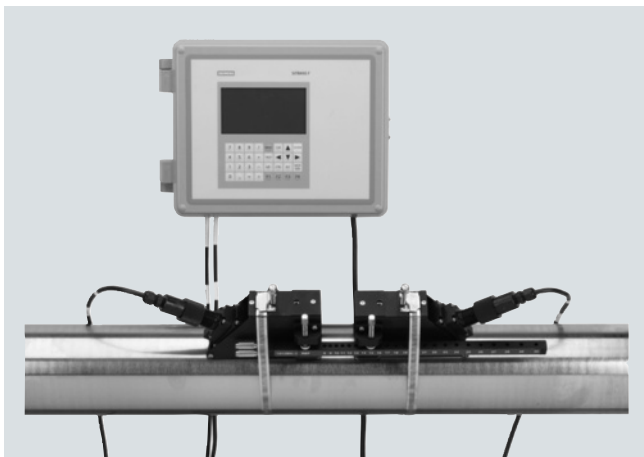


Flow Measurement

SITRANS F US Clamp-on

SITRANS FUS1010 (Standard)

Overview



SITRANS FUS1010 is the most versatile clamp-on ultrasonic flow display transmitter available today. It can operate in either Wide-Beam Transit time or Reflexor (Doppler) mode, making it suitable for virtually any liquid, even those with high aeration or suspended solids.

SITRANS FUS1010 is available in single, dual and optional four path configurations, with your choice of IP65 (NEMA 4X) wall mount, IP65 (NEMA7) compact explosionproof enclosures.

Benefits

- Versatility; there is no need to change meters when operating conditions change
- Easy installation; no need to cut pipe or stop flow
- Minimal maintenance; external sensors do not require periodic cleaning
- No moving parts to foul or wear
- No pressure drop or energy loss
- Wide turn-down ratio
- Choice of single channel or dual channel/dual path, with doppler capability. Four channel/four path optional.
 - Optional four channels allow measurement of four independent pipes at the same time, reducing overall ownership costs
 - Dual mode allows for transit time and reflexor operation at the same time on the same pipe
 - Dual path allows for two sets of sensors to be set up on one pipe and averaged for higher accuracy
- ZeroMatic Path automatically sets zero without stopping flow and reduces zero drift, even at low flow

Application

SITRANS FUS1010 is suitable for a wide variety of liquid applications, including the following:

- Water industry
 - Raw water
 - Potable water
 - Chemicals
- Wastewater industry
 - Raw sewage
 - Effluent
 - Sludges
 - Mixed liquor
 - Chemicals
- HVAC industry
 - Chillers
 - Condensers
 - Hot and cold water systems
- Power industry
 - Nuclear
 - Fossil
 - Hydroelectric
- Processing industry
 - Process control
 - Batching
 - Rate indication
 - Volumetric and mass measurement

Design

SITRANS FUS1010 is available in three configurations:

- IP65 (NEMA 4X) wall mount enclosure constructed of fiber-glass reinforced polyester with stainless steel hardware and polyester keypad
 - Single channel
 - Dual channel / dual path
 - Four channel (optional)
- IP65 (NEMA 7) compact explosionproof enclosure constructed of cast aluminum with glass window, stainless steel hardware
 - Single channel
 - Dual channel / dual path
- IP66 (NEMA 7) wall mount explosionproof enclosure constructed of cast aluminum, stainless steel hardware, with glass window
 - Single channel
 - Dual channel / dual path
 - Four channel (optional)

Function

- IP65 (NEMA 4X) and IP66 (NEMA 7) flow display transmitters have integral 33 button keypads and large (128 x 240 pixel) graphic displays visible up to 12 m (40 ft) away
- IP65 (NEMA 7) compact flow display transmitter has a 2 x 16 Alphanumeric LCD display
- Current, voltage, status alarm, frequency and RS232 outputs (see specification section for details)
- Optional current, voltage and temperature inputs (see specification section for details)
- ZeroMatic Path automatically sets zero
- Bidirectional flow operation
- 1 MByte data logger with both site and data logger storage
- English, Spanish, German, Italian and French language selectable on IP65 (NEMA 7) enclosures

Technical specifications

SITRANS FUS1010IP65 (NEMA 4X) wall mount



Enclosure IP65 (NEMA 4X)

