical	
Operating temperatures	32…130° F (0…55° C)
Storage temperature	– 4…160° F (–20…70° C)
Operating humidity	60% non-condensing
Weight	2.2 ounces net
Display size	0.43 in. high
Front panel rating	NEMA 4X when mounted with gasket provided
Case material	Cycolac X-17

Totalizer	
Digits	8
Scaler	0.0001…99.999
Decimal point	5 positions, programmable

Rate Indicator	
Digits	4/5, (4 calculated, 5 displayed with fixed zero in LSD)
Scaler range	0.001…9999
Decimal point	5 positions, programmable
Accuracy	+/-0.2%
Update time	0.7 seconds
Zero time	10 seconds

DC Common (Terminal 1)	

Count Input (Terminal 2)	
Speed	0…100 Hz
Minimum low time	3.3 mS
Minimum high time	6.7 mS
Impedance	101K Ohm
Voltage thresholds	Low 0…0.4 V DC High 2.0…28V DC Max High 28V DC

Reset Input (Terminal 4)	
• Resets totalizer to zero when connected to DC common.	
• The required pulse width varies with count speed, scale factor and number of digits displayed	
Minimum low time	0.25…1.0 sec (maintained)
Voltage thresholds	Low 0…0.4V DC High 2.0…28V DC

Program Enable Input (Terminal 5)	
Operation	Level sensitive (maintained)

Count Accuracy	
100% when operated within specifications	

WIRING TERMINALS

Rear View

Terminal	Function	Operation
1	Ground	—
2	Input B	Count input
	Count Input	Contact closure or NPN 100 Hz max.
3	Not used	Not used
4	reset	Connect to ground to reset totalizer. This is a maintained or level-sensitive reset.
5	Program Enable	Connect to ground to enter program mode.
6	Backlight Common	—
7	Backlight Power	Connect to power to light the display.

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