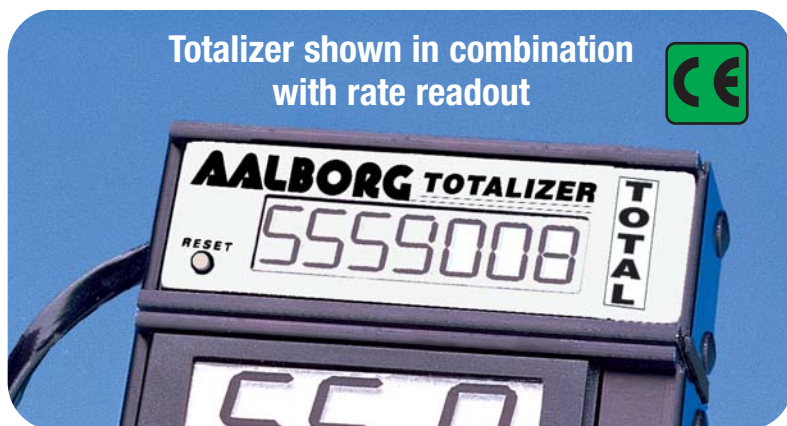




TOTALIZERS



Totalizer shown in combination with rate readout

Totalizer

This compact totalizer is designed to be used primarily with mass flow meters and mass flow controllers. It can also be used in conjunction with other types of instrumentation with 0-5 Vdc signal outputs.

The totalizer takes analog output flow signals of either 5 to 10 Vdc, from GFM mass flow meters and GFC mass flow controllers, or 0 to 5 Vdc from AFC mass flow controllers, AFM mass flow meters and other compatible products (jumper selectable).

TABLE 15 - SPECIFICATIONS	
INPUT ANALOG RANGE:	5 to 10 Vdc/0 to 5 Vdc optional.
POWER CONSUMPTION:	10 mA at 12 Vdc, less than 0.125 watts.
ACCURACY:	±0.5% of full scale.
TEMPERATURE STABILITY:	±200 ppm/ °C in the range of 5 °C to 50 °C.
DISPLAY:	7 digit, 8mm figure height.
READING BACKUP:	20 year lithium battery, no external power required.
RESET:	Push button switch.
WEIGHT:	3.5 oz.

TABLE 16 - ORDERING INFORMATION FOR TOTALIZER	
TOT-10-0C	Totalizer (5Vdc-10Vdc signals) calibrated.
TOT-10-0N	Totalizer (5Vdc-10Vdc signals) uncalibrated.
TOT-5-0C	Totalizer (0Vdc-5Vdc signals) calibrated.
TOT-5-0N	Totalizer (0Vdc-5Vdc signals) uncalibrated.
CBL-TOT10	Cable & splitter, used in conjunction w/ display
CBL-TOT5	Cable with stripped end

The totalizer integrates and accumulates up to 7 digits of direct engineering units for the given gas and flow rate (i.e. standard liters, standard cubic centimeters, etc.).

