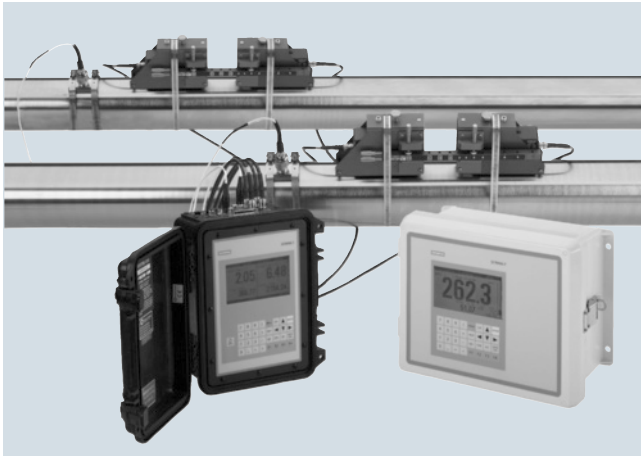


Flow Measurement

SITRANS F US Clamp-on

SITRANS FUE1010 (Energy)

Overview



SITRANS FUE1010 is a highly accurate clamp-on non-intrusive ultrasonic flow transmitter for revenue grade thermal energy sub-metering and energy efficiency distribution monitoring, with a real time coefficient of performance (COP) for HVAC systems.

SITRANS FUE1010 is available in single and dual channel or dual path configurations, with your choice of IP65 (NEMA 4X) dedicated wall mount or IP40 (NEMA 1) portable enclosures.

Benefits

- Measures energy rate and total consumption with highest accuracy available
- Accurately measures at both low flow rates and low differential temperatures
- 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 or dual channel/dual path or dual mode operation:
 - Dual channel operation reduces the cost for the system on a per channel measurement basis and permits measuring hot and chilled water lines at the same time
 - Dual path capability insures high flow measurement accuracy on installations with less than desirable piping runs
- Ability to operate in either Wide-Beam Transit-time or reflexor (Doppler) mode for applications with high aeration
- ZeroMatic Path automatically sets zero without stopping flow and reduces zero drift, even at low flow

Application

SITRANS FUE1010 is ideally suited to thermal energy/power industry applications, including:

- Chilled water sub-metering
- Hot water sub-metering
- Condenser water
- Glycol
- Thermal storage
- Lake source cooling

Design

SITRANS FUE1010 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
- IP40 (NEMA 1) Portable impact resistant enclosure constructed of mineral reinforced copolymer polypropylene
 - Dual channel/dual path

Function

- Flow transmitter has an integral 33 button keypad and large (128 x 240 pixel) graphic display visible up to 12 m (40 ft) away
- 4-wire 1000 Ω platinum RTD's for supply and return temperature measurements are precision matched to within 0.01 $^{\circ}\text{C}$ (0.02 $^{\circ}\text{F}$)
- Temperature is factory calibrated with built-in field calibrator.
- Built-in energy/BTU mode
- Detection of aeration and cavitation caused by worn or damaged impellers, misaligned shafts, etc.
- Reverse flow and empty pipe detection
- Chiller efficiency analysis: accepts an independent analog input representing kW usage for calculation of the following functions which can be selected for data logging or output purposes:
 - Cooling load (kW/ton)
 - Coefficient of performance (COP)
 - Energy efficiency ratio (EER)
- Optional current inputs
- Digital communication options:
 - HART, BACnet MSTP/BACnet IP, Modbus RTU & TCP/IP, Ethernet IP, Johnson N2 (IP65, NEMA 4X only)
 - VT100 RS 232 serial communications (Portable and NEMA 4X)
- ZeroMatic Path automatically sets zero
- Bi-directional flow operation
- 1 MByte data logger with both site and data logger storage
- English, Spanish, German, Italian and French language options

