



The right ingredient



Sensor Systems and Communication

Food & Beverage

Answers for industry.

SIEMENS



SITRANS T sensors with transmitter

MFLB group	7MC8016
Brief description	Temperature sensors (Pt 100 or thermocouples) with optionally fitted temperature transmitter with clamp-on system.
Typical Applications	High performance surface temperature measurement. Small pipe diameters can be served easily. No disturbance of the process. Accuracy and response time comparable with traditional measurement inside the pipe.
Span/Range	–20 ... +160 °C (–4 ... +320 °F)
Wetted parts material	None
Housing material	PVDF M12 connector or stainless steel (1.4305) head for transmitter mounting
I: inputs O: outputs	O: ohmic resistance (from Pt 100 element) or 4 ... 20 mA Bus communication
C: communication	HART, PROFIBUS PA, FOUNDATION FIELDBUS
Process pressure, absolute bar	N/A
Process temperature	–20 ... +160 °C (–4 ... +320 °F)
Ambient temperature	–10 ... +85 °C (+14 ... +86 °F)
A: accuracy L: long-term stability	Sensor Accuracy Class A. Typical deviation measured/medium temperature approx. 0.5 °C (depends on operating parameters)
Special F&B process connections	No hygienic process connection is necessary since no contact to process Pipe diameters: – all common diameters 4 – 57 mm are available – special diameters in the range of 4 – 57 mm will be customized easily
Special F&B certificate and conformity certificate	No formal certification, but designed according to EHEDG and FDA recommendations
Further certificates	Depending on transmitter
Power supply	Powered by transmitter
Degree of protection	IP65 for pipe collar IP67 for electrical connection
Important customer benefits and unique features	<ul style="list-style-type: none"> • Saves lifecycle cost: No welding, no approval of the weldseams, easy to dismount for recalibration • Hygienic temperature measurement without any disturbance of the process • Error in the measurement usually <0.5 °C, comparable to measurements inside the pipe • The pipe remains closed, and the sensor is not in contact with the process • Solves the problem of "forgotten measurements"
Catalog	FI 01 2010 3/109

SITRANS T sensors with transmitter

MFLB group	7MC8005
Brief description	Temperature sensors (Pt 100 or thermocouples) with optionally fitted temperature transmitter with hygienic process connection. Transmitter and sensor are separate components. The transmitter to be fitted must be ordered with an Order code K**.
Typical Applications	Temperature measurements in complex hygienic applications with high accuracy and short response time.
Span/Range	–50 ... +400 °C (–58 ... +752 °F)
Wetted parts material	1.4404/AISI 316L
Housing material	PVDF or PEEK Stainless steel 1.4571, cast aluminium depending on head shape
I: inputs O: outputs	O: ohmic resistance (from Pt 100 element), 4 ... 20 mA or Bus communication
C: communication	HART, PROFIBUS PA, FOUNDATION FIELDBUS
Process pressure, absolute bar	PN 16 or PN 40 depending on connection
Process temperature	–50 ... +400 °C (–58 ... +752 °F)
Ambient temperature	–40 ... +85 °C (–40 ... +185 °F)
A: accuracy L: long-term stability	A: Class A or B, Class 1 or 2
Special F&B process connections	Spherical welding gland Milk pipe screwed gland DIN 11851: DN 25, 32, 40, 50 Clamp DIN 32676: DN 25, 40, 50 Varivent type F = 50 mm, type N = 68 mm Clamp ISO 2852 1", 1.5", 2"
Special F&B certificate and conformity certificate	No formal certification, but designed according to EHEDG and FDA recommendations
Further certificates	Depending on transmitter
Power supply	Powered by transmitter
Degree of protection	IP67
Important customer benefits and unique features	<ul style="list-style-type: none"> • Aseptic temperature measurement directly in the medium • Top product for difficult applications • Short response time
Catalog	FI 01 2010 3/104



02

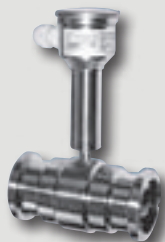
03

SITRANS TH100/200/300/400 transmitter

MFLB group	7NG3
Brief description	Temperature transmitters for connection of resistance thermometers, resistance-based sensors, thermocouples or voltage-based transmitters. They convert the sensor signal into a standardized output signal.
Typical Applications	Mounted direct in the sensor head of all common temperature sensors.
Span/Range	–200 ... +2,300 °C (–328 ... +4,172 °F) (depends on sensor)
Wetted parts material	None
Housing material	Fully potted electronic, plastic housing
I: inputs O: outputs	O: 4 ... 20 mA Bus communication I: ohmic resistance of resistance thermometer I: DC voltage of thermocouple
C: communication	HART, PROFIBUS PA, FOUNDATION FIELDBUS
Process pressure, absolute bar	N/A
Process temperature	–200 ... +2,300 °C (–328 ... +4,172 °F) (depends on sensor)
Ambient temperature	–40 ... +85 °C (–40 ... +185 °F)
A: accuracy L: long-term stability	A: <0.1 °C + 0.02 % of span L: <0.2 %/year
Special F&B process connections	Not required
Special F&B certificate and conformity certificate	Not required
Further certificates	ATEX, FM, GOST-R
Power supply	12 ... 35 V DC, 2-wire system
Degree of protection	–
Important customer benefits and unique features	<ul style="list-style-type: none"> • Simulation • Diagnostics • Slave pointer • Elapsed time counter • Diagnostic LED • Test terminals for 4 ... 20 mA
Catalog	FI 01 2010 3/29

SITRANS TR200/300

MFLB group	7NG3
Brief description	Temperature transmitters for connection of resistance thermometers, resistance-based sensors, thermocouples or voltage-based transmitters. They convert the sensor signal into a standardized output signal.
Typical Applications	Enclosure for rail mounting.
Span/Range	–200 ... +2,300 °C (–328 ... +4,172 °F) (depends on sensor)
Wetted parts material	None
Housing material	Plastic housing, fully potted electronics
I: ohmic resistance of resistance thermometer I: DC voltage of thermocouple O: 4 ... 20 mA Bus communication	I: ohmic resistance of resistance thermometer I: DC voltage of thermocouple O: 4 ... 20 mA Bus communication
C: communication	HART
Process pressure, absolute bar	N/A
Process temperature	–200 ... +2,300 °C (–328 ... +4,172 °F) (depends on sensor)
Ambient temperature	–40 ... +85 °C (–40 ... +185 °F)
A: accuracy L: long-term stability	A: <0.1 °C + 0.02 % of span L: <0.2 %/year
Special F&B process connections	Not required
Special F&B certificate and conformity certificate	Not required
Further certificates	ATEX, FM, GOST-R
Power supply	12 ... 35 V DC, 2-wire system
Degree of protection	–
Important customer benefits and unique features	<ul style="list-style-type: none"> • Simulation • Diagnostics • Slave pointer • Elapsed time counter • Diagnostic LED • Test terminals for 4 ... 20 mA
Catalog	FI 01 2010 3/26



SITRANS P Compact

SITRANS P300

MFLB group	7MF80101	7MF812
Brief description	Pressure transmitter with standard accuracy and fixed measuring range.	Digital compact pressure transmitter.
Typical Applications	Relative and absolute pressure, process pressure; differential pressure measurement not possible. For hygienic applications.	Relative and absolute pressure, process pressure; differential pressure measurement not possible. For complex hygienic applications.
Span/Range	1 mbar ... 40 bar	8.3 mbar ... 400 bar
Wetted parts material	Stainless steel (AISI 316L)	Stainless steel (AISI 316L)
Housing material	Stainless steel (AISI 316L)	Stainless steel (AISI 316L)
I: inputs O: outputs	O: 4 ... 20 mA	O: 4 ... 20 mA or Bus communication
C: communication	–	HART, PROFIBUS PA
Process pressure, absolute bar	Up to 40 bar (580 psi)	Up to 400 bar (5,801 psi)
Process temperature	–30 ... +200 °C (–22 ... +392 °F) (depends on design)	–40 ... +150 °C (–40 ... +302 °F)
Ambient temperature	–40 ... +85 °C (–40 ... +185 °F)	–40 ... +100 °C (–40 ... +212 °F)
A: accuracy L: long-term stability	A: 0.2 % of full-scale value L: 0.1 %/1 year	A: from 0.075 % L: 0.25 %/5 years
Special F&B process connections	DIN 11851 (milk pipe) Clamp DIN 32676, ISO 2852 IDF connection SMS Varivent type F = 50 mm, type N = 68 mm Neumo groove DN 25, 32, 40, 50 Neumo thread DN 25, 32, 40, 50 Neumo clamp R DN 25, 32, 40, 50 Neumo clamp V DN 25, 32, 40, 50 DIN 11864-1 form A Clamp-on seal with flange connections DRD flange	DIN 11851 (milk pipe), DIN 11864 (1–3) Clamp DIN 32676 DN 50 and DN 65 TG 52/50, 52/150 IDF SMS Varivent type N = 68 mm Neumo DN 50, DN 65 DRD Biocontrol Bio-Connect Other connections possible with remote seals
Special F&B certificate and conformity certificate	No formal certification, but designed according to EHEDG recommendations	3A, EHEDG, compliant to FDA
Further certificates	ATEX, FM, CSA	ATEX, FM, CSA
Power supply	12 ... 24 V DC, 2-wire system	11 ... 45 V DC, 2-wire system
Degree of protection	IP65	IP65 or IP68
Important customer benefits and unique features	<ul style="list-style-type: none"> • Large number of versions possible • Even special versions are available • Membrane flush at front for hygienic safety 	<ul style="list-style-type: none"> • Membrane flush at front for hygienic safety • Maximum span ratio 1:100 • High reliability even with extreme chemical and mechanical loads • Comprehensive diagnostics and simulation functions • Minimum deviation in characteristic • Low long-term drift • Parts wetted by medium made of stainless steel, 1.4404/AISI 316L • Measuring range 8.3 mbar to 400 bar • High measuring accuracy • Parameterization using input keys or other various interfaces. Display and operation possible on site. Adjustable measuring range, increased accuracy and optional bus technology for complex applications
Catalog	FI 01 2010 2/23	FI 01 2010 2/33



04

05

SITRANS P Series DS III

7MF4*3*

For use like P 300, with differential pressure measurement in addition.

Relative and absolute pressure, process pressure and differential pressure. Also versions for hygienic applications.

1 mbar ... 400 bar

Stainless steel, Hastelloy, tantalum, Monel, gold, various O-ring materials

Aluminium, stainless steel

O: 4 ... 20 mA
Bus communication

HART, PROFIBUS PA, FIELDBUS FOUNDATION

Up to 420 bar (6,091 psi)

–40 ... +100 °C (–40 ... +212 °F)

–40 ... +85 °C (–40 ... +185 °F)

A: 0.075 % of full-scale value
L: 0.25 %/5 yearsDIN 11851 (milk pipe), DIN 11864 (1–3)
Clamp DIN 32676 DN 50 and DN 65
TG 52/50, 52/150
IDF
SMS
Varivent type N = 68 mm
Neumo DN 50, DN 65
DRD
Biocontrol
Bio-Connect
Other connections possible with remote sealsCompliant to FDA
EHEDG

ATEX, FM, CSA, Inmetro, GOST-R, IEC Ex

11 ... 45 V DC, 2-wire system

IP65

- Like P300, but also differential pressure measurement possible
- Electronics in flameproof enclosure
- Clamp-on seals allow an almost unlimited variety of process connections

FI 01 2010 2/61

SITRANS P Series Z

7MF1564

Pressure transmitter with standard accuracy and fixed measuring range.

Relative and absolute pressure as well as level of liquids and gases. Low-cost pressure transmitter which, however, is not suitable for hygienic processes.

0.1 bar ... 400 bar

Viton, stainless steel
Ceramic seal diaphragm for pressures > 1 bar and stainless steel for pressures < 1 bar

Stainless steel, plastic

O: 4 ... 20 mA or 0 ... 10 V

–

Up to 400 bar (5,801 psi)

–30 ... +120 °C (–22 ... +248 °F)

–25 ... +85 °C (–13 ... +185 °F)

A: 0.25 % of full-scale value
L: 0.3 %/1 yearNo hygienic process connections;
Only machine connections:
G1; G1/2; G1/4; various NPT

–

ATEX

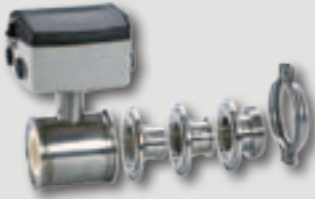
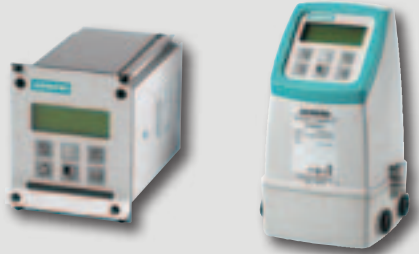
10 ... 36 V DC, 2-wire system

