SITRANS F C sensor FC300 DN 4 with SITRANS FCT010, FCT030 and SIFLOW FC070 transmitter

Overview

SITRANS FC300 is a compact Coriolis mass sensor suitable for flow measurement of a variety of liquids and gases.

The sensor offers superior performance in terms of flow accuracy, turn-down ratio and density accuracy. The ease of installation through a „plug & play“ interface ensures optimum performance and operation.

A new designed encapsulation in stainless steel with a surprisingly low weight of only 3.5 kg (7.7 lb), ensures a rigid and robust sensor performance for a wide range of applications.

Benefits

- High accuracy better than 0.1 % of mass flow rate
- Large dynamic turn-down ratio better than 500:1
- Densitometer performance available through a density accuracy as follows:
  - For 316L/1.4404 version better than 0.007 g/cm^3 (0.00025 lb/inch^3) with repeatability better than 0.0002 g/cm^3 (0.0000072 lb/inch^3)
  - For C22/2.4602 version better than 0.0025 g/cm^3 (0.000090 lb/inch^3) with repeatability better than 0.0002 g/cm^3 (0.0000072 lb/inch^3)
- One tube without internal welds, reductions or flow splitters offers optimal hygiene, safety and CIP cleanability for food and beverage and pharmaceutical applications
- Larger wall thickness, ensures optimal life-time and corrosion resistance and high-pressure durability
- Balanced pipe design with little mechanical energy loss, ensures optimal performance and stability under non-ideal and unstable process conditions (pressure, temperature, density-changes etc.).
- 4-wire Pt1000 temperature measurement ensures optimum accuracy on mass flow, density and fraction flow
- Multi-plug electrical connector and SENSORPROM enable true „plug & play“. Installation and commissioning in less than 10 minutes.
- Intrinsically safe Ex design ia IIC as standard
- Sensor pipe available in high-quality stainless steel AISI 316L/1.4435 or Hastelloy C22/2.4602 offering optimum corrosion resistance.
- Rugged and space-saving sensor design in stainless steel matching all applications.
- High-pressure program as standard
- The sensor calibration factor is also valid for gas measurement.

Application

The industry today has an increasing demand for mass flowmeters with a reduced physical size without loss of performance. The meters must be suitable for installation in traditional process industry environment as well as OEM equipment for instance within automotive or appliance industry. Independent of industry application the meter must deliver accurate and reliable measurements. The new and versatile design of the FC300 offers this flexibility.

The main applications for the SITRANS FC300 DN 4 can be found in:	
Chemical industry	Liquid and gas measurement in normal as well as corrosive environments
Cosmetic industry	Dosing of essence and fragrances
Pharmaceutical industry	High-speed dosing and coating of pills, filling of ampuls/injectors
Food and beverage industry	Filling, dosing of flavorings, colors and additives, inline density measurement Measurement and dosing of liquid or gaseous CO_2
Automotive industry	Fuel injection nozzle and pump testing, filling of AC units, engine consumption, paint robots, ABS test-beds

Design

The FC300 sensor consists of a single tube bent in double omega pipe geometry, welded directly to the process connectors at each end. The sensor is available in 2 material configurations, AISI 316L/1.4404 or Hastelloy C22/2.4602 with ¼”-NPT or G¼”-ISO process connections.

The enclosure is made of stainless steel AISI 316L/1.4409 with a grade of encapsulation of IP67/NEMA 4. The enclosure has a very robust design and with an overall size of 130 x 200 x 60 mm (5.12“ x 7.87“ x 2.36“) the sensor is very compact and requires only little installation space.

The sensor can be delivered in a standard version with a maximum liquid temperature of 115 °C (239 °F) or a high-temperature version, with raised electrical connector for 180 °C (356 °F).

The sensor can be installed in horizontal or vertical position. The sensor can be mounted directly on any given plane surface or if desired with the enclosed quick release clamp fitting which, along with its compact design and multi-plug electrical connector, will keep installation costs and time to a minimum.

Function

The measuring principle is based on the Coriolis effect. See “System information SITRANS F C Coriolis mass flowmeters”.

Integration

The sensor can be connected to all FCT010, FCT030, SIFLOW and MASS 6000 (non CE) transmitters for remote installation only.

All sensors are delivered with a Sensor Flash or SENSORPROM containing all information about calibration data, identity and factory pre-programming of transmitter settings.

SITRANS F C sensor FC300 DN 4 with SITRANS FCT010, FCT030 and SIFLOW FC070 transmitter

Installation guidelines for SITRANS FC300 sensor

Horizontal installation as shown in figure A is recommended with gas or liquid applications.

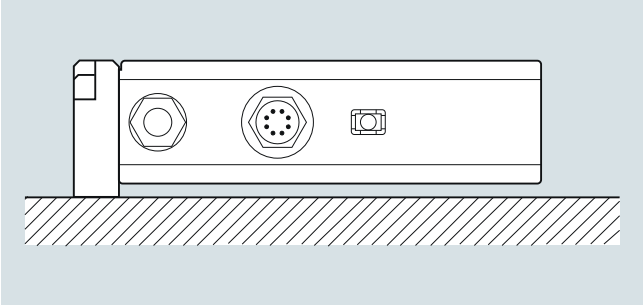
This installation is also recommended when the flow velocity is low (< 1 m/s) or the liquid contains solid particles or air bubbles.

Vertical installation as shown in figure B can be used for liquid or gas applications.

For liquid applications upwards flow is recommended to facilitate the removal of air bubbles and to avoid partly emptying of the sensor.
For gas applications we recommend to place the flow inlet on the sensor high and the outlet low to remove impurities and oil films.

