

The advanced Polysonics SX50 flowmeter uses the patented Dual Frequency Doppler (DFD) technology to accurately measure the flow of emulsions and fluids containing particulate. The non-intrusive device offers reliable measurement in multi-phase flow environments.

Polysonics SX50

Dedicated Dual Frequency Doppler Flowmeter



The patented DFD technology helps eliminate background noise and improve accuracy. It is specifically designed for unsurpassed operability in multiphase flow environments.



Applications

- Crude oil emulsions
- Slurries
- Sludge
- Effluent monitoring

Features

- Flexible design
- External, clamp-on sensors
- Powerful, 90,000-point data logger

Benefits

- Accurate within $\pm 1\%$ of velocity full scale
- Installs easily on any size pipe
- Installs without process interruption
- Easy to commission and use

Thermo Electron Polysonics SX50

The Polysonics SX50 is an advanced dedicated Doppler flowmeter with exceptional performance and simple operation. Unlike conventional Doppler flowmeters operating at a single frequency, the Polysonics SX50 uses unique patented Dual Frequency Doppler (DFD) technology to transmit two independent ultrasonic signals at different frequencies. By analyzing the returned frequencies, the instrument automatically identifies and minimizes noise errors from external sources such as variable frequency drives. The DFD technique significantly improves the ability of the Polysonics SX50 to operate in what were previously considered marginal applications for Doppler flowmeters.

In addition, the operation of the instrument is enhanced by an "Expert System" allowing the flowmeter to automatically "learn" the application parameters. As a result, the Polysonics SX50 can be easily commissioned in a fraction of the time necessary to configure competitive ultrasonic flowmeters.

Housed in a NEMA 4X (IP65) enclosure, the Polysonics SX50 is well suited to most industrial environments. The high resolution,

backlit graphics display provides excellent visibility even in poorly lit conditions. Outputs include a 12-bit, optically isolated, 4-20mA analog signal and relay.

The independent programmable relay can be used for functions such as pump control, fault indication, limit switching, sampler activation, power down alarming, or remote totalizer driving. In addition, a contact closure from a remote pump or other control device is available to eliminate unwanted or erroneous flow volume data when backflow conditions are present. A powerful 90,000-point data logger with non-volatile memory is also incorporated in the instrument. This avoids the additional cost of a chart recorder or external data logger for applications where continuous flow recording is required.

HydraScan Application Software

The flowmeter is equipped with an RS232 communication port and can be easily configured using the inclusive HydraScan software package. HydraScan can also retrieve all saved datalog files from the flowmeter. HydraScan is user-friendly and runs on Windows® 98 or higher.

Thermo manufactures 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, chemicals, and oil. For further information, please contact the factory or your local representative.

Polysonics SX50 Dedicated Dual Frequency Doppler Flowmeter

Specification

Performance Specifications

Velocity Range	0.06 to 5.5 m/s (0.2 to 18 ft/s)
Accuracy	±1% of velocity full scale
Fluids	Liquids containing particulate or entrained gas bubbles
Pipe Size	12 to 5000 mm (0.5 to 200 in)

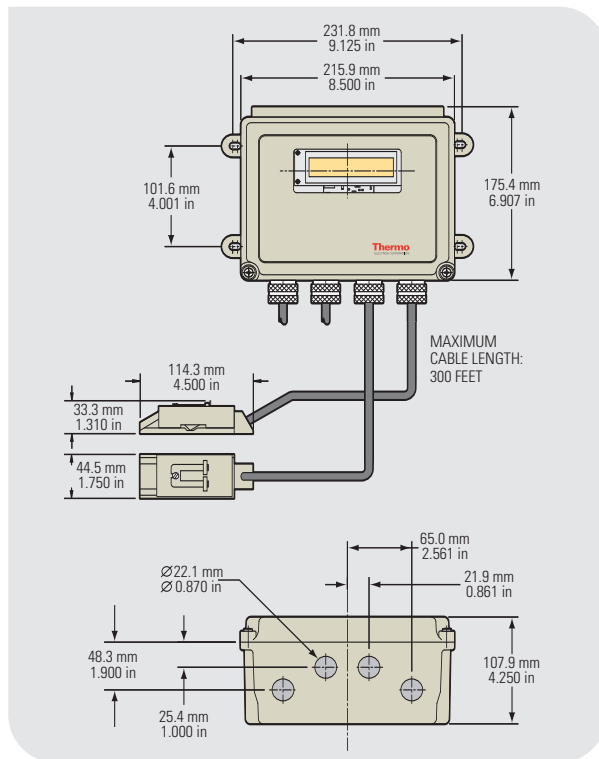
Physical Specifications

Transmitter	NEMA 4X (IP65), flame retardant fiberglass-reinforced polyester
Transducers	Two encapsulated dual frequency sensor heads suitable for submersible/underground service. Encased in stainless steel shrouds with integral transducer clamps; 9 m (30 ft) cable length standard
Weight	Approximately 5.4 kg (9 lb)

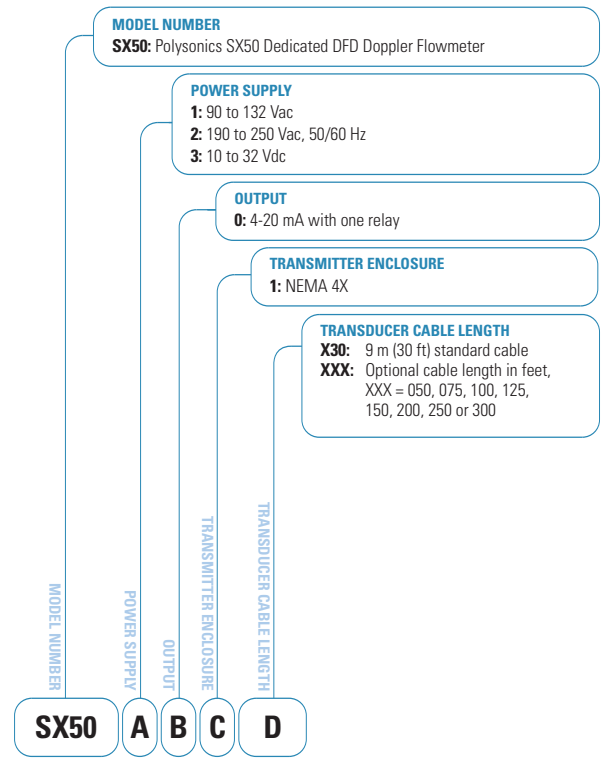
Functional Specifications

Outputs	4-20 mA (into 1k - 5k 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); 10-32 Vdc
Temperature Range	Transducers: pipe surface -40° to +121°C (-40° to +250°F); ambient air limited to +80°C (+176°F) Electronics: -29° to +60°C (-20° to +140°F) With integral heater: -40° to +60°C (-40° to +140°F)
Display	2 line, 20 character alpha numeric backlit display
Data Logger	90,000 point data logger; Programmable in log intervals of 30 sec, 1, 5, 15, 30, 60 mins <i>HydraScan</i> retrieval software for Windows® included as standard Compatible with Microsoft® Excel, Lotus® 1-2-3 and other similar packages

Polysonics SX50 — Physical Dimensions



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	
415 City Point, 193 Dhole, Patil Road	+91 (20) 5601 1245
Pune 411001 INDIA	+91 (20) 2612 5739 fax
Ion Path, Road Three, Winsford	+44 (0) 1606 548700
Cheshire CW7 3GA UK	+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

www.thermo.com/process
sales.process@thermo.com