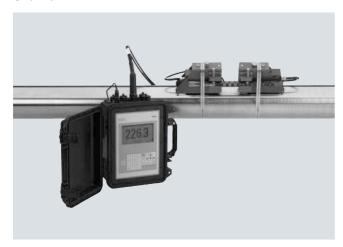
SITRANS FUP1010 (portable)

Overview



SITRANS FUP1010 clamp-on non-intrusive ultrasonic flow transmitter offers maximum versatility plus battery power for portable field use. It can operate in either WideBeam transit time or reflexor (Doppler) mode, making it suitable for virtually any liquid, even those with high aeration or suspended solids.

SITRANS FUP1010 is available in single and dual channel or dual path configurations, with IP67 weatherproof enclosure.

Benefits

- Battery power facilitates field use; the meter is easily transported from one installation to another – saving time for surveys, monitoring and temporary installations
- Weatherproof enclosure can be used outdoors and left in place without concern for rain damage
- Rugged plastic case enables it to withstand rough treatment that would destroy most other meters
- 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 wear or foul
- No pressure drop or energy loss
- Wide turn-down ratio
- · Choice of single or dual channel models minimizes total cost
- ZeroMatic Path automatically sets zero without stopping flow and reduces zero drift, even at low flow
- Note that the FUP1010 flow transmitter is not available with hazardous area approvals

Application

FUP1010 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
 - Thermal energy rate and total
- Power industry
 - Nuclear
 - Fossil
 - Hydroelectric
- Processing industry
 - Process control
 - Batching
 - Rate indication
 - Volumetric and mass measurement

Design

- IP67 Weatherproof / Impact resistant enclosure constructed of mineral reinforced copolymer polypropylene
 - Single channel
 - Dual channel / dual path

Function

- Integral 33 button keypad and large (128 x 240 pixel) graphic display visible up to 12 m (40 ft) away
- Current, voltage, 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
- Bi-directional flow operation
- 1 MByte data logger with both site and data logger storage
- English, spanish, german, italian and french language options

SITRANS FUP1010 (portable)

Input	
Flow range	± 12 m/s (± 40 ft/s), bidirectio
Pipe size	6.4 mm 9.14 m (0.25" 3
Inputs, single channel	• Current: 2 x 4 20 mA DC
single charmer	• Voltage: 2 x 0 10 V DC
	 Temperature: 2 x 4 wire 1 ks RTD
Output	
Outputs	• Current: 2 x 4 20 mA DC
	(1 kΩ at 30 V DC)
	 Voltage: 2 x 0 10 V DC (5 kΩ minimum)
	• Status Alarm: 4 x SPDT Rela
	• Frequency: 2 x 0 5000 H.
	• RS232
Accuracy	
Accuracy	± 0.5% 2% of flow, for velocities greater than 0.3
	(1 ft/s) ± 0.0015 0.006 m/s
	(± 0.005 0.02 ft/s),
	for velocities less than 0.3 m/s (1 ft/s)
Batch repeatability	± 0.15% of flow,
Daton ropoutability	for velocities greater than 0.3
	(1 ft/s) ± 0.0005 m/s (± 0.0015 ft/s),
	for velocities less than 0.3 m/s (1 ft/s)
Rated operation conditions	
Degree of protection	
Weatherproof/impact resistant	• IP67
Liquid temperature	
 Standard 	-40 +120 °C (-40 +250
Optional	-40 +230 °C (-40 +450 °
Ambient temperature	-18 +60 °C (0 140 °F)
Design	
Dimensions	see SITRANS F US Clamp-on
	"System info and selection gu
Weight	see diagrams
Power supply	
Power	Internal rechargeable battery
Battery operation	7 hours
Indication and operation	4 MD: +-
Data logger memory	1 MByte
Site storage memory	50 sites minimum
Display	128 x 240 pixel LCD with bac light
Keypad	33 keypad buttons with tactile feedback
Language options	English, spanish, german, ital french
Certificates and approvals	
Unclassified locations	UL ULc
Classified locations	

SITRANS FUP1010 (portable)

Standard MLFB for quick delivery on SITRANS FUP1010 Portables (excluding energy)

