

### DESCRIPTION

The **RT100 Series flowrate totalizer** has been specifically designed to operate with common pulse producing flowmeters without the need for external power.

Ultra low power consumption is a result of innovative design which provides many years of service from replaceable lithium batteries.

External power may be applied to interface with common controllers such as PLC's via the scaleable pulse output and/ or optional analog output. Multipoint linearity correction of the flowmeter input is available to enhance accuracy and extend flow sensor rangeability.

A robust cast aluminum enclosure complete with multiple conduit entries provides protection in industrial environments.

### FEATURES

Self powered, 8 digit total and accumulated total, 5 digit LCD instantaneous rate display.

Simple flow chart programming.

-4°F to 176°F (-20°C to 80°C) operation.

PNP/NPN transistor scaleable output as standard.

Robust IP67 (Nema 4X) powder coated aluminum enclosure with M20 x 1.5 or 1/2" NPT electrical conduit entries.

All data is retained in the event of power loss or battery removal.

Extended battery life beyond 10 years with unique programmable power management function.

Multipoint linearity correction when externally powered.

### OPTIONS

Loop powered 4-20mA output and selectable PNP or NPN flow alarms

Multi function dual digital inputs A+B, A-B, or A÷B

Communications

Data logging



RT100 Series Universal Rate Totalizer

### SPECIFICATIONS

#### Display

##### *Custom multifunction LCD*

8 digit alphanumeric, 0.35" (9mm) character displays:

\*8 digit total (resettable)

\*8 digit accumulated total

\*5 digit instantaneous flowrate

\*programming prompts and messages

Subscript text, 0.08" (2mm) character height, annunciates functional status.

#### Configuration

Four tactile feedback keypad for flow chart entry of data with scrolling prompts. User selectable 4 digit PIN set-up protection.

Programmable engineering units and decimal point location for both rate and totals, time base, K-factor, rate dampening and power management function. All data is E<sup>2</sup>PROM protected in case of power loss or battery failure.

#### Signal Type

Universal pulse/frequency input compatible with reed switch, open collector, Namur and sine wave with 20mV minimum P-P voltage (typical or turbine coils).

#### Input Frequency Range

0 to 5kHz (rate display minimum 0.25 Hz)

#### K-Factor Range

0.001 to 999999.999 with floating decimal point during K-factor entry.

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## Engineering Units

Selectable as gal, lbs, ltr, m3, kg or no units

## Rate Time Base

Selectable as units per second, minute, hour or day.

## Decimal Points

Individually programmable from 0 to 3 positions for rate, total and accumulated total.

## Power Supply

Self powered by replaceable Ultra Lithium batteries, life expectancy of 7 to 10 years depending on power management selection. External via regulated 8 to 24 VDC or optionally via the 4-20 mA output loop.

## Pulse Output

Scaleable NPN/PNP selectable transistor, 1A max. resistive load. Range is 0.1 - 9999.9 Eng. unit/pulse.

Auto ranging pulse width with 1:1 ratio, defaulting to a maximum of 300 ms.

## Linearization

Up to 10 flow rate and frequency coordinates can be entered to enhance flowmeter accuracy when externally powered (VDC or 4-20mA loop).

## Optional Analog Output

2 wire 4-20 mA output, 12 to 24 VDC into 750 ohms @ 24VDC.

## Optional Alarm Outputs

2X NPN/PNP selectable transistor outputs, low and high flow alarms with adjustable deadband, 100 mA max. resistive load.

## Optional Dual Inputs

A+B, A-B or A÷B, all outputs correspond to the flow computation.

## Enclosure

IP67 (NEMA 4X) UV resistant powder coated aluminum with stainless steel screws and viton o-ring seals.

4.3" (109mm) diameter x 1.8" (46mm) deep, 1 lb. (0.45 kg)

## Conduit Entries

1/2" NPT or 3 x M20 x 1.5

## Operating Temperature

-4°F to 176°F (-20°C to 80°C)

## SIMPLE PROGRAMMING

Simple flow chart programming with prompts enables the user to configure the RT100 with ease. Once in program mode the scrolling prompts guide you through the entire programming routine greatly reducing the need to refer to the manual.

The RT100 Series is fully user programmable and has selectable PIN protection for security.

## SCALABLE PULSE OUTPUT

A selectable NPN or PNP transistor output with variable pulse width is provided to ensure compatibility with commonly used PLC inputs, counters and metering pumps. The default width of 300ms (frequency permitting) enables most PLC's to successfully scan the incoming pulses with standard input circuits, avoiding the need for, and additional cost of high speed counter input cards.

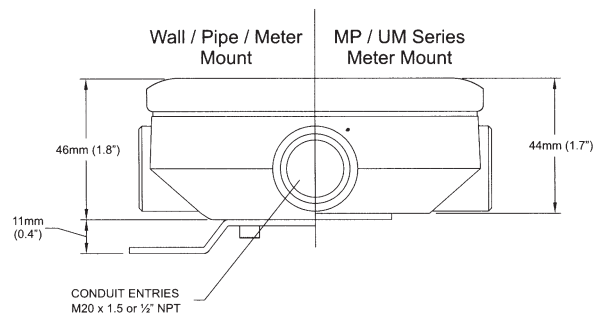
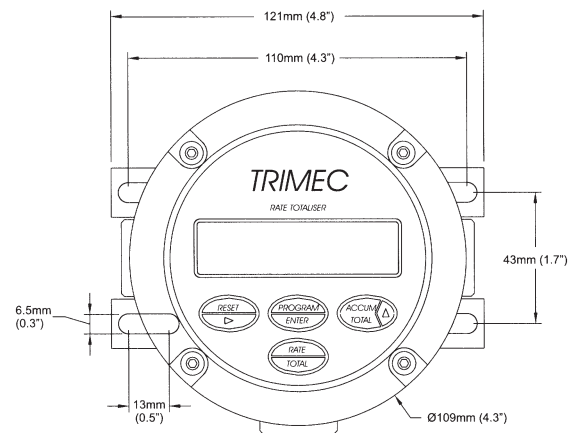
## LOOP POWERED 4-20 mA OUTPUT

An optional high resolution analog output enables transmission of the instantaneous flowrate. The output reflects any linearization that may be programmed.

## FLOW ALARM OUTPUTS

Optional NPN or PNP selectable low and high flowrate alarms have independently adjustable dead bands to provide application flexibility and enable connection to commonly used devices.

## DIMENSIONS



## ORDERING INFORMATION

### Function

<b>RT</b>	Rate Totalizer
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### Series

<b>1</b>	100 Series
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### Version

<b>1</b>	Scaleable pulse output (standard)
<b>2</b>	2 wire 4-20 mA loop powered, flow alarms and dual inputs
<b>3</b>	Communications & Data logging

### Conduit Entries

<b>1</b>	3 x M20 x 1.5
<b>2</b>	3 x 1/2" NPT

### Flow Input Type

<b>D</b>	Pulse/frequency
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### Power Supply

<b>0</b>	Self (battery) or regulated 8 to 24 VDC
<b>1</b>	Universal AC/DC with SPST Alarm Relays

### Housing Type

<b>FM</b>	Meter mount
<b>MM</b>	MP series meter mount (MP050 requires an adaptor)*
<b>EX</b>	Explosionproof Housing

<b>ASS</b>	Stainless steel sun shade
<b>AMP</b>	Adapter for MP050
<b>ADM</b>	Adapter for DP series (M16 x 1.5 to M20 x 1.5)
<b>AND</b>	Adapter for DP series (M16 x 1.5 to 1/2" NPT)
<b>A99</b>	Customer nominated adapter