

Flow Measurement

SITRANS F C

SITRANS F C sensor MASS 2100 DI 1,5 with SITRANS FCT010, FCT030 and SIFLOW FC070 transmitter

Overview



MASS 2100 DI 1.5 is suitable for low flow measurement applications 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" mechanical and electrical interface ensures optimum performance and operation.

The sensor delivers true multi-parameter measurements i.e.: Mass flow, volume flow, density, temperature and fraction.

Benefits

- High accuracy better than 0.1 % of mass flow rate
- Large dynamic turn-down ratio better than 500:1, from 30 kg/h to below 100 g/h
- Densitometer performance available through a density accuracy better than 0.001 g/cm³ with a repeatability better than 0.0002 g/cm³.
- Single continuous tube design, with no internal welds, reductions or flow splitters offers optimal hygiene, safety and CIP cleanability for food and beverage and pharmaceutical applications.
- Market's biggest wall thickness, ensuring 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 enables true "plug & play". Installation and commissioning in less than 10 minutes
- Intrinsically safe Ex ia design as standard
- Sensor pipe available in high-quality stainless steel AISI 316L/1.4435 or Hastelloy C22/2.4602 offering optimum corrosion resistance
- Dual-drive pick-up and driver construction facilitate ultra low-weight pipe construction giving the markets' smallest and most stable zero point.
- Rugged and space-saving sensor design in stainless steel matching all environments
- High-pressure program as standard
- The sensor calibration factor is also valid for gas measurement.

Application

In many industries such as the food and beverage or pharmaceutical industry, accurate recipe control means everything. The MASS 2100 DI 1.5 has demonstrated superior performance in numerous applications and field trials relating to accuracy and turn-down ratio. It is today the preferred meter for research and development and mini-plant applications for liquid or gas measurement, where measuring small quantities is important.

The main applications for the MASS 2100 DI 1.5 sensor can be found in:

Chemical industry	Liquid and gas measurement within Miniplant and R & D, dosing of additives and catalysts
Cosmetic industry	Dosing of essence and fragrances
Pharmaceutical industry	High-speed dosing and coating of pills, filling of ampuls/injectors
Food and beverage industry	Dosing of flavourings, colours and additives, density measurement, inline measurement 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 MASS 2100 sensor consists of a single bent tube in a double omega pipe configuration, 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 1/4" NPT or 1/4" ISO process connections.

The enclosure is made in stainless steel AISI 316L/1.4404 with a grade of encapsulation of IP65/NEMA 4.

The sensor is available in either a standard version with a maximum liquid temperature of 125 °C (257 °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 enclosed single quick release clamp fitting which, along with its compact design and single multi-plug electrical connector, will keep installation costs and time to a minimum as shown below.



SITRANS F C sensor MASS 2100 DI 1,5 with SITRANS FCT010, FCT030 and SIFLOW FC070 transmitter

Function

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

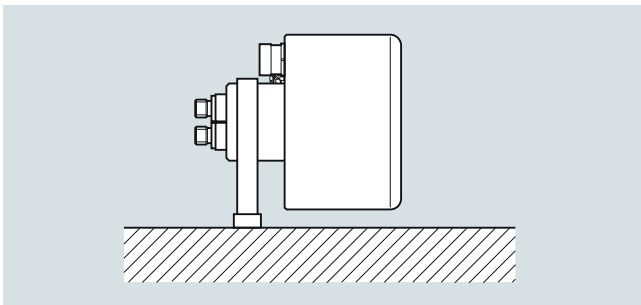
Integration

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

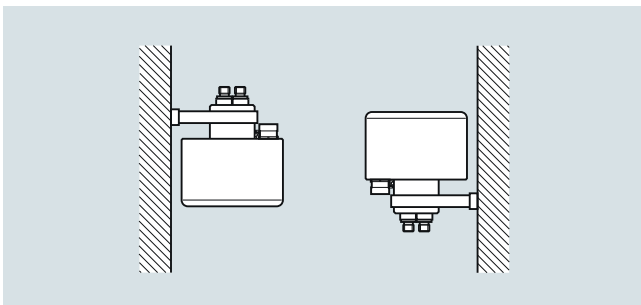
All sensors are delivered with a Sensor Flash or SENSORPROM containing all information about calibration data, identity and factory pre-programming of transmitter settings