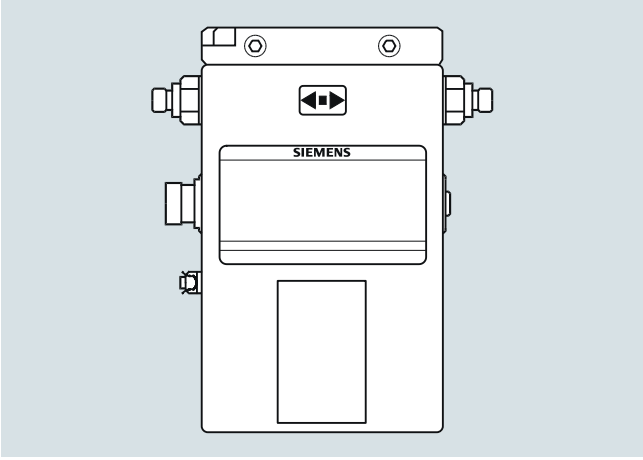
- To ensure that the sensor does not become partly empty, there must be a sufficient counter-pressure on the unit min. 0.2 bar (2.9 psi).
- Mount the sensor on a vibration-free and plane wall or steel frame.
- Locate the sensor low in the system in order to avoid underpressure in the sensor separating air/gas in the liquid.
- Ensure that the sensor is not emptied of liquid (during normal operation) otherwise incorrect measurement will occur.

Horizontal mounting (recommended) (fig. A)



Liquid or gas (low to high flow)

Vertical mounting (fig. B)



Liquid or gas (medium to high flow)

Technical specifications

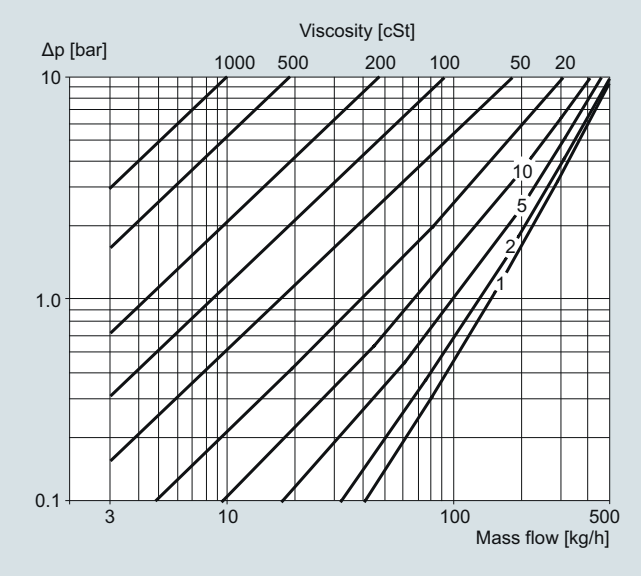
Sensor size	DN 4 (1/6“)
Mass flow	
Measuring range	0 ... 350 kg/h (0 ... 772 lb/h)
Accuracy, mass flow	0.1 % of rate
Repeatability	0.05 % of rate
Max. zero point error	0.010 kg/h (0.022 lb/h)
Density	
Density range	0 ... 2.9 g/cm^3 (0 ... 0.105 lb/inch^3)
Density error	
• Stainless steel	0.007 g/cm^3 (0.00025 lb/inch^3)
• Hastelloy C22/2.4602	0.0025 g/cm^3 (0.00009 lb/inch^3)
Repeatability error	0.0002 g/cm^3 (0.0000072 lb/inch^3)
Media temperature	
Standard	-40 ... +115 °C (-40 ... +239 °F)
High-temperature version	-40 ... +180 °C (-40 ... +356 °F)
Temperature error	0.5 °C (0.9 °F)
Ambient temperature	-20 ... +50 °C (-4 ... +122 °F)
Brix	
Measuring range	0 ... 100 °Brix
Brix error	0.3 °Brix
Inside pipe diameter	
Stainless steel version	3.5 mm (0.14“)
Hastelloy version	3.0 mm (0.12“)
Pipe wall thickness	
Stainless steel version	0.25 mm (0.0098“)
Hastelloy version	0.5 mm (0.0196“)
Liquid pressure measuring pipe[1]	
Stainless steel	130 bar (1885 psi) at 20 °C (68 °F)
Hastelloy C22/2.4602	410 bar (5945 psi) at 20 °C (68 °F)
Materials	Stainless steel AISI 316L/1.4435
Measuring pipe and connection	Hastelloy C22/2.4602
Enclosure[2]	
Material	Stainless steel AISI 316L/1.4404
Enclosure grade	IP67/NEMA4
Connection thread	
ISO 228/1	G¼” male
ANSI/ASME B1.20.1	¼” NPT male
Ex approval	Ex ia IIC T6…T3 Ga 05 ATEX 138072X USL, CNL – Class I, Division 1, Groups A, B, C and D Hazardous Locations. Class I, Zone 0, AEx ia IIC T3-T6; Class I, Zone 0, Ex ia IIC T3-T6.
Weight	3.5 kg (7.7 lb)
Dimensions	135 x 205 x 58 mm (5.31“ x 8.07“ x 2.28“)

[1] According to DIN 2413, DIN 17457
[2] Housing is not rated for pressure containment.