Technical specifications

Input		Indication and operation	
Flow range	0 ... 12 m/s (0 ... 40 ft/s), bi-directional	Data logger memory	1 Mbyte of storage
Flow sensitivity	0.0003 m/s (0.001 ft/s)	Display	128 x 240 pixel LCD with back-light
Pipe size	6.4 mm ... 9.14 m (0.25" ... 360")	Keypad	33 keypad buttons with tactile feedback
Inputs per channel	<ul style="list-style-type: none"> • Current: 20 mA • Temperature: 4 wire 1 kΩ RTD • Totalizer commands (clear/hold) 	Language options	English, Spanish, German, Italian, French
Output		Certificates and approvals	
Standard outputs	<ul style="list-style-type: none"> • Current: 20 mA DC (1 kΩ at 30 V DC) • Voltage: 10 V DC (5 kΩ minimum) • Status Alarm: SPDT Relays • Form C relays • Pulse rate: 5 kHz • VT100 RS 232 	Dedicated enclosures	
Optional outputs	<ul style="list-style-type: none"> • Expanded I/Os (4 additional 4 ... 20 mA outputs) with form C relays • HART, BACnet MSTP/BACnet IP, Modbus RTU & TCP/IP, Ethernet IP, Johnson N2 (IP65, NEMA 4X only) 	FM and CSA ratings	<ul style="list-style-type: none"> • Transmitter NI Class I, Div 2 S Class II, Div 2 • Sensor I.S. Class I, II, Div 1
Accuracy		CE	EMC Directive 2004/108/EC ATEX Directive 94/9/EC
Accuracy	$\pm 0.5\%$... 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)	Portable enclosures	UL ULc
Batch repeatability	$\pm 0.15\%$ 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)	CE	EMC Directive 2004/108/EC ATEX Directive 94/9/EC
Rated operation conditions			
Degree of protection	Wall mount enclosure: IP65 (NEMA 4X) Portable enclosure: IP40 (NEMA 1)		
Liquid temperature			
• Standard	-40 ... +120 °C (-40 ... +250 °F)		
• Optional	-40 ... +230 °C (-40 ... +450 °F)		
Sensor temperature			
• Standard	-40 ... +120 °C (-40 ... +250 °F)		
• Optional	-40 ... +232 °C (-80 ... +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			
Dedicated	90 ... 240 V AC, 50 ... 60 Hz, 30 VA or 9 ... 36 V DC		
Portable enclosure	Rechargeable battery		

Flow Measurement

SITRANS F US Clamp-on

SITRANS FUE1010 (Energy)

Standard MLFB for quick delivery on SITRANS FUE1010 (Energy system)

Selection and Ordering data

Article No.

Order code

SITRANS FUE1010 (Energy)

7ME350 - - 0 + +

➤ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.

Design

Dedicated

IP65 (NEMA 4X) wall mount

0 K02 + K02 + R02

Portable

IP40 (NEMA 1) Battery powered

2 K01 + K01 + R01

Number of channels/ultrasonic paths

Dedicated meters

Single channel

1

Portable meters

Dual channel/Dual path

4

Flowmeter functions and I/O configurations

- Portable Standard I/O
 - Reflexor capability
 - Graphic display
 - 2 x 0 ... 10 V
 - 2 x 4 ... 20 mA
 - 2 x pulse output
 - 4 x status logic
 - Energy efficiency COP/EER output
 - 2 x 4 ... 20 mA analog input

C

- Dedicated Standard I/O
 - Reflexor capability
 - Graphic display
 - 2 x 0 ... 10 V
 - 2 x 4 ... 20 mA
 - 2 x pulse output
 - 4 x relay C type
 - Energy efficiency COP/EER output
 - 2 x 4 ... 20 mA analog input

F

Meter power options

90 ... 240 V AC (Dedicated only)

Charger Type A for Europe (CEE/77)

Charger Type K for U.S. (NEMA 5-15P)

No charger

A
C
G
J

Communication options

VT100 RS 232

0

RTD temperature sensor pair

(includes mounting hardware for pipes above 1.5" outer diameter)

No RTDs (Note: Temperature input is required for Energy systems)

1 x Pair Std clamp-on RTD (NEMA 4X only)³⁾

0

1

2 x Pair Std clamp-on RTD (For Dual Channel NEMA 4X only)³⁾

2

3

1 x Pair Std clamp-on RTD (For NEMA 12 Portable)³⁾

4

9

2 x Pair Std clamp-on RTD (For Dual Channel NEMA 1 Portable)³⁾

9

1 x Insertion RTD with Thermowell and Lagging³⁾

M1A

2 x Insertion RTD with Thermowell and Lagging³⁾

M1B

Sensor for channel 1

(includes pipe mounting kit and spacer bar for indicated max. OD listed)

See "Sensor selection charts" for specifications.