Installation guidelines MASS 2100 DI 1.5 (1/16")Installation of MASS 2100 sensor

- The optimal installation is horizontal. If vertical mounting is necessary, upward flow is recommended to facilitate the removal of air bubbles. To remove the air from the sensor the flow speed in the sensor must be at least 1 m/s. If there are solid particles in the liquid, especially in connection with low flow, it is recommended that the sensor be mounted horizontally with inlet flange uppermost so that particles are more easily flushed out. To ensure that the sensor does not become partially empty, there must be sufficient counter-pressure on the unit min. 0.2 bar (2.9 psi).
- Mount the sensor on a vibration-free wall or steel frame.
- Locate the sensor low in the system in order to avoid an under-pressure 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

Liquid and gas application

Vertical

Liquid application (left), gas application (right)

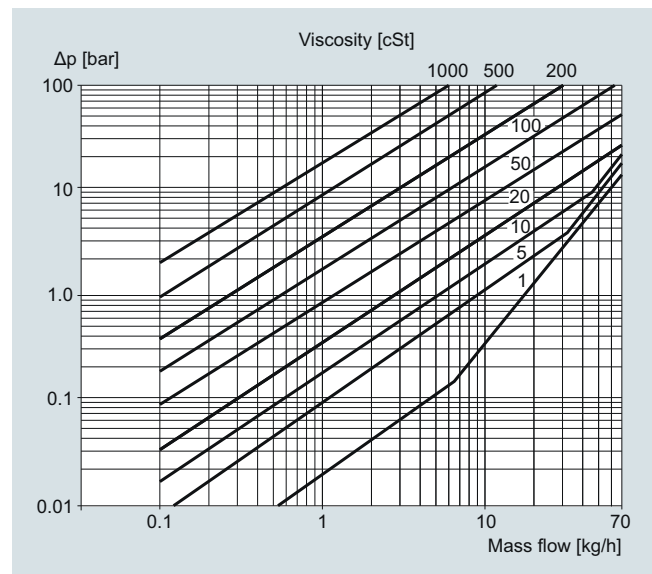
Technical specifications

Inside pipe diameter (sensor consists of one continuous pipe)	1.5 mm (0.06")
Pipe wall thickness	0.25 mm (0.010")
Mass flow measuring range	0 ... 30 kg/h (0 ... 66 lb/h)
Density	0 ... 2.9 g/cm ³ (0 ... 0.10 lb/inch ³)
Fraction e.g.	0 ... 100 °Brix
Media temperature	
Standard	-50 ... +125 °C (-58 ... +257 °F)
High-temperature version	-50 ... +180 °C (-58 ... +356 °F)
Ambient temperature	-20 ... +50 °C (-4 ... +122 °F)
Liquid pressure measuring pipe¹⁾	
Stainless steel	230 bar (3336 psi) at 20 °C (68 °F)
Hastelloy C22/2.4602	365 bar (5294 psi) at 20 °C (68 °F)
Materials	
Measuring pipe and connection	Stainless steel AISI 316L/1.4435 Hastelloy C22/2.4602
Enclosure and enclosure material²⁾	IP65 and stainless steel AISI316L/1.4404
Connection thread	
ISO 228/1	G1/4" male
ANSI/ASME B1.20.1	1/4" NPT male
Cable connection	Multiple plug connection to sensor 5 x 2 x 0.35 mm ² twisted and screened in pairs, ext. Ø 12 mm
Ex-version	II 1G Eex ia IIC T3-T6, DEMKO 03, ATEX 135252X, c-UL-us, Ex ia IIC T3-T6, EAC Ex TC RU C-DE, MIO62.B.02013, 0Ex ia IIC T3...T6 Gb, UL WYMG.E232147
Weight approx.	2.6 kg (5.73 lb)

¹⁾ According to DIN 2413, DIN 17457

²⁾ Housing is not rated for pressure containment.

For accuracy specifications see "System information SITRANS F C".

