

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".

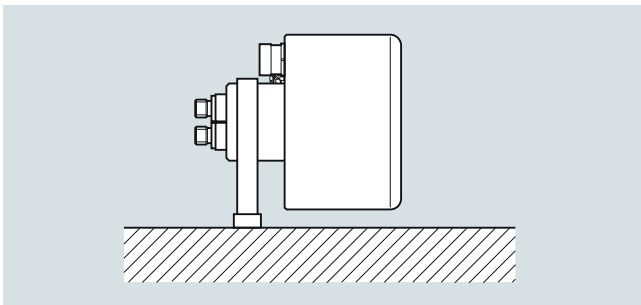
Integration

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

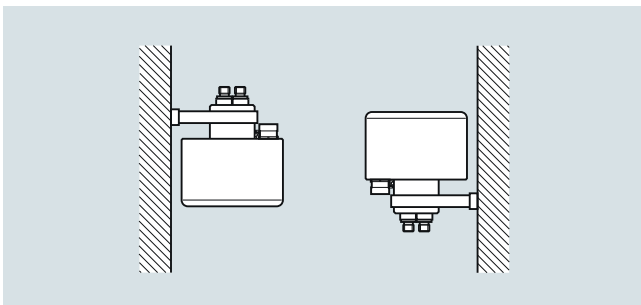
All sensors are delivered with a Sensor Flash or SENSORPROM containing all information about calibration data, identity and factory pre-programming of transmitter settings

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)