Selection and Ordering data Order No. On SITRANS FUP1010 Portable clamp-on IP67 Weather proof battery powered Number of channels/ultrasonic paths Single channel pual channel/Dual path Standard flowmeter types and I/O configurations Standard I/O CAN A analog in CAN A REPORT CAN A STANDARD CONTRACT CAN A STANDARD CONTRACT CAN A STANDARD CAN A STA	
IP67 Weather proof battery powered Number of channels/ultrasonic paths Single channel Dual channel/Dual path Standard flowmeter types and I/O configurations Standard I/O - 2 x 4 20 mA analog in	0
Number of channels/ultrasonic paths Single channel Dual channel/Dual path Standard flowmeter types and I/O configurations • Standard I/O - 2 x 4 20 mA analog in	0
Number of channels/ultrasonic paths Single channel Dual channel/Dual path Standard flowmeter types and I/O configurations • Standard I/O - 2 x 4 20 mA analog in	0
Number of channels/ultrasonic paths Single channel Dual channel/Dual path Standard flowmeter types and I/O configurations • Standard I/O - 2 x 4 20 mA analog in	0
Single channel Dual channel/Dual path Standard flowmeter types and I/O configurations Standard I/O 2 C C 2 x 4 20 mA analog in	
Dual channel/Dual path Standard flowmeter types and I/O configurations • Standard I/O - 2 x 4 20 mA analog in	
Standard flowmeter types and I/O configurations • Standard I/O	
configurations • Standard I/O - 2 x 4 20 mA analog in	
- 2 x 4 20 mA analog in	
- 2 X NTD IIIput	
On a superblane	
Sensor cables No sensor cable	
1 x PVC Jacket cable, length 6 m/20 ft	
2 x PVC Jacket cable, length 6 m/20 ft	
1 x PVC Jacket cable, length 15 m/50 ft	
2 x PVC Jacket cable, length 15 m/50 ft	
RTD temperature Sensor	
(Mounting hardware & cable included) No RTDs 0	
1 x standard clamp-on RTD, 6 m/20 ft cable 5	
2 x standard clamp-on RTD with 6 m/20 ft cable 6	
1 x standard clamp-on RTD with 15 m/50 ft cable 7	
2 x standard clamp-on RTD with 15 m/50 ft cable	
Battery charger options	
No battery charger 0	
Charger Type A for Europe (CEE7/7) 1 Charger Type C for U.S. (NEMA 5, 1ED)	
Charger Type G for U.S. (NEMA 5-15P) 5	
Sensor for channel 1 (includes pipe mounting kit and spacer bar	
for indicated max. outer diameter listed)	
See "Sensor selection charts" for specifications.	
no sensor A A2 universal Trackmount and straps B	
provided up to	
75 mm (3")	
B3 universal Trackmount and straps provided up to	
125 mm (5")	
C3 universal Mounting frame and straps provided up to	
300 mm (13")	
D3 universal Mounting frame and	
straps provided up to 600 mm (24")	
E2 universal Mounting frame and F	
straps provided up to 600 mm (24")	
C1H (high precision) Mounting frame and M	
straps provided up to	
600 mm (24") C2H (high precision) Mounting frame and N	
straps provided up to	
600 mm (24")	
D1H (high precision) Mounting frame and straps provided up to	
600 mm (24")	
D4H (high precision) Mounting frame and straps provided up to	
600 mm (24")	
Doppler to 12" with strap kit (not for ID65 (NICMA 7))	
(not for IP65 (NEMA 7)) D1H High temperature range Z	P 1 P
104 °C/ 220 °F HP ²)	, , ,

Selection and Order	ing data	Order No.	Orde	r Code
SITRANS FUP1010 F	Portable clamp-on			
IP67 Weather proof powered	battery L)	7ME3510-		
		- 0	0	
for indicated max. out	ng kit and spacer bar		Ī	
no sensor			Α	
A2 universal	Trackmount and straps provided up to 75 mm (3")		В	
B3 universal	Trackmount and straps provided up to 125 mm (5")		С	
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 600 mm (24")		F	
C1H (high precision)	Mounting frame and straps provided up to 600 mm (24")		M	
C2H (high precision)	Mounting frame and straps provided up to 600 mm (24")		N	
D1H (high precision)	Mounting frame and straps provided up to 600 mm (24")		Р	
D2H (high precision)	Mounting frame and straps provided up to 600 mm (24")		Q	
Doppler	to 12" with strap kit (not for IP65 (NEMA 7))		S	
D1H	High temperature range 104 °C / 220 °F HP ²)		Z	Q1P

Approvals: No options (UL, ULc, CE by default)

Standard MLFB product offering represents 4 to 6 weeks delivery time L) Subject to export regulations AL: N, ECCN: 3A991X

SITRANS FUP1010 (portable)

