## Plastic bodied limit switch

## Series I81-modular system

Description 181-A2Z M12 Article number 6083000324

## Operating symbol

Enclosure with built-in switches without actuating device


| Electrical Data |  |  |
| :---: | :---: | :---: |
| Rated insulation voltage | $\mathrm{U}_{1}$ | 250 V |
| Rated impulse withstand voltage | $\mathrm{U}_{\text {imp }}$ | 2,5 kV |
| Rated operational voltage | $\mathrm{U}_{\text {e }}$ | 240 V AC |
| Rated supply frequency AC |  | $50 / 60 \mathrm{~Hz}$ |
| Overvoltage category |  | II acc. EN 60947-1 annex H table H1 |
| Conv. thermal current | $\mathrm{t}_{\text {the }}$ | 4 A |
| Minimum current |  | 1 mA |
| Utilization category |  | AC 15, Ue/le $240 \mathrm{~V} / 3 \mathrm{~A}$ |
| Direct opening action | $\Theta$ | 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) |
| Reset facility |  | pull blue RESET - button |
| Actuating force | $\mathrm{F}_{\mathrm{B}}$ | $10 \mathrm{~N} \leq \mathrm{F}_{\mathrm{B}} \leq 30 \mathrm{~N}$ |
| Operating temperature |  | $-30^{\circ} \mathrm{C} . . .+75^{\circ} \mathrm{C}$ |
| Storage temperature |  | $-40^{\circ} \mathrm{C} . . .880^{\circ} \mathrm{C}$ |
| 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 ( $2 \times 2 \mathrm{~mm}$ ) |
| Operating rate | V | $0,06 \mathrm{~m} / \mathrm{min} \leq \mathrm{V} \leq 30 \mathrm{~m} / \mathrm{min}$ |
| Bounce duration | ms | The value depends on the operating rate. |
| Switchover time | ms | The value depends on the operating rate. |
| Switching frequency |  | $\leq 60 / \mathrm{min}$. |
| Mechanical life |  | $1 \times 10^{5}$ operating cycles |
| Mission time |  | $\leq 20$ years |
| Connection |  | Connector M12x1, A-coded |
| Conductor cross-sections |  | Solid or Litz wire with ferrules $0,34 \mathrm{~mm}^{2}-1,5 \mathrm{~mm}^{2}$; AWG 22-16 |
| Cable entrance |  | $1 \times \mathrm{M} 20 \times 1,5$ |
| Weight |  | $\approx 0,06 \mathrm{~kg}$ |
| Installation position |  | operator definable |


| ID for safety engineering |  |
| :--- | :--- |
| B10d N.C. | $2 \times 10^{5}$ cycles |
| B10d N.O. | $1 \times 10^{5} \mathrm{cycles}$ |


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

## EC Conformity

acc. to directive 2006/42/EC (Safety-of-Machinery-Directive)

## Approvals

CCC (AC 15, U/ $\left./ \mathrm{I}_{\mathrm{e}} 240 \mathrm{~V} / 1,5 \mathrm{~A} ; \mathrm{DC} 13, \mathrm{U}_{\mathrm{e}} / \mathrm{l}_{\mathrm{e}} 24 \mathrm{~V} / 1,5 \mathrm{~A}\right)$
${ }_{\text {c CSAus }}$ B300, 240Vac 1.5A G.P., 24Vdc 1.5A R. Enclosure Type 4X

## 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.