Input

Flow range	±12 m/s (±40 ft/s), bidirectional
Pipe size	6.4 mm ... 9.14 m (0.25" ... 360")
Optional inputs Single channel	<ul style="list-style-type: none"> • Current: 2 x 4 ... 20 mA DC • Voltage: 2 x 0 ... 10 V DC • Temperature: 2 x 4 wire 1 kΩ RTD

Output

Standard outputs	<ul style="list-style-type: none"> • Current: 2 x 4 ... 20 mA DC (1 kΩ at 30 V DC) • Voltage: 2 x 0 ... 10 V DC (5 kΩ min.) • Status Alarm: 4 x SPDT relays • Mercury wetted relays • Frequency: 2 x 0 ... 5 kHz • RS232
Optional outputs	<ul style="list-style-type: none"> • Mercury wetted relays • Expanded I/Os (4 additional 4 ... 20 mA outputs) with form c relays • Expanded I/Os with Mercury wetted relays • uniMass capability with 1 RTD input and 4 x 4 ... 20 mA analog input

Accuracy

Accuracy	±0.5 % ... 1.0 % of flow, for velocities greater than 0.3 m/s (1 ft/s) ±0.0015 ... 0.003 m/s (±0.005 ... 0.01 ft/s), for velocities less than 0.3 m/s (1 ft/s)
Batch repeatability	±0.15 % of flow, for velocities greater than 0.3 m/s (1 ft/s) ±0.0005 m/s (±0.0015 ft/s), for velocities less than 0.3 m/s (1 ft/s)

Data refresh rate

5 Hz

Rated operation conditions

Degree of protection	IP65 (NEMA 4X)
Liquid temperature	
• Standard	-40 ... +120 °C (-40 ... +250 °F)
• Optional	-40 ... +230 °C (-40 ... +450 °F)
Ambient temperature	-18 ... +60 °C (0 ... 140 °F)

Design

Dimensions	see SITRANS F US Clamp-on "System info and selection guide"
Weight	see diagrams

Power supply

	90 ... 240 V AC, 50 ... 60 Hz, 30 VA or 9 ... 36 V DC, 12 W
--	---

Indication and operation

Data logger memory	1 MByte
Display	128 x 240 pixel LCD with back-light
Keypad	33 keypad buttons with tactile feedback
Language options	English, Spanish, German, Italian, French

Certificates and approvals

FM and CSA ratings	<ul style="list-style-type: none"> • Transmitter N-I Class I, Div 2 S Class II, Div 2 • Sensor I.S. Class I, II, Div 1
CE	EMC Directive 2004/108/EC ATEX Directive 94/9/EC
C-TICK	
ATEX ratings	<ul style="list-style-type: none"> • Transmitter: Ex II (1) G [Ex ia] IIC Ex II 3 (1) G Ex nC [ia] IIC T5 • Sensors: Ex II 1 G Ex ia IIC T5
INMETRO Ratings	<ul style="list-style-type: none"> • Transmitter: [BR-Ex ia] IIC BR-Ex nC [ia] IIC T5 • Sensors: BR-Ex ia IIC T5
IECEX	Pending

Flow Measurement

SITRANS F US Clamp-on

SITRANS FUS1010 (Standard)

SITRANS FUS1010, IP65 (NEMA 7) compact explosionproof



Enclosure IP65 (NEMA 7)

Input

Flow range	± 12 m/s (± 40 ft/s), bidirectional
Pipe size	6.4 mm ... 9.14 m (0.25" ... 360")
Optional inputs single channel	<ul style="list-style-type: none"> • Current: 1 x 4 ... 20 mA DC • Temperature: 2 x 4 wire 1 kΩ RTD

Output

Outputs	<ul style="list-style-type: none"> • Current (externally powered): 1 x 4 ... 20 mA DC (1 kΩ at 30 V DC) • Status Alarm: 1 x Isolated open collector • Frequency: 2 x 0 ... 5 kHz • RS232
---------	--

Accuracy

	± 0.5 % ... 1.0 % of flow, for velocities greater than 0.3 m/s (1 ft/s) ± 0.0015 ... 0.003 m/s (± 0.005 ... 0.01 ft/s), for velocities less than 0.3 m/s (1 ft/s)
Batch repeatability	± 0.15 % of flow, for velocities greater than 0.3 m/s (1 ft/s) ± 0.0005 m/s (± 0.0015 ft/s), for velocities less than 0.3 m/s (1 ft/s)