Pressure drop

MASS 2100 DI 1.5 (1/16"), pressure drop for density = 1000 kg/m³

Flow Measurement

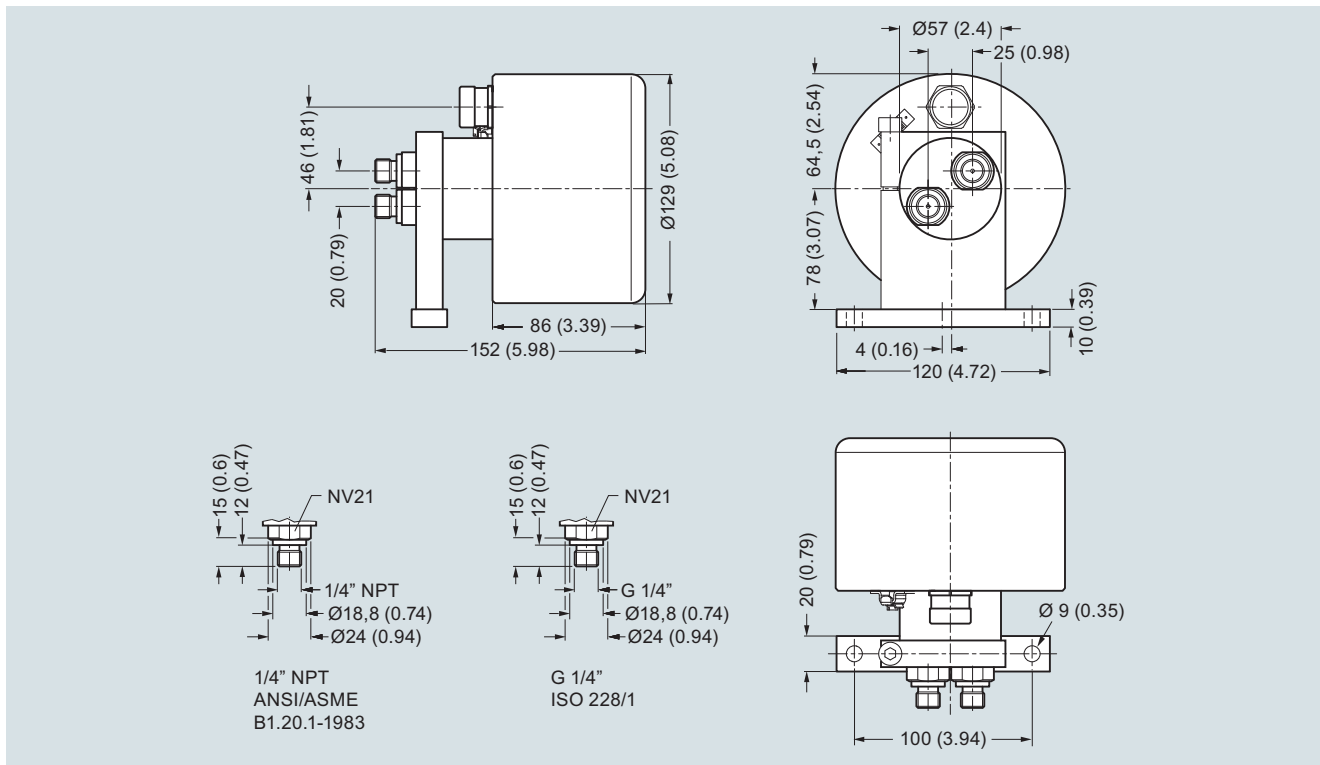
SITRANS F C

SITRANS F C sensor MASS 2100 DI 1,5 with SITRANS FCT010, FCT030 and SIFLOW FC070 transmitter