IP65

- For corrosive and non-corrosive gases, vapors and liquids

FI 01 2010 2/9

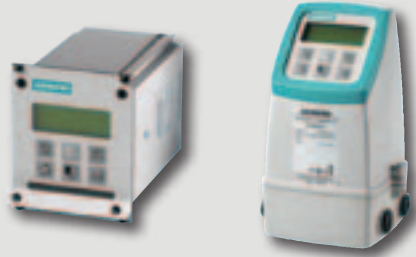


General		SITRANS F flowmeters	
			
		SITRANS F M MAG 1100 F	SITRANS F M MAG 5000
MFLB group	7ME6140	7ME6910	
Brief description	The electromagnetic sensor SITRANS FM MAG 1100 F is designed to meet application in the food and beverage industry.	MAG 5000 is the truly robust solution for standard applications.	
Typical Applications	Measurement of conductive medias in food & beverage and pharmaceutical industry. Minimum conductivity of medium 5 µS.	Applications with standard accuracy and analog or HART output signal.	
Span/Range	0.25 ... 10 m/s	N/A	
Wetted parts material	Lining: ceramic, PFA Electrodes: Platinum, Hastelloy C Gaskets: EPDM, NBR, FKM/FPM	N/A	
Housing material	Stainless steel AISI 316L (1.4404)	Fiberglass-reinforced polyamide	
I: inputs O: outputs	N/A	I: Digital inputs 11 ... 30 V O: Frequency/pulse output active 24 V; passive 3 ... 30 V Current output: 0/4 ... 20 mA Relay with 42 V AC, 24 V DC Bus communication	
C: communication	N/A	HART	
Process pressure, absolute bar	Ceramic: max. 40 bar (580 psi) PFA: max. 20 bar (290 psi)	–	
Process temperature	Ceramic: –20 ... +150 °C (–4 ... +302 °F) PFA: –30 ... +130 °C (–30 ... +266 °F)	–	
Ambient temperature	Separate transmitter: –40 ... +100 °C (–40 ... +212 °F) Compact transmitter (MAG 5000/6000): –20 ... +60 °C (–4 ... +76 °F)	–20 ... +60 °C (–4 ... +76 °F)	
A: accuracy L: long-term stability	A: Ceramic: 0.25 %; PFA 0.50 %	0,4 % ± 1 mm/s	
Special F&B process connections	Nominal diameter: DN 10 ... DN 100 Welding-type: Triclover, ISO 2037, DIN 11850, SMS 3008, BS 4825-1 Clamp on: Triclamp, ISO 2852, DIN 32676, SMS 3016, BS 4825-3 Thread: DIN 11851, ISO 2853, BS 4825-4, SMS 1145	–	
Special F&B certificate and conformity certificate	3A and EHEDG approval, compliant to FDA	N/A	
Further certificates	DANAK OIML R117	–	
Power supply	Powered by transmitter	11 ... 30 V DC or 11 ... 24 V AC, 115 ... 230 V AC, 50/60 Hz	
Degree of protection	IP67/68	Compact version: IP 67, 19" insert: IP20	
Important customer benefits and unique features	<ul style="list-style-type: none"> • Unique and flexible process connections • Hygienic design suitable for CIP/SIP • Corrosion-resistant stainless steel (AISI 316L) sensor housing • Highly resistant lining and electrode materials unaffected by suspended solids, viscosity and temperature challenges • Hose proof IP67/NEMA 6 enclosure rating which is simple upgradable to IP68 in field • Compact or remote mounting possible easy "plug & play" field changeable • Designed for patented in-situ verification using SENSORPROM fingerprints 	<ul style="list-style-type: none"> • Best signal resolution for optimum dynamic response • Simple startup through automatic reading of data stored in the SENSORPROM • User-configured operating menu with password protection • Display with 3 lines with 20 characters each in 11 languages • Various units for the flow rate • Totalizers for forward, backward and net flows as well as lots of other information • Multiple function outputs for process control, minimum configuration with analog, pulse/frequency and relay outputs (status, flow direction, limits) • Comprehensive self-diagnostics with fault detection and error logging 	
Catalog	FI 01 2010 4/58	FI 01 2010 4/35	



General

SITRANS F flowmeters



SITRANS F M MAG 6000

MAG 6000 is for the more demanding applications where higher accuracy and greater functionality is required.

Applications that require higher accuracy, bus communication or batching functionality.

N/A

N/A

Fiberglass-reinforced polyamide; Stainless steel;
AISI 316L (only for IP67)

I: Digital inputs 11 ... 30V DC
O: Frequency/pulse output active 24V; passive 3 ... 30V
Current output: 0/4 ... 20 mA
Relay with 42 V AC, 24 V DC
Bus communication

HART, MODBUS RTU, DeviceNet, FOUNDATION FIELDBUS,
PROFIBUS PA and DP

–

–

–20 ... +60 °C (–4 ... –76 °F)

0,2 % ± 1 mm/s

–

Not required

PTB and DANAK OIML R117

11 ... 30V DC or 11 ... 24V AC, 115 ... 230V AC, 50/60 Hz

Compact version: IP 67, 19" insert: IP20

- Best signal resolution for optimum dynamic response
- Simple startup through automatic reading of data stored in the SENSORPROM
- User-configured operating menu with password protection
- Display with 3 lines with 20 characters each in 11 languages
- Various units for the flow rate
- Totalizers for forward, backward and net flows as well as lots of other information
- Multiple function outputs for process control, minimum configuration with analog, pulse/frequency and relay outputs (status, flow direction, limits)
- Comprehensive self-diagnostics with fault detection and error logging
- "Plug and Play" communication module
- Batch control

FI 01 2010 4/35

SITRANS F M Verificator

FDK: 083F5060 (50 Hz), FDK: 083F5061 (60 Hz)

The SITRANS F M Verificator carries out the complex verification and performance check of the entire flowmeter system, according to unique SIEMENS patented principles.

Verification and performance check of SITRANS FM products.

Not required

Not required

Plastic case

No external

RS 232

–

0 ... +60 °C (+32 ... +140 °F)

–20 ... +50 °C (–4 ... +50 °F)

–

–

Not required

–

11 ... 30V DC, 11 ... 24V AC, 115 ... 230V, 50 Hz
11 ... 30V DC, 11 ... 24V AC, 115 ... 230V, 60 Hz
115 ... 230V, 50/60 Hz

IP20 open briefcase/IP42 closed briefcase

- In-situ check of performance without interrupting the flowmeter installation
- No expensive removal or installation costs
- Save money and resources by accurate dosing of the required quantities
- Verify new or existing installations
- Fully automated – no manual set up or data input – with predefined factory accept levels
- Result in less than 20 minutes
- Full verification report to confirm meter performance according to quality standards ISO 9001 and management standard ISO 14001 – as handover approval from contractor to enduser

FI 01 2010 4/21

Catalog

06

07



General

SITRANS F flowmeters



SITRANS F C MASS 2100 DI 1,5

SITRANS FC300

MFLB group

7ME4100

7ME4400

Brief description

Coriolis mass flowmeter.

Coriolis mass flowmeter.

Typical Applications

Exact flow, Brix, Plato, fraction, density, mass and temperature measurements as well as dosing of liquids and gases.

Exact flow, Brix, Plato, fraction, density, mass and temperature measurements as well as dosing of liquids and gases.

Span/Range

0.25 ... 10 m/s
0 ... 65 kg/h (DN 1.5)

0 ... 350 kg/h

Wetted parts material

1.4435 stainless steel (AISI 316L)
2.4602 Hastelloy C-22

1.4435 stainless steel (AISI 316L)
2.4602 Hastelloy C-22

Housing material

1.4404 stainless steel (AISI 316L)

1.4435 stainless steel (AISI 316L)

I: inputs
O: outputs

N/A

N/A

C: communication

N/A

N/A

Process pressure, absolute bar

0.01 ... 400 bar (0 ... 5,801 psi) (depends on version)

130 bar (1,885 psi) stainless steel (AISI 316L)
410 bar (5,946 psi) Hastelloy C-22

Process temperature

-50 ... +180 °C (-58 ... +356 °F)

-40 ... +185 °C (-40 ... +365 °F)

Ambient temperature

-50 ... +180 °C (-58 ... +356 °F)

-40 ... +185 °C (-40 ... +365 °F)

A: accuracy
R: repeatability

A: <0.1 % of mass flow
R: 0.05 % of rate

A: <0.1 % of mass flow
R: 0.05 % of rate

Special F&B process connections

Only threaded connections: G 1/4" and 1/4" NPT

Only threaded connections: G 1/4" and 1/4" NPT

Special F&B certificate and conformity certificate

N/A

N/A

Further certificates

ATEX

ATEX, UL, CSA

Power supply

N/A

N/A

Degree of protection

IP66

IP66

Important customer benefits and unique features

- Large dynamic range of more than 500:1
- Accuracy of density measurements better than 0.001 g/cm³
- Continuous pipe without internal welding seams
- Maximum pipe wall thickness for optimum service life, corrosion resistance and high pressure resistance
- The balanced pipe construction guarantees optimum performance and stability even under unfavorable or unstable operating conditions (pressure, temperature, density variations etc.)
- Maximum accuracy when measuring flow, density and fraction flow as result of four-wire Pt 1000 temperature measurement
- Multiple connector & SENSORPROM enable true plug & play. Installation and startup in less than 10 minutes
- Intrinsically-safe design according to EEx ia as standard
- High-pressure range as standard
- The calibration factor of the sensor also applies to gas measurements

- Large dynamic range of more than 500:1
- Accuracy of density measurements better than 0.001 g/cm³
- Continuous pipe without internal welding seams
- Maximum pipe wall thickness for optimum service life, corrosion resistance and high pressure resistance
- The balanced pipe construction guarantees optimum performance and stability even under unfavorable or unstable operating conditions (pressure, temperature, density variations etc.)
- Maximum accuracy when measuring flow, density and fraction flow as result of four-wire Pt 1000 temperature measurement
- Multiple connector & SENSORPROM enable true plug & play. Installation and startup in less than 10 minutes
- Intrinsically-safe design according to EEx ia as standard
- High-pressure range as standard
- The calibration factor of the sensor also applies to gas measurements

Catalog

FI 01 2010 4/150

FI 01 2010 4/154



SITRANS F C MASS 2100 DI 3 to DI 40

7ME4100

Coriolis mass flowmeter.

Typical Applications
Exact flow, Brix, Plato, fraction, density, mass and temperature measurements as well as dosing of liquids and gases.

Span/Range
0.25 ... 10 m/s
0 ... 52,000 kg/h (DN 40)

Wetted parts material
1.4435 stainless steel (AISI 316L)
2.4602 Hastelloy C-22

Housing material
1.4404 stainless steel (AISI 316L)

I: inputs
O: outputs
N/A

C: communication
N/A

Process pressure, absolute bar
0.01 ... 400 bar (0 ... 5,801 psi) (depends on version)

Process temperature
-50 ... +180 °C (-58 ... +356 °F)

Ambient temperature
-50 ... +180 °C (-58 ... +356 °F)

A: accuracy
R: repeatability
A: <0.1 % of mass flow
R: 0.05 % of rate

Special F&B process connections
Milk pipe screwed gland DIN 11851 DN 10 ... DN 65
Milk clamp connection ISO 2852 1", 1.5", 2"
Milk pipe screwed gland ISO 2853 1", 1.5", 2"

Special F&B certificate and conformity certificate
N/A

Further certificates
ATEX

Power supply
N/A

Degree of protection
IP66

Important customer benefits and unique features

- Large dynamic range of more than 500:1
- Accuracy of density measurements better than 0.001 g/cm³
- Continuous pipe without internal welding seams
- Maximum pipe wall thickness for optimum service life, corrosion resistance and high pressure resistance
- The balanced pipe construction guarantees optimum performance and stability even under unfavorable or unstable operating conditions (pressure, temperature, density variations etc.)
- Maximum accuracy when measuring flow, density and fraction flow as result of four-wire Pt 1000 temperature measurement
- Multiple connector & SENSORPROM enable true plug & play. Installation and startup in less than 10 minutes
- Intrinsically-safe design according to EEx ia as standard
- High-pressure range as standard
- The calibration factor of the sensor also applies to gas measurements

Catalog
FI 01 2010 4/159

SITRANS F C MASS 6000

7ME4110

Transmitter for Coriolis flowmeter.

Measurement of mass flow, volume flow, Brix, Plato, density, temperature and fraction flow.

N/A

N/A

Fiberglass-reinforced polyamide;
Option: stainless steel

I: Digital input 11 ... 30 V DC, start/stop/hold dosing, zero adjustment
Force output, **Totalizer rest**
O: 0 ... 20 mA or **4 ... 20 mA**, **Pulse/frequency**, **Relay output**, e.g. mass, density, volume & fraction

HART, **PROFIBUS PA**, **PROFIBUS DP**, **MODBUS**, **DeviceNet**, **CANopen**

–

–

-20 ... +50 °C (-40 ... +122 °F)

A: typically = <0.1 % of actual mass flow

–

N/A

ATEX

24 V AC/DC
115/230 V AC 50/60 Hz

IP67

• High zero stability and increased dynamic response of accuracy for flow and density as result of input resolution of 0.35 ns

• High noise immunity as result of patented DFT algorithm (Discrete Fourier Transformation)

• Multiparameter outputs, individually configurable to mass flow, volume flow, density, temperature or fraction flow, e.g. Brix or Plato

• Fast batch mode and short response time with a true update speed of 30 Hz

• All outputs for simulation, test or calibration purposes can be forced to defined values

• Configurable user menu with password protection

• Display with 3 lines with 20 characters each in 11 languages

• Self-explanatory handling and recording of faults in text format

• The SENSORPROM technology automatically configures the transmitter during startup

• Easy troubleshooting and checking of device using separate diagnostics and servicing menus

• Flow, volume (forward, backward and net) and error message in plain text

Catalog
FI 01 2010 4/130



General		SITRANS F flowmeters	
			
	<h3>SIFLOW FC070</h3>		<h3>SITRANS F C MC2 Std and Hygienic</h3>
MFLB group	7ME4120		7ME4300 and 7ME4310
Brief description	Transmitter for Coriolis flowmeter. SIFLOW FC070 is easy to integrate in various automation systems.		Coriolis flowmeter. MC2 standard version (DN50-DN150). MC2 hygienic version (DN20-DN80).
Typical Applications	Measurement of mass flow, volume flow, Brix, Plato, density, temperature and faction flow.		Exact flow, density, mass and temperature measurements as well as dosing of liquids and gases.
Span/Range	N/A		0.25 to 10 m/s 0 to 510,000 kg/h (DN 50-DN150)
Wetted parts material	N/A		1.4571 stainless steel (AISI 316 Ti) 2.4610 Hastelloy C-4
Housing material	Noryl, anthracite		1.4301 stainless steel (AISI 304)
I: inputs O: outputs	I: Digital input 11 ... 30 V DC O: 2 outputs for: pulse, frequency, quadrature pulse as redundancy, quadrature frequency as redundancy, 2-step dosing		N/A
C: communication	MODBUS		N/A
Process pressure, absolute bar	N/A		0.01 ... 100 bar (0... 1,450psi) (depends on version)
Process temperature	N/A		– 50 ... + 180 °C (– 58 ... + 356 °F)
Ambient temperature	0 ... + 60 °C (+ 32 ... + 140 °F)		– 20 ... + 50 °C (– 4 ... + 58 °F)
A: accuracy L: long-term stability	A: typically = <0.1 % of actual mass flow		A: <0.15 % of mass flow
Special F&B process connections	N/A		Milk pipe screwed gland DIN 11851, DIN 32676, DIN 11864-2A
Special F&B certificate and conformity certificate	N/A		N/A
Further certificates	ATEX, FM, UL		ATEX, FM, EHEDG
Power supply	24 V DC		N/A
Degree of protection	IP20		IP66
Important customer benefits and unique features	<ul style="list-style-type: none">• Simple integration in SIMATIC S7 and PCS7 with their software package• Support of SIMATIC PDM Configuration Tool over MODBUS• 30 Hz updating for fast batch processes and other fast flow changes• Improved noise insensitivity through patented DFT (Discrete Fourier Transformation) algorithm• Comprehensive diagnostics, troubleshooting and verification• Built-in control for batch processes• Digital inputs/outputs for control of batch processes, frequency/ pulse, zero adjustment• Extensive simulation options for measured values, I/O and faults• Multi LED display for flow, faults and I/O status• SENSORPROM technology for automatic configuration following each switching on• All user modifications are saved automatically• Exchange in less than 3 minutes		<ul style="list-style-type: none">• Large dynamic turn down ratio• Accuracy of density measurements better than 0.001 g/cm³• The balanced pipe construction guarantees optimum performance and stability even under unfavorable or unstable operating conditions (pressure, temperature, density variations etc.)• Maximum pipe wall thickness for optimum service life, corrosion resistance and high pressure resistance• Multiple connector & SENSORPROM enable true plug & play Installation and startup in less than 10 minutes• High-pressure range as standard• The calibration factor of the sensor also applies to gas measurements• Rigid enclosure design reduces the influence from pipeline vibration and thermal stress• Parallel s-tube design and optimal oriented inductive sensors enhances accuracy and turn down ratio• Space saving splitflow sensor design facilitating low pressure loss• Self draining in both horizontal and vertical position
Catalog	FI 01 2010 4/146		FI 01 2010 4/169

General

SITRANS F flowmeters



SITRANS FX300

MFLB group 7ME2700

Brief description Vortex measuring sensor and transmitter in compact sandwich/wafer design.

