

Flow Measurement

SITRANS F C

Transmitter MASS 6000 IP67 compact/remote

Overview



MASS 6000 is based on digital signal processing technology – engineered for high performance, fast flow step response, fast batching applications, high immunity against process noise, easy to install, commission and maintain.

The MASS 6000 transmitter delivers true multiparameter measurements i.e. mass flow, volume flow, density, temperature and fraction.

The MASS 6000 IP67 transmitter can be compact mounted on all sensors of type MASS 2100 DI 3 to DI 40, and can be used in remote version for all types of MASS 2100/MC2 and FC300 sensors.

Benefits

- Dedicated mass flow chip with the latest ASIC technology
- Fast batching and flow step response with an update rate of true 30 Hz
- Superior noise immunity due to a DFT (Discrete Fourier Transformation) algorithm.
- Front end resolution better than 0.35 ns improves zero point stability and enhances dynamic turn-down ratio on flow and density accuracy.
- Advanced diagnosis and service menu enhances troubleshooting and meter verification.
- Built-in batch controller with compensation and monitoring comprising 2 built-in totalizers
- Multi-parameter outputs, individual configurable for mass flow, volume flow, density, temperature or fraction flow such as Brix or Plato
- Digital input for batch control, remote zero adjust or forced output mode
- All outputs can be forced to preset value for simulation, verification or calibration purposes.
- User-configurable operation menu with password protection
 - 3 lines, 20 characters display in 11 languages
 - Self-explaining error handling/log in text format
 - Keypad can be used for controlling batch as start/stop/hold/reset
- SENSORPROM technology automatically configures transmitter at start-up providing:
 - Factory pre-programming with calibration data, pipe size, sensor type, output settings
 - Any values or settings changed by users are stored automatically
 - Automatically re-programming any new transmitter without loss of accuracy
 - Transmitter replacement in less than 5 minutes.
 - True "plug & play"

- 4-wire Pt1000 temperature measurement ensures optimum accuracy on mass flow, density and fraction flow.
- Fraction flow computation based on a 3rd-order algorithm matching all applications.
- USM II platform enables fitting of add-on bus modules without loss of functionality.
 - All modules can be fitted through true "plug & play"
 - Module and transmitter are automatically configured through the SENSORPROM.
- Installation of the transmitter to the sensor is simple "plug & play" via the sensor pedestal.

Application

SITRANS F C mass flowmeters are suitable for all applications within the entire process industry, where there is a demand for accurate flow measurement. The meter is capable of measuring both liquid and gas flow.

The main applications for the MASS 6000 IP67 transmitter can be found in:

- Food and beverage industries
- Pharmaceutical industries
- Automotive industry
- Oil and gas industry
- Power generation and utility industry
- Water and waste water industry

Design

The transmitter is designed in an IP67/NEMA 6 compact polyamide enclosure which can be compact mounted on the MASS 2100 sensor range DI 3 to DI 40 (1/8" to 1½") and remote mounted for the entire sensor series.

The MASS 6000 IP67 is available as standard with 1 current, 1 frequency/pulse and 1 relay output and can be fitted with add-on modules for bus communication.

Function

The following functions are available:

- Mass flow rate, volume flow rate, density, temperature, fraction flow
- 1 current output, 1 frequency/pulse output, 1 relay output, 1 digital input
- All outputs can be individually configured with mass, volume, density etc.
- 2 built-in totalizers which can count positive, negative or net
- Low flow cut-off
- Density cut-off or empty pipe cut-off, adjustable
- Flow direction adjustable
- Error system consisting of error-log, error pending menu
- Display of operating time
- Uni/bidirectional flow measurement
- Limit switches with 1 or 2 limits, programmable for flow, density or temperature
- Noise filter setting for optimization of measurement performance under non-ideal application conditions
- Full batch controller
- Automatic zero adjustment menu, with zero point evaluation feed back
- Full service menu for effective and straight forward application and meter troubleshooting

