

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

Selection and Ordering data		Order No.										Order code																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
SITRANS FUS1010 (Standard)		7	M	E	3	5	3	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									

Selection and Ordering data		Order No.										Order code									
SITRANS FUS1010 (Standard)		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	Q1P
Approvals																					
FM/CSA, CE (default)																				1	
ATEX, CE, C-TICK																				2	

- 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)
- 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)

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.

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 • IP65 (NEMA 7) compact explosionproof • IP66 (NEMA 7) wall mount explosionproof			• IP65 (NEMA 4X) wall mount • IP65 (NEMA 7) compact explosionproof • IP66 (NEMA 7) wall mount explosionproof		
	7ME3530-			7ME3530-	
	7ME3531-			7ME3531-	
	7ME3533-			7ME3533-	
		0 -			0 -
Number of channels/ultrasonic paths			RTD temperature sensor		
Single channel	1		(includes mounting hardware for pipes between 1.5" and 24" outer diameter)		
Dual channel/Dual path	2		No RTDs	0	
Special: Four channel/Four path (NEMA 4X wall mount and NEMA 7 wall mount explosionproof only)	9	H 1 A	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	
Flowmeter functions and I/O configurations			1 x Insertion style RTD with thermowell and lagging	9	N 1 A
includes graphic or digital display and Reflexor capability for all except IP65 (NEMA 7) compact units			2 x Insertion style RTD with thermowell and lagging	9	N 1 B
<u>IP65 (NEMA 4X) wall mount and IP66 (NEMA 7 wall mount explosionproof) units</u>			Sensor for channel 1		
• Standard outputs - 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 - UniMass capability with 2 x RTD input and - 4 x 4 ... 20 mA analog input	A		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".		
<u>IP65 (NEMA 7) compact explosionproof units</u>			no sensor		A
• Standard outputs - 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 - UniMass capability with 1 RTD input and - 1 x analog input per channel • Extended outputs adder with optional input adder (4 additional 4 ... 20 mA outputs) and form C relay	C		A2 universal Trackmount and straps provided up to 75 mm (3")	B	
	D		B3 universal Trackmount and straps provided up to 125 mm (5")	C	
	F		C3 universal Mounting frame and straps provided up to 300 mm (13")	D	
	Z	J 1 B	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	
Meter power options			For the following A1H to D4H sensors, temperature range is -40 °C ... 65 °C		
90 ... 240 V AC	A		A2H (high precision) Trackmount and straps provided up to 75 mm (3")	H	
9 ... 36 V DC (except compact NEMA 7)	B		A3H (high precision) Trackmount and straps provided up to 75 mm (3")	J	
9 ... 36 V DC negative GND (compact only)	J		B1H (high precision) Trackmount and straps provided up to 125 mm (5")	K	
9 ... 36 V DC positive GND (compact only)	K		B2H (high precision) Trackmount and straps provided up to 125 mm (5")	L	
Communication options			C1H (high precision) Mounting frame and straps provided up to 1200 mm (48")	M	
RS 232 (standard)	0		C2H (high precision) Mounting frame and straps provided up to 1200 mm (48")	N	
Standard MODBUS configurations include Baudrate: 9600, Parity: None, Stop Bits: 1, Data bits: 8, MODBUS data: 16 bit, Data format: word normal, Mode: RTU, and MODBUS format: Gould.			D1H (high precision) Mounting frame and straps provided up to 1200 mm (48") ²⁾	P	
For other configurations please select option 9 and L1Y and state requirements in plain text.			D2H (high precision) Mounting frame and straps provided up to 1200 mm (48") ²⁾	Q	
MODBUS (excludes compact) for Single channel systems	1		D4H (high precision) Mounting frame and straps provided up to 1200 mm (48") ²⁾	R	
MODBUS (excludes compact) for Dual channel systems	2		Doppler to 12" with strap kit (not for IP65 (NEMA 7))	S	
MODBUS (excludes compact) for Dual path systems	3				
MODBUS (excludes compact) for Four channel systems	4				
MODBUS (excludes compact) for Four path systems	5				
Other Version,MODBUS, N2, Other Baud Rate, Other Parity, State in Plain Text	9				