Typical Applications The device enables the measurement of flow in a wide variety of process applications like e.g. gas, mix-gas, liquid, saturated steam and superheated steam.

Span/Range Liquids: 0.4 ... 10 m/s; 0.45 ... 186 m³/h
Gas: 2 ... 80 m/s; 7 ... 2,125 m³/h
Steam/vapor: 2 ... 80 m/s; 6 ... 16,666 kg/h
Depending of process data and nom. Diameter

Wetted parts material Sensor in Stainless Steel 1.4404 or Hastelloy C-22

Housing material Not required

I: inputs Current output: 4 ... 20 mA
O: outputs Puls output max. 0.5 Hz

C: communication HART

Process pressure, absolute bar Max. 100 bar (1,450 psi)

Process temperature -40 ... +240 °C (-40 ... +464 °F)

Ambient temperature Non-Ex: -40 ... +85 °C (-40 ... +185 °F)
Ex-version: -40 ... +65 °C (-40 ... +149 °F)

A: accuracy Liquids: ±0.75 %
L: long-term stability Steam and gases: ±1 %

Special F&B process connections N/A

Special F&B certificate and conformity certificate N/A

Further certificates ATEX and FM

Power supply Non Ex-version: 14 ... 36 V DC
Ex-version: 14 ... 30 V DC

Degree of protection IP66/67

- Important customer benefits and unique features**
- Volume-, mass and energy measuring
 - 2-wire technology
 - Temperature compensation for saturated steam as standard
 - Pressure and temperature compensation in steam and gas applications
 - Energy measuring directly, no additional installation and cabling
 - Fully welded construction
 - Maintenance free sensor design

Catalog FI 01 2010 4/323

SITRANS FX300

MFLB group 7ME2600

Brief description Vortex measuring sensor and transmitter in a compact flanged design.

The device enables the measurement of flow in a wide variety of process applications like e.g. gas, mix-gas, liquid, saturated steam and superheated steam.

Liquids: 0.4 ... 10 m/s; 0.45 ... 1,600 m³/h
Gas: 2 ... 80 m/s; 7 ... 18,000 m³/h
Steam/vapor: 2 ... 80 m/s; 6 ... 126,000 kg/h
Depending of process data and nom. Diameter

Sensor in Stainless Steel 1.4404 or Hastelloy C-22

Not required

Current output: 4 ... 20 mA
Puls output max. 0.5 Hz

HART

Max. 100 bar (1,450 psi)

-40 ... +240 °C (-40 ... +464 °F)

Non Ex-version: -40 ... +85 °C (-40 ... +185 °F)
Ex-version: -40 ... +65 °C (-40 ... +149 °F)

Liquids: ±0.75 %
Steam and gases: ±1 %

N/A

N/A

ATEX and FM

Non Ex-version: 14 ... 36 V DC
Ex-version: 14 ... 30 V DC

IP 66/67

- Volume, mass and energy measuring
- 2-wire technology
- Temperature compensation for saturated steam as standard
- Pressure and temperature compensation in steam and gas applications
- Energy measuring directly, no additional installation and cabling
- Fully welded construction
- Maintenance free sensor design

FI 01 2010 4/323



SITRANS FUP1010

MFLB group 7ME3510

Brief description SITRANS FUP1010 are ideal as a check meter for existing conventional meters and monitor applications that do not have existing metering.

Typical Applications For applications that do not require long-term continuous flow monitoring or pipes where operators need to check the flow against a known or expected value.

Span/Range ± 12 m/s (± 40 ft/s), bidirectional

Wetted parts material –

Housing material –

I: inputs Current: 2x 4 ... 20 mA DC, Voltage: 2x 0 ... 10 V DC,
O: outputs Temperature: 2x 4 wire 1 k Ω RTD
 Current: 2x 4 ... 20 mA DC, Voltage: 2x 0 ... 10 V DC,
 Status Alarm: 4x SPDT relays, Frequency: 2x 0 ... 5 kHz

C: communication RS232

Process pressure, absolute bar –

Process temperature Standard: $-40 \dots +120^\circ\text{C}$ ($-40 \dots +250^\circ\text{F}$)
 Optional: $-40 \dots +230^\circ\text{C}$ ($-40 \dots +450^\circ\text{F}$)

Ambient temperature $-18 \dots +60^\circ\text{C}$ ($0 \dots 140^\circ\text{F}$)

A: accuracy $\pm 0.5 \dots 2\%$ at < 0.3 m/s (1 ft/s)
L: long-term stability $\pm 0.15\%$ for flow rates greater than 0.3 m/s

Special F&B process connections –

Special F&B certificate and conformity certificate –

Further certificates UL, ULc, CE

Power supply 100 ... 240 V AC, 50/60 Hz, 30 VA 12.0 ... 18.5 VDC, 12 W
 Internal battery

Degree of protection IP67

Important customer benefits and unique features

- Performance check or verification of any type or brand of flowmeter
- Datalogger capability downloadable to PC via RS232 cable
- Field use facilitated by meter portability and 7 hour quick charge, rechargeable battery

Catalog FI 01 2010 4/279

SITRANS FUS1010

MFLB group 7ME353

Brief description SITRANS FUS1010 clamp-on flow meter provides accurate, non-intrusive mass and volumetric flow measurement in full pipes. Available with transit time and Doppler technology, making them ideal for plant testing and survey applications.

Typical Applications Field programmable for two modes of operation: WideBeam transit time for relatively homogeneous liquids or Doppler for liquids with extensive suspended solids or aeration.

Span/Range ± 12 m/s (± 40 ft/s), bidirectional

Wetted parts material –

Housing material –

I: inputs Current: 2x 4 ... 20 mA DC, Voltage: 2x 0 ... 10 V DC,
O: outputs Temperature: 2x 4 wire 1 k Ω RTD
 Current: 2x 4 ... 20 mA DC, Voltage: 2x 0 ... 10 V DC
 Status Alarm: 4x SPDT relays, Frequency: 2x 0 ... 5 kHz

C: communication RS232
 Modbus

Process pressure, absolute bar –

Process temperature Standard: $-40 \dots +120^\circ\text{C}$ ($-40 \dots +250^\circ\text{F}$)
 Optional: $-40 \dots +230^\circ\text{C}$ ($-40 \dots +450^\circ\text{F}$)

Ambient temperature $-18 \dots +60^\circ\text{C}$ ($0 \dots 140^\circ\text{F}$)

A: accuracy $\pm 0.5 \dots 2\%$ at < 0.3 m/s (1 ft/s)
L: long-term stability $\pm 0.15\%$ for flow rates greater than 0.3 m/s

Special F&B process connections –

Special F&B certificate and conformity certificate –

Further certificates INMETRO, CSA, FM, ATEX

Power supply 90 ... 240 V AC, 50 ... 60 Hz, 30 VA, 9 ... 36 V DC, 12 W

Degree of protection IP65 NEMA 4X

Important customer benefits and unique features

- Easy/low cost installation
- No interruption in operation
- No need to cut pipe
- No periodic cleaning and no moving parts to wear or foul
- No contact with media

Catalog FI 012010 4/257



12

13

SITRANS LVS100

7ML5735

Vibrating fork for solids point level detection.

Point level detection in bulk solids applications.

170 mm ... 2 m

Stainless steel 316 Ti (1.4571) or 304 (1.4301) for specific configurations

Epoxy-coated aluminum

2 relay output

–

Max. 10 bar, gauge (145 psi, gauge)

+150°C max. (+302°F)

–40 ... +60 °C (–40 ... +140 °F)

Switching delay 1 sec.

–

–

FM, CSA, ATEX, CE, C-TICK

19 ... 230 V AC, +10 %, 50 ... 60 Hz, 8 V A/19 ... 50 V DC, +10 %, 2 W

Type 4X/NEMA 4X/IP66

- High or low level alarm
- Compact design
- Top, side, angle mount
- Rotatable enclosure
- Extended model up to 2 m
- Replaceable electronics

FI 01 2010 5/99

SITRANS LVS200

7ML5731/2/3/4

Vibrating fork for solids point level detection.

Point level detection in bulk solids applications.

165 mm ... 20 m

Stainless steel 316 Ti (1.4571) or 304 (1.4301) for specific configurations

Epoxy-coated aluminum

Relay, 2-wire contactless, PNP, mA output

–

Max. 10 bar, gauge (145 psi, gauge)

+150°C max. (+302°F)

–40 ... +60 °C (–40 ... +140 °F)

Switching delay 1 sec.

–

–

FM, CSA, ATEX, CE, C-TICK

19 ... 230 V AC, +10 %, 50 ... 60 Hz, 8 VA/19 ... 55 V DC, +10 %, 1.5 W
 18 ... 50 V DC 3-wire PNP
 7 ... 9 V DC (requires NAMUR switch amplifier)
 NAMUR IEC 60947-506, 2-wire
 8/16 mA or 4 ... 20 mA; 12.5 ... 35 V DC, 2-wire

Type 4X/NEMA 4X/IP66

- High or low level alarm
- Compact design
- Top, side, angle mount
- Rotatable enclosure
- Self-cleaning fork
- Extended model up to 20 m
- Interface model with detection of solids in liquids
- Best-in-industry lowest density measurement below 5 g/l
- Independent of dielectric and other material conditions such as vapors
- Unaffected by external vibrations
- Replaceable electronics
- Short fork option for short insertion lengths
- Remote electronics option

FI 01 2010 5/102

General		SITRANS L Level instruments	
			
		SITRANS LVL100	SITRANS LVL200
MFLB group	7ML5745	7ML5746/7	
Brief description	Compact vibrating fork for liquid or slurry point level detection.	Vibrating fork for liquid slurry point level detection in hazardous locations.	
Typical Applications	Point level detection for liquid or slurry applications (Hi, Low, Demand, dry run protection).	Point level detection for Liquid or slurry applications (Hi, Low, Demand, dry run protection).	
Span/Range	40 mm	40 mm ... 4 m	
Wetted parts material	316L	316L, Hastelloy C-4 (2.4610)	
Housing material	316L and plastic PEI	Die-cast aluminium, powder coated, Stainless steel (on request)	
I: inputs O: outputs	2-wire contactless, transistor	Relay, 2-wire contactless	
C: communication	–	–	
Process pressure, absolute bar	64 bar (928 psi, gauge)	64 bar (928 psi, gauge)	
Process temperature	+150 °C max. (+302 °F)	+250 °C max. (+482 °F)	
Ambient temperature	–40 ... +70 °C (–40 ... +158 °F)	–40 ... +70 °C (–40 ... +158 °F)	
A: accuracy L: long-term stability	Repeatability 0.1 mm Hysteresis approx. 2 mm with vertical installation Switching delay approx. 500 ms (on/off)	Repeatability 0.1 mm Hysteresis approx. 2 mm with vertical installation Switching delay approx. 500 ms (on/off)	
Special F&B process connections	¾", 1" hygienic thread, Triclamp 1", 1½", 2", DIN 11851, DN 25, DN 40, DN 50 SMS DN 38	¾", 1" hygienic thread, DIN 11851, DN40, Triclamp 1", 1½", SMS DN 25, Varivent type F = 50 mm	
Special F&B certificate and conformity certificate	EHEDG, 3A, compliant to FDA	EHEDG, 3A, compliant to FDA	
Further certificates	CE, WHG	IECEX, ATEX, FM, CE, SIL2, Shipping Approvals, WHG	
Power supply	20 ... 253 V AC, 50/60 Hz, 20 ... 253 V DC	20 ... 253 V AC, 50/60 Hz, 20 ... 72 V DC	
Degree of protection	IP66/IP67 or IP68 (0.2 bar)	IP66/IP67	
Important customer benefits and unique features	<ul style="list-style-type: none"> • Compact insertion length of 40 mm for tight spaces • Test function standard to confirm correct operation • Fault monitoring for corrosion, loss of vibration, or line break to the piezo drive • Independent of dielectric and other material conditions such as vapors, gases, bubbles, foam • Robust design with threaded piezo drive system to prevent failure in aggressive applications 	<ul style="list-style-type: none"> • Compact insertion length of 40 mm for tight spaces • Fault monitoring for corrosion, loss of vibration, or line break to the piezo drive • SIL-2 qualified for high level and dry run applications • Hygienic process connections • Independent of dielectric and other material conditions such as vapors, gases, bubbles, foam • Modular design for ease of maintenance 	
Catalog	FI 01 2010 5/78	FI 01 2010 5/84	



SITRANS LPS200

7ML5725/6/7/8/30

Brief description Rotating paddle for solids point level detection.

Typical Applications Point level detection in solids material including sticky solids.

Span/Range 100 mm ... 10 m

Wetted parts material Stainless steel 304 and 303 (1.4301 and 1.4305)

Housing material Epoxy-coated aluminum

I: inputs
O: outputs Relay output

C: communication –

Process pressure, absolute bar Max. 10 bar, gauge (145 psi, gauge)

Process temperature +350 °C max. (+662 °F)

Ambient temperature –25 ... +60 °C (–13 ... +140 °F)

A: accuracy –

L: long-term stability –

Special F&B process connections FDA shaft

Special F&B certificate and conformity certificate –

Further certificates FM, CSA, ATEX, CE, C-TICK

Power supply 115 V AC, 50/60 Hz, 4 V A
230 V AC, 50 Hz, 6 V A
24 or 48 V AC
24 V DC, 2.5 W

Degree of protection Type 4X/NEMA 4X/IP66

Important customer benefits and unique features

- Hinged measuring vane for lower densities and mounting through small process connections
- Installation through standard process connections with boot vane starting at 1" NPT or BSP
- Motor sleep mode during switched state to provide long service life
- Independent of dielectric and other material conditions such as vapors
- Switch selectable AC/DC power supply options
- Rotatable enclosure for easy install and wiring
- Unique friction clutch mechanism to prevent impact damage from falling process materials
- Compact, extended models, and cable extension up to 10 m

Catalog FI 01 2009 FI 01 2010 5/110

Pointek ULS200

7ML1510

Brief description Contactless ultrasonic switch with two switch points.

Typical Applications Measuring the level of bulk materials, liquids, and slurries; ideal for sticky media.

