

**SIEMENS**



Process Instrumentation

# SITRANS FCS200 & SIFLOW FC070 set new standards for excellence in integration

The flowmeter solution for saving time, cost and space.

[usa.siemens.com/coriolis](http://usa.siemens.com/coriolis)



## Total integration with unique advantages

### **The Siemens CNG solution - ahead in size, performance and simplicity**

The new ultra-compact sensor SITRANS FCS200 has attractive performance features ideal for any CNG application. What's more, the overall Siemens CNG solution incorporating sensor and transmitter facilitates unique seamless integration of CNG flow measurement into Siemens SIMATIC systems.

Take advantage of the new total Siemens CNG solution to achieve important space, time and cost savings in installation and operation - and at the same time gain access to outstanding Siemens service, worldwide.





#### **Siemens CNG sensor – small on size, big on performance**

The ultra-compact SITRANS FCS200 sensor fits in where space is crucial, providing extra flexibility in any CNG application - both new installations and replacements.

With unparalleled accuracy and capacity under high pressure and hazardous conditions, the SITRANS FCS200 sensor sets a new standard for efficiency and safety in CNG.

It is available in three sizes and is easy to install, with a wide range of different process connections available.



#### **Siemens CNG transmitter - the remote and directly integrable solution**

Like the CNG sensor, the SIFLOW FC070 transmitter features compact design for ease of fit in any dispenser, particularly for slim design in new development.

As one of only few, it provides a true remote system for extremely safe, easy, and economic installation. With only a single cable connecting sensor and transmitter, Siemens sets new standards for simplicity and effectiveness in system integration.

The SIFLOW FC070 transmitter is custody transfer approved and brings all the advantages of gas measurement into the powerful world of SIMATIC systems with incomparable process performance and flexibility.

# The winning combination



## SITRANS FCS200 sensor

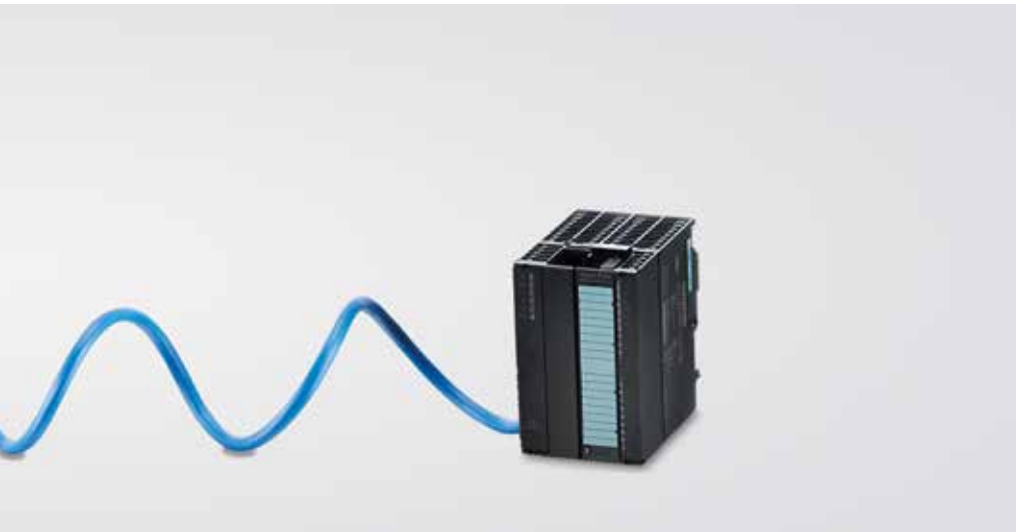
The design and performance characteristics of the SITRANS FCS200 sensor provide a broad and competitive range of benefits, making it the perfect solution for the CNG industry:

- Compactness – enabling smaller and more efficient dispenser layout and construction
- Easy installation – available with a wide range of standard gas process connectors to meet virtually any market requirement
- High capacity – flow rate up to 500 kg/min for faster fuelling
- High accuracy even at high pressure – using Hastelloy tube material
- Flexibility – available in three sizes ensuring a broad application fit within dispensers, compressors and distribution
- Enhanced safety – standard built-in rupture discs reduce personal hazard in the event of pipe fracture
- “Plug & Play” – with pre-configured sensor cable connection



Technical specifications SITRANS FCS200 sensor

Size	DN 10	DN 15	DN 25
Mass flow (kg/min (lbs/min))	42 (92.6)	200 (440.9)	500 (1102.3)
Linearity error (% of rate)	±0.5		
Enclosure	IP66 / IP67 (EN 60529)		
Measuring pipe and splitter material	Hastelloy C-22		Stainless steel
Enclosure and flange material	1.4404 / 1.4301 (304)		
Nominal pressure	350 Bar		214 Bar



With the new CNG solution from Siemens multiple cables and tedious installation procedures are relics of the past.

Take advantage of the new standards for simplicity and efficiency in system integration.

### SIFLOW FC070 transmitter

The combination of streamlined transmitter features is unparalleled, enabling optimum effectiveness and simplicity in start-up and operation:

- Compact design – remote installation directly into the dispenser ensures minimal installation space
- True “Plug & Play” – The Siemens sensorprom allows quick and easy transfer of site, meter and application data

- Easy installation – even in complex hazard applications the intrinsically safe sensor interface guarantees highest safety
- Hassle-free operation – via Modbus RTU service interface enabling straightforward offline trouble-shooting, service and commissioning

### Custody transfer approval

For use in traditional pulse interface systems the transmitter comes with CT-approved redundancy pulse and frequency outputs

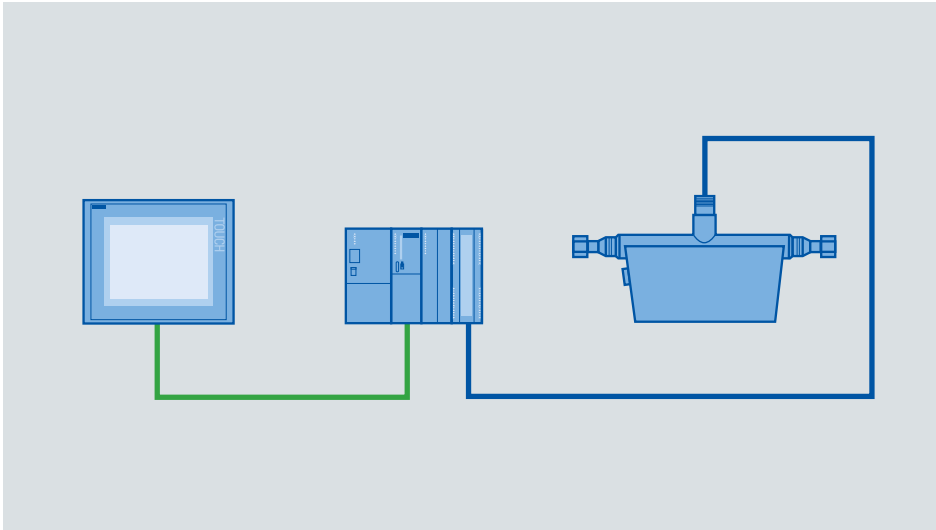
### CT approval guarantees:

- Accurate consumption monitoring
- Tested, high-quality products
- Optimal cost of ownership
- Accurate CNG billing