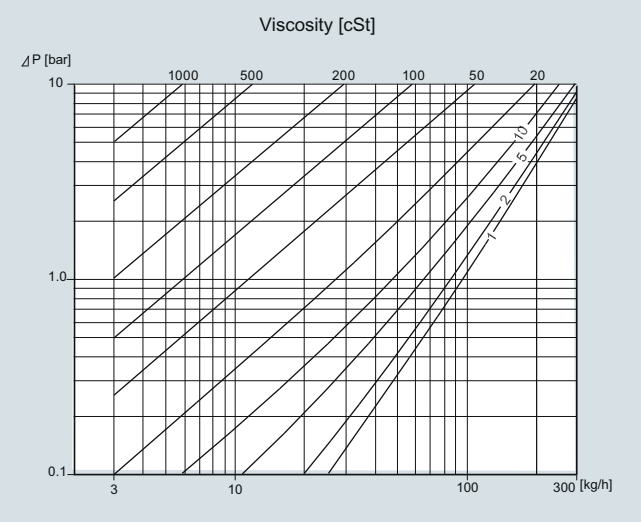
SITRANS F C sensor FC300 DN 4 with SITRANS FCT010, FCT030 and SIFLOW FC070 transmitter

Characteristic curves

Pressure drop



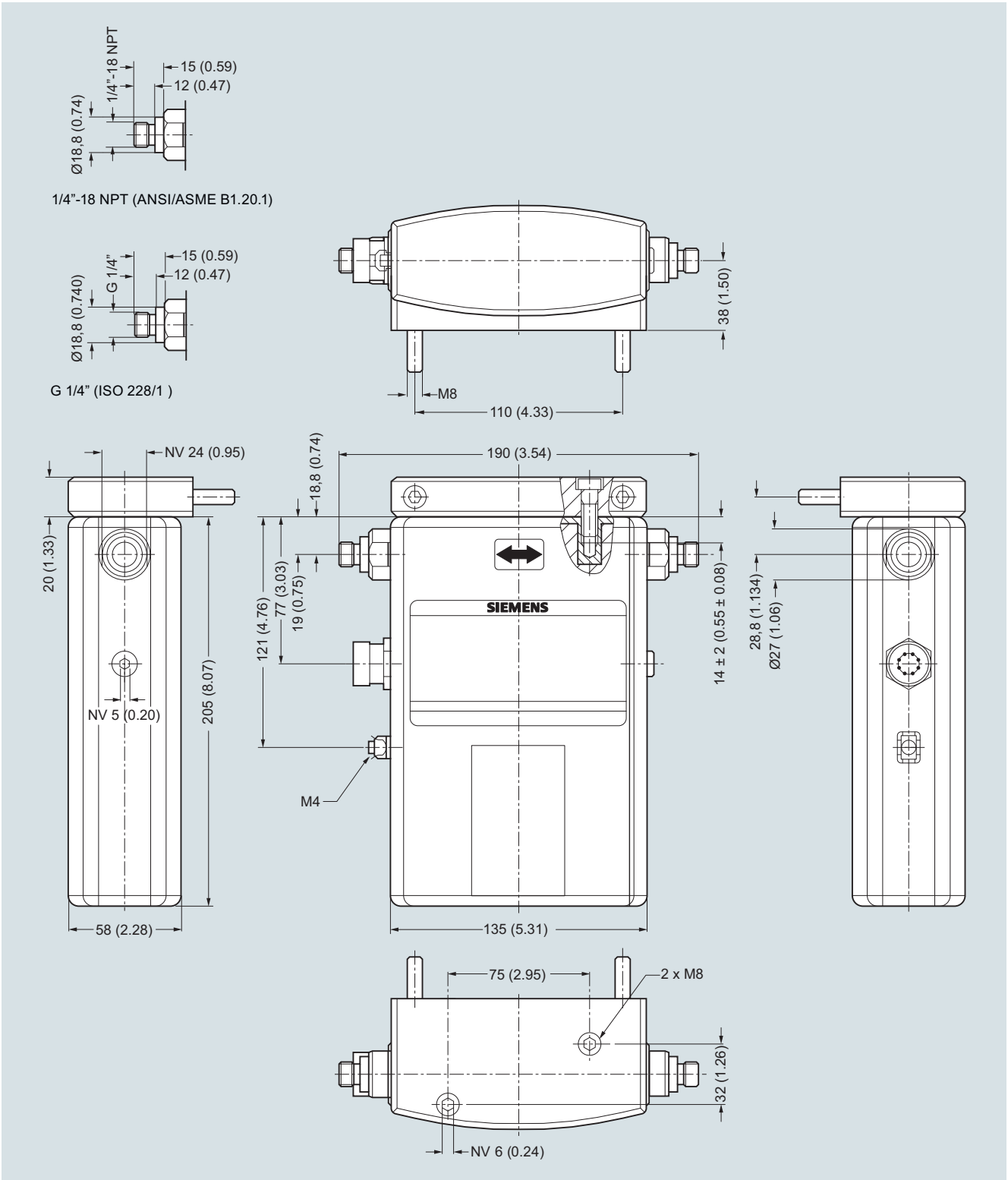
Stainless steel 316L/1.4404



Hastelloy C22/2.4602

Dimensional drawings

SITRANS FC300 DN 4



SITRANS FC300, dimensions in mm (inch)

SITRANS F C sensors MASS 2100/FC300 with FCT010, FCT030 and SIFLOW FC070 transmitters (Low flow program)