Span/Range 0.25 ... 5 m (liquids)
0.25 ... 3 m (solids)

Wetted parts material PVDF

Housing material Polycarbonate or aluminium (epoxy-coated)

I: inputs
O: outputs O: 2 changeover contacts (SPDT)
2 relays or 2 transistor switches

C: communication –

Process pressure, absolute bar 1.5 bar (14.5 psi)

Process temperature –20 ... +60 °C (–4 ... +140 °F)

Ambient temperature –20 ... +60 °C (–4 ... +140 °F)

A: accuracy A: 0.25 %

L: long-term stability –

Special F&B process connections Triclamp 4"

Special F&B certificate and conformity certificate –

Further certificates ATEX, FM, CSA, SIL-1

Power supply 18 ... 30 V DC or
100 ... 240 V AC, 50/60 Hz

Degree of protection IP67

Important customer benefits and unique features

- Three-digit display, programmed using two keys

Catalog FI 01 2009 FI 01 2010 5/122

General		SITRANS L Level instruments	
		 	
		Pointek CLS100	Pointek CLS200
MFLB group	7ML5501, 7ML5610	7ML5632, 7ML5642	
Brief description	Compact 2-wire inverse frequency shift capacitance switch for level detection in constricted spaces.	Inverse frequency shift capacitance switch with a high level of chemical resistance.	
Typical Applications	Measuring the level of interfaces, bulk materials, liquids, slurries, and foam. Also in dusty environment.	Measuring the level of interfaces, bulk materials, liquids, slurries and foam. Also in dusty environment.	
Span/Range	Rod probe: immersion depth 120 mm	Cable probe: 500 to 30.000 mm Rod probe: 120 to 5.500 mm	
Wetted parts material	PPS, stainless steel, PVDF	PPS, stainless steel, FKM, FFKM	
Housing material	Polyester and polycarbonate, stainless steel	Aluminium (epoxy-coated)	
I: inputs O: outputs	O: 1 changeover contact (SPDT) or 1 transistor output and 4/20 or 20/4 mA 2 wire current loop	O: 1 changeover contact (SPDT) 1 transistor output Bus communication	
C: communication	–	PROFIBUS PA	
Process pressure, absolute bar	Up to 10 bar g (145 psi g)	Up to 25 bar, gauge (365 psi, gauge) Up to 10 bar, gauge (145 psi, gauge) cable version	
Process temperature	–40 ... +100 °C (–40 ... +212 °F)	–40 ... +125 °C (–40 ... +257 °F) (–20 ... +125 °C with FFKM O-ring) (–4 ... +257 °F)	
Ambient temperature	–40 ... +85 °C (–40 ... +185 °F)	–40 ... +85 °C (–4 ... +185 °F) (–20 ... +85 °C with FKM O-ring) (–4 ... 185 °F)	
A: accuracy L: long-term stability	A: ± 2 mm	A: ± 2 mm	
Special F&B process connections	Only threaded connections 1" BSPT (R) and 1" BSP (G) ¾" NPT	Triclap 1", 1½", 2", 2½", 3"	
Special F&B certificate and conformity certificate	–	–	
Further certificates	ATEX, FM, CSA, WHG	ATEX, FM, CSA, WHG, SIL-2	
Power supply	10 ... 30V DC	12 ... 250V AC/DC, 0/60 Hz	
Degree of protection	IP65 or IP68	IP65 or IP68	
Important customer benefits and unique features	<ul style="list-style-type: none"> • Requires no metal container wall as reference capacitance • Can measure limits through glass and plastic walls • One device can be parameterized for many applications • Simple installation and maintenance • No vibrating mechanical components • Measurement of phase transitions, e. g. between oil/water 	<ul style="list-style-type: none"> • Requires no metal container wall as reference capacitance • Can measure limits through glass and plastic walls • One device can be parameterized for many applications; liquids, solids, slurries and foam interface • Standard version: 3 LEDs for display of setting check, switching status and voltage • Presence or absence of material • Digital version: integrated LCD and optical PROFIBUS PA • Simple installation and maintenance • No vibrating mechanical components • Measurement of phase transitions, e. g. between oil/water 	
Catalog	FI 01 2010 5/10	FI 01 2010 5/15	



Echomax XCT-8

MFLB group	7ML1132
Brief description	Ultrasonic sensor for continuous and non-contacting measurement of distance and level.
Typical Applications	Levels of liquids and bulk materials in containers at atmospheric pressure with constant gas phase composition .
Span/Range	0.6 ... 8 m
Wetted parts material	PTFE
Housing material	PVDF
I: inputs O: outputs	Not required
C: communication	Not required
Process pressure, absolute bar	1.5 bar (14.5 psi)
Process temperature	−40 ... +125 °C (−40 ... + 257 °F)
Ambient temperature	−40 ... +145 °C (−40 ... + 293 °F)
A: accuracy L: long-term stability	See MultiRanger 100/200 transmitter
Special F&B process connections	Triclamp 4"
Special F&B certificate and conformity certificate	–
Further certificates	ATEX, FM, CSA
Power supply	Powered by transmitter
Degree of protection	IP68
Important customer benefits and unique features	<ul style="list-style-type: none"> • Max. cable length 365 m • Measurement of liquids with a little foam is possible since the signal is particularly strong
Catalog FI 01 2009	FI 01 2010 5/177

MultiRanger 100

7ML5033
Ultrasonic transmitter for non-contacting level measurements. For Ultrasonic sensors with 44 kHz: 0.3 to 15 m (1 to 50 ft).
US transmitter for level measurements.
See sensor
Not required
Polycarbonate
I: 2x digital inputs 10 ... 50 V DC O: Analog 0/4 ... 20 mA, 1, 2 or 3 relays, alarm Bus communication
PROFIBUS DP MODBUS RTU RS-232/485
Not required
Not required
−20 ... +50 °C (−4 ... + 122 °F)
A: 0.25 %
Not required
Not required
CE, CSA, UL listed, FM
12 ... 30 V DC or 100 ... 230 V AC, 50/60 Hz
IP65 (field housing) IP54 (panel mounting)
<ul style="list-style-type: none"> • Automatic suppression of interfering echoes from fixtures • Transceiver with differential amplifier for suppressing common-mode interference and improved signal-to-noise ratio • Level measurement, simple pump control, level alarm functions • Installation options: field housing and panel mounting
FI 01 2010 5/140

General		SITRANS L Level instruments	
			
		MultiRanger 200	The Probe
MFLB group	7ML5033	7ML1201	
Brief description	Universal ultrasonic transmitter for measurement of level, quantity, volume, and differential. Features programmable relays and pre-programmed linearization functions. For Ultrasonic sensors with 44 kHz; 0.3 ... 15 m (1 ... 50 ft)		Sensor and transmitter are combined in this continuous ultrasonic level meter.
Typical Applications	US transmitter for level and volume measurements.		Level measurements of liquids in relatively small containers.
Span/Range	See sensor	0.25 ... 5 m	
Wetted parts material	Not required	PVDF	
Housing material	Polycarbonate	PVC	
I: inputs O: outputs	I: Analog 0/4 ... 20 mA 2x digital 10 ... 50 V DC O: 2x analog 0/4 ... 20 mA, 3 or 6 relays, alarm Bus communication		O: 1x analog 4 ... 20 mA (1 relay: 3-wire only)
C: communication	PROFIBUS DP MODBUS RTU RS-232/485		–
Process pressure, absolute bar	Not required	Atmospheric	
Process temperature	Not required	–4 ... +60 °C (–25 ... +140 °F)	
Ambient temperature	–20 ... +50 °C (–4 ... +122 °F)	–20 ... +60 °C (–4 ... +140 °F)	
A: accuracy L: long-term stability	A: 0.25 %	A: 0.25 %	
Special F&B process connections	Not required	Triclamp 4"	
Special F&B certificate and conformity certificate	Not required	–	
Further certificates	CE, CSA, UL listed, FM	CE, CSA, FM	
Power supply	12 ... 30 V DC or 100 ... 230 V AC, 50/60 Hz	18 ... 30 V	
Degree of protection	IP65 (field housing) IP54 (panel mounting)	IP65	
Important customer benefits and unique features	<ul style="list-style-type: none"> • Level monitoring of one or two channels • 6 relays as standard • Automatic suppression of interfering echoes from fixtures • Transceiver with differential amplifier for suppressing common-mode interference and improved signal-to-noise ratio • Installation options: field housing, and panel mounting • Connection for up to two sensors 		<ul style="list-style-type: none"> • Simple installation and maintenance • Same accuracy as more complex devices • Integral temperature compensation • Local operation using display and keypad
Catalog	FI 01 2010 5/140	FI 01 2010 5/127	


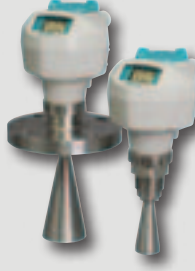


SITRANS Probe LU

MFLB group	7ML5221
Brief description	2-wire loop powered ultrasonic transmitter for level, volume and flow monitoring of liquids in open channels, storage vessels and simple process vessels.
Typical Applications	Level, volume and flow monitoring in storage vessels, hoppers and simple process vessels for ingredients and finished product in the food and beverage industry.
Span/Range	0.25 ... 12 m (10" ... 40 ft)
Wetted parts material	PVDF, ETFE
Housing material	PBT, PEI (Lid)
I: inputs O: outputs	O: 4 ... 20 mA HART or PROFIBUS PA
C: communication	HART, PROFIBUS PA
Process pressure, absolute bar	0.5 bar g (7.25 psi g)
Process temperature	–40 ... +85 °C (–40 ... +185 °F)
Ambient temperature	–40 ... +80 °C (–40 ... +176 °F)
A: accuracy L: long-term stability	A: 0.15 %
Special F&B process connections	–
Special F&B certificate and conformity certificate	–
Further certificates	ATEX, FM, CSA
Power supply	12 ... 36 V DC, 2-wire system
Degree of protection	IP67/Type 4X/NEMA 4X or IP68/Type 6/NEMA 6
Important customer benefits and unique features	<ul style="list-style-type: none"> • Continuous level measurement up to 12 m (40 ft) range • Integrated temperature compensation • Easy installation and simple startup • ETFE or PVDF transducers for chemical compatibility • Patented Sonic Intelligence signal processing • Extremely high signal-to-noise ratio • Auto False-Echo Suppression for fixed obstruction avoidance • Level to volume or level to flow conversion • Programming using infrared Intrinsically Safe handheld programmer, SIMATIC PDM or HART® Communicator
Catalog FI 01 2009	

SITRANS LG200

7ML1303-1D (sanitary version – others available)
Guided wave radar transmitter for accurate measurement in level and volume.
For short and medium range level, level and volume measurement of liquids in food and beverage processes.
6.1 m
Sanitary probe process connection: polished stainless steel and TFE (other options available)
Aluminum, epoxy-coated
O: mA analog output with HART digital signal – optically isolated 4 ... 20 mA
HART
Full vacuum to 431 bar, gauge (6,250 psi, gauge), probe dependent
–195 ... +427 °C (–300 ... +800 °F) (probe dependant)
–40 ... +80 °C (–40 ... +176 °F) (probe dependant)
A: 0.3 % or 8 mm (whichever is greater) (accuracy is probe dependant)
–
Triclamp ¾", 1", 1½", 2", 2½", 3", 4"
CSA, CE, C-Tick
11 ... 36 V DC
Type 4/NEMA 4, IP65
<ul style="list-style-type: none"> • Unaffected by change in density and dielectric properties • Accurately measures materials with a dielectric constant (dK) range of 1.4 and higher • Several Probe configurations allowing measurement in extreme conditions of temperature, pressure, aggressive or corrosive media and also configurations for Liquids, Solids or Interface • Extended insertion length – probe lengths up to 22.5 m (75 ft) • Hazardous approvals – Intrinsically Safe, Explosion proof, and Non-Incendive approvals • Easy setup – push button configuration or HART® communications
FI 01 2010 5/201

General		SITRANS L Level instruments	
			
		SITRANS LR200	SITRANS LR250
MFLB group	7ML5424	7ML5431	
Brief description	Compact 2-wire pulse radar for level measurements. Antenna and transmitter can be positioned separately.	2-wire, 25 GHz pulse radar level transmitter.	
Typical Applications	Levels of liquids with or without foam in containers with changing pressures and gas compositions.	For continuous monitoring of liquids and slurries in storage and process vessels including high temperature and pressure. Ideal for small vessels and low dielectric media.	
Span/Range	0.3 ... 20 m	20 m	
Wetted parts material	PTFE or UHMW-PE	316L stainless steel and TFM 1600 PTFE	
Housing material	Aluminium (polyester powder coating)	Painted aluminum	
I: inputs O: outputs	O: 4 ... 20 mA Bus communication	4 ... 20 mA/HART or PROFIBUS PA	
C: communication	PROFIBUS PA, HART	HART or PROFIBUS PA SIMATIC PDM for configuration and diagnostics EDD for AMS and 375 (HART)	
Process pressure, absolute bar	4 bar (58 psi)	Up to 40 bar, gauge (580 psi, gauge), process connection dependent	
Process temperature	–40 ... +80 °C (–40 ... +176 °F) continuous +120 °C (+248 °F) for 3 hours	–40 ... +200 °C (–40 ... +392 °F) at process connection with FKM O-ring	
Ambient temperature	–40 ... +80 °C (–40 ... +176 °F)	–40 ... +80 °C (–40 ... +176 °F)	
A: accuracy L: long-term stability	A: 0.1 % of measuring range or 10 mm	–	
Special F&B process connections	Triclamp 2", 3", 4"	Threaded or Flanged Connections only	
Special F&B certificate and conformity certificate	Compliant to FDA	Compliant to FDA	
Further certificates	ATEX, FM, CSA	FM, CSA, ATEX, CE, C-TICK	
Power supply	24 V DC, 2-wire system	Nominal 24 V DC, max. 30 V DC, 4 ... 20 mA PROFIBUS PA 15.0 mA	
Degree of protection	IP68	Type 4X/NEMA 4X/IP66	
Important customer benefits and unique features	<ul style="list-style-type: none"> • Simple installation and startup • Programming using intrinsically safe infrared hand-held programming device • Patented Process Intelligence® signal processing • Extremely high signal-to-noise ratio • Automatic suppression of interfering echoes from fixtures 	<ul style="list-style-type: none"> • Easy to install – small horn and narrow beam angle allows installation practically anywhere on your vessel • Process Intelligence – advanced echo processing for unparalleled performance • Reliable and accurate – extremely high signal and low noise yields high performance • Graphical user interface (LUI) makes operation simple with plug-and-play setup using the intuitive Quick Start Wizard • LUI displays echo profiles for diagnostic support • Short blanking distance for improved minimum measuring range to 50 mm (2") from the end of the horn 	
Catalog	FI 01 2010 5/198	FI 01 2010 5/212	

