

### Overview



SITRANS FST030 with FSS200 and external DSL

SITRANS FS clamp-on ultrasonic flowmeters provide highly accurate measurement while minimizing installation time and maintenance expense.

### Benefits

- 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
- Single or dual path with internal DSL, up to four paths with external DSL option

### System performance

Approvals	<ul style="list-style-type: none"> <li>• ATEX Zone 1, 2 (Sensors: Zone 0, 1, 2)</li> <li>• IECEx Zone 1, 2 (Sensors: Zone 0, 1, 2)</li> <li>• FM/FC Class I Div. 1, 2 (Sensors: Class I Div. 1)</li> </ul>
Accuracy at measuring point	<ul style="list-style-type: none"> <li>± 0.5 ... 1 % for velocities above 0.3 m/s and &gt;10 diameters straight run</li> <li>± 0.5 % ± 0.0015 m/s with high precision or universal sensors</li> <li>± 1 % ± 0.003 m/s with high temperature sensors for velocities above 0.3 m/s and &gt; 10 diameters straight run and optimal installation conditions</li> </ul>
Repeatability at measuring point	± 0.25 % (based on ISO 11631)
Accuracy of measuring system	<ul style="list-style-type: none"> <li>± 0.2 % ± 0.0015 m/s with high precision or universal sensors</li> <li>± 0.5 % ± 0.003 m/s with high temperature sensors</li> </ul>
Repeatability of the measuring system	± 0.05 – 0.1%
Pipe size range	12.7 ... 10 m (0.5" ... 394")
Wall thickness range	0.64 ... 76.2 mm (0.025" ... 3.0")
Pipe material	Any sonically conductive material (steel, plastic, aluminum, glass, cement, ductile iron, copper)
Optional External DSL	Zone 0, 1, 2, Class 1 Div. 1 with Transmitter in Zone 2 Class 1 Div. 2 area

### Digitaler Sensor Link (FS-DSL)

The electronics for creating measured values for an ultrasonic measurement are located in a compact module called: Digital Sensor Link.

Together with the ultrasonic sensors, this module creates an analogue measurement signal for volume flow and lots of other data. All data is then immediately digitized and sent to the transmitter without interference.

The advantage: best possible EMC thanks to very short analog signal lines and safer data transfer to possible transmitter variants.

The FS-DSL is suitable for clamp-on sensors as well as for inline - SONO sensors, the set firmware determines the respective technology. The FS-DSL is available for water applications, for oil measurements and also for clamp-on gas measurements.

The module can be used in Ex-Zone 1 (Class 1 Div 1) as an external FS-DSL in a pressure-encapsulated IP 66/67 housing. The distance to the transmitter can be up to 150 m, which is also how the FS-DSL is powered. The FS-DSL offers analog inputs for temperature and pressure and is always designed for up to 4 measuring paths in the external version.

### Option:

Optionally, the FS-DSL module is also available integrated in the SITRANS FST030 only in the version as a wall housing, but then with reduced EMC, number of paths and Ex version.

## Flow Measurement

### SITRANS FS (ultrasonic)

#### Clamp-on ultrasonic flowmeters / SITRANS FS230 ultrasonic flowmeter

#### Application

SITRANS FS230 standard functions are 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
  - Condensers
  - Hot & cold water systems
- Power industry
  - Nuclear
  - Fossil
  - Hydroelectric
- Processing industry
  - Process control
  - Batching
  - Rate indication
  - Volumetric and mass measurement

SITRANS FS230 hydrocarbon functions are ideal for applications carrying crude oil, refined petroleum or liquefied gas.

#### **Standard volume (high end system)**

- Standard (net) volume flow measurement
- Suitable for use in leak detection systems
- Mass flow output measurement
- Chemical and petrochemical processing
- Precise identification of interfaces on multi-liquid pipelines
- Product identification
- Standard density indication
- Applications with multiple liquids having a wide viscosity range
- Automatic gross volume compensation due to viscosity

SITRANS FS230 is ideal for most natural and process gas industry applications, including:

- Checkmetering
- Allocation
- Flow survey verification
- Lost and unaccounted for (LAUF) gas analysis
- Production
- Storage

The FS230 can be supplied with an external DSL option that allows for up to four paths with two additional analog inputs. The External DSL enclosure can be installed in a Zone 1 or Div 1 area near the sensors and measurement pipe using short sensor cables, with communication cable to transmitter up to 150 meters away.

## Application (continued)

## System information and selection guide

SITRANS FS clamp-on flowmeters	FS230 (Standard)	FS230 (Hydrocarbon)	FS230 (Gas)
<b>Industry/Applications</b>			
Water and aqueous solutions	X	-	-
Utility district heating, cooling	X	-	-
Chemical	X	-	-
Hydrocarbons/petrochemical, multiple products or varying viscosity, liquefied gases, net and gross volume	-	X	-
Hydrocarbons (single product with limited viscosity range) gross volume	X	X	-
Very low flow (< 0.1 m/s) in small pipes	X	-	-
High temperature applications < 232 °C (450 °F)	X	-	-
Refrigeration liquids	X	-	-
Food products	X	-	-
Natural Gas	-	-	X
Other gases i.e. propane, oxygen, argon etc.	-	-	X
<b>Design</b>			
Field clamp-on (non-intrusive)	X	X	X
Standard volume or mass flow; per API MPMS chapter 11.1	-	X	X
Interface detection	-	X	X
Standard density output	-	X	X
Temperature measurement	X	X	X
Analog input	X	X	X
Large graphical display	X	X	X
Configuration and diagnostic software PDM compatible	X	X	X
<b>Number of acoustic paths and channels</b>			
1-path	X	X	X
2-path	X	X	X
3-path (with external DSL)	X	X	X
4-path (with external DSL)	X	X	X
<b>Size</b>			
12.7 ... 10 000 mm (0.5" ... 394")	X	-	-
38 ... 10 000 mm (1.5" ... 394")	-	X	-
38 ... 1 200 mm (1.5" ... 48")	-	-	X
<b>Approvals</b>			
FM /FMc <sup>1)</sup>	X	X	X
ATEX	X	X	X
IECEX	X	X	X

<sup>1)</sup> NEMA 4X associated equipment in DIV 2 connected to DIV 1 sensors and DIV 1 external DSL.

