



ifm electronic



Operating instructions

Safety related part IEC Ex

Flow sensors

SF*2*A

04/2011

706029/00

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Function and features

In conjunction with the control monitor VS2000 Exi 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

Order no.	Classification	Operating temperature range Ta
SF*2*A	Ex ia IIC T4 Gb	-20°C up to +70°

- The unit conforms to the requirements of the standards IEC60079-0:2007 and IEC60079-11: 2006.
- IEC type test certificate

IEC Ex BVS 06.0007

Installation / Set-up

Only qualified staff is allowed to mount, connect and set up the units.

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.

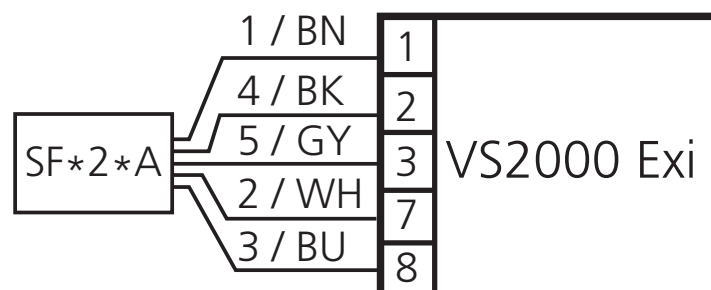
- The flow sensors are only allowed to be connected to the specified control monitors type VS2000 Exi type of protection intrinsic safety [Ex ia] IIC with the IEC Ex test certificate IECEx PTB 07.0004.

Take the connection values into account.

Connection to the following control monitors is allowed:

- SN2301
- SN2302
- SR2301

- Wiring:



- Process connections

SF12*A = M12	SF22*A = G $\frac{1}{4}$	SF32*A = G $\frac{1}{2}$
SF52*A = special connection ANSIB16.5 (1in; 300lb/sq.in)		
SF620A = clamp adapter		

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

Article no.	(A)	(B)
SF120A, SF121A, SF220A, SF221A SF320A, SF321A, SF521A, SF620A	-20 ... +70°C	-20 ... +70°C
SF223A, SF323A	-20 ... +70°C	+5 ... +70°C

- In principle, the type test according to IEC Ex standards only takes atmospheric conditions (0.8...1.1bar 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 μ H	Internal capacitance (total) in nF
SF120A	connector	2	0.4
SF121A	cable / 6m	6	1.2
SF220A	connector	2	0.4
SF221A	cable / 6m	6	1.2
SF223A	cable / 6m	6	1.2
SF320A	connector	2	0.4
SF321A	cable / 6m	6	1.2
SF323A	cable / 6m	6	1.2
SF521A	cable / 6m	6	1.2
SF620A	connector	2	0.4

Installation remarks / Installation

- Adhere to the relevant national regulations and provisions.
- The relevant installation regulations 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 material).

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 IEC Ex type test 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“)