General

SITRANS L Level instruments



SITRANS LR260

MFLB group	7ML5427
Brief description	2-wire, 25 GHz pulse radar level transmitter.
Typical Applications	For continuous monitoring of solids in silos to a range of 30 m. Ideal for applications with extreme dust and high temperatures to 200°C (392°F).
Span/Range	30 m
Wetted parts material	316L stainless steel and PTFE
Housing material	Painted aluminum
I: inputs O: outputs	4 ... 20 mA/HART or PROFIBUS PA
C: communication	HART or PROFIBUS PA SIMATIC PDM for configuration and diagnostics
Process pressure, absolute bar	Up to 3 bar, gauge (43.5 psi, gauge) process connection dependent
Process temperature	–40 ... +200 °C (–40 ... +392 °F)
Ambient temperature	–40 ... +80 °C (–40 ... +176 °F)
A: accuracy L: long-term stability	–
Special F&B process connections	Flanged connection only
Special F&B certificate and conformity certificate	N/A
Further certificates	FM, CSA, ATEX, CE, C-TICK
Power supply	Nominal 24 V DC max. 30 V DC, 4 ... 20 mA PROFIBUS PA 15.0 mA
Degree of protection	Type 4X/NEMA 4X/IP66
Important customer benefits and unique features	<ul style="list-style-type: none"> • Easy to install – small horn and narrow beam angle allows installation practically anywhere on your vessel • Process Intelligence – advanced echo processing for unparalleled performance • Reliable and accurate – extremely high signal and low noise yields high performance • Graphical user interface (LUI) makes operation simple with plug-and-play setup using the intuitive Quick Start Wizard • LUI displays echo profiles for diagnostic support • Optional dust cover and air purge available
Catalog	FI 01 2010 5/220

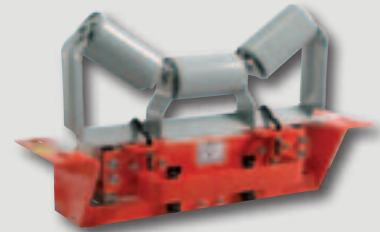
SITRANS LR460

MFLB group	7ML5426
Brief description	4-wire, 24 GHz FMCW radar level transmitter.
Typical Applications	For continuous monitoring of solids in silos to a range of 100 m. Ideal for applications with extreme dust and high temperatures to 200°C (392°F).
Span/Range	100 m
Wetted parts material	316L stainless steel and PTFE
Housing material	Painted aluminum
I: inputs O: outputs	4 ... 20 mA/HART or PROFIBUS PA One relay
C: communication	HART or PROFIBUS PA SIMATIC PDM for configuration and diagnostics
Process pressure, absolute bar	0.5 bar, gauge (7.25 psi, gauge) max.
Process temperature	–40 ... +200 °C (–40 ... +392 °F)
Ambient temperature	–40 ... +65 °C (–40 ... +149 °F)
A: accuracy L: long-term stability	–
Special F&B process connections	Flanged connection only
Special F&B certificate and conformity certificate	N/A
Further certificates	FM, CSA, ATEX, CE, C-TICK
Power supply	100 ... 230 V AC ±15%, 50/60 Hz, 6 W (12 V A) 24 V DC, +25/–20 %, 6 W
Degree of protection	Type 4X/NEMA 4X/IP66
Important customer benefits and unique features	<ul style="list-style-type: none"> • Process Intelligence – advanced echo processing for unparalleled performance • High frequency radar provides excellent reflection from solids • Extremely high signal yields high performance (high signal-to-noise ratio) • Virtually unaffected by dust or temperature changes • Integrated Easy Aimer for optimizing signal on sloped surfaces • Quick Start Wizard for setup • Infrared Intrinsically Safe handheld programmer • Optional dust cover and air purge available
Catalog	FI 01 2010 5/232



General

Weighing systems



MLC

MFLB group	7MH7126
Brief description	Belt scale for flat belts. Scope of delivery: frame, roller. Also required are a displacement sensor, test weights, and a Milltronics BW500 integrator or SIWAREX FTC.
Typical Applications	For mounting on existing conveyor belts. With feed controller for the continuous production of mixtures according to a recipe. References for sugar, tobacco, foodstuff pellets.
Span/Range	Up to 50 t/h Up to 55 STPH Belt width: 450 ... 1,200 mm
Wetted parts material	Not required
Housing material	Frame: C steel, stainless steel as alternative; Load cell: stainless steel
I: inputs O: outputs	Not required
C: communication	Not required
Process pressure, absolute bar	Not required
Process temperature	–40 ... +85 °C (–40 ... +185 °F) operating range –10 ... +60 °C (+14 ... +140 °F) compensated
Ambient temperature	–40 ... +85 °C (–40 ... +185 °F) operating range –10 ... +60 °C (+14 ... +140 °F) compensated
A: accuracy L: long-term stability	±0.5 ... 1.0% of totalization over 25 ... 100% operating range
Special F&B process connections	Not required
Special F&B certificate and conformity certificate	Not required
Further certificates	–
Power supply	Load cell supply 10 ... 15 V DC from transmitter
Degree of protection	–
Important customer benefits and unique features	<ul style="list-style-type: none"> • Patented use of measuring cell guarantees maximum accuracy and repeatability even with irregular product loading and high belt speed • Low-maintenance requirements since system has no moving parts • Compact and easy to install • High accuracy even with low product loads • Integration into existing flat conveyor belts is easily possible
Catalog	WT10 2009 4/5

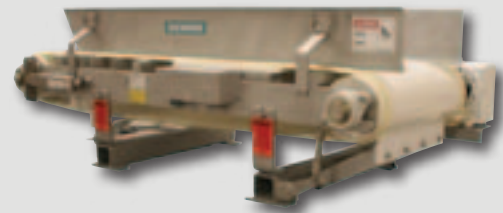
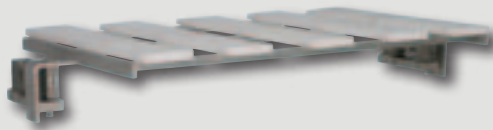
MSI

7MH7122
Heavy-duty belt scale. Scope of delivery: frame. Also required is a Milltronics BW500 integrator or SIWAREX FTC. The idler is not supplied.
For mounting on existing conveyor belts. With feed controller for the continuous production of mixtures according to a recipe. References for sugar beet and potatoes.
Up to 12,000 t/h (13,200 STPH) at maximum belt speed. Please contact a Siemens representative for higher rates. Belt width: 500 ... 2,000 mm (18 ... 96" in CEMA sizes).
Not required
Frame: C steel, stainless steel as alternative; Load cell: stainless steel
Not required
Not required
Not required
–40 ... +75 °C (–40 ... +167 °F)
–40 ... +75 °C (–40 ... +167 °F)
MSI: ±0.5% over 20 ... 100% operating range MMI-2: ±0.25% over 20 ... 100% operating range (2 MSI scales in tandem) MMI-3: ±0.125% over 25 ... 100% operating range (3 MSI scales in tandem)
Not required
Not required
NTEP, OIML, MID, Measurement Canada, and SABS
Load cell supply 10 ... 15 V DC from transmitter
–
<ul style="list-style-type: none"> • Patented electronic load cell balancing guarantees maximum accuracy and repeatability even with irregular product loading and high belt speed • Low-maintenance requirements since system has no moving parts • Drop-in installation makes alignment easy, saving time at installation • Integration into existing flat or hollow conveyor belts is easily possible
WT10 2009 4/20



General

Weighing systems



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WD600

MFLB group	7MH7185
Brief description	Light- to medium-duty slider bed belt scale used for process and load out control, compatible with Milltronics BW100, BW500 or SIWAREX FTC.
Typical Applications	Monitor feed rates and blending in cereals, seeds, minerals, wet foods, or powder additives into a process.
Span/Range	Up to 50 t/h (55 STPH), Belt width: 300, 450, 600, 750, 900, 1,000, 1,200 mm
Wetted parts material	Not required
Housing material	Stainless steel construction; UHMW-PE sliders
I: inputs O: outputs	Not required
C: communication	Not required
Process pressure, absolute bar	Not required
Process temperature	–40 ... 65 °C (–40 ... 149 °F) operating range
Ambient temperature	
A: accuracy L: long-term stability	±0.5% ... 1% over 25 ... 100% operating range
Special F&B process connections	Not required
Special F&B certificate and conformity certificate	Meets FDA/USDA requirements for food processing
Further certificates	CE, C-TICK
Power supply	Load cell supply 10 ... 15 V DC from transmitter
Degree of protection	IP 66/IP 67 or IP 68 (0.2 bar)
Important customer benefits and unique features	<ul style="list-style-type: none">• Unique weighing mechanism design resulting in higher accuracy and reliability• Maintenance-free construction• Quick installation reduces costly downtime• Drop-in weighbridge allows quick and easy washdown and maintenance
Catalog	WT10 2009 4/27

SITRANS WW200

Weighfeeder. Scope of delivery: standard components include the belt weigh bridge, speed sensor and test weights, supported by Milltronics BW100, BW500 integrator or SIWAREX FTC microprocessor-based integrators. Control and monitoring of material feed for wet and dry solids and grain such as fruits, seeds, corn, tomatoes.
Design rate range: 0.45 ... 36 t/h (1,000 lbs/h ... 40 STPH)
Stainless steel, C steel as alternative
Frame: C steel, stainless steel as alternative; Load cell: nickel plated alloy steel or stainless steel
Not required
Not required
Not required
–10 ... +40 °C (+14 ... +104 °F) Also higher as option
–10 ... +40 °C (+14 ... +104 °F)
±0.5% of total with measuring range 10:1 Repeatability: ±0.02 % Linearity: ±0.03 %
Not required
Meets FDA/USDA requirements for food processing
–
Load cell supply 10 ... 14 V DC from transmitter For motor: 200/108/230/380/400/460/575 V AC or 90/180 V DC
Depending on motor used
<ul style="list-style-type: none">• High accuracy• Simple cleaning with assistance of belt scrapers installed at the sides• Simple replacement of belt• Customized version with short delivery time
WT10 2009 5/7



General		Weighing systems	
			
		SITRANS WW100	BW500
MFLB group			7MH7152
Brief description		High accuracy, low-capacity weighfeeder used for minor ingredient additives. Scope of delivery: Standard components include the belt weigh bridge, speed sensor, and test chains supported by Milltronics BW100, BW500 or SIWAREX FTC microprocessor-based integrators.	Full feature integrator for use with both belt scales and weighfeeders.
Typical Applications		Control and monitor feed rates and blending in cereals, seeds or minerals.	Output of measured signals. Can also be used for quantity controls through integrated control functions.
Span/Range		Design rate range: 45 kg/lb ... 18 t/h (100 lbs/20 STPH)	Not required
Wetted parts material		Mild or stainless steel	Not required
Housing material		Frame: Mild steel or stainless steel Load cell: nickel-plated platform (standard); stainless steel construction for corrosive and washdown environments (optional)	Polycarbonate
I: inputs O: outputs		Not required	I: One floating contact for auto zero Five digital inputs, freely programmable, e. g. auto zero or external taring, second input for belt speed Additional inputs and outputs, e. g. for setpoint quantity control through optional card O: 0 (4) ... 20 mA 10 V DC supply for load cell 12 V DC supply for belt speed measurement Two external totalizers Five relays, freely parameterizable Option: additional card with analog I/O Bus communication
C: communication		Not required	Printer, MODBUS, PROFIBUS DP, DeviceNet
Process pressure, absolute bar		Not required	Not required
Process temperature		-10 ... +40 °C (14 ... 104 °F)	Not required
Ambient temperature		-	-20 ... +50 °C (-4 ... +122 °F)
A: accuracy L: long-term stability		±0.25 % ... 0.5 % with 10:1 turndown (up to 30:1 based on speed) Repeatability: ±0.02 % Linearity: ±0.03 %	A: 0.1 % of measured value L: 0.02 % of measured value
Special F&B process connections		Not required	Not required
Special F&B certificate and conformity certificate		Meets FDA/USDA requirements for food processing	Not required
Further certificates		-	CSA, FM, Measurement Canada, NTEP, OIML, MID, C-TICK
Power supply		Load cell supply 10 ... 14 V DC from transmitter For motor: 200/108/230/380/400/460/575 V AC or 90/180 V DC	100/115/200/230 V AC, 50/60 Hz
Degree of protection		Depending on motor used	IP65/NEMA 4X, NEMA
Important customer benefits and unique features		<ul style="list-style-type: none"> • High accuracy for low-capacity loads • Standard and sanitary models available • Unique belt tension device • Easy belt removal for replacement or cleaning • Fast installation, easy to clean and maintain 	<ul style="list-style-type: none"> • Automatic zero adjustment • Dual PID control with optional I/O card • Fault/diagnostics display • Up to 8 multiple full adjustments for application of several flow conditions and/or materials • Second input for belt speed can be used to detect belt slippage • Input for moisture meter to determine dry weight
Catalog		WT10 2009 5/5	WT10 2009 2/6



General

Weighing systems



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E SERIES

7MH7102

Solids flowmeter with sealed weighing mechanics. ILE sensor head, baffle plates and SF500 Integrator must be ordered separately.

Typical Applications

General purpose for most pre-feed applications, throughput quantity measurement of dusty, corrosive, abrasive or hot grains, nuts, malt. Powder or granulates up to 25 mm (1").

Span/Range

E-40: 0.2 ... 40 t/h (0.2 ... 44 STPH)
E-300: 20 ... 300 t/h (22 ... 330 STPH)
Repeatability: 0.2 %

Wetted parts material

C steel and stainless steel coating of baffle plate

Housing material

C steel and stainless steel

I: inputs

Not required

O: outputs

Not required

C: communication

Not required

Process pressure, absolute bar

Not required

Process temperature

-40 ... +232 °C (-40 ... +450 °F)
-40 ... +400 °C (-40 ... +752 °F)
(optional)

Ambient temperature

-40 ... +60 °C (-40 ... +140 °F)

A: accuracy

A: $\pm 1\%$, 33 ... 100 % of design capacity; extended accuracy range with linearization function of integrator
Repeatability: $\pm 0.2\%$

L: long-term stability

Repeatability: $\pm 0.2\%$

Special F&B process connections

Not required

Special F&B certificate and conformity certificate

–

Further certificates

–

Power supply

LVDT sensor interface card is powered by transmitter 120 V DC

Degree of protection

–

Important customer benefits and unique features

- Proven technology
- Reliable with low-dust media
- Dust-tight
- Totally enclosed with external weighing mechanics, operating with corrosive, abrasive or hot materials
- Weighing process is immune to product build-up as only the horizontal force is measured
- Handles process temperatures up to 232 °C (450 °F)

WT10 2009 6/6

SF500

7MH7156

Full feature integrator for use with solids flowmeters with up to two strain gauge load cells or LVDT sensor.

Output of measured signals.

