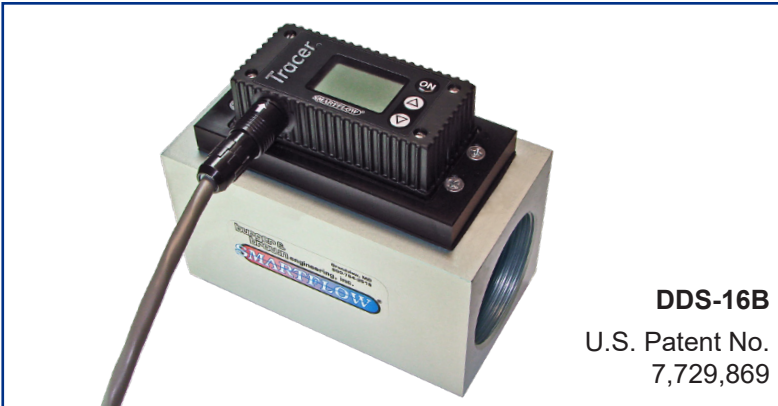


SMARTFLOW[®] Switching Tracer[®] Electronic Flowmeters



DDS-16B
U.S. Patent No.
7,729,869

General Description

Tracer Electronic Switching Flowmeter measures liquid flow rate and temperature while providing a selectable analog voltage and programmable switch. Tracer Switching Flowmeter calculates BTU's per minute and incorporates FCI (Flow Characteristic Indicator) in support of Scientific CoolingSM principles.

8 to 28VDC power source is required to supply the flowmeter. Sealed push-buttons configure the flowmeter and switching operations through user-friendly menus.

Separate analog outputs facilitate data collection of temperature and flow rates. The voltage outputs are user-selectable using on-screen menus: 0 to 5 Volts or 0 to 10 Volts.

FCI helps optimize systemic water usage. "TFLOW" on the digital display signifies the presence of Turbulent Flow, or optimum cooling water efficiency. 10, 20 or 30% glycol mix is supported in Turbulent Flow calculations.

SPDT switch is programmable for one to five set points: low flow, high flow, low temperature, high temperature and/or turbulent flow condition. Set points may be turned on or off in any combination.

Bi-directional flow reading makes installation simple and convenient.

English or Metric units for flow and temperature can be selected at any time.

Applications

Tracer flowmeter is suitable for use in injection molding machine cooling water loops, lube oil systems, blending systems, filter condition indicators, and varied applications requiring flow measurement of clean, non-viscous, chemically compatible process liquids.

Annual calibration is recommended for best results. 3/8" Tracer flowmeters are not recommended for use in liquids containing ferrous particles. Larger units equipped with inductive sensors are not sensitive to metal particles in process liquid.

**Model DDS
Digital Display Switching**

- ◆ Remotely Powered 8 to 28VDC
- ◆ 0-5 or 0-10 Volts Analog Outputs
- ◆ Programmable SPDT Switch
- ◆ LCD Display
 - FCI (Flow Characteristic Indicator)
 - Flow
 - Temperature
 - BTU's per minute

See page 3 for model numbers and dimensions.

Specifications

Flow Accuracy ±5%*

Flow Repeatability ±3%*

Wetted Parts

- 2" Body Clear-Anodized Aluminum
or 303 Stainless Steel (-SS model suffix)
- Impeller Nylon
- Impeller Shaft Stainless Steel

Power 8 to 28VDC

Cable 16ft (4.8M)

Switching SPDT, 1A, 30VAC, 42VDC

Process Temperature

- Range 32°F to 180°F (0°C to 82°C)
- Accuracy ±2% of display value
- Repeatability ±1% of display value

Environmental

- Pressure
- 2" Body 100 psi max.(6.9 bar max.)

*Accuracy and Repeatability figures are based on the full scale of the range.

FCI (Flow Characteristic Indicator)

Turbulent Flow is the point at which cooling efficiency is optimized. Increasing flow rates above the point of Turbulent Flow provides diminishing cooling rate improvement. Using FCI, systemic cooling water flow can be optimized, conserving water and maximizing cooling plant-wide without plumbing changes. "TFLOW" displays when Turbulent Flow is present within the Tracer flowmeter.

