Series 380 Pulse Output to Model RED Totalizer

Wiring and Programming Instructions

380 Series Btu Transmitter

RED Totalizing Display

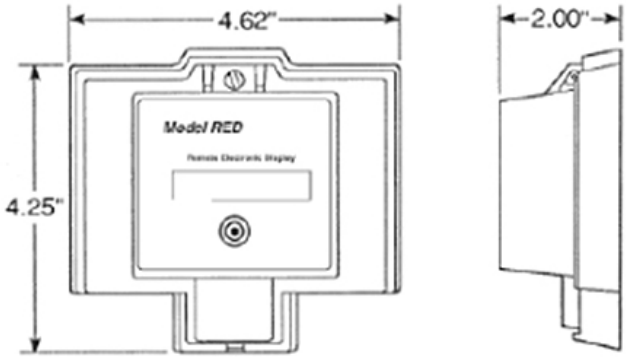
DESCRIPTION

Series 380

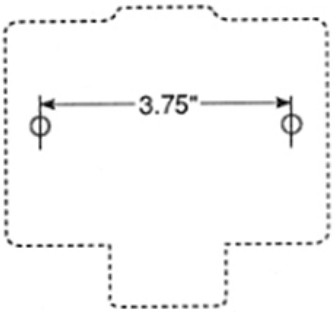
The Series 380 is a Btu transmitter capable of communicating with higher level languages including MODbus and BACnet on an RS-485 network.

However, a simple local display of total flow or energy is sometimes desired. In such an instance, the simpler local display of total is installed, while the larger system is being implemented and then left in place as a backup and for local indication.

The Model RED is an easy to install, low cost, battery-operated totalizing display.



Remote Register



Mounting Hole Locations

Model RED

The Model RED is a very simple two-wire device that simply increments a counter each time it receives a pulse. To extend battery life, the display only indicates a value for about 20 seconds when the round circle on the front panel is pressed. The same button is used to program the RED by following the instructions shipped with the product.

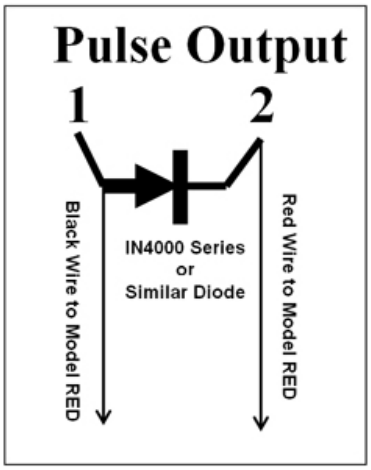
Programming is very simple and involves only entering a starting number and setting the decimal point. The Model RED is designed to be used with devices like the Badger Meter RTR®. To make it compatible with the Model 380, special wiring is required including the addition of a 1N4000 series or similar device, like the diode across the pulse output terminals of the Model 380. 1N4001 through 1N4007 all work equally well.

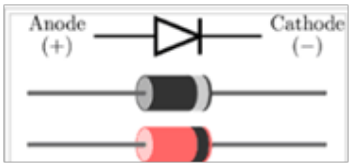
Badger Meter

XMT-AS-00130-EN-01 (April 2013)

Application Data

WIRING

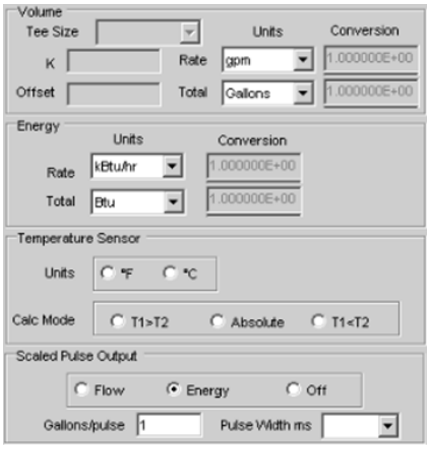




Banded End
(Cathode) of 1N4000
Series Diode

PROGRAMMING

The Series 380 is configured using an A-301 programming kit, using Windows®-based software.



