

**Model ER-6/R  
(Remote)**

**Digital Resettable Totalizer**

**Installation &  
Operation Manual**



***This Product Contains Lithium Batteries.***

***Read This Manual Before Attempting Any Installation,  
Wiring Or Operation.***



**BadgerMeter, Inc.**

**IOM-071-02**  
Part No. 53400-071

3-09

## Scope of this manual

This manual contains information concerning the installation, operation and maintenance of the Badger ER-6 indicator. To ensure proper performance, the instructions given in this manual should be thoroughly understood. Retain the manual in a readily accessible location for future reference.

Installation and wiring of the ER-6 is simple and straight forward. This manual is designed so as to provide you with a step by step guide for this purpose.

The troubleshooting section attempts to illustrate the most common problems that can be encountered, their most likely cause and the recommended solution. If a problem persists, please contact our technical support group at:

Badger Meter, Inc.  
Customer Service  
1-800-876-3837

## General Information

The ER-6 register is a remote totalizer designed for use with all of Badger's meter product lines.

The supertwist LCD display with 8 digits for totalizing, provides easy viewing at a glance. For conditions where ambient light is poor, the display can be backlit by connecting an external DC (10-28 VDC) power supply. A single unit can accept NPN or dry contact inputs for low or high speed applications.

Powered by one replaceable 3V Lithium battery, this

unique design allows for a new battery to be installed before removing the old one, thereby retaining count total. A low battery indicator appears on the screen to provide a warning a couple of weeks before the end of battery life. If two batteries are used simultaneously, the individual expected life doubles to 10 years.

## Specifications

### SPECIFICATIONS

#### Count Input (Terminal 2):

Type: NPN signal, contact closure

Count Speed: NPN - 280Hz maximum,  
contact 95Hz maximum

Logic: Low < 1.0 VDC, High > 2.0 VDC,

Minimum Pulse Width: NPN - 1.78 micro seconds, contact - 5ms

Maximum Input: 28VDC

Impedance: 1 M $\Omega$  to battery

#### Front Panel Reset Enable (Terminal 5):

Type: NPN Signal, Contact Closure; level sensitive

Maximum Input: 28 VDC

#### Remote Reset Input (Terminal 4):

Type: NPN Signal, Contact Closure; edge sensitive

Frequency Response: 30 Hz (50% duty cycle)

Maximum input: 28 VDC

#### Operating Temperature:

Indicator: 32° F (0° C) to 140° F (60° C)

#### Power Source:

Type: Single 3V Lithium battery

(Battery P/N 62576-001)

Expected Life: 5 years

Low Power Indicator: "Low Bat" flashes on display approx. 2 weeks prior to end of battery life

#### Display:

Type: Supertwist LCD for use with or without backlighting

Number: 8 digits

Height: 12mm (.472")

Backlighting: Green Illumination over whole viewable area with a 10 to 28 VDC supply (Terminal 8)

#### Physical:

Dimensions: 36mm x 72mm, 38mm deep  
1.417in x 2.835in, 1.496 in. deep

Mounting: Panel Mount (mounting bracket supplied)

