Badger Meter Europa

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Series 1500

Flow Monitor

Features

- Easy LCD display
- Can be extended with various signal outputs

Description

The Data Industrial[1] series 1500 Flow Monitor is an economical, full featured, digital flow monitor. The two line x 8 character alpha-numeric display can be configured by the user to display flow rate and flow total separately or simultaneously. The panel meter has a NEMA 4X rated front panel and conforms to DIN Standard dimensions, 96 mm X 96 mm, for meter sizes and panel cutouts. Versions of the Series 1500 are also available in NEMA 4 wall mount or sensor mount configurations. Like all Data Industrial flow monitors, the series 1500 may be field calibrated by the user. Data Industrial[1] sensors are calibrated by entering "K" and offset numbers, while other pulse or frequency output sensors may only use a "K" factor. The Series 1500 accepts pulse, sine wave, or an optional 4-20 mA analog input signal. Programming is menu driven. All data is entered using the LCD/keypad interface. A password gate is included to prevent unauthorized access to system parameters. Programming flexiblility is extended to units of measure. Series 1500 software contains eight flow rate and four total flow units of measure. There is also a provision for adding custom units for rate and total. The Series 1500 provides two pulse outputs to interface with external data collection devices that accept electronic pulses, one is a function of flow rate, the other flow total. The resolution of this TTL compatible signal may be programmed via the user interface.

Two LEDs are located on the front panel. One is an indication of power. The other is programmed to represent impeller status, totalizer status, or alarm status. All calibration information, units of measure and flow totals are stored in a non-volatile memory that does not require battery back-up for data retention.

Options

- Control relays- SPST mechanical relays, 2 available: Fixed as1 for rate and 1 for totalization functions.
- Analog output- isolated current sinking 4-20 mA, programmed from the keypad.
- Analog input- allows the use of other flow devices with analog outputs.

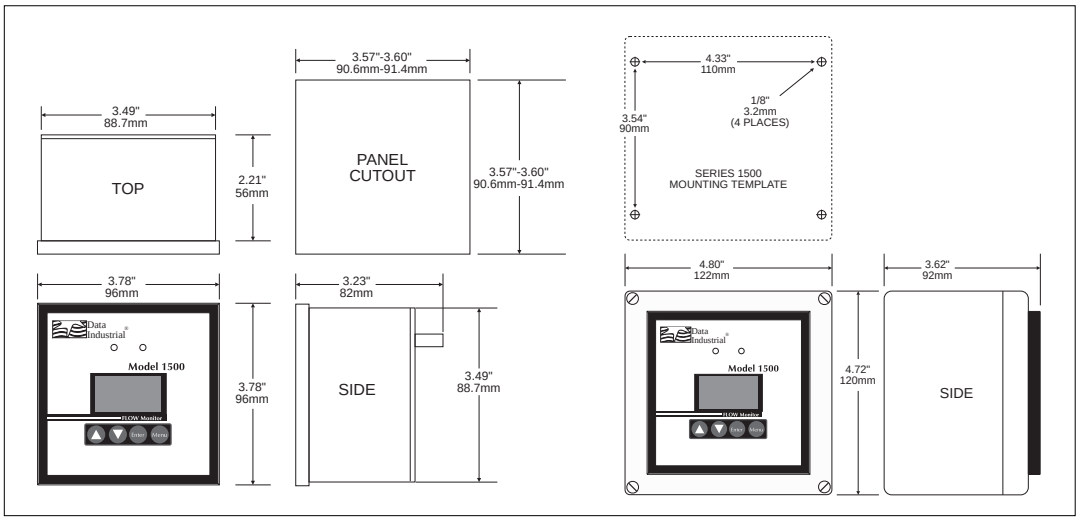
[1] Data Industrial ist a Badger Meter, Inc. company.

