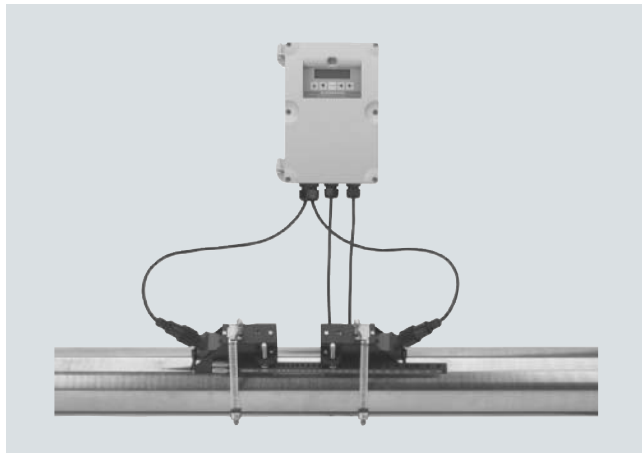


Flow Measurement

SITRANS F US Clamp-on

SITRANS FST020 (Basic)

Overview



SITRANS FST020 offers reliable flow measurement at a much lower cost than other clamp-on ultrasonic flowmeters, with flow rate accuracy of $\pm 0.5\%$ to 1.0% for most applications.

Benefits

- Easy installation; no need to cut pipe or stop flow
- Minimal maintenance; external sensors do not require periodic cleaning
- No moving parts to wear or foul
- No pressure drop or energy loss
- Compact, integral design reduces installation cost
- Wide turn-down ratio
- Optional WideBeam technology ensures high performance.
- ZeroMatic Path automatically sets zero without stopping flow and eliminates zero drift.

Application

SITRANS FST020 is suitable for most clean liquid applications, including the following:

- Water & wastewater industry
 - Potable water
 - Wastewater, influent & effluent
 - Processed sewage, sludge
- Chemical feed industry
 - Sodium hypochlorite
 - Sodium hydroxide
- HVAC & power industries
 - Coolant flow
 - Fuel flow
- Process control
 - Chemicals
 - Pharmaceuticals

The SITRANS FST020 flowmeter is not available with hazardous areas approval.

Design

- IP65 (NEMA 4X) wall mount constructed of polycarbonate
- Single channel versions only

Function

- 2x16 integral alphanumeric display and 5 key keypad for installation menu and data display
- Pulse rate output
- RS232 digital communication port with a DB9 connector
- Totalizer start/stop and rest control lines.
- Remote PC installation menu
- ZeroMatic Path automatically sets zero
- Bidirectional flow operation
- 1 MByte data logger with both site & data logger storage
- Menu language in English, Spanish, German, Italian and French

Technical specifications

Input

Flow range	± 12 m/s (± 40 ft/s), bi-directional
Flow sensitivity	0.0003 m/s (0.001 ft/s) flow rate independent

Digital Inputs

Totalizer Hold	Optically isolated diode Input voltage: 2 ... 10 V DC
Totalizer Reset	Optically isolated diode Input voltage: 2 ... 10 V DC

Output

Current	<ul style="list-style-type: none"> • 4 ... 20 mA (Isolated) • externally powered 10 ... 30 V DC
Relay	<ul style="list-style-type: none"> • Programmable Form C 250 mA • 30 V DC • 3 V A max
Pulse rate ¹⁾	<ul style="list-style-type: none"> • Optically isolated transistor 10 mA • 30 V DC max

Accuracy

<ul style="list-style-type: none"> • 4 ... 20 mA • Pulse, relay output 	for velocities ≥ 0.3 m/s (1 ft/s)
Batch repeatability	$\pm 1.0\%$... 2.0% of flow
Zero Drift	$\pm 0.5\%$... 1.0% of flow
	$\pm 0.15\%$
Data refresh rate	0.1 % of rate; 0.0003 m/s (0.001 ft/s)
	5 Hz

Transmitter conditions

Operating temperature	-10 ... +50 °C (14 ... +122 °F)
Storage temperature	-20 ... +60 °C (-4 ... +140 °F)
Degree of protection	IP65 NEMA 4X

Design

Weight	1,4 kg (3.0 lbs)
Dimensions (W x H x D)	175 x 235 x 92 mm (6.89 x 9.25 x 3.62 inches)
Enclosure material	Polycarbonate

Power supply

	100 ... 240 V AC @ 15 VA or 11.5 ... 28.5 V DC @ 10 W
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Certificates and approvals

Unclassified locations	UL, UL _C
Classified locations	
CE	EMC Directive 2004/108/EC ATEX Directive 94/9/EC
C-TICK	

¹⁾ When used to represent flow rate (PGEN) the frequency can reach as high as 5000 Hz. When used to represent flow total it can reach 50 Hz.

Standard MLFB for quick delivery on SITRANS FST020 (Basic)

Selection and Ordering data	Order No.
SITRANS FST020 (Basic)	L) 7ME357 - 30 - 0
Design	0
IP65 (NEMA 4X) wall mount	
Number of channels/ultrasonic paths	1
Single channel	
Flowmeter functions and I/O configurations	H
• With display and 1 additional analog output and SPST relay	
Meter power options	A
100 ... 240 V AC	B
11.5 ... 28.5 V DC, 10 W max	
Sensor	
(includes pipe mounting kit for indicated max. OD listed) See "Sensor selection charts" for specifications.	
no sensor	A
A2 universal	B
B3 universal	C
C3 universal	D
D3 universal	E
E2 universal	F
For the following A1H to D4H sensors, temperature range is -40 ... 65 °C (-41 ... 150 °F), nominal 21 °C (70 °F)	
C1H (high precision)	M
C2H (high precision)	N
D1H (high precision)	P
D4H (high precision)	R
Sensor cables	
No sensor cable	A
6 m (20 ft) PVC Jacket (1 pr)	B
15 m (50 ft) PVC Jacket (1 pr)	C
30 m (100 ft) PVC Jacket	D
46 m (150 ft) PVC Jacket	E
91 m (300 ft) PVC Jacket	G
Approvals	
UL, UL _C , CE, C-TICK	
Standard MLFB offering represents 2 to 3 weeks delivery time for quantities under 5.	0

¹⁾ Supplied spacer bar supports pipes up to 750 mm (30 inches). For pipes larger than 750 mm (30 inches) purchase also, spare part 7ME3960-0MS40 (1012BN-4).

L) Subject to export regulations AL: N, ECCN: 3A991X.