

# Plastic bodied limit switch Series I81

Description <b>I81-U1Z DGKK</b>	Article number <b>6083000268</b>
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**Operating symbol**

11 — 12 Direct opening action only at appropriate actuating travel over device  
23 — 24

**Operating diagram**  
(R = Latch; F @ 40°, 0,1 m/s)

[mm]	11-12	23-24	[N]
0			0,3
R 1,6			5,1
1,8			
3,4			2,2
4,8			2,4
11,8			1,9

ON     OFF
   
 Tolerance:
   
 Operating point ± 0,55 mm;
   
 Direct opening action + 0,55 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
Utilization category		AC 15, $U_e/I_e$ 240 V / 3 A DC 13, $U_e/I_e$ 24 V / 4 A
Direct opening action	⊖	acc. IEC/EN 60947-5-1, annex K
Short-circuit protective device		Fuse 4 A gG
Rated conditional short-circuit current		400 A
Max. contact resistance		25 mOhm (unused)

<b>Mechanical data</b>	
Enclosure	Thermoplastic, glass fibre reinforced (UL 94-V0)
Cover	Thermoplastic, glass fibre reinforced (UL 94-V0)
Actuator	Lever with roller (Thermoplastic)
Reset facility	pull blue RESET - button
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	1 N.C. (Form Zb), 1 N.O.
Isolating distance	4 mm (2x2 mm)
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	1 x 10 <sup>5</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	$\approx$ 0,12 kg
Installation position	operator definable

<b>Actuation</b>
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.

<b>ID for safety engineering</b>	
B10d N.C.	2 x 10 <sup>5</sup> cycles
B10d N.O.	1 x 10 <sup>5</sup> cycles

<b>Standards</b>
VDE 0660 T200, DIN EN 60947-5-1, IEC 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)

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

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.