Dimensional drawings

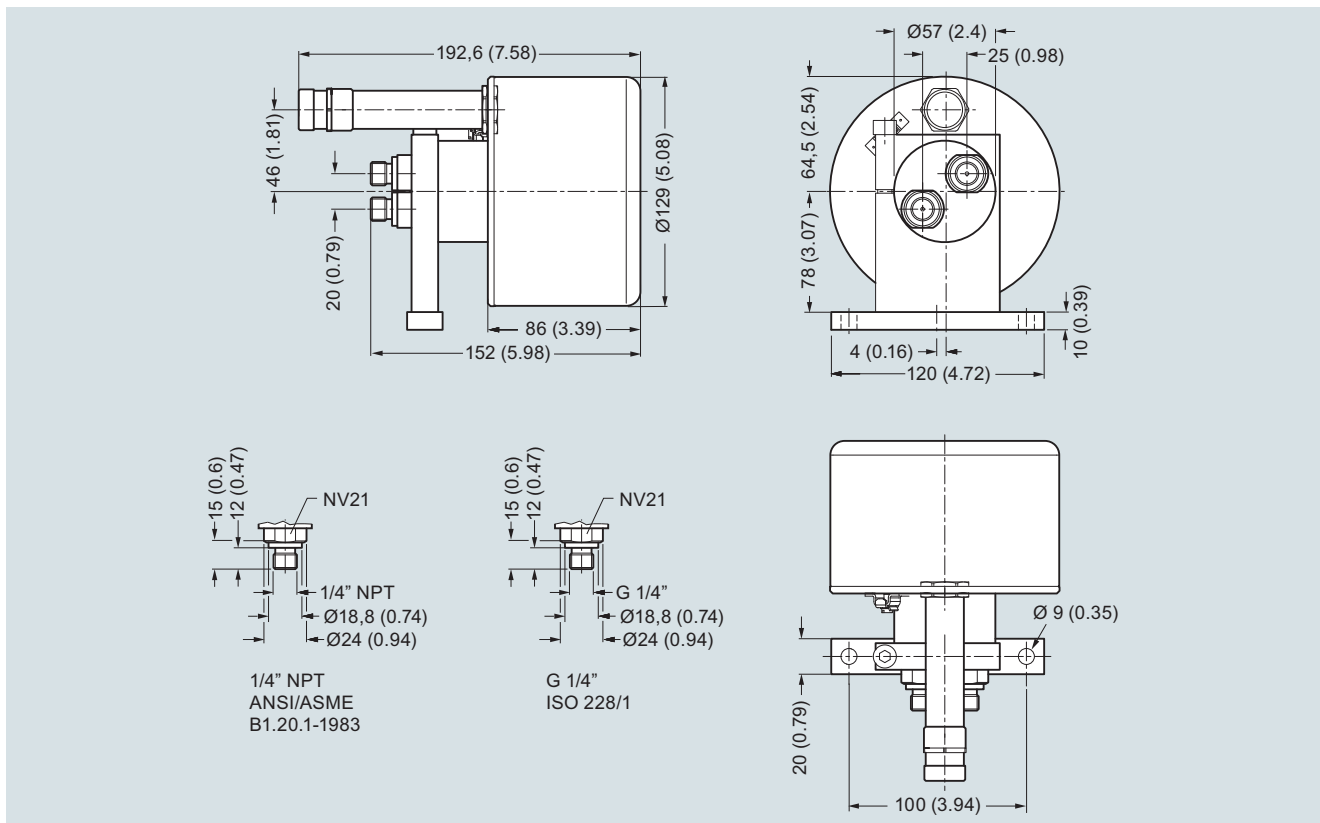
MASS 2100 DI 1.5 (1/16")

3



Dimensions in mm (inch)

MASS 2100 DI 1.5 High-temperature version to 180 °C (356 °F)



Dimensions in mm (inch)

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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

