Product Specifications

Thermo Scientific SX40

Dedicated Dual Frequency Doppler (DFD) Flowmeter

Combining Dual Frequency Doppler (DFD) technology with digital signal processing, the Thermo Scientific SX40 is immune to much higher levels of external noises than with standard Doppler technology. The DFD technique reduces errors in the flow measurement of fluids containing particulates, enabling the SX40 to operate in applications that were previously considered marginal to heighten process efficiency and provide a rapid return on your investment.

Applications

- Primary sludge
- Digested sludge
- Thickened sludge
- Waste activated sludge
- Return activated sludge
- Slurries
- Dredging

Features and Benefits

- Accuracy to ±1% of velocity full scale
- Password protection
- Backlit graphics display
- Excellent noise immunity
- Easy-to-install and setup
- AC or DC supply operation
- Powerful 90,000 point data logger

Ultrasonic yet Easy-to-Install

Unlike conventional Doppler flowmeters which operate at a single frequency, the Thermo Scientific SX40 generates two independent ultrasonic signals at different frequencies. By correlating these frequencies, the instrument automatically identifies and eliminates noise errors from sources such as variable frequency drives. In addition, the operation of the instrument is enhanced by an Expert System which allows the flowmeter to automatically "learn" the application parameters. As a result, the SX40 can be easily commissioned in a fraction of the time necessary to configure competitive ultrasonic flowmeters.

Durable & Versatile

Housed in an IP65 enclosure, the instrument is well suited to most municipal and industrial environments. The backlit graphics display provides excellent visibility even in poorly lit conditions. Outputs include a 12-bit, optically isolated, 4-20 mA analog signal and up to four independent programmable relays. The relays can be used for pump control, fault indication, limit switching, sampler activation, power down alarming or remote totalizer driving, enabling this versatile device to fulfill a variety of applications and process needs.

Cost-Effective, All-in-One Device

The SX40 is available with a contact closure that is activated by a remote pump or other control device to eliminate unwanted or erroneous flow volume data when backflow conditions are present. For applications where continuous flow recording is required, a powerful 90,000 point data logger with non-volatile memory enables users to avoid the additional cost of a chart recorder or external data logger.

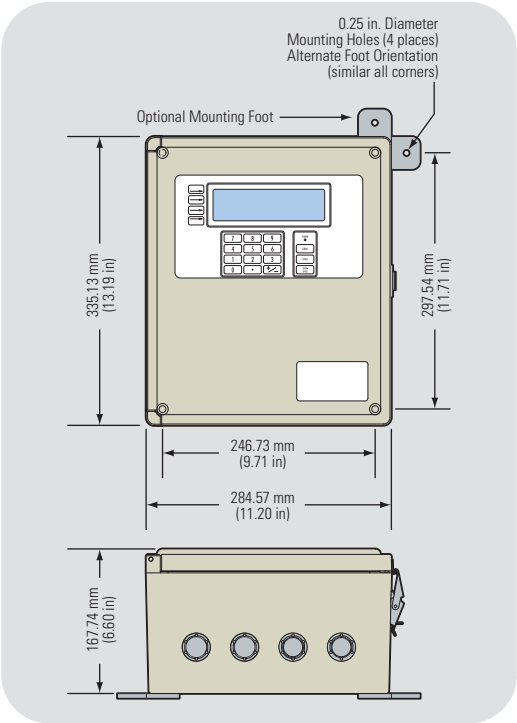
A Range of Flowmeters

We manufacture a comprehensive range of ultrasonic flowmeters for closed full pipe, partially filled pipe and open channel applications. Models are available for raw sewage, centrates, filtrates, plant effluent, raw water, surface water, groundwater, finished water and chemicals.

Thermo Scientific SX40

Performance Specifications	
Velocity Range	0.06 m/s to 5.5 m/s (0.2 ft/s to 18 ft/s), volumetric value based on cross-sectional area of pipe
Accuracy	±1% of velocity full scale
Fluids	Liquids containing particulate or entrained gas bubbles
Pipe Size	25.4 mm to 5 m (1 in to 200 in)
Physical Specifications	
Transmitter	IP65, flame retardant fiberglass-reinforced polyester
Transducers	Two encapsulated dual frequency sensor heads suitable for underground service Encased in stainless steel shrouds with integral transducer clamps 9 m (30 ft) cable length - standard
Weight	Approximately 5.4 kg (12 lbs)
Functional Specifications	
Outputs	4-20 mA (into 750 ohms); 12-bit, 5 kV, opto-isolated, loop or self-powered; RS232 serial interface
Power Supply	90-132 Vac or 190-250 Vac, 50/60 Hz (switch selectable); 11-28 Vdc
Temperature Range	Transducers: pipe surface -40°C to +121°C (-40°F to +250°F); ambient air limited to +80°C (+176°F) Electronics: -29°C to +60°C (-20°F to +140°F) With integral heater: -40°C to +60°C (-40°F to +140°F)
Keypad	19 key with tactile action
Display	Backlit, 240 x 60 dot, high resolution graphics display
Data Logger	90,000 point data logger Programmable in log intervals of 30 seconds or 1, 5, 15, 30 or 60 minutes HydraScan retrieval software for Microsoft® Windows® included as standard Compatible with Microsoft Excel,® Lotus 1-2-3® and other similar packages
Compliance	CE-EMC and CE-LVD; CSA/US Class I, Div 1, Groups C & D: Class II, Div 1, Groups E, F & G: Class I, Div 2, Groups A, B, C & D (Approvals per control drawings; Consult Thermo Fisher Scientific for more information)

Thermo Scientific SX40 Dimensional Diagram



Ordering Information

MODEL NUMBER
SX40: Thermo Scientific SX40

POWER SUPPLY
1: 90-132 VAC, 50/60 Hz
2: 190-250 VAC, 50/60 Hz
3: 11-28 VDC

OUTPUTS Standard 5 amp, SPDT, programmable
0: 4-20 mA, no relay (standard)
1: One relay, non-hazardous area
2: 2 relays, non-hazardous area
3: 3 relays, non-hazardous area
4: 4 relays, non-hazardous area
5: One relay, hazardous area
6: 2 relays, hazardous area
7: 3 relays, hazardous area
8: 4 relays, hazardous area

TRANSMITTER ENCLOSURE
1: NEMA 4X

TRANSDUCER CABLE LENGTH
X30: 9 m (30 ft) standard cable
XXX: Optional cable length in feet
XXX = 050, 075, 100, 150, 200 or 300

CERTIFICATIONS
A: Non-hazardous area
B: CSA/US Class I, Div 2, Groups A, B, C & D
C: CSA/US Class I, Div 1, Groups C & D: Class II, Div 1, Groups E, F & G

MODEL NUMBER	POWER SUPPLY	OUTPUTS	ENCLOSURE	CABLE LENGTH	CERTIFICATIONS
SX40	A	B	C	D	E

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