GRUNER
SWITCH TO INNOVATIONS

## Technical data sheet

# Relay 722

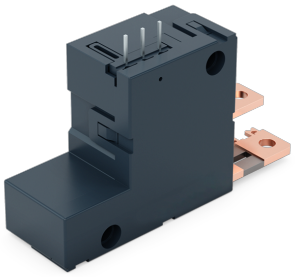
## Description

**For new developments we recommend to use relay type 723 or 727.**

Polarized latching relay for 120 A

Using the H-armature principle the polarised latching relays are noted for their high resistance to shocks and vibrations. They are always in a defined switching position and therefore there is no loss of information in case of power failure. The advantage of polarised latching relays is the pulse driven operation of some milliseconds, coil heating can be neglected. Optionally the relay can also be set by manual operation.

The relays are designed and manufactured in accordance to international standards of IEC 61810 part 1 as well as they meet the UC3 requirements for Supply Control Switches as of IEC 62052 part 31.



## Technical data

| | | |
|---|---|---|
| **Coil data** | Rated voltage | 6 – 48 VDC |
| | Rated power | 6.0 W |
| | Operating power to set | 3.6 W |
| | Pulse to set | 20 ms |
| | Action time | < 15 ms |
| **Contact data** | Max. contact arrangement | 1 NO |
| | Contact material | $AgSnO_2$ |
| | Max. switching power | 30000 VA |
| | Max. switching voltage | 440 VAC |
| | Rated switching current | 120 A |
| | Mechanical life | $10^6$ |
| **Insulation** | Creepage and clearance distance coil - contact | 8.0 mm |
| | Test voltage coil - contact | V eff. |
| | Test voltage contact- contact | V eff. |
| | Test voltage open contact | V eff. |
| | Dielectric strength coil - contact | 12 kV / 1,2 / 50 µs |



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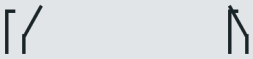
## Technical data

| | | |
|---|---|---|
| **General data** | Ambient temperature | -40 … +85 °C |
| | Weight | 85 g |
| | Conform to | VDE, UL (E151314-x-3), CSA, SEV, SEMKO |

## Standard windings

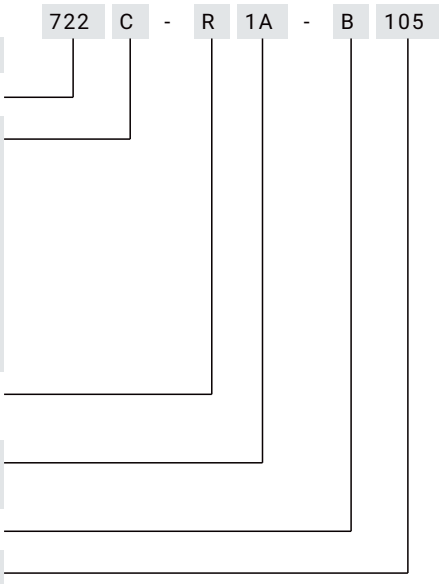
| **Standard winding No.** Double winding | **Nominal coil voltage** (VDC) | **Operating voltageof the coil** U1 - U2 (VDC) | **Coil resistance** (Ohm) | **Tolerance** (± %) |
|---|---|---|---|---|
| 6R5 | 6 | 4,8 - 7,8 | 2 x 6,5 | 10 |
| 025 | 12 | 9,6 - 15,6 | 2 x 25 | 10 |
| 105 | 24 | 19,2 - 31,2 | 2 x 105 | 10 |
| 430 | 48 | 38,4 - 62,4 | 2 x 430 | 10 |

**Contact position**



The relay can also be used with a single winding (lower operating power to set) if the middle pin of coil is not used. Furthermore, the magnet's polarization can also be adjusted to meet the customer's specific drive circuit requirements.

## Identification




| **Identifcation code** | |
|---|---|
| Type | 722 |
| Terminal configuration | C = see dim. drawing<br>CR = see dim. drawing<br>D = see dim. drawing<br>DR = see dim. drawing<br>E = see dim. drawing<br>F = see dim. drawing<br>G = see dim. drawing<br>V = see dim. drawing<br>VR = see dim. drawing |
| Contact material | R = $AgSnO_2$ |
| Contact arrangement | 1A = 1 normally open |
| Terminal-grid | B / H |
| Winding No. | see coil table |

**Advice for soldering:**

The relay is dust-protected. Take care to avoid that flux medium and lead-tin resp. their evaporations enter into the relay, i.e. the printed circuit board must not be flooded.