# Flow Measurement

## SITRANS FS (ultrasonic)

### Clamp-on ultrasonic flowmeters / SITRANS FS230 ultrasonic flowmeter

#### Selection and ordering data

SITRANS FS230 clamp-on flowmeter	Article No. 7ME372	Order code
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.		
<b>Transmitter model</b>		
Transmitter FST030	3	
<b>Pipe material/temperature</b>		
Transmitter only - no sensor	0	
Steel (stainless steel, carbon steel), temperature range: best use < 80 °C (176 °F)	1	
Steel (stainless steel, carbon steel), temperature range: best use > 80 °C (176 °F)	2	
Plastic (PVC) (for gas applications), temperature: -40 ... 65.5 °C (-40 ... 150 °F)	4	
Plastic (PVC) (for liquid applications), temperature: -40 ... +121 °C (-40 ... 250 °F)	6	
All materials except steel and plastic, temperature: -40 ... +121 °C (-40 ... 250 °F)	7	
Any material, very high temperature: -40 ... +230 °C (-40 ... 446 °F)	8	
<b>Pipe outer diameter range</b>		
Transmitter only - no sensor		A
13 ... 19 mm (0.5 ... 0.75")		B
19.3 ... 30.5 mm (0.76 ... 1.20")		C
30.7 ... 50.8 mm (1.21 ... 2.00")		D
51 ... 76 mm (2.01 ... 3.00")		E
78 ... 127 mm (3.1 ... 5.0")		F
129 ... 203 mm (5.1 ... 8.0")		G
206 ... 305 mm (8.1 ... 12.0")		H
307 ... 508 mm (12.1 ... 20.0")		J
510 ... 1200 mm (20.1 ... 48.0")		K
1200 ... 9144 mm (48.0 ... 360")		L
<b>Pipe wall thickness range</b>		
Transmitter only - no sensor		A
0.635 ... 1.016 mm (0.025 ... 0.04")		B
1.016 ... 1.524 mm (0.04 ... 0.06")		C
1.524 ... 2.032 mm (0.06 ... 0.08")		D
2.032 ... 3.048 mm (0.08 ... 0.12")		E
3.048 ... 4.064 mm (0.12 ... 0.16")		F
4.064 ... 5.842 mm (0.16 ... 0.23")		G
5.842 ... 8.128 mm (0.23 ... 0.32")		H
8.128 ... 11.176 mm (0.32 ... 0.44")		J
11.176 ... 15.748 mm (0.44 ... 0.62")		K
15.748 ... 31.75 mm (0.62 ... 1.25")		L
31.75 ... 50.8 mm (1.25 ... 2.00")		M
<b>Sensor mounting</b>		
Transmitter only - no sensor	0	
Mounting straps only	1	
Standard frames and tracks	2	
Magnetic - no straps	4	
Magnetic - with straps	6	
High precision mount (single enclosure)	7	
High precision mount (dual enclosure)	8	
<b>Number of paths (sensor pairs)</b>		
Transmitter only - no sensor	0	
One path	1	
Two path	2	
Three path	3	
Four path	4	
<b>Environment</b>		
Standard		1
<b>Transmitter/DSL Material and mounting style</b>		
Industrial enclosure transmitter with external FS DSL for remote to the sensors.		G
Transmitter and DSL: aluminum cast, NEMA 4X, max. 4 path, M12 connection between transmitter and FS-DSL with SSL cable		
Industrial enclosure transmitter with external FS DSL for remote to the sensors.		K
Transmitter and DSL: aluminum cast, NEMA 4X, max. 4 path, cable connection between transmitter and FS-DSL with SSL cable		



## Flow Measurement

### SITRANS FS (ultrasonic)

#### Clamp-on ultrasonic flowmeters / SITRANS FS230 ultrasonic flowmeter

##### Selection and ordering data (continued)

	Order code
No glands, metric thread with NPT thread adapters, nickel plated brass: quantity based on selection "N" in data place 14	A40
No glands, metric thread with NPT thread adapters, stainless steel: quantity based on selection "N" in data place 14	A41
Nickel plated brass glands: quantity based on selection "N" in data place 14	A42
Plastic glands: quantity based on selection "N" in data place 14	A44
Stainless steel glands: quantity based on selection "N" in data place 14	A46
No glands, metric thread with NPT thread adapters, nickel plated brass: quantity based on selection "Q" in data place 14	A50
No glands, metric thread with NPT thread adapters, stainless steel: quantity based on selection "Q" in data place 14	A51
Nickel plated brass glands: quantity based on selection "Q" in data place 14	A52
Plastic glands: quantity based on selection "Q" in data place 14	A54
Stainless steel glands: quantity based on selection "Q" in data place 14	A56
No glands, metric thread with NPT thread adapters, stainless steel: quantity based on selection "U" in data place 14	A60
No glands, metric thread with NPT thread adapters, nickel plated brass: quantity based on selection "U" in data place 14	A61
Nickel plated brass glands: quantity based on selection "U" in data place 14	A62
Plastic glands: quantity based on selection "U" in data place 14	A64
Stainless steel glands: quantity based on selection "U" in data place 14	A66
No glands, metric thread with NPT thread adapters, nickel plated brass: quantity based on selection "V" in data place 14	A70
No glands, metric thread with NPT thread adapters, stainless steel: quantity based on selection "V" in data place 14	A71
Nickel plated brass glands: quantity based on selection "V" in data place 14	A72
Plastic glands: quantity based on selection "V" in data place 14	A74
Stainless steel glands: quantity based on selection "V" in data place 14	A76
No glands, metric thread with NPT thread adapters, nickel plated brass: quantity based on selection "W" in data place 14	A80
No glands, metric thread with NPT thread adapters, stainless steel: Quantity based on selection "W" in data place 14	A81
Nickel plated brass glands: quantity based on selection "W" in data place 14	A82
Plastic glands: quantity based on selection "W" in data place 14	A84
Stainless steel glands: quantity based on selection "W" in data place 14	A86
<b>Software functions and CT approvals</b>	
For standard industry applications (liquids, e.g. water)	B11
Hydrocarbon applications (oil table with temperature and viscosity compensation)	B39
For gas process values	B50

## Selection and ordering data (continued)

	Order code
<b>I/O configuration Ch1</b>	
Non-Ex, 4 ... 20 mA HART, menu selected passive/active	E02
Ex, 4 ... 20 mA HART, active	E06
Ex, 4 ... 20 mA HART, passive	E07
Modbus RTU 485	E14
<b>I/O configuration Ch2, Ch3 and Ch4</b>	
None	F00
Non-Ex	
• Ch2: current/freq./pulse, Ch3: none, Ch4: none. Active/passive menu selected	F01
• Ch2: current/freq./pulse, Ch3: current/freq./pulse, Ch4: none. Active/passive menu selected	F02
• Ch2:current/freq./pulse, Ch3: current/freq./pulse, Ch4:current/freq./pulse. Active/passive menu selected	F03
• Ch2:current/freq./pulse, Ch3: current/freq./pulse, Ch4: relay. Active/passive menu selected	F04
• Ch2: current/freq./pulse, Ch3: relay, Ch4: relay. Active/passive menu selected	F05
• Ch2: current/freq./pulse, Ch3: relay, Ch4: none. Active/passive menu selected	F06
Ex Passive	
• Ch2: current/freq./pulse, Ch3: none, Ch4: none	F11
• Ch2: current/freq./pulse, Ch3: current/freq./pulse, Ch4: none	F12
• Ch2: current/freq./pulse, Ch3: current/freq./pulse, Ch4: current/freq./pulse	F13
• Ch2: current/freq./pulse, Ch3: current/freq./pulse, Ch4: relay	F14
• Ch2: current/freq./pulse, Ch3: relay, Ch4: relay	F15
• Ch2: current/freq./pulse, Ch3: relay, Ch4: none	F16
Ex Active	
• Ch2: current/freq./pulse, Ch3: none, Ch4: none	F21
• Ch2: current/freq./pulse, Ch3: current/freq./pulse, Ch4: None	F22
• Ch2:current/freq./pulse, Ch3: current/freq./pulse, Ch4:current/freq./pulse	F23
• Ch2: current/freq./pulse, Ch3: current/freq./pulse, Ch4: relay	F24
• Ch2: current/freq./pulse, Ch3: relay, Ch4: relay	F25
• Ch2: current/freq./pulse, Ch3: relay, Ch4: none	F26
<b>Certificates</b>	
Factory certification 2.2 to EN 10204:2004	C19
<b>DSL strap kit (to strap DSL to pipe)</b>	
• 60.3 mm (2 inch) pipe mount with U-bolts	G01
• Stainless steel strap to mount DSL to pipe DN 60 ... 150 pipe size (2 ... 6 inch)	G03
• Stainless steel strap to mount DSL to pipe DN 150 ... 300 (6 ... 12 inch)	G05
• Stainless steel strap to mount DSL to pipe DN 300 ... 400 (12 ... 16 inch)	G07
• Stainless steel strap to mount DSL to pipe DN 400 ... 600 (16 ... 24 inch)	G08

