

For installation in housing
 PL4... with 2 valve connections
 Screw terminals



General specifications

Switching element function	DC	Dual NC
Rated operating distance s_n	3 mm	
Installation	embeddable mountable	
Output polarity	NAMUR	
Assured operating distance s_a	0 ... 2.43 mm	
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 protected	reverse polarity protected	
Current consumption		
Measuring plate not detected	≥ 3 mA	
Measuring plate detected	≤ 1 mA	
Indication of the switching state	LED, yellow	
Valve status indication	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	

ATEX 1G

Instruction

Manual electrical apparatus for hazardous areas

Device category 1G

for use in hazardous areas with gas, vapour and mist

Directive conformity

94/9/EG

Standard conformity

EN 60079-0:2006, EN 60079-11:2007, EN 60079-26:2007

Ignition protection "Intrinsic safety"

Use is restricted to the following stated conditions

CE symbol

CE 0102

Ex-identification

II 1G Ex ia IIC T6

EC-Type Examination Certificate

TÜV 99 ATEX 1479 X

Appropriate type

PL.-F25.-N4...

Effective internal capacitance C_i

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

The value is applicable for the sensor circuit.

Effective internal inductance L_i

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

The value is applicable for the sensor circuit.

General

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

The EC-Type Examination Certificate has to be observed. The special conditions must be adhered to!

Directive 94/9/EG and hence also EC-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.

Highest permissible ambient temperature

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.

Installation, Commissioning

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.

Maintenance

Special conditions

Protection from mechanical danger

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

Electrostatic charging

When used in group IIB/IIC non-permissible electrostatic charges should be avoided on the plastic housing parts..

Lead insertion

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.

ATEX 2G

Instruction

Device category 2G

Directive conformity

Standard conformity

CE symbol

Ex-identification

EC-Type Examination Certificate

Appropriate type

Effective internal capacitance C_i

Effective internal inductance L_i

General

Highest permissible ambient temperature

Installation, Commissioning

Maintenance

Special conditions

Protection from mechanical danger

Electrostatic charging

Lead insertion

Manual electrical apparatus for hazardous areas

for use in hazardous areas with gas, vapour and mist
94/9/EG

EN 60079-0:2006, EN 60079-11:2007

Ignition protection "Intrinsic safety"

Use is restricted to the following stated conditions

CE 0102

Ex II 1G Ex ia IIC T6

TÜV 99 ATEX 1479 X

PL.-F25.-N4...

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

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

The apparatus has to be operated according to the appropriate data in the data sheet and in this instruction manual. The EC-Type Examination Certificate has to be observed. The special conditions must be adhered to!

Directive 94/9/EG and hence also EC-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.

When used in group IIC non-permissible electrostatic charges should be avoided on the plastic housing parts.

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.

ATEX 3G (nL)
General

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