

For installation in housing
 PL4... with 2 valve connections
 Screw terminals
 Direct mounting on standard actuators



General specifications

Switching function	2 x normally closed (NC)
Output type	NAMUR
Rated operating distance s_n	3 mm
Installation	flush mountable
Assured operating distance s_a	0 ... 2.43 mm
Actual operating distance s_r	2.6 ... 2.6 mm typ.
Reduction factor r_{Al}	0.5
Reduction factor r_{Cu}	0.4
Reduction factor r_{304}	1
Reduction factor r_{Si37}	1.2
Reduction factor r_{Brass}	0.63

Nominal ratings

Nominal voltage U_o	8.2 V (R_i approx. 1 k Ω)
Operating voltage U_B	5 ... 25 V
Switching frequency f	0 ... 100 Hz
Hysteresis H	typ. 5 %
Reverse polarity protection	reverse polarity protected
Current consumption	
Measuring plate not detected	≥ 3 mA
Measuring plate detected	≤ 1 mA
Time delay before availability t_v	≤ 1 ms
Switching state indicator	LED, yellow
Valve status indicator	LED, yellow

Ambient conditions

Ambient temperature	-25 ... 100 °C (-13 ... 212 °F)
Storage temperature	-40 ... 100 °C (-40 ... 212 °F)

Mechanical specifications

Connection (system side)	screw terminals
Core cross-section (system side)	up to 2.5 mm ²
Connection (valve side)	screw terminals
Core cross-section (valve side)	up to 2.5 mm ²
Housing material	PBT
Sensing face	PBT
Note	Installation in housing

General information

Use in the hazardous area	see instruction manuals
Category	1G; 2G

Compliance with standards and directives

Standard conformity	
NAMUR	EN 60947-5-6:2000
Electromagnetic compatibility	NE 21:2007

2016-11-08 – 047531_eng.xml

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Equipment protection level Ga

Instruction

Device category 1G

EC-Type Examination Certificate

CE marking

ATEX marking

Directive conformity

Standards

Appropriate type

Effective internal inductivity C_i

Effective internal inductance L_i

General

Ambient temperature

Installation, commissioning

Maintenance

Special conditions

Protection from mechanical danger

Electrostatic charge

Lead insertion

Manual electrical apparatus for hazardous areas

for use in hazardous areas with gas, vapour and mist

TÜV 99 ATEX 1479 X

CE 0102

II 1G Ex ia IIC T6...T1 Ga

94/9/EG

EN 60079-0:2012, EN 60079-11:2012, EN 60079-26:2007

Ignition protection "Intrinsic safety"

Use is restricted to the following stated conditions

PL.-F25.-N4...

≤ 100 nF A cable length of 10 m is considered.

The value is applicable for one sensor circuit.

≤ 100 μ H A cable length of 10 m is considered.

The value is applicable for one sensor circuit.

The apparatus has to be operated according to the appropriate data in the data sheet and in this instruction manual.

The EU-type examination certificate has to be observed. The special conditions must be adhered to!

The ATEX directive and therefore the EU-type examination certificates apply in general only to the use of electrical apparatus under atmospheric conditions.

The use in ambient temperatures of > 60 °C was tested with regard to hot surfaces by the mentioned certification authority.

If the equipment is not used under atmospheric conditions, a reduction of the permissible minimum ignition energies may have to be taken into consideration.

The temperature ranges, according to temperature class, are given in the EC-Type Examination Certificate. Note: Use the temperature table for category 1 !!! The 20 % reduction in accordance with EN 1127-1:2007 has already been accounted for in the temperature table for category 1.

Laws and/or regulations and standards governing the use or intended usage goal must be observed.

The intrinsic safety is only assured in connection with an appropriate related apparatus and according to the proof of intrinsic safety.

The associated apparatus must satisfy the requirements of category ia.

Due to the possible danger of ignition, which can arise due to faults and/or transient currents in the equipotential bonding system, galvanic isolation of the power supply and signal circuit is preferable. Associated apparatus without electrical isolation must only be used if the appropriate requirements of IEC 60079-14 are met.

The jumper, WJ, is detachable and must be completely removed to prevent contact with adjacent components.

No changes can be made to apparatus, which are operated in hazardous areas. Repairs to these apparatus are not possible.

Only changes specifically described in these operating instructions are allowed.

When used in the temperature range below -20 °C the sensor should be protected from knocks by the provision of an additional housing.

Information on electrostatic hazards can be found in the technical specification IEC/TS 60079-32-1. Avoid electrostatic charges that can cause electrostatic discharge when installing or operating the device.

The connection cables should either be fixed when laid and mechanically protected or installed in such a way, that a force of 30 N applied in the direction of the cable inlet for one hour, does not lead to any visible displacement of the cable connections, even though the cable sheathing is displaced, see also IEC 60079-11. Depending on the type of installation, a suitable cable in accordance with Type A oder B of IEC 60079-14, must be used.

Equipment protection level Gb

Instruction

Device category 2G

EC-Type Examination Certificate

CE marking

ATEX marking

Directive conformity

Standards

Appropriate type

Effective internal inductivity C_i

Effective internal inductance L_i

General

Maximum permissible ambient temperature T_{amb}

Installation, commissioning

Maintenance

Special conditions

Protection from mechanical danger

Electrostatic charge

Lead insertion

Manual electrical apparatus for hazardous areas

for use in hazardous areas with gas, vapour and mist

TÜV 99 ATEX 1479 X

CE 0102

II 1G Ex ia IIC T6...T1 Ga

94/9/EG

EN 60079-0:2012, EN 60079-11:2012

Ignition protection "Intrinsic safety"

Use is restricted to the following stated conditions

PL.-F25.-N4...

≤ 100 nF ; a cable length of 10 m is considered. The value is applicable for one sensor circuit.

≤ 100 μ H ; a cable length of 10 m is considered. The value is applicable for one sensor circuit.

The apparatus has to be operated according to the appropriate data in the data sheet and in this instruction manual. The EU-type examination certificate has to be observed. The special conditions must be adhered to!

The ATEX directive and therefore the EU-type examination certificates apply in general only to the use of electrical apparatus under atmospheric conditions.

The use in ambient temperatures of > 60 °C was tested with regard to hot surfaces by the mentioned certification authority.

If the equipment is not used under atmospheric conditions, a reduction of the permissible minimum ignition energies may have to be taken into consideration.

The temperature ranges, according to temperature class, are given in the EC-Type Examination Certificate.

Laws and/or regulations and standards governing the use or intended usage goal must be observed. The intrinsic safety is only assured in connection with an appropriate related apparatus and according to the proof of intrinsic safety. The jumper, WJ, is detachable and must be completely removed to prevent contact with adjacent components.

No changes can be made to apparatus, which are operated in hazardous areas. Repairs to these apparatus are not possible.

Only changes specifically described in these operating instructions are allowed.

When used in the temperature range below -20 °C the sensor should be protected from knocks by the provision of an additional housing.

Additional requirements for gas group IIC. Avoid electrostatic charges that can cause electrostatic discharge when installing or operating the device. Information on electrostatic hazards can be found in the technical specification IEC/TS 60079-32-1.

The connection cables should either be fixed when laid and mechanically protected or installed in such a way, that a force of 30 N applied in the direction of the cable inlet for one hour, does not lead to any visible displacement of the cable connections, even though the cable sheathing is displaced, see also IEC 60079-11. Depending on the type of installation, a suitable cable in accordance with Type A oder B of IEC 60079-14, must be used.

Equipment protection level Gc (nL)

General

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2016-11-08 – 047531_eng.xml

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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