

# Plastic bodied limit switch

## Series IN65

Description <b>IN65-E2 KNK</b>	Article number <b>6083000266</b>
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**Operating symbol**

13 - 14  
 23 - 24

**Operating diagram**

[mm] 13-14 23-24 [N]  
 0 6  
 4,4  
 10,1 19

ON OFF  
 Tolerance:  
 Operating point ± 0,45 mm;  
 Operating force ± 10 %

Fixed positioning with e.g. fixing screw M5 according to the standard DIN EN ISO 4762.

	m/s	0,1	0,5	1	2	5
A	-	-	-	-	-	-
B	40°	40°	30°	20°	10°	

Electrical Data		
Rated insulation voltage	$U_i$	400 V
Rated impulse withstand voltage	$U_{imp}$	4 kV
Rated operational voltage	$U_e$	240 V AC / 24 V DC
Rated supply frequency AC		50 / 60 Hz
Overvoltage category		II acc. EN 60947-1 annex H table H1
Conv. thermal current	$I_{the}$	5 A
Minimum current		1 mA
Reliability		acc. EN 60947-5-4 @ 24 V DC, 10 mA, 1 mA, $U_{kd}$ 2,4 V DC
Utilization category		AC 15, $U_e/I_e$ 240 V / 3 A DC 13, $U_e/I_e$ 24 V / 4 A
Short-circuit protective device		Fuse 4 A gG
Rated conditional short-circuit current		400 A
Max. contact resistance		25 mOhm (unused)
Electrical life		on request

Mechanical data	
Enclosure	Thermoplastic, glass fibre reinforced (UL 94-V0)
Cover	Thermoplastic, glass fibre reinforced (UL 94-V0)
Actuator	Lever with roller (Thermoplastic)
Actuating force	$F_B$ 10 N $\leq F_B \leq$ 30 N
Operating temperature	-30 °C ... +75 °C
Storage temperature	-40 °C ... +80 °C
Protection type	IP66 / IP67 acc. EN 60529
Pollution degree (built-in switch)	3
Contact material	silver
Device Class (built-in switch)	Category E (MC3+CC2+SC1) acc. EN 60947-1 annex Q
Contact type	2 N.O. (Form Zb)
Operating rate	$V$ 0,06 m/min $\leq V \leq$ 30 m/min
Bounce duration	ms The value depends on the operating rate.
Switchover time	ms The value depends on the operating rate.
Switching frequency	$\leq$ 60 / min.
Mechanical life	10 x 10 <sup>6</sup> operating cycles
Mission time	$\leq$ 20 years
Connection	4 screw connections (M3)
Conductor cross-sections	Solid or Litz wire with ferrules 0,34 mm <sup>2</sup> - 1,5 mm <sup>2</sup> ; AWG 22-16
Cable entrance	1 x M20 x1,5
Weight	$\approx$ 0,08 kg
Installation position	operator definable

Actuation
<p>The actuating device is preferably started from 1 side.                      By lifting the clamp the actuation assembly can be rotated in 45° increments such that 8 actuation directions are possible.                      The actuation assembly is to be again fastened to the housing by lowering the clamp.</p>

ID for safety engineering
B10d N.C. 20 x 10 <sup>6</sup> cycles (check acc. to DIN EN 60947-5-1)
B10d N.O. 1 x 10 <sup>6</sup> cycles (contact with reduced power for consumers with resistive load)

Standards
VDE 0660 T100, DIN EN 60947-1, IEC 60947-1
VDE 0660 T200, DIN EN 60947-5-1, IEC 60947-5-1
VDE 0660 T211, DIN EN 60947-5-4, IEC 60947-5-4
UL 60947-1, CAN/CSA-22.2 No. 60947-1-13
UL 60947-5-1, CAN/CSA-C22.2 No. 60947-5-1-14
DIN EN ISO 13849-1
DIN EN ISO 13849-2
UL 508
EN 81

EU Conformity
acc. to directive 2014/35/EU (Low-Voltage-Directive)

Approvals	
	DGUV (AC 15, $U_e/I_e$ 240 V / 1,5 A; DC 13, $U_e/I_e$ 24 V / 1,5 A)
	CCC (AC 15, $U_e/I_e$ 240 V / 1,5 A; DC 13, $U_e/I_e$ 24 V / 1,5 A)
	cCSA <sub>US</sub> B300, 240Vac 1.5A G.P., 24Vdc 1.5A R. Enclosure Type 4X
	TÜV

Notes	
The degree of protection (IP code) specified applies solely to a property closed cover and the use of an equivalent cable gland with adequate cable.	