Technical specifications

Measurement of	Mass flow [kg/s (lb/min)], volume flow [l/s (gpm)], fraction [%], °Brix, density [kg/m ³ , (lb/ft ³)], temperature [°C (°F)]	Enclosure	
Current output		Material	Fibre glass reinforced polyamide
Current	0 ... 20 mA or 4 ... 20 mA	Rating	IP67/NEMA 6
Load	< 800 Ω	Mechanical load	18 ... 1000 Hz random, 3.17 g RMS, in all directions, to IEC 68-2-36
Time constant	0 ... 99.9 s adjustable	Supply voltage	
Digital output		24 V version	
Frequency	0 ... 10 kHz, 50 % duty cycle	• Supply	18 ... 30 V DC 20 ... 30 V AC
Time constant	0 ... 99.9 s adjustable	230 V version	
Active	24 V DC, 30 mA, 1 KΩ ≤ R _{load} ≤ 10 KΩ, short-circuit-protected	• Supply	87 ... 253 V AC, 50 ... 60 Hz
Passive	3 ... 30 V DC, max. 110 mA, 250 Ω ≤ R _{load} ≤ 10 KΩ	Power consumption	
Relay		24 V DC	6 W
Type	Change-over relay	24 V AC	10 VA
Load	42 V/2 A peak	230 V AC	9 VA
Functions	Error level, error number, limit, flow direction	Fuse	
Digital input		230 V version	T 400 mA, T 250 V (IEC 127) - not replaceable by operator
Functionality	11 ... 30 V DC (R _i = 13.6 kΩ) Start/hold/continue batch, zero point adjust, reset totalizer 1/2, force output, freeze output	24 V version	T 1 A, T 250 V (IEC 127) - not replaceable by operator
Galvanic isolation		EMC performance	
	All inputs and outputs are galva- nically isolated. Isolation voltage: • 500 V to supply • 50 V between outputs	Emission	EN 55011/CISPR-11 (Class A)
Cut-off		Immunity	EN/IEC 61236-1 (Industry)
Low-flow	0 ... 9.9 % of maximum flow	NAMUR	Within the value limits according to "General requirements" with error criteria A in accordance with NE 21
Limit function		Environment	
	Mass flow, volume flow, fraction, density, sensor temperature	Environmental conditions acc. to IEC/EN/UL 61010-1:	• Altitude up to 2000 m • POLLUTION DEGREE 2
Totalizer		Maintenance	The flowmeter has a built-in error log/pending menu which should be inspected on a regular basis.
	Two eight-digit counters for for- ward, net or reverse flow	Cable glands	Two types of cable gland are available in polyamide in the fol- lowing dimensions: M20 or ½" NPT
Display			
	• Background illumination with alphanumeric text, 3 × 20 characters to indicate flow rate, totalized values, settings and faults. Time constant as current output 1 • Reverse flow indicated by nega- tive sign		
Zero point adjustment			
	Via keypad or remote via digital input		
Ambient temperature			
Operation	-20 ... +50 °C (-4 ... +122 °F), max. rel. humidity 80 % at 31 °C (87.8 °F) decreasing to 50 % at 40 °C (104 °F) according to IEC/EN/UL 61010-1		
Storage	-40 ... +70 °C (-40 ... +158 °F) (Humidity max. 95 %)		
Communication			
	Add-on modules: HART, PROFIBUS PA and DP, Modbus RTU RS 485, DeviceNet, FOUNDATION Fieldbus H1		

Flow Measurement

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Transmitter MASS 6000 IP67 compact/remote

Selection and Ordering data	Article No.
SITRANS F C MASS 6000 transmitter Transmitter for wall mounting with wall mounting bracket, fibre glass reinforced polyamide (1 current output, 1 frq./pulse output, 1 relay output and connection board/PCB) ↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	7ME4110-
Version Remote IP67/NEMA 6 enclosure	2
Supply voltage 115/230 V AC, 50 ... 60 Hz 24 V AC/DC	1 2
Display/Keypad with display	1
Serial communication No communication HART PROFIBUS PA Profile 3 PROFIBUS DP Profile 3 Modbus RTU RS 485 DeviceNet FOUNDATION Fieldbus H1	A B F G E H J
Cable glands M20 ½" NPT	1 2

Operating instructions for SITRANS F C MASS 6000 IP67

Description	Article No.
• English	A5E03071936

This device is shipped with a Quick Start guide and a CD containing further SITRANS F C literature.

All literature is also available for free at:
<http://www.siemens.com/flowdocumentation>

Accessories

Description	Article No.
Cable glands, screwed entries type in polyamide (100 °C (212 °F)) black, 2 pcs. • M20 • ½" NPT	A5E00822490 A5E00822501
Sun lid for MASS 6000 transmitter (Frame and lid)	A5E02328485

Add-on module

Description	Article No.
HART ¹⁾	◆ FDK:085U0226
PROFIBUS PA Profile 3 ¹⁾	FDK:085U0236
PROFIBUS DP Profile 3	FDK:085U0237
Modbus RTU RS 485	FDK:085U0234
FOUNDATION Fieldbus H1 ¹⁾	A5E02054250
DeviceNet	FDK:085U0229



¹⁾ Modules are rated Ex i when used with MASS 6000 Ex d.

◆ We can offer shorter delivery times for configurations designated with the Quick Ship Symbol ◆. For details see page 9/5 in the appendix.

Operating instructions for SITRANS F add-on modules

Description	Article No.
HART • English	A5E03089708
PROFIBUS PA/DP • English • German	A5E00726137 A5E01026429
Modbus • English • German • Spanish • French	A5E00753974 A5E03089262 A5E03089278 A5E03089265
FOUNDATION Fieldbus • English • German • Spanish • French	A5E02318728 A5E02488856 A5E02512177 A5E02512169
DeviceNet • English	A5E03089720

This device is shipped with a Quick Start guide and a CD containing further SITRANS F C literature.

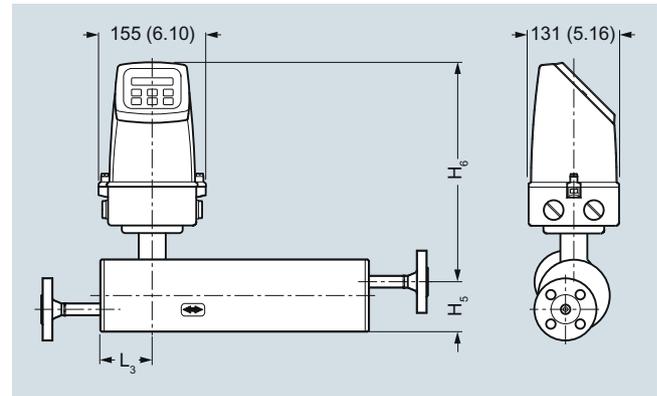
Spare parts for compact or remote IP67 version

