Technical Data Capacitive Proximity Switch



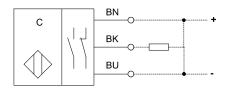
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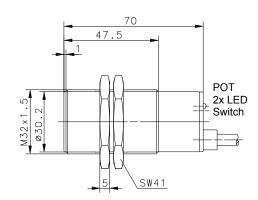
Series M32

Description

KCB-M32DP/015-KLP6

Wiring Diagram





Article number

Switch diagram for programming



Identifying characteristics in accordance with EN 60947-5-2

Electrical da

Rated operating distance S_n 15 mm flushMounting45 mm x 45 mm, t=1 mm, material: steel; connected to earthStandard target45 mm x 45 mm, t=1 mm, material: steel; connected to earthEffective operating distance S_r Assured operating distance S_a Switching element functionDC Push-pull circuit, N.O. / N.C. programmableRepeat accuracyROperating voltagefPatter operating voltagefPatter operational voltageUa10 %12 – 48 V DCOperational voltageUaVoltage dropUaVoltage dropUaVoltage dropUaVoltage dropDC 12Rated operational currentImImmuno perational currentImMated operational currentImMonda supply currentImSoltage appendicurentImMonda supply currentImSoltage appendicurentImMonda supply currentImSoltage appendicurentImSoltage appendicurentImMinimum operational currentImIm1 mACCOff-state currentImSoltage apply currentImSoltage apply currentImShort-circuit protectionyes, with permutation of +, -, output no damage occursTime delay before availabilitytv<SoltageYes, Soltage				
Standard target45 mm x 45 mm, t=1 mm, material: steel; connected to earthEffective operating distance S_r $3 - 15$ mm, adjustable with potentiometer (POT); turn right = high sensitivity, turn left = low sensitivityAssured operating distance S_a $0 \le S_a \le 0.8 x S_r$ Switching element functionDC Push-pull circuit, N.O. / N.C. programmableRepeat accuracyR $\le 10 \%$ Differential travel (hysteresis)H $\le 20 \%$ Frequency of operating cyclesf $\approx 25 Hz$ Rated operational voltageUe $12 - 48 V DC$ Operational voltage rangeUa $10 - 60 V DC$ Rated insulation voltageUimp $500 V$ Voltage dropUd $\le 3 V DC$ Utilization categoryDC 12Rated operational currentIm1 mA DCOff-state currentIr $< 0.5 mA DC$ Minimum operational currentIm1 mA DCOff-state currentIr $< 20 mA DC$ Switching elementIr, $< 0.5 mA DC$ Switching elementIr $< 20 manent overload and s.c.p.$	Rated operating distance	Sn	15 mm	
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Frequency of operating cyclesf $\approx 25 \text{ Hz}$ Rated operational voltageUe $12 - 48 \text{ V DC}$ Operational voltage rangeUB $10 - 60 \text{ V DC}$ Rated insulation voltageUi 75 V DC Rated impulse withstand voltageUimp 500 V Voltage dropUd $\leq 3 \text{ V DC}$ Utilization categoryDC 12Rated operational currentIe 400 mA DC Minimum operational currentIm1 mA DCOff-state currentIr $\leq 0,5 \text{ mA DC}$ No-load supply currentIo $\leq 20 \text{ mA DC}$ Switching elementpermanent overload and s.c.p.Short-circuit protectionpulsedFalse polarity protectionyes, with permutation of +, -, output no damage occurs		R	≤ 10 %	
Rated operational voltage U_e $12 - 48 \vee DC$ Operational voltage range U_B $10 - 60 \vee DC$ Rated insulation voltage U_i $75 \vee DC$ Rated impulse withstand voltage U_{imp} $500 \vee$ Voltage drop U_d $\leq 3 \vee DC$ Utilization categoryDC 12Rated operational current I_e 400 mA DC Minimum operational current I_m 1 mA DC Off-state current I_r $\leq 0,5 \text{ mA DC}$ No-load supply current I_o $\leq 20 \text{ mA DC}$ Switching elementpermanent overload and s.c.p.Short-circuit protectionpulsedFalse polarity protectionyes, with permutation of +, -, output no damage occurs	Differential travel (hysteresis)	Н	≤ 20 %	
$\begin{array}{cccc} \mbox{Operational voltage range} & U_B & 10-60 \ V \ DC \\ \mbox{Rated insulation voltage} & U_i & 75 \ V \ DC \\ \mbox{Rated impulse withstand voltage} & U_{imp} & 500 \ V \\ \mbox{Voltage drop} & U_d & \leq 3 \ V \ DC \\ \mbox{Voltage drop} & DC \ 12 \\ \mbox{Rated operational current} & I_e & 400 \ mbox{ mA DC} \\ \mbox{Minimum operational current} & I_m & 1 \ mbox{ mA DC} \\ \mbox{Off-state current} & I_r & \leq 0,5 \ mbox{ mA DC} \\ \mbox{No-load supply current} & I_o & \leq 20 \ mbox{ mA DC} \\ \mbox{No-load supply current} & I_o & \leq 20 \ mbox{ mA DC} \\ \mbox{Switching element} & permanent overload and s.c.p. \\ \mbox{Short-circuit protection} & pulsed \\ \mbox{False polarity protection} & yes, with permutation of +, -, output no damage occurs} \end{array}$		f		