7 ME 4 8 1 1 -

➤ 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"	1 G
MASS 2100 DI 3, 1/4"	3 A
MASS 2100 DI 3, 1/4" Heated w. DIN	3 B
MASS 2100 DI 3, 1/4" Heated w. ANSI	3 C
FC300 DN 4, 1/4"	4 A
MASS 2100 DI 6, 1/4"	6 A
MASS 2100 DI 6, 1/4" Heated w. EN	6 B
MASS 2100 DI 6, 1/4" Heated w. ANSI	6 C
MASS 2100 DI 6, DN 10	6 D
MASS 2100 DI 6, DN 10 Heated w. EN	6 E
MASS 2100 DI 6, DN 10 Heated w. ANSI	6 F
MASS 2100 DI 6, DN 15 (1/2")	6 G
MASS 2100 DI 6, DN 15 (1/2") Heated w. EN	6 H
MASS 2100 DI 6, DN 15 (1/2") Heated w. ANSI	6 J
MASS 2100 DI 6, DN 20 (3/4")	6 K
MASS 2100 DI 6, DN 20 (3/4") Heated w. EN	6 L
MASS 2100 DI 6, DN 20 (3/4") Heated w. ANSI	6 M
MASS 2100 DI 6, DN 25 (1")	6 N
MASS 2100 DI 6, DN 25 (1") Heated w. EN	6 P
MASS 2100 DI 6, DN 25 (1") Heated w. ANSI	6 Q
MASS 2100 DI 15, DN 15 (1/2")	7 A
MASS 2100 DI 15, DN 15 (1/2") Heated w. EN	7 B
MASS 2100 DI 15, DN 15 (1/2") Heated w. ANSI	7 C
MASS 2100 DI 15, DN 20 (3/4")	7 D
MASS 2100 DI 15, DN 20 (3/4") Heated w. EN	7 E
MASS 2100 DI 15, DN 20 (3/4") Heated w. ANSI	7 F
MASS 2100 DI 15, DN 25 (1")	7 G
MASS 2100 DI 15, DN 25 (1") Heated w. EN	7 H
MASS 2100 DI 15, DN 25 (1") Heated w. ANSI	7 J

Process connection/Pressure

No connections (spare part transmitter)	A 0
EN1092-1 B1, PN40	A 1
EN1092-1 B1, PN100	A 3
ASME B16.5, RF, Class 150	D 1
ASME B16.5, RF, Class 600	D 3
DIN 11851 Screwed connection	F 1
ISO2852 Hyg. Clamped	J 1
ISO2853 Hyg. Screwed	J 5
ISO 228-1 Pipe thread, PN 100	C 1
ISO 228-1 Pipe thread, PN 130	C 2
ISO 228-1 Pipe thread, PN 200	C 3
ISO 228-1 Pipe thread, PN 230	C 4
ISO 228-1 Pipe thread, PN 265	C 5
ISO 228-1 Pipe thread, PN 350	C 6
ISO 228-1 Pipe thread, PN 365	C 7
ISO 228-1 Pipe thread, PN 410	C 8
NPT ASME B 1.20.1 Pipe thread, PN 100	N 1
NPT ASME B 1.20.1 Pipe thread, PN 130	N 2
NPT ASME B 1.20.1 Pipe thread, PN 200	N 3
NPT ASME B 1.20.1 Pipe thread, PN 230	N 4
NPT ASME B 1.20.1 Pipe thread, PN 265	N 5
NPT ASME B 1.20.1 Pipe thread, PN 350	N 6
NPT ASME B 1.20.1 Pipe thread, PN 365	N 7
NPT ASME B 1.20.1 Pipe thread, PN 410	N 8

Selection and Ordering data

Article No. Ord. code

SITRANS F C sensors MASS 2100/FC300 with FCT010 transmitter

7 ME 4 8 1 1 -

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 P 0 D

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

Selection and Ordering data	Order code	Selection and Ordering data	Order code
Futher designs		Additional data	
Please add "-Z" to Article No. and specify Order code(s).		Please add "-Z" to Article No. and specify Order code(s) and plain text.	
Cable glands		Tag name	
None (mechanical sensor)	A00	Tag name plate, stainless steel	Y17
Metric, no glands	A01	Extended calibration	
Metric, plastic	A02	Multi-point high, (5 flows x 2 passes), 10 ... 100 % of Q_{nom}	Y61
Metric, brass/Ni plated	A05	Multi-point high, (10 flows x 1 pass), 10 ... 100 % of Q_{nom}	Y63
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		

