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Hard copy product catalogues, and CDRoms have been published describing Kuhnke Pneumatics, Solenoids, Relays and Electronics; some divided into different books. A list of current publications is available on this web site or from our sales offices. Some may be available for download, but as substantially larger files.

Contact Details

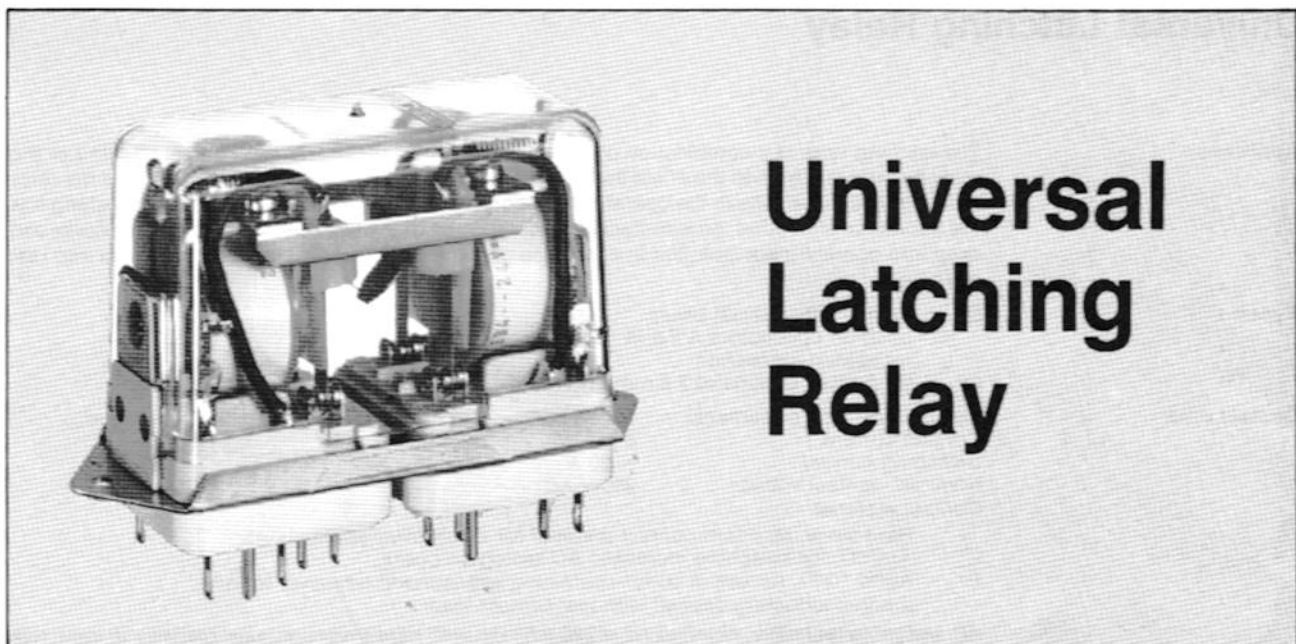
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Important Note

The information shown in these documents is for guidance only. No liability is accepted for any errors or omissions. The designer or user is solely responsible for the safe and proper application of the parts, assemblies or equipment described.



Universal Latching Relay

Order code

E B 4 - 24 V DC

Universal Latching Relay _____

Type _____

- B plug-in type with special bases, for push-on connection A 2.8, in accordance with DIN 46 247 for solder connection
- G for printed circuits

Contact arrangement _____

- 4 C/O contacts 2 x 2

Contact material _____

- Hard silver (no code letter)
- C AgCdO
- P AgPd

Nominal coil voltage _____

Coil current type _____

- DC
- AC 50/60 Hz

Order code for:

- Latching Relay with different nom. op. coil voltages
- Latching Relay with special winding
- Latching Relay of special design

- e.g. EB4-24 V DC/220 V AC
- EB4-XXX
- RS XXXX

- XXX = coil number
- XXXX = 4-digit reference number

Accessories (dimensions see page 119)

| relay | sockets* for | | | retaining clips (2) |
|-------|-------------------|-----------------|-----------------|---------------------|
| | solder connection | screw fastening | printed circuit | |
| EB | Z 356 | Z 357 | Z 358 | Z 441 |

* We recommend using retaining clips.

