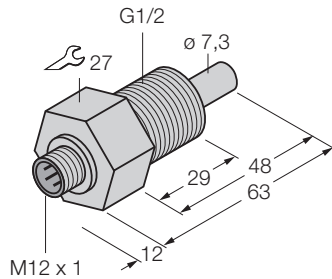


# flow sensor

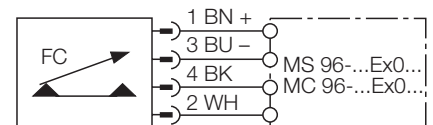
## insertion style sensor without integrated processor

### FCS-GL1/2A4-NAEX0-H1141



- ATEX category II 1/2 G, Ex zone 0
- intrinsically safe flow sensor for liquid media
- calorimetric function principle
- adjustment via potentiometer located on the intrinsically safe processor
- status display via LED chain on processor
- intrinsically safe EEx ia IIC T6, for use in explosion hazardous zone 0
- connector, M12 x 1
- 4-wire connection to an intrinsically safe processor (Ex0)

#### Wiring diagram



#### Functional principle

The function of our insertion flow sensors is based on the thermo-dynamic principle. The measuring probe is heated by several °C compared to the flow medium. When fluid moves along the probe, the heat generated in the probe is conducted away from the sensor. 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.

<b>Type</b>	FCS-GL1/2A4-NAEX0-H1141
Ident-No.	6870470
<b>Operating range water</b>	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...15 s)
Temperature change reaction time	max. 12 s
Temperature gradient	≤ 250 K/min
Medium temperature	-20... 60°C
<b>Device designation</b>	Ⓔ II 1/2 G EEx ia IIC T6
Protection type	EEx ia IIC
Power $P_i$	≤ 0.69 W
Internal inductances/capacitances	negligibly small
Ex approval acc. to conformity certificate	TÜV 99 ATEX 1517X
Degree of protection	IP67
<b>Housing material</b>	stainless steel, AISI 316Ti
Sensor material	stainless steel, AISI 316Ti
Tightening torque of housing nut	max. 100 Nm
Electrical connection	Connectors, M12 x 1
Pressure resistance	60 bar
Mechanical connection	G 1/2" length

**flow sensor**  
**insertion style sensor without integrated processor**  
**FCS-GL1/2A4-NAEX0-H1141**

**Operating manual**

**Intended usage**

This device fulfils the directive 94/9/EC and is suited for use in explosion hazardous areas according to EN50014, EN50020 and EN50284.

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

II 1 G (Group II, Category 1 G, electrical equipment for gaseous atmospheres).

**Marking (see device or technical data sheet)**

Ⓔ II 1/2 G and EEx ia IIC T6 acc.to EN50020 and EN50284

**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 EExi circuits acc. to EN50014 and EN50020. Please observe the maximum admissible electrical values. After connection to other circuits the sensor may no longer be used in EExi 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. 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.

**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.