Selection and Ordering data	Article No.	Ord. code
SITRANS F C sensors MASS 2100/FC300 with FCT010 transmitter ↗	7ME4811-	
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.		
Sensor type and connector size		
MASS 2100 DI 1.5, 1/4"	1G	
MASS 2100 DI 3, 1/4"	3A	
MASS 2100 DI 3, 1/4" Heated w. DIN	3B	
MASS 2100 DI 3,1/4" Heated w. ANSI	3C	
FC300 DN 4, 1/4"	4A	
MASS 2100 DI 6, 1/4"	6A	
MASS 2100 DI 6,1/4" Heated w. EN	6B	
MASS 2100 DI 6, 1/4" Heated w. ANSI	6C	
MASS 2100 DI 6, DN 10	6D	
MASS 2100 DI 6, DN 10 Heated w. EN	6E	
MASS 2100 DI 6, DN 10 Heated w. ANSI	6F	
MASS 2100 DI 6, DN 15 (½")	6G	
MASS 2100 DI 6, DN 15 (½") Heated w. EN	6H	
MASS 2100 DI 6, DN 15 (½") Heated w. ANSI	6J	
MASS 2100 DI 6, DN 20 (¾")	6K	
MASS 2100 DI 6, DN 20 (¾") Heated w. EN	6L	
MASS 2100 DI 6, DN 20 (¾") Heated w. ANSI	6M	
MASS 2100 DI 6, DN 25 (1")	6N	
MASS 2100 DI 6, DN 25 (1") Heated w. EN	6P	
MASS 2100 DI 6, DN 25 (1") Heated w. ANSI	6Q	
MASS 2100 DI 15, DN 15 (½")	7A	
MASS 2100 DI 15, DN 15 (½") Heated w. EN	7B	
MASS 2100 DI 15, DN 15 (½") Heated w. ANSI	7C	
MASS 2100 DI 15, DN 20 (¾")	7D	
MASS 2100 DI 15, DN 20 (¾") Heated w. EN	7E	
MASS 2100 DI 15, DN 20 (¾") Heated w. ANSI	7F	
MASS 2100 DI 15, DN 25 (1")	7G	
MASS 2100 DI 15, DN 25 (1") Heated w. EN	7H	
MASS 2100 DI 15, DN 25 (1") Heated w. ANSI	7J	
Process connection/Pressure		
No connections (spare part transmitter)	A0	
EN1092-1 B1, PN40	A1	
EN1092-1 B1, PN100	A3	
ASME B16.5, RF, Class 150	D1	
ASME B16.5, RF, Class 600	D3	
DIN 11851 Screwed connection	F1	
ISO2852 Hyg. Clamped	J1	
ISO2853 Hyg. Screwed	J5	
ISO 228-1 Pipe thread, PN 100	C1	
ISO 228-1 Pipe thread, PN 130	C2	
ISO 228-1 Pipe thread, PN 200	C3	
ISO 228-1 Pipe thread, PN 230	C4	
ISO 228-1 Pipe thread, PN 265	C5	
ISO 228-1 Pipe thread, PN 350	C6	
ISO 228-1 Pipe thread, PN 365	C7	
ISO 228-1 Pipe thread, PN 410	C8	
NPT ASME B 1.20.1 Pipe thread, PN 100	N1	
NPT ASME B 1.20.1 Pipe thread, PN 130	N2	
NPT ASME B 1.20.1 Pipe thread, PN 200	N3	
NPT ASME B 1.20.1 Pipe thread, PN 230	N4	
NPT ASME B 1.20.1 Pipe thread, PN 265	N5	
NPT ASME B 1.20.1 Pipe thread, PN 350	N6	
NPT ASME B 1.20.1 Pipe thread, PN 365	N7	
NPT ASME B 1.20.1 Pipe thread, PN 410	N8	

Selection and Ordering data	Article No.	Ord. code
SITRANS F C sensors MASS 2100/FC300 with FCT010 transmitter	7ME4811-	
Tube material (wetted) and max. operational temperature		
AISI 316L/EN 1.4435, Max 115 °C	1	
AISI 316L/EN 1.4435, Max 125 °C	2	
AISI 316L/EN 1.4435, Max 180 °C	3	
Hastelloy C22/UNS N06022/EN 2.4602, Max. 115 °C	5	
Hastelloy C22/UNS N06022/EN 2.4602, Max. 125 °C	6	
Hastelloy C22/UNS N06022/EN 2.4602, Max. 180 °C	7	
Calibration		
Mass flow calibration	1	
Mass flow calibration and density calibration	4	
Mounting style, Transmitter Housing and Material		
Compact mounted, IP67, Aluminium transmitter housing (DI 3, DI 6 and DI 15 only)	D	
Remote mounted, IP67, Aluminium transmitter housing, analog cable connection with M20 connectors	Z	P0D
Ex approvals		
Non-Ex	A	
ATEX Zone 1	C	
IECEx Zone 1	F	
USA (FM, CSA, UL), Zone 1/Div1	H	
Canada (CSA, UL), Zone 1/Div1	M	
Local User Interface		
Blind	1	

SITRANS F C sensors MASS 2100/FC300 with FCT010, FCT030 and SIFLOW FC070 transmitters (Low flow program)

Selection and Ordering data	Order code
Futher designs	
Please add "**-Z**" to Article No. and specify Order code(s).	
Cable glands	
None (mechanical sensor)	**A00**
Metric, no glands	**A01**
Metric, plastic	**A02**
Metric, brass/Ni plated	**A05**
Metric, stainless steel	**A06**
NPT, no glands	**A11**
NPT, plastic	**A12**
NPT, brass/Ni plated	**A15**
NPT, stainless steel	**A16**
Integral M12 socket	**A20**
SW functions & CT approvals	
Standard	**B11**
I/O configuration Ch1	
Modbus RTU RS 485	**E14**
I/O configuration Ch2, Ch3 and Ch4	
None	**F00**
Certificates	
Press test certificate CRN	**C01**
Press test certificate PED	**C02**
Material certificate EN 10204-3.1	**C12**
Welding inspection report	**C13**
Factory certificate according to EN 10204 2.2	**C14**
Factory certificate according to EN 10204 2.1	**C15**
Cleaning for oil and grease/ASTM-A380	**C50**
Cleaned according to PWIS	**C51**
Sensor data storage	
Sensor with SensorFlash for FCT	**S20**
Sensor with SensorProm for MASS 6000	**S21**
Cable sensor-transmitter	
None	**L50**
5 m, standard, M12 connectors	**L51**
5 m, standard, without connectors	**L52**
10 m, standard, M12 connectors	**L55**
10 m, standard, without connectors	**L56**
25 m, standard, M12 connectors	**L59**
25 m, standard, without connectors	**L60**
50 m, standard, M12 connectors	**L63**
50 m, standard, without connectors	**L64**
75 m, standard, M12 connectors	**L67**
75 m, standard, without connectors	**L68**
1 m cable, analog, with two M20 connectors	**L85**
2 m cable, analog, with two M20 connectors	**L86**
5 m cable, analog, with two M20 connectors	**L87**
10 m cable, analog, with two M20 connectors	**L88**
15 m cable, analog, with two M20 connectors	**L89**

