

**Overview**

The complete flowmeter system SITRANS FC consist of a new FCS400 sensor in sizes DN 15 to DN50 mm and a FCT030 multichannel/multifunctional in compact or remote versions, or a single Modbus-channel FCT010 transmitter in compact version. The flowmeter is based on the latest developments within digital signal processing technology – engineered for high measuring performance:

- Fast response to rapid changes in flow
- Fast dosing applications
- High immunity against process noise
- High turndown ratio of flowrates
- Suitable for liquid and gas service
- Easy to install, commission and maintain
- Aerated flow filtering system, for advanced filtering of fluids with gas or air bubbles
- Build in Data logger for all process variables and status messages (FCT030)
- Build in Batch functionality (FCT030)

The SITRANS FC430 is available with current output HART 7.5, Modbus RS-485 RTU, PROFIBUS DP or PROFIBUS PA as standard on Channel 1. Additional I/O functions can be freely configured for analog, pulse, frequency, relay or status output, or binary input.

The transmitter comes with a user configurable graphical display and SensorFlash, a micro SD card for configuration backup, firmware update and data storage.

The SITRANS FC410 is available with a Modbus RTD output transferring all process values to a any PLC or DCS system like SIMATIC S7-1200; S7-1500 or PCS7. True multi-parameter measurements i.e. massflow, density, temperature.

The SITRANS FC410 is available with MODBUS RTU (RS-485) multi-drop serial communication.

**Benefits**

- It is truly compact and light, fitting neatly into dense piping arrangements
- Easy maintenance because modules can be exchanged rapidly
- Effective separation of measurement from plant vibration
- Highly secure operation in safety critical applications
- Non-volatile memory of all setup and operation data
- Reliable measurements due to high signal to noise ratio
- Secure, digital transfer of measurement data from the sensor
- Shortest overall length; easy drop-in replacement into most existing installations

**Application**

SITRANS FCS400 mass flowmeters are especially suitable for applications for machinebuilder, skid manufacturer and OEM's in general for the process industry where there is a demand for accurate flow measurement. The meter is capable of measuring both liquid and gas flow.

Coriolis flowmeters can be applied in all industries, such as:

- Chemical: detergents, bulk chemicals, acids, alkalis, paint mixing systems, solvents and resins, fertilizer, technical gases
- Oil & Gas Processing Up- Mid- Down stream: Well-head monitoring, oil separators, refineries control, furnace control
- Hydrocarbon processing: oil refining, derivatives manufacturing, polymerization
- Power industry processing
- Marine Application: Fuel management & consumption; bunkering solutions; Boiler control
- Food & Beverage: dairy products, beer, wine, Alcohol / spirit, soft drinks, °Brix/°Plato, fruit juices and pulps, bottling, CO<sub>2</sub> dosing, CIP/SIP-liquids, mixture recipe control



The multiple outputs and bus communication mean that all of the process information can be read either instantaneously (10 ms update) or periodically as plant operation requires.

## Flow Measurement

### SITRANS F C

#### Flowmeter SITRANS FC430 and FC410 for OEM customers

#### Technical specifications

Flowmeter	SITRANS FC430	SITRANS FC410
		
<b>Sizes</b>	DN 15 (1/2") DN 25 (1") DN 50 (2")	
<b>Accuracy</b>	± 0.10 % for liquids additional ± 0.25 for gases	
• Massflow	± 5 kg/m <sup>3</sup> or 0.5 kg/m <sup>3</sup>	
• Density	± 5 kg/m <sup>3</sup> or 0.5 kg/m <sup>3</sup>	
<b>Repeatability</b>	± 0.05 %	
• Massflow	± 0.05 %	
<b>Flow range (liquids)</b> Q <sub>nom</sub> (water @ 1 bar pressure loss) (Q <sub>max</sub> approx. 2 x Q <sub>nom</sub> )		
• DN 15 (1/2")	3 700 kg/h (8 200 lb/h)	
• DN 25 (1")	11 500 kg/h (25 300 lb/h)	
• DN 50 (2")	52 000 kg/h (115 000 lb/h)	
<b>Installation</b>	Compact or remote	Compact
<b>Display</b>	Full graphical display, 240 x 160 pixels with selection of 6 languages	No display
<b>Totalizer</b>	Three eight-digit counters for forward, net or reverse flow	One Totalizer
<b>Process values</b>	Mass, volume, corrected volume, temperature, density, fraction e.g. Brix, Plato % Alc., concentration	Mass, volume, temperature, density
<b>Power supply</b>	20 ... 27 V DC ± 10%; 100 ... 240 V AC ± 10 %, 47 ... 63 Hz ± 10%	24 V DC ± 20%; 110 mA

Flowmeter	SITRANS FC430	SITRANS FC410
<b>Materials</b>	<ul style="list-style-type: none"> <li>• Sensor               <ul style="list-style-type: none"> <li>- Wetted parts 316L stainless steel</li> <li>- Enclosure 304 stainless steel</li> </ul> </li> <li>• Transmitter Aluminum with corrosion-resistant coating</li> </ul>	
<b>Enclosure rating</b>	IP67	
<b>Pressure ratings</b>	<ul style="list-style-type: none"> <li>• Measuring tubes               <ul style="list-style-type: none"> <li>- 316L 100 bar (1450 psi)</li> </ul> </li> <li>• Sensor enclosure 20 bar (DN 15, DN 25) 17 bar (DN 50) Burst pressure &gt;100 bar</li> </ul>	
<b>Temperature ratings</b>	<ul style="list-style-type: none"> <li>• Process medium               <ul style="list-style-type: none"> <li>- DN 15 ... DN 50 -50 ... +200 °C (-58 ... +392 °F)</li> </ul> </li> <li>• Ambient -40 ... +60 °C (-40 ... +140 °F)</li> <li>• Display -20 ... +60 °C -4 ... +140 °F</li> </ul>	
<b>Process connections</b>	<ul style="list-style-type: none"> <li>• Flanges EN 1092-1 B1, EN 1092-1 D, ANSI/ASME B16.5, JIS B 2220, DIN 11864-2</li> <li>• Pipe threads ASME B1.20 (NPT) male pipe thread, ISO228-1 G male pipe thread, VCO Quick-connect</li> <li>• Hygienic threads DIN 11851, DIN 11864-1A, ISO 2853, SMS 1145</li> <li>• Hygienic clamps DIN 11864-3A, DIN 32676, ISO 2852</li> </ul>	
<b>Approvals</b>	<ul style="list-style-type: none"> <li>• Hazardous area (zone 1 / 21) ATEX, IECEx, cCSA us</li> <li>• Pressure equipment PED, CRN</li> </ul>	
<b>NAMUR</b>	NAMUR-compliant (e.g. NE 21, NE 41, NE 107 and NE 132)	
<b>I/O</b>	Up to 4 channels combining analog, relay or digital outputs and binary input	-
<b>Communication</b>	HART PROFIBUS PA PROFIBUS DP Modbus RTU (RS-485)	Modbus RTU (RS-485)

#### Selection and Ordering data (please contact Siemens sales office)

**SITRANS FC430 Digital Coriolis flowmeter with SITRANS FCS400 sensor compact or remote mounting with FCT030 transmitter**

Article No.

7 ME 4 6 1 3 -



**SITRANS FC410 Digital Coriolis flowmeter with SITRANS FCS400 sensor compact mounting FCT010 transmitter**

7 ME 4 6 1 1 -