Description	Article No.
MASS 6000 transmitter IP67/NEMA 6 Fibre glass reinforced polyamide and without connection board 1 current output 1 frq./pulse output 1 relay output • 115/230 V AC, 50/60 Hz • 24 V AC/DC	7ME4110-1AA10-1AA0 7ME4110-1AA20-1AA0
Wall mounting unit for IP67/NEMA 6 version with wall bracket, without connection board but with • 4 x M20 cable glands • 4 x ½" NPT cable glands	FDK:085U1018 A5E01164211
Connection board/PCB Supply voltage: 115/230 V/24 V AC/DC	FDK:083H4260

Description	Article No.	
Terminal box kit with <ul style="list-style-type: none"> • M20 cable glands • ½" NPT cable glands Change from remote to safe area compact mounting of MASS 6000 IP67/NEMA 6 with MASS 2100. The kit consists of a terminal box in polyamide incl. connection board, cable and connector between PCB and sensor pedestal, PCB, seal and screws (4 pcs.) for mounting on sensor. Not approved for hazardous locations	A5E00832338 A5E00832342	
Terminal box, in polyamide, inclusive lid <ul style="list-style-type: none"> • M20 cable glands • ½" NPT cable glands Not approved for hazardous locations	FDK:085U1050 FDK:085U1052	
Terminal box – lid in polyamide	FDK:085U1003	
Display and keypad <ul style="list-style-type: none"> • Siemens Front 	FDK:085U1039	

Dimensional drawings

Compact

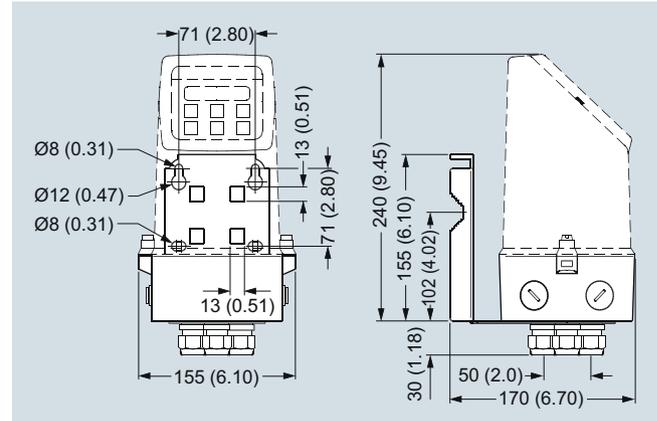


Dimensions in mm (inch)

MASS 2100

Sensor size [Di (inch)]	L ₃ [mm (inch)]	H ₅ [mm (inch)]	H ₆ [mm (inch)]	H ₅ + H ₆ [mm (inch)]
3 (1/8)	75 (2.95)	82 (3.23)	306 (12.04)	388 (15.28)
6 (1/4)	62 (2.44)	72 (2.83)	316 (12.44)	388 (15.28)
15 (1/2)	75 (2.95)	87 (3.43)	326 (12.83)	413 (16.26)
25 (1)	75 (2.95)	173 (6.81)	330 (13.00)	503 (19.80)
40 (1 1/2)	75 (2.95)	227 (8.94)	330 (13.00)	557 (21.93)

Transmitter wall mounted



Dimensions in mm (inch)

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Transmitter MASS 6000 IP67 compact/remote

Schematics

Electrical connection

Grounding

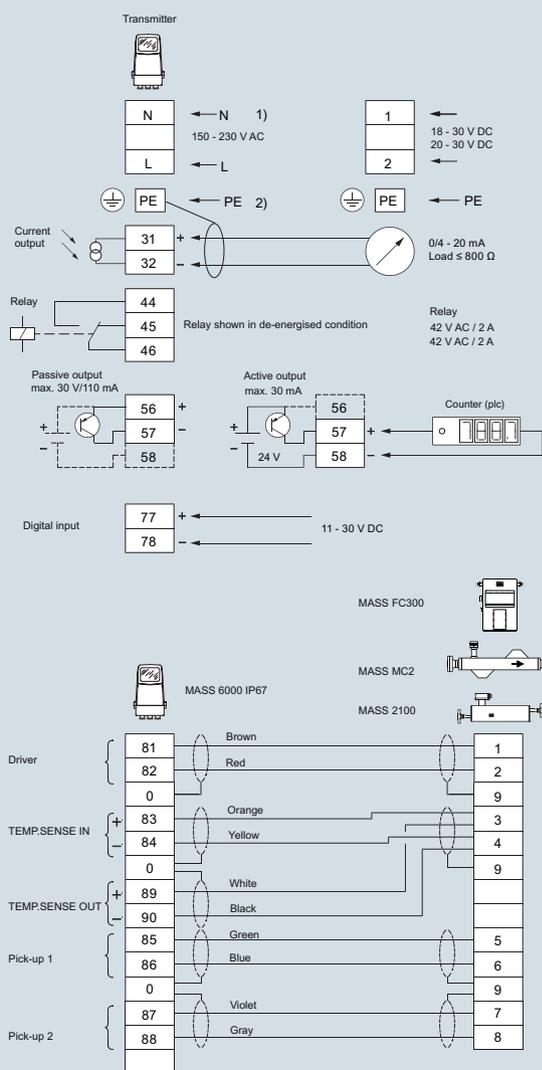
PE must be connected due to safety class 1 power supply.

Mechanical counters

When mounting a mechanical counter to terminals 57 and 58 (active output), a 1000 μ F capacitor must be connected to the terminals 56 and 58. Capacitor + is connected to terminal 56 and capacitor - to terminal 58.

Output cables

If long cables are used in a noisy environment, it is recommended to use shielded cables.



