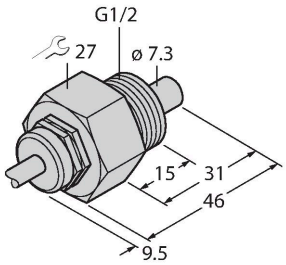
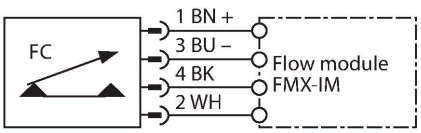
# FCS-G1/2A4-NAEX/D100
# Flow Monitoring – Immersion Sensor without Integrated Processor




## Features

- Ex sensor for liquid media
- Calorimetric functionality
- Adjustment via Ex signal processor
- Status displayed via signal processor
- Extended temperature range
- Media temperature +10…+120 °C
- Cable device
- 4-wire connection to an Ex0 processor
- ATEX category II 2 G, Ex zone 1
- ATEX category II 2 D, Ex zone 21

## Wiring diagram




## Technical data

| | |
|---|---|
| Ident. no. | 6870321 |
| Type | FCS-G1/2A4-NAEX/D100 |
| Special version | D100 corresponds to:<br>temperature range 10…120 °C |
| **Mounting** | Immersion sensor |
| Water Operating Range | 1…100 cm/s |
| Oil Operating Range | 3…200 cm/s |
| Stand-by time | typ. 8 s (2…18 s) |
| Switch-on time | typ. 2 s (1…13 s) |
| Switch-off time | typ. 2 s (1…13 s) |
| Temperature jump, response time | max. 12 s |
| Temperature gradient | ≤ 250 K/min |
| Medium temperature | 10…+120 °C |
| Important note | **For intrinsically safe applications, the values specified in the corresponding Ex certificates (ATEX, IECEX, UL, etc.) apply.** |
| Device marking | Ⓔx II 2 G Ex ib IIC T6 Gb<br>Ⓔx II 2 D Ex ib IIIC T125 °C Db |
| Ignition protection category | Gas Ex ib IIC; dust Ex ib IIIC |
| Power | ≤ 0.69 W |
| Internal inductances/capacitances | negligibly small |
| Ex approval acc. to conformity certificate | TÜV 99 ATEX 1518 |
| Protection class | IP67 |
| Design | Immersion |

## Functional principle

Our insertion - flow sensors operate on the principle of thermodynamics. The measuring probe is heated by several °C as against the flow medium. When fluid moves along the probe, the heat generated in the probe is dissipated. The resulting temperature is measured and compared to the medium temperature. The flow status of every medium can be derived from the evaluated temperature difference. Thus TURCK's wear-free flow sensors reliably monitor the flow of gaseous and liquid media.

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## Technical data

| | |
|---|---|
| Housing material | Stainless steel, V4A (1.4571) |
| Sensor material | Stainless steel, V4A (1.4571) |
| Max. tightening torque housing nut | 30 Nm |
| Electrical connection | Cable |
| Cable length (L) | 2 m |
| Cable quality | Blue |
| Cable Jacket Material | FEP |
| Core cross-section | 4 x 0.25 $mm^2$ |
| Process Pressure | 60 bar |
| Process connection | G ½“ |

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# Operating Instructions

**Intended use**

**This device fulfills Directive 2014/34/EU and is suited for use in areas exposed to explosion hazards according to EN60079-0: 2012 and EN60079-11:2012.In order to ensure correct operation to the intended purpose it is required to observe the national regulations and directives.**

**For use in explosion hazardous areas conform to classification**

The sensors may be used only in dust or gas areas
II 2 G (Group II, Category 2 G, electrical equipment for gaseous atmospheres).
II 2 D (Group II, Category 2 D, electrical equipment for dust atmospheres).

**Installation/Commissioning**

**These devices may only be installed, connected and operated by trained and qualified staff. Qualified staff must have knowledge of protection classes, directives and regulations concerning electrical equipment designed for use in explosion hazardous areas.Please verify that the classification and the marking on the device comply with the actual application conditions.**

**This device is only suited for connection to approved Exi circuits according to EN 60079-0 and EN 60079-11. Please observe the maximum admissible electrical values.After connection to other circuits the sensor may no longer be used in Exi installations. When interconnected to (associated) electrical equipment, it is required to perform the "Proof of intrinsic safety" (EN60079-14).**

**Installation and mounting instructions**

**Avoid static charging of cables and plastic devices. Please only clean the device with a damp cloth. Do not install the device in a dust flow and avoid build-up of dust deposits on the device.If the devices and the cable could be subject to mechanical damage, they must be protected accordingly. They must also be shielded against strong electro-magnetic fields.The pin configuration and the electrical specifications can be taken from the device marking or the technical data sheet.In order to avoid contamination of the device, please remove possible blanking plugs of the cable glands or connectors only shortly before inserting the cable or opening the cable socket.**

**Special conditions for safe operation**

**The device must be protected against any kind of mechanical damage.**

**Service/Maintenance**

**Repairs are not possible. The approval expires if the device is repaired or modified by a person other than the manufacturer. The most important data from the approval are listed.**

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