Can also be used for quantity controls through integrated control functions.

Not required

Not required

Polycarbonate

I: One floating contact for auto zero

Five digital inputs, freely programmable, e.g. auto zero or external taring Additional inputs and outputs, e.g. for setpoint quantity control through optional card

O: 0 (4) ... 20 mA

0 V DC supply for sensor
Two external totalizers
Five relays
Option: additional card with analog I/O
Bus communication

PROFIBUS DP, Printer, MODBUS, PROFIBUS DP, DeviceNet, Allen-Bradley Remote I/O Module

Not required

Not required

-20 ... +50 °C (-4 ... +122 °F)

A: 0.1 % of measured value

L: 0.02 % of measured value

Not required

Not required

CSA, FM, CE, C-TICK

100/115/200/230 V AC
50/60 Hz

IP65/NEMA 4X, NEMA

- Automatic zero adjustment
- Dual PID control with optional I/O card
- Fault/diagnostics display
- 8 multiple full adjustments for different feeding conditions and/or materials
- Input for moisture meter to determine dry weight

WT10 2009 2/10



General		Weighing systems	
			
		SIWAREX U	SIWAREX CS
MFLB group		7MH4950-1AA01 single channel version. 7MH4950-2AA01 two channel version.	7MH4910-0AA01
Brief description		Electronic weighing module for all simple weighing and force measuring tasks.	SIWAREX CS is a versatile weighing module for all simple weighing and force measuring tasks.
Typical Applications		Non-automatic weighing machines. Fill level monitoring of silos and bunkers. Measuring of crane and cable loads. Load measuring of industrial lifts and roll trains. Weighing in potentially explosive areas (Zone 2 direct, Zone 1 using Ex interface SIWAREX IS). Monitoring of belt tension. Force measuring, container weighers, platform scales and crane scales.	Non-automatic weighing machines. Fill level monitoring of silos and bunkers. Measuring of crane and cable loads. Load measuring of industrial lifts and roll trains. Weighing in potentially explosive areas (Zone 2 direct, Zone 1 using Ex interface SIWAREX IS). Monitoring of belt tension. Force measuring, container weighers, platform scales and crane scales.
Span/Range		Not required	Not required
Wetted parts material		Not required	Not required
Housing material		Plastic	Plastic
I: inputs O: outputs		Not applicable	Not applicable
C: communication		S7 direct integration or ET200M RS 232 for SIWATOOL or printers TTY for external display	S7 direct integration with IM151-7 CPU or ET200S RS 232 for SIWATOOL or printers TTY for external display
Process pressure, absolute bar		Not required	Not required
Process temperature		Not required	Not required
Ambient temperature		0 ... max. 60 °C (+ 32 ... + 140 °F)	- 10 ... max. + 60 °C (+ 14 ... + 140 °F)
A: accuracy L: long-term stability		A: 0.05 %	A: 0.05 %
Special F&B process connections		Not relevant	Not relevant
Special F&B certificate and conformity certificate		Not required	Not required
Further certificates		ATEX 95, FM, UL Haz.Loc.	ATEX 95, FM, UL Haz.Loc.
Power supply		24 V DC SIMATIC standard	24 V DC SIMATIC standard
Degree of protection		IP20	IP20
Important customer benefits and unique features		<ul style="list-style-type: none">• Uniform design technology and consistent communication in SIMATIC• Use in distributed plant concept through connection to PROFIBUS DP/PROFINET using ET 200M• Measurement of weight or force with a high resolution of 65535 parts and an accuracy of 0.05 %• Space saving through use of two-channel version for two scales• Direct connection of a remote display to the TTY interface• Simple adjustment of scale using the SIWATOOL U program• Supports theoretical adjustment without adjustment weights• Supports replacement of module without renewed adjustment of scale• Can be used in Ex applications	<ul style="list-style-type: none">• Uniform design technology and consistent communication in SIMATIC• Uniform configuration with SIMATIC• Use in distributed plant concept through connection to PROFIBUS DP or PROFINET via ET 200S• Measurement of weight or force with a high resolution of 65535 parts and an accuracy of 0.05 %• Direct connection of a remote display to the TTY interface• Simple adjustment of scale using the SIWATOOL CS program via the RS 232 interface• Supports theoretical adjustment without adjustment weights• Supports replacement of module without renewed adjustment of scale• For use in Ex Zone 2, intrinsically-safe load cell powering for Zone 1 using Ex interface
Catalog		WT10 2009 2/26	WT10 2009 2/29



General

Weighing systems



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SIWAREX MS

7MH4930-0AA01

Brief description

SIWAREX MS is a versatile weighing module for all simple weighing and force measuring tasks. The compact module is easy to install in the SIMATIC S7-200 automation systems.

Typical Applications

Non-automatic weighing machines.
Simple discontinuous weighing processes.
Fill level monitoring of silos and bunkers.
Measuring of crane and cable loads.
Load measuring for industrial lifts and rolling mills.
Weighing in potentially explosive areas (Zone 2 or Zone 1 using Ex interface SIWAREX IS or Pi).
Monitoring of belt tension.
Force measuring, weighing hoppers, platform scales and crane scales.

Span/Range

Not required

Wetted parts material

Not required

Housing material

Plastic

I: inputs
O: outputs

Not applicable

C: communication

S7 bus
RS 232 for SIWATOOL or printers
TTY for external display

Process pressure, absolute bar

Not required

Process temperature

Not required

Ambient temperature

0 ... max. +55 °C (+32 ... +131 °F)

A: accuracy
L: long-term stability

A: 0.05 %

Special F&B process connections

Not relevant

Special F&B certificate and conformity certificate

Not required

Further certificates

CE, ATEX 95, FM, cULUS Haz.Loc.

Power supply

24 V DC SIMATIC standard

Degree of protection

IP20

Important customer benefits and unique features

- Uniform design technology and consistent communication in SIMATIC S7-200
- Uniform configuration with STEP 7 Micro/WIN
- Measurement of weight or force with a high resolution of 65.000 parts and an accuracy of 0.05 %
- Simple configuration with the ready to use software "Getting started"
- Simple adjustment of the scale using the SIWATOOL MS PC program via the RS 232 interface
- Supports theoretical adjustment without adjustment weights
- Supports replacement of module without renewed adjustment of scale
- For use in Ex Zone 2, intrinsically-safe load cell powering for Zone 1 over Ex interface
- Supports direct connection of a remote display to TTY interface

Catalog

WT10 2009 2/32

SIWAREX FTA

7MH4900-2AA01

The SIWAREX FTA weighing module is the optimum solution wherever high demands are placed on accuracy and speed.

Filling of liquids.
Bagging of solid matter (also big bag).
Proportioning as deduction weighing or fill weighing.
Checking of individual quantities.
Loading or receiving of materials.
Static checkweigher.

Span/Range

Not required

Wetted parts material

Not required

Housing material

Plastic

I: 7 digital inputs
O: 8 digital outputs
Analog output: 0/4 to 20 mA (for functions)
Bus communication

S7 through backplane bus
RS 232 for SIWATOOL or printers
RS 485 for remote display or digital load cells

Process pressure, absolute bar

Not required

Process temperature

Not required

Ambient temperature

-10 ... max. +60 °C (+14 ... +140 °F)

A: accuracy
L: long-term stability

A: 0.01 %

Special F&B process connections

Not relevant

Special F&B certificate and conformity certificate

Not required

Further certificates

OIML R51, R61, R76, R107, ATEX 95, FM, UL Haz.Loc.

Power supply

24 V DC SIMATIC standard

Degree of protection

IP20


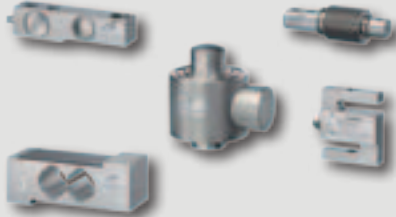
Important customer benefits and unique features

- Uniform design, and totally integrated communication in SIMATIC S7 and SIMATIC PCS 7
- Uniform configuration with SIMATIC
- Direct use in the SIMATIC automation system
- Use in distributed plant concept through connection to PROFIBUS DP/PROFINET using ET 200M
- Measurement of weight or force with high resolution of 16 million intervals
- High accuracy 3 x 6000 d, legal-for-trade
- Connection to digital load cells
- Legal-for-trade display with SIMATIC standard operator panels
- Continuous or stepped feed control
- Exact switching of dosing signals (<1 ms)
- Parameterizable inputs and outputs
- Parameterizable for highly versatile applications
- Flexible adaptation to different requirements with SIMATIC
- Simple adjustment of scale using the SIWATOOL FTA program
- Theoretical adjustment without adjustment weights
- Replacement of module without renewed adjustment of scale
- Recording of weighing sequence
- Legal-for-trade alibi memory
- Can be used in Ex applications

Catalog

WT10 2009 2/35



General		Weighing systems
		
	SIWAREX FTC	SIWAREX WL200
MFLB group	7MH4900-3AA01	7MH51 load cells 7MH57 mounting devices
Brief description	The SIWAREX FTC weighing module is the optimum solution wherever high demands are placed on continuous weighing procedures.	The variety of modules available and their characteristics make SIWAREX load cells suitable for virtually all applications in industrial weighing, e.g. container and hopper scales, platform scales, vehicle scales, hybrid scales etc.
Typical Applications	Flowrate/flow measurement. Belt volume measurement. Material loading, summation. Flowrate/flow control. Belt load measurement.	Hopper and platform scales. Belt scales. Suspended scales. Container and conveyor scales (also for Ex applications).
Span/Range	Not required	3 kg ... 280 t
Wetted parts material	Not required	Not required
Housing material	Plastic	Stainless steel (1.4542) or Aluminium
I: inputs O: outputs	I: 7 digital inputs O: 8 digital outputs Analog output: 0/4 to 20 mA Bus communication	Not required
C: communication	S7 through backplane bus RS 232 for SIWATOOL or printers RS 485 for remote display or digital load cells	Analog signal to PLC (SIWAREX module)
Process pressure, absolute bar	Not required	Not required
Process temperature	Not required	Not required
Ambient temperature	- 10 ... max. + 60 °C (+ 14 ... + 140 °F)	Rated temp.: - 10 ... + 40 °C (+ 14 ... + 104 °F) Temp. of use: - 40 ... + 80 °C (- 40 ... + 176 °F)
A: accuracy L: long-term stability	A: 0.01 %	A: Class3 standard; others on demand
Special F&B process connections	Not relevant	IP66/67/68
Special F&B certificate and conformity certificate	Not required	Not required
Further certificates	ATEX 95, FM, UL Haz.Loc.	OIML R60, ATEX
Power supply	24 V DC SIMATIC standard	Powered by weighing electronics
Degree of protection	IP20	IP66/67/68
Important customer benefits and unique features	<ul style="list-style-type: none">• Uniform design, and totally integrated communication in SIMATIC S7 and SIMATIC PCS 7• Uniform configuration with SIMATIC• Direct use in the SIMATIC automation system• Use in distributed plant concept through connection to PROFIBUS DP/PROFINET using ET 200M• Measurement of weight or force with high resolution of 16 million intervals• High accuracy 3 x 6000 d• Optimized measuring accuracy specially for loss-in-weight scales and small mass flows• Optional connection to digital load cells• Display with SIMATIC standard operator panels• Parameterizable inputs and outputs• Parameterizable for highly versatile applications• Flexible adaptation to different requirements with SIMATIC• Simple adjustment of scale using the SIWATOOL FTC program• Theoretical adjustment without adjustment weights• Replacement of module without renewed adjustment of scale• Recording of weighing sequence• 8 totalization memories with different digit intervals• Can be used in Ex applications	<ul style="list-style-type: none">• Exact and immediate recording of weight value• Self-protection and safety through combined installation unit• Compact, rugged sizes for problem-free installation• Hermetically sealed enclosure also for use in corrosive and harsh environments• Corrosion protection through high-quality stainless steel design
Catalog	WT10 2009 2/41	WT10 2009 3/2 ff



General

Intelligent electropneumatic positioners



28

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SIPART PS2

6DR5

Intelligent electropneumatic positioner for pneumatic linear and rotary actuators (single & double acting).

Control of pneumatic valves actuators.

Angle of rotation: 30° ... 100°
Stroke: 3 ... 200 mm (0.1" ... 7.9")

Not required

Makrolon®, Aluminium, Stainless steel

I: 0/4 ... 20 mA
O: 4 ... 20 mA
Warnings and fault messages
Bus communication

HART, PROFIBUS PA, FOUNDATION FIELDBUS

Not required

Not required

–30 ... +80 °C (–22 °F ... +176 °F)

Not required

Not required

Not required

ATEX, FM, CSA

Up to 7 bar (102 psi) compressed air
4 ... 20 mA, 2-wire system
24 V DC, 3/4-wire system

IP66/NEMA 4X

- High flexibility in the stroke range from 3 ... 200 mm (0.1 ... 7.9 inch) (more on request)
- Extensive diagnostic functions and Partial Stroke Test (PST)
- Negligible air consumption in stationary operation
- Very high control quality
- Optional internal slot initiators or limit value contacts – also for retrofitting
- The non-contacting sensor (NCS) has IP68 degree of protection, and is extremely resistant to shocks and vibrations
- External potentiometers or the NCS can be connected to the SIPART PS2 via the EMC filter module
- SIPART PS2 prevents the closing of fittings during the solenoid valve test, or monitors opens/close fittings as an "intelligent solenoid valve"

FI 01 2010 6/3

SITRANS VP300

6DR63

Intelligent electropneumatic positioner for pneumatic linear and rotary actuators (single & double acting).

Control of pneumatic valves actuators.