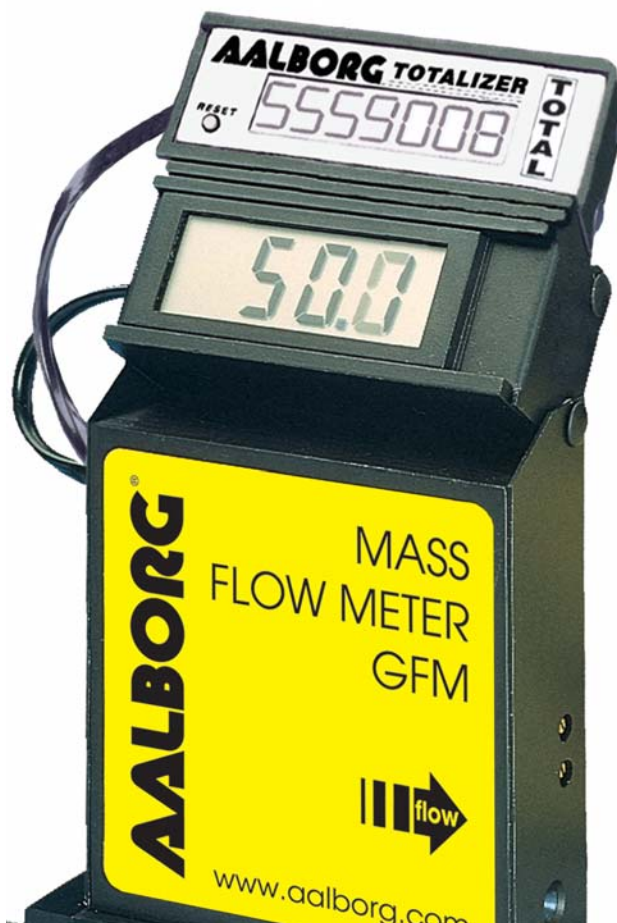
In order to reduce low signal (noise) totalizing, provision is made for 1% cut off.

A built-in battery back-up holds the total reading for up to 20 years.

The totalizer can be connected to GFM mass flow meters or GFC mass flow controllers via either a modular jack replacing the LCD display or with an additional connector in conjunction with the LCD display.

Each totalizer is shipped from the factory with adjustments made for specified flow rates.

The totalizer can be re-scaled for a different flow range or engineering unit.

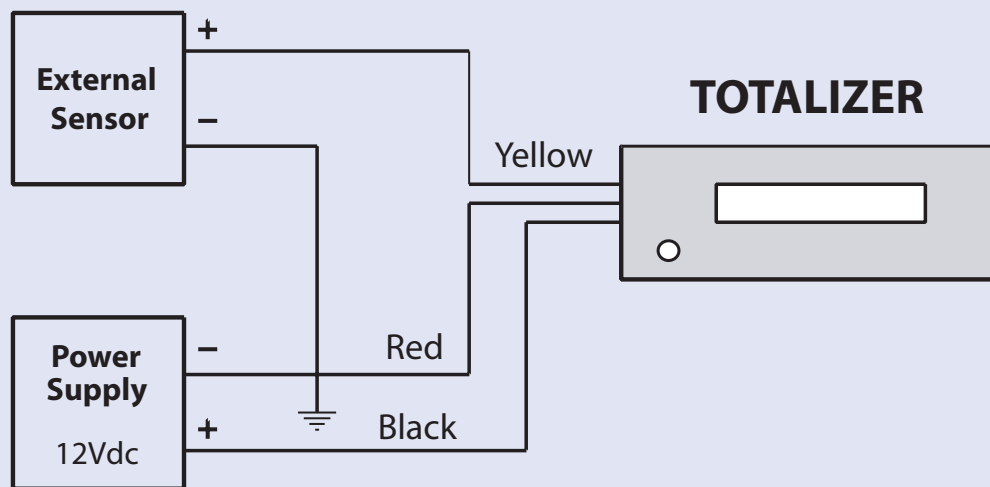


Design Features

- Used with Mass Flow Meters and Mass Flow Controllers.
- Integrates and accumulates up to seven digits.
- Built-in battery holds reading for up to 20 years.

