GRUNER
Schalten und Bewegen

Relay 721

Description

For new developments we recommend to use relay type 725.

Polarized latching relay for 100 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	4.5 W
	Operating power to set	3.0 W
	Pulse to set	20 ms
	Action time	< 15 ms
Contact data	Max. contact arrangement	1 a
	Contact material	$AgSnO_2$
	Max. switching power	25,000 VA
	Max. switching voltage	440 VAC
	Max. switching current	100 A
	Mechanical life	10^6
Insulation	Creepage and clearance distance coil – contact	8 mm
	Test voltage coil – contact	4,000 V eff.
	Test voltage contact – contact	–
	Test voltage open contact	1,000 V eff.
	Dielectric strength coil – contact	12 kV / 1.2 / 50 µs
General data	Ambient temperature	-40 … +85 °C
	Weight	75 g
	Conform to	VDE, UL, CSA, SEV, SEMKO

Standard windings

Standard winding No.	Nominal coil voltage	Operating voltage of the coil	Coil resistance	Tolerance
Double winding	(VDC)	U1 – U2 (VDC)	(Ohm)	(± %)
8R0	6	4.8 – 7.8	2 x 8	10
032	12	9.6 – 15.6	2 x 32	10
125	24	19.2 – 31.2	2 x 125	10
500	48	38.4 – 62.4	2 x 500	10

The relay coil with double winding can also be used as a single winding with half operating power if the middle pin of the coil is not used.

Contact position		
Terminal-grid	H 1(-)/5(+) B 3(-)/4(+)	2(-)/5(+) 2(-)/4(+)

Identification

	721	C	-	R	1A	-	B	125

Example for ordering

Identification code	
Type	721
Terminal configuration	A = see dim. drawing C = see dim. drawing CR = see dim. drawing D = see dim. drawing DR = see dim. drawing F = see dim. drawing G = see dim. drawing FR = see dim. drawing V = see dim. drawing VR = see dim. drawing
Contact material	R = $AgSnO_2$
Contact arrangement	1A = 1 normally open
Terminal-grid	B / H
Winding No.	see coil table

Further versions on request

The power terminals can be modified according to customer specification.

Advice for soldering:

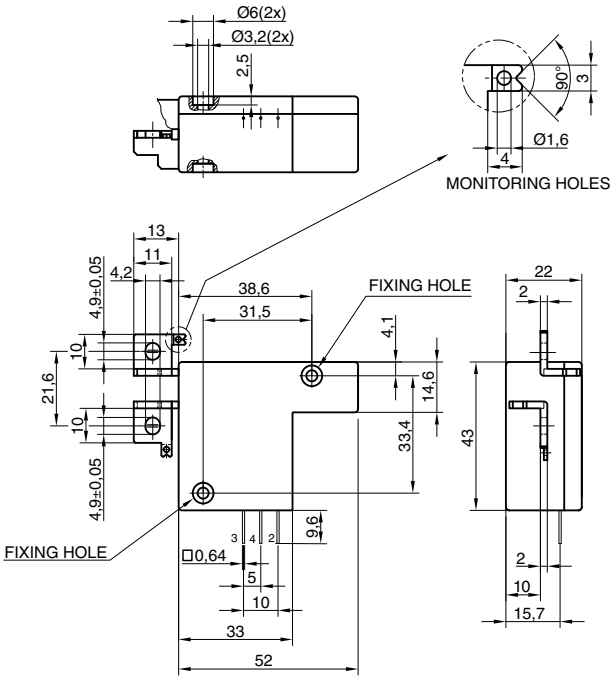
The relay is dust-protected. Take care to avoid that flux medium and lead-tin resp. their evaporations enter into the relay, i.e. the printed circuit board must not be flooded.