Rated insulation voltage U_i 75 V DCRated impulse withstand voltage U_{imp} 500 VVoltage drop U_d ≤ 3 V DCUtilization categoryDC 12Rated operational current I_e 400 mA DCMinimum operational current I_m 1 mA DCOff-state current I_r $\leq 0,5$ mA DCNo-load supply current I_o ≤ 20 mA DCSwitching elementpermanent overload and s.c.p.Short-circuit protectionpulsedFalse polarity protectionyes, with permutation of +, -, output no damage occurs	Rated operational voltage	U _e	12 – 48 V DC	
Rated impulse withstand voltage U_{imp} 500 VVoltage drop U_d $\leq 3 \lor DC$ Utilization categoryDC 12Rated operational current I_e 400 mA DCMinimum operational current I_m 1 mA DCOff-state current I_r $\leq 0,5$ mA DCNo-load supply current I_o ≤ 20 mA DCSwitching elementpermanent overload and s.c.p.Short-circuit protectionpulsedFalse polarity protectionyes, with permutation of +, -, output no damage occurs		U _B		
Voltage drop U_d $\leq 3 \ V \ DC$ Utilization categoryDC 12Rated operational current I_e 400 mA DCMinimum operational current I_m 1 mA DCOff-state current I_r $\leq 0,5 \ mA \ DC$ No-load supply current I_o $\leq 20 \ mA \ DC$ Switching element I_o $\leq 20 \ mA \ DC$ Short-circuit protectionpermanent overload and s.c.p.False polarity protectionyes, with permutation of +, -, output no damage occurs		Ui	75 V DC	
$\begin{array}{llllllllllllllllllllllllllllllllllll$		U _{imp}	500 V	
Rated operational current I_e 400 mA DCMinimum operational current I_m 1 mA DCOff-state current I_r $\leq 0,5$ mA DCNo-load supply current I_o ≤ 20 mA DCSwitching elementpermanent overload and s.c.p.Short-circuit protectionpulsedFalse polarity protectionyes, with permutation of +, -, output no damage occurs		U _d		
$\begin{tabular}{lllllllllllllllllllllllllllllllllll$	Utilization category		DC 12	
Off-state current I_r $\leq 0,5$ mA DCNo-load supply current I_o ≤ 20 mA DCSwitching elementpermanent overload and s.c.p.Short-circuit protectionpulsedFalse polarity protectionyes, with permutation of +, -, output no damage occurs	Rated operational current	le	400 mA DC	
No-load supply current I₀ ≤ 20 mA DC Switching element permanent overload and s.c.p. Short-circuit protection pulsed False polarity protection yes, with permutation of +, -, output no damage occurs		l _m	1 mA DC	
Switching elementpermanent overload and s.c.p.Short-circuit protectionpulsedFalse polarity protectionyes, with permutation of +, -, output no damage occurs	Off-state current	l _r		
Short-circuit protectionpulsedFalse polarity protectionyes, with permutation of +, -, output no damage occurs		l _o	≤ 20 mA DC	
False polarity protection yes, with permutation of +, -, output no damage occurs			• •	
Time delay before availability t _v ≤ 50ms				
	Time delay before availability	t _v	≤ 50ms	

This document will not become the contractual basis; the details included herein do not constitute any descriptions of expected conditions, so that warranties/claims for defects on account of possible variations of the actual qualities from the qualities described herein are explicitly excluded. All rights reserved. Specifications subject to change without notice!

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Technical Data Capacitive Proximity Switch



Electromagnetic compatibility (EMC)

Electromagnetic field test	IEC 61000-4-3	3V/m, 801000MHz
Electrostatic discharge test	IEC 61000-4-2	4kV CD, 8kV AD
Electrical fast transient immunity test (Burst)	IEC 61000-4-4	1kV / coupling clamp
Impulse voltage withstand ability (Surge)	IEC 61000-4-5	500V, 1,2/50μs @ Ri = 42Ω

Mechanical Data

Enclosure Front cap End cap Ambient air temperature Type of protection Pollution degree

Indication

Termination type For attachment

EU Conformity

Brass, nickel plated PTFE PA 6.6 -25 °C ... +70 °C IP65 3 (Pollution of the active zone can cause impairments of the operating distances.) Output ON: LED = yellow Power ON: LED = green Cable 3 x 0,5 mm² x 6 m 2 x hexagon nut (brass, nickel plated)

acc. to Directive 2004 / 108 / EC

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