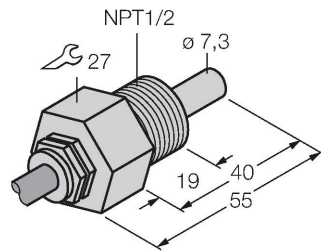


# FCS-N1/2A4-NAEX0

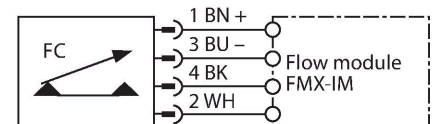
## Flow Monitoring – Immersion Sensor without Integrated Processor



### Features

- Ex sensor for liquid media
- Calorimetric functionality
- Adjustment via Ex signal processor
- Status indicated via LED chain on signal processor
- Cable device
- 4-wire connection to an Ex0 processor
- ATEX category II 1/2 G, Ex-zone 0
- ATEX category II 1 D, Ex zone 20

### Wiring diagram



### 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.

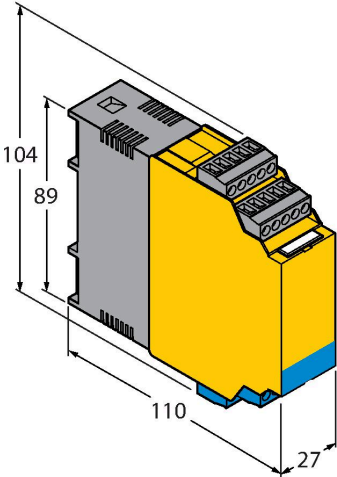
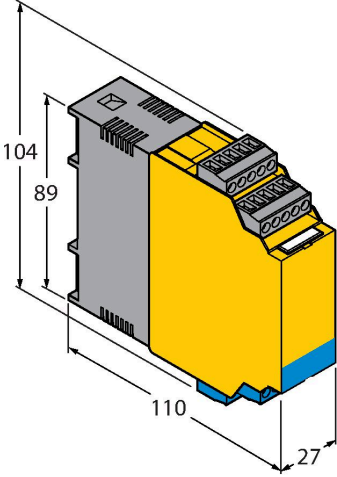
### Technical data

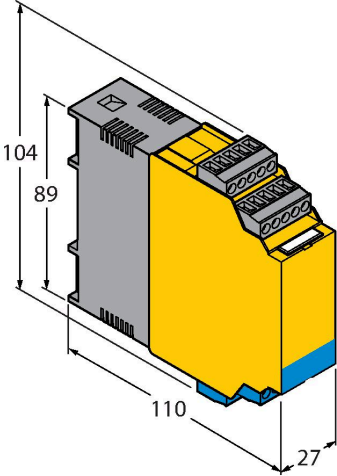
|                                                                     |                                                                                                               |
|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| ID                                                                  | 6870471                                                                                                       |
| Type                                                                | FCS-N1/2A4-NAEX0                                                                                              |
| Mounting conditions                                                 | Immersion sensor                                                                                              |
| Water Operating Range                                               | 1...100 cm/s                                                                                                  |
| Oil Operating Range                                                 | 3...200 cm/s                                                                                                  |
| Minimum immersion depth                                             | ≥ 15 mm                                                                                                       |
| 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                                                  | -20...+60 °C                                                                                                  |
| <b>Electrical data</b>                                              |                                                                                                               |
| Important note                                                      | For Ex applications, the values specified in the corresponding Ex certificates (ATEX, IECEx, UL, etc.) apply. |
| Device marking                                                      | EX II 1 G Ex ia IIC T6...T3 Ga<br>EX II 1/2 G Ex ia IIC T6...T3 Ga/Gb<br>EX II 1 D Ex ia IIIC T125 °C Da      |
| Ignition protection category                                        | Gas Ex ia IIC; dust Ex ia IIIC                                                                                |
| Power                                                               | ≤ 0.69 W                                                                                                      |
| Internal capacitance (C <sub>i</sub> )/inductance (L <sub>i</sub> ) | 0.27 nF/1.3 µH                                                                                                |
| Ex approval acc. to conformity certificate                          | TÜV 99 ATEX 1517X                                                                                             |
| Protection class                                                    | IP67                                                                                                          |
| <b>Mechanical data</b>                                              |                                                                                                               |
| Design                                                              | Immersion                                                                                                     |
| Housing material                                                    | Stainless steel, 1.4571 (AISI 316Ti)                                                                          |

Technical data

|                                                                      |                                      |
|----------------------------------------------------------------------|--------------------------------------|
| Sensor material                                                      | Stainless steel, 1.4571 (AISI 316Ti) |
| Max. tightening torque of housing nut                                | 30 Nm                                |
| Electrical connection                                                | Cable                                |
| Cable length                                                         | 2 m                                  |
| Cable quality                                                        | Blue                                 |
| Cable Jacket Material                                                | PUR                                  |
| Core cross-section                                                   | 4 x 0.25 mm <sup>2</sup>             |
| Permissible ambient pressure for the device in explosive atmospheres | 0.8...1.1 bar absolute               |
| Pressure resistance                                                  | 60 bar                               |
| Process connection                                                   | 1/2" NPT                             |
| Tests/approvals                                                      |                                      |
| Approvals                                                            | ATEX<br>CE<br>UKCA<br>GOST           |

Accessories

| Dimension drawing                                                                   | Type          | ID      |                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------|---------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | FMX-IM-3UP63X | 7525101 | Ex signal processor for Ex flow sensors from the FC....-NAEX... product series; operating voltage 20...30 VDC; LED bar for displaying flow speed and medium temperature; IO-Link device with transistor outputs for flow, temperature and errors |
|  | FMX-IM-3UR38X | 7525103 | Ex signal processor for Ex flow sensors from the FC....-NAEX... product series; operating voltage 20...250 VAC; LED bar for displaying flow speed and medium temperature; IO-Link device with relay outputs for flow, temperature and errors     |

| Dimension drawing                                                                 | Type            | ID      |                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------|-----------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | FMX-IM-2UPLI63X | 7525105 | Ex signal processor for Ex flow sensors from the FC...-NAEX... product series; operating voltage 20...30 VDC; LED bar for displaying flow speed and medium temperature; HART device with analog output for flow and transistor outputs for temperature and errors |