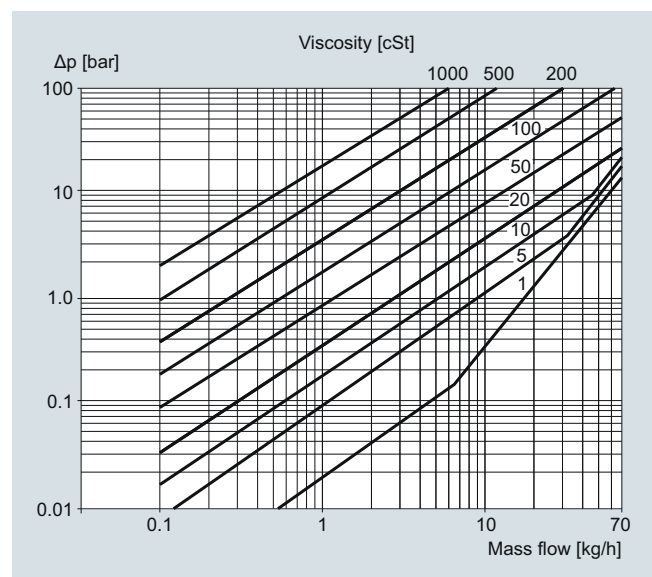
Technical specifications

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

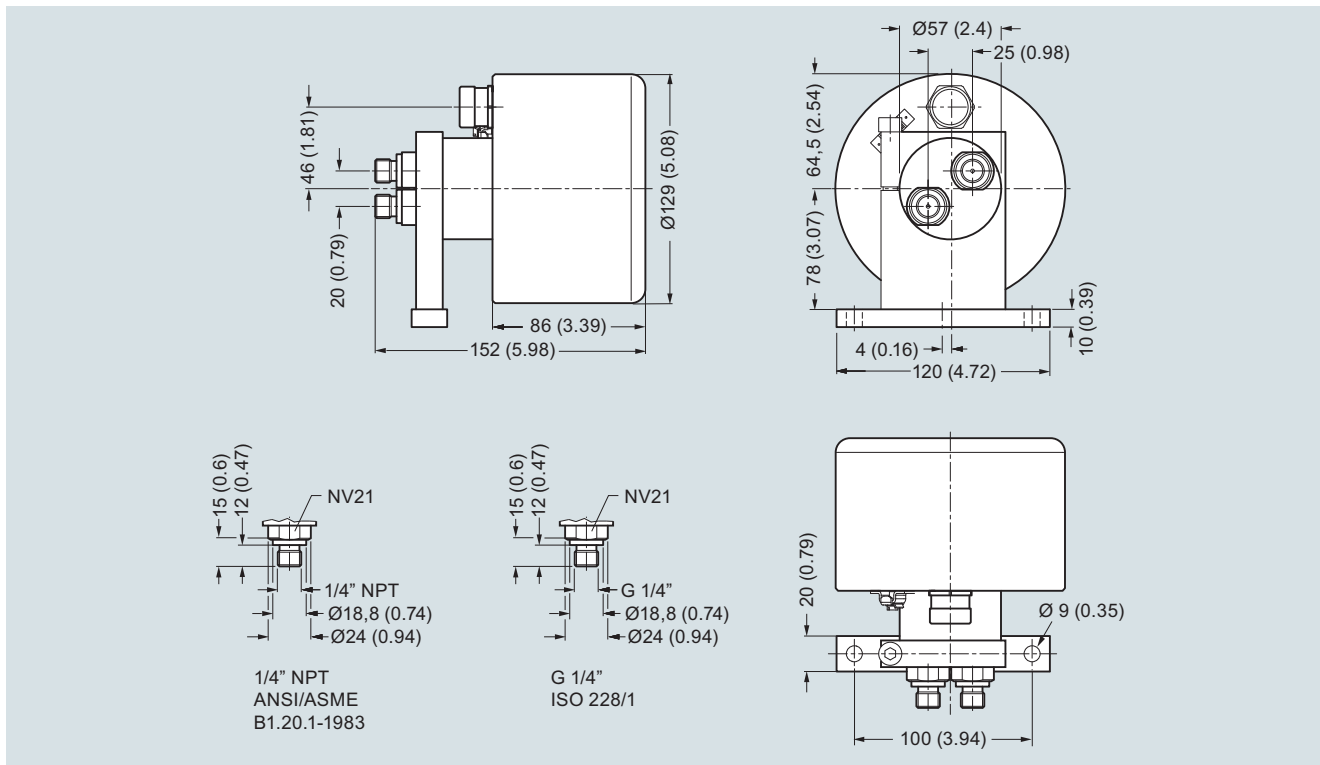
SITRANS F C

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

Dimensional drawings

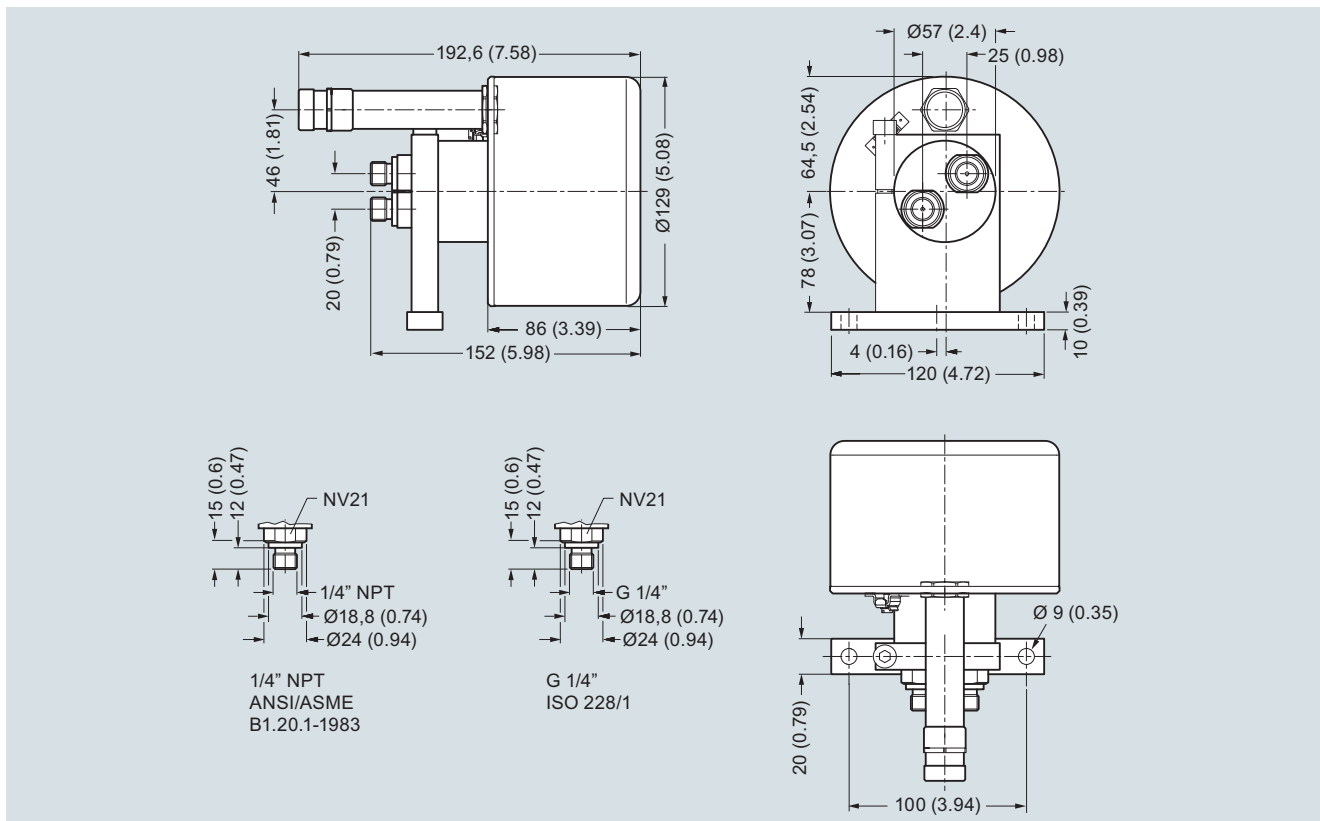
MASS 2100 DI 1.5 (1/16")

