CE
0102

Model Number

PL2-F25-N4-K

Features

- **For installation in housing**
- **PL2... without valve connection**
- **ATEX & IECEX certifications**

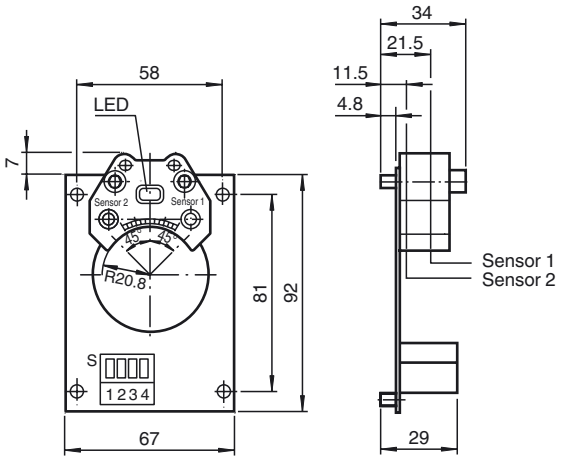
Accessories

BT32
Activator for F25 series
BT32XS
Activator for F25 series
BT32XAS
Activator for F25 series
BT33
Activator for F25 series
BT34
Activator for F25 series

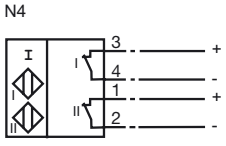
Technical Data

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	2.7 ... 3.3 mm
Reduction factor r_{Al}		0.52
Reduction factor r_{Cu}		0.43
Reduction factor r_{304}		0.86
Reduction factor r_{St37}		1
Reduction factor r_{Brass}		0.54
Output type		2-wire
Nominal ratings		
Nominal voltage	U_o	8.2 V (R_i approx. 1 kΩ)
Operating voltage	U_B	5 ... 25 V
Switching frequency	f	0 ... 100 Hz
Hysteresis	H	typ. 5 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		yes
Suitable for 2:1 technology		yes , Reverse polarity protection diode not required
Design data		
Current consumption		
Measuring plate not detected		≥ 3 mA at nominal voltage
Measuring plate detected		≤ 1 mA at nominal voltage
Time delay before availability	t_v	≤ 1 ms
Switching state indicator		LED, yellow
Functional safety related parameters		
$MTTF_d$		834 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %
Ambient conditions		
Ambient temperature		-25 ... 100 °C (-13 ... 212 °F)
Storage temperature		-40 ... 100 °C (-40 ... 212 °F)
Mechanical specifications		
Connection (system side)		Cage tension spring terminals
Core cross-section (system side)		up to 2.5 mm^2
Housing material		PBT
Sensing face		PBT
Mass		79 g
Tightening torque, fastening screws		0.3 Nm
General information		
Use in the hazardous area		see instruction manuals
Compliance with standards and directives		
Standard conformity		
NAMUR		EN 60947-5-6:2000 IEC 60947-5-6:1999
Electromagnetic compatibility		NE 21:2007
Standards		EN 60947-5-2:2007 EN 60947-5-2/A1:2012 IEC 60947-5-2:2007 IEC 60947-5-2 AMD 1:2012

Dimensions



Electrical Connection



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Data for application in connection with hazardous areas		
Equipment protection level		Ga , Gb , Gc (ic) , Mb
Equipment protection level Ga		
Type of protection		intrinsic safety
CE marking		CE 0102
Certificates		
Appropriate type		PL...-F25...-N4...
ATEX certificate		TÜV 99 ATEX 1479 X
ATEX marking		Ex II 1G Ex ia IIC T6...T1 Ga
Standards		EN 60079-0:2012+A11:2013 , EN 60079-11:2012
IECEx certificate		IECEx TUN 17.0021X
IECEx marking		Ex ia IIC T6...T1 Ga
Standards		IEC 60079-0:2011 , IEC 60079-11:2011
Effective internal capacitance	C_i	≤ 100 nF The value is applicable for one sensor circuit. A cable length of 10 m is considered.
Effective internal inductance	L_i	≤ 100 µH The value is applicable for one sensor circuit. A cable length of 10 m is considered.
Maximum permissible ambient temperature T_{amb}		Also observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values.
for ATEX		at U_i = 15 V , I_i = 25 mA , P_i = 34 mW , T6 : 45 °C (113 °F) T5 : 55 °C (131 °F) T4 : 85 °C (185 °F) T3 : 85 °C (185 °F) T2 : 85 °C (185 °F) T1 : 85 °C (185 °F) at U_i = 15 V , I_i = 25 mA , P_i = 64 mW , T6 : 45 °C (113 °F) T5 : 55 °C (131 °F) T4 : 85 °C (185 °F) T3 : 85 °C (185 °F) T2 : 85 °C (185 °F) T1 : 85 °C (185 °F) at U_i = 15 V , I_i = 52 mA , P_i = 169 mW , T6 : 45 °C (113 °F) T5 : 55 °C (131 °F) T4 : 85 °C (185 °F) T3 : 85 °C (185 °F) T2 : 85 °C (185 °F) T1 : 85 °C (185 °F)
for IECEx		at U_i = 15 V , I_i = 25 mA , P_i = 34 mW , T6 : 60 °C (140 °F) T5 : 75 °C (167 °F) T4 : 100 °C (212 °F) T3 : 100 °C (212 °F) T2 : 100 °C (212 °F) T1 : 100 °C (212 °F) at U_i = 15 V , I_i = 25 mA , P_i = 64 mW , T6 : 60 °C (140 °F) T5 : 75 °C (167 °F) T4 : 100 °C (212 °F) T3 : 100 °C (212 °F) T2 : 100 °C (212 °F) T1 : 100 °C (212 °F) at U_i = 15 V , I_i = 52 mA , P_i = 169 mW , T6 : 60 °C (140 °F) T5 : 75 °C (167 °F) T4 : 95 °C (203 °F) T3 : 95 °C (203 °F) T2 : 95 °C (203 °F) T1 : 95 °C (203 °F)