## Flow Measurement

### SITRANS FS (ultrasonic)

#### Clamp-on ultrasonic flowmeters / SITRANS FS230 ultrasonic flowmeter

##### Selection and ordering data (continued)

	Order code
<b>Temperature sensors and pockets</b>	
1 000 Ω platinum standard clamp-on RTD	J61
1 000 Ω platinum submersible clamp-on RTD	J62
<b>Sensor cables to transmitter/DSL for 1-path</b>	
1 m (3.2 ft) standard/submersible coax sensor cable pair with nylon glands	K21
3 m (9.8 ft) standard/submersible coax sensor cable pair with nylon glands	K22
5 m (16.4 ft) standard/submersible coax sensor cable pair with nylon glands	K23
10 m (32.8 ft) standard/submersible coax sensor cable pair with nylon glands	K24
20 m (65.6 ft) standard/submersible coax sensor cable pair with nylon glands	K25
1 m (3.2 ft) standard/submersible coax sensor cable pair with nickel plated brass glands	K26
3 m (9.8 ft) standard/submersible coax sensor cable pair with nickel plated brass glands	K27
5 m (16.4 ft) standard/submersible coax sensor cable pair with nickel plated brass glands	K28
10 m (32.8 ft) standard/submersible coax sensor cable pair with nickel plated brass glands	K29
20 m (65.6 ft) standard/submersible coax sensor cable pair with nickel plated brass glands	K30
1 m (3.2 ft) standard/submersible coax sensor cable pair with stainless steel glands	K31
3 m (9.8 ft) standard/submersible coax sensor cable pair with stainless steel glands	K32
5 m (16.4 ft) standard/submersible coax sensor cable pair with stainless steel glands	K33
10 m (32.8 ft) standard/submersible coax sensor cable pair with stainless steel glands	K34
20 m (65.6 ft) standard/submersible coax sensor cable pair with stainless steel glands	K35
5 m (16.4 ft) plenum rated coax sensor cable pair with nylon glands	K36
20 m (65.6 ft) plenum rated coax sensor cable pair with nylon glands	K37
5 m (16.4 ft) plenum rated coax sensor cable pair with nickel plated brass glands	K38
20 m (65.6 ft) plenum rated coax sensor cable pair with nickel plated brass glands	K39
5 m (16.4 ft) plenum rated coax sensor cable pair with stainless steel glands	K40
20 m (65.6 ft) plenum rated coax sensor cable pair with stainless steel glands	K41
1 m (3.2 ft) armored sensor cable pair with nickel plated brass glands. Temperature: -25 ... +80 °C	K50
3 m (9.8 ft) armored sensor cable pair with nickel plated brass glands. Temperature: -25 ... +80 °C	K51
5 m (16.4 ft) armored sensor cable pair with nickel plated brass glands. Temperature: -25 ... +80 °C	K52
10 m (32.8 ft) armored sensor cable pair with nickel plated brass glands	K53
20 m (65.6 ft) armored sensor cable pair with nickel plated brass glands	K54
10 m (32.8 ft) standard/submersible coax sensor cable pair with no transmitter glands	K76
20 m (65.6 ft) standard/submersible coax sensor cable pair with no transmitter glands	K77
20 m (65.6 ft) plenum rated coax sensor cable pair with no glands	K78



## Selection and ordering data (continued)

	Order code
<b>Sensor cables to transmitter/DSL for 2-path</b>	
1 m (3.2 ft) standard/submersible coax sensor cable pair with nylon glands	T21
3 m (9.8 ft) standard/submersible coax sensor cable pair with nylon glands	T22
5 m (16.4 ft) standard/submersible coax sensor cable pair with nylon glands	T23
10 m (32.8 ft) standard/submersible coax sensor cable pair with nylon glands	T24
20 m (65.6 ft) standard/submersible coax sensor cable pair with nylon glands	T25
1 m (3.2 ft) standard/submersible coax sensor cable pair with nickel plated brass glands	T26
3 m (9.8 ft) standard/submersible coax sensor cable pair with nickel plated brass glands	T27
5 m (16.4 ft) standard/submersible coax sensor cable pair with nickel plated brass glands	T28
10 m (32.8 ft) standard/submersible coax sensor cable pair with nickel plated brass glands	T29
20 m (65.6 ft) standard/submersible coax sensor cable pair with nickel plated brass glands	T30
1 m (3.2 ft) standard/submersible coax sensor cable pair with stainless steel glands	T31
3 m (9.8 ft) standard/submersible coax sensor cable pair with stainless steel glands	T32
5 m (16.4 ft) standard/submersible coax sensor cable pair with stainless steel glands	T33
10 m (32.8 ft) standard/submersible coax sensor cable pair with stainless steel glands	T34
20 m (65.6 ft) standard/submersible coax sensor cable pair with stainless steel glands	T35
5 m (16.4 ft) plenum rated coax sensor cable pair with nylon glands	T36
20 m (65.6 ft) plenum rated coax sensor cable pair with nylon glands	T37
5 m (16.4 ft) plenum rated coax sensor cable pair with nickel plated brass glands	T38
20 m (65.6 ft) plenum rated coax sensor cable pair with nickel plated brass glands	T39
5 m (16.4 ft) plenum rated coax sensor cable pair with stainless steel glands	T40
20 m (65.6 ft) plenum rated coax sensor cable pair with stainless steel glands	T41
1 m (3.2 ft) armored sensor cable pair with nickel plated brass glands. Temperature: -25 ... +80 °C	T50
3 m (9.8 ft) armored sensor cable pair with nickel plated brass glands. Temperature: -25 ... +80 °C	T51
5 m (16.4 ft) armored sensor cable pair with nickel plated brass glands. Temperature: -25 ... +80 °C	T52
10 m (32.8 ft) armored sensor cable pair with nickel plated brass glands	T53
20 m (65.6 ft) armored sensor cable pair with nickel plated brass glands	T54
10 m (32.8 ft) standard/submersible coax sensor cable pair with no transmitter glands	T76
20 m (65.6 ft) standard/submersible coax sensor cable pair with no transmitter glands	T77
20 m (65.6 ft) plenum rated coax sensor cable pair with no glands	T78
<b>Sensor cables to transmitter/DSL for 3-path</b>	
1 m (3.2 ft) standard/submersible coax sensor cable pair with nylon glands	U21
3 m (9.8 ft) standard/submersible coax sensor cable pair with nylon glands	U22

## Flow Measurement

### SITRANS FS (ultrasonic)

#### Clamp-on ultrasonic flowmeters / SITRANS FS230 ultrasonic flowmeter

##### Selection and ordering data (continued)

	Order code
5 m (16.4 ft) standard/submersible coax sensor cable pair with nylon glands	U23
10 m (32.8 ft) standard/submersible coax sensor cable pair with nylon glands	U24
20 m (65.6 ft) standard/submersible coax sensor cable pair with nylon glands	U25
1 m (3.2 ft) standard/submersible coax sensor cable pair with nickel plated brass glands	U26
3 m (9.8 ft) standard/submersible coax sensor cable pair with nickel plated brass glands	U27
5 m (16.4 ft) standard/submersible coax sensor cable pair with nickel plated brass glands	U28
10 m (32.8 ft) standard/submersible coax sensor cable pair with nickel plated brass glands	U29
20 m (65.6 ft) standard/submersible coax sensor cable pair with nickel plated brass glands	U30
1 m (3.2 ft) standard/submersible coax sensor cable pair with stainless steel glands	U31
3 m (9.8 ft) standard/submersible coax sensor cable pair with stainless steel glands	U32
5 m (16.4 ft) standard/submersible coax sensor cable pair with stainless steel glands	U33
10 m (32.8 ft) standard/submersible coax sensor cable pair with stainless steel glands	U34
20 m (65.6 ft) standard/submersible coax sensor cable pair with stainless steel glands	U35
5 m (16.4 ft) plenum rated coax sensor cable pair with nylon glands	U36
20 m (65.6 ft) plenum rated coax sensor cable pair with nylon glands	U37
5 m (16.4 ft) plenum rated coax sensor cable pair with nickel plated brass glands	U38
20 m (65.6 ft) plenum rated coax sensor cable pair with nickel plated brass glands	U39
5 m (16.4 ft) plenum rated coax sensor cable pair with stainless steel glands	U40
20 m (65.6 ft) plenum rated coax sensor cable pair with stainless steel glands	U41
1 m (3.2 ft) armored sensor cable pair with nickel plated brass glands. Temperature: -25 ... +80 °C	U50
3 m (9.8 ft) armored sensor cable pair with nickel plated brass glands. Temperature: -25 ... +80 °C	U51
5 m (16.4 ft) armored sensor cable pair with nickel plated brass glands. Temperature: -25 ... +80 °C	U52
10 m (32.8 ft) armored sensor cable pair with nickel plated brass glands	U53
20 m (65.6 ft) armored sensor cable pair with nickel plated brass glands	U54
10 m (32.8 ft) standard/submersible coax sensor cable pair with no transmitter glands	U76
20 m (65.6 ft) standard/submersible coax sensor cable pair with no transmitter glands	U77
20 m (65.6 ft) plenum rated coax sensor cable pair with no glands	U78
<b>Sensor cables to transmitter/DSL for 4-path</b>	
1 m (3.2 ft) standard/submersible coax sensor cable pair with nylon glands	V21
3 m (9.8 ft) standard/submersible coax sensor cable pair with nylon glands	V22