no sensor

- A2 universal Trackmount and straps provided up to 75 mm (3")
- B3 universal Trackmount and straps provided up to 125 mm (5")
- C3 universal⁵⁾ Mounting frame and straps provided up to 300 mm (13")
- D3 universal⁵⁾ Mounting frame and straps provided up to 600 mm (24")
- E2 universal⁵⁾ Mounting frame and straps provided up to 1200 mm (48")¹⁾⁴⁾
- C1H (high precision)⁵⁾ Mounting frame and straps provided up to 600 mm (24")⁴⁾
- C2H (high precision)⁵⁾ Mounting frame and straps provided up to 600 mm (24")⁴⁾
- D1H (high precision)⁵⁾ Mounting frame and straps provided up to 1200 mm (48")⁴⁾
- D2H (high precision)⁵⁾ Mounting frame and straps provided up to 1200 mm (48")⁴⁾
- Doppler to 12" with strap kit (not for IP65 (NEMA7)), for up to 121 °C (250 °F)
- D1H⁵⁾ High temperature range 104 °C/220 °F HP²⁾

A
B
C
D
E
F
M
N
P
Q
S
Z

P1P

3

Selection and Ordering data	Article No.	Order code
SITRANS FUE1010 (Energy)	7ME350 - - 0	+ +
Sensor for channel 2 (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 ⁵⁾ Mounting frame and straps provided up to 300 mm (13")		D
D3 universal ⁵⁾ Mounting frame and straps provided up to 600 mm (24")		E
E2 universal ⁵⁾ Mounting frame and straps provided up to 1200 mm (48") ¹⁾⁴⁾		F
C1H (high precision) ⁵⁾ Mounting frame and straps provided up to 600 mm (24") ⁴⁾		M
C2H (high precision) ⁵⁾ Mounting frame and straps provided up to 600 mm (24") ⁴⁾		N
D1H (high precision) ⁵⁾ Mounting frame and straps provided up to 1200 mm (48") ⁴⁾		P
D4H (high precision) ⁵⁾ Mounting frame and straps provided up to 1200 mm (48") ⁴⁾		R
Doppler to 12" with strap kit (not for IP65 (NEMA7)), for up to 121 °C (250 °F)		S
D1H ⁵⁾ High temperature range 104 °C/220 °F HP ²⁾		Z Q1P
Approvals UL/Portable		0
FM, CSA, CE, Dedicated		1

- 1) Supplied spacer bar supports pipes up to 1050 mm (42 inch). For pipes larger than 1050 mm (42 inch) purchase also, spare part 7ME3960-OMS40 (1012BN-4)
- 2) Supplied spacer bar supports pipes up to 750 mm (30 inch). For pipes larger than 750 mm (30 inch) purchase also, spare part 7ME3960-OMS40 (1012BN-4)
- 3) Requires two R** cables per one RTD pair
- 4) 600 mm (24") for portable systems only
- 5) Made with stainless steel constructions.

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 FUE1010 (Energy)

Selection and Ordering data

SITRANS FUE1010 (Energy)

- Dedicated
IP65 (NEMA 4X) wall mount
- Portable
IP40 (NEMA 1) Battery powered

Article No. **7ME3500-**

Article No. **7ME3502-**

Ord. code **- 0**

➤ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.

Number of channels/ultrasonic paths

Dedicated meter

Dedicated meter

Single channel

1

Dual channel/Dual path

2

Portables

Dual channel/Dual path

4

Flowmeter functions and I/O configurations

- Portable Standard I/O
 - Reflexor capability
 - Graphic display
 - 2 x 0 ... 10 V
 - 2 x 4 ... 20 mA
 - 2 x pulse output
 - 4 x status logic
 - Energy efficiency COP/EER output
 - 2 x 4 ... 20 mA analog input
- Dedicated Standard I/O
 - Reflexor capability
 - Graphic display
 - 2 x 0 ... 10 V
 - 2 x 4 ... 20 mA
 - 2 x pulse output
 - 4 x relay C type
 - Energy efficiency COP/EER output
 - 2 x 4 ... 20 mA analog input
- Extended output adder plus standard inputs (4 additional 4 ... 20 mA outputs) and form C relay

C

F

Z

J 1 B

Meter power options

90 ... 240 V AC (Dedicated only)

9 ... 36 V DC (Dedicated only)

Charger Type A for Europe (CEE7/7)

Charger Type C for Australia (AS3112)