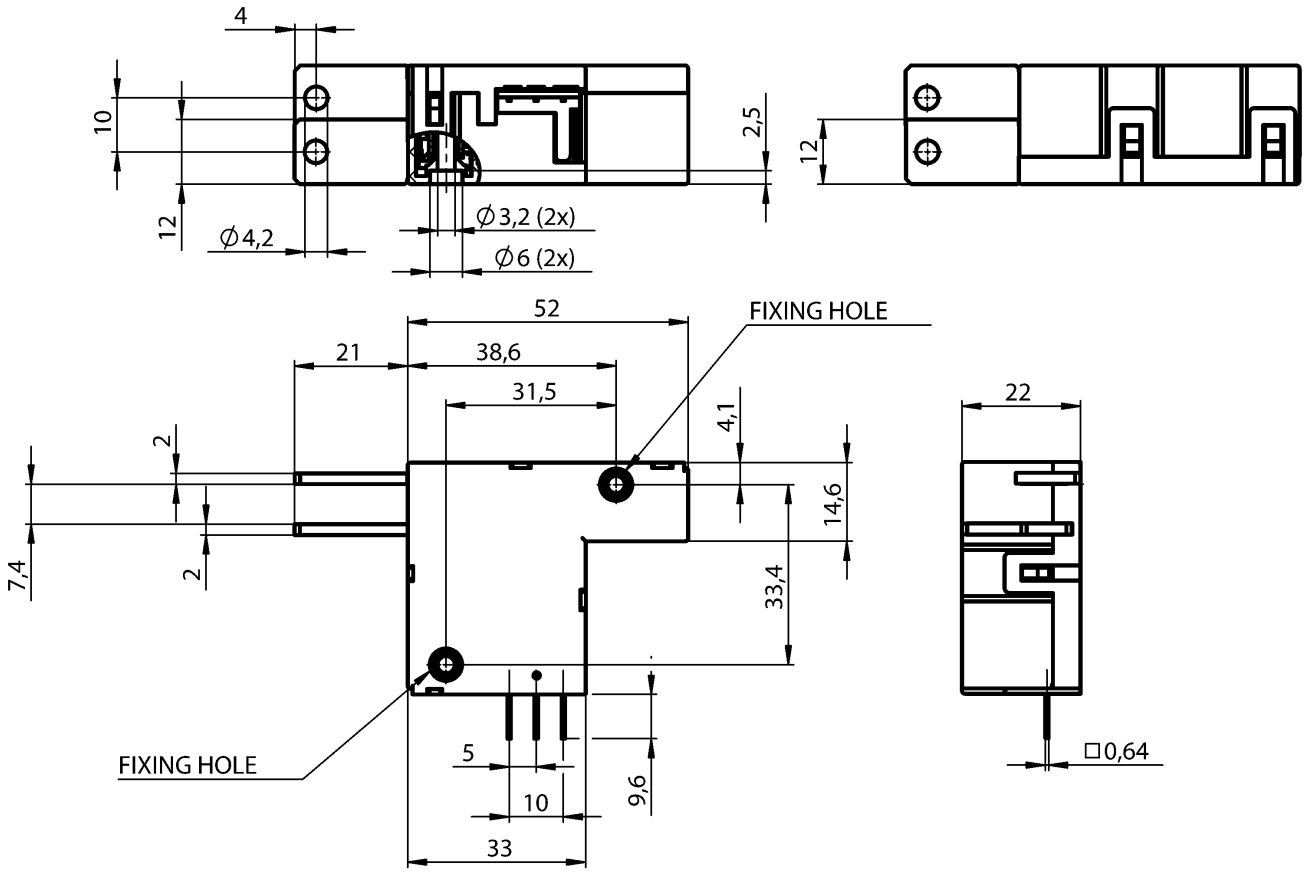
Extended storage could impact solderabilty due to increased oxidation on the terminals.