## Selection and ordering data (continued)

	Order code
5 m (16.4 ft) standard/submersible coax sensor cable pair with nylon glands	V23
10 m (32.8 ft) standard/submersible coax sensor cable pair with nylon glands	V24
20 m (65.6 ft) standard/submersible coax sensor cable pair with nylon glands	V25
1 m (3.2 ft) standard/submersible coax sensor cable pair with nickel plated brass glands	V26
3 m (9.8 ft) standard/submersible coax sensor cable pair with nickel plated brass glands	V27
5 m (16.4 ft) standard/submersible coax sensor cable pair with nickel plated brass glands	V28
10 m (32.8 ft) standard/submersible coax sensor cable pair with nickel plated brass glands	V29
20 m (65.6 ft) standard/submersible coax sensor cable pair with nickel plated brass glands	V30
1 m (3.2 ft) standard/submersible coax sensor cable pair with stainless steel glands	V31
3 m (9.8 ft) standard/submersible coax sensor cable pair with stainless steel glands	V32
5 m (16.4 ft) standard/submersible coax sensor cable pair with stainless steel glands	V33
10 m (32.8 ft) standard/submersible coax sensor cable pair with stainless steel glands	V34
20 m (65.6 ft) standard/submersible coax sensor cable pair with stainless steel glands	V35
5 m (16.4 ft) plenum rated coax sensor cable pair with nylon glands	V36
20 m (65.6 ft) plenum rated coax sensor cable pair with nylon glands	V37
5 m (16.4 ft) plenum rated coax sensor cable pair with nickel plated brass glands	V38
20 m (65.6 ft) plenum rated coax sensor cable pair with nickel plated brass glands	V39
5 m (16.4 ft) plenum rated coax sensor cable pair with stainless steel glands	V40
20 m (65.6 ft) plenum rated coax sensor cable pair with stainless steel glands	V41
1 m (3.2 ft) armored sensor cable pair with nickel plated brass glands. Temperature: -25 ... +80 °C	V50
3 m (9.8 ft) armored sensor cable pair with nickel plated brass glands. Temperature: -25 ... +80 °C	V51
5 m (16.4 ft) armored sensor cable pair with nickel plated brass glands. Temperature: -25 ... +80 °C	V52
10 m (32.8 ft) armored sensor cable pair with nickel plated brass glands	V53
20 m (65.6 ft) armored sensor cable pair with nickel plated brass glands	V54
10 m (32.8 ft) standard/submersible coax sensor cable pair with no transmitter glands	V76
20 m (65.6 ft) standard/submersible coax sensor cable pair with no transmitter glands	V77
20 m (65.6 ft) plenum rated coax sensor cable pair with no glands	V78
<b>Cable, DSL to wallbox transmitter</b>	
5 m (16.4 ft) standard DSL cable (2 mounted M12 plugs)	L51
5 m (16.4 ft) standard DSL cable (no plugs mounted)	L52
10 m (32.8 ft) standard DSL cable (2 mounted M12 plugs)	L55
10 m (32.8 ft) standard DSL cable (no plugs mounted)	L56
25 m (82 ft) standard DSL cable (2 mounted plugs)	L59

## Flow Measurement

### SITRANS FS (ultrasonic)

#### Clamp-on ultrasonic flowmeters / SITRANS FS230 ultrasonic flowmeter

##### Selection and ordering data (continued)

	Order code
25 m (82 ft) standard DSL cable (no plugs mounted)	L60
50 m (164 ft) standard DSL cable (2 mounted plugs)	L63
50 m (164 ft) standard DSL cable (no plugs mounted)	L64
75 m (246.1 ft) standard DSL cable (2 mounted plugs)	L67
75 m (246.1 ft) standard DSL cable (no plugs mounted)	L68
150 m (492.1 ft) standard DSL cable (2 mounted plugs)	L71
150 m (492.1 ft) standard DSL cable (no plugs mounted)	L72
<b>RTD cable (clamp temperature sensor to transmitter)</b>	
6 m (20 ft) standard RTD cable	R50
15 m (50 ft) standard RTD cable	R51
30 m (100 ft) standard RTD cable	R52
46 m (150 ft) standard RTD cable	R53
61 m (200 ft) standard RTD cable	R54
91 m (300 ft) standard RTD cable	R55
6 m (20 ft) submersible RTD cable	R56
15 m (50 ft) submersible RTD cable	R57
30 m (100 ft) submersible RTD cable	R58
46 m (150 ft) submersible RTD cable	R59
61 m (200 ft) submersible RTD cable	R60
91 m (300 ft) submersible RTD cable	R61
<b>Mass storage</b>	
Enable mass storage function for SD card (not available for USA)	S30
<b>Country specific approval</b>	
KC-Approval for South Korea	W28
<b>Tag plate</b>	
Tag plate for external DSL, stainless steel	Y14
Tag plate for transmitter, stainless steel	Y15
Tag name plate, stainless steel	Y17

	Article No.
<b>System spare parts</b>	
<b>Tool kits and loose parts</b>	
"F" connector tool kit, 2 per	A5E38145699
Bag of loose spare parts; for wallmount, including cable strain relief components, mounting tool, seals and gasket, assorted screws and washers, hex cap nut, blind plugs, and O-rings	A5E38288072
<b>Electronics assemblies and modules</b>	
Wall mount transmitter	
• Display and keypad assembly	A5E37697615
• Digital Sensor Link (DSL), internal, for wall box, standard process values	A5E38014726
• Digital Sensor Link (DSL), internal, for wall box, hydrocarbon process values	A5E42138542
• Digital Sensor Link (DSL), internal, for wall box, gas process values	A5E47202379
• SensorFlash (4 GB micro SD card) -40 °C ... +85 °C	A5E38288507
• Power supply, for wall box, (240 V AC, 47 ... 63 Hz), (24 ... 90 V DC)	A5E38263021
• Foam insert for wall box with connectors	A5E38287828