Soloation and Ordering data	Order No.	Ord and
Selection and Ordering data	Order No.	Ord. code
SITRANS FUP1010 Portable clamp-on	71450540	
• IP67 weather proof battery powered L)	7ME3510-	
	- 0	0
Number of channels/ultrasonic paths		
Single channel Dual channel/Dual path	1 2	
·	- 4	
Standard flowmeter types and I/O configurations		
Standard I/O	С	
- Reflexor capable		
- Graphic display - 2 x 0 10 V		
- 2 x 4 20 mA		
- 2 x pulse outputs		
4 x status logic2 x 4 20 mA analog in		
- 1 x RTD per channel		
Sensor cables		
(select proper quantity of active channels)		
No sensor cable	A	
IP67 (weather proof) only	В	
1 x PVC-jacket, length 6 m (20 ft) (for IP67 NEMA 6) ²⁾	В	
2 x PVC-jacket, length 6 m (20 ft) (for IP67 NEMA 6) ²⁾	С	
1 x PVC-jacket, length 15 m (50 ft) (for IP67 NEMA 6) ²⁾	D	
2 x PVC-jacket, length 15 m (50 ft)	E	
(for IP67 NEMA 6) ²⁷		
RTD temperature sensor (for type 3 motor only mounting hardware and		
(for type 3 meter only, mounting hardware and cable included)		
No RTDs	0	
IP67 (weather proof) only		
1 x standard clamp-on RTD (NEMA 6) with 6 m (20 ft) cable 1)	5	
	6	
2 x standard clamp-on RTD (NEMA 6) with 6 m (20 ft) cable ¹⁾		
1 x standard clamp-on RTD (NEMA 6) with 15 m (50 ft) cable ¹⁾	7	
2 x standard clamp-on BTD (NEMA 6) with	8	
15 m (50 ft) cable ¹⁾		
Battery charger options		
no battery charger	0	
Charger Type A for Europe (CEE7/7)	1	
Charger Type C for Australia (AS3112)	2	
Charger Type D for U.K. (BS1363)	3	
Charger Type J for Japan (JIS8303) Charger Type G for U.S. (NEMA 5-15P)	4 5	
Charger Type L for Switzerland (SEV1011)	6	

Selection and Order	Order No.	Ord. code				
	• IP67 weather proof battery powered L)					
• IP67 weather proof i	pattery powered L	7ME3510-				
Sensor for channel 1 Including pipe mounting sensors indented for p 125 mm (5") and mour for sizes C, D & E sens for the indicated maxim Strap kits are available pipes (refer to spare poselection Charts" for the pipe size and wall thick	- 0					
no sensor			Α			
A2 universal	Trackmount and straps provided up to 75 mm (3")		В			
B3 universal	Trackmount and straps provided up to 125 mm (5")		С			
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 600 mm (24")		F			
For the following A1H perature range is -40 (-41 °F to 150 °F), nor	°C to 65 °C					
A2H (high precision)	Trackmount and straps provided up to 75 mm (3")		Н			
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 600 mm (24")		М			
C2H (high precision)	Mounting frame and straps provided up to 600 mm (24")		N			
D1H (high precision)	Mounting frame and straps provided up to 600 mm (24")		P			
D2H (high precision)	Mounting frame and straps provided up to 600 mm (24")		Q			
D4H (high precision)	Mounting frame and straps provided up to 600 mm (24")		R			
Doppler	to 12" with chain kit		S			
High temperature sen up to 230 °C (446 °F) (1.18 to 7.67 inch diar		Z P1A				
High temperature sen up to 230 °C (446 °F) (5.90 to 24 inch diam.		Z P1B				
High temperature sen up to 230 °C (446 °F) (15.75 to 47.25 inch c		Z P1C				

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

SITRANS FUP1010 (portable)

Selection and Orderi	ng data	Order No.	Ord	. C	00	de
SITRANS FUP1010 P	SITRANS FUP1010 Portable clamp-on					
 IP67 weather proof b 	• IP67 weather proof battery powered L)					
		- 0	0	ŀ		
Sensor for channel 1	(continued)					
	C up to 104 °C (30 °F up					
to 220 °F), nominal 65			_		l.	.,
B1H (high temperatur B2H (high temperatur	• ,		Z Z			K L
C1H (high temperatur	· ,		z			М
C2H (high temperatur	e range HP)		Z	Р	1	N
D1H (high temperatur	o ,		Z			P
D2H (high temperatur	o ,		Z			Q
D4H (high temperatur	e range HP)		Z	۲	1	R
indicated max. outer d	g kit and spacer bar for lameter listed) charts" for specifications.					
no sensor			Α			
A2 universal	Trackmount and straps provided up to 75 mm (3")		В			
B3 universal	Trackmount and straps provided up to 125 mm (5")		С			
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 600 mm (24")		F			
For the following A1H	` ,					
perature range is -40	°C to 65 °C					
(-41 °F to 150 °F), non	, ,					
A2H (high precision)	Trackmount and straps provided up to 75 mm (3")		Н			
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 600 mm (24")		M			
C2H (high precision)	Mounting frame and straps provided up to 600 mm (24")		N			
D1H (high precision)	Mounting frame and straps provided up to 600 mm (24")		P			
D2H (high precision)	Mounting frame and straps provided up to 600 mm (24")		Q			
D4H (high precision)	Mounting frame and straps provided up to 600 mm (24")		R			
Doppler	to 12" with chain kit		s			

