

Metal bodied limit switch

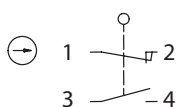
Series MN78

Description **MN78-V11 04**

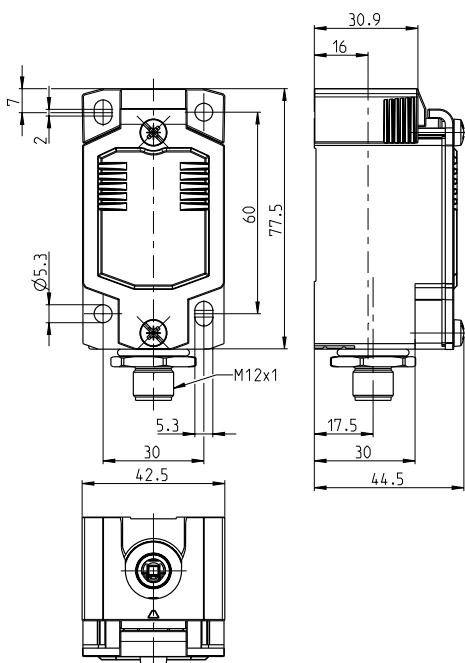
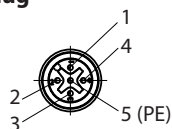
Article number **6087000120**

Enclosure with built-in switches without actuating device


Operating symbol



Plug



Electrical Data

| | | |
|---|---|---|
| Rated insulation voltage | U_i | 63 V |
| Rated impulse withstand voltage | U_{imp} | 1,5 kV |
| Rated operational voltage | U_e | 60 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} | 3 A |
| Minimum current | | 1 mA |
| Utilization category | | AC 15, U_e/I_e 60 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 |
| 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 |
| Actuating force | F_{bmin} F_{\ominus} | 14 N + Force of the actuating device 20 N + Force of the actuating device |
| Operating temperature | | -30 °C ... +75 °C |
| Storage temperature | | -40 °C ... +80 °C |
| Protection type | | IP66 / IP67 acc. EN 60529, Type 4X only with mounted actuating device |
| 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. |
| Operating rate | V | $0,06 \text{ m/min} \leq V \leq 30 \text{ m/min}$ |
| Bounce duration | | The value depends on the operating rate |
| Switchover time | | The value depends on the operating rate |
| Switching frequency | | $\leq 60 / \text{min.}$ |
| Mechanical life | | depending on the operating device up to 30×10^6 operating cycles |
| Mission time | | ≤ 20 years |
| Connection | | Plug M12x1, 5-pole, A-coded |
| Earth bolt | | 1 x M3,5 |
| Weight | | $\approx 0,18 \text{ kg}$ |
| Installation position | | operator definable |

| ID for safety engineering | | |
|---------------------------|--|-------------------------|
| B10d N.C. | | 20×10^6 cycles |
| B10d N.O. | | 1×10^6 cycles |

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

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

| Approvals | | |
|-----------|--|-------------------|
| | | CCC |
| | | cUL _{US} |

Notes

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.

The information on the switching travel can be found in the data sheets of the actuator, as these depend on the actuator used.

Approvals / properties applies only to the fully assembled device.