Transmitter MASS 6000 for 19" insert/19" wall mounting

Overview



MASS 6000 is based on digital signal processing technology – engineered for high performance, fast flow step response, fast batching applications, high immunity against process noise, easy to install, commission and maintain.

The MASS 6000 transmitter delivers true multi parameter measurements i.e.: Mass flow, volume flow, density, temperature and fraction.

The MASS 6000 19" transmitter can be connected to all sensors of types MASS 2100/MC2/FC300/FCS200 and are available in different versions depending of number of output facilities, Ex protection and grade of enclosure.

Benefits

- Dedicated mass flow chip with the latest ASIC technology
- Fast batching and flow step response with an update rate of true 30 Hz
- Superior noise immunity due to a DFT (Discrete Fourier Transformation) algorithm.
- Front end resolution better than 0.35 ns improves zero point stability and enhances dynamic turn-down ratio on flow and density accuracy.
- Advanced diagnosis and service menu enhances troubleshooting and meter verification.
- Built-in batch controller with compensation and monitoring comprising 2 built-in totalizers
- Multi-parameter outputs, individual configurable for mass flow, volume flow, density, temperature or fraction flow such as Brix or Plato
- Many output capacities, up to 3 current, 2 frequency/pulse and 2 relay outputs (excludes the possibility of an add-on module)
- Digital input for batch-control, remote zero adjust or forced output mode
- All outputs can be forced to preset value for simulation, verification or calibration purposes.
- User-configurable operation menu with password protection
 - 3 lines, 20 characters display in 11 languages
 - Self-explaining error handling/log in text format
 - Keypad can be used for controlling batch as start/stop/hold/reset

- SENSORPROM technology automatically configures transmitter at start-up providing:
 - Factory pre-programming with calibration data, pipe size, sensor type, output settings
 - Any values or settings changed by users are stored automatically
 - Automatically re-programming any new transmitter without loss of accuracy
 - Transmitter replacement in less than 5 minutes. True "plug & play"
- 4-wire Pt1000 temperature measurement ensures optimum accuracy on mass flow, density and fraction flow
- Fraction flow computation based on a 3rd-order algorithm matching all applications
- USM II platform enables fitting of add-on bus modules without loss of functionality.
 - All modules can be fitted as true "plug & play"
 - Module and transmitter automatically configured through the SENSORPROM.
- Transmitter available with ATEX and UL approval
- All electrical connections are easily accessible on the large back plane PCB

Application

SITRANS F C Coriolis mass flowmeters are suitable for all applications within the entire process industry, where there is a demand for accurate flow measurement. The meter can measure both liquids and gases.

The main applications for the MASS 6000 19" transmitter can be found in:

- Chemical and pharmaceutical industries
- Food and beverage industries
- Automotive industry
- Oil and gas industry
- Power generation and utility industry
- Water and waste water industry

Design

The transmitter is designed as a 19" insert as base to be used in:

- 19" rack system
- Panel mounting IP65
- Back of panel mounting IP20
- Wall mounting IP66

The MASS 6000 19" is available as standard or as ATEX-approved transmitter which is to be mounted in the safe area.

Flow Measurement

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Transmitter MASS 6000 for 19" insert/19" wall mounting

Function

The following functions are available:

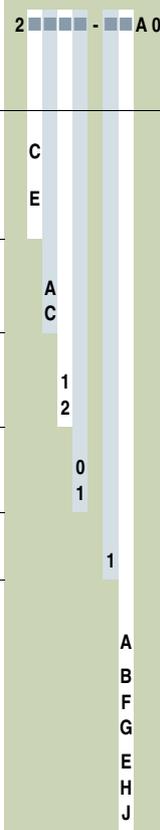
- Mass flow rate, volume flow rate, density, temperature, fraction flow
- 2 output versions available as standard:
 - 1 current output, 1 frequency/pulse output, 1 relay output, 1 digital input
 - 3 current outputs, 2 frequency/pulse outputs, 2 relay outputs, 1 digital input
- All outputs can be individually configured with mass, volume, density etc.
- 2 built-in totalizers which can count positive, negative or net
- Low flow cut-off
- Density cut-off or empty pipe cut-off, adjustable
- Flow direction
- Error system consisting of error-log, error pending menu
- Operating time
- Uni/bidirectional flow measurement
- Limit switches with 1 or 2 limits, programmable for flow, density or temperature
- Noise filter setting for optimization of measurement performance under non-ideal application conditions
- Full batch controller
- Automatic zero adjustment menu, with zero point evaluation feed-back
- Full service menu for effective and straight forward application and meter troubleshooting

Technical specifications

Measurement of	Mass flow [kg/s (lb/min)], volume flow [l/s (gpm)], fraction [%], °Brix, density [kg/m ³ (lb/ft ³)], temperature [°C (°F)]
Current output	
Current	0 ... 20 mA or 4 ... 20 mA
Load	< 800 Ω
Time constant	0 ... 99.9 s adjustable
Digital output	
Frequency	0 ... 10 kHz, 50 % duty cycle
Time constant	0 ... 30 s adjustable
Active	24 V DC, 30 mA, 1 KΩ ≤ R _{load} ≤ 10 KΩ, short-circuit-protected
Passive	3 ... 30 V DC, max. 110 mA, 250 Ω ≤ R _{load} ≤ 10 KΩ
Relay	
Type	Change-over relay
Load	42 V/2 A peak
Functions	Error level, error number, limit, direction
Digital input	11 ... 30 V DC
Functionality	Start/hold/continue batch, zero point adjust, reset totalizer 1/2, force output, freeze output
Galvanic isolation	All inputs and outputs are galvanically isolated. Isolation voltage: • 500 V to supply • 50 V between outputs
Cut-off	
Low-flow	0 ... 9.9 % of maximum flow