Selection and Ordering data	Order code
Additional data	
Please add "**-Z**" to Article No. and specify Order code(s) and plain text.	
Tag name	
Tag name plate, stainless steel	**Y17**
Extended calibration	
Multi-point high, (5 flows x 2 passes), 10 ... 100 % of Q_{nom}	**Y61**
Multi-point high, (10 flows x 1 pass), 10 ... 100 % of Q_{nom}	**Y63**

SITRANS F C sensors MASS 2100/FC300 with FCT010, FCT030 and SIFLOW FC070 transmitters (Low flow program)

3

Selection and Ordering data	Article No.	Ord. code
SITRANS F C sensors MASS 2100/FC300 with FCT030 transmitter ↗	7ME4813 -	
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.		
Sensor type and connector size		
MASS 2100 DI 1.5, 1/4"	1G	
MASS 2100 DI 3, 1/4"	3A	
MASS 2100 DI 3, 1/4" Heated w. DIN	3B	
MASS 2100 DI 3,1/4" Heated w. ANSI	3C	
FC300 DN 4, 1/4"	4A	
MASS 2100 DI 6, 1/4"	6A	
MASS 2100 DI 6,1/4" Heated w. EN	6B	
MASS 2100 DI 6, 1/4" Heated w. ANSI	6C	
MASS 2100 DI 6, DN 10	6D	
MASS 2100 DI 6, DN 10 Heated w. EN	6E	
MASS 2100 DI 6, DN 10 Heated w. ANSI	6F	
MASS 2100 DI 6, DN 15 (½")	6G	
MASS 2100 DI 6, DN 15 (½") Heated w. EN	6H	
MASS 2100 DI 6, DN 15 (½") Heated w. ANSI	6J	
MASS 2100 DI 6, DN 20 (¾")	6K	
MASS 2100 DI 6, DN 20 (¾") Heated w. EN	6L	
MASS 2100 DI 6, DN 20 (¾") Heated w. ANSI	6M	
MASS 2100 DI 6, DN 25 (1")	6N	
MASS 2100 DI 6, DN 25 (1") Heated w. EN	6P	
MASS 2100 DI 6, DN 25 (1") Heated w. ANSI	6Q	
MASS 2100 DI 15, DN 15 (½")	7A	
MASS 2100 DI 15, DN 15 (½") Heated w. EN	7B	
MASS 2100 DI 15, DN 15 (½") Heated w. ANSI	7C	
MASS 2100 DI 15, DN 20 (¾")	7D	
MASS 2100 DI 15, DN 20 (¾") Heated w. EN	7E	
MASS 2100 DI 15, DN 20 (¾") Heated w. ANSI	7F	
MASS 2100 DI 15, DN 25 (1")	7G	
MASS 2100 DI 15, DN 25 (1") Heated w. EN	7H	
MASS 2100 DI 15, DN 25 (1") Heated w. ANSI	7J	
Process connection/Pressure		
No connections (spare part transmitter)	A0	
EN1092-1 B1, PN40	A1	
EN1092-1 B1, PN100	A3	
ASME B16.5, RF, Class 150	D1	
ASME B16.5, RF, Class 600	D3	
DIN 11851 Screwed connection	F1	
ISO2852 Hyg. Clamped	J1	
ISO2853 Hyg. Screwed	J5	
ISO 228-1 Pipe thread, PN 100	C1	
ISO 228-1 Pipe thread, PN 130	C2	
ISO 228-1 Pipe thread, PN 200	C3	
ISO 228-1 Pipe thread, PN 230	C4	
ISO 228-1 Pipe thread, PN 265	C5	
ISO 228-1 Pipe thread, PN 350	C6	
ISO 228-1 Pipe thread, PN 365	C7	
ISO 228-1 Pipe thread, PN 410	C8	
NPT ASME B 1.20.1 Pipe thread, PN 100	N1	
NPT ASME B 1.20.1 Pipe thread, PN 130	N2	
NPT ASME B 1.20.1 Pipe thread, PN 200	N3	
NPT ASME B 1.20.1 Pipe thread, PN 230	N4	
NPT ASME B 1.20.1 Pipe thread, PN 265	N5	
NPT ASME B 1.20.1 Pipe thread, PN 350	N6	
NPT ASME B 1.20.1 Pipe thread, PN 365	N7	
NPT ASME B 1.20.1 Pipe thread, PN 410	N8	

