I-3000
Flow Monitor

GENERAL

The Model I-3000 Flow Monitor is an economical full featured compact unit designed for flow measurement applications, and general hydronic thermal transfer systems. Outputs include one mechanical relay and one solid-state pulse output, both featuring unit/pulse and set-point control independently based on flow or total readings. Also driven by the same variables, an optional Analog 4-20mA or 0-20mA output is provided. Additionally, the optional USB, RS-485 MODBUS, and BACnet/MSTP provide high-level communication.

A two line by 16-character 3/8" high backlit LCD display is configured by the user to display flow rate, flow total. In addition to many pre-programmed units of measure, many custom units can be created during field set-up.

The flow sensor input features flexible scaling options and signal type selections that permit the use of most sensors, or other frequency sine/pulse or linear analog devices.

PROGRAMMING

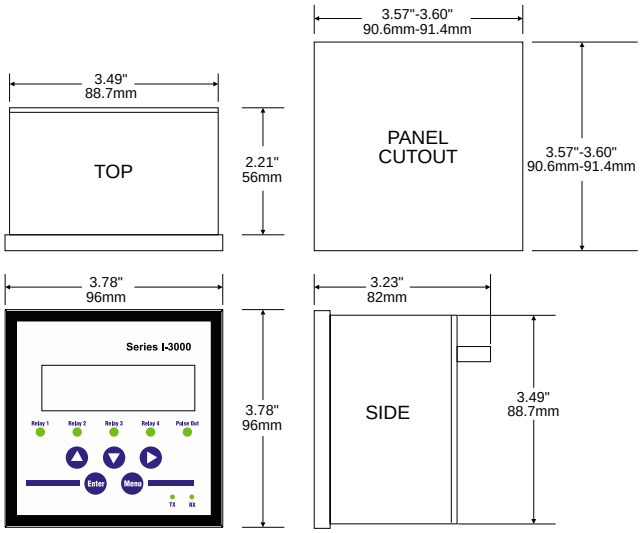
Programming is very easy and can be done using the five front panel push buttons, or by using Windows® based software via a USB port.

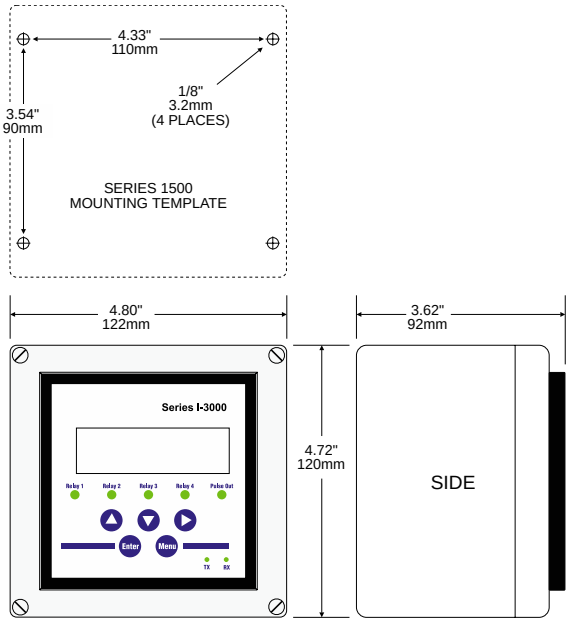
OPTIONS

NEMA4x panel mount conforms to DIN standard 96 mm x 96 mm for meter size and cutouts. NEMA4x wall mount is available as an option.

Advanced features include the following:

1. Infinite Impulse Response Filter (IIRF) smoothes the flow rate, temperature, and energy rate calculations. This proprietary smoothing software provides accurate calculations by compensating for a wide variety of flow signal variables.
2. Password restricted access to programming, reset total, or both.
3. Non-volatile memory of totals and field configuration, without need for battery backup.
4. Efficient switching power supply permits 12-24VAC/DC operations.





DTB-078-01

Flow Sensor Inputs

Type	Threshold	Signal Limit	Frequency	Pull-up	Impedance	Aux. Power	Calibration
Pulse-DI	2.5 VDC	30VDC	0.4Hz to10kHz	1K to12VDC	-	12VDC@30mA	K + Offset
Pulse-K Factor	2.5 VDC	30VDC	0.4Hz to10kHz	-	-	12VDC@30mA	Pulse/Gal
Pull-up-K Factor	2.5 VDC	30VDC	0.4Hz to10kHz	1K to12VDC	-	12VDC@30mA	Pulse/Gal
Sine-K Factor	10mVPP	30VDC	0.4Hz to10kHz	-	10k Ω	12VDC@30mA	Pulse/Gal
Analog – 4-20mA	-	50mA Fused	-	-	100 Ω	12VDC@30mA	Linear
Analog – 0-20mA	-	50mA Fused	-	-	100 Ω	12VDC@30mA	Linear
Analog – 0-1 VDC	-	30VDC	-	-	100k Ω	12VDC@30mA	Linear
Analog – 0-5 VDC	-	30VDC	-	-	100k Ω	12VDC@30mA	Linear
Analog – 0-10 VDC	-	30VDC	-	-	100k Ω	12VDC@30mA	Linear

Rate Units of Measure: GPM; gal/sec; gal/hr; Mgal/day; LPS; LPM; LPH; ft3/Sec; ft3/min; ft3/hr;m3/sec; m3/min; m3/hr; acre-ft/sec; acre-ft/min; acre-ft/hr; bbl/sec; bbl/min; bbl/hr; and field programmed custom units 0.00 to 999999999

Total Units: gallons; Mgal; liters; ft3; m3; acre-ft; bbl; and field programmed custom units 0.00 to 999999999

SPECIFICATIONS

Voltage
12-24 VDC / VAC
(Limit: 8-35VDC)
(Limit: 8 – 28VAC)

DC current draw (~280mA)
AC power rating (~5 VA)

Display
16 character by two line alphanumeric dot matrix 7.95mm high backlit LCD

Operating Temperature
-20°C to +70°C
Storage Temperature
-30°C to +80°C

Dimensions
Panel Mount:
3.78"W x 3.78"H x 3.23"D
(96mm x 96mm x 63mm)
Wall Mount:
4.80"W x 4.72"H x 3.63"D
(120mm x 120mm x 92mm)
Weight:
panel mount 12 oz

Pulse and Relays
Both pulse and relay are fully functional as either totalizing, or set-point outputs.

Pulse Electrical
1 Amp @ 35VDC/ 30VAC
Closed: 0.5Ω @ 1 AMP Open: $>10^8\Omega$

Relay Electrical
Resistive load: 5Amp@120VAC/30VDC
Inductive load: 1Amp@120VAC/30VDC

Pulse/Unit Volume (Totalizer)
Driving Source: flow total; Btu total
Units: any predefined or custom unit
Rate: 1 Pulse per 1.0000000 to 99999999 units
Contact Time: 1 to 9999 mS

Set-Point (Alarm)
Driving Source: flow rate; Btu rate;

	Example:	I-3000 -	x	x
Series				
	Flow Monitor	I-3000		
Option - Analog Output, RS485 (BACnet / Modbus), and USB				
	No Option			0
	Analog Output, RS485 with BACnet and Modbus, and USB			1
Option - Mounting				
	Panel Mount			0
	Wall Mount			1

Model I-3000 Ordering Matrix

DTB-078-01