CE
0102

Model Number

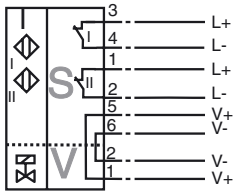
PL1-F25-N4-K

Features

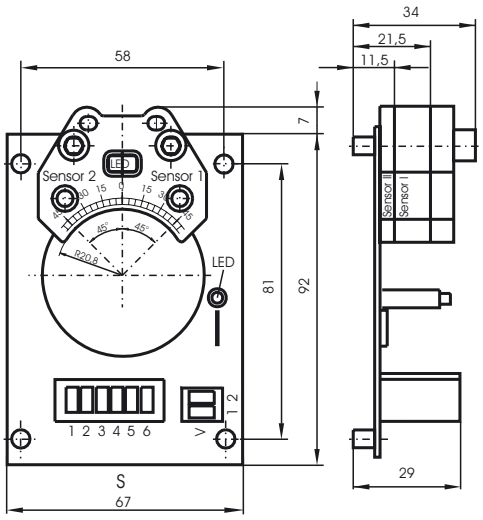
- **For installation in housing**
- **Pluggable cage clamp terminals**
- **PL1... with valve connection**
- **Valve LEDs disconnectable**

Connection

N4



Dimensions



Technical Data

General specifications		
Switching element function		DCDual Break function
Rated operating distance	s_n	3 mm
Installation		embeddable
Output polarity		NAMUR
Assured operating distance	s_a	0 ... 2.43 mm
Reduction factor r_{Al}		0.5
Reduction factor r_{V2A}		1
Reduction factor r_{St37}		1.2
Nominal ratings		
Nominal voltage	U_o	8 V
Operating voltage	U_B	5 ... 25 V
Switching frequency	f	0 ... 100 Hz
Hysteresis	H	typ. 5 %
Reverse polarity protection		protected against reverse polarity
Current consumption		
Measuring plate not detected		≥ 3 mA
Measuring plate detected		≤ 1 mA
No-load supply current	I_0	≤ 3 mA
Indication of the switching state		LED, yellow
Valve status indication		LED, yellow
Standard conformity		
EMC in accordance with		NE 21
Standards		DIN EN 60947-5-6 (NAMUR)
Ambient conditions		
Ambient temperature		-25 ... 100 °C (248 ... 373 K)
Storage temperature		-40 ... 100 °C (233 ... 373 K)
Mechanical specifications		
Connection (system side)		Cage clamp terminals
Core cross-section (system side)		up to 2.5 mm^2
Connection (valve side)		Cage clamp terminals
Core cross-section (valve side)		up to 2.5 mm^2
Housing material		PBT
General information		
Use in the hazardous area		see instruction manuals
Category		1G; 2G

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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 50014:1997, EN 50020:2002, EN 50284:1999 Ignition protection "Intrinsic safety" Use is restricted to the following stated conditions
CE symbol	CE 0102
Ex-identification	Ex II 1G EEx 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 µH 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 94/9EG 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.
Highest permissible ambient temperature	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 1127-1:1997 has already been accounted for in the temperature table for category 1.
Installation, Comissioning	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.
Maintenance	No changes can be made to apparatus, which are operated in hazardous areas. Repairs to these apparatus are not possible.
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.

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Pepperl+Fuchs Group www.pepperl-fuchs.com
USA: +1 330 486 0001 fa-info@us.pepperl-fuchs.com
Germany: +49 621 776-4411 fa-info@de.pepperl-fuchs.com
Singapore: +65 6779 9091 fa-info@sg.pepperl-fuchs.com

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ATEX 2G

Instruction	**Manual electrical apparatus for hazardous areas**
Device category 2G	for use in hazardous areas with gas, vapour and mist
Directive conformity	94/9/EG
Standard conformity	EN 50014:1997, EN 50020:2002 Ignition protection "Intrinsic safety" Use is restricted to the following stated conditions
CE symbol	CE 0102
Ex-identification	Ex II 1G EEx 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 µH ; 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 94/9EG 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.
Highest permissible ambient temperature	The temperature ranges, according to temperature class, are given in the EC-Type Examination Certificate.
Installation, Comissioning	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.
Maintenance	No changes can be made to apparatus, which are operated in hazardous areas. Repairs to these apparatus are not possible.
[Fett]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 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.

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