Universal Latching Relay

Application

The latching relay is a combination of two relay units with reciprocal mechanical latching of the relay armatures. This has the effect that when one coil is energized or pulsed for ≥ 50 ms the relay unit in question remains in the operating position until the second coil is energized. Latching has the additional effect that, on simultaneous energisation of the two relay units, both armatures can drop into operating position, but in each case only the relay unit first released can drop into rest position.

Types

- B plug-in with special bases
push-on connectors A 2.8 in accordance with DIN 46 247
for solder connection
- G for printed circuits of 2.5 mm grid matrix

Contact data

Number and type of contacts 2 x 2 changeover contacts
Contact current 6 A
Switch-on current ≤ 20 A
Nom. op. contact voltage 250 V AC
Contact material

Hard silver, standard contact material for all ordinary applications.

C AgCdO, for switching increased AC switch-on peaks

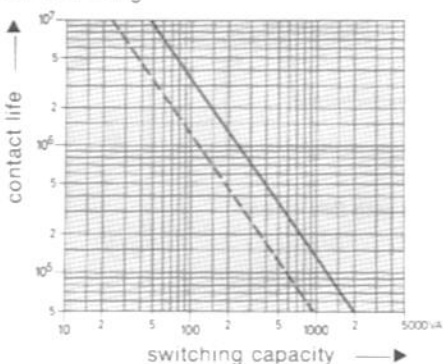
P AgPd 70/30, for use in sulfur-containing atmosphere, tendency to form a non-conducting deposit with low contact load

AC switching reliability: determined at 220 V/50 Hz, with hard silver contacts, resistive or inductive load, switching frequency 1 Hz, 25 % duty cycle.

DC switching capability: determined with hard silver contacts, resistive load, no additional spark quenching, switching frequency 1 Hz, 25 % duty cycle.

AC switching reliability

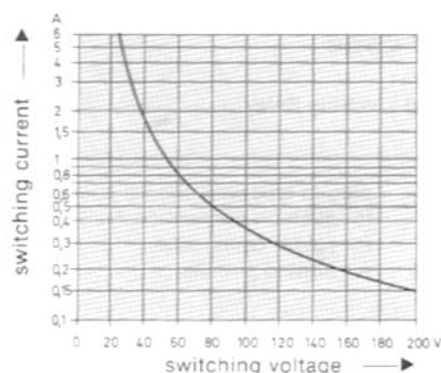
90 % working



— = resistive load,

- - - = inductive load, $\cos \varphi = 0.4 \dots 0.7$

DC switching capability



Insulation classification

C 125, B 250 VDE 0110 b/2/79

Test voltage

2500 V (rms) coil and contacts to frame.

Life expectancy

Mechanical life expectancy: tested at 4 Hz and 50 % duty cycle. This value represents 90 % of tested relays.

Climatic classification

With reference to DIN 40040 – Application Class and Reliability Data for Components in Communication and Electronics – the Universal Latching relay is suitable for the following climatic classification:

Min. temperature -10° C

Max. temperature $+40^{\circ}$ C

Humidity exposure

Annual mean ≤ 80 %, max. 100 % for 30 days/year.

DC excitation
approx. 10×10^6 cycles

AC excitation
approx. 5×10^6 cycles

Further tests according to DIN IEC 68 – Environmental Tests for Electronic Products – were carried out on relays not connected to power, see p. 21.

Operating range (see TNR page 20)

| | Type of coil current | | |
|---|----------------------------|----------------------------|-----------------------------|
| | DC | AC, 50 Hz | AC, 60 Hz |
| Operating range | class 1 $0.9 - 1.1 U_N$ | class 1 $0.8 - 1.1 U_N$ | class 2 $0.85 - 1.1 U_N$ |
| Pull-in – coil pre-excited with U_N at ambient temp. of: | class a 20° C | class a 20° C | class a 20° C |
| Drop-out | $> 0.05 U_N$ | $> 0.15 U_N$ | $> 0.15 U_N$ |

Ambient air temperature -5° C to $+40^{\circ}$ according to VDE 0435.

Depending on contact configuration, higher ambient temperatures may be permissible, as long as the maximum permissible temperature of 120° C is not exceeded.