Charger Type D for U.K. (BS1363)

Charger Type J for Japan (JIS8303)

Charger Type K for U.S. (NEMA 5-15P)

Charger Type L for Switzerland (SEV1011)

No Charger

External 4 hours battery with US plug for Portable

External 4 hours battery with European plug for Portable

A

B

C

D

E

F

G

H

J

Z

K 1 A

Z

K 1 B

Communication options

VT100 RS 232

7ME3500 only;

HART, BACnet MSTP/BACnet IP,

Modbus RTU/TCPIP, Ethernet IP, Johnson N2

0

3

Selection and Ordering data

SITRANS FUE1010 (Energy)

- Dedicated
IP65 (NEMA 4X) wall mount
- Portable
IP40 (NEMA 1) Battery powered

Article No. **7ME3500-**

Article No. **7ME3502-**

Ord. code **- 0**

RTD temperature sensor

(includes mounting hardware for pipes above 1.5" outer diameter)

No RTDs (Note: temperature input is required for energy system)

0

1 x pair standard clamp-on RTD (NEMA 4X only)³⁾

1

2 x pair standard clamp-on RTD (for dual channel NEMA 4X only)³⁾

2

1 x pair standard clamp-on RTD (NEMA 1 Portable)³⁾

3

2 x pair standard clamp-on RTD (for dual channel NEMA 1 Portable)³⁾

4

1 x Insertion style RTD with thermowell and lagging³⁾

9

M 1 A

2 x Insertion style RTD with thermowell and lagging³⁾

9

M 1 B

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 universal⁵⁾

Mounting frame and straps provided up to 300 mm (13")

D

D3 universal⁵⁾

Mounting frame and straps provided up to 600 mm (24")

E

E2 universal⁵⁾

Mounting frame and straps provided up to 1200 mm (48")¹⁾⁴⁾

F

For the following A1H to D4H sensors, temperature range is -40 °C ... 65 °C (-41 °F ... 150 °F), nominal 21 °C (70 °F):

For other temperature ranges please see spare parts list.