SMARTFLOW[®] Tracer[®] Electronic Flowmeters

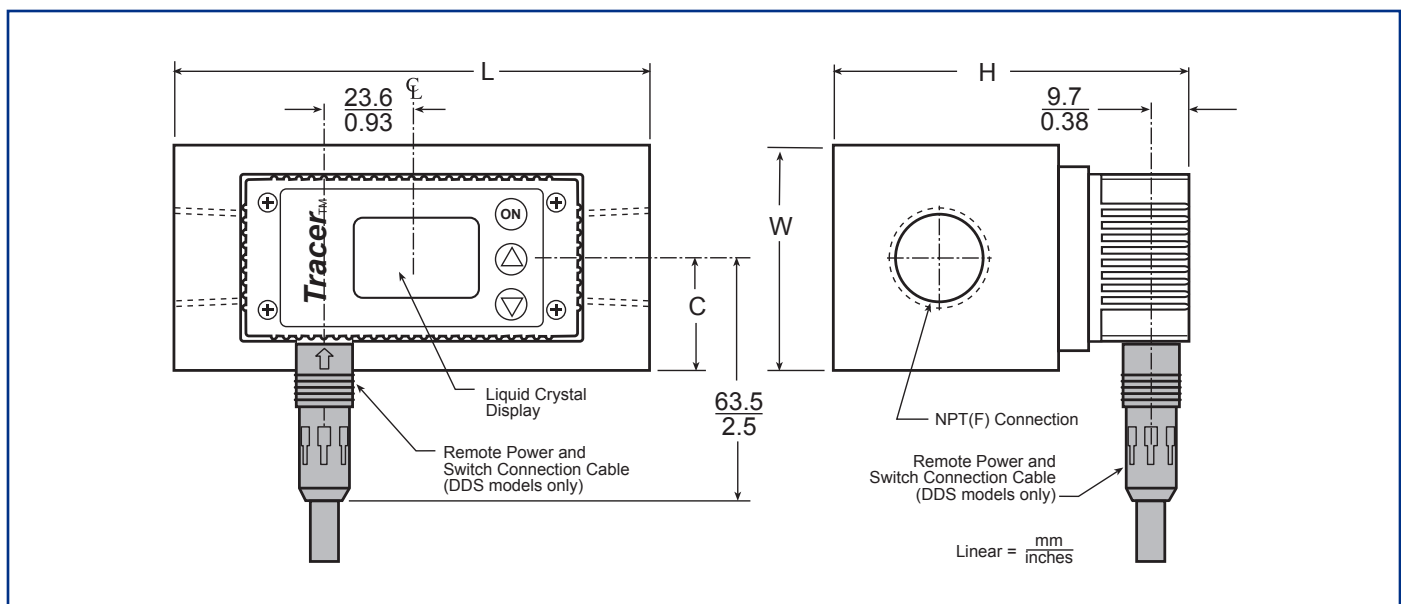
Model Number

		DD - 3 B - B			
Electronics Function					Body Material & Thread Options
Digital Display Battery-Powered	DD				Leave Blank for NPT Threaded Connection Parallel British Threaded Connection
Switching Tracer Analog Output plus Programmable Switch (2" only)	DDS				-B -SS Stainless Steel Body with NPT Threaded Connection (2" only) -B-SS Stainless Steel Body with Parallel British Threaded Connection (2" only)
Flow Range and Connection Size					Pressure Gauges & Quick-Disconnect Options
0.5 - 8 gpm (2-30 lpm) All 3/8" Tracer flow bodies are Nickel-Plated Brass	3/8"	3	B	Standard (without pressure gauge, applies to all 3/8" and any 2" aluminum flow bodies) with quick-disconnect fittings (3/8" only)	
10 - 110 gpm (38 - 418 lpm) Standard 2" Tracer flow bodies are Anodized Aluminum (Stainless Steel is optional)	2"	16	E	For use only with 2" SS Body	
			C1	30 psi Pressure Gauge	
			C2	60 psi Pressure Gauge	
			C3	100 psi Pressure Gauge	
			CL	Liquid-filled Pressure Gauge (100 psi)	

Stainless Steel Application Note:

Stainless Steel flowmeter bodies are strongly recommended when copper is present in water lines. This includes water treatments such as organic biocides containing copper. Aluminum is susceptible to galvanic action in the presence of copper. Contact your factory representative for more information.

Dimensions (mm/inches)				
Body Size	L	H	W	C
3/8"	87/3.42	58/2.27	42/1.67	21/0.83
2"	140/5.50	118/4.65	76/3.00	38/1.50



DELTA-Q[®] Precision Flow Regulator with 3/8" Tracer[®] Electronic Flowmeters

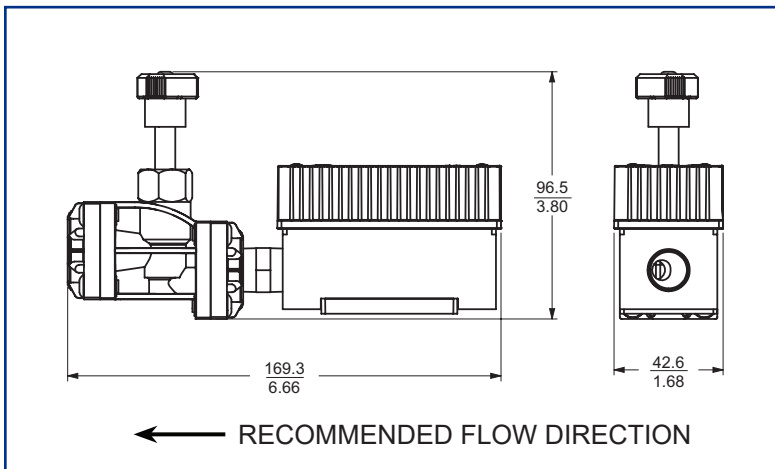
Model Number

DD - 3B - Q		
Thread Size		Delta-Q End Cap Material
3/8"NPT(F)	3B	Q Brass
3/8"BSPP(F)	3B-B	QP Nylon

Delta-Q Flow Regulator can be used with 3/8" Tracer electronic flowmeters.

DD- 3.6V Battery-Powered

- Flow Rate Display
- Temperature Display
- BTU's/Minute Display
- Turbulent Flow Condition (with optional glycol % input)



Wetted Parts and Materials

- Flowmeter Body Nickel-Plated Brass
- Impeller Nylon
- Impeller Shaft Stainless Steel
- Magnet Neodymium
- Back Cover Polysulfone
- Flow Regulator Body Glass-Filled Nylon
- Stem & Valve Seat Stainless Steel
- O-Ring EPDM
- End Cap Brass or Glass-Filled Nylon

Specifications

- Flow Accuracy ±5% of full scale
- Flow Repeatability ±3% of full scale
- Temperature Accuracy ±2% of display
- Temperature Repeatability ±1% of display
- Operating Temperature 180°F max. (82°C max.)
- Operating Pressure 150 psi max. (10.3 bar max.)
- Power 3.6VDC Battery (included)