Limit function	Mass flow, volume flow, fraction, density, sensor temperature
Totalizer	Two eight-digit counters for forward, net or reverse flow
Display	<ul style="list-style-type: none"> • Background illumination with alphanumeric text, 3 × 20 characters to indicate flow rate, totalized values, settings and faults • Reverse flow indicated by negative sign
Zero point adjustment	Via keypad or remote via digital input
Ambient temperature	
Operation	-20 ... +50 °C (-4 ... +122 °F)
Storage	-40 ... +70 °C (-40 ... +158 °F) (Humidity max. 95 %)
Communication	Add-on modules: HART, PROFIBUS PA and DP, Modbus RTU RS 485, DeviceNet, FOUNDATION Fieldbus H1
Enclosure 19"	
Material	Aluminum/steel (DIN 41494)
Rating	IP20
Mechanical load	18 ... 1000 Hz random, 3.17 g RMS, in all directions, to IEC 68-2-36
Supply voltage	
24 V version	
• Supply	24 V DC/AC, 50 ... 60 Hz
• Fluctuation	18 ... 30 V DC 20 ... 30 V AC
• Power consumption	10 W I _N = 250 mA, I _{ST} = 2 A (30 ms)
230 V version	
• Supply	87 ... 253 V AC, 50 ... 60 Hz
• Power consumption	26 VA
Fuse	
230 V version	T 400 mA, T 250 V (IEC 127) - not replaceable by operator
24 V version	T 1 A, T 250 V (IEC 127) - not replaceable by operator
Power consumption	
230 V AC	9 VA max.
24 V DC	6 W
EMC performance	
Emission	EN 55011/CISPR-11 (Class A)
Immunity	EN/IEC 61236-1 (Industry)
Ex approval	[Ex ia] IIC, DEMKO 03 ATEX 135251X
Maintenance	The flowmeter has a built-in error log/pending menu which should be inspected on a regular basis.
Cable	<ul style="list-style-type: none"> • Max. 300 m • C: max. 300 [pF/m]; L_C/R_C: max. 100 [μH/Ω] • The total cable capacity must be max. 200 nF.
Cable glands	The cable gland is available in polyamide, in dimension: PG 13.5

Transmitter MASS 6000 for 19" insert/19" wall mounting

Selection and Ordering data	Article No.
SITRANS F C MASS 6000 transmitter Transmitter for rack and wall mounting, incl. connection board	7 ME 4 1 1 0 -
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	2 
Enclosure 19 inch insert IP20 (rack mount, purchase rack separately) 19 inch insert in IP65 (wall mount, enclosure included)	C E
Output configuration 1 current, 1 frequency, 1 relay 3 current, 2 frequency, 2 relay	A C
Supply voltage 115/230 V AC, 50/60 Hz 24 V AC/DC	1 2
Ex Approvals Standard (No Ex-approval) ATEX	0 1
Display/Keypad With display	1
Serial communication (Only possible to connect to MASS 6000 version with 1 current output) No communication HART PROFIBUS PA Profile 3 PROFIBUS DP Profile 3 Modbus RTU RS 485 DeviceNet FOUNDATION Fieldbus H1	A B F G E H J
Attention (Ex applications)! MC2 Ex version sensors must only be connected to MASS 6000 standard. The MASS 6000 connection board must be replaced by a connection board approved FDK:083H4294 or FDK:083H4295 (see connection boards/PCB for MASS 6000 and MC2 sensors).	

Operating instructions for SITRANS F C MASS 6000 19"

Description	Article No.
• English	A5E02944875

This device is shipped with a Quick Start guide and a CD containing further SITRANS F literature.

All literature is also available for free at:
<http://www.siemens.com/flowdocumentation>

Accessories

Enclosure (without PCB, connection board)

Description	Article No.	
IP66/NEMA 4X, wall mounting enclosure for 19" inserts (without back plates). Use with PCB A5E02559813 or A5E02559814		
• 21 TE	FDK:083F5037	
• 42 TE	FDK:083F5038	

Enclosure

Description	Article No.	
Panel mounting enclosure for 19" insert (21 TE); IP65/NEMA 2 enclosure in ABS plastic for front panel mounting	FDK:083F5030	
Panel mounting enclosure for 19" insert (42 TE); IP65/NEMA 2 enclosure in ABS plastic for front panel mounting	FDK:083F5031	
Back of panel mounting enclosure for 19" insert (21 TE); IP20/NEMA 1 enclosure in aluminum	FDK:083F5032	
Back of panel mounting enclosure for 19" insert (42 TE); IP20/NEMA 1 enclosure in aluminum	FDK:083F5033	
Front cover (7TE) for panel mounting enclosure	FDK:083F4525	

Cable glands

Description	Article No.	
Cable gland, screwed entry, type M20 , in polyamide (100 °C (212 °F)) black, 2 pcs.	A5E00822490	

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Transmitter MASS 6000 for 19" insert/19" wall mounting

Add-on module

Note:

Only possible to connect to MASS 6000 versions with 1 current output.