1. Determine if the pulse output is to represent Flow or Energy.
2. Select the unit of measure (Global for MODbus, BACnet, and Pulse out).
3. Set the pulse width to 50 mS (required by RED).
4. Set the Pulse Resolution. Example: 1 Pulse per Gallon.
5. Set the RED Decimal Point position. Example: 000000.0.

The selection of Units/Pulse requires some planning.

The Model RED is a seven-digit counter. The pulse resolution and units of measure must be selected so that the counter does not roll over too quickly but within a reasonable amount of time. If the counter is not to roll over in less than 10 years, the average count rate should not exceed 1 count every 30 seconds.

The Model RED has a decimal point that can be positioned as necessary.

The Model RED has no units of measure displayed, so a customer-provided units label would be advised (such as Btu, kBtu, KWh, ton/hr, gallons, cubic feet).

The Model RED is programmed using the button on the front panel. Refer to the instructions shipped with the counter. This information can also be found on the electronic registers and transmitters page of the Badger Meter website.

⚠WARNING

WIRING MUST BE COMPLETED WITH THE DIODE IN PLACE BEFORE THE RED IS CONFIGURED OR AN "E" WILL APPEAR INDICATING A "WIRING ERROR." THAT MUST BE CLEARED BEFORE YOU CAN CONTINUE. (SEE INSTALLATION SHEET FOR THE MODEL RED.)

These instructions are for current production Model RED units. Older versions are similar and wire exactly the same, however, the decimal point feature is not included and some of the programming steps are slightly different. Consult the instruction sheet shipped with the Model RED for specific instructions for your version.

Programming Example

The Model RED counter is to represent energy total in "kBtu," and the energy rate is expected to be in the range of a minimum of 1 kBtu per hour to a maximum of 100 kBtu per hour. If a resolution of 1 kBtu per pulse was selected, the counter would increment at a maximum rate of 1 count every 36 seconds which would not roll the counter before 11.4 years (which is preferable).

At the low end, the counter would only increment once every 3600 seconds (1 count per hour).

If the system is not going to be operating at the peak rate, except for short periods, and a higher pulse rate is desired, a selection of 0.1 kBtu per pulse might be a better choice. This will still be only 1 count every 3.6 seconds at the maximum rate, which is still within the acceptable range of both the Model RED and the Series 380.

Each time the Series 380 sent a pulse representing 0.1 kBtu, the RED would increment the least significant digit by 1. So if a value of 000123.1k Btu was displayed on the Model RED prior to the receiving the pulse signal from the Series 380, the display would advance to a value of 000123.2 kBtu.

www.badgermeter.com

The Americas | Badger Meter | 4545 West Brown Deer Rd | PO Box 245036 | Milwaukee, WI 53224-9536 | 800-876-3837 | 414-355-0400
México | Badger Meter de las Americas, S.A. de C.V. | Pedro Luis Ogazón N°32 | Esq. Angelina N°24 | Colonia Guadalupe Inn | CP 01050 | México, DF | México | +52-55-5662-0882
Europe, Middle East and Africa | Badger Meter Europa GmbH | Nurtinger Str 76 | 72639 Neuffen | Germany | +49-7025-9208-0
Czech Republic | Badger Meter Czech Republic s.r.o. | Mařikova 2082/26 | 621 00 Brno, Czech Republic | +420-5-41420411
Slovakia | Badger Meter Slovakia s.r.o. | Racianska 109/B | 831 02 Bratislava, Slovakia | +421-2-44 63 83 01
Asia Pacific | Badger Meter | 80 Marine Parade Rd | 21-04 Parkway Parade | Singapore 449269 | +65-63464836
China | Badger Meter | 7-1202 | 99 Hangzhong Road | Minhang District | Shanghai | China 201101 | +86-21-5763 5412