Data refresh rate

5 Hz

Rated operation conditions

Degree of protection	IP65 (NEMA 7)
Liquid temperature	
• Standard	-40 ... +120 °C (-40 ... +250 °F)
• Optional	-40 ... +230 °C (-40 ... +450 °F)
Ambient temperature	-18 ... +60 °C (0 ... 140 °F)

Design

Dimensions	see SITRANS F US Clamp-on "System info and selection guide"
Weight	see diagrams

Power supply

90 ... 240 V AC, 50 ... 60 Hz,
15 VA or
9 ... 36 V DC, 10 W

Indication and operation

Data logger memory	1 MByte
Display	2 x 16 alphanumeric LCD display
Keypad	5 Magnetic hall effect switches
Language options	English, Spanish, German, Italian, French

Certificates and approvals

FM and CSA ratings	<ul style="list-style-type: none"> • Transmitter XP Class I, Div 1 D-I Class II, Div 1 N-I Class I, Div 2 S Class II, Div 2 • Sensor I.S. Class I, II, Div 1
ATEX ratings	<ul style="list-style-type: none"> • Flow transmitter: Ex II 2 (1) G Ex d [ia] IIB + H2 T5 • Sensors: Ex II 1 G Ex ia IIC T5
INMETRO ratings (Brazil)	<ul style="list-style-type: none"> • Transmitter: BR Ex d [ia] IIC T5 • Sensors: BR-Ex ia IIC T5
IECEX	Pending

Flow Measurement

SITRANS F US Clamp-on

SITRANS FUS1010 (Standard)

SITRANS FUS1010 IP66 (NEMA 7) wall mount explosionproof



Enclosure IP66 (NEMA 7)

Input

Flow range	± 12 m/s (± 40 ft/s), bidirectional
Pipe size	6.4 mm ... 9.14 m (0.25" ... 360")
Optional Inputs single channel	<ul style="list-style-type: none"> • Current: 2 x 4 ... 20 mA DC • Voltage: 2 x 0 ... 10 V DC • Temperature: 2 x 4 wire 1 kΩ RTD

Output

Outputs single channel	<ul style="list-style-type: none"> • Current: 2 x 4 ... 20 mA DC (1 kΩ at 30 V DC) • Voltage: 2 x 0 ... 10 V DC (5 kΩ min.) • Status Alarm: 4 x SPDT Relays • Frequency: 2 x 0 ... 5 kHz • RS232
---------------------------	---

Accuracy

Accuracy	± 0.5 % ... 1.0 % of flow, for velocities greater than 0.3 m/s (1 ft/s) ± 0.0015 ... 0.003 m/s (± 0.005 ... 0.01 ft/s), for velocities less than 0.3 m/s (1 ft/s)
Batch repeatability	± 0.15 % of flow, for velocities greater than 0.3 m/s (1 ft/s) ± 0.0005 m/s (± 0.0015 ft/s), for velocities less than 0.3 m/s (1 ft/s)

Data refresh rate

5 Hz

Rated operation conditions

Degree of protection	IP66 (NEMA 7)
Liquid temperature	
• Standard	-40 ... +120 °C (-40 ... +250 °F)
• Optional	-40 ... +230 °C (-40 ... +450 °F)
Ambient temperature	-18 ... +60 °C (0 ... 140 °F)

Design

Dimensions	see SITRANS F US Clamp-on "System info and selection guide"
Weight	see diagrams

Power supply

90 ... 240 V AC, 50 ... 60 Hz, 30 VA or
9 ... 36 V DC, 12 W

Indication and operation

Data logger memory	1 MByte
Display	128 x 240 pixel LCD with back-light
Keypad	33 keypad buttons with tactile feedback
Language options	English, Spanish, German, Italian, French