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)

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					• IP65 (NEMA 4X) wall mount				
• IP65 (NEMA 7) compact explosionproof					• IP65 (NEMA 7) compact explosionproof				
• IP66 (NEMA 7) wall mount explosionproof					• IP66 (NEMA 7) wall mount explosionproof				
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") ^{e2)}		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					
C1H (high temperature range HP)			Z	P 1 M	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	
C2H (high temperature range HP)			Z	P 1 N					
D1H (high temperature range HP) ²⁾			Z	P 1 P	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	
D2H (high temperature range HP) ²⁾			Z	P 1 Q					
D4H (high temperature range HP) ²⁾			Z	P 1 R	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	
Sensor for channel 2					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):				
(includes pipe mounting kit for indicated max. OD listed)					B1H (high temperature range HP)			Z	Q 1 K
See "Sensor selection charts" for specifications.					B2H (high temperature range HP)			Z	Q 1 L
no sensor			A		C1H (high temperature range HP)			Z	Q 1 M
A2 universal Trackmount and straps provided up to 75 mm (3")			B		C2H (high temperature range HP)			Z	Q 1 N
B3 universal Trackmount and straps provided up to 125 mm (5")			C		D1H (high temperature range HP) ²⁾			Z	Q 1 P
C3 universal Mounting frame and straps provided up to 300 mm (13")			D		D2H (high temperature range HP) ²⁾			Z	Q 1 Q
D3 universal Mounting frame and straps provided up to 600 mm (24")			E		D4H (high temperature range HP) ²⁾			Z	Q 1 R
E2 universal Mounting frame and straps provided up to 1200 mm (48") ¹⁾			F		Approvals				
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):					FM/CSA, CE			1	
A2H (high precision) Trackmount and straps provided up to 75 mm (3")			H		ATEX, CE, C-TICK			2	
A3H (high precision) Trackmount and straps provided up to 75 mm (3")			J		INMETRO (Brazil)			3	
B1H (high precision) Trackmount and straps provided up to 125 mm (5")			K		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).				
B2H (high precision) Trackmount and straps provided up to 125 mm (5")			L		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).				
C1H (high precision) Mounting frame and straps provided up to 1200 mm (48")			M						

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) for compact NEMA 7 only	
• 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	CQO: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/flowdocumenion>

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	7 ME 3 5 3 -	0 -
IP65 (NEMA 4X) enclosure		0
Dual Path		2
Standard I/O option		A
9 ... 36 V DC power option		B
RS 232 Standard		0
No RTD required		0
Sensor code for path 1		Q
Sensor code for path 2		Q
FM approval required		1
30 m (100 ft) sensor cable for path 1		K 0 3
30 m (100 ft) sensor cable for path 2		K 0 3

Universal sensor selection chart IP68

Based on pipe size (pipes other than steel)					
Sensor	Order Code	Outer diameter range (mm)		Outer diameter range (inches)	
Pipe size		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 IP68

Based on pipe wall thickness (steel pipes only)					
Sensor	Order Code	Pipe wall (mm)		Pipe wall (inches)	
Pipe wall		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 (pair) selection chart

Sensor cable codes for length and type options				
Cable length m (ft)	Standard (PVC jacket)	Submersible (polyethylene jacket)	Plenum Rated (teflon jacket)	Armored
	-40...+80 °C (-40...+176 °F)	-40...+80 °C (-40...+176 °F)	-40...+200 °C (-40...+392 °F)	-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 (single) selection chart

RTD cable codes for length and type		
Cable length m (ft)	Standard (teflon wrapped)	Submersible (extruded jacket)
	-40 ... +200 °C (-40 ... +392 °F)	-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