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Equipment protection level Gb		
Type of protection		intrinsic safety
CE marking		CE 0102
Certificates		
Appropriate type		PL...-F25...-N4...
ATEX certificate		TÜV 99 ATEX 1479 X
ATEX marking		Ex II 1G Ex ia IIC T6…T1 Ga
Standards		EN 60079-0:2012+A11:2013 , EN 60079-11:2012
IECEx certificate		IECEx TUN 17.0021X
IECEx marking		Ex ia IIC T6...T1 Ga
Standards		IEC 60079-0:2011 , IEC 60079-11:2011
Effective internal capacitance	C_i	≤ 100 nF The value is applicable for one sensor circuit. A cable length of 10 m is considered.
Effective internal inductance	L_i	≤ 100 µH The value is applicable for one sensor circuit. A cable length of 10 m is considered.
Maximum permissible ambient temperature T_{amb}		Also observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values. at U_i = 15 V , I_i = 25 mA , P_i = 34 mW , T6 : 60 °C (140 °F) T5 : 75 °C (167 °F) T4 : 100 °C (212 °F) T3 : 100 °C (212 °F) T2 : 100 °C (212 °F) T1 : 100 °C (212 °F) at U_i = 15 V , I_i = 25 mA , P_i = 64 mW , T6 : 60 °C (140 °F) T5 : 75 °C (167 °F) T4 : 100 °C (212 °F) T3 : 100 °C (212 °F) T2 : 100 °C (212 °F) T1 : 100 °C (212 °F) at U_i = 15 V , I_i = 52 mA , P_i = 169 mW , T6 : 60 °C (140 °F) T5 : 75 °C (167 °F) T4 : 95 °C (203 °F) T3 : 95 °C (203 °F) T2 : 95 °C (203 °F) T1 : 95 °C (203 °F)
Equipment protection level Gc (ic)		
Type of protection		intrinsic safety
CE marking		CE 0102
Certificates		
ATEX certificate		PF 13 CERT 2895 X
ATEX marking		Ex II 3G Ex ic IIC T6…T1 Gc
Standards		EN 60079-0:2012+A11:2013 , EN 60079-11:2012
Effective internal capacitance	C_i	≤ 100 nF The value is applicable for one sensor circuit. A cable length of 10 m is considered.
Effective internal inductance	L_i	≤ 100 µH The value is applicable for one sensor circuit. A cable length of 10 m is considered.
Maximum permissible ambient temperature T_{amb}		Also observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values. at U_i = 20 V , I_i = 25 mA , P_i = 34 mW , T6 : 60 °C (140 °F) T5 : 75 °C (167 °F) T4 : 100 °C (212 °F) T3 : 100 °C (212 °F) T2 : 100 °C (212 °F) T1 : 100 °C (212 °F) at U_i = 20 V , I_i = 25 mA , P_i = 64 mW , T6 : 60 °C (140 °F) T5 : 75 °C (167 °F) T4 : 100 °C (212 °F) T3 : 100 °C (212 °F) T2 : 100 °C (212 °F) T1 : 100 °C (212 °F) at U_i = 20 V , I_i = 52 mA , P_i = 169 mW , T6 : 60 °C (140 °F) T5 : 75 °C (167 °F) T4 : 95 °C (203 °F) T3 : 95 °C (203 °F) T2 : 95 °C (203 °F) T1 : 95 °C (203 °F)
Equipment protection level Mb		
Type of protection		intrinsic safety
CE marking		CE 0102
Certificates		
Appropriate type		PL...-F25...-N4...
IECEx certificate		IECEx TUN 17.0021X
IECEx marking		Ex ia I Mb

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Standards		IEC 60079-0:2011 , IEC 60079-11:2011
Effective internal capacitance	C_i	≤ 100 nF The value is applicable for one sensor circuit. A cable length of 10 m is considered.
Effective internal inductance	L_i	≤ 100 µH The value is applicable for one sensor circuit. A cable length of 10 m is considered.
Maximum permissible ambient temperature T_{amb}		Also observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values. at U_i = 15 V , I_i = 25 mA , P_i = 34 mW : 100 °C (212 °F) at U_i = 15 V , I_i = 25 mA , P_i = 64 mW : 100 °C (212 °F) at U_i = 15 V , I_i = 52 mA , P_i = 169 mW : 95 °C (203 °F)

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