

# Plastic bodied limit switch Series IN65

Description **IN65-A2Z HK M12**

Article number **6183000328**

**Operating symbol**

(1) 11 — 12 (2)

(3) 21 — 22 (4)

**Plug**

**Operating diagram**

[mm]	11-12	21-22	[N]
0			4
1,3			
2,3			
7,7			17

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

**Tolerance:**  
 Operating point ± 0,30 mm;  
 Direct opening action + 0,30 mm  
 Operating force ± 10 %

ON
  OFF

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

Electrical Data		
Rated insulation voltage	$U_i$	250 V
Rated impulse withstand voltage	$U_{imp}$	2,5 kV
Rated operational voltage	$U_e$	240 V AC
Rated supply frequency AC		50 / 60 Hz
Overvoltage category		II acc. EN 60947-1 annex H table H1
Conv. thermal current	$I_{the}$	4 A
Minimum current		1 mA
Reliability		1 Mio. 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
Direct opening action		acc. IEC/EN 60947-5-1, annex K; direct opening force: 29 N
Short-circuit protective device		Fuse 4 A gG
Rated conditional short-circuit current		400 A
Max. contact resistance		25 mOhm (unused)

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	$F_B$	$10 \text{ N} \leq F_B \leq 30 \text{ N}$
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.C. (Form Zb)
Isolating distance		4 mm (2x2 mm)
Operating rate	V	$0,06 \text{ m/min} \leq V \leq 30 \text{ m/min}$
Bounce duration	ms	The value depends on the operating rate.
Switchover time	ms	The value depends on the operating rate.
Switching frequency		$\leq 60 / \text{min.}$
Mechanical life		$10 \times 10^6$ operating cycles
Mission time		$\leq 20$ years
Connection		Connector M12x1, A-coded
Conductor cross-sections		Solid or Litz wire with ferrules $0,34 \text{ mm}^2 - 1,5 \text{ mm}^2$ ; AWG 22-16
Cable entrance		1 x M20 x1,5
Weight		$\approx 0,08 \text{ kg}$
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.	$20 \times 10^6$ cycles
B10d N.O.	$1 \times 10^6$ cycles

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

EU Conformity	
	2006/42/EC (Machinery Directive)

Approvals	
	DGUV (AC 15, Ue/Ie 240 V / 1,5 A; DC 13, Ue/Ie 24 V / 1,5 A)
	CCC (AC 15, Ue/Ie 240 V / 1,5 A; DC 13, Ue/Ie 24 V / 1,5 A)
	CCSAUS B300, 240Vac 1.5A G.P., 24Vdc 1.5A R. Enclosure Type 4X
	TÜV SÜD (AC 15, Ue/Ie 240 V / 1,5 A; DC 13, Ue/Ie 24 V / 1,5 A)

Notes	
<p>The degree of protection specified (IP code) applies only to a properly closed cover and the use of an equivalent connector.                      The connector and the cable (fix or flexible mounted) must at least be suitable for the described ambient air temperatures.                      The connector must not be connected or disconnected when voltage is applied.                      The mechanical life of the connector is 100 connection cycles.                      Suitable connector and cable must be used to meet approval requirements.</p>	