

# R3B-...-B

## latching relays



Energy  
saving

NEW

### • Energy-saving single-coil latching relays

- they do not require continuous power supply, but only one pulse to change the state (two stable states: open or closed)

- Relays with permanent magnet, designed for continuous operation\*
- For plug-in sockets: on 35 mm rail mount acc. to EN 60715; on panel mounting
- DC coils, insulation class F: 155 °C
- W (mechanical indicator) - standard equipment of relays
- Recognitions, certifications, directives: RoHS,

### Contact data

Number and type of contacts	3 CO
Contact material	<b>AgNi</b>
Rated / max. switching voltage	AC 250 V / 440 V
Min. switching voltage	10 V
Rated load (capacity)	AC1 8 A / 250 V AC AC15 3 A / 120 V 1,5 A / 240 V (B300) DC1 8 A / 24 V DC DC13 0,22 A / 120 V 0,1 A / 250 V (R300)
Motor load	acc. to UL 508 1/2 HP 240 V AC, 4,9 FLA, single-phase motor ❶ AC3 acc. to IEC 60947-4-1 0,37 kW 240 V AC, single-phase motor
Min. switching current	5 mA
Max. make current	20 A
Rated current	8 A
Max. breaking capacity	AC1 2 000 VA
Min. breaking capacity	0,3 W
Contact resistance	≤ 100 mΩ
Max. operating frequency	• at rated load AC1 1 200 cycles/hour • no load 18 000 cycles/hour

### Coil data

Rated voltage	DC 5, 6, <b>12, 24</b> , 48, 60 V
Operate voltage	≤ 0,8 U <sub>n</sub>
Reset voltage (reverse polarity)	min.: 0,8 U <sub>n</sub> max.: 1,1 U <sub>n</sub>
Control pulse time	min.: 0,05 s max.: 100 s
Rated power consumption	DC 1 W

### Insulation according to EN 60664-1

Insulation rated voltage	250 V AC
Rated surge voltage	4 000 V 1,2 / 50 μs
Overvoltage category	III
Insulation pollution degree	2
Dielectric strength	• between coil and contacts 2 500 V AC type of insulation: basic • contact clearance 1 000 V AC type of clearance: micro-disconnection • pole - pole 2 500 V AC type of insulation: basic
Contact - coil distance	• clearance ≥ 2,5 mm • creepage ≥ 4 mm

### General data

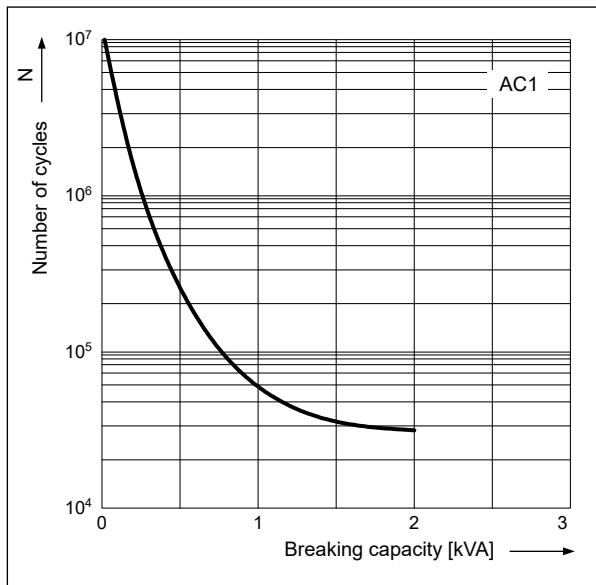
Operating / release time (