**Shunt:**

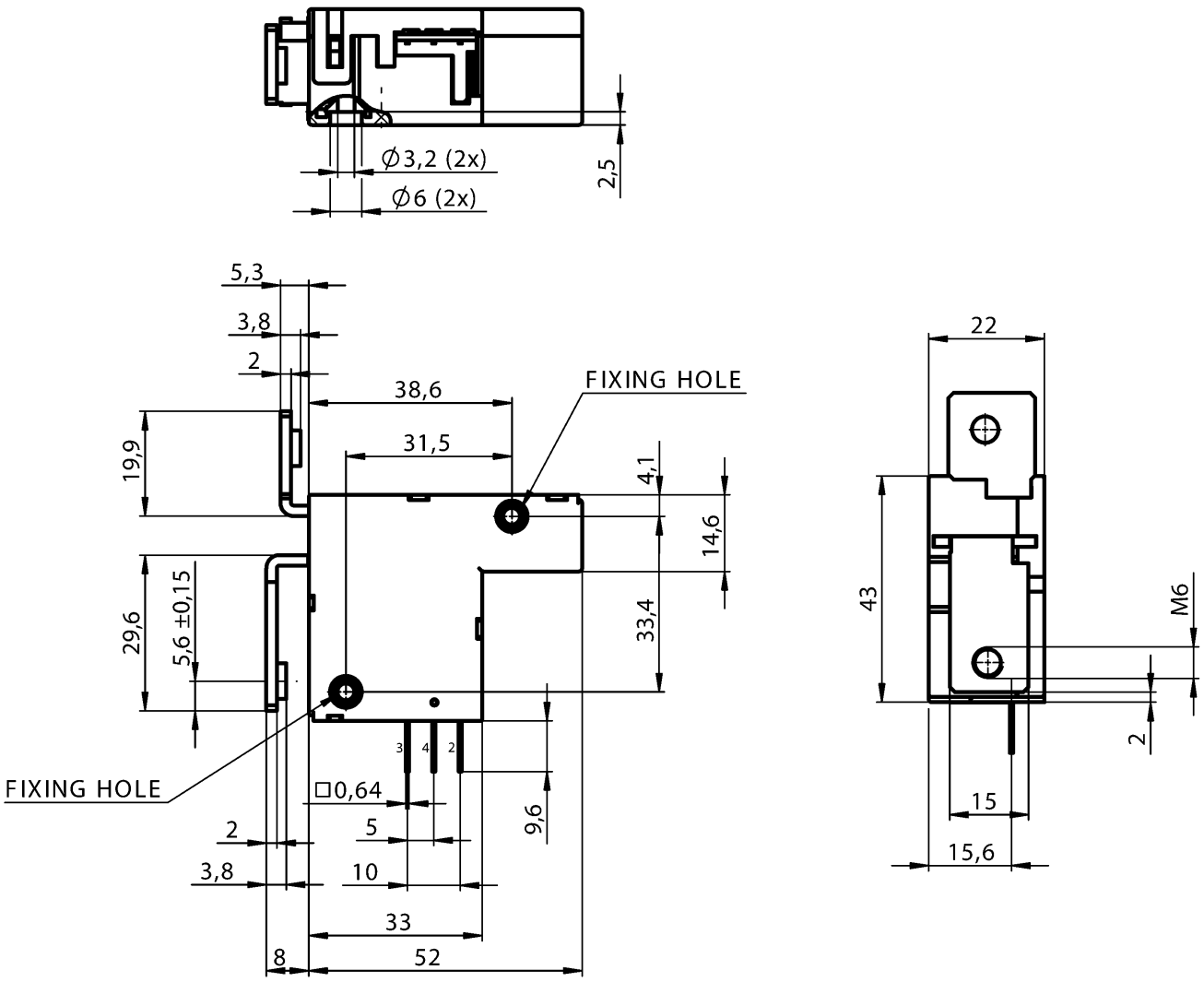
The Shunt is used to measure the energy consumed and, as it is integrated in the relay, can be utilised for load shedding in “Energy Management”. Two connectors are located on the terminal close to the shunt and only carry the current sensor signal. A third connector is the reference signal for the electronics and is located on the supply side of the terminal to avoid RF sensitivity.

The power terminals can be modified according to customer specification.