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

Selection and Ordering data		Article No.	Ord. code	Selection and Ordering data		Article No.	Ord. code
SITRANS FUE1010 (Energy)				SITRANS FUE1010 (Energy)			
• Dedicated IP65 (NEMA 4X) wall mount		7ME3500-		• Dedicated IP65 (NEMA 4X) wall mount		7ME3500-	
• Portable IP40 (NEMA 1) Battery powered		7ME3502-		• Portable IP40 (NEMA 1) Battery powered		7ME3502-	
			- 0				- 0
Sensor for channel 1 (continued)				Sensor for channel 2 (continued)			
B2H (high precision)	Trackmount and straps provided up to 125 mm (5")		L	For the following A1H to D4H sensors, temperature range is -40 °C ... 65 °C (-41 °F ... 150 °F), nominal 21 °C (70 °F):			
C1H (high precision) ⁵⁾	Mounting frame and straps provided up to 600 mm (24") ⁴⁾		M	A2H (high precision)	Trackmount and straps provided up to 75 mm (3")		H
C2H (high precision) ⁵⁾	Mounting frame and straps provided up to 600 mm (24") ⁴⁾		N	A3H (high precision)	Trackmount and straps provided up to 75 mm (3")		J
D1H (high precision) ⁵⁾	Mounting frame and straps provided up to 1200 mm (48") ²⁾⁴⁾		P	B1H (high precision)	Trackmount and straps provided up to 125 mm (5")		K
D2H (high precision) ⁵⁾	Mounting frame and straps provided up to 1200 mm (48") ²⁾⁴⁾		Q	B2H (high precision)	Trackmount and straps provided up to 125 mm (5")		L
D4H (high precision) ⁵⁾	Mounting frame and straps provided up to 1200 mm (48") ²⁾⁴⁾		R	C1H (high precision) ⁵⁾	Mounting frame and straps provided up to 600 mm (24") ⁴⁾		M
Doppler	to 12" with strap kit, for up to 121 °C (250 °F)		S	C2H (high precision) ⁵⁾	Mounting frame and straps provided up to 600 mm (24") ⁴⁾		N
High temperature sensor size 2 for up to 230 °C (446 °F) (30 ... 200 mm diam. (1.18 ... 7.67 inch diam.))		Z	P 1 A	D1H (high precision) ⁵⁾	Mounting frame and straps provided up to 1200 mm (48") ²⁾⁴⁾		P
High temperature sensor size 3 for up to 230 °C (446 °F) (150 ... 610 mm diam. (5.90 ... 24 inch diam.))		Z	P 1 B	D2H (high precision) ⁵⁾	Mounting frame and straps provided up to 1200 mm (48") ²⁾⁴⁾		Q
High temperature sensor size 4 for up to 230 °C (446 °F) (400 ... 1200 mm diam. (15.75 ... 47.25 inch diam.))		Z	P 1 C	D4H (high precision) ⁵⁾	Mounting frame and straps provided up to 1200 mm (48") ²⁾⁴⁾		R
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):				Doppler	to 12" with strap kit, for up to 121 °C (250 °F)		S
B1H (high temperature range HP)		Z	P 1 K	High temperature sensor size 2 for up to 230 °C (446 °F) (30 ... 200 mm diam. (1.18 ... 7.67 inch diam.))		Z	Q 1 A
B2H (high temperature range HP)		Z	P 1 L	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
C1H (high temperature range HP) ⁵⁾		Z	P 1 M	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
C2H (high temperature range HP) ⁵⁾		Z	P 1 N	For the following B1H to D4H sensors, temperature range is -1 °C up to 104 °C (30 °F up ... 220 °F), nominal 65 °C (150 °F):			
D1H (high temperature range HP) ²⁾⁵⁾		Z	P 1 P	B1H (high temperature range HP)		Z	Q 1 K
D2H (high temperature range HP) ²⁾⁵⁾		Z	P 1 Q	B2H (high temperature range HP)		Z	Q 1 L
D4H (high temperature range HP) ²⁾⁵⁾		Z	P 1 R	C1H (high temperature range HP) ⁵⁾		Z	Q 1 M
Sensor for channel 2				C2H (high temperature range HP) ⁵⁾		Z	Q 1 N
(includes pipe mounting kit for indicated max. outer diameter listed) See "Sensor selection charts" for specifications.				D1H (high temperature range HP) ²⁾⁵⁾		Z	Q 1 P
no sensor			A	D2H (high temperature range HP) ²⁾⁵⁾		Z	Q 1 Q
A2 universal	Trackmount and straps provided up to 75 mm (3")		B	D4H (high temperature range HP) ²⁾⁵⁾		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 Dedicated		1	
D3 universal	Mounting frame and straps provided up to 600 mm (24")		E	UL/ULc/CE Portable		0	
E2 universal	Mounting frame and straps provided up to 1200 mm (48") ¹⁾⁴⁾		F				
				1) Supplied spacer bar supports pipes up to 1050 mm (42 inch). For pipes larger than 1050 mm (42 inch) purchase also, spare part 7ME3960-0MS40 (1012BN-4).			
				2) Supplied spacer bar supports pipes up to 750 mm (30 inch). For pipes larger than 750 mm (30 inch) purchase also, spare part 7ME3960-0MS40 (1012BN-4).			
				3) Requires two R** cables per one RTD pair			
				4) 600 mm (24") for portable systems only			
				5) Made with stainless steel construction.			

Flow Measurement

SITRANS F US Clamp-on

SITRANS FUE1010 (Energy)

Selection and Ordering data

Order code

Further designs

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

Cable assembly for sensors (add for # of channels)
See "Sensor cable selection chart"

K..

Cable assembly for RTDs (add for # of RTDs)
See "RTD cable selection chart"

R..

Cable termination kit (for one cable pair) dedicated only

- Termination for standard, plenum and armored sensor cable
- Termination for submersible sensor cable
- RTD cable termination kit for standard RTD
- RTD cable termination kit for submersible RTD
- Insert RTD cable termination kit
- Cable gland kit

T01

T11

T21

T31

T41

T51

Wet flow transfer calibration (priced on request)

6 point calibration 2/water (Price per channel)

- 2SS40 pipe
- 3CS40 pipe
- 4CS40 pipe
- 4SS40 pipe
- 6CS40 pipe
- 6SS40 pipe
- 6CS120 pipe
- 8CS40 pipe
- 8SS40 pipe
- 8CS120 pipe
- 10CS Standard pipe
- 10CS40 pipe
- 10SS40 pipe
- 12CS Standard pipe
- 12CS40 pipe
- 14CS30 pipe
- 14CS40 pipe
- 16CS Standard pipe
- 16CS40 pipe
- 18CS Standard pipe
- 20CS20 pipe
- 20CS30 pipe
- 24CS Standard pipe
- 24CS20 pipe
- 24CS30 pipe
- 30CS Standard pipe
- 36CS Standard pipe
- Other pipe, other liquid, additional points, witness