## Selection and ordering data (continued)

	Article No.
<b>External DSL</b>	
• Digital Sensor Link (DSL), external, module only, standard process values	A5E38014662
• Digital Sensor Link (DSL), external, module only, hydrocarbon process values	A5E37843869
• Digital Sensor Link (DSL), external, module only, gas process values	A5E47202369
• F connector board set: board A, board B and screws for mounting	A5E45882316
• Front end module cover plate with screws for mounting	A5E45882046
<b>Cassettes, I/O configuration and communication</b>	
• Ch1: I/O and comm (active) 4 ... 20 mA output and HART 7.2, Ex	A5E38012278
• Ch1: I/O and comm (passive) 4 ... 20 mA output and HART 7.2, Ex	A5E38013025
• Ch1: communication Modbus RTU 485, Ex	A5E38013054
• Ch1: I/O and comm (active/passive) 4 ... 20 mA output and HART 7.2, Non-Ex	A5E38013040
• Ch1: communication Modbus RTU 485, Non-Ex	A5E38013069
• F01, Non-Ex Ch2: Current/Frequ./Pulse Ch3: None Ch4: None Menu select active/passive	A5E38006256
• F02, Non-Ex Ch2: Current/Frequ./Pulse Ch3: Current/Frequ./Pulse Ch4: None Menu select active/passive	A5E38006558
• F03, Non-Ex Ch2: Current/Frequ./Pulse Ch3: Current/Frequ./Pulse Ch4: Current/Frequ./Pulse Menu select active/passive	A5E38006598
• F04, Non-Ex Ch2: Current/Frequ./Pulse Ch3: Current/Frequ./Pulse Ch4: Relay Menu select active/passive	A5E38006896
• F05, Non-Ex Ch2: Current/Frequ./Pulse Ch3: Relay Ch4: Relay Menu select active/passive	A5E38006900
• F06, Non-Ex Ch2: Current/Frequ./Pulse Ch3: Relay Ch4: None Menu select active/passive	A5E38011432
• F11, Ex-passive Ch2: Current/Freq./Pulse Ch3: None Ch4: None	A5E38011478
• F12, Ex-passive Ch2: Current/Frequ./Pulse Ch3: Current/Frequ./Pulse Ch4: None	A5E38011509
• F13, Ex-passive Ch2: Current/Frequ./Pulse Ch3: Current/Frequ./Pulse Ch4: Current/Frequ./Pulse	A5E38011541

## Flow Measurement

### SITRANS FS (ultrasonic)

#### Clamp-on ultrasonic flowmeters / SITRANS FS230 ultrasonic flowmeter

#### Selection and ordering data (continued)

	Article No.
• F14, Ex-passive Ch2: Current/Frequ./Pulse Ch3: Current/Frequ./Pulse Ch4: Relay	A5E38011600
• F15, Ex-passive Ch2: Current/Frequ./Pulse Ch3: Relay, Ch4: Relay	A5E38011618
• F16, Ex-passive Ch2: Current/Frequ./Pulse Ch3: Relay Ch4: None	A5E38011908
• F21, Ex-active Ch2: Current/Frequ./Pulse Ch3: None Ch4: None	A5E38012039
• F22, Ex-active Ch2: Current/Frequ./Pulse Ch3: Current/Frequ./Pulse Ch4: None	A5E38012056
• F23, Ex-active Ch2: current/freq./pulse, Ch3: current/freq./pulse, Ch4: current/freq./pulse	A5E38012121
• F24, Ex-active Ch2: Current/Frequ./Pulse Ch3: Current/Frequ./Pulse Ch4: Relay	A5E38019235
• F25, Ex-active Ch2: Current/Frequ./Pulse Ch3: Relay Ch4: Relay	A5E38019263
• F26, Ex-active Ch2: Current/Frequ./Pulse Ch3: Relay Ch4: None	A5E38019378
<b>Miscellaneous parts</b>	
General	
• Blind plug brass-nickel 10 pcs (Ex version)	A5E38145685
• Blind plug stainless steel 10 pcs (Ex version)	A5E38145689
• Twist-on F connectors, 4 pcs	A5E38268608
• M12 adapter for DSL or wall mounted transmitter	A5E03906095
Wall mount transmitter	
• Wall bracket "pipe mounting"	A5E38288020
• Wall bracket "panel mounting"	A5E38288032
• Metal kit: PSU cover, back plane	A5E38415145
• Power input cover plate	A5E38415205
External DSL	
• Wall mount bracket and screws for mounting DSL on bracket	A5E45882610
• Lid with O-ring	A5E45818351
• Bag with parts: cable strain reliefs, screws and washers, lid lock screw, grounding parts	A5E38111577
• Accessory pipe mounting kit for FS DSL, max. 60.3 mm (2.4 inch) pipe	A5E36617118001
• Accessory pipe strap kit for FS DSL, DN 50 ... 150 (2 ... 6 inch) pipe	A5E36617118002
• Accessory pipe strap kit for FS DSL, DN 150 ... 300 (6 ... 12 inch) pipe	A5E36617118003

## Selection and ordering data (continued)

	Article No.
• Accessory pipe strap kit for FS DSL, DN 300 ... 400 (12 ... 16 inch) pipe	A5E36617118004
• Accessory pipe strap kit for FS DSL, DN 400 ... 600 (16 ... 24 inch) pipe	A5E36617118005
<b>Cable glands</b>	
Set of cable glands, plastic, black, metric	A5E03907414
Set of cable glands, Ex e/i, plastic, metric	A5E03907424
Set of cable glands, Ex e/i, stainless steel, metric	A5E03907429
Set of cable glands, Ex e/i, brass nickel-plated, metric	A5E03907430
Set of cable glands, plastic, black, NPT	A5E03907435
Set of cable glands, Ex e/i, plastic, NPT	A5E03907451
Set of cable glands, Ex e/i, stainless steel, NPT	A5E03907467
Set of cable glands, Ex e/i, brass nickel-plated, NPT	A5E03907473