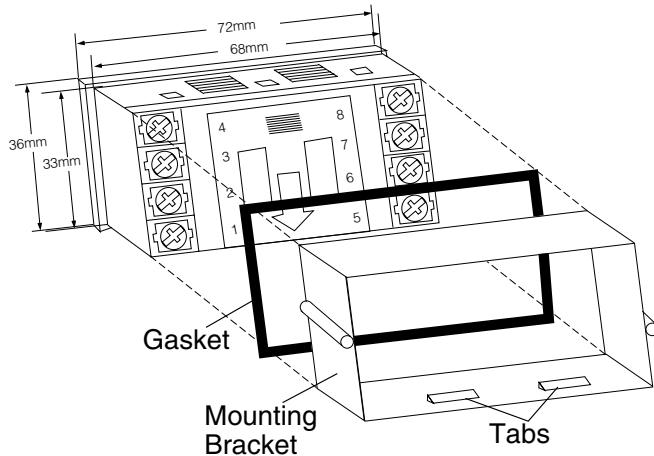
33mm x 68mm (+ 0.3mm) panel cutout

1.299in x 2.677in, (+ 0.012in) panel cutout

Connections: Screw terminals

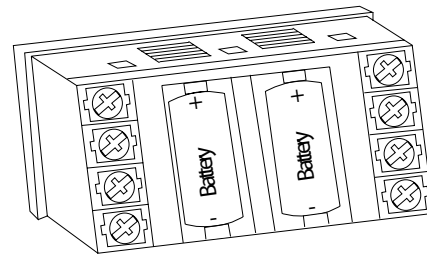
Weight: Approximately 13 ounces

## Installation



### Panel Installation

Place the unit in the panel through a 33mm x 68mm cutout. Slide the included gasket over the rear of the unit, then slide the panel mount bracket into place so that the 4 tabs catch in the grooves on the top and the bottom of the unit (the bracket should be oriented so that the tabs are on the side nearest the panel). Use the provided panel mount screws to tighten the bracket until there is a secure seal against the gasket. Do not over tighten.



### Battery Installation

The unit is shipped with one battery, which is not installed. Remove the battery cover by pushing inward and down. Install the battery in either of two slots. The unit runs on a single battery, and the second slot is provided to allow for installing a new battery before removing the old one, retaining count total. The unit can also be run on two batteries to extend the battery life to 10 years. Once the battery is in place the unit will go into a self test mode, and all the segments on the LCD display will be illuminated. The self test mode is exited by depressing the **RST** key, which will then display the model number (0). Depress **RST** again to ready the unit for operation.

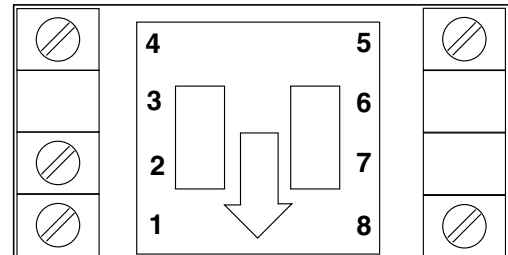
## Wiring Instructions

1. DC Common
2. Count Input
3. Not used
4. Remote Reset - Resets count value when switched to common
5. Front Panel Reset Enable - Enables count value to be reset through depressing the front panel reset key.
6. Not Used
7. Not Used
8. DC Supply Input - 10 to 28 VDC for backlighting.

Unit is provided with lead wire attached to terminal 5 only. To enable front panel Reset, attach other end of lead wire to terminal 1.

### TRANSMITTER CONNECTIONS

For connecting to Badger Meter transmitters, refer to the Technical Brief (ITB) for your specific transmitter, and the chart to the right. "Connections" refers to the wires or the terminal numbers depending on the transmitter model. The numbers in parenthesis refer to the terminal numbers on the ER-6. Connect the wire or terminal coming from the transmitter to the corresponding terminal number on the ER-6.



Transmitter	Connections	
MSE1	Black (1)	Red (2)
MSE5	Black (1)	Red (2)
PFT1E	Term. #6 (1)	Term. #5 (2)
PFT4E	Term. #6 (1)	Term. #5 (2)
PM5	Black (1)	Red (2)

## Operation

**Total Display:** Indicates the present count value, which is equal to the number of pulses received (since the last reset).



**Reset Key:** **RST**

If the total value is being displayed, depressing this key will cause the value to be reset to 0.

## Troubleshooting

PROBLEM	POSSIBLE CAUSES	REMEDIES
Screen is blank	1. Battery is dead.	1. Replace battery.
Will not count	1. Broken or defective wiring. 2. Improperly connected. 3. Transmitter defective.	1. Check wiring. 2. Check connections. 3. Repair or replace transmitter.
Cannot reset from front panel	1. Front panel reset enable is not active.	1. Check connection between terminals 5 and 1.
Erroneous readings	1. Defective transmitter.	2. Repair or replace transmitter.

**For further assistance, call our Technical Support Staff at 1-800-876-3837.**



Please see our website at  
**[www.badgermeter.com](http://www.badgermeter.com)**  
for specific 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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