Certificates and approvals

FM and CSA ratings	<ul style="list-style-type: none"> • Transmitter XP Class I, Div 1 D-I Class II, Div 1 N-I Class I, Div 2 S Class II, Div 2 • Sensor I.S. Class I, II, Div 1
CE	EMC Directive 2004/108/EC ATEX Directive 94/9/EC
C-TICK	
ATEX ratings	<ul style="list-style-type: none"> • Flow transmitter Ex II (1) G [Ex ia] IIC Ex II 3 (1) G Ex nC [ia] IIC T5 Ex II 2 (1) G Ex d [ia IIC] IIB + H2 T5 • Sensors: Ex II 1 G Ex ia IIC T5
INMETRO ratings (Brazil)	<ul style="list-style-type: none"> • Flow transmitter: [BR-Ex ia] IIC BR-Ex d [ia IIC] IIB T5 • Sensors: BR-Ex ia IIC T5
IECEx	Pending

Flow Measurement SITRANS F US Clamp-on

SITRANS FUS1010 (Standard)

Standard MLFB for quick delivery on SITRANS FUS1010 (Dedicated standard)

Selection and Ordering data	Order No.	Order code
SITRANS FUS1010 (Standard)	L) 7ME353 - - - - - 0 - - - - -	- - - - - + K02 + K02 + R02
Design IP65 (NEMA 4X) wall mount	0	
Number of channels/ultrasonic paths Single channel Dual channel/Dual path	1 2	
Flowmeter functions and I/O configurations includes graphic display and Reflexor capability Standard outputs • 2 x 0 ... 10 V • 2 x 4 ... 20 mA • 2 x pulse output • 4 x relay C type	A	
Meter power options 90 ... 240 V AC 9-36 V DC (except NEMA 7 compact)	A B	
Communication options RS232 (standard)	0	
RTD temperature sensor (include mounting hardware for pipes between 1.5" and 24" outer diameter) No RTDs 1x standard clamp-on 2x standard clamp-on 1x submersible 2x submersible	0 1 2 3 4	
Sensor for channel 1 (includes pipe mounting kit and spacer bar for indicated max. OD listed) See "Sensor selection charts" for specifications.		
no sensor		A
A2 universal Trackmount and straps provided up to 75 mm (3")		B
B3 universal Trackmount and straps provided up to 125 mm (5")		C
C3 universal Mounting frame and straps provided up to 300 mm (13")		D
D3 universal Mounting frame and straps provided up to 600 mm (24")		E
E2 universal Mounting frame and straps provided up to 1200 mm (48") ¹⁾		F
C1H (high precision) Mounting frame and straps provided up to 1200 mm (48") ²⁾		M
C2H (high precision) Mounting frame and straps provided up to 1200 mm (48") ²⁾		N
D1H (high precision) Mounting frame and straps provided up to 1200 mm (48") ²⁾		P
D4H (high precision) Mounting frame and straps provided up to 1200 mm (48") ²⁾		R
Doppler to 12" with strap kit (not for IP65 (NEMA7))		S
D1H High temperature range 104 °C / 220 °F HP ²⁾		Z
		P 1 P

4

Flow Measurement SITRANS F US Clamp-on

SITRANS FUS1010 (Standard)

Selection and Ordering data	Order No.	Order code
SITRANS FUS1010 (Standard)	L) 7ME353 - - - - - 0	+ K02 + K02 + R02
Sensor for channel 2 (includes pipe mounting kit for indicated max. OD listed) See "Sensor selection charts" for specifications.		
No sensor		A
A2 universal Trackmount and straps provided up to 75 mm (3")		B
B3 universal Trackmount and straps provided up to 125 mm (5")		C
C3 universal Mounting frame and straps provided up to 300 mm (13")		D
D3 universal Mounting frame and straps provided up to 600 mm (24")		E
E2 universal Mounting frame and straps provided up to 1200 mm (48") ¹⁾		F
C1H (high precision) Mounting frame and straps provided up to 1200 mm (48") ²⁾		M
C2H (high precision) Mounting frame and straps provided up to 1200 mm (48") ²⁾		N
D1H (high precision) Mounting frame and straps provided up to 1200 mm (48") ²⁾		P
D4H (high precision) Mounting frame and straps provided up to 1200 mm (48") ²⁾		R
Doppler to 12" with strap kit (not for IP65 (NEMA7))		S
D1H High temperature range 104 °C / 220 °F HP ²⁾		Z
Approvals		
FM/CSA, CE (default)		1
ATEX, CE, C-TICK		2
		Q1P

¹⁾ Supplied spacer bar supports pipes up to 1050 mm (42 inches). For pipes larger than 1050 mm (42 inches) purchase also, spare part 7ME3960-OMS40 (1012BN-4)

²⁾ Supplied spacer bar supports pipes up to 750 mm (30 inches). For pipes larger than 750 mm (30 inches) purchase also, spare part 7ME3960-OMS40 (1012BN-4)

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

Standard MLFB product offering represents 4 to 6 weeks delivery time.