3



Dimensions in mm (inch)

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



Dimensions in mm (inch)

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	Selection and Ordering data	Article No.	Ord. code
SITRANS F C sensors MASS 2100/FC300 with FCT010 transmitter	7ME4811-		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			Tube material (wetted) and max. operational temperature		
MASS 2100 DI 1.5, 1/4"	1G		AISI 316L/EN 1.4435, Max 115 °C	1	
MASS 2100 DI 3, 1/4"	3A		AISI 316L/EN 1.4435, Max 125 °C	2	
MASS 2100 DI 3, 1/4" Heated w. DIN	3B		AISI 316L/EN 1.4435, Max 180 °C	3	
MASS 2100 DI 3, 1/4" Heated w. ANSI	3C		Hastelloy C22/UNS N06022/EN 2.4602, Max. 115 °C	5	
FC300 DN 4, 1/4"	4A		Hastelloy C22/UNS N06022/EN 2.4602, Max. 125 °C	6	
MASS 2100 DI 6, 1/4"	6A		Hastelloy C22/UNS N06022/EN 2.4602, Max. 180 °C	7	
MASS 2100 DI 6, 1/4" Heated w. EN	6B				
MASS 2100 DI 6, 1/4" Heated w. ANSI	6C		Calibration		
MASS 2100 DI 6, DN 10	6D		Mass flow calibration	1	
MASS 2100 DI 6, DN 10 Heated w. EN	6E		Mass flow calibration and density calibration	4	
MASS 2100 DI 6, DN 10 Heated w. ANSI	6F				
MASS 2100 DI 6, DN 15 (1/2")	6G		Mounting style, Transmitter Housing and Material		
MASS 2100 DI 6, DN 15 (1/2") Heated w. EN	6H		Compact mounted, IP67, Aluminium transmitter housing (DI 3, DI 6 and DI 15 only)	D	
MASS 2100 DI 6, DN 15 (1/2") Heated w. ANSI	6J		Remote mounted, IP67, Aluminium transmitter housing, analog cable connection with M20 connectors	Z	P 0 D
MASS 2100 DI 6, DN 20 (3/4")	6K				
MASS 2100 DI 6, DN 20 (3/4") Heated w. EN	6L		Ex approvals		
MASS 2100 DI 6, DN 20 (3/4") Heated w. ANSI	6M		Non-Ex		A
MASS 2100 DI 6, DN 25 (1")	6N		ATEX Zone 1		C
MASS 2100 DI 6, DN 25 (1") Heated w. EN	6P		IECEx Zone 1		F
MASS 2100 DI 6, DN 25 (1") Heated w. ANSI	6Q		USA (FM, CSA, UL), Zone 1/Div1		H
MASS 2100 DI 15, DN 15 (1/2")	7A		Canada (CSA, UL), Zone 1/Div1		M
MASS 2100 DI 15, DN 15 (1/2") Heated w. EN	7B				
MASS 2100 DI 15, DN 15 (1/2") Heated w. ANSI	7C		Local User Interface		
MASS 2100 DI 15, DN 20 (3/4")	7D		Blind		1
MASS 2100 DI 15, DN 20 (3/4") Heated w. EN	7E				
MASS 2100 DI 15, DN 20 (3/4") 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				

