

**GENERAL**

Badger® Model ER-10 electronic register is a meter mounted totalizer/rate indicator designed for use with all of Badger's meter product lines. The ER-10/R is the remote version and can be used with any Badger flow meter if equipped with a compatible pulse transmitter. A rear adapter plate is provided with the remote version for attachment to a wall or other suitable surface. The ER-10 series electronic register is available with one or two indicators. With two indicators, you can simultaneously see a display of rate-of-flow and totalization. If this is not required, a single indicator will provide both indications by the simple push of a button.

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

**DESCRIPTION**

An easy-to-read, 8-digit numeric LCD display is used for the totalizing function. The rate mode is a similar 4-digit display. Step-by-step independent programming of scale factors for the rate and totalization functions allows you to program any meaningful 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 button can be inhibited.

Backlighting of the display is available by connecting a DC power source to the unit.

**OPERATION**

Flow through the meter causes pulses to be generated by the sensor or transmitter. 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 will result in the pulse indication on the display to be 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
- Backlighting of display available
- Front panel totalizer reset switch can be disabled
- Reprogramming can be inhibited



## SPECIFICATIONS

### POWER

Internal battery: 3V, Lithium  
Battery life expectancy: 5 years  
Replacement Part #: 65765-001  
External DC Power Source (10-30 VDC)  
(max. current draw = 30 mA)

### BACKLIGHT

Requires 10-30VDC power input (max. current draw: 30 mA)  
(Derate operating temperature 1°C/Volt above 17VDC)  
Reverse polarity protected

### PHYSICAL

Operating Temperatures:  
32°F (0°C) to 130°F (55°C)  
Storage Temperature:  
-4°F (-20°C) to 160°F (70°C)  
Operating Humidity: 60% Non-condensing  
Weight: 2.2 oz. net  
Display Size: .43" high  
Front Panel Rating: NEMA 4X when mounted with gasket provided  
Case Material: Cylolac 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 0 in LSD.)  
Scaler Range: .001 to 9999  
Decimal Point: 5 positions, programmable  
Accuracy: +/-0.2%  
Update Time: .7 seconds  
Zero Time: 10 seconds

### DC COMMON (Terminal 1) COUNT INPUT (Terminal 2)

Speed: 0 to 100 Hz  
Min. Low Time: 3.3 mS  
Min. High Time: 6.7 mS  
Impedance: 101K ohm  
Voltage Thresholds:

Low: 0 to 0.4 VDC  
High: 2.0 to 28 VDC  
Max: High 28 VDC

### RESET INPUT (Terminal 4)

Resets totalizer to zero when connected to DC common.  
Min. Low Time: 0.25 to 1.0 sec. (maintained)  
The required pulse width varies with count speed, scale factor and number of digits displayed.  
Voltage Thresholds: Low: 0 to 0.4 VDC  
High: 2.0 to 28 VDC

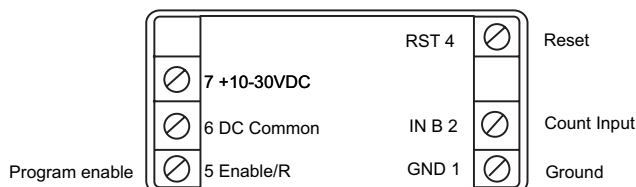
### PROGRAM ENABLE INPUT (Terminal 5)

Operation: Level sensitive (maintained)

### COUNT ACCURACY

100% when operated within specifications

## WIRING TERMINALS



| Terminal | Function               | Operation                                                                                  |
|----------|------------------------|--------------------------------------------------------------------------------------------|
| 1        | Ground                 |                                                                                            |
| 2        | Input B<br>Count Input | Count Input<br>Contact Closure or NPN 100 Hz. Max.                                         |
| 3        |                        | Not Used                                                                                   |
| 4        | Reset                  | Connect to Ground to Reset<br>Totalizer. This is a maintained or<br>Level Sensitive Reset. |
| 5        | Program<br>Enable      | Connect to Ground to Enter<br>Program Mode                                                 |
| 6        | Backlight<br>Common    |                                                                                            |
| 7        | Backlight<br>Power     | Connect to Power to Light Display                                                          |

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