

The Data Industrial Series 1500 Flow Monitor is an economical, full featured, digital flow monitor.

The two line x8 character alphanumeric 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 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 flexibility 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 an 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.

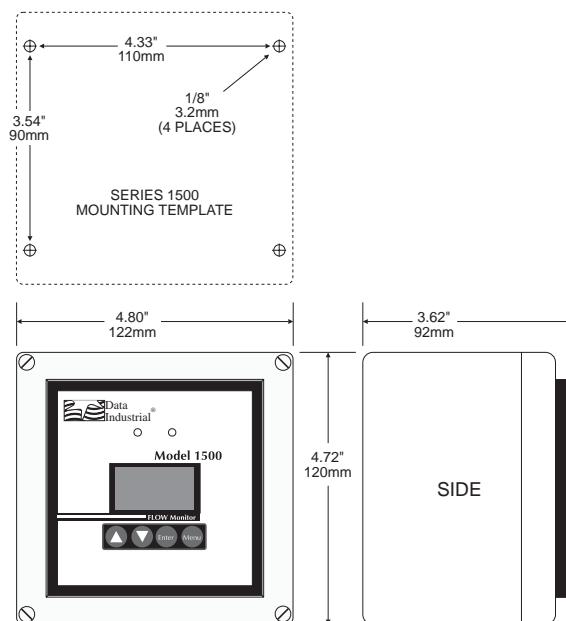
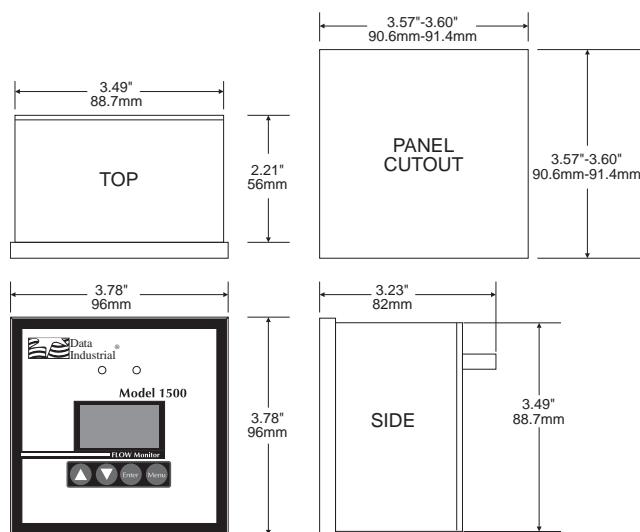
Two LEDs are located on the front panel. One is an indication of power. The other is programmed to represent impeller status, totalizer status, or alarm status.

All calibration information, units of measure and flow totals are stored in a non-volatile memory that does not require battery backup for data retention.



#### Options

- Control relays- SPST mechanical relays, 2 available: Fixed as 1 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.



## SPECIFICATIONS

### Power:

- power supply : +12-24 VDC (10.5 to 26 VDC)
- current draw:  
basic unit / 12VDC - 40mA  
basic unit / 24VDC - 50mA  
analog input option - deduct 6mA  
relay output option - add 75mA  
analog output  
    wired as current sinking - add 2mA  
    wired as current sourcing using common power supply - add 22mA

### Display:

- 8 characters by two lines, alphanumeric, dot matrix LCD display with variable contrast
- STN (Super-Twisted Nematic) display

### Operating Temperature:

-4°F to +158°F (-20°C to +70°C)

### Storage Temperature:

-40°F to +185°F (-40°C to +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 :  
2KW

#### Sine Wave Sensors:

- signal amplitude:  
10 mV p-p threshold
- signal limits:  
-24 volts < V in < V (power supply)
- frequency:  
0.4 to 160 Hz
- input impedance:  
10 KW

#### 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

#### Units Of Measure:

- ##### Flow total
- 4 standard, 1 custom programmable
  - standard flow total units:  
**gallons**      gallons

**liters**      liters

**ft3**      cubic feet

**m3**      cubic meters

custom flow total unit:

7 character label. 7 digit conversion factor from gallons to custom unit with a range from 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 unit with a range from 0.000001 to 1,000,000

## Option Specifications:

### Relays:

- 2 optional relays: 1 operates from rate and 1 from totalizer
- SPST contacts, 3.0 amps @ 250 VAC or 30VDC 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 W
- Voltage inputs: 2 KW or greater

### Analog Output:

- Current sinking, isolated 4 - 20 mA Minimum voltage: 7 VDC Maximum voltage: 30 VDC

## 1500 Series Ordering Matrix

EXAMPLE: 1500		-	x	x	x
<b>SERIES</b>	Flow Monitor	1500			
<b>OPTION-TRANSMITTER</b>	No Option	0			
Analog Input 0-1 VDC	1				
Analog Input 0-5 VDC	2				
Analog Input 0-10 VDC	3				
Analog Input 4-20mA VDC	4				
Analog Output 4-20mA	5				
<b>OPTIONS-DIGITAL OUTPUT</b>	No Relays	0			
2 Relays-1 Alarm/Set PT- 1-Totalizer	1				
2 Alarm/Set Point Relays	2				
2 Totalizer Relays	3				
2 Opto-Isolators- 1 Alarm - 1 Totalizer	4				
2 Alarm/Set Pt. Opto-Isolators	5				
2 Totalizer Opto-Isolators	6				
<b>MOUNTING</b>	Panel Mount, NEMA 4X Front Panel	0			
Wall Mount, NEMA 4X	1				

Due to continuous research, product improvements and enhancements, Data Industrial reserves the right to change product or system specifications without notice, except to the extent an outstanding bid obligation exists.

Please see our website at [www.dataindustrial.com](http://www.dataindustrial.com)  
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