

# Plastic bodied limit switch

## Series IN65

Description <b>IN65-A2Z RM KV 0.1</b>	Article number <b>6183000429</b>
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**Operating symbol**

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

**Operating diagram**

[mm]	11-12	21-22	[N]
0	■	□	4
1,1	□	□	
1,9	□	□	
6	□	□	17

ON
  OFF

Tolerance:  
 Operating point ± 0,25 mm;  
 Direct opening action + 0,25 mm  
 Operating force ± 10 %

Cable connected (see Notes)

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

Electrical Data (applies to switch without cable)		
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
Utilization category		AC 15, $U_e/I_e$ 240 V / 3 A DC 13, $U_e/I_e$ 24 V / 1,5 A
Direct opening action	⊖	acc. IEC/EN 60947-5-1, annex K; direct opening force: 23 N
Short-circuit protective device		Fuse 4 A gG
Rated conditional short-circuit current		400 A
Max. contact resistance		25 mOhm (unused)
Protection class	□	II, totally insulated

<b>Mechanical data</b> (applies to switch without cable)		
Enclosure		Thermoplastic, glass fibre reinforced (UL 94-V0)
Cover		Thermoplastic, glass fibre reinforced (UL 94-V0)
Actuator		Roller (steel)
Actuating force	$F_B$	$10\text{ N} \leq F_B \leq 30\text{ N}$
Operating temperature		$-30\text{ °C} \dots +75\text{ °C}$
Storage temperature		$-40\text{ °C} \dots +80\text{ °C}$
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.C. (Form Zb)
Operating rate	$V$	$0,06\text{ m/min} \leq V \leq 30\text{ m/min}$
Bounce duration	ms	< 3 ms
Switchover time	ms	< 8 ms
Switching frequency		$\leq 60 / \text{min.}$
Mechanical life		$10 \times 10^6$ operating cycles
Mission time		$\leq 20$ years
Connection		4 screw connections (M3)
Conductor cross-sections		Solid or Litz wire with ferrules $0,34\text{ mm}^2 - 1,5\text{ mm}^2$ ; AWG 22-16
Conductor cross-sections		Solid $\leq 1,5\text{ mm}^2$ or Litz wire with ferrules $\leq 1,5\text{ mm}^2$
Cable entrance		1 x M20 x1,5 (see Notes)
Weight		$\approx 0,08\text{ kg}$
Installation position		operator definable

<b>Actuation</b>
<p>The actuating device is preferably started from 2 sides.                      By lifting the clamp the actuation assembly can be rotated in <math>45^\circ</math> increments such that 8 actuation directions are possible.                      The actuation assembly is to be again fastened to the housing by lowering the clamp.</p>

<b>ID for safety engineering</b>	
B10d N.C.	$20 \times 10^6$ cycles
B10d N.O.	$1 \times 10^6$ cycles

<b>Standards</b>
DIN EN 60947-5-1
UL 508 / CSA C22.2 No.14
DIN EN ISO 13849-1
EN81-20
EN81-50

<b>EU Conformity</b>
acc. to directive 2006/42/EC (Safety-of-Machinery-Directive)

**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.

Wire the switch with the following cable:

- Cable outlet through a cable gland
- Cable (2x): LiF9YH-11YH 4 x 0.34 mm<sup>2</sup>, outer sheath PUR UL, black
- Socket: M12x1, 4-pole (A-coding)
- Plug: M12x1, 4-pin (A-coding)
- Pin assignment:
  - PIN (socket) 1 to contact (switch) 21
  - PIN (socket) 2 to contact (switch) 11
  - PIN (socket) 3 to PIN (plug) 3
  - PIN (socket) 4 to PIN (plug) 4
  - PIN (plug) 1 to contact (switch) 22
  - PIN (plug) 2 to contact (switch) 12