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	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
2 m cable, analog, with two M20 connectors	L85
5 m cable, analog, with two M20 connectors	L86
10 m cable, analog, with two M20 connectors	L87
15 m cable, analog, with two M20 connectors	L88

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)

Selection and Ordering data	Article No.	Ord. code	Selection and Ordering data	Article No.	Ord. code
SITRANS F C sensors MASS 2100/FC300 with FCT030 transmitter	7ME4813-		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			Tube material (wetted) and max. operational temperature		
MASS 2100 DI 1.5, 1/4"	1G		AISI 316L/EN 1.4435, Max 115 °C	1	
MASS 2100 DI 3, 1/4"	3A		AISI 316L/EN 1.4435, Max 125 °C	2	
MASS 2100 DI 3, 1/4" Heated w. DIN	3B		AISI 316L/EN 1.4435, Max 180 °C	3	
MASS 2100 DI 3, 1/4" Heated w. ANSI	3C		Hastelloy C22/UNS N06022/EN 2.4602, Max. 115 °C	5	
FC300 DN 4, 1/4"	4A		Hastelloy C22/UNS N06022/EN 2.4602, Max. 125 °C	6	
MASS 2100 DI 6, 1/4"	6A		Hastelloy C22/UNS N06022/EN 2.4602, Max. 180 °C	7	
MASS 2100 DI 6, 1/4" Heated w. EN	6B				
MASS 2100 DI 6, 1/4" Heated w. ANSI	6C		Calibration		
MASS 2100 DI 6, DN 10	6D		Mass flow calibration	1	
MASS 2100 DI 6, DN 10 Heated w. EN	6E		Mass flow calibration and density calibration	4	
MASS 2100 DI 6, DN 10 Heated w. ANSI	6F		Standard fraction	8	
MASS 2100 DI 6, DN 15 (1/2")	6G				
MASS 2100 DI 6, DN 15 (1/2") Heated w. EN	6H		Mounting style, Transmitter Housing and Material		
MASS 2100 DI 6, DN 15 (1/2") Heated w. ANSI	6J		Compact mounted, IP67, Aluminium transmitter housing (DI 3, DI 6 and DI 15 only)	D	
MASS 2100 DI 6, DN 20 (3/4")	6K		Remote field mounted, IP67, Aluminium housing, M12 socket for digital cable connection (DI 3, DI 6 and DI 15 only)	G	
MASS 2100 DI 6, DN 20 (3/4") Heated w. EN	6L		Remote field mount, IP67, Aluminium housing, terminal box for digital cable connection (DI 3, DI 6 and DI 15 only)	K	
MASS 2100 DI 6, DN 20 (3/4") Heated w. ANSI	6M		Wall mount aluminum transmitter housing, M12 socket for digital cable connection (DI 3, DI 6 and DI 15 only)	U	
MASS 2100 DI 6, DN 25 (1")	6N		Remote field mount, IP67, Aluminium transmitter housing, analog cable connection with M20 connectors	Z	P 0 D
MASS 2100 DI 6, DN 25 (1") Heated w. EN	6P		Remote wall mount, IP67, aluminum transmitter housing, analog cable connection with M20 connectors	Z	P 0 E
MASS 2100 DI 6, DN 25 (1") Heated w. ANSI	6Q				
MASS 2100 DI 15, DN 15 (1/2")	7A		Ex approvals		
MASS 2100 DI 15, DN 15 (1/2") Heated w. EN	7B		Non-Ex	A	
MASS 2100 DI 15, DN 15 (1/2") Heated w. ANSI	7C		ATEX Zone 1	C	
MASS 2100 DI 15, DN 20 (3/4")	7D		IECEx Zone 1	F	
MASS 2100 DI 15, DN 20 (3/4") Heated w. EN	7E		USA (FM, CSA, UL), Zone 1/Div1	H	
MASS 2100 DI 15, DN 20 (3/4") Heated w. ANSI	7F		Canada (CSA, UL), Zone 1/Div1	M	
MASS 2100 DI 15, DN 25 (1")	7G				
MASS 2100 DI 15, DN 25 (1") Heated w. EN	7H		Local User Interface		
MASS 2100 DI 15, DN 25 (1") Heated w. ANSI	7J		Blind	1	
			Graphical, 240 x 160 pixels, glass lid	3	
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				