Flow Measurement

SITRANS F C

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 FCT030 transmitter

7 ME 4 8 1 3 -

➤ 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"	1 G
MASS 2100 DI 3, 1/4"	3 A
MASS 2100 DI 3, 1/4" Heated w. DIN	3 B
MASS 2100 DI 3, 1/4" Heated w. ANSI	3 C
FC300 DN 4, 1/4"	4 A
MASS 2100 DI 6, 1/4"	6 A
MASS 2100 DI 6, 1/4" Heated w. EN	6 B
MASS 2100 DI 6, 1/4" Heated w. ANSI	6 C
MASS 2100 DI 6, DN 10	6 D
MASS 2100 DI 6, DN 10 Heated w. EN	6 E
MASS 2100 DI 6, DN 10 Heated w. ANSI	6 F
MASS 2100 DI 6, DN 15 (1/2")	6 G
MASS 2100 DI 6, DN 15 (1/2") Heated w. EN	6 H
MASS 2100 DI 6, DN 15 (1/2") Heated w. ANSI	6 J
MASS 2100 DI 6, DN 20 (3/4")	6 K
MASS 2100 DI 6, DN 20 (3/4") Heated w. EN	6 L
MASS 2100 DI 6, DN 20 (3/4") Heated w. ANSI	6 M
MASS 2100 DI 6, DN 25 (1")	6 N
MASS 2100 DI 6, DN 25 (1") Heated w. EN	6 P
MASS 2100 DI 6, DN 25 (1") Heated w. ANSI	6 Q
MASS 2100 DI 15, DN 15 (1/2")	7 A
MASS 2100 DI 15, DN 15 (1/2") Heated w. EN	7 B
MASS 2100 DI 15, DN 15 (1/2") Heated w. ANSI	7 C
MASS 2100 DI 15, DN 20 (3/4")	7 D
MASS 2100 DI 15, DN 20 (3/4") Heated w. EN	7 E
MASS 2100 DI 15, DN 20 (3/4") Heated w. ANSI	7 F
MASS 2100 DI 15, DN 25 (1")	7 G
MASS 2100 DI 15, DN 25 (1") Heated w. EN	7 H
MASS 2100 DI 15, DN 25 (1") Heated w. ANSI	7 J

Process connection/Pressure

No connections (spare part transmitter)	A 0
EN1092-1 B1, PN40	A 1
EN1092-1 B1, PN100	A 3
ASME B16.5, RF, Class 150	D 1
ASME B16.5, RF, Class 600	D 3
DIN 11851 Screwed connection	F 1
ISO2852 Hyg. Clamped	J 1
ISO2853 Hyg. Screwed	J 5
ISO 228-1 Pipe thread, PN 100	C 1
ISO 228-1 Pipe thread, PN 130	C 2
ISO 228-1 Pipe thread, PN 200	C 3
ISO 228-1 Pipe thread, PN 230	C 4
ISO 228-1 Pipe thread, PN 265	C 5
ISO 228-1 Pipe thread, PN 350	C 6
ISO 228-1 Pipe thread, PN 365	C 7
ISO 228-1 Pipe thread, PN 410	C 8
NPT ASME B 1.20.1 Pipe thread, PN 100	N 1
NPT ASME B 1.20.1 Pipe thread, PN 130	N 2
NPT ASME B 1.20.1 Pipe thread, PN 200	N 3
NPT ASME B 1.20.1 Pipe thread, PN 230	N 4
NPT ASME B 1.20.1 Pipe thread, PN 265	N 5
NPT ASME B 1.20.1 Pipe thread, PN 350	N 6
NPT ASME B 1.20.1 Pipe thread, PN 365	N 7
NPT ASME B 1.20.1 Pipe thread, PN 410	N 8

Selection and Ordering data

Article No. Ord. code

SITRANS F C sensors MASS 2100/FC300 with FCT030 transmitter

7 ME 4 8 1 3 -

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, DI 6 and DI 15 only)	G
Remote field mount, IP67, Aluminium housing, terminal box for digital cable connection (DI 3, DI 6 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 P 0 D
Remote wall mount, IP67, aluminum transmitter housing, analog cable connection with M20 connectors (in preparation)	Z P 0 E