Selection and Ordering data	Article No.	Ord. code
SITRANS F C sensors MASS 2100/FC300 with FCT030 transmitter	7ME4813 -	
Tube material (wetted) and max. operational temperature		
AISI 316L/EN 1.4435, Max 115 °C	1	
AISI 316L/EN 1.4435, Max 125 °C	2	
AISI 316L/EN 1.4435, Max 180 °C	3	
Hastelloy C22/UNS N06022/EN 2.4602, Max. 115 °C	5	
Hastelloy C22/UNS N06022/EN 2.4602, Max. 125 °C	6	
Hastelloy C22/UNS N06022/EN 2.4602, Max. 180 °C	7	
Calibration		
Mass flow calibration	1	
Mass flow calibration and density calibration	4	
Standard fraction	8	
Mounting style, Transmitter Housing and Material		
Compact mounted, IP67, Aluminium transmitter housing (DI 3, DI 6 and DI 15 only)	D	
Remote field mounted, IP67, Aluminium housing, M12 socket for digital cable connection (DI 3, DI6 and DI 15 only)	G	
Remote field mount, IP67, Aluminium housing, terminal box for digital cable connection (DI 3, DI6 and DI 15 only)	K	
Wall mount aluminum transmitter housing, M12 socket for digital cable connection (DI 3, DI 6 and DI 15 only) (in preparation)	U	
Remote field mount, IP67, Aluminium transmitter housing, analog cable connection with M20 connectors	Z	P0D
Remote wall mount, IP67, aluminum transmitter housing, analog cable connection with M20 connectors (in preparation)	Z	P0E
Ex approvals		
Non-Ex	A	
ATEX Zone 1	C	
IECEx Zone 1	F	
USA (FM, CSA, UL), Zone 1/Div1	H	
Canada (CSA, UL), Zone 1/Div1	M	
Local User Interface		
Blind	1	
Graphical, 240 x 160 pixels, glass lid	3	

SITRANS F C sensors MASS 2100/FC300 with FCT010, FCT030 and SIFLOW FC070 transmitters (Low flow program)

Selection and Ordering data	Order code
Futher designs	
Please add "**-Z**" to Article No. and specify Order code(s).	
Cable glands	
None (mechanical sensor)	**A00**
Metric, no glands	**A01**
Metric, plastic	**A02**
Metric, brass/Ni plated	**A05**
Metric, stainless steel	**A06**
NPT, no glands	**A11**
NPT, plastic	**A12**
NPT, brass/Ni plated	**A15**
NPT, stainless steel	**A16**
Integral M12 socket	**A20**
SW functions & CT approvals	
Standard	**B11**
I/O configuration Ch1	
None (replacement sensor)	**E00**
4 ... 20 mA, HART, active/passive output (non-Ex)	**E02**
4 ... 20 mA, HART, active Ex	**E06**
4 ... 20 mA, HART, passive Ex	**E07**
PROFIBUS PA (non-Ex)	**E10**
PROFIBUS DP	**E11**
Modbus RTU RS 485	**E14**
I/O configuration Ch2, Ch3 and Ch4	
None	**F00**
Non Ex: Sig O, None, None	**F01**
Non Ex: Sig O, Sig I/O, None	**F02**
Non Ex: Sig O, Sig I/O, Sig I/O	**F03**
Non Ex: Sig O, Sig I/O, R	**F04**
Non Ex: Sig O, R, R	**F05**
Non Ex: Sig O, R, None	**F06**
Ex: pSig O, None, None	**F11**
Ex: pSig O, pSig I/O, None	**F12**
Ex: pSig O, pSig I/O, pSig I/O	**F13**
Ex: pSig O, pSig I/O, R	**F14**
Ex: pSig O, R, R	**F15**
Ex: pSig O, R, None	**F16**
Ex: aSig O, None, None	**F21**
Ex: aSig O, aSig I/O, None	**F22**
Ex: aSig O, aSig I/O, aSig I/O	**F23**
Ex: aSig O, aSig I/O, R	**F24**
Ex: aSig O, R, R	**F25**
Ex: aSig O, R, None	**F26**
Certificates	
Press test certificate CRN	**C01**
Press test certificate PED	**C02**
Material certificate EN 10204-3.1	**C12**
Welding inspection report	**C13**
Factory certificate according to EN 10204 2.2	**C14**
Factory certificate according to EN 10204 2.1	**C15**
Cleaning for oil and grease/ASTM-A380	**C50**
Cleaned according to PWIS	**C51**

Selection and Ordering data	Order code
Sensor data storage	
Sensor with SensorFlash for FCT	**S20**
Sensor with SensorProm for MASS 6000 (in preparation)	**S21**
SD-Card accessibility via USB (not allowed in USA by Patent)	
Mass storage enabled	**S30**
Cable sensor-transmitter	
None	**L50**
5 m, standard, M12 connectors	**L51**
5 m, standard, without connectors	**L52**
10 m, standard, M12 connectors	**L55**
10 m, standard, without connectors	**L56**
25 m, standard, M12 connectors	**L59**
25 m, standard, without connectors	**L60**
50 m, standard, M12 connectors	**L63**
50 m, standard, without connectors	**L64**
75 m, standard, M12 connectors	**L67**
75 m, standard, without connectors	**L68**
1 m cable, analog, with two M20 connectors	**L85**
2 m cable, analog with two M20 connectors	**L86**
5 m cable, analog with two M20 connectors	**L87**
10 m cable, analog with two M20 connectors	**L88**
15 m cable, analog with twoM20 connectors	**L89**
Additional data	
Please add "**-Z**" to Article No. and specify Order code(s) and plain text.	
Tag name	
Tag name plate, stainless steel	**Y17**
Extended calibration	
Multi-point high, (5 flows x 2 passes), 10 ... 100 % of Q_{nom}	**Y61**
Multi-point high, (10 flows x 1 pass), 10 ... 100 % of Q_{nom}	**Y63**

SITRANS F C sensors MASS 2100/FC300 with FCT010, FCT030 and SIFLOW FC070 transmitters (Low flow program)