Description	Article No.
HART (Ex-i)	FDK:085U0226
PROFIBUS PA Profile 3 (Ex-i)	FDK:085U0236
PROFIBUS DP Profile 3	FDK:085U0237
Modbus RTU RS 485	FDK:085U0234
FOUNDATION Fieldbus H1 (Ex-i)	A5E02054250
DeviceNet	FDK:085U0229



Operating instructions for SITRANS F add-on modules

Description	Article No.
HART • English	A5E03089708
PROFIBUS PA/DP • English • German	A5E00726137 A5E01026429
Modbus • English • German • Spanish • French	A5E00753974 A5E03089262 A5E03089278 A5E03089265
FOUNDATION Fieldbus • English • German • Spanish • French	A5E02318728 A5E02488856 A5E02512177 A5E02512169
DeviceNet • English	A5E03089720

This device is shipped with a Quick Start guide and a CD containing further SITRANS F C literature.

Connection boards/PCB for MASS 6000 and MASS 2100 sensors

Description	Version	Article No.
Connection board MASS 6000 for 19" IP20 rack mounting version	24 V 115/230 V	FDK:083H4272
Connection board MASS 6000 Ex [ia] IIC for 19" IP20 rack mounting version	24 V 115/230 V	FDK:083H4273
Connection board MASS 6000 for 19" wall mounting version, for enclosure FDK:083F5037/FDK:083F5038	24 V 115/230 V	FDK:083H4274
Connection board MASS 6000 Ex [ia] IIC for 19" wall mounting version, for enclosure FDK:083F5037/FDK:083F5038	24 V 115/230 V	FDK:083H4275



Connection boards/PCB for MASS 6000 and MC2 sensors

Description	Version	Article No.
Connection board MASS 6000 for 19" IP20 rack mounting version	24 V 115/230 V	FDK:083H4272
Connection board MASS 6000 for Ex application ¹⁾ and 19" IP20 rack mounting version (connection board MASS 6000 to MC2 sensors Ex-approved)	24 V 115/230 V	FDK:083H4294
Connection board MASS 6000 for 19" wall mounting version, for enclosure FDK:083F5037/FDK:083F5038	24 V 115/230 V	FDK:083H4274
Connection board MASS 6000 for Ex application ¹⁾ and 19" wall mounting version (connection board MASS 6000 to MC2 sensors Ex-approved), for enclosure FDK:083F5037/FDK:083F5038	24 V 115/230 V	FDK:083H4295



¹⁾ Attention (Ex application): MC2 Ex version sensors must only be connected to connection board FDK:083H4294 or FDK:083H4295.

Description	Article No.
Wall mounting enclosure in ABS plastic IP65 with connection board/PCB for Ex application connected to MC2 Ex sensors	FDK:083H4296



Spare parts 19" versions

Enclosure (without PCB, connection board)

Description	Article No.	
IP66/NEMA 4X, wall mounting enclosure for 19" inserts (without back plates). Use with PCB A5E02559813 or A5E02559814	FDK:083F5037	
<ul style="list-style-type: none"> • 21 TE 	FDK:083F5038	
<ul style="list-style-type: none"> • 42 TE 	FDK:085U1039	
Display unit for 19" versions Order the Display and Keypad accessory from MASS 6000 IP67 compact/remote (FDK:085U1039) and use the display for replacement		

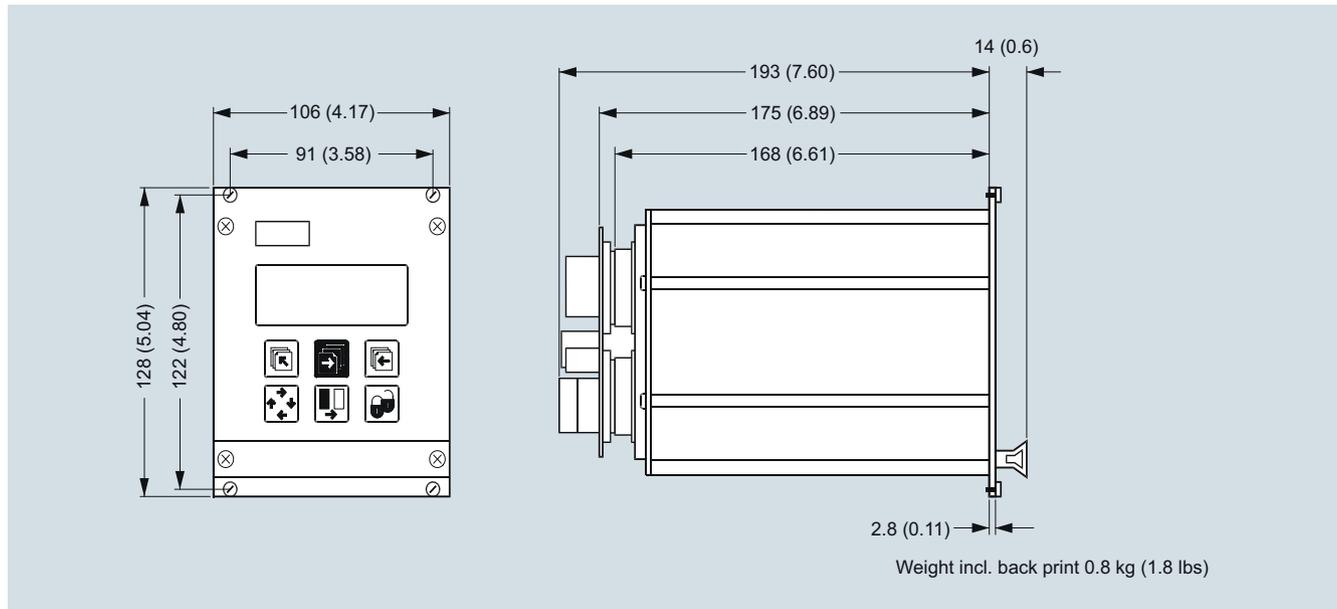
Flow Measurement

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Transmitter MASS 6000 for 19" insert/19" wall mounting

