

Overview



The complete flowmeter system SITRANS FC430 can be ordered for standard, hygienic or NAMUR service. All versions can be ordered for CT service, according to OIML R 117 (Liquids other than water).

SIL specified compact variants can be validated and configured for SIL 2 or SIL 3 operation. SIL 3 operation requires two flowmeters in series and monitored by a SIL-rated control system. Series mounting must not introduce cross-talk between the sensors. Refer to installation guidelines.

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

FC430 is available as standard with 4 to 20 mA analog output with HART 7.2. Additional 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 FC430 flowmeter system consists of a SITRANS FCS400 sensor and a SITRANS FCT030 transmitter.

Benefits

- It is narrow 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
- Short overall length; easy drop-in replacement into most existing installations
- Functional Safety (SIL X). Device suitable for use in accordance with IEC 61508 and IEC 61511.

Technical specifications

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| Sizes | DN 15 (½"), DN 25 (1"), DN 50 (2"), DN 80 (3") |
| Accuracy | ± 0.10 % |
| Repeatability | ± 0.05 % |
| Flow range (water @ 1 bar pressure loss) | DN 15: 3 700 kg/h (8 157 lb/h) DN 25: 11 500 kg/h (25 353 lb/h) DN 50: 52 000 kg/h (114 640 lb/h) DN 80: 136 000 kg/h (300 000 lb/h) |
| Architecture | Compact or remote configuration with selection of twelve languages including Chinese and Russian |
| Display | Full graphical display, 240 x 160 pixels |
| Power supply | 24 ... 90 V DC ± 10%; 100 ... 240 V AC ± 10 %, 50 ... 60 Hz ± 10% |
| Weight | 4.6 ... 50 kg |
| Material | <ul style="list-style-type: none"> • Sensor <ul style="list-style-type: none"> - Wetted parts 316L stainless steel or Hastelloy C22 - Enclosure 304 stainless steel • Transmitter Aluminum with corrosion-resistant coating |
| Enclosure rating | IP67 |
| Pressure ratings | <ul style="list-style-type: none"> • Measuring tubes <ul style="list-style-type: none"> - 316L 100 bar (1450 psi) - Hastelloy C22 160 bar (2321 psi) • Sensor enclosure 20 bar (DN15, DN 25) 17 bar (DN 50, DN 80) • Sensor enclosure burst pressure >160 bar (all sizes) |
| Temperature ratings | <ul style="list-style-type: none"> • Process medium -50 ... +200 °C (-58 ... +392 °F) • Ambient -40 ... +60 °C (-40 ... +140 °F) • Display -20 ... +60 °C (-4 ... +140 °F) |
| Process connections | <ul style="list-style-type: none"> • Flanges EN 1092-1 B1, EN 1092-1 D, ANSI/ASME B16.5, JIS B 2220, DIN 11864-2 • Pipe threads ASME B1.20 (NPT), ISO228-1 G (BSPP), VCO Quick-connect • Hygienic threads DIN 11851, DIN 11864-1A, ISO 2853, SMS 1145 • Hygienic clamps DIN 11864-3A, DIN 32676, ISO 2852 |
| Approvals | <ul style="list-style-type: none"> • Hazardous area ATEX, IECEx, FM, NEPSI, CSA, INMETRO • Pressure equipment PED, CRN • Hygienic 3A, EHEDG • Custody transfer OIML R 117 • Operational safety (compact system only) SIL 2 Single SIL 3 Redundant system |
| NAMUR | NAMUR-compliant (e.g. NE 21, NE 41 and NE 132) |
| I/O | Up to 4 channels combining analog, relay or digital outputs and binary input |
| Communication | HART 7.2 |
| EMC performance | EN 61326-3-2 |
| Mechanical load | 18 to 400 Hz random The flow meter will mechanically tolerate 3.17 g RMS in all directions. Flow accuracy cannot be guaranteed under all conditions. |