For sensor and RTD cables for quick delivery see tables at end of section.



Flow Measurement

SITRANS F US Clamp-on

SITRANS FUS1010 (Standard)

Selection and Ordering data

SITRANS FUS1010 (Standard)

- IP65 (NEMA 4X) wall mount L) **7ME3530-**
- IP65 (NEMA 7) compact explosionproof L) **7ME3531-**
- IP66 (NEMA 7) wall mount explosionproof L) **7ME3533-**

0 -

Number of channels/ultrasonic paths

- | | | |
|--|---|-------|
| Single channel | 1 | |
| Dual channel / Dual path | 2 | |
| Special: Four channel / Four path (NEMA 4X wall mount and NEMA 7 wall mount explosionproof only) | 9 | H 1 A |

Flowmeter functions and I/O configurations

includes graphic or digital display and Reflexor capability for all except IP65 (NEMA 7) compact units

IP65 (NEMA 4X) wall mount and IP66 (NEMA 7 wall mount explosionproof) units

- Standard outputs A
 - 2 x 0 ... 10 V
 - 2 x 4 ... 20 mA
 - 2 x pulse output
 - 4 x relay C type
- Standard outputs with optional input adder C
 - UniMass capability with 2 x RTD input and
 - 4 x 4 ... 20 mA analog input

IP65 (NEMA 7) compact explosionproof units

- Standard outputs D
 - 1 x 4 ... 20 mA (Loop) and 1 x status (open collector) **per channel**
 - 1 x pulse output for single channel units only
- Standard outputs with optional input adder F
 - UniMass capability with 1 RTD input and
 - 1 x analog input **per channel**
- Standard outputs with Mercury wetted relays and optional input adder Z **J 1 A**
- Extended outputs adder with optional input adder (4 additional 4 ... 20 mA outputs) and form C relay Z **J 1 B**
- Extended outputs adder with optional input adder (4 additional 4 ... 20mA outputs) and Mercury wetted relays Z **J 1 C**
- Standard outputs with Mercury wetted relays Z **J 1 D**

Meter power options

- 90 ... 240 V AC A
- 9 ... 36 V DC (except compact NEMA 7) B
- 9 ... 36 V DC negative GND (compact only) J
- 9 ... 36 V DC positive GND (compact only) K

Communication options

- RS232 (standard) 0
- MODBUS (dedicated only, excludes NEMA 7 compact) 1

RTD temperature sensor

(includes mounting hardware for pipes between 1.5" and 24" outer diameter)

- | | | |
|---|---|-------|
| No RTDs | 0 | |
| 1 x Standard clamp-on RTD | 1 | |
| 2 x Standard clamp-on RTD | 2 | |
| 1 x Submersible clamp-on RTD | 3 | |
| 2 x Submersible clamp-on RTD | 4 | |
| 1 x Insertion style RTD with thermowell and lagging | 9 | N 1 A |
| 2 x Insertion style RTD with thermowell and lagging | 9 | N 1 B |

Selection and Ordering data

SITRANS FUS1010 (Standard)

- IP65 (NEMA 4X) wall mount L) **7ME3530-**
- IP65 (NEMA 7) compact explosionproof L) **7ME3531-**
- IP66 (NEMA 7) wall mount explosionproof L) **7ME3533-**

0 -

Sensor for channel 1

Including pipe mounting tracks for sizes A & B sensors indented for pipe with a OD less than 125 mm (5") and mounting frame/spacer bars for sizes C, D & E sensors. Straps provided are for the indicated maximum OD listed below. Strap kits are available to accommodate larger pipes (refer to spare part list). Refer to "Sensor Selection Charts" for the sensor suitability of pipe size and wall thickness".