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

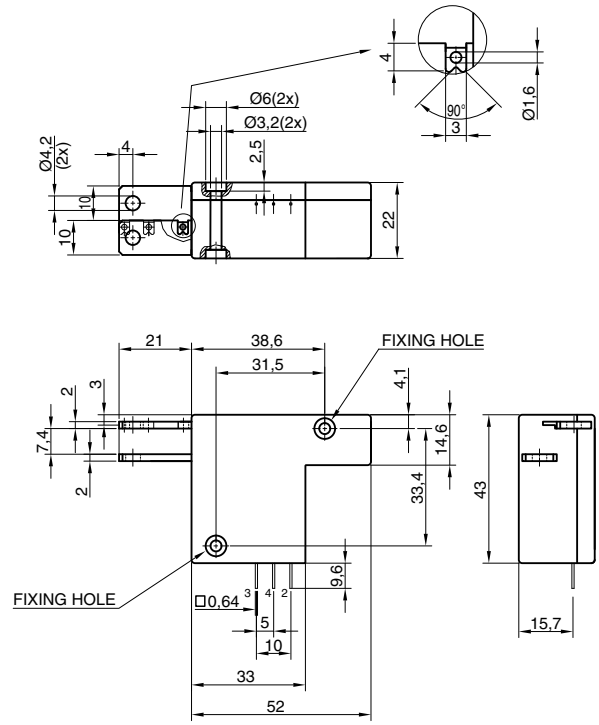
Shunt:

A shunt is integrated into one of the power terminals of the type 721 CR/DR/FR/VR. It 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.