	· ·	
Selection and Ordering data	Order No.	Ord. code
SITRANS FUP1010 Portable clamp-on		
• IP67 weather proof battery powered L)	7ME3510-	
	- 0	0
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 Q1A
High temperature sensor size 3 for up to 230 °C (446 °F) (150 to 610 mm diam. (5.90 to 24 inch diam.))		Z Q1B
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 Q1C
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):		
B1H (high temperature range HP)		Z Q1K
B2H (high temperature range HP) C1H (high temperature range HP)		Z Q1L Z Q1M
C2H (high temperature range HP)		Z Q1N
D1H (high temperature range HP)		Z Q1P
D2H (high temperature range HP) D4H (high temperature range HP)		Z Q1Q Z Q1R
Approvals: No options (UL, ULc, CE by default)		

1) -40 ... +200 °C (-40 ... +392 °F) ²⁾ -40 ... +80 °C (-40 ... +176 °F)

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

Selection and Ordering data	Order No.
Operating Instructions for FUP1010	
English IP67	A5E02951522A
German IP67	A5E02951534A

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

SITRANS FUP1010 (portable)

Selection and Ordering data	Order code
Further designs	
Please add "-Z" to Order No. and specify Order code(s).	
Languages (Meter and Documentation), English (default). All languages now come standard in all flow-meters	
Wet flow transfer calibration (priced on request)	
• 6 point up to DN 100 (4 inch)	D10
• 6 point up to DN 125 to DN 200 (5 to 8 inch)	D11
• 6 point up to DN 250 to DN 300 (10 to 12 inch)	D12
• 6 point up to DN 350 to DN 400 (14 to 16 inch)	D13
• 6 point up to DN 450 to DN 500 (18 to 20 inch)	D14
• 6 point up to DN 550 to DN 600 (22 to 24 inch)	D15
• 6 point up to DN 650 to DN 750 (26 to 30 inch)	D16
• 6 point up to DN 800 to DN 900 (32 to 36 inch)	D17
1x Insertion RTD with thermowell and lagging	M1A
2x Insertion RTD with thermowell and lagging	M1B
Tag name plate	
• Stainless steel tag with 3.2 mm (0.13 inch) character size (68 characters max.)	Y19

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)

MLFB example

Application example

A general survey portable flowmeter is required for pipes sizes ranging from 76 ... 500 mm (3" ... 20") with both cast iron and steel material. Doppler may be required as liquid may be moderately aerated.

Requires language support for German.

MLFB Order No.: 7ME3511-2AB01-0DE0-Z

B10

Selection and Ordering data Order No Ord. code 7 ME 3 5 1 - 0 0 0 FUP1010 meter family IP67 weather proof Dual channel 2 Portable Type 3 I/O with С Doppler capable, temperature 1 x PVC-Jacket, length 6 m (20 ft) В No RTDs required 0 Charger Type A for Europe (CEE7/7) Sensor for DN 50 ... DN 300 D (2" ... 12") pipes Sensor for DN 200 ... DN 600 Ε (8" ... 24") pipes German language support B 10

Sensor Selection Charts

Universal sensors for any pipe material						
Sensor Size Code	Order Code	Outer diameter range (mm)		Outer diam (inches)	eter range	
		min	max	min	max	
A2	В	12.7	50.8	0.5	2	
B3	С	19	127	0.75	5	
C3	D	51	305	2	12	
D3	E	203	610	8	24	
E2	F	254	6096	10	240	

High precision sensors for steel pipe with outer diameter/wall thickness ratio $> 10\,$

thickness ratio > 10							
Sensor	Order	Pipe wall (mm)	Pipe wall (inches)		
Size Code	Code	min	max	min	max		
A1H	G	0.64	1.02	0.025	0.04		
A2H	Н	1.02	1.52	0.04	0.06		
АЗН	J	1.52	2.03	0.06	0.08		
B1H	K	2.03	3.05	0.08	0.12		
В2Н	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	Р	8.13	11.17	0.32	0.44		
D2H	Q	11.18	15.75	0.44	0.62		
D4H	R	15.75	31.75	0.62	1.25		

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)

CONTROLS (UK) LTD



Fine Controls have been supplying process controls & instrumentation equipment since 1994, & now serves an ever expanding customer base, both in the UK & globally.

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Level: Level Transmitters & Switches

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