- | | | |
|---|--|---|
| no sensor | | A |
| A2 universal | Trackmount and straps provided up to 75 mm (3") | B |
| B3 universal | Trackmount and straps provided up to 125 mm (5") | C |
| C3 universal | Mounting frame and straps provided up to 300 mm (13") | D |
| D3 universal | Mounting frame and straps provided up to 600 mm (24") | E |
| E2 universal | Mounting frame and straps provided up to 1200 mm (48") ¹⁾ | F |
| For the following A1H to D4H sensors, temperature range is -40 °C to 65 °C (-41 °F to 150 °F), nominal 21 °C (70 °F): | | |
| A2H (high precision) | Trackmount and straps provided up to 75 mm (3") | H |
| A3H (high precision) | Trackmount and straps provided up to 75 mm (3") | J |
| B1H (high precision) | Trackmount and straps provided up to 125 mm (5") | K |
| B2H (high precision) | Trackmount and straps provided up to 125 mm (5") | L |
| C1H (high precision) | Mounting frame and straps provided up to 1200 mm (48") | M |
| C2H (high precision) | Mounting frame and straps provided up to 1200 mm (48") | N |
| D1H (high precision) | Mounting frame and straps provided up to 1200 mm (48") ²⁾ | P |
| D2H (high precision) | Mounting frame and straps provided up to 1200 mm (48") ²⁾ | Q |
| D4H (high precision) | Mounting frame and straps provided up to 1200 mm (48") ²⁾ | R |
| Doppler | to 12" with strap kit (not for IP65 (NEMA 7)) | S |

¹⁾ Supplied spacer bar supports pipes up to 1050 mm (42 inches). For pipes larger than 1050 mm (42 inches) purchase also, spare part 7ME3960-OMS40 (1012BN-4)

²⁾ Supplied spacer bar supports pipes up to 750 mm (30 inches). For pipes larger than 750 mm (30 inches) purchase also, spare part 7ME3960-OMS40 (1012BN-4)

L) Subject to export regulations AL: N, ECCN: 5A991X.

Flow Measurement

SITRANS F US Clamp-on

SITRANS FUS1010 (Standard)