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	Selection and Ordering data	Order code
Futher designs		Sensor data storage	
Please add "-Z" to Article No. and specify Order code(s).		Sensor with SensorFlash for FCT	S20
		Sensor with SensorProm for MASS 6000 (in preparation)	S21
Cable glands		SD-Card accessibility via USB (not allowed in USA by Patent)	
None (mechanical sensor)	A00	Mass storage enabled	S30
Metric, no glands	A01	Cable sensor-transmitter	
Metric, plastic	A02	None	L50
Metric, brass/Ni plated	A05	5 m, standard, M12 connectors	L51
Metric, stainless steel	A06	5 m, standard, without connectors	L52
NPT, no glands	A11	10 m, standard, M12 connectors	L55
NPT, plastic	A12	10 m, standard, without connectors	L56
NPT, brass/Ni plated	A15	25 m, standard, M12 connectors	L59
NPT, stainless steel	A16	25 m, standard, without connectors	L60
Integral M12 socket	A20	50 m, standard, M12 connectors	L63
		50 m, standard, without connectors	L64
SW functions & CT approvals		75 m, standard, M12 connectors	L67
Standard	B11	75 m, standard, without connectors	L68
I/O configuration Ch1		1 m cable, analog, with two M20 connectors	L85
None (replacement sensor)	E00	2 m cable, analog with two M20 connectors	L86
4 ... 20 mA, HART, active/passive output (non-Ex)	E02	5 m cable, analog with two M20 connectors	L87
4 ... 20 mA, HART, active Ex	E06	10 m cable, analog with two M20 connectors	L88
4 ... 20 mA, HART, passive Ex	E07	15 m cable, analog with twoM20 connectors	L89
PROFIBUS PA (non-Ex)	E10	Additional data	
PROFIBUS DP	E11	Please add "-Z" to Article No. and specify Order code(s) and plain text.	
Modbus RTU RS 485	E14	Tag name	
I/O configuration Ch2, Ch3 and Ch4		Tag name plate, stainless steel	Y17
None	F00	Extended calibration	
Non Ex: Sig O, None, None	F01	Multi-point high, (5 flows x 2 passes), 10 ... 100 % of Q _{nom}	Y61
Non Ex: Sig O, Sig I/O, None	F02	Multi-point high, (10 flows x 1 pass), 10 ... 100 % of Q _{nom}	Y63
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		

Flow Measurement

SITRANS F C

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 SIFLOW FC070 transmitter¹⁾

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"	1 G
MASS 2100 DI 3, 1/4"	3 A
MASS 2100 DI 3, 1/4" Heated w. DIN	3 B
MASS 2100 DI 3, 1/4" Heated w. ANSI	3 C
FC300 DN 4, 1/4"	4 A
MASS 2100 DI 6, 1/4"	6 A
MASS 2100 DI 6, 1/4" Heated w. EN	6 B
MASS 2100 DI 6, 1/4" Heated w. ANSI	6 C
MASS 2100 DI 6, DN 10	6 D
MASS 2100 DI 6, DN 10 Heated w. EN	6 E
MASS 2100 DI 6, DN 10 Heated w. ANSI	6 F
MASS 2100 DI 6, DN 15 (1/2")	6 G
MASS 2100 DI 6, DN 15 (1/2") Heated w. EN	6 H
MASS 2100 DI 6, DN 15 (1/2") Heated w. ANSI	6 J
MASS 2100 DI 6, DN 20 (3/4")	6 K
MASS 2100 DI 6, DN 20 (3/4") Heated w. EN	6 L
MASS 2100 DI 6, DN 20 (3/4") Heated w. ANSI	6 M
MASS 2100 DI 6, DN 25 (1")	6 N
MASS 2100 DI 6, DN 25 (1") Heated w. EN	6 P
MASS 2100 DI 6, DN 25 (1") Heated w. ANSI	6 Q
MASS 2100 DI 15, DN 15 (1/2")	7 A
MASS 2100 DI 15, DN 15 (1/2") Heated w. EN	7 B
MASS 2100 DI 15, DN 15 (1/2") Heated w. ANSI	7 C
MASS 2100 DI 15, DN 20 (3/4")	7 D
MASS 2100 DI 15, DN 20 (3/4") Heated w. EN	7 E
MASS 2100 DI 15, DN 20 (3/4") Heated w. ANSI	7 F
MASS 2100 DI 15, DN 25 (1")	7 G
MASS 2100 DI 15, DN 25 (1") Heated w. EN	7 H
MASS 2100 DI 15, DN 25 (1") Heated w. ANSI	7 J