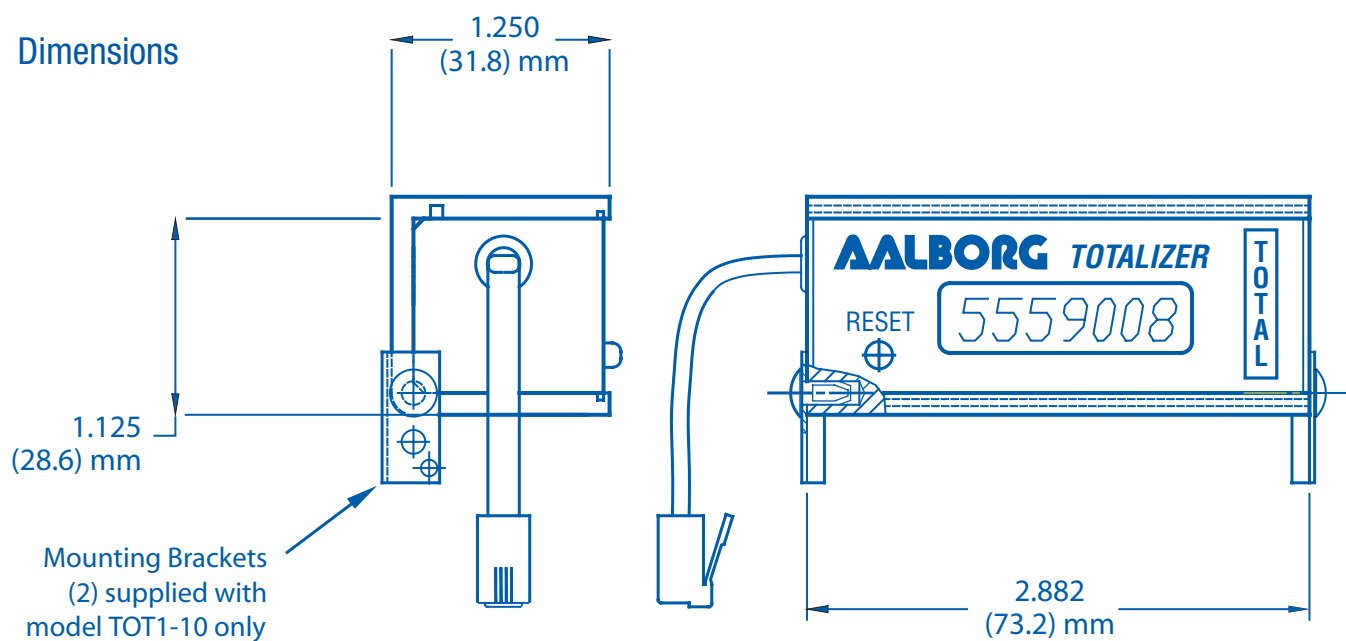
Cable Connection

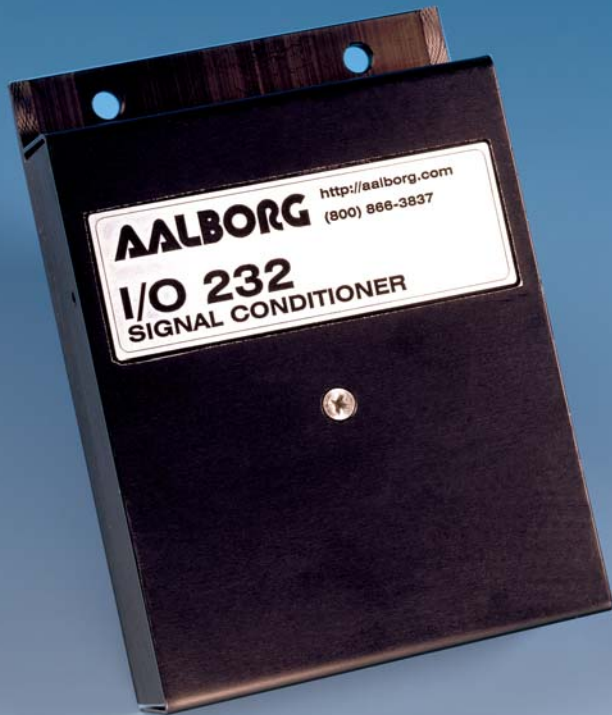
0-5 Vdc from Sensor



Connection Diagram: Totalizer to other compatible Product

Dimensions





Microprocessor driven Signal Conditioner allows analog voltage levels to be set and read via its RS-232 or RS-485 serial port.