Selection and Ordering data		Order No.	Ord. code	Selection and Ordering data		Order No.	Ord. code
SITRANS FUS1010 (Standard)				SITRANS FUS1010 (Standard)			
• IP65 (NEMA 4X) wall mount	L)	7ME3530-		• IP65 (NEMA 4X) wall mount	L)	7ME3530-	
• IP65 (NEMA 7) compact explosionproof	L)	7ME3531-		• IP65 (NEMA 7) compact explosionproof	L)	7ME3531-	
• IP66 (NEMA 7) wall mount explosionproof	L)	7ME3533-		• IP66 (NEMA 7) wall mount explosionproof	L)	7ME3533-	
0 -				0 -			
Sensor for channel 1 (continued)				Sensor for channel 2 (continued)			
High temperature sensor size 2 for up to 230 °C (446 °F) (30 to 200 mm diam. (1.18 to 7.67 inch diam.))		Z	P 1 A	C2H (high precision) Mounting frame and straps provided up to 1200 mm (48")		N	
High temperature sensor size 3 for up to 230 °C (446 °F) (150 to 610 mm diam. (5.90 to 24 inch diam.))		Z	P 1 B	D1H (high precision) Mounting frame and straps provided up to 1200 mm (48") ²⁾		P	
High temperature sensor size 4 for up to 230 °C (446 °F) (400 to 1200 mm diam. (15.75 to 47.25 inch diam.))		Z	P 1 C	D2H (high precision) Mounting frame and straps provided up to 1200 mm (48") ²⁾		Q	
For the following B1H to D4H sensors, temperature range is -1 °C up to 104 °C (30 °F up to 220 °F), nominal 65 °C (150 °F):				D4H (high precision) Mounting frame and straps provided up to 1200 mm (48") ²⁾		R	
B1H (high temperature range HP)		Z	P 1 K	Doppler to 12" with strap kit (not for IP65 (NEMA 7))		S	
B2H (high temperature range HP)		Z	P 1 L	High temperature sensor size 2 for up to 230 °C (446 °F) (30 to 200 mm diam. (1.18 to 7.67 inch diam.))		Z	Q 1 A
C1H (high temperature range HP)		Z	P 1 M	High temperature sensor size 3 for up to 230 °C (446 °F) (150 to 610 mm diam. (5.90 to 24 inch diam.))		Z	Q 1 B
C2H (high temperature range HP)		Z	P 1 N	High temperature sensor size 4 for up to 230 °C (446 °F) (400 to 1200 mm diam. (15.75 to 47.25 inch diam.))		Z	Q 1 C
D1H (high temperature range HP) ²⁾		Z	P 1 P	For the following B1H to D4H sensors, temperature range is -1 °C up to 104 °C (30 °F up to 220 °F), nominal 65 °C (150 °F):			
D2H (high temperature range HP) ²⁾		Z	P 1 Q	B1H (high temperature range HP)		Z	Q 1 K
D4H (high temperature range HP) ²⁾		Z	P 1 R	B2H (high temperature range HP)		Z	Q 1 L
Sensor for channel 2				C1H (high temperature range HP)		Z	Q 1 M
(includes pipe mounting kit for indicated max. OD listed)				C2H (high temperature range HP)		Z	Q 1 N
See "Sensor selection charts" for specifications.				D1H (high temperature range HP) ²⁾		Z	Q 1 P
no sensor		A		D2H (high temperature range HP) ²⁾		Z	Q 1 Q
A2 universal Trackmount and straps provided up to 75 mm (3")		B		D4H (high temperature range HP) ²⁾		Z	Q 1 R
B3 universal Trackmount and straps provided up to 125 mm (5")		C		Approvals			
C3 universal Mounting frame and straps provided up to 300 mm (13")		D		FM/CSA, CE		1	
D3 universal Mounting frame and straps provided up to 600 mm (24")		E		ATEX, CE, C-TICK		2	
E2 universal Mounting frame and straps provided up to 1200 mm (48") ¹⁾		F		INMETRO (Brazil)		3	
For the following A1H to D4H sensors, temperature range is -40 °C to 65 °C (-41 °F to 150 °F), nominal 21 °C (70 °F):				1) Supplied spacer bar supports pipes up to 1050 mm (42 inches). For pipes larger than 1050 mm (42 inches) purchase also, spare part 7ME3960-0MS40 (1012BN-4).			
A2H (high precision) Trackmount and straps provided up to 75 mm (3")		H		2) 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).			
A3H (high precision) Trackmount and straps provided up to 75 mm (3")		J		L) Subject to export regulations AL: N, ECCN: 5A991X.			
B1H (high precision) Trackmount and straps provided up to 125 mm (5")		K					
B2H (high precision) Trackmount and straps provided up to 125 mm (5")		L					
C1H (high precision) Mounting frame and straps provided up to 1200 mm (48")		M					

Flow Measurement

SITRANS F US Clamp-on

SITRANS FUS1010 (Standard)

Selection and Ordering data

Order code

Further designs

Please add **"-Z"** to Order No. and specify Order code(s).

Cable assembly for sensors (add for No. of channels)
See "Sensor cable selection chart"

K..

Cable assembly for RTDs (add for No. of RTDs)
See "RTD cable selection chart"

R..

Cable termination kit (for one cable pair)

- Termination for standard, plenum and armored sensor cable **T01**
- Termination for submersible sensor cable **T11**
- RTD cable termination kit for standard RTD **T21**
- RTD cable termination kit for submersible RTD **T31**
- Insert RTD cable termination kit **T41**

Languages (Meter and Documentation),
English (default)

- German **B10**
- French **B12**
- Spanish **B13**
- Italian **B14**

Wet flow transfer calibration (priced on request)

6 point calibration 2/water (Price per channel)

- 2SS40 pipe **D01**
- 3CS40 pipe **D02**
- 4CS40 pipe **D03**
- 4SS40 pipe **D04**
- 6CS40 pipe **D05**
- 6SS40 pipe **D06**
- 6CS120 pipe **D07**
- 8CS40 pipe **D08**
- 8SS40 pipe **D09**
- 8CS120 pipe **D10**
- 10CS Standard pipe **D11**
- 10CS40 pipe **D12**
- 10SS40 pipe **D13**
- 12CS Standard pipe **D14**
- 12CS40 pipe **D15**
- 14CS30 pipe **D16**
- 14CS40 pipe **D17**
- 16CS Standard pipe **D18**
- 16CS40 pipe **D19**
- 18CS Standard pipe **D20**
- 20CS20 pipe **D21**
- 20CS30 pipe **D22**
- 24CS Standard pipe **D23**
- 24CS20 pipe **D24**
- 24CS30 pipe **D25**
- 30CS Standard pipe **D26**
- 36CS Standard pipe **D27**
- Other pipe, other liquid, additional points, witness **Y28**

Tag name plate

- Stainless steel tag with 3.2 mm (0.13 inch) character size (68 characters max.) **Y19**

Operating Instructions for SITRANS FUS1010

Order No.