## Article No./Crossreference

Steel (T1)			Steel (T2)			Plastic liquid		
Data place 8,9,10 of 7ME372-... combination	Sensor part number	Sensor Size Code	Data place 8,9,10 of 7ME372-... combination	Sensor part number	Sensor Size Code	Data place 8,9,10 of 7ME372-... combination	Sensor part number	Sensor Size Code
1BB	7ME3950-5LG01	A1HT1	2BB	7ME3950-5LB11	A1	6BB	7ME3950-5LB01	A2
1BC	7ME3950-5LH01	A2HT1	2BC	7ME3950-5LB01	A2	6BC	7ME3950-5LB01	A2
1BD	7ME3950-5LB11	A1	2BD	7ME3950-5LB11	A1	6BD	7ME3950-5LB01	A2
1BE	7ME3950-5LB01	A2	2BE	7ME3950-5LB01	A2	6BE	7ME3950-5LB01	A2
1BF	7ME3950-5LB11	A1	2BF	7ME3950-5LB11	A1	6BF	7ME3950-5LB01	A2
1CB	7ME3950-5LG01	A1HT1	2CB	7ME3950-5LB11	A1	6CB	7ME3950-5LB01	A2
1CC	7ME3950-5LH01	A2HT1	2CC	7ME3950-5LB01	A2	6CC	7ME3950-5LB01	A2
1CD	7ME3950-5LJ01	A3HT1	2CD	7ME3950-5LB11	A1	6CD	7ME3950-5LB01	A2
1CE	7ME3950-5GK01	B1HT1	2CE	7ME3950-5GK21	B1HT2	6CE	7ME3950-5LB01	A2
1CF	7ME3950-5LB11	A1	2CF	7ME3950-5LB11	A1	6CF	7ME3950-5LB01	A2
1CG	7ME3950-5LB11	A1	2CG	7ME3950-5LB11	A1	6CG	7ME3950-5LB01	A2
1DB	7ME3950-5LG01	A1HT1	2DB	7ME3950-5LC11	B1	6DC	7ME3950-5LC01	B3
1DC	7ME3950-5LH01	A2HT1	2DC	7ME3950-5LC21	B2	6DD	7ME3950-5LC01	B3
1DD	7ME3950-5LJ01	A3HT1	2DD	7ME3950-5LC11	B1	6DE	7ME3950-5LC01	B3
1DE	7ME3950-5GK01	B1HT1	2DE	7ME3950-5GK21	B1HT2	6DF	7ME3950-5LC01	B3
1DF	7ME3950-5GL01	B2HT1	2DF	7ME3950-5GL21	B2HT2	6DG	7ME3950-5LC01	B3
1DG	7ME3950-5LC01	B3	2DG	7ME3950-5LC01	B3	6DH	7ME3950-5LC01	B3
1DH	7ME3950-5LC21	B2	2DH	7ME3950-5LC21	B2	6EC	7ME3950-5LC01	B3
1EB	7ME3950-5LG01	A1HT1	2EB	7ME3950-5LC11	B1	6ED	7ME3950-5LC01	B3
1EC	7ME3950-5LH01	A2HT1	2EC	7ME3950-5LC21	B2	6EE	7ME3950-5LC01	B3
1ED	7ME3950-5LJ01	A3HT1	2ED	7ME3950-5LC11	B1	6EF	7ME3950-5LC01	B3
1EE	7ME3950-5GK01	B1HT1	2EE	7ME3950-5GK21	B1HT2	6EG	7ME3950-5LC01	B3
1EF	7ME3950-5GL01	B2HT1	2EF	7ME3950-5GL21	B2HT2	6EH	7ME3950-5LC01	B3
1EG	7ME3950-5GM00	C1HT1	2EG	7ME3950-5GM20	C1HT2	6EJ	7ME3950-5LC01	B3
1EH	7ME3950-5GN00	C2HT1	2EH	7ME3950-5GN20	C2HT2	6EK	7ME3950-5LC01	B3
1EJ	7ME3950-5LC01	B3	2EJ	7ME3950-5LC01	B3	6FE	7ME3950-5LD00	C3
1EK	7ME3950-5LC01	B3	2EK	7ME3950-5LC01	B3	6FF	7ME3950-5LD00	C3
1FC	7ME3950-5LH01	A2HT1	2FC	7ME3950-5LD10	C1	6FG	7ME3950-5LD00	C3
1FD	7ME3950-5LJ01	A3HT1	2FD	7ME3950-5LD10	C1	6FH	7ME3950-5LD00	C3
1FE	7ME3950-5GK01	B1HT1	2FE	7ME3950-5GK21	B1HT2	6FJ	7ME3950-5LD00	C3
1FF	7ME3950-5GL01	B2HT1	2FF	7ME3950-5GL21	B2HT2	6FK	7ME3950-5LD00	C3
1FG	7ME3950-5GM00	C1HT1	2FG	7ME3950-5GM20	C1HT2	6GF	7ME3950-5LD00	C3
1FH	7ME3950-5GN00	C2HT1	2FH	7ME3950-5GN20	C2HT2	6GG	7ME3950-5LD00	C3
1FJ	7ME3950-5GP00	D1HT1	2FJ	7ME3950-5GP20	D1HT2	6GH	7ME3950-5LD00	C3
1FK	7ME3950-5LD10	C1	2FK	7ME3950-5LD10	C1	6GJ	7ME3950-5LD00	C3
1GD	7ME3950-5LJ01	A3HT1	2GD	7ME3950-5LD10	C1	6GK	7ME3950-5LD00	C3
1GE	7ME3950-5GK01	B1HT1	2GE	7ME3950-5GK21	B1HT2	6GL	7ME3950-5LD00	C3
1GF	7ME3950-5GL01	B2HT1	2GF	7ME3950-5GL21	B2HT2	6HG	7ME3950-5LE00	D3
1GG	7ME3950-5GM00	C1HT1	2GG	7ME3950-5GM20	C1HT2	6HH	7ME3950-5LE00	D3
1GH	7ME3950-5GN00	C2HT1	2GH	7ME3950-5GN20	C2HT2	6HJ	7ME3950-5LE00	D3
1GJ	7ME3950-5GP00	D1HT1	2GJ	7ME3950-5GP20	D1HT2	6HK	7ME3950-5LE00	D3

## Flow Measurement

## SITRANS FS (ultrasonic)

## Clamp-on ultrasonic flowmeters / SITRANS FS230 ultrasonic flowmeter

## Selection and ordering data (continued)

Steel (T1)			Steel (T2)			Plastic liquid		
1GK	7ME3950-5GQ00	D2HT1	2GK	7ME3950-5GQ20	D2HT2	6HL	7ME3950-5LE00	D3
1GL	7ME3950-5LD00	C3	2GL	7ME3950-5LD00	C3	6HM	7ME3950-5LE00	D3
1HE	7ME3950-5GK01	B1HT1	2HE	7ME3950-5GK21	B1HT2	6JJ	7ME3950-5LE00	D3
1HF	7ME3950-5GL01	B2HT1	2HF	7ME3950-5GL21	B2HT2	6JK	7ME3950-5LE00	D3
1HG	7ME3950-5GM00	C1HT1	2HG	7ME3950-5GM20	C1HT2	6JL	7ME3950-5LE00	D3
1HH	7ME3950-5GN00	C2HT1	2HH	7ME3950-5GN20	C2HT2	6JM	7ME3950-5LE00	D3
1HJ	7ME3950-5GP00	D1HT1	2HJ	7ME3950-5GP20	D1HT2	6KK	7ME3950-5LF00	E2
1HK	7ME3950-5GQ00	D2HT1	2HK	7ME3950-5GQ20	D2HT2	6KL	7ME3950-5LF00	E2
1HL	7ME3950-5GR00	D4HT1	2HL	7ME3950-5GR20	D4HT2	6KM	7ME3950-5LF00	E2
1JG	7ME3950-5GM00	C1HT1	2JG	7ME3950-5GM20	C1HT2	6LM	7ME3950-5LF00	E2
1JH	7ME3950-5GN00	C2HT1	2JH	7ME3950-5GN20	C2HT2			
1JJ	7ME3950-5GP00	D1HT1	2JJ	7ME3950-5GP20	D1HT2			
1JK	7ME3950-5GQ00	D2HT1	2JK	7ME3950-5GQ20	D2HT2			
1JL	7ME3950-5GR00	D4HT1	2JL	7ME3950-5GR20	D4HT2			
1KH	7ME3950-5GN00	C2HT1	2KH	7ME3950-5GN20	C2HT2			
1KJ	7ME3950-5GP00	D1HT1	2KJ	7ME3950-5GP20	D1HT2			
1KK	7ME3950-5GQ00	D2HT1	2KK	7ME3950-5GQ20	D2HT2			
1KL	7ME3950-5GR00	D4HT1	2KL	7ME3950-5GR20	D4HT2			
1LJ	7ME3950-5GP00	D1HT1	2LJ	7ME3950-5GP20	D1HT2			
1LK	7ME3950-5GQ00	D2HT1	2LK	7ME3950-5GQ20	D2HT2			
1LL	7ME3950-5GR00	D4HT1	2LL	7ME3950-5GR20	D4HT2			