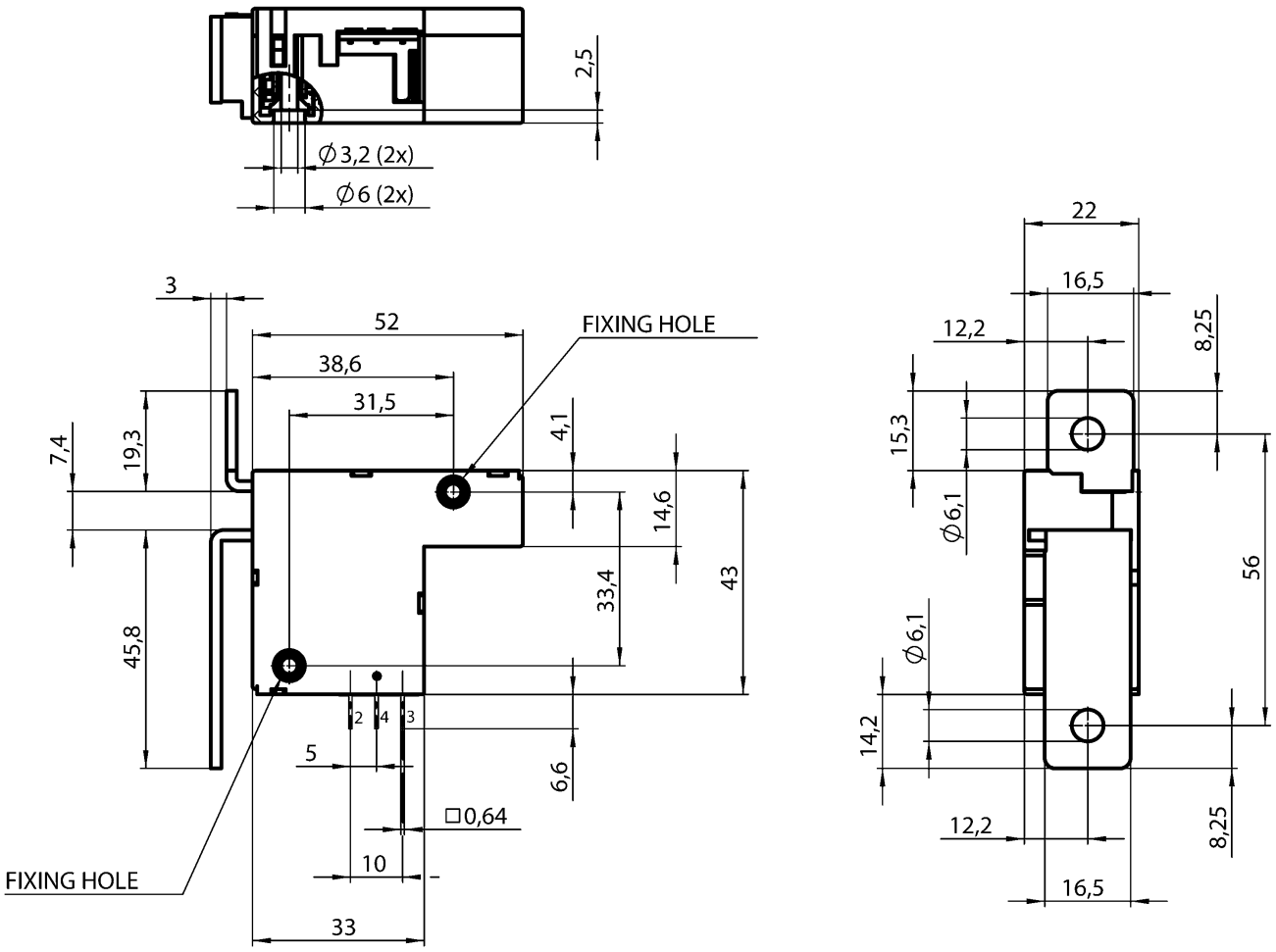
## Technical drawing



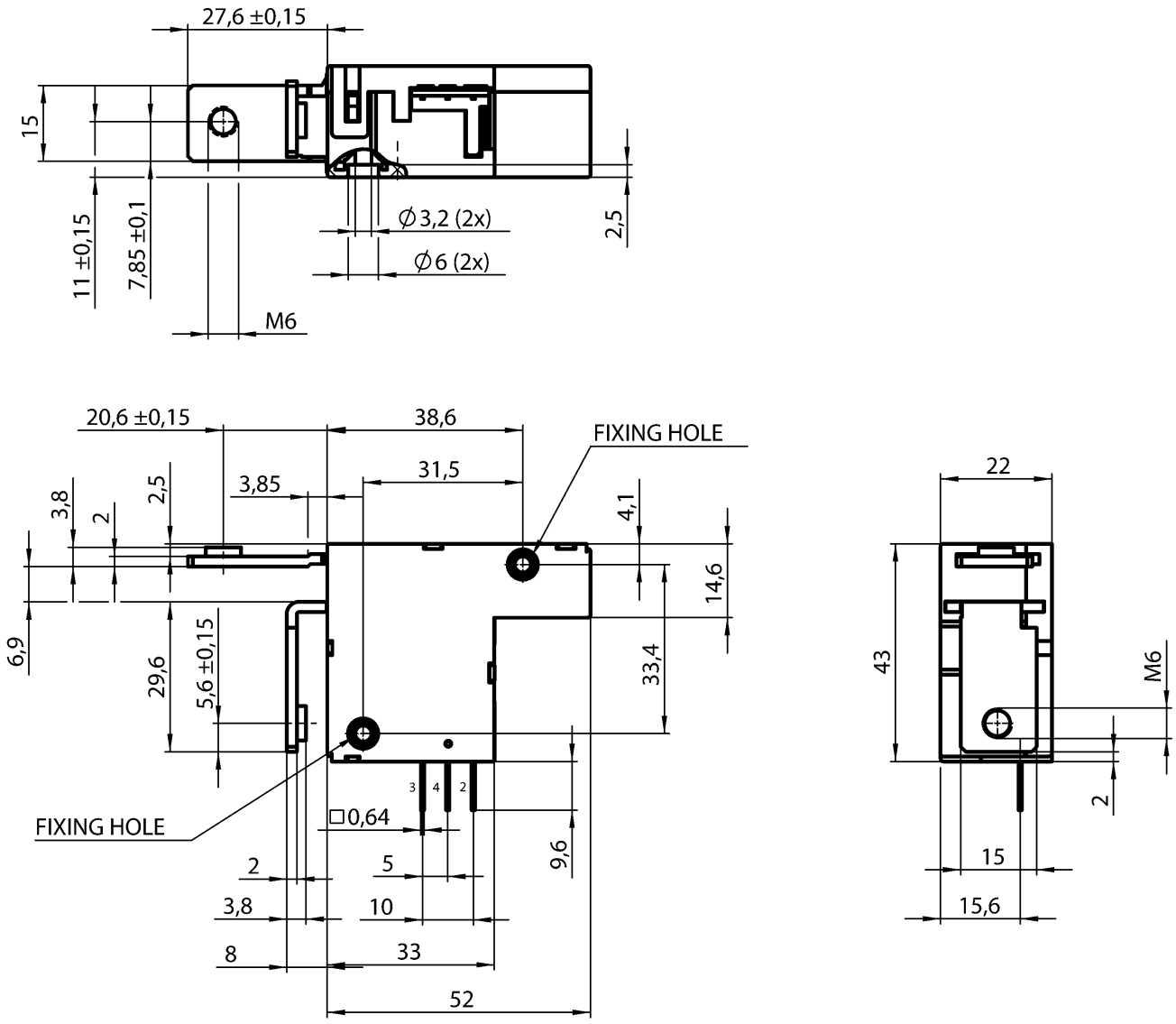

722 C



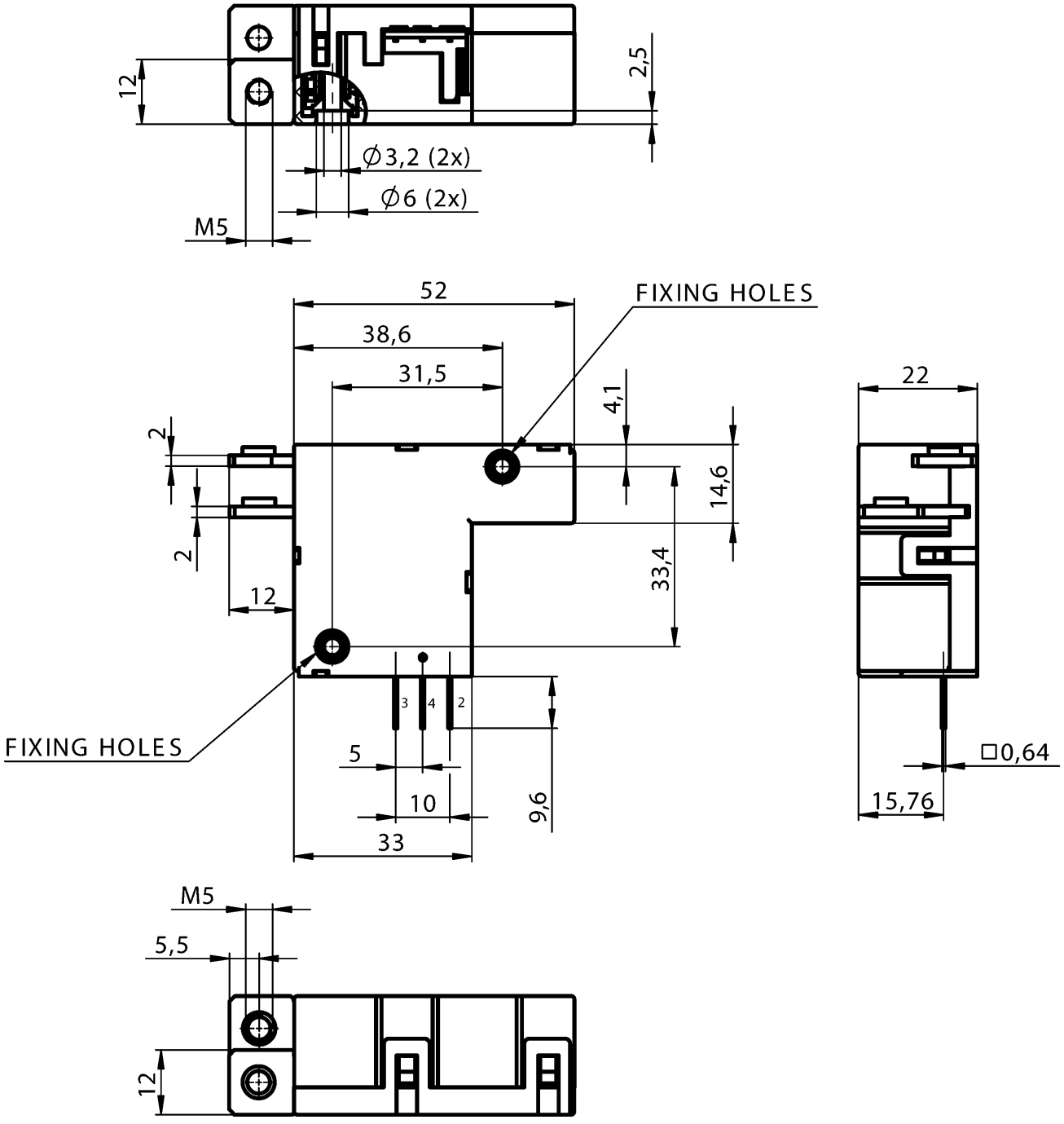

722 D



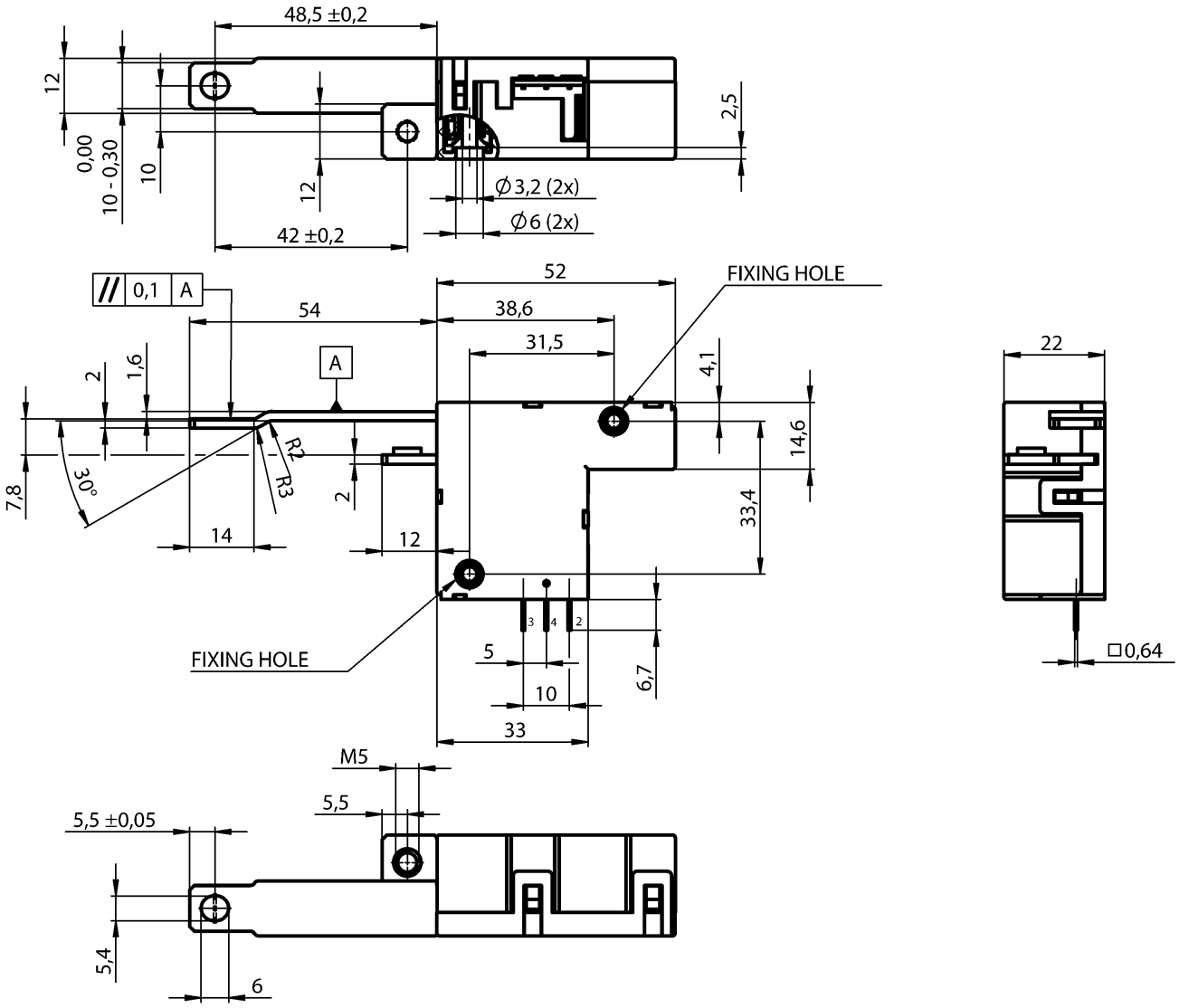

722 E



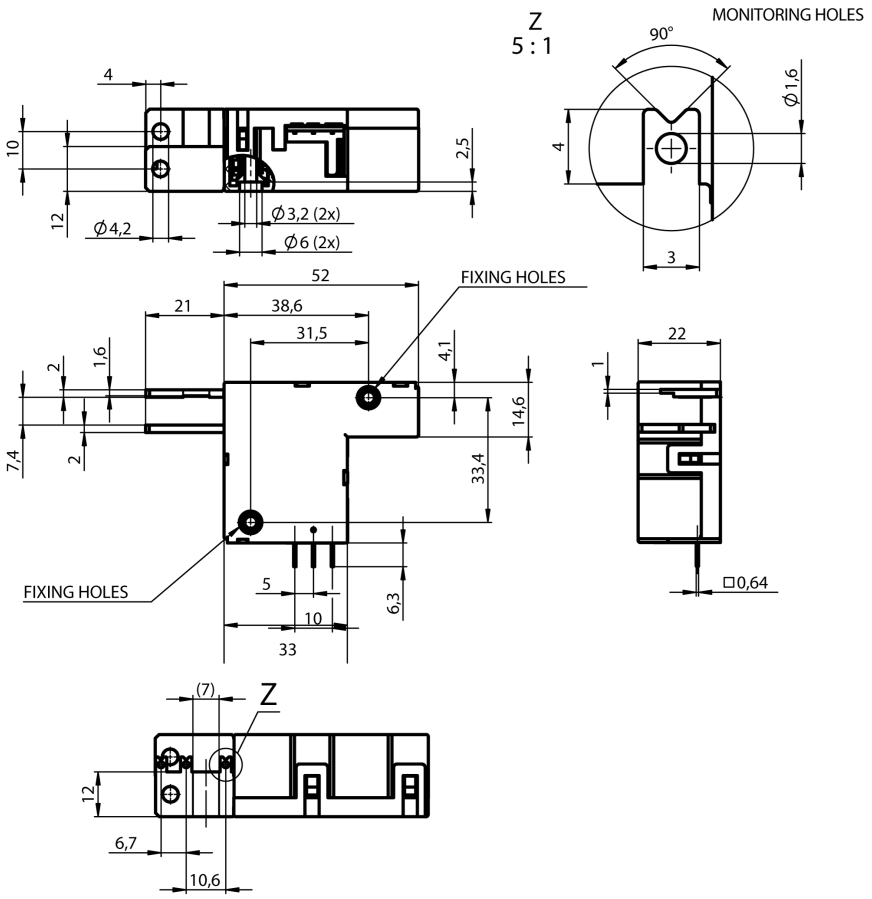

722 F




722 G




722 V

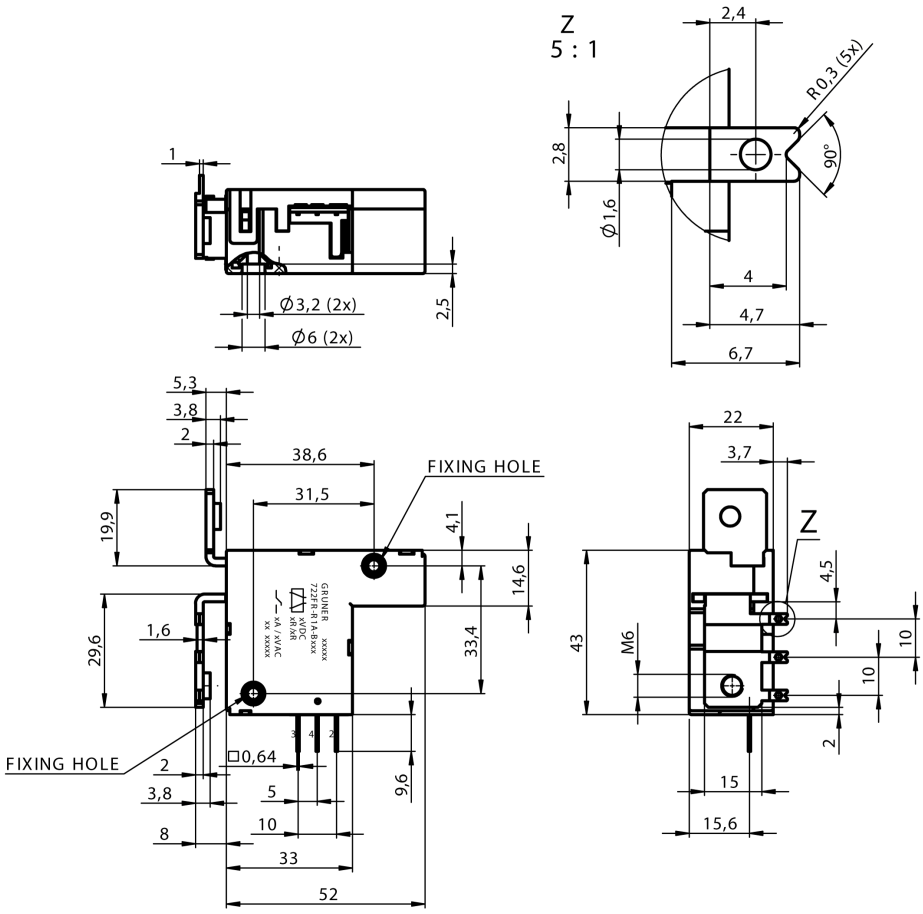



Shunt 722 CR

| | |
|---|---|
| at | 20 °C: 155 µΩ |
| at | 0 °C: -0.1 % |
| at | 75 °C: -0.2 % |
| at | 150 °C: -0.6 % |

Further resistance values upon request

722 CR (shunt)

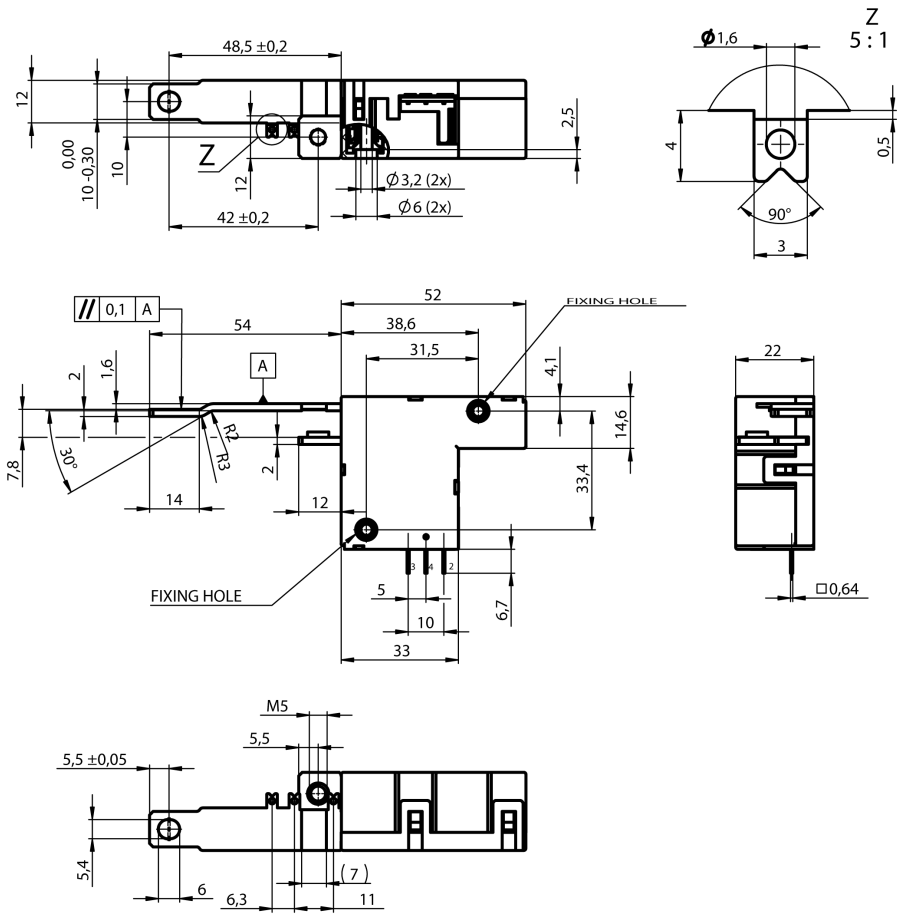



722 DR (shunt)

Shunt 722 DR

| | |
|---|---|
| at | 20 °C: 120 µΩ |
| at | 0 °C: -0.1 % |
| at | 75 °C: -0.2 % |
| at | 150 °C: -0.6 % |

Further resistance values upon request




722 VR (shunt)

Shunt 722 VR

| | |
|---|---|
| at | 20 °C: 120 µΩ |
| at | 0 °C: -0.1 % |
| at | 75 °C: -0.2 % |
| at | 150 °C: -0.6 % |

Further resistance values upon request