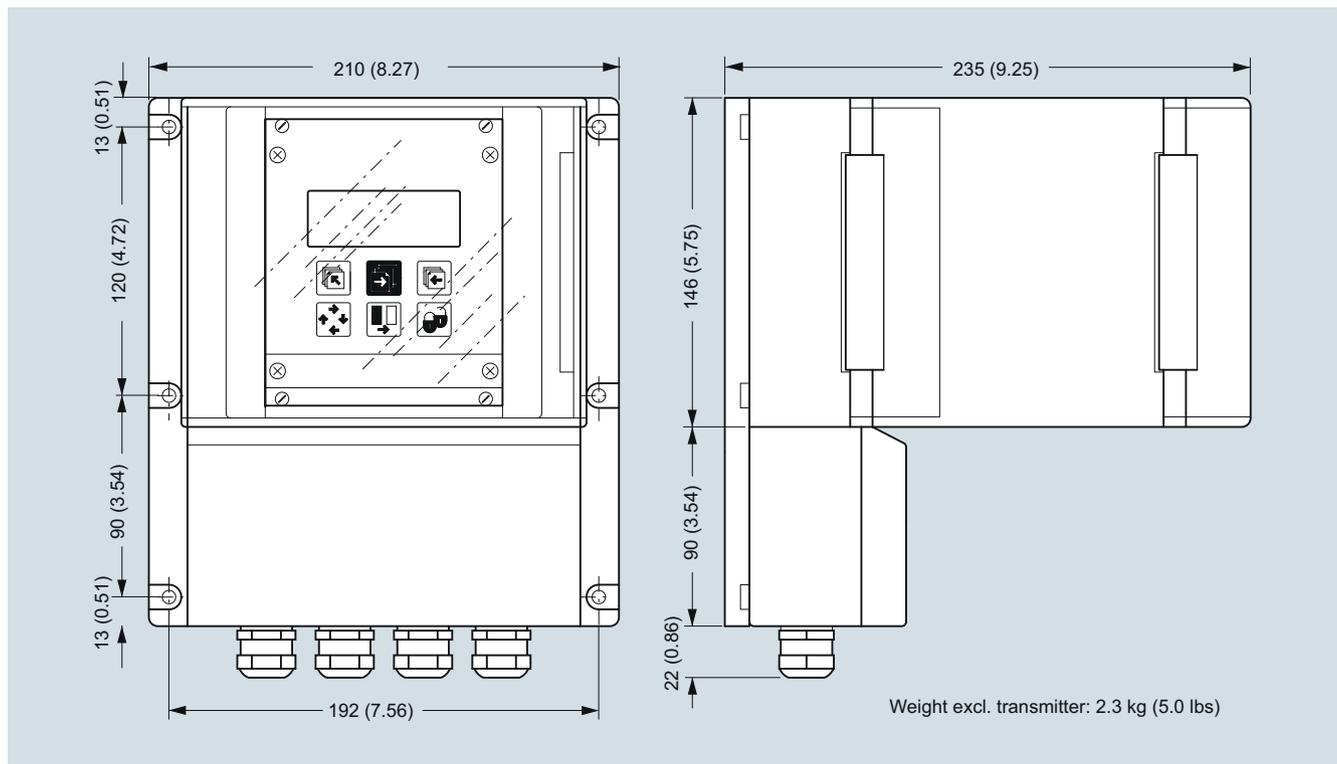
Dimensional drawings

Transmitter 19" insert



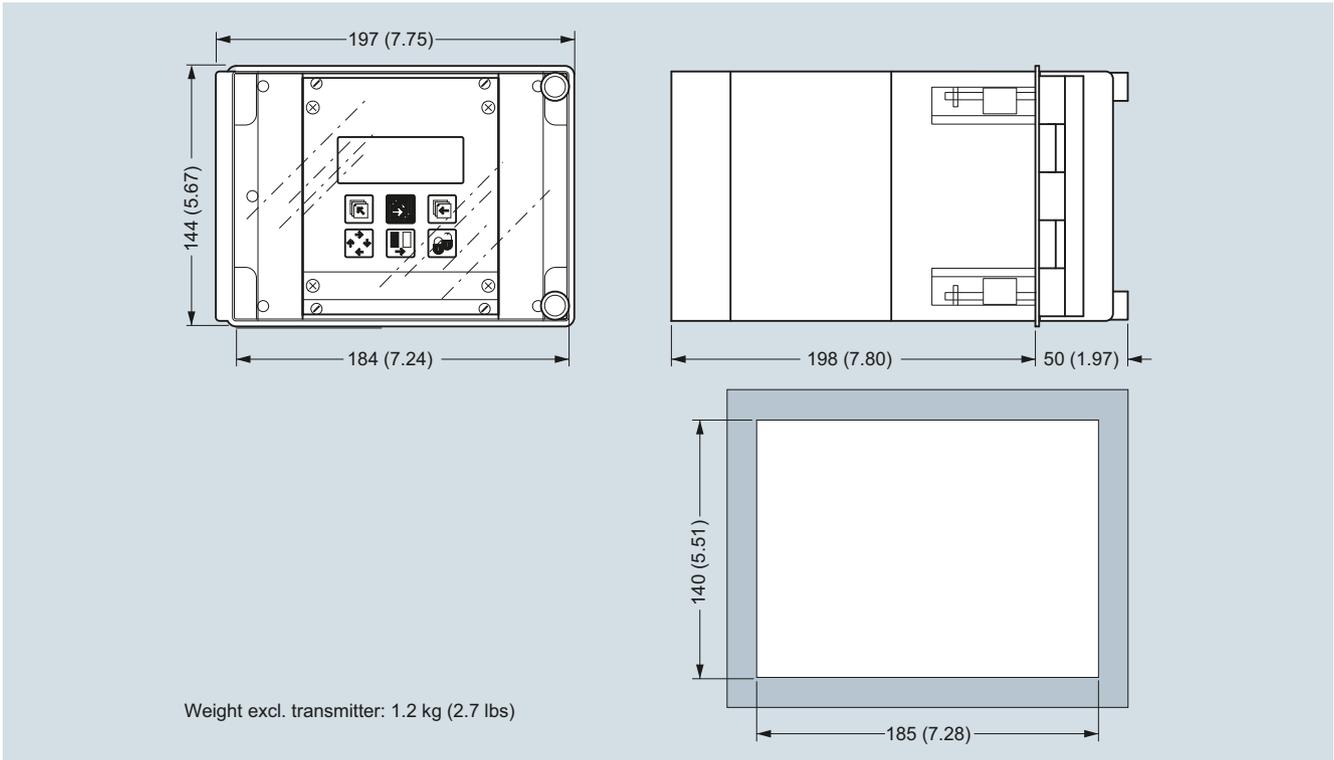
Dimensions in mm (inch)

Transmitter 19" wall mounting



Dimensions in mm (inch)

Transmitter 19" front of panel



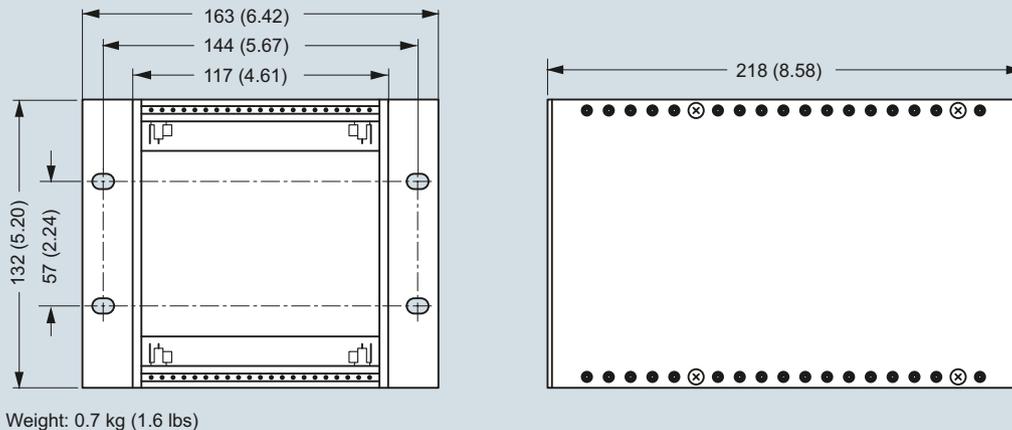
Dimensions in mm (inch)

Flow Measurement

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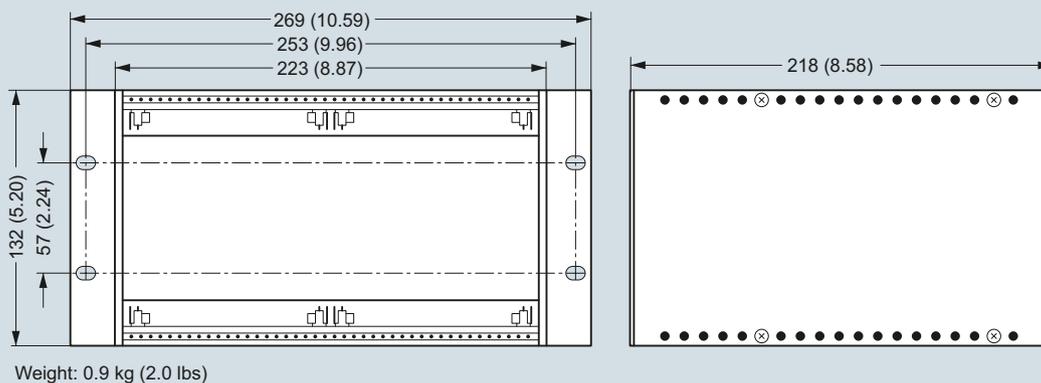
Transmitter MASS 6000 for 19" insert/19" wall mounting

Transmitter, back of panel IP20/NEMA 1, 21 TE



Dimensions in mm (inch)

Transmitter, back of panel IP20/NEMA 1, 42 TE



Dimensions in mm (inch)

Schematics

Electrical connection

Grounding

PE must be connected due to safety class 1 power supply.

Mechanical counters

When mounting a mechanical counter to terminals 57 and 58 (active output), a 1000 µF capacitor must be connected to the terminals 56 and 58. Capacitor + is connected to terminal 56 and capacitor - to terminal 58.

Output cables

If long cables are used in noisy environment, it is recommended to use shielded cables.

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