



10513E00

I.S. Relay Module Type 9172

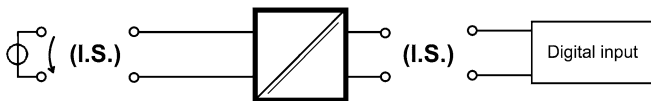
- For digital signal and control circuits
- Intrinsically safe inputs or outputs [EEx ia] IIC
- 1 and 2 channels
- Galvanic isolation between inputs and outputs
- Installation possible in Zone 2 and Div. 2
- Can be used up to SIL 2 (IEC 61508)



Basic function: binary input / output, 1 and 2 channels

The I.S. Relay Modules are used for isolation of intrinsically safe and none intrinsically safe signal and control circuits.

Depending on the version either the control circuit or the signal circuit is intrinsically safe.



10516E02

Zone 2

| Selection table | | | | |
|--------------------------------|----------|------------------------------------|--|--------------------------|
| Version | Channels | Input | Output / channel | Ordering code |
| I.S. Relay Module Type 9172 | 1 | I.S. signal | 1 changeover (250 V / 4 A) | 9172/10-11-00. |
| | | none I.S. signal | I.S., 1 changeover (125 V / 4 A ; 30 V / 4 A) | 9172/11-11-00. |
| | 2 | I.S. signal | 1 changeover (250 V / 4 A) | 9172/20-11-00. |
| | | none I.S. signal | I.S., 1 changeover (125 V / 4 A ; 30 V / 4 A) | 9172/21-11-00. |
| Add. to ordering code | | | | |
| | | Screw terminal | | 9172/...-...-...s |
| | | Spring clamp terminal | | 9172/...-...-...k |
| | | Insulation displacement connectors | | 9172/...-...-...q |

| Technical Data | | | | |
|----------------------------------|---|---|---|---------|
| Certificates | Europe (CENELEC): BVS 04 ATEX E 097 X | | | |
| Other certificates | USA (FM, UL), Canada (CSA), Brazil (UL do Brasil), Russia (VNIIEF) | | | |
| Explosion protection | ⊕ II (1) GD [EEx ia] IIC/IIB and ⊕ II 3 G EEx nAC II T4 | | | |
| Installation | in Zone 2, Div. 2 and in the safe area *) | | | |
| | *) in Zone 2 for types 9172/0-11-00 max. contact load 125 V / 4 A | | | |
| Safe maximum values (CENELEC) | Inputs | 9172/0-11-00. | | |
| | Max. voltage U_i | 30 V | | |
| | Max. current I_i | 150 mA | | |
| | Max. power P | 1.3 W | | |
| | Internal capacitance C_i and inductance L_i | negligible | | |
| Insulation voltage U_m | 253 V AC | | | |
| | Outputs for connection of intrinsically safe circuits with: | 9172/1-11-00. | | |
| | Max. voltage U_i | 125 V AC | 125 V DC | 60 V DC |
| | Max. current I_i | 4 A | 0.25 A | 0.8 A |
| | Internal capacitance C_i and inductance L_i | negligible | | |
| | Insulation voltage U_m | 253 V AC | | 30 V DC |
| | Further informations and combinations of values, see certification. | | | |
| Power supply | without | | | |
| Supply | 0.4 W | | | |
| max. power losses per channel | | | | |
| Input | | 9172/0-...-... | 9172/1-...-... | |
| Input signal | | I.S. | none I.S. | |
| Switching signal | | 12 V ... 30V | 12 V ... 31.2 V | |
| Current consumption | | 20 mA at 12 V 12 mA at 24 V ... 30 V | 20 mA at 12 V 12 mA at 24 V ... 31.2 V | |