D01

D02

D03

D04

D05

D06

D07

D08

D09

D10

D11

D12

D13

D14

D15

D16

D17

D18

D19

D20

D21

D22

D23

D24

D25

D26

D27

Y28

Tag name plate

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

Y19

MLFB example

Application example

A dedicated clamp-on energy meter is required for two separate return lines. Both will use clamp-on RTDs for the supply and return lines. AC power is available and data access will be via Modbus communication.

Pipe 1 is a DN150 (6") schedule 40 carbon steel line

Pipe 2 is a DN 300 (12") ductile iron line

MLFB Article No.: **7ME3500-2FA30-2NE0-Z**
K03 + K05 + R03 + R05 + R02 + R03

Selection and Ordering data

Article No.

Ord. code

SITRANS FUE1010 meter family

IP65 (NEMA 4X) enclosure

Dual channel

Dedicated Type 1 I/O option

90 ... 230 V AC power option

Modbus option

2 pairs of clamp-on RTDs

Sensor code for 6" pipe

Sensor code for 12" pipe

No approval required

30 m (100 ft) sensor cable for channel 1

61 m (200 ft) sensor cable for channel 1

30 m (100 ft) cable for RTD 1

61 m (200 ft) cable for RTD 2

15 m (50 ft) cable for RTD 3

30 m (100 ft) cable for RTD 4

Article No.	Ord. code
7ME3500-2FA30-2NE0-Z	
0	
2	
F	
A	
3	
2	
N	
E	
0	
	K 0 3
	K 0 5
	R 0 3
	R 0 5
	R 0 2
	R 0 3

Selection and Ordering data

Order code

Operating Instructions for SITRANS FUE1010

English NEMA 4X Wall mount

A5E03086491

German NEMA 4X Wall mount

A5E03086492

English IP40 NEMA 1 Battery powered

A5E02951524

German IP40 NEMA 1 Battery powered

A5E02951536

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/flowdocumentation>

Universal sensor selection chart IP68

Based on pipe size (all pipe materials)					
Pipe size	Order Code	Outer diameter range (mm)		Outer diameter range (inch)	
		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	6096	10	249

High precision sensor selection chart IP68

Based on pipe wall thickness (steel pipes only)					
Pipe Wall	Order Code	Pipe Wall [mm]		Pipe Wall [inch]	
		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 ¹⁾	M	4.06	5.84	0.16	0.23
C2H ¹⁾	N	5.84	8.13	0.23	0.32
D1H ¹⁾	P	8.13	11.18	0.32	0.44
D2H ¹⁾	Q	11.18	15.75	0.44	0.62
D4H ¹⁾	R	15.75	31.75	0.62	1.25

¹⁾ Made with stainless steel construction.

Sensor cable (single pair) selection chart

Sensor cable codes for length and type options				
Cable length m (ft)	Standard (PVC jacket)	Submersible ¹⁾ (polyethylene jacket)	Plenum Rated (teflon jacket)	Armored ¹⁾
	-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)	K01²⁾	K11	K21	K31
15 (50)	K02	K12²⁾	K22	K32²⁾
30 (100)	K03²⁾	K13²⁾	K23	K33
46 (150)	K04²⁾	K14	K24	K34
61 (200)	K05	K15	K25	K35
91 (300)	K06²⁾	K16	K26	K36

¹⁾ Submersible and armored sensor cable is not available for portable versions.

²⁾ Standard MLFB for quick delivery

RTD cable (single) selection chart

RTD cable codes for length and type		
Cable length m (ft)	Standard (teflon wrapped)	Insert ¹⁾
	-40 ... +200 °C (-40 ... +392 °F)	-40 ... +200 °C (-40 ... +392 °F)
Order code		
6 (20)	R01²⁾	R21
15 (50)	R02²⁾	R22
30 (100)	R03²⁾	R23
46 (150)	R04	R24
61 (200)	R05	R25
91 (300)	R06	R26

¹⁾ Submersible RTD cable is not available for portable versions.

²⁾ Standard MLFB for quick delivery