Technical drawing

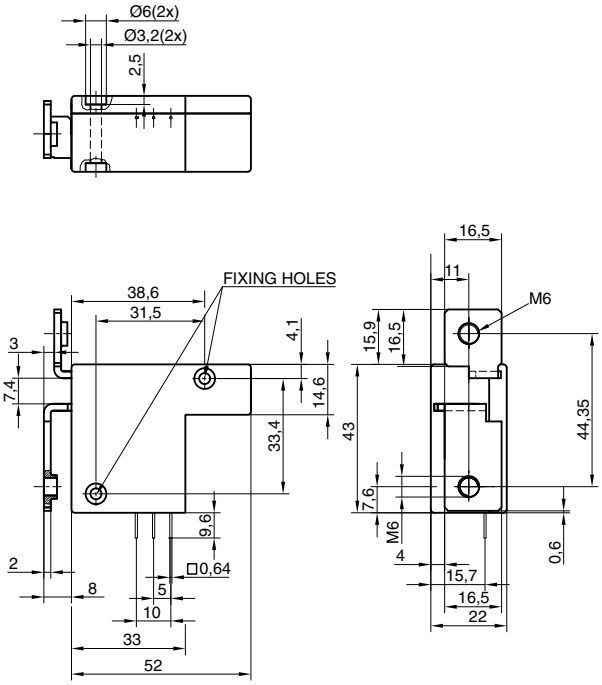


721 A

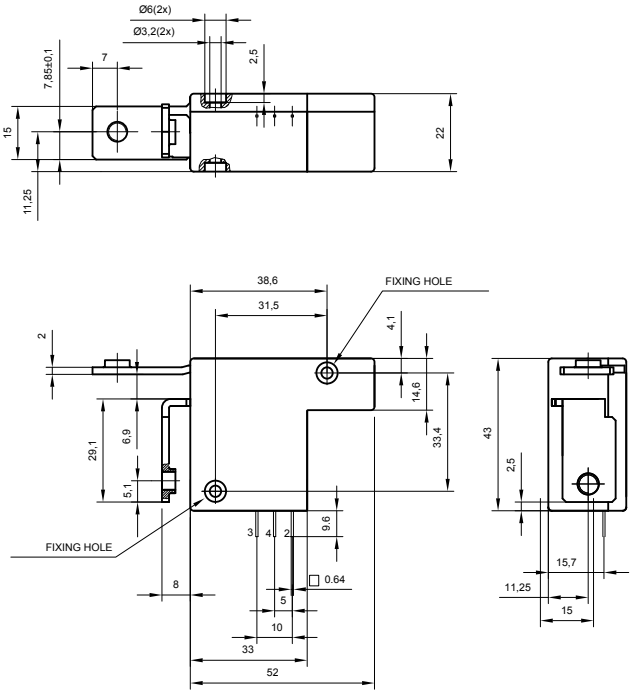


721 C

Technical drawing

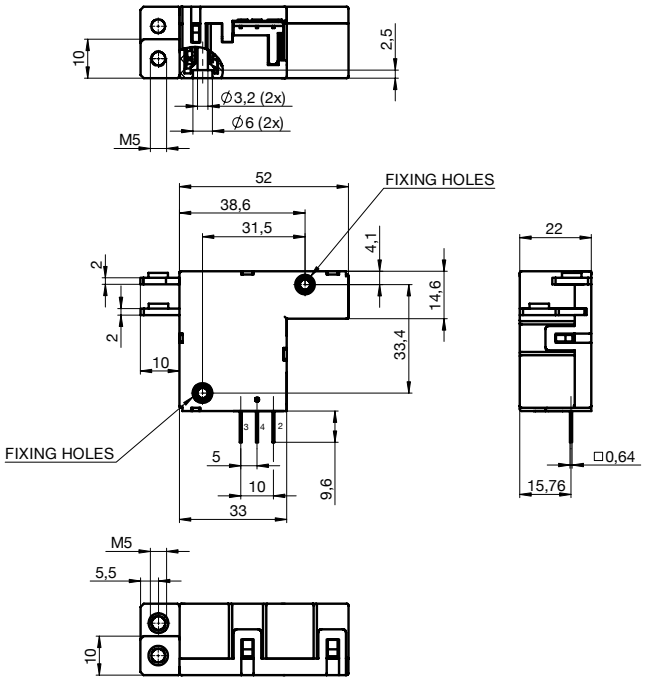


721 D

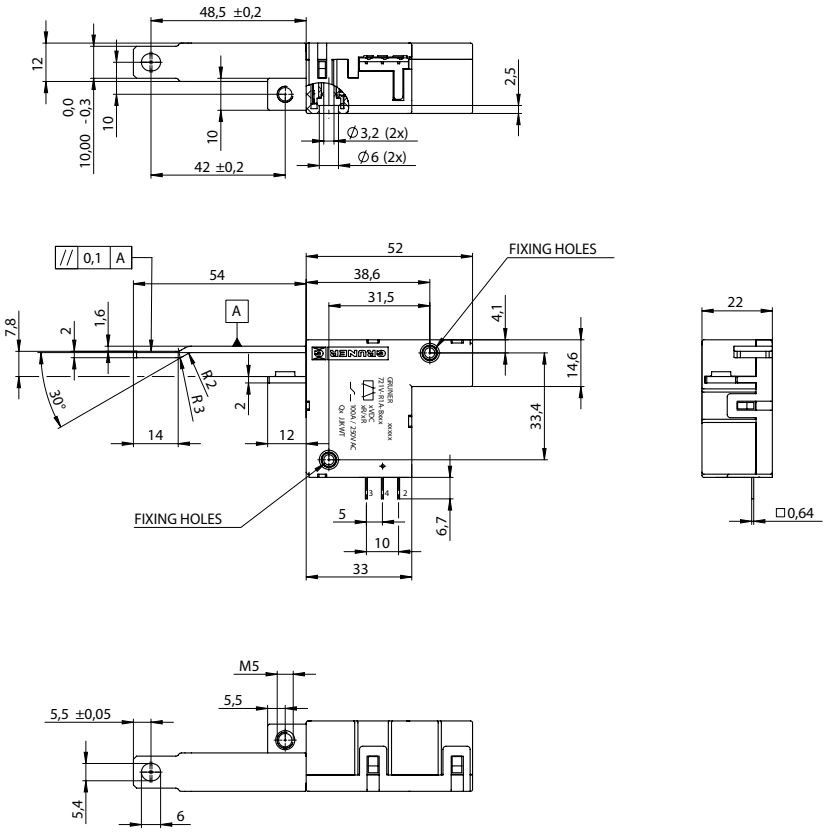


721 F

Technical drawing

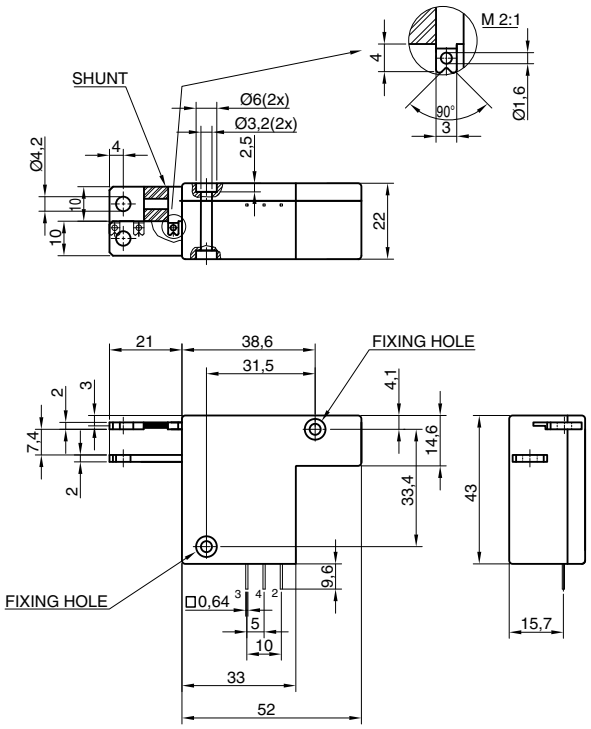


721 G



721 V

Technical drawing

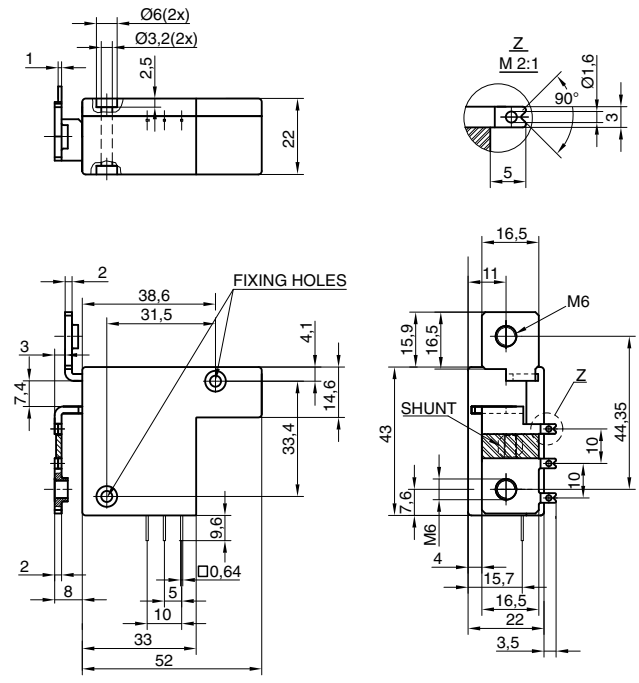