Other (Univ)			Other (VH)		
Data place 8,9,10 of 7ME372-... combination	Sensor part number	Sensor Size Code	Data place 8,9,10 of 7ME372-... combination	Sensor part number	Sensor Size Code
7BB	7ME3950-5LB01	A2	8BB	7ME3950-5LA13	1
7BC	7ME3950-5LB01	A2	8BC	7ME3950-5LA13	1
7BD	7ME3950-5LB01	A2	8BD	7ME3950-5LA13	1
7BE	7ME3950-5LB01	A2	8BE	7ME3950-5LA13	1
7BF	7ME3950-5LB01	A2	8BF	7ME3950-5LA13	1
7CB	7ME3950-5LB01	A2	8CB	7ME3950-5LA13	1
7CC	7ME3950-5LB01	A2	8CC	7ME3950-5LA13	1
7CD	7ME3950-5LB01	A2	8CD	7ME3950-5LA13	1
7CE	7ME3950-5LB01	A2	8CE	7ME3950-5LA13	1
7CF	7ME3950-5LB01	A2	8CF	7ME3950-5LA13	1
7CG	7ME3950-5LB01	A2	8CG	7ME3950-5LA13	1
7DB	7ME3950-5LC01	B3	8DB	7ME3950-5LA13	1
7DC	7ME3950-5LC01	B3	8DC	7ME3950-5LA13	1
7DD	7ME3950-5LC01	B3	8DD	7ME3950-5LA13	1
7DE	7ME3950-5LC01	B3	8DE	7ME3950-5LA13	1
7DF	7ME3950-5LC01	B3	8DF	7ME3950-5LA13	1
7DG	7ME3950-5LC01	B3	8DG	7ME3950-5LA13	1
7DH	7ME3950-5LC01	B3	8DH	7ME3950-5LA13	1
7EB	7ME3950-5LC01	B3	8EB	7ME3950-5LA13	1
7EC	7ME3950-5LC01	B3	8EC	7ME3950-5LA13	1
7ED	7ME3950-5LC01	B3	8ED	7ME3950-5LA13	1
7EE	7ME3950-5LC01	B3	8EE	7ME3950-5LA13	1
7EF	7ME3950-5LC01	B3	8EF	7ME3950-5LA13	1
7EG	7ME3950-5LC01	B3	8EG	7ME3950-5LA13	1
7EH	7ME3950-5LC01	B3	8EH	7ME3950-5LA13	1
7EJ	7ME3950-5LC01	B3	8EJ	7ME3950-5LA13	1
7EK	7ME3950-5LC01	B3	8EK	7ME3950-5LA13	1
7FC	7ME3950-5LD00	C3	8FC	7ME3950-5LA23	2
7FD	7ME3950-5LD00	C3	8FD	7ME3950-5LA23	2
7FE	7ME3950-5LD00	C3	8FE	7ME3950-5LA23	2
7FF	7ME3950-5LD00	C3	8FF	7ME3950-5LA23	2
7FG	7ME3950-5LD00	C3	8FG	7ME3950-5LA23	2



## Selection and ordering data (continued)

Other (Univ)			Other (VH)		
7FH	7ME3950-5LD00	C3	8FH	7ME3950-5LA23	2
7GD	7ME3950-5LD00	C3	8GD	7ME3950-5LA23	2
7GE	7ME3950-5LD00	C3	8GE	7ME3950-5LA23	2
7GF	7ME3950-5LD00	C3	8GF	7ME3950-5LA23	2
7GG	7ME3950-5LD00	C3	8GG	7ME3950-5LA23	2
7GH	7ME3950-5LD00	C3	8GH	7ME3950-5LA23	2
7GJ	7ME3950-5LD00	C3	8GJ	7ME3950-5LA23	2
7GK	7ME3950-5LD00	C3	8GK	7ME3950-5LA23	2
7GL	7ME3950-5LD00	C3	8GL	7ME3950-5LA23	2
7HE	7ME3950-5LE00	D3	8HE	7ME3950-5LA43	3
7HF	7ME3950-5LE00	D3	8HF	7ME3950-5LA43	3
7HG	7ME3950-5LE00	D3	8HG	7ME3950-5LA43	3
7HH	7ME3950-5LE00	D3	8HH	7ME3950-5LA43	3
7HJ	7ME3950-5LE00	D3	8HJ	7ME3950-5LA43	3
7HK	7ME3950-5LE00	D3	8HK	7ME3950-5LA43	3
7HL	7ME3950-5LE00	D3	8HL	7ME3950-5LA43	3
7HM	7ME3950-5LE00	D3	8HM	7ME3950-5LA43	3
7JG	7ME3950-5LE00	D3	8JG	7ME3950-5LA43	3
7JH	7ME3950-5LE00	D3	8JH	7ME3950-5LA43	3
7JJ	7ME3950-5LE00	D3	8JJ	7ME3950-5LA43	3
7JK	7ME3950-5LE00	D3	8JK	7ME3950-5LA43	3
7JL	7ME3950-5LE00	D3	8JL	7ME3950-5LA43	3
7JM	7ME3950-5LE00	D3	8JM	7ME3950-5LA43	3
7KH	7ME3950-5LF00	E2	8KH	7ME3950-5LA73	4
7KJ	7ME3950-5LF00	E2	8KJ	7ME3950-5LA73	4
7KK	7ME3950-5LF00	E2	8KK	7ME3950-5LA73	4
7KL	7ME3950-5LF00	E2	8KL	7ME3950-5LA73	4
7KM	7ME3950-5LF00	E2	8KM	7ME3950-5LA73	4
7LJ	7ME3950-5LF00	E2	8LJ	7ME3950-5LA73	4
7LK	7ME3950-5LF00	E2	8LK	7ME3950-5LA73	4
7LL	7ME3950-5LF00	E2	8LL	7ME3950-5LA73	4
7LM	7ME3950-5LF00	E2	8LM	7ME3950-5LA73	4

	Article No.	Option			
<b>Spare parts (system)</b> SITRANS FS230 IP65/IP66 (Nema 4X)	7ME3950-	●	●	●	●
<b>Approvals</b>					
All, FM/FMc, ATEX, IECEX - Flow sensors	5				
All, FM/FMc, ATEX, IECEX - Temperature sensors	1				
<b>Spare sensor code</b> For liquid flow sensors pipe ranges please refer to catalog sensor selection chart in the FSS200 section					
<b>Flow sensors for use with mounting frames or tracks</b> Suitable for pipes other than steel or stainless steel Temperature -40 ... +121 °C (-40 ... +250 °F)					
• A1 Universal	5	L	B	1	1
• A2 Universal	5	L	B	0	1
• B1 Universal	5	L	C	1	1
• B2 Universal	5	L	C	2	1
• B3 Universal	5	L	C	0	1
• C1 Universal	5	L	D	1	0
• C2 Universal	5	L	D	2	0
• C3 Universal	5	L	D	0	0
• D1 Universal	5	L	E	1	0
• D2 Universal	5	L	E	2	0