Angle of rotation: 30° ... 120°
Stroke: 3 ... 150 mm (0.1" ... 5.9")

Not required

Aluminum

I: 4 ... 20 mA
O: 4 ... 20 mA
3 freely programmable digital outputs

HART

Not required

Not required

–40 ... +85 °C (–40 ... +185 °F)

Not required

Not required

Not required

ATEX, FM, CSA



Up to 8 bar (117 psi) compressed air
4 ... 20 mA, 2-wire system

IP66/NEMA 4X

- Innovative positioner from Siemens
- SIL-certified partial stroke test
- Extensive diagnostic functions
- Negligible air consumption in stationary operation
- Very high control quality
- Extremely resistant to vibrations thanks to non-contacting position detection
- Fast and simple operation thanks to plain text and helpful wizards
- Offers a wide temperature range from –40 °C ... +85 °C (–40 °F ... 185 °F).
- Works without problem with compressed air in accordance with ISO 85673-1, Class 3
- Thanks to OPOS Interface®, SITRANS VP300 is mounted within shortest possible time using just two screws
- Shutoff function for the air in the actuator for easy replacement of the positioner during the running process

FI 01 2010 6/3

Catalog/Catalog FI 01 2009

General	Process Controllers	Liquid Analytic
		
	SIPART DR	Orbisphere 410 controller
MFLB group	6DR2	N/A
Brief description	Compact controller.	ORBISPHERE 410/510 controllers are very robust and can resist harsh production conditions. Easy to use and configure, all functions can be accessed through a touch screen which acts as a display and keyboard.
Typical Applications	For open-loop and closed-loop control of simple and interconnected control loops. The most important types of controller with basic and complex functions are integrated.	Process controller for any ORBISPHERE oxygen sensor in gas phase or dissolved mode.
Span/Range	Not required	Range given by sensor
Wetted parts material	Not required	No contact with product
Housing material	Housing: Polycarbonate Front: Polyester	Wall mount: stainless steel, panel mount: aluminium
I: inputs O: outputs	I: 0/4 ... 20 mA (up to 11) Option: TC/RTD/R O: 0/4 ... 20 mA (up to 9) Binary contact or relay for step or two-position controllers Bus communication	O: Three smart 4 ... 20 mA or 0 ... 20 mA (software configurable), R_{max} 600 Ω Three measurement alarm relays (1 A ... 30 V AC or 0.5 A ... 50 V DC) One instrument system alarm relay (1 A ... 30 V AC or 0.5 A ... 50 V DC)
C: communication	PROFIBUS DP, RS232/RS485	RS485, USB client, USB Host, Ethernet, PROFIBUS DP (optional)
Process pressure, absolute bar	Not required	N/A
Process temperature	Not required	N/A
Ambient temperature	0 ... +50 °C (+32 ... +122 °F)	–5 ... +50 °C (+23 ... +122 °F)
A: accuracy L: long-term stability	Resolution 11 bit < 0.06 % Inputs/linearity error < 0.2 %	N/A
Special F&B process connections	Not required	2 versions: wall mount or panel mount
Special F&B certificate and conformity certificate	Not required	Electromagnetic compatibility standards: EN 61326-1: A1 & A2-A1 & A2 Safety standard: EN 61010-1 ETL, conforming to UL 61010-1 and CSA 22.2 No. 61010-1
Further certificates	TÜV certificate VdTÜV water level 100 DIN test and monitoring symbol As temperature controller	
Power supply	24 V AC/DC 115/230 V AC	Universal 85 ... 240 V AC @50/60 Hz, 25 V A; or 10 ... 36 V DC, 25 W
Degree of protection	Front: IP64	IP65 for both enclosure NEMA 4 for the Stainless steel wall enclosure
Important customer benefits and unique features	<ul style="list-style-type: none"> Fixed control structures for fast startup, freely-programmable for complex applications (DR22/DR24), analog and digital displays for setpoint and actual value, status/alarms on LEDs Integration in SIMATIC PDM Option: interfacing to S7 and PCS7 	<ul style="list-style-type: none"> Rolling or store once mode for up to 1,000 measurements and 1,000 last operator actions, plus details of last 10 calibrations Internal diagnostics simplify trouble-shooting and issue reminders for maintenance and calibration Software password protection offers five levels of controlled access, minimizing the risk of errors in operation or configuration
Catalog	MP31	N/A



General

Liquid Analytic



Orbisphere 510 controller

MFLB group	N/A
Brief description	ORBISPHERE 410/510 controllers are very robust and can resist harsh production conditions. Easy to use and configure, all functions can be accessed through a touch screen which acts as a display and keyboard.
Typical Applications	Multi channel process controller for any ORBISPHERE oxygen, carbon dioxide or nitrogen sensor.
Span/Range	Range given by sensor
Wetted parts material	No contact with product
Housing material	Wall mount: stainless steel, table model and panel mount: aluminium
I: inputs O: outputs	O: Three 4 ... 20 mA or 0 ... 20 mA (software configurable) per channel. R_{max} 600 Ω or three 0 ... 5 V (hardware option) Three measurement alarm relays (1 A ... 30 V AC or 0.5 A ... 50 V DC) per channel One instrument system alarm relay (1 A ... 30 V AC or 0.5 A ... 50 V DC)
C: communication	RS485, USB client, USB host, Ethernet, PROFIBUS DP (optional)
Process pressure, absolute bar	N/A
Process temperature	N/A
Ambient temperature	-5 ... +40 °C (+23 ... +104 °F), 0 ... 95% non-condensing relative humidity, for 3 channels
A: accuracy L: long-term stability	N/A
Special F&B process connections	3 versions: wall mount or panel mount or table model
Special F&B certificate and conformity certificate	Electromagnetic compatibility standards: EN 61326-1: A1 + A2 (Ed. 2001), A3 (Ed. 2003) Safety standard: EN 61010-1 (Ed. 2001) ETL, conforming to UL 61010-1 and CSA 22.2 No. 61010-1
Further certificates	
Power supply	Universal 85 ... 240 V AC @50/60 Hz, 25 V A; or 10 ... 36 V DC, 25 W
Degree of protection	IP65 for 3 types of enclosure, NEMA 4 for the Stainless steel wall enclosure
Important customer benefits and unique features	<ul style="list-style-type: none"> • Rolling or store once mode for up to 10,000 measurements and 1,000 last operator actions, plus details of last 50 calibrations • Simple transfer of product list and global configuration settings between instruments using USB-client or USB-host
Catalog	N/A

Orbisphere M1100

MFLB group	N/A
Brief description	The ORBISPHERE M1100 sensor uses luminescent measurement technology to monitor very low oxygen levels, offering "peace of mind" and cost benefits to every quality control manager.
Typical Applications	Oxygen measurement for brewing applications and de-aerated water in the soft-drink process.
Span/Range	0 ... 2,000 ppb (dissolved) Limit of detection down to 0.6 ppb
Wetted parts material	Material certificate can be delivered upon request depending on sensor type (According EN 10204 3.1 or DIN 50049)
Housing material	
I: inputs O: outputs	N/A
C: communication	N/A
Process pressure, absolute bar	up to 20 bar abs.
Process temperature	-5 ... +50 °C (+23 ... +122 °F)
Ambient temperature	-5 ... +100 °C (+23 ... +212 °F)
A: accuracy L: long-term stability	A: ± 0.8 ppb or 2%, whichever the greater
Special F&B process connections	ORBISPHERE extraction or insertion system for installation on Varinline® PG 13.5 or 28 mm stationary housing Access units ORBISPHERE 28 mm sensor weld-on socket
Special F&B certificate and conformity certificate	N/A
Further certificates	N/A
Power supply	N/A
Degree of protection	IP 65
Important customer benefits and unique features	<ul style="list-style-type: none"> • Low drift, quick response and annual calibration • Accuracy in ppb oxygen measurement for effective process control • Optical technology eliminates membrane and electrolyte to minimise maintenance
Catalog	N/A

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General

Liquid Analytic



Orbisphere C1100

MFLB group	N/A
Brief description	The ORBISPHERE C1100 Electro Chemical ozone sensor is used to measure in liquid phase.
Typical Applications	Ozone sensor designed to measure in the sanitising phase of any beverage production line.
Span/Range	0ppb... 50ppm depending on a choice of membrane
Wetted parts material	Material certificate can be delivered upon request depending on sensor type (According EN 10204 3.1 or DIN 50049)
Housing material	Stainless steel or Titanium
I: inputs O: outputs	N/A
C: communication	N/A
Process pressure, absolute bar	Up to 40bar abs. for Stainless Steel model (up to 100bar abs for Titanium model)
Process temperature	-5 ... +45 °C (+23 ... +113 °F)
Ambient temperature	-5 ... +100 °C (+23 ... +212 °F)
A: accuracy L: long-term stability	A: ± 0.4 ppb or 5% of reading, whichever the greater
Special F&B process connections	ORBISPHERE extraction or insertion system for installation on Varinline® Access unit ORBISPHERE 28mm sensor weld-on socket.
Special F&B certificate and conformity certificate	N/A
Further certificates	N/A
Power supply	N/A
Degree of protection	IP 67
Important customer benefits and unique features	<ul style="list-style-type: none"> • Easy maintenance: sensor refurbishment in 3 minutes with pre-filled recharge cartridge and membrane already positioned • Simple calibration in the air, no need of specific set up or skilled operators for in-line operation • Plug and play for process operator with Smart chip storing calibration parameters in the sensor
Catalog	N/A

Orbisphere 314xx

MFLB group	N/A
Brief description	The ORBISPHERE 31xxx is a robust series of Thermal Conductivity sensors for selective gas analysis in dissolved mode or gas phase.
Typical Applications	Carbon dioxide sensor for accurate and rapid quality control of beer or all soft-drinks.
Span/Range	0 ... 10 bar or 0 ... 15 g/kg or 0 ... 7 V/V
Wetted parts material	Material certificate can be delivered upon request depending on sensor type (According EN 10204 3.1 or DIN 50049)
Housing material	Stainless steel
I: inputs O: outputs	N/A
C: communication	N/A
Process pressure, absolute bar	Up to 20 bar abs.
Process temperature	0 ... +50 °C (+32 ... +122 °F)
Ambient temperature	-5 ... +100 °C (+23 ... +212 °F)
A: accuracy L: long-term stability	The greater of $\pm 1\%$ reading or ± 8 mBar or ± 0.012 g/kg or ± 0.006 V/V
Special F&B process connections	ORBISPHERE extraction or insertion system for installation on Varinline® Access units ORBISPHERE 28mm sensor weld-on socket
Special F&B certificate and conformity certificate	N/A
Further certificates	N/A
Power supply	N/A
Degree of protection	IP 67
Important customer benefits and unique features	<ul style="list-style-type: none"> • Selective measurement, result unaffected by the presence of other gases • Fast response time for optimum plant efficiency • Annual maintenance and traceable calibration, quick and easy to carry out for a minimum down time
Catalog	N/A



General

Liquid Analytic

Communication and Software




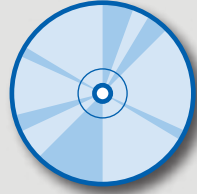
Orbisphere 315xx


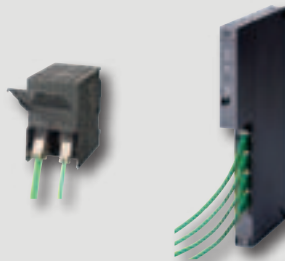
MFLB group	N/A
Brief description	The ORBISPHERE 31xxx is a robust series of Thermal Conductivity sensors for selective gas analysis in dissolved mode or gas phase.
Typical Applications	Uniques selective nitrogen sensor for gas analysis of stout beers.
Span/Range	0 ... 20 bar or 0 ... 350 ppm or 0 ... 300 ml/l
Wetted parts material	Material certificate can be delivered upon request depending on sensor type (According EN 10204 3.1 or DIN 50049)
Housing material	Stainless steel
I: inputs O: outputs	N/A
C: communication	N/A
Process pressure, absolute bar	Up to 20 bar abs.
Process temperature	0 ... +50 °C (+32 ... +122 °F)
Ambient temperature	–5 ... +100 °C (+23 ... +212 °F)
A: accuracy L: long-term stability	The greater of ±2 % reading or ±15 mBar or ±0.3 ppm or ±0.25 ml/l
Special F&B process connections	ORBISPHERE extraction or insertion system for installation on Varinline® Access units ORBISPHERE 28 mm sensor weld-on socket
Special F&B certificate and conformity certificate	N/A
Further certificates	N/A
Power supply	N/A
Degree of protection	IP 67
Important customer benefits and unique features	<ul style="list-style-type: none">• Selective measurement, result unaffected by the presence of other gases• Fast response time for optimum plant efficiency• Annual maintenance and traceable calibration, quick and easy to carry out for a minimum down time
Catalog	N/A


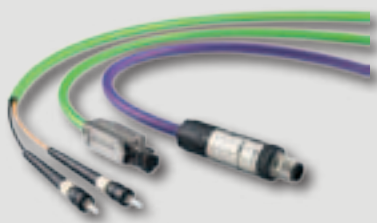
SITRANS RD100

7ML5741
2-wire loop-powered NEMA 4X IP67 enclosed remote digital display for process instrumentation.
SITRANS RD100 is a 2-wire loop powered, NEMA 4X enclosed remote digital display for process instrumentation. This digital meter is easy to use with a display of 3½ digits, 1" high. It accepts 4 ... 20 mA input and operates from –40 ... +80 °C (–40 to +176 °F). SITRANS RD100 is CSA and FM approved.
–1,000 ... +1,999
N/A
NEMA 4X IP67 impact resistant
4 ... 20 mA
Digits: 3 digit display, 25.4 mm high LED display
N/A
–40 ... +85 °C (–40 ... +185 °F)
–40 ... +85 °C (–40 ... +185 °F)
A: ±0.1 % of span ±1 count
N/A
N/A
FM, CSA hazardous approvals
Loop powered
NEMA 4X, Type 4X, IEC 529, IP67
<ul style="list-style-type: none">• 2-wire loop powered• Simple two-step configuration• Easy setup• Intrinsically Safe, non-incendive• Two modes of input allow for easy servicing, with no interruption of loop required• Factory calibrated• Large display
FI 01 2010 5/304



General		Communication and Software	
			
		SITRANS RD200	SIMATIC PDM Process Device Manager
MFLB group	7ML5740	6ES7658	
Brief description	Universal input, panel mount remote digital display for process instrumentation.	SIMATIC PDM (Process Device Manager) is a universal multi-vendor tool for configuration, parameterization, startup, diagnostics and servicing of intelligent field devices and components. Based on the EDDL (Electronic Device Description Language) technology. EDDL is IEC 61804 standard.	
Typical Applications	SITRANS RD200 is a universal input, panel mount remote digital display for process instrumentation. It accepts current, voltage, thermocouple, and RTD signals, and the four front panel buttons make the setup and programming an easy task. The isolated 24 V DC transmitter power (optional) can be used to power the input transmitter, the 4 ... 20 mA output, or other devices. Two relays (optional) can be used for alarm indication or process control applications, such as alternating pump control. 4 ... 20 mA isolated output and Modbus® RTU serial communication options make SITRANS RD200 an excellent addition to any system.	The PDM can be used to parameterize process devices, to check plausibility, and for management and simulation. Process values, alarms and status signals from the devices are displayed online.	
Span/Range	– 1,999 ... + 9,999	Not required	
Wetted parts material	N/A	Not required	
Housing material	NEMA 4X IP65 front panel and NEMA 4X, IP66 plastic and SS enclosure options	Not required	
I: inputs O: outputs	Universal current, voltage, RTD, thermocouple/serial out	Not required	
C: communication	Digits: 4 digit display, 14 mm high LED, MODBUS and PDC serial communications	HART, HART Interface, HART Multiplexer, PROFIBUS DP/PA, MODBUS, SIPART DR protocol, SIREC protocol	
Process pressure, absolute bar	N/A	Not required	
Process temperature	0 ... + 65 °C (+ 32 ... + 149 °F)	Not required	
Ambient temperature	0 ... + 65 °C (+ 32 ... + 149 °F)	Not required	
A: accuracy L: long-term stability	A: Input type dependent	Not required	
Special F&B process connections	N/A	Not required	
Special F&B certificate and conformity certificate	N/A	Not required	
Further certificates	CE, UL, CUL	–	
Power supply	12 ... 36 V DC, 12 ... 24 V AC, 6 W max.	Not required	
Degree of protection	Front panel Type 4X, NEMA 4X; IP65 with optional NEMA 4X IP66 enclosures	Not required	
Important customer benefits and unique features	<ul style="list-style-type: none">• Easy to read in all conditions• Accepts current, voltage, thermocouple and RTD signals• Included software supports remote monitoring, programming, data logging alarm acknowledgement• Can be used for alarm indication or process control applications• Provides power to instrument 24 V DC, 200 mA• Allows user to configure future RD200s with current setup reducing setup time, cost, and errors• Selection of optional enclosures including explosion-proof and standard panel mount	Core functionalities are: <ul style="list-style-type: none">• Adjustment and modification of device parameters• Comparison of reference and actual parameter settings• Parameterization• Checking of input for plausibility• Simulation• Diagnostics• Management• Startup functions, e. g. channel tests for process data• Lifelist• Logging functions	
Catalog	FI 01 2010 5/308	FI 01 2010 9/19	

