Sur-Tech Instruments Ltd
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Sur-Tech
Global Measurement Solutions

STFX5000 TRANSIT TIME ULTRASONIC

The ST FX5000 transit time ultrasonic flow meter measures volumetric flow and heating/cooling energy rates in clean liquids as well as those with small amounts of suspended solids or aeration, such as surface water or raw sewage. ST- X5000 flow and energy meters clamp onto the outside of pipes and do not contact the internal liquid.

STFX5000 CLAMP ON ULTRASONIC

STFX5000-03

FEATURES

- Large, bi-directional flow measuring range
- Modbus® RTU or BACnet® MS/TP over EIA-485; Modbus TCP/IP; BACnet/IP; EtherNet/IP; AquaCUE®/BEACON® connectivity
- Rugged, aluminum enclosure for a long service life in harsh environments
- Reynolds, ultrasonic speed and temperature compensation
- Continued operation during installation—no need to shut down the process

APPLICATIONS

The STFX5000 meter is available in a variety of configurations that permit the user to select a meter with features suitable to meet particular application requirements.

The STFX5000 meter is available in two versions:

- A flow meter for water delivery, sewage, cooling water, water-glycol mixtures, alcohols and chemicals
- A heating/cooling energy flow meter used in conjunction with dual clamp-on RTDs for temperature measurement—ideal for hydronic process and HVAC applications

SPECIFICATIONS:

Liquid Types	Most clean liquids or liquids containing small amounts of suspended solids or gas bubbles
Enclosure	NEMA Type 4X, IP67
Ambient Temperature Range	–4…140° F (–20…60° C)
Flow Accuracy	Medium and Large Pipes (Up to 80"): ± 0.5% ± 0 0.049 ft/s (0.015 m/s)
	Small Pipes: 1 in. (25 mm) and larger = ±1% ± 0.03 ft/s (0.009 m/s) 3/4 in. (20 mm) and smaller = ±1% of full scale
Power Options	24V DC/AC: 9…28V DC @ 8 W max. or 20…26 AC 47…63 Hz @ 0.5 A max., 2 Amp slow-blow fuse, not field replaceable
	Mains AC: 85…264V AC 47…63 Hz @ 24VA max. 1 Amp slow-blow fuse, manually field replaceable Over-Voltage Rating Category II (CAT II)
Contruction	Aluminum construction; painted; wall, panel or pipe mounting; stainless steel fasteners and mounting hardware; EPDM gasket
	Conduit Holes: (4) 1/2 in. NPT, M20 × 1.5 or 1/2 BSPP; cable glands available for NPT and M20

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Certification and Compliance	General Safety (all models): cCSAus, CE, Pollution Degree 2, CE compliance to Low Voltage Directive, 2014/35/EU
	U.S./Canada Hazardous Location transmitter and transducers: Transmitter and transducers (certification option B): cCSAus Class I Division 2 Groups ABCD T4, Requires flexible conduit Not available with UZ, HZ or JZ and KZ (Easy Rail) transducers, Auxiliary Dry Contact card or units with AquaCUE/BEACON endpoints
	Transmitter (certification option R): cCSAus Ex ec ic nC IIC T4 Gc; Ex tc IIIB T100° C Dc; Class I, Zone 2, AEx ec ic nC IIC T4 Gc; Zone 22, AEx tc IIIB T100° C Dc; Class II, Division 2, Groups FG; Class III Not available with Auxiliary Dry Contact card or units with AquaCUE/BEACON endpoints
	Transducers RZ LZ, NZ, RZ, WZ, YZ (certification option R): cCSAus Ex ec IIC T6 Gc; Ex tc IIIB T60° C Dc; Class I, Zone 2, AEx ec IIC T6 Gc; Zone 22, AEx tc IIIB T60° C Dc; Class II, Division 2, Groups FG; Class III Requires flexible conduit, Not available with CA-CT, UZ, HZ or JZ and KZ (Easy Rail) transducers
	ATEX Hazardous Location: Transmitter (certification option V): II 3 G D Ex ec ic nC IIC T4 Gc, Ex tc IIIB T100° C Dc; Tamb: -25… 60° C, JZ (DTTJ), KZ (DTTK), LZ (DTTL), NZ (DTTN) and RZ (DTTR) Transducers: II 3 G D Ex ec IIC T6 Gc; Ex tc IIIB T60°C Dc; Tamb: -25… 60° C Not available with UZ, CA to CT, or HZ transducers; flexible conduit, Auxiliary Dry Contact card or AquaCUE/BEACON endpoints
	IECEx Hazardous Location: Transmitter (certification option V): Ex ec nC ic IIC T4 Gc; Ex tc IIIC T100° C Dc; Tamb: -25°C… 60° C, JZ, KZ, LZ, NZ and RZ Transducers: Ex ec IIC T6 Gc; Ex tc IIIB T60° C Dc; Tamb: -25… 60° C, Not available with UZ, CA to CT, or HZ transducers; flexible conduit, Auxiliary Dry Contact card or AquaCUE/BEACON endpoints

Inputs and Outputs	Meter Type:	Flow Meter	Energy Meter
	0/4… 20 mA output	One 16-bit, isolated, max 800 Ohms, internal or external power	Two 16-bit, isolated, max 800 Ohms, internal or external power
	Digital input	One 5… 30V DC, isolated, externally or internally sourced, reset totalizer or alarm output	
	Digital output	Two selectable pulse, alarm, flow direction, sink isolated open collector, 5… 30V DC, max. 50 mA externally or internally sourced, leakage current 1uA max.	Three selectable pulse, frequency, alarm, flow direction, isolated open collector, 5… 30V DC, externally or internally sourced, leakage current 1uA max.
		Frequency output: 50% duty cycle, 63… 10k Hz maximum frequency	
		Pulse (totalizer) output: 5 kHz max. output, open collector, pulse width 5… 500 ms programmable	
		Optional: Two dry contact output for alarm or flow direction 30V DC max., 5A max. (Ethernet not available with this option)	
	RTD (energy only)	None	Two 2-wire, 3-wire or 4-wire Pt100/ Pt1000 RTD 12-bit inputs; Range of –40… 200° C; Clamp-on resistor kits available