## Flow Measurement

## SITRANS FS (ultrasonic)

## Clamp-on ultrasonic flowmeters / SITRANS FS230 ultrasonic flowmeter

## Selection and ordering data (continued)

	Article No.	Option
<b>Spare parts (system)</b>		
<b>SITRANS FS230</b>	7ME3950-●●●●●	
<b>IP65/IP66 (Nema 4X)</b>		
• D3 Universal	5 L E 0 0	
• E1 Universal	5 L F 1 0	
• E2 Universal	5 L F 0 0	
• E3 Universal	5 L F 2 0	
<b>Gas and liquid sensors for use with mounting frames or tracks</b>		
Suitable for steel or stainless steel pipes		
Temperature T1		
• A1H high precision	5 L G 0 1	
• A2H high precision	5 L H 0 1	
• A3H high precision	5 L J 0 1	
• B1H high precision	5 G K 0 1	
• B2H high precision	5 G L 0 1	
• B3H high precision	5 G t 0 1	
• C1H high precision	5 G M 0 0	
• C2H high precision	5 G N 0 0	
• D1H high precision	5 G P 0 0	
• D2H high precision	5 G Q 0 0	
• D3H high precision	5 G U 0 0	
• D4H high precision	5 G R 0 0	
Temperature T2		
• B1H high precision	5 G K 2 1	
• B2H high precision	5 G L 2 1	
• B3H high precision	5 G T 2 1	
• C1H high precision	5 G M 2 0	
• C2H high precision	5 G N 2 0	
• D1H high precision	5 G P 2 0	
• D2H high precision	5 G Q 2 0	
• D3H high precision	5 G U 2 0	
• D4H high precision	5 G R 2 0	
<b>High temperature universal liquid sensors</b>		
Very high temperature up to 230 °C (446 °F)		
• Size 1 (∅ 12.7 ... 100 mm (0.47 ... 3.94"))	5 L A 1 3	
• Size 2 (∅ 30 ... 200 mm (1.18 ... 7.87"))	5 L A 2 3	
• Size 2A (∅ 30 ... 200 mm (1.18 ... 7.87"))	5 L A 3 3	
• Size 3 (∅ 150 ... 610 mm (5.9 ... 24.0"))	5 L A 4 3	
• Size 3A (∅ 150 ... 610 mm (5.9 ... 24.0"))	5 L A 6 3	
• Size 4 (∅ 400 ... 1200 mm (16.75 ... 47.24"))	5 L A 7 3	
• Size 4A (∅ 400 ... 1200 mm (16.75 ... 47.24"))	5 L A 8 3	
<b>RTD sensors for temperature measurement</b>		
Standard clamp-on RTD	1 T A 0 0	
Submersible clamp-on RTD	1 T B 0 0	
Insertion sensor PT1000 for use with thermowells - non Ex. For variants please select SITRANS TS500 (7MC7500)		
SITRANS TS500 Insert 140 mm (5.5 in)	7MC7500-1JB26-4BF3-Z	E00
SITRANS TS500 Insert 216 mm (8.5 in)	7MC7500-1JC06-6BF3-Z	E00+Y44
SITRANS TS500 Insert 292 mm (11.5 in)	7MC7500-1JC06-6BF3-Z	E00+Y44
SITRANS TS500 Insert 368 mm (14.5 in)	7MC7500-1JD06-6BF3-Z	E00+Y44
SITRANS TS500 Insert 444 mm (17.5 in)	7MC7500-1JE06-6BF3-Z	E00+Y44
SITRANS TS500 Insert 597 mm (23.5 in)	7MC7500-1JE06-6BF3-Z	E00+Y44
<b>Insert thermowells for TS550 RTD</b>		
For details or variants please select Thermowell BAR (7MT2351)		
SITRANS TS Thermowell 140 mm (5.5 in)	7MT2351-0AB02-1EB2-Z	Y44

## Selection and ordering data (continued)

	Article No.	Option
<b>Spare parts (system)</b>		
<b>SITRANS FS230</b>	7ME3950-	● ● ● ● ●
<b>IP65/IP66 (Nema 4X)</b>		
SITRANS TS Thermowell 216 mm (8.5 in)	7MT2351-0BB02-1EB2-Z	Y44
SITRANS TS Thermowell 292 mm (11.5 in)	7MT2351-0CB02-1EB2	
SITRANS TS Thermowell 368 mm (14.5 in)	7MT2351-0CB02-1EB2-Z	Y44
SITRANS TS Thermowell 444 mm (17.5 in)	7MT2351-0DB02-1EB2-Z	Y44
SITRANS TS Thermowell 597 mm (23.5 in)	7MT2351-0EB02-1EB2-Z	Y44

	Article No.						
<b>Spare parts (Miscellaneous)</b>							
<b>SITRANS FS Clamp-on</b>	7ME3960-	●	●	●	●	●	●
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.							
<b>FS230 dedicated sensor mounting hardware</b>							
Sensor mounting frames for							
Universal sensor size B, for pipes > 125 mm (5 inch)							
Universal sensor size C							
Universal sensor size D							
Universal sensor size E							
High precision sensor size B, for pipes > 125 mm (5 inch)							
High precision sensor size C							
High precision sensor size D							
Magnetic mounting frames for size C, D, E, universal and high precision sensors							
<b>Spacer bars (for indexing sensors on pipe)</b>							
Spacer bar for pipes to 200 mm/8 inch (liquid), 600 mm/24 inch (gas)							
Spacer bar for pipes to 500 mm/20 inch (liquid), DN 1200/48 inch (gas)							
Spacer bar for pipes to 800 mm/32 inch (liquid)							
Spacer bar for pipes to 1200 mm/48 inch (liquid). Must be used with 7ME39600SM30							
<b>Mounting straps (slotted stainless steel)</b>							
For pipes							
DN 50 ... 150 (2" ... 4")							
DN 50 ... 300 (2" ... 12")							
DN 300 ... 600 (12" ... 24")							
DN 600 ... 1200 (24" ... 48")							
DN 1200 ... 1500 (48" ... 60")							
DN 1500 ... 2100 (60" ... 84")							
DN 2100 ... 3000 (84" ... 120")							
<b>High precision mounting enclosures for sensors</b>							
Stainless steel mounts for high precision size "C" sensors, single enclosure							
Stainless steel mounts for high precision size "D/E" sensors, single enclosure							
Stainless steel mounts for high precision size "C" sensors, dual enclosure							
Stainless steel mounts for high precision size "D/E" sensors, dual enclosure							
<b>Stainless steel bands for high precision mounting enclosures</b>							
Mounting strap for pipe diameter to							
300 mm (13")							
600 mm (24")							
1200 mm (48")							
1500 mm (60")							
2130 mm (84")							
3050 mm (120")							
5486 mm (216")							
ADAPTER, MTG STRAP, TEMP COMP							
<b>Sensor mounting tracks (aluminum with mounting straps) for pipes &lt; 125 mm (5 inch)</b>							
Universal sensor size A or B							
High precision sensor size A or B							
<b>Stainless mounting tracks for high temperature 991 sensors</b>							
Size 1 high temperature sensor pair							
Size 2 high temperature sensor pair							
Size 3 high temperature sensor pair							
Size 4 high temperature sensor pair							



## Selection and ordering data (continued)

Spare parts (Miscellaneous) SITRANS FS Clamp-on	Article No.
	7ME3960- ● ● ● ● ●
<b>Pipe damping films</b>	
B1, B2, B3, C1 and C2 sensors	0 D M 1 0
D1 and D3 sensors	0 D M 2 0
D2 sensor	0 D M 3 0
D4 sensor	0 D M 4 0
<b>Universal sensor test blocks</b>	
Test block for size A and B universal sensors	0 T B 1 0
Test block for size C and D universal sensors	0 T B 2 0
<b>Thickness gauge</b>	
Stand alone thickness gauge	7ME39510TG20
<b>Cable, DSL to wallbox transmitter</b>	
Standard cable (non-Ex) with 2 × M12 connectors, PO insulation and PUR sleeve, gray, -40 ... +80 °C (-40 ... +176 °F)	
• 5 m (16.4 ft)	A5E03914805
• 10 m (32.8 ft)	A5E03914850
• 25 m (82 ft)	A5E03914853
• 50 m (164 ft)	A5E03914859
• 75 m (246 ft)	A5E03914861
• 150 m (492 ft)	A5E03914874
Standard cable (non-Ex) for termination, PO insulation and PUR sleeve, gray, -40 ... +80 °C (-40 ... +176 °F)	
• 5 m (16.4 ft)	A5E03914833
• 10 m (32.8 ft)	A5E03914849
• 25 m (82 ft)	A5E03914854
• 50 m (164 ft)	A5E03914856
• 75 m (246 ft)	A5E03914864
• 150 m (492 ft)	A5E03914873
Standard cable (Ex) with 2 × M12 connectors, PO insulation and PUR sleeve, blue, -40 ... +80 °C (-40 ... +176 °F)	
• 5 m (16.4 ft)	A5E03914929
• 10 m (32.8 ft)	A5E03914962
• 25 m (82 ft)	A5E03914995
• 50 m (164 ft)	A5E03915004
• 75 m (246 ft)	A5E03915074
• 150 m (492 ft)	A5E03915088
Standard cable (Ex) for termination, PO insulation and PUR sleeve, blue, -40 ... +80 °C (-40 ... +176 °F)	
• 5 m (16.4 ft)	A5E03914945
• 10 m (32.8 ft)	A5E03914973
• 25 m (82 ft)	A5E03914984
• 50 m (164 ft)	A5E03915015
• 75 m (246 ft)	A5E03915057
• 150 m (492 ft)	A5E03915100