3

Selection and Ordering data	Article No.	Ord. code
SITRANS F C sensors MASS 2100/FC300 with SIFLOW FC070 transmitter[1] ↗	7ME4818 -	
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.		
Sensor type and connector size		
MASS 2100 DI 1.5, 1/4"	1G	
MASS 2100 DI 3, 1/4"	3A	
MASS 2100 DI 3, 1/4" Heated w. DIN	3B	
MASS 2100 DI 3,1/4" Heated w. ANSI	3C	
FC300 DN 4, 1/4"	4A	
MASS 2100 DI 6, 1/4"	6A	
MASS 2100 DI 6,1/4" Heated w. EN	6B	
MASS 2100 DI 6, 1/4" Heated w. ANSI	6C	
MASS 2100 DI 6, DN 10	6D	
MASS 2100 DI 6, DN 10 Heated w. EN	6E	
MASS 2100 DI 6, DN 10 Heated w. ANSI	6F	
MASS 2100 DI 6, DN 15 (½")	6G	
MASS 2100 DI 6, DN 15 (½") Heated w. EN	6H	
MASS 2100 DI 6, DN 15 (½") Heated w. ANSI	6J	
MASS 2100 DI 6, DN 20 (¾")	6K	
MASS 2100 DI 6, DN 20 (¾") Heated w. EN	6L	
MASS 2100 DI 6, DN 20 (¾") Heated w. ANSI	6M	
MASS 2100 DI 6, DN 25 (1")	6N	
MASS 2100 DI 6, DN 25 (1") Heated w. EN	6P	
MASS 2100 DI 6, DN 25 (1") Heated w. ANSI	6Q	
MASS 2100 DI 15, DN 15 (½")	7A	
MASS 2100 DI 15, DN 15 (½") Heated w. EN	7B	
MASS 2100 DI 15, DN 15 (½") Heated w. ANSI	7C	
MASS 2100 DI 15, DN 20 (¾")	7D	
MASS 2100 DI 15, DN 20 (¾") Heated w. EN	7E	
MASS 2100 DI 15, DN 20 (¾") Heated w. ANSI	7F	
MASS 2100 DI 15, DN 25 (1")	7G	
MASS 2100 DI 15, DN 25 (1") Heated w. EN	7H	
MASS 2100 DI 15, DN 25 (1") Heated w. ANSI	7J	
Process connection/Pressure		
No connections (spare part transmitter)	A0	
EN1092-1 B1, PN40	A1	
EN1092-1 B1, PN100	A3	
ASME B16.5, RF, Class 150	D1	
ASME B16.5, RF, Class 600	D3	
DIN 11851 Screwed connection	F1	
ISO2852 Hyg. Clamped	J1	
ISO2853 Hyg. Screwed	J5	
ISO 228-1 Pipe thread, PN 100	C1	
ISO 228-1 Pipe thread, PN 130	C2	
ISO 228-1 Pipe thread, PN 200	C3	
ISO 228-1 Pipe thread, PN 230	C4	
ISO 228-1 Pipe thread, PN 265	C5	
ISO 228-1 Pipe thread, PN 350	C6	
ISO 228-1 Pipe thread, PN 365	C7	
ISO 228-1 Pipe thread, PN 410	C8	
NPT ASME B 1.20.1 Pipe thread, PN 100	N1	
NPT ASME B 1.20.1 Pipe thread, PN 130	N2	
NPT ASME B 1.20.1 Pipe thread, PN 200	N3	
NPT ASME B 1.20.1 Pipe thread, PN 230	N4	
NPT ASME B 1.20.1 Pipe thread, PN 265	N5	
NPT ASME B 1.20.1 Pipe thread, PN 350	N6	
NPT ASME B 1.20.1 Pipe thread, PN 365	N7	
NPT ASME B 1.20.1 Pipe thread, PN 410	N8	

Selection and Ordering data	Article No.	Ord. code
SITRANS F C sensors MASS 2100/FC300 with SIFLOW FC070 transmitter[1]	7ME4818 -	
Tube material (wetted) and max. operational temperature		
AISI 316L/EN 1.4435, Max 115 °C	1	
AISI 316L/EN 1.4435, Max 125 °C	2	
AISI 316L/EN 1.4435, Max 180 °C	3	
Hastelloy C22/UNS N06022/EN 2.4602, Max. 115 °C	5	
Hastelloy C22/UNS N06022/EN 2.4602, Max. 125 °C	6	
Hastelloy C22/UNS N06022/EN 2.4602, Max. 180 °C	7	
Calibration		
Mass flow calibration	1	
Mass flow calibration and density calibration	4	
Standard fraction calibration	8	
Mounting style, Transmitter Housing and Material		
SIFLOW FC070 Standad DIN rail	W	
Ex approvals		
Non-Ex	A	
ATEX Zone 1	C	
IECEx Zone 1	F	
USA (FM, CSA, UL), Zone 1/Div1	H	
Canada (CSA, UL), Zone 1/Div1	M	
Local User Interface		
Blind	1	

[1] SITRANS F C sensors MASS 2100/FC300 with SIFLOW FC070 transmitter (7ME4818-) are in preparation.

