

# Metal bodied limit switch

## Series MN78

Description <b>MN78-11 AVK</b>	Article number <b>6087000074</b>
--------------------------------	----------------------------------

**Operating symbol**

11 — 12  
23 — 24

Dimensions:  $\varnothing 25$ , 24.6, 7, 2, 16-51.5, 17.6, max. 159.2, 60.6, 8, 30.9, 16, 60, 77.5, 17.5, 30, 44.5, 5.3, M20x1.5, 30, 42.5,  $\varnothing 5.3$ .

**Operating diagram**

Angle [°]	11-12 [Ncm]	23-24 [Ncm]
0	4,5	4,5
18,5	10,5	10,5
37,5	13,5	13,5
80	20,5	20,5

ON  
 OFF

Tolerance:  
 Operating point  $\pm 4,5^\circ$   
 Operating torque  $\pm 20\%$

	m/s	0,1	0,5	1	2	5
A		45°	45°	45°	40°	30°
B		45°	45°	45°	40°	30°

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 / 1,5 A
Short-circuit protective device		Fuse 4 A gG
Rated conditional short-circuit current		400 A
Protection class		I

Mechanical data	
Enclosure	Die-cast aluminium
Cover	Sheet aluminium
Actuator	Metal lever with plastic roller / lever in 15 ° increments adjustable
Operating temperature	-30 °C ... +75 °C
Storage temperature	-40 °C ... +80 °C
Protection type	IP66 / IP67 acc. EN 60529, Type 4X
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., 1 N.O.
Bounce duration	The value depends on the operating rate
Switchover time	The value depends on the operating rate
Switching frequency	≤ 60 / min.
Mechanical life	15 x 10 <sup>6</sup> operating cycles
Mission time	≤20 years
Connection	4 screw connections (M3)
Earth bolt	1 x M3,5
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	≈ 0,25 kg
Installation position	operator definable

Actuation
The actuating device is preferably started from 2 sides. The actuation assembly can be rotated in 45° increments such that 16 actuation directions are possible.

Standards
DIN EN 60947-5-1
UL 508 / CSA C22.2 No.14

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

Approvals
CCC
cUL <sub>US</sub>

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.