Technical data

Power	power supply: + 12-24 VDC (10.5 to 26 VDC) current draw: basic unit / 12 VDC – 40 mA basic unit / 24 VDC – 50 mA analog input option - deduct 6 mA relay output option - add 75 mA analog output wired as current sinking–add 2 mA wired as current sourcing using common power supply - add 22 mA
Display	8 characters x two lines, alphanumeric, dot matrix LCD display with variable contrast STN (Super-Twisted-Nematic) display
Operating temperature:	-4°F to + 185°F (-20°C to + 70°C)
Storage temperature:	-40°F bis + 185°F (-40°C bis + 85°C)
Dimensions:	Panel mount 3.78"W x 3.78"H x 3.23"D Wall mount 4.80"W x 4.72"H x 3.62"D
Weight	8.5 oz. maximum (panel mount with DIN draw mounting brackets)
Sensor input	
Digital sensors:	signal amplitudes: 2.5 VDC threshold signal limits: -24 volts < V in <V (power supply) frequency input range: 0,4 to 160 Hz Pull-up: 2 KΩ
Sine wave sensors:	signal amplitude: 10 mV p-p threshold signal limits: -24 Volt < V <V (power supply) frequency: 0.4 bis 160 Hz input impedance: 10 KΩ
Sensor calibration	Data Industrial "K" and offset
Other sensors:	"K or "K and offset
Totalizer:	range: 0.000001 to 1,000,000
Data update rate:	slow,medium, or fast corresponding to 2 sec, 1 sec, and instantaneous. adjustable averaging filter for smoothing erratic flow rates
Pulse output:	open collector transistor pulse user configurable to any units adjustable 50 ms to 5.0 second pulse output width in 50 mS increments (totalizer only) maximum sinking current: 150 mA @24 VDC
Specifications units of measure	
Flow total:	4 standard, 1 custom programmable standard flow total units gallons gallons liters liters ft^3 cubic feet m^3 cubic meters custom flow total unit: 7 character label, 7 digit conversion factor from gallons to custom units with a range form 0.000001 to 1,000,000
Flow rate:	8 standard, 1 custom programmable standard flow rate units: gpm gallons/minute gph gallons/hour l/sec liters/second l/min liters/minute ft3/sec cubic feet/second ft3/min cubic feet/minute m3/sec cubic meters/second m3/min cubic meters/minute custom flow rate unit: 7 character label 7 digit conversion factor from gallons/minute to custom units with a range from 0.000001 to 1,000,000

Option	
Relays:	2 optional relays: 1 operates from rate and 1 from totalizer SPST contacts, 3.0 amps@ 250 VAC or 30 VDC maximum resistive load
Rate relay:	user configurable totalizer, high rate and low rate alarm functions adjustable 0 to 120 second delay (in 10 second increments) for activation of alarm functions 0 to 50% (of set point) hysteresis for alarm functions latched feature
Totalizer relay:	user configurable output to any units. width and units/pulse are user set
Analog input	Accepts linear signals: 0 – 1 VDC 0 – 5 VDC, 0 – 10 VDC, 4 – 20 mA Input impedance: 4-20 mA – 50 Ω Voltage inputs: 2 KΩ or greater
Analog output:	Current sinking, isolated 4-20 mA Minimum voltage: 7 VDC Maximum voltage: 30 VDC

Dimensions



Series 1500 ordering matrix

	EXAMPLE:	1500	---	x	x	x
Series						
	Flowmonitor	1500				
Option - Transmitter						
	No Option			0		
	Analog Input - 0-1 VDC			1		
	Analog Input - 0-5 VDC			2		
	Analog Input - 0-10 VDC			3		
	Analog Input - 4-20 mA			4		
	Analog Input - 4-20 mA			5		
Options - RELAY OUTPUT						
	No Relays			0		
	2 Relays – 1 Alarm/Set Point – 1 Totalizer			1		
	2 Alarm/Set Point Relays			2		
	2 Totalizer Relays			3		
	2 Opto-Isolators – 1 Alarm – 1 Totalizer			4		
	2 Alarm/Set Point Opto-Isolators			5		
	2 Totalizer Opto-Isolators			6		
Mounting						
	Panel Mount, NEMA 4X Front Panel					0
	Wall Mount, NEMA 4X					1