The simple set of commands is included to perform various functions: an analog output, read an analog input, verify communications link, programming communication parameters and ADC/DAC calibration mode.

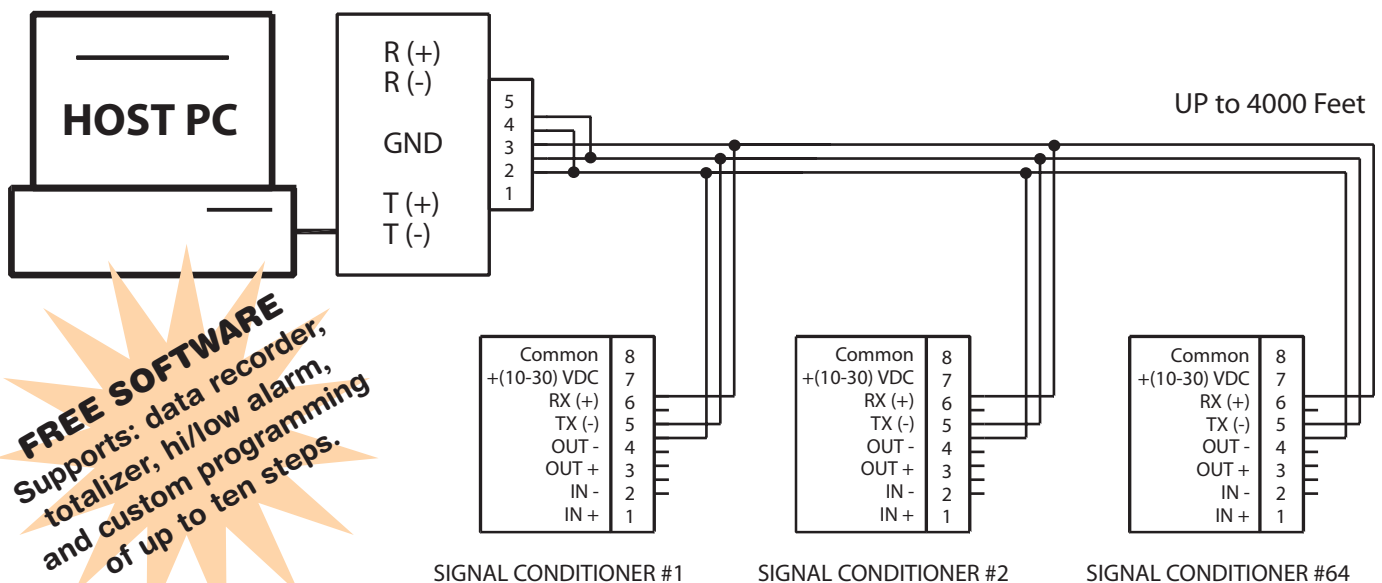
I/O 232 and I/O 485 units may also be used with other instrumentation with analog outputs.

TABLE 17 - ORDERING INFORMATION IO INPUT/OUTPUT

IO-232-C	Input/output to RS232, 0-5Vdc.
IO-232-E	Input/output to RS232, 4-20mA.
IO-485-C	Input/output to RS485, 0-5Vdc.
IO-485-E	Input/output to RS485, 4-20mA.

RS-485 Multidrop 2-Wire Half-Duplex System

RS485 PORT or RS232 to RS485 CONVERTER



FREE SOFTWARE
 Supports: data recorder,
 totalizer, hi/low alarm,
 and custom programming
 of up to ten steps.



INPUT / OUTPUT DEVICES

Design Features

- Selectable input and output analog ranges 0-5Vdc or 4-20mA.
- Multi-Drop Capability of up to 64 units (for RS-485 version).
- User-selectable data transfer rate from 300 to 9600 baud.
- CRC error check ON/OFF.
- DAC/ADC 10 bits (0.1%) resolution.