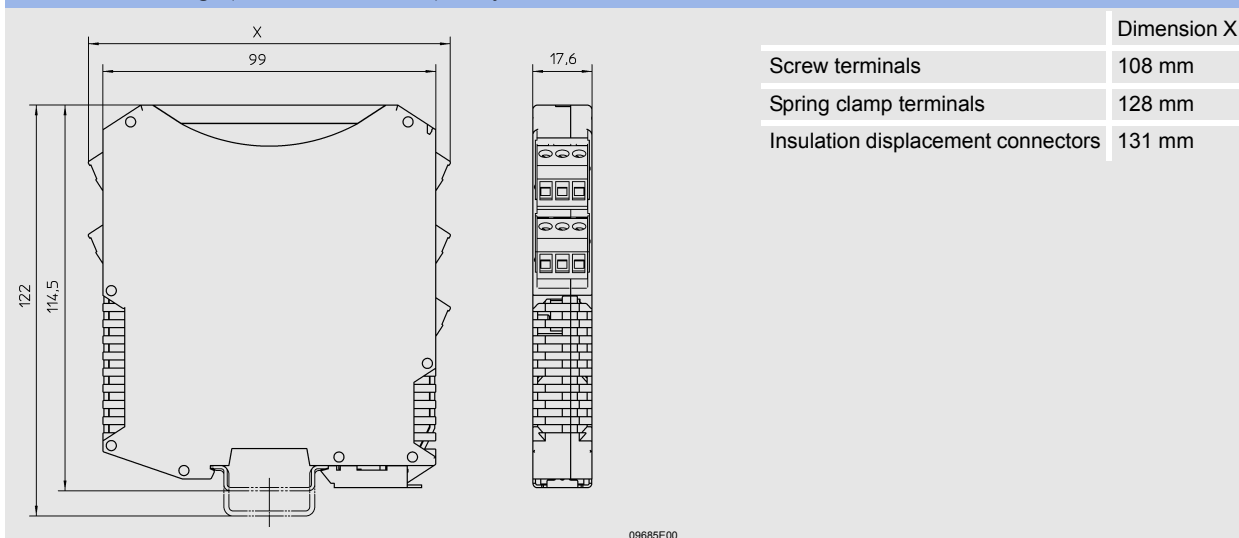


| Technical Data | | | |
|---|--|---|---|
| Output | | 9172/0-...-... | 9172/1-...-... |
| | Versions minimum load maximum load DC *) maximum load AC *) maximum switching power Electrical life time resistive load Mechanical life time maximum switching frequency Switching delay ON / OFF Switching delay OFF / ON | 1 changeover 5 V / 5 mA 220 V / 0.1 A 125 V / 1 A 60 V / 0.8 A 30 V / 4 A 250 V / 4 A / cos φ > 0.7 25 W / 100 VA ≥ 1 x 10 ⁵ cycles ≥ 1 x 10 ⁷ cycles ≤ 15 Hz ≤ 10 ms ≤ 10 ms | I.S., 1 changeover 5 V / 5 mA 125 V / 0.25 A 60 V / 0.8 A 30 V / 4 A 125 V / 4 A / cos φ > 0.7 50 W / 100 VA ≥ 1 x 10 ⁵ cycles ≥ 1 x 10 ⁷ cycles ≤ 15 Hz ≤ 10 ms ≤ 10 ms |
| *) for Zone 2 installation max. 125 V AC / DC | | | |
| Galvanic isolation | Test voltage under regulations EN 50020 | 9172/0-...-... | 9172/1-...-... |
| | Input to output Inputs each other Outputs each other | 1.5 kV AC 500 V AC 500 V AC | 1.5 kV AC 350 V AC 500 V AC |
| Electromagnetic compatibility | Tested under the following standards and regulations: EN 61326 (IEC/EN 61000-4-1...6 and 11; EN 55022 Class B); NAMUR NE 21 (IEC/EN 61000-4-1...6, 8 and 11; EN 55022 Class B) | | |
| Ambient conditions | Ambient temperature Storage temperature Relative humidity (no condensation) | - 20 °C ... + 60 °C / + 70 °C (watch instructions) - 40 °C ... + 80 °C ≤ 95 % | |
| Connection diagram | Type 9172/0 | Hazardous area | Safe area |
| | | | |
| Connection diagram | Type 9172/1 | Hazardous area | Safe area |
| | | | |



Technical Data

| Mechanical data | Screw terminals | Spring clamp terminals | Insulation displacement connectors |
|--|---|------------------------------|------------------------------------|
| Connection one wire | | | |
| - rigid | 0.2 ... 2.5 mm ² | 0.2 ... 2.5 mm ² | -- |
| - flexible | 0.2 ... 2.5 mm ² | 0.2 ... 2.5 mm ² | 0.5 ... 1 mm ² |
| - flexible, end covering sleeves (without / with plastic sleeving) | 0.25 ... 2.5 mm ² | 0.25 ... 2.5 mm ² | -- |
| Connection two wires | | | |
| - rigid | 0.2 ... 1 mm ² | -- | -- |
| - flexible | 0.2 ... 1.5 mm ² | -- | -- |
| - flexible, end covering sleeves | 0.25 ... 1 mm ² | 0.5 ... 1 mm ² | -- |
| Weight | approx. 160 g | | |
| Mounting type | on DIN rail acc. to EN 50022 (NS35/15; NS35/7.5) or in pac-Carrier horizontal or vertical | | |
| Mounting position | IP 30 | | |
| Casing protection class | IP 20 | | |
| Terminal protection class | PA 6.6 | | |
| Casing material | V0 | | |
| Fire protecting class (UL-94) | | | |

Dimension drawings (all dimensions in mm) - subject to alterations


We reserve the right to make alterations to the technical data, weights, dimensions, designs and products available without notice. The illustrations cannot be considered binding.