Process connection/Pressure

No connections (spare part transmitter)	A 0
EN1092-1 B1, PN40	A 1
EN1092-1 B1, PN100	A 3
ASME B16.5, RF, Class 150	D 1
ASME B16.5, RF, Class 600	D 3
DIN 11851 Screwed connection	F 1
ISO2852 Hyg. Clamped	J 1
ISO2853 Hyg. Screwed	J 5
ISO 228-1 Pipe thread, PN 100	C 1
ISO 228-1 Pipe thread, PN 130	C 2
ISO 228-1 Pipe thread, PN 200	C 3
ISO 228-1 Pipe thread, PN 230	C 4
ISO 228-1 Pipe thread, PN 265	C 5
ISO 228-1 Pipe thread, PN 350	C 6
ISO 228-1 Pipe thread, PN 365	C 7
ISO 228-1 Pipe thread, PN 410	C 8
NPT ASME B 1.20.1 Pipe thread, PN 100	N 1
NPT ASME B 1.20.1 Pipe thread, PN 130	N 2
NPT ASME B 1.20.1 Pipe thread, PN 200	N 3
NPT ASME B 1.20.1 Pipe thread, PN 230	N 4
NPT ASME B 1.20.1 Pipe thread, PN 265	N 5
NPT ASME B 1.20.1 Pipe thread, PN 350	N 6
NPT ASME B 1.20.1 Pipe thread, PN 365	N 7
NPT ASME B 1.20.1 Pipe thread, PN 410	N 8

Selection and Ordering data

Article No. Ord. code

SITRANS F C sensors MASS 2100/FC300 with SIFLOW FC070 transmitter¹⁾

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 Standard DIN rail	W
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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
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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
Further 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 MASS 2100 DI 1.5 with SITRANS MASS 6000 and SIFLOW FC070 transmitter

Note: Technical specification see page 3/180 to 3/182.

Selection and Ordering data	Article No.	Ord. code
SITRANS F C Flow sensors	7ME4100-	
MASS 2100 DI 1.5 (1/16") sensor		
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.		
Diameter		
Stainless steel AISI 316L/1.4435		
DI 1.5, max. 125 °C (257 °F)	1 A	
DI 1.5, max. 180 °C (356 °F)	1 B	
Hastelloy C22/2.4602		
DI 1.5, max. 125 °C (257 °F)	2 A	
DI 1.5, max. 180 °C (356 °F)	2 B	
Pressure		
PN 100	D	
PN 230 (AISI 316L/1.4404)	L	
PN 365 (C22/2.4602)	P	
Process connection/flange		
Pipe thread		
G 1/4" male	1 0	
1/4" NPT male	1 1	
Configuration		
Standard		1
Density		2
Brix/Plato		3
Fraction (specification required)		9
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 1/2" NPT, 1 current, 1 freq./pulse and 1 relay output, 24 V AC/DC		E
MASS 6000, IP67, Polyamide enclosure, cable glands 1/2" NPT, 1 current, 1 freq./pulse and 1 relay output, 115/230 V AC 50/60 Hz, 1/2" NPT		F
Cable		
No cable		A
5 m (16.4 ft) cable		B
10 m (32.8 ft) cable		C
25 m (82 ft) cable		D
50 m (164 ft) cable		E
75 m (246 ft) cable		F
150 m (492 ft) cable		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 MASS 2100 DI 1.5****Description**

Article No.

- English

A5E03089952All literature is available to download for free, in a range of languages, at www.siemens.com/processinstrumentation/documentation**Accessories****Description**

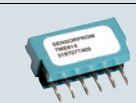
Article No.

Cable with multiple connectorStandard blue cable between MASS 6000 and MASS 2100, 5 x 2 x 0.34 mm² twisted and screened in pairs. Temperature range -20 °C ... +110 °C (-4 °F ... +230 °F)

- 5 m (16.4 ft)
- 10 m (32.8 ft)
- 25 m (82 ft)
- 50 m (164 ft)
- 75 m (246 ft)
- 150 m (492 ft)

FDK:083H3015**FDK:083H3016****FDK:083H3017****FDK:083H3018****FDK:083H3054****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****Bracket**

Mounting bracket for flow sensor MASS 2100 DI 1.5

A5E02590427