SITRANS F C sensors MASS 2100/FC300 with FCT010, FCT030 and SIFLOW FC070 transmitters (Low flow program)

Selection and Ordering data	Order code
Futher designs	
Please add "**-Z**" to Article No. and specify Order code(s).	
SW functions & CT approvals	
Standard	**B11**
Certificates	
Press test certificate CRN	**C01**
Press test certificate PED	**C02**
Material certificate EN 10204-3.1	**C12**
Welding inspection report	**C13**
Factory certificate according to EN 10204 2.2	**C14**
Factory certificate according to EN 10204 2.1	**C15**
Cleaning for oil and grease/ASTM-A380	**C50**
Cleaned according to PWIS	**C51**
Sensor data storage	
Sensor with SensorProm for MASS 6000 and SIFLOW FC070 (in preparation)	**S21**
Cable sensor-transmitter	
None	**L50**
5 m cable for SIFLOW FC070	**L79**
10 m cable for SIFLOW FC070	**L80**
25 m cable for SIFLOW FC070	**L81**
50 m cable for SIFLOW FC070	**L82**
75 m cable for SIFLOW FC070	**L83**
150 m cable for SIFLOW FC070	**L84**
Additional data	
Please add "**-Z**" to Article No. and specify Order code(s) and plain text.	
Tag name	
Tag name plate, stainless steel	**Y17**
Extended calibration	
Multi-point high, (5 flows x 2 passes), 10 ... 100 % of Q_{nom}	**Y61**
Multi-point high, (10 flows x 1 pass), 10 ... 100 % of Q_{nom}	**Y63**

SITRANS F C sensor FC300 DN 4 with SITRANS MASS 6000 and SIFLOW FC070 transmitter

Note: Technical specification see page 3/183 to 3/186.

Selection and Ordering data	Article No.	Order code
SITRANS F C Flow sensors ↗	7ME4400-	
SITRANS FC300 DN 4 (1/6“) sensor	-	
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.		
Pipe material and temperature		
Stainless steel AISI 316L/1.4435		
115 °C (239 °F)	1G	
180 °C (356 °F)	1H	
Hastelloy C22/2.4602		
115 °C (239 °F)	2G	
180 °C (356 °F)	2H	
Pressure		
PN 100	D	
PN 130 (316L/C22)	G	
PN 410 (C22)	Q	
Process connection		
Pipe thread		
G ¼“ male	10	
¼“ NPT male	11	
Configuration		
Standard	1	
Density	2	
Brix/Plato	3	
Fraction (specification required)	9	N0Y
Transmitter		
No transmitter, sensor and adapter only	A	
MASS 6000, Ex d, stainless steel enclosure, 1 current, 1 freq./pulse and 1 relay output, 24 V AC/DC with Ex d e ib [ia Ga] IIC T4 Gb Ex-approval	B	
MASS 6000, IP67, Polyamide enclosure, cable glands M20, 1 current, 1 freq./pulse and 1 relay output, 24 V AC/DC	C	
MASS 6000, IP67, Polyamide enclosure, cable glands M20, 1 current, 1 freq./pulse and 1 relay output, 115/230 V AC 50/60 Hz	D	
MASS 6000, IP67, Polyamide enclosure, cable glands ½" NPT, 1 current, 1 freq./pulse and 1 relay output, 24 V AC/DC	E	
MASS 6000, IP67, Polyamide enclosure, cable glands ½" NPT, 1 current, 1 freq./pulse and 1 relay output, 115/230 V AC 50/60 Hz, ½" NPT	F	
Cable		
No cable	A	
Cable with one M20 connector and one end for terminal connect		
• 5 m (16.4 ft)	B	
• 10 m (32.8 ft)	C	
• 25 m (82 ft)	D	
• 50 m (164 ft)	E	
• 75 m (246 ft)	F	
• 150 m (492 ft)	G	
Calibration		
Standard calibration 3 flow x 2 points	1	
Standard calibration matched pair 3 flow x 2 points	2	
Accredited calibration matched pair 5 flow x 2 points	3	
Extended calibration customer-specified select Y60, Y61, Y62 or Y63 (see additional information)	8	

Selection and Ordering data	Order code
Additional information Please add “**-Z**“ to Article No. and specify Order code(s) and plain text.	
Pressure testing certificate PED: 2014/68/EU	**C11**
Material certificate EN 10204-3.1	**C12**
Welding certificate NDT-Penetrant: ISO 3452	**C13**
Factory certificate according to EN 10204 2.2	**C14**
Factory certificate according to EN 10204 2.1	**C15**
Tag name plate, stainless steel	**Y17**
Tag name plate, plastic	**Y18**
Customer-specific transmitter setup	**Y20**
Customer-specified, matched pair (5 x 2)	**Y60**
Customer-specified calibration (5 x 2)	**Y61**
Customer-specified, matched pair (10 x 1)	**Y62**
Customer-specified calibration (10 x 1)	**Y63**
Cleaned for oil and grease	**Y80**
Special version	**Y99**

Operating instructions for SITRANS F C FC300

Description	Article No.
• English	**A5E00698213**
• German	**A5E00728101**

All literature is available to download for free, in a range of languages, at www.siemens.com/processinstrumentation/documentation

Accessories

Description	Article No.	
Cable with M20 connector Standard blue cable between MASS 6000 and MASS 2100, 5 x 2 x 0.34 mm² twisted and screened in pairs. Cable mounted with one M20 connector and one end for terminal connections. Temperature range: -20 ... +110 °C (-4 ... +230 °F)		
• 5 m (16.4 ft)	**FDK:083H3015**	
• 10 m (32.8 ft)	**FDK:083H3016**	
• 25 m (82 ft)	**FDK:083H3017**	
• 50 m (164 ft)	**FDK:083H3018**	
• 75 m (246 ft)	**FDK:083H3054**	
• 150 m (492 ft)	**FDK:083H3055**	

Spare parts

Description	Article No.	
Multiple connector for cable mounting	**FDK:083H5056**	
2 kB SENSORPROM unit (Sensor Serial No. and Article No. must be specified by ordering)	**FDK:083H4410**	
Mounting bracket FC300, AISI 304	**A5E02590439**