General		Industrial Communication	
			
			34 35
		Industrial Ethernet Switches	System Connections for SIMATIC S7
Brief description		Industrial Ethernet switches and media converters SCALANCE X; Compact Switch Modules CSM; CPs with integrated switch.	Communications processors for SIMATIC S7-200, S7-1200, S7-300 and S7-400.
Typical Applications		Electrical and/or optical Industrial Ethernet/PROFINET networks in linear, star or redundant ring topology	Connection of SIMATIC S7 to various bus systems with optimum communications performance and for specific tasks, e.g. database connection
Communication		Industrial Ethernet/PROFINET	Industrial Ethernet/PROFINET, PROFIBUS, AS-Interface
Interfaces		Electrical (RJ45 or M12) and optical (glass, PCF and POF)	Electrical RJ45 and Sub-D socket
Catalog		IK PI N 2010	IK PI N 2010

General		Industrial Communication	
			
		System Connections for PC	Cabling Technology
Brief description		Communications processors for industrial PC with PCI, PCIe or PC/104-Plus interface.	Electrical and optical cables (including special food cables) and plugs; electrical outlets; quick mounting system FastConnect for electrical and optical installations on site.
Typical Applications		Connection of industrial PC to various bus systems with optimum communications performance, e.g. for using an OPC server.	Fast on-site installation of reliable and error-free Industrial Ethernet/PROFINET and PROFIBUS networks.
Communication		Industrial Ethernet/PROFINET, PROFIBUS	Industrial Ethernet/PROFINET, PROFIBUS
Interfaces		Electrical RJ45 and Sub-D socket	Electrical (RJ45, M12, Sub-D) and optical (BFOC, SC, LC)
Catalog		IK PI N 2010	IK PI N 2010

General		Industrial Communication	
		 	
		Industrial Wireless LAN	Optical link modules for PROFIBUS
Brief description		Access points and client modules SCALANCE W; IWLAN/PB Link PN IO PN IO; antennas, accessories and site survey software SINEMA E	Optical Link Modules for PROFIBUS networks (line, star, ring topology) with glass, PCF and POF cables.
Typical Applications		Build-up of reliable and safe radio communication with IWLAN under rough ambient conditions.	Networking between buildings, mixed networks with electrical and optical segments and with high availability requirements (redundant ring networks).
Communication		WLAN according to IEEE 802.11a/b/g/h, optionally with additional iFeatures	PROFIBUS
Interface		Electrical (RJ45) and optical (glass/BFOC)	Electrical Sub-D and optical BFOC
Catalog		IK PI N 2010	IK PI N 2010

General		Radio Frequency Identification 		Code reading systems and vision sensors 	
					
		RFID systems SIMATIC RF		Code reading systems and vision sensors	
Brief description		HF-range: MOBY E, SIMATIC RF300, MOBY D UHF-range: SIMATIC RF600 Microwave-range: MOBY U		Code reading systems: SIMATIC MV420/MV440/VS130-2, HawkEye 40/40T/45/45T, HawkEye 1500 Vision sensors: SIMATIC MV220/MV230/VS120	
Typical Applications		Presence detection, identification, reading/writing data.		Presence/absence counting, position measuring, position detection, identification, reading 1D and 2D codes, pattern/shape comparison, color evaluation.	
Read/write distance		0 ... 10 m		–	
Communication		Industrial Ethernet/PROFINET, PROFIBUS, serial interface		Industrial Ethernet/PROFINET, PROFIBUS, serial interface	
Important customer benefits and unique features		Read/write units with IQ-Sense; completely integrated into SIMATIC; heat resistant; file handling; memory capacity up to 64 KB; frequencies: 1.81 MHz, 13.56 MHz, 2.54 GHz, 865 ... 868 MHz (Europe), 902 ... 928 MHz (USA)		Completely integrated into SIMATIC; extremely high clock-pulse rates are possible	
Catalog		ID 10 2010		ID 10 2010; FS 10 2009	



Certified products

In the food and beverage industry there are only a few statutory directives for the design of food-producing plants. On the other hand, various independent organizations exist which provide recommendations. These are more specific than the texts of the directives since they reflect the practical experiences of owners and manufacturers of F&B plants. However, the organizations only certify whether the field instrument complies with their respective directives and not whether it is suitable for food production. Siemens I IA SC offers a range of products conforming to the regulations of the following organizations:



The **EHEDG** (European Hygienic Engineering and Design Group) collects and publishes know-how concerning the design and operation of food-producing machines. For example, the EHEDG carries out contamination investigations with components for these machines. Components with the EHEDG marking have been tested according to these directives.



The **3A SSI** (3-A Sanitary Standards, Inc.) defines, similar to the EHEDG, guidelines for the design of components for food-producing plants. The 3A SSI inspects the design drawings for the devices or plants, and checks whether these directives have been observed. Inspectors certified by the 3A SSI also check the manufacturing processes of the component manufacturers. Parallel to the FDA, the 3A SSI issues a list of plastics which can be used for F&B production.



The **FDA** (Food and Drug Administration) is almost exclusively active for the US-market. It is a supervisory authority and simultaneously an advisory center for all questions concerning health. The FDA assigns approvals for materials which come into contact with food and are used in F&B plants.



By means of the **CE marking** (Communauté Européenne), the manufacturer documents that his components comply with the respective European directives.

Initially Issued: 4/12/1991

Authorization No.: 627



This Is To Certify That

Siemens Milltronics Process Instruments Inc.
1954 Technology Drive, Peterborough, ONTARIO K9J 7B1 CANADA

Is hereby authorized to continue to apply the 3-A Symbol to the models of equipment,
conforming to 3-A Sanitary Standards for:

Sensors and Sensor Fittings and Connections, Number: 74-03, set forth below:

Model Designations: Sitrans LVL100, and Sitrans LVL200.

Valid through: December 31, 2010

Tamara K. Rupp

Executive Director, 3-A Sanitary Standards, Inc.

The issuance of this authorization for the use of the 3-A Symbol is based upon the voluntary certification, by the applicant for it, that the equipment listed above complies fully with the 3-A Sanitary Standards designated. Legal responsibility for compliance is solely that of the holder of this Certificate of Authorization, and 3-A Sanitary Standards, Inc. does not warrant that the holder of an authorization at all times complies with the provisions of the said 3-A Sanitary Standards. This in no way affects the responsibility of 3-A Sanitary Standards, Inc. to take appropriate action in such cases in which evidence of nonconformance has been established.

Next TPV Inspection/Report due: November 2013

CERTIFICATE OF COMPLIANCE



TNO Certification
hereby declares that the product

SITRANS LVL100, LVL 200S and LVL200E series, type XXHCNCP1/TPVL

From

Siemens Milltronics Process Instruments Inc., Peterborough, Canada

has been evaluated for compliance with the Hygienic Equipment Design Criteria
of the EHEDG, Document No. 8, by:

TNO Quality of Life at Zeist, Netherlands
and meets the criteria of this document as demonstrated by:

Evaluation Report No. V7826

Signed

J. Kastelein, Evaluation Officer

Date January 15, 2008

Signed

S.H.M. Obdeijn, Director, TNO Certification

Date January 15, 2008



Certificate No. 08-10176-S

TNO Certification BV, P.O. Box 541, 7300 AM Apeldoorn, Netherlands
©EHEDG

CERTIFICATE OF COMPLIANCE



TYPE EL - CLASS I

Danish Technological Institute
hereby declares that the product

SITRANS FM MAG 1100 P
sealed with EPDM P-seal and PFA Liner

from

Siemens Flow Instruments A/S, Nordborg, Denmark

has been evaluated for compliance with the Hygienic Equipment Design Criteria
of the EHEDG, Document No. 8, by:

Danish Technological Institute in Kolding, Denmark
and meets the criteria of this document as demonstrated by:

Evaluation Report No. DTI290509

Signed


Henrik Classen, Evaluation Officer

Date 5. October 2009

Signed


Anne Maria Hansen, Head of Department

Date 5. October 2009

Certificate No. DTI200915



DANISH
TECHNOLOGICAL
INSTITUTE

Danish Technological Institute, Holbergvej 10, DK-6000 Kolding, Denmark
©EHEDG

Initially Issued: 11/20/1991

Authorization No.: 660



This is To Certify That

Siemens Flow Instruments A/S
Nordborgvej 81, 6430 Nordborg, DENMARK

Is hereby authorized to continue to apply the 3-A Symbol to the models of equipment,
conforming to 3-A Sanitary Standards for:

Flow Meters, Number: 25-04, set forth below:

Model Designations: SITRANS FM MAG 1100 Food 7ME614x-xxxxx-xxxx.

Valid through: December 31, 2010

Timothy E. Kapp

Executive Director, 3-A Sanitary Standards, Inc.

The issuance of this authorization for the use of the 3-A Symbol is based upon the voluntary certification, by the applicant for it, that the equipment listed above complies fully with the 3-A Sanitary Standards designated. Legal responsibility for compliance is solely that of the holder of this Certificate of Authorization, and 3-A Sanitary Standards, Inc. does not warrant that the holder of an authorization at all times complies with the provisions of the said 3-A Sanitary Standards. This in no way affects the responsibility of 3-A Sanitary Standards, Inc. to take appropriate action in such cases in which evidence of nonconformance has been established.

Next TPV Inspection/Report due: December 2014

SIEMENS

FDA Declaration of Conformity FDA-Konformitätserklärung

No. A5E00755295 - ES01

Manufacturer:	Siemens AG		
Hersteller:	Automation & Drives		
Address:	Östliche Rheinbrückenstr. 50; 76187 Karlsruhe		
Anschrift:	Bundesrepublik Deutschland		
Product description:	SITRANS P		
Produktbezeichnung:	Typ 7MF812*-a*A7*-****-Z	a = 4,6	
	Typ 7MF413*-a*A7*-****-Z	a = 4,6	

Non wetted filling oils of the measuring cell. These oils are in compliance with the Code of Federal Regulations
Nicht messstoffberührt sind die Füllöle der Messzelle. Diese Öle entsprechen dem Code of Federal Regulations

Component	material	FDA conformity
Komponente	Material	FDA-Konformität
White mineral oil / med. Weissöl	Exxomercol	21 CFR 172.878 / 21CFR 178.3620
Propylene Glycol DI (caprylate/ caprate)/Propylene Glycol Dicaprylate/Dicaprate	Neobee M20	21 CFR 172.856 / 21CFR 174.5

Karlsruhe, 13.07.2008

Siemens AG

Dr. Catanesu, Entwicklung

Name, function
Name, Funktion



signatur
Unterschrift

van Dyke, Fertigung

Name, function
Name, Funktion



signatur
Unterschrift

Initially Issued: 7/20/2007

Authorization No.: 1439



This Is To Certify That

Siemens AG A&D SC PS I
Siemensallee 84, 76187 Karlsruhe, GERMANY

Is hereby authorized to continue to apply the 3-A Symbol to the models of equipment,
conforming to 3-A Sanitary Standards for:

Sensors and Sensor Fittings and Connections, Number: 74-03, set forth below:

Model Designations: SITRANS P300 7MF812x-xxA7x-xxxx-ZNxx or ZQxx and
optional temperature decoupler P00 a - 4, 6.

Valid through: December 31, 2010

Timothy S. Singh
Executive Director, 3-A Sanitary Standards, Inc.

The issuance of this authorization for the use of the 3-A Symbol is based upon the voluntary certification, by the applicant for it, that the equipment listed above complies fully with the 3-A Sanitary Standards designated. Legal responsibility for compliance is solely that of the holder of this Certificate of Authorization, and 3-A Sanitary Standards, Inc. does not warrant that the holder of an authorization at all times complies with the provisions of the said 3-A Sanitary Standards. This in no way affects the responsibility of 3-A Sanitary Standards, Inc. to take appropriate action in such cases in which evidence of nonconformance has been established.

Next TPV Inspection/Report due: April 2011

Siemens Flow Instruments A/S

Head Office: 535 0432 Nordborg, Denmark
Telephone: + 45 74 88 12 12
Telex: + 45 74 88 12 10

Certificate of Conformity
EN 10204 Paragraph 2.1

Order no. 1 of

Year order no. 1 of

The quality of Siemens Flow Instruments products is constantly monitored and controlled through the Siemens Flow Instruments quality assurance system, which is certified in accordance with ISO 9001.

Product: SITRANS F M MAGFLO Certificate no. Q09C-122

CERTIFICATE

We, Siemens Flow Instruments A/S, declare that the below mentioned goods are produced and released in our factory in Denmark.

Product description: SITRANS FM MAG 1100 FOOD
7ME6140

We hereby declare that the product SITRANS FM MAG 1100 F conforms to Regulation (EC) No 1935/2004 and FDA as described below relating to materials and articles intended to come into contact with food.

Component		Material	FDA- Regulation
Liner	7ME6140-XXXX1X-XXXX	Teflon® PFA 350-JK_350 T-J	21 CFR 177.1550 (a)(2) and (b)
	7ME6140-XXXX2X-XXXX	Aluminium oxide Al ₂ O ₃	EC 1935/2004
Gasket	7ME6140-XXXX22-XXXX	FKM / FPM (V75W)	21 CFR 177.2600 (f) USP class VI EC 1935/2004
	7ME6140-XXXX09-XXXX	EPDM (EPL-70)	21 CFR 177.2600 (f) USP class VI EC 1935/2004
	7ME6140-XXXX13-XXXX	EPDM - P (EAP-70)	21 CFR 177.2600 (f) USP class VI EC 1935/2004

Date: 2009-04-02
Prepared by / department: Ove Kirk Andersen, SFI0K-OQ

Get more information

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