English NEMA 4X wall mount & NEMA 7 wall mount explosionproof **A5E02951520**

German NEMA 4X & wall mount NEMA 7 wall mount explosionproof **A5E02951532**

NEMA 7 compact explosionproof **CQ0:1010XFM-3**

This device is shipped with a Quick Start guide and a CD containing further SITRANS F literature.

All literature is also available for free at:

<http://www.siemens.com/flowdocumtenion>

MLFB example

Application example

A clamp-on meter is required for a 12" carbon steel jet fuel line, with a wall thickness of 12.7 mm (0.5"). Meter electronics are to be located in a Class I Div 2 area only 18 m (60 ft) from the pipeline. 12 V DC power is available at the site.

Dual path operation is desired for improved accuracy and redundant measurement.

MLFB Order No.: **7ME3530-2AB00-0QQ1-Z**
K03 + K03

Selection and Ordering data

Order No.

Ord. code

SITRANS FUS1010 meter family

IP65 (NEMA 4X) enclosure

Dual Path

Standard I/O option

9 ... 36 V DC power option

RS232 Standard

No RTD required

Sensor code for path 1

Sensor code for path 2

FM approval required

30 m (100 ft) sensor cable for path 1

30 m (100 ft) sensor cable for path 2

Order No.	Ord. code
7ME3530	
-	
0	
2	
A	
B	
0	
Q	
Q	
1	
	K 0 3
	K 0 3

Universal sensor selection chart

Based on pipe size (pipes other than steel)

Sensor	Order Code	Outer diameter range (mm)		Outer diameter range (inches)	
		min.	max.	min.	max.
A2	B	12.7	50.8	0.5	2
B3	C	19	127	0.75	5
C3	D	51	305	2	12
D3	E	203	610	8	24
E2	F	254	6 096	10	240

High precision sensor selection chart

Based on pipe wall thickness (steel pipes only)

Sensor	Order Code	Pipe wall (mm)		Pipe wall (inches)	
		min.	max.	min.	max.
A1H	G	0.64	1.02	0.025	0.04
A2H	H	1.02	1.52	0.04	0.06
A3H	J	1.52	2.03	0.06	0.08
B1H	K	2.03	3.05	0.08	0.12
B2H	L	3.05	4.06	0.12	0.16
C1H	M	4.06	5.84	0.16	0.23
C2H	N	5.84	8.13	0.23	0.32
D1H	P	8.13	11.18	0.32	0.44
D2H	Q	11.18	15.75	0.44	0.62
D4H	R	15.75	31.75	0.62	1.25

Sensor cable selection chart

Sensor cable codes for length and type options				
Cable length m (ft)	Standard (PVC jacket) -40...+80 °C (-40...+176 °F)	Submersible (polyethylene jacket) -40...+80 °C (-40...+176 °F)	Plenum Rated (teflon jacket) -40...+200 °C (-40...+392 °F)	Armored -40...+80 °C (-40...+176 °F)
Order code				
6 (20)	K01 ¹⁾	K11	K21	K31
15 (50)	K02 ¹⁾	K12 ¹⁾	K22	K32 ¹⁾
30 (100)	K03 ¹⁾	K13 ¹⁾	K23	K33
46 (150)	K04 ¹⁾	K14	K24	K34
61 (200)	K05	K15	K25	K35
91 (300)	K06 ¹⁾	K16	K26	K36

RTD cable selection chart

RTD cable codes for length and type		
Cable length m (ft)	Standard (teflon wrapped) -40 ... +200 °C (-40 ... +392 °F)	Submersible (extruded jacket) -40 ... +200 °C (-40 ... +392 °F)
Order code		
6 (20)	R01 ¹⁾	R11
15 (50)	R02 ¹⁾	R12
30 (100)	R03 ¹⁾	R13
46 (150)	R04	R14
61 (200)	R05	R15
91 (300)	R06	R16

¹⁾ Standard MLFB for quick delivery