

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 $\pm 1\%$ 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 a NEMA 4X (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.

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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	12 mm to 5000 mm (0.5 in to 200 in)

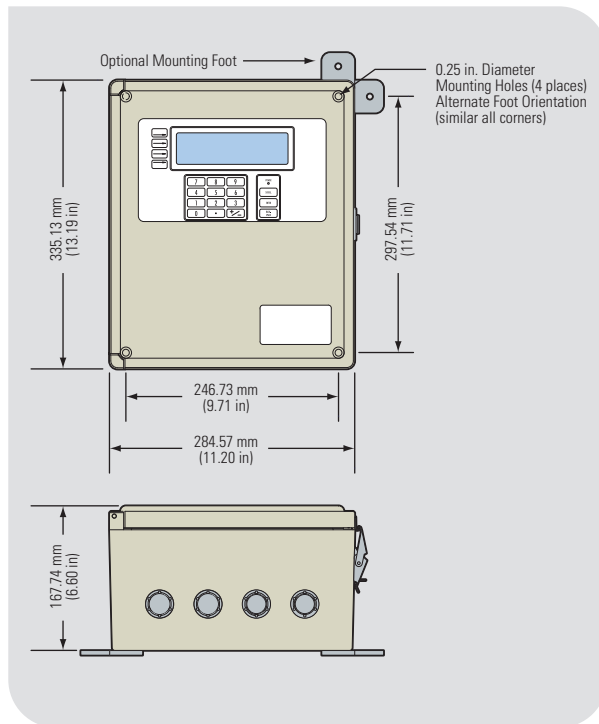
Physical Specifications

Transmitter	NEMA 4X (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)

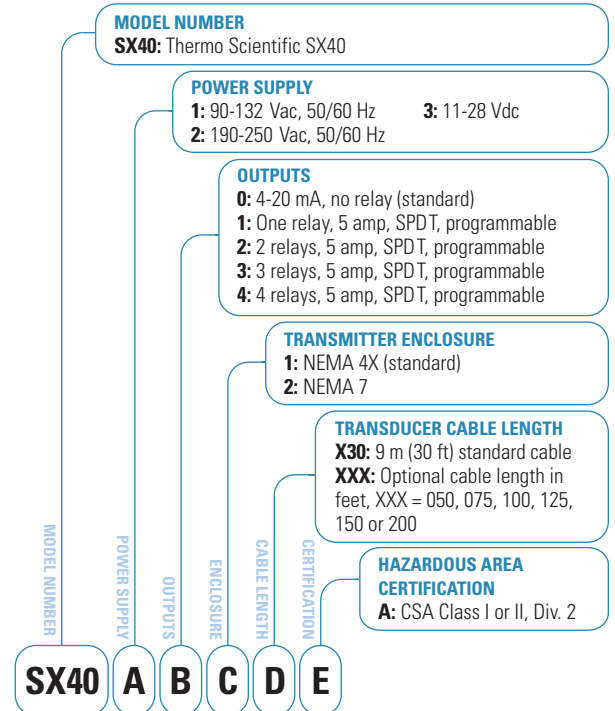
Functional Specifications

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	Hazardous area certifications (see ordering information below)

Thermo Scientific SX40 Dimensional Diagram



Ordering Information



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Room 1010 - 1019	+86 (10) 5850-3588
Ping'an Mansion No. 23 Jinrong Street	+86 (10) 6621-0847 fax
Xicheng Dist, Beijing 100032 CHINA	
A-101, ICC Trade Tower, Senapati Bapat Road	+91 (20) 6626 7000
Pune 411016 Maharashtra, INDIA	+91 (20) 6626 7001 fax
Ion Path, Road Three, Winsford	+44 (0) 1606 548700
Cheshire CW7 3GA UNITED KINGDOM	+44 (0) 1606 548711 fax
1410 Gillingham Lane	+1 (800) 437-7979
Sugar Land, TX 77478 USA	+1 (713) 272-0404
	+1 (713) 272-4573 fax