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	Order code	Selection and Ordering data	Order code
Further 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		2 m cable, analog with two M20 connectors	L85
None (replacement sensor)	E00	5 m cable, analog with two M20 connectors	L86
4 ... 20 mA, HART, active/passive output (non-Ex)	E02	10 m cable, analog with two M20 connectors	L87
4 ... 20 mA, HART, active Ex	E06	15 m cable, analog with two M20 connectors	L88
4 ... 20 mA, HART, passive Ex	E07	Additional data	
PROFIBUS PA (non-Ex)	E10	Please add "-Z" to Article No. and specify Order code(s) and plain text.	
PROFIBUS DP	E11	Tag name	
Modbus RTU RS 485	E14	Tag name plate, stainless steel	Y17
I/O configuration Ch2, Ch3 and Ch4		Extended calibration	
None	F00	Multi-point high, (5 flows x 2 passes), 10 ... 100 % of Q_{nom}	Y61
Non Ex: Sig O, None, None	F01	Multi-point high, (10 flows x 1 pass), 10 ... 100 % of Q_{nom}	Y63
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		

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➤ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.					
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MASS 2100 DI 3, 1/4"	3A		AISI 316L/EN 1.4435, Max 125 °C	2	
MASS 2100 DI 3, 1/4" Heated w. DIN	3B		AISI 316L/EN 1.4435, Max 180 °C	3	
MASS 2100 DI 3, 1/4" Heated w. ANSI	3C		Hastelloy C22/UNS N06022/EN 2.4602, Max. 115 °C	5	
FC300 DN 4, 1/4"	4A		Hastelloy C22/UNS N06022/EN 2.4602, Max. 125 °C	6	
MASS 2100 DI 6, 1/4"	6A		Hastelloy C22/UNS N06022/EN 2.4602, Max. 180 °C	7	
MASS 2100 DI 6, 1/4" Heated w. EN	6B				
MASS 2100 DI 6, 1/4" Heated w. ANSI	6C		Calibration		
MASS 2100 DI 6, DN 10	6D		Mass flow calibration	1	
MASS 2100 DI 6, DN 10 Heated w. EN	6E		Mass flow calibration and density calibration	4	
MASS 2100 DI 6, DN 10 Heated w. ANSI	6F		Standard fraction calibration	8	
MASS 2100 DI 6, DN 15 (1/2")	6G		Mounting style, Transmitter Housing and Material		
MASS 2100 DI 6, DN 15 (1/2") Heated w. EN	6H		SIFLOW FC070 Standard DIN rail	W	
MASS 2100 DI 6, DN 15 (1/2") Heated w. ANSI	6J		Ex approvals		
MASS 2100 DI 6, DN 20 (3/4")	6K		Non-Ex	A	
MASS 2100 DI 6, DN 20 (3/4") Heated w. EN	6L		ATEX Zone 1	C	
MASS 2100 DI 6, DN 20 (3/4") Heated w. ANSI	6M		IECEx Zone 1	F	
MASS 2100 DI 6, DN 25 (1")	6N		USA (FM, CSA, UL), Zone 1/Div1	H	
MASS 2100 DI 6, DN 25 (1") Heated w. EN	6P		Canada (CSA, UL), Zone 1/Div1	M	
MASS 2100 DI 6, DN 25 (1") Heated w. ANSI	6Q		Local User Interface		
MASS 2100 DI 15, DN 15 (1/2")	7A		Blind	1	
MASS 2100 DI 15, DN 15 (1/2") Heated w. EN	7B				
MASS 2100 DI 15, DN 15 (1/2") Heated w. ANSI	7C				
MASS 2100 DI 15, DN 20 (3/4")	7D				
MASS 2100 DI 15, DN 20 (3/4") Heated w. EN	7E				
MASS 2100 DI 15, DN 20 (3/4") 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				

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

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	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 SensorFlash for FCT	S20
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.

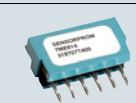
Cable with multiple connectorStandard blue cable between MASS 6000 and MASS 2100, 5 x 2 x 0.34 mm² twisted and screened in pairs. Temperature range -20 °C ... +110 °C (-4 °F ... +230 °F)

- 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****A5E02590427**

Mounting bracket for flow sensor MASS 2100 DI 1.5