Technical specifications SITRANS F C transmitters	SIFLOW FC070	MASS 6000 19"
Dimensions (h x w x d)	125 x 80 x 116 mm	128 x 106 x 193 mm
Enclosure	IP20	IP20 or IP66 / NEMA 4 or NEMA 1
Outputs	2 digital, pulse, frequency, phase shift pulse (90 deg. and 180 deg.), quadrature frequency, 2-stage batch, batch	1 current, 1 digital, 1 relay batch/freq./pulse Optional: 3 current, 2 digital, 2 relay batch/frequency/pulse
Measurements	Mass flow, volume flow, density, temperature, fraction	
Serial interface	SIMATIC P-BUS, MODBUS RTU, Profinet/Profibus DP (via ET200M)	Profibus DP/PA, HART, MODBUS RTU, Foundation Fieldbus, Devicenet
Display	No	3-line alphanumeric LCD with backlight
Approvals	ATEX II 3G EEx nA II T4 ATEX II (1) [EEx ia] II C FM, cULus	[EEx ia] II C, DEMKO Ex 99E.125729X
Power supply	24 V DC	115 - 230 V AC, 24 V AC/DC

# Total Integration for a superior CNG solution



SIFLOW FC070 takes the advantages of the Coriolis measuring principle into the SIMATIC world, enabling seamless integration and state-of-the-art performance.

The flowmeter system can easily be combined with the SIMATIC HMI WinCC flexible solution.

## SIMATIC system

Integrate the CNG sensor and the SIFLOW FC070 even further. Siemens SIMATIC takes integration forward to the highest level.

**Easy installation and programming** is provided by standardized hardware and software package offering:

- Pre-defined function blocks for SIMATIC S7
- Pre-programmed WinCC flexible face plate

- SIMATIC PDM device driver
- Standard step 7 hardware

### Custody transfer kept simple

The SIFLOW FC070 offers an optimum CT approval solution via the encrypted back bone bus (P-BUS) for direct integration into SIMATIC.

A CT-approved solution improves competitiveness in management of stand-alone CNG dispenser as well as integrated solution containing multiple CNG dispensers.

### The optimum CT solution implies:

- CT approved process values available on the WinCC flexible face plate via OXC encrypted protocol
- Siemens provides all components required for CT – ranging from sensor to WinCC flexible face plate – all in one package
- No additional programming required due to preprogrammed WinCC flexible face plate

## Five-step integration - as easy as it gets

The diagram shows five steps of the integration process:

- The components of a complete Coriolis mass flow meter system**: Shows the SIFLOW FC070 sensor, transmitter, and power supply components.
- Insert the Sensorprom unit**: A hand inserts a blue Sensorprom unit into the back of the transmitter.
- Snap-in SIFLOW FC070 to the SIMATIC rail**: The transmitter is being snapped onto a SIMATIC PDM rail.
- Connect the sensor to the transmitter**: A blue cable connects the sensor to the transmitter.
- Turn on power and the system is ready to operate**: The completed system is shown with the HMI and PDM connected.

# Customer insights



Access to competent help around the clock is crucial for this CNG dispenser manufacturer, with units installed globally.

Quality of service is therefore an important priority in choosing a flowmeter supplier, ranking alongside superior instrumentation performance.

## Easy to integrate

A significant player in German natural gas dispensers for fuel stations has chosen Siemens Coriolis flow meters to be part of their product portfolio for the flexible integration options.

### Benefits

The company developers prefer the SITRANS FCS200 because it is easy to integrate into the existing systems. With its small size and preconfigured connection to SIFLOW FC070 transmitter using a single cable, improved efficiencies are achieved by building further on existing Siemens synergies.

Programming time and costs are reduced due to the common Siemens backbone and the modularity to simplify any future expansion. "Integration is direct and all in one house", states a company executive, continuing to explain that a particularly attractive feature is the unique Sensorprom chip.

Sensorprom facilitates data logging and storage of settings for use in service or in transfer to new equipment. Furthermore, it saves time in reprogramming flowmeters, and training of personnel.

For this manufacturer, simplicity of integration thus opens up a range of new efficiencies in safety, programming, traceability, modularity and communication.

### Preferred solution

- SITRANS FCS200 sensors
- SIFLOW FC070 transmitters
- SIMATIC S7-300 PLCs
- WinCC software
- A range of other Siemens automation devices.

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