721 CR
(shunt)

Shunt 721 CR

at 20 °C: 240 µΩ / 180 µΩ
at 0 °C: -0.1 %
at 75 °C: -0.2 %
at 150 °C: -0.6 %

Further resistance values
upon request



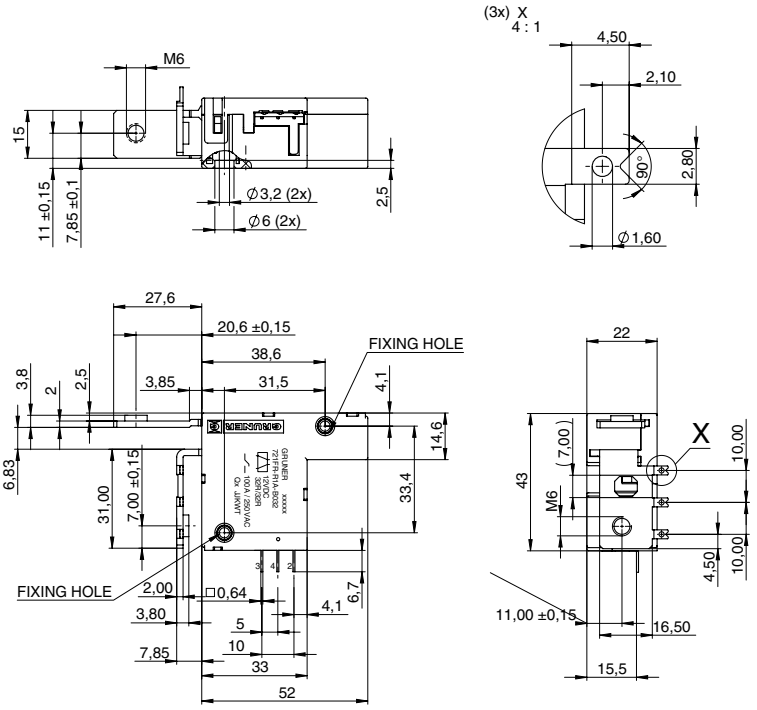
721 DR
(shunt)

Shunt 721 DR

at 20 °C: 120 / 140 / 200 µΩ
at 0 °C: -0.1 %
at 75 °C: -0.2 %
at 150 °C: -0.6 %

Further resistance values
upon request

Technical drawing

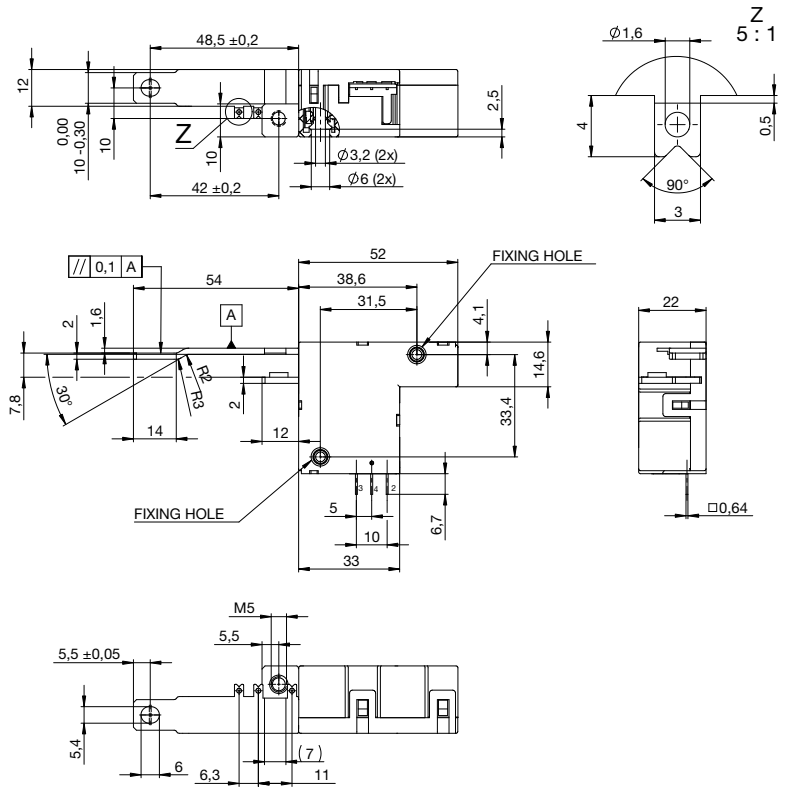


721 FR
(shunt)

Shunt 721 FR

at 20 °C: 120 / 140 / 200 µΩ
at 0 °C: -0.1 %
at 75 °C: -0.2 %
at 150 °C: -0.6 %

Further resistance values
upon request



721 VR
(shunt)

Shunt 721 VR

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

Further resistance values
upon request

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