ifm electronic

CE

Operating instructions

Flow sensors

efector300

SP321A

UK

706050 / 00 12 / 2011

Operating instructions (safety-related part ATEX)

Remarks for safe use in hazardous areas

Functions and features

In conjunction with a switching amplifier of the VS4000 Exi series (e.g. SR307A) the flow sensor monitors flows in liquid and gaseous media and detects whether a preset flow value is reached (= medium is flowing) or not (= medium is not flowing) and provides a switching signal.

- Use in hazardous areas according to the classification
  II 2G (group II, category 2G, apparatus for gas atmosphere).
- The requirements of the standards IEC 60079-0 and IEC 60079-11 are met.
- EC type examination certificate

  ZELM 11 ATEX 0467
- IECEx type examination certificate

  IECEx ZLM 11.0005
- ATEX marking

   II 2G Ex ia IIC T4 Gb Ta = -20 ... +70 °C
- IECEx marking

   Ex ia IIC T4 Gb Ta = -20...+70 °C

Installation / Set-up

The units must only be installed, connected and set up by qualified staff. The qualified staff must have knowledge of protection classes, regulations and provisions for apparatus in hazardous areas.

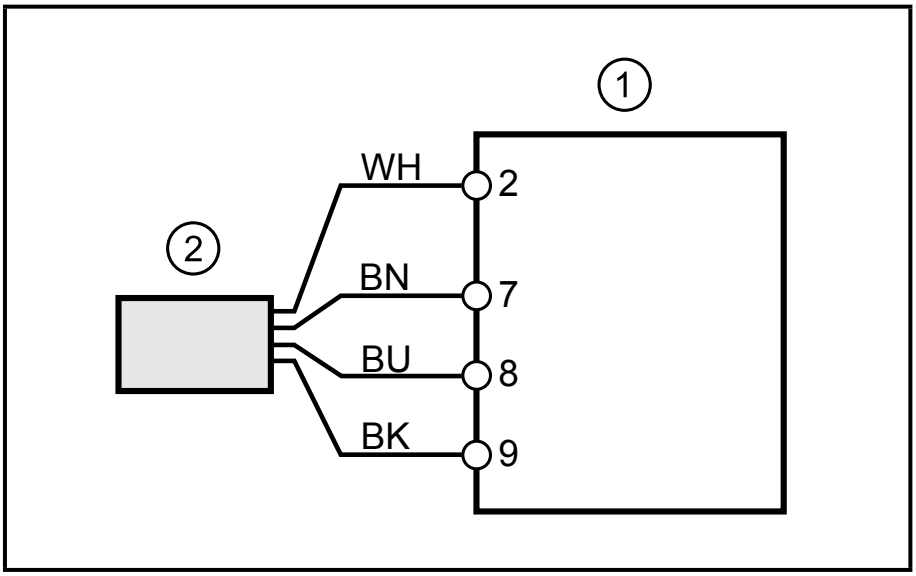
Check whether the classification (see "Marking" above and marking on the unit) is suitable for the application.

The flow sensors may only be connected to the specified switching amplifiers type VS4000 Exi type of protection intrinsic safety II (1) G [Ex ia Ga] IIC with the EC type examination certificate ZELM 11 ATEX 0466 / IEC Ex type examination certificate IECEx ZLM 11.0004. Take the connection values into account.

Connection to the following switching amplifiers is allowed:

SR307A

- Wiring



UK

1: SR307A (VS4000)
2: SP321A

- Process connections

SP321A = G½

- Permissible operating temperature range (A) at the mounting location and maximum temperature range of the medium (B):

Article no.	(A)	(B)
SP321A	-20 ... +70 °C	-20 ... +70 °C

- In principle, the type examination according to 94/9/EC only takes atmospheric conditions (0.8...1.1 bar and mixture temperatures of -20...+60 °C) into account. For pressures outside these ranges use must be assessed and approved by the user.
- Maximum effective internal inductance (Li) and capacitance (Ci) of the flow sensors (the values apply to potted cables):

Article no.	Connection: cable / length connector	Internal inductance (total) in µH	Internal capacitance (total) in nF
SP321A	cable / 6 m	16	4.2

Articles with cable / variants of cable units SP*2*A:
For variants of cable units with potted cables of a different length the values of the cable must be taken into account.
2 µH (Li) / 98 pF (Ci) per metre of potted cable.

*1) Thus the maximum effective internal inductance of the unit results in:
Li = 4 µH + cable length (in m) x 2 µH.

*2) Thus the maximum effective internal capacitance of the unit results in:
Ci = 3.6 nF + cable length (in m) X 0.095 nF.

Installation remarks / Installation

- Adhere to the relevant national regulations and provisions.
- The relevant installation regulations (e.g. EN 60079-14) must be adhered to.
- Avoid electrostatic charging on plastic parts and cables.
- Protect the units efficiently against damage.
- The cable must be firmly laid and protected efficiently against damage.
- Steps must be taken to ensure the equalisation of potential of metal parts (housing and fixing accessories).

Maintenance / Repair

- The unit must not be modified nor can it be repaired. In case of a fault please contact the manufacturer.
- If needed, you can obtain data sheets or EC type examination certificates from the manufacturer (see cover sheet / back).

Scale drawings and notes for the correct installation are given in the separately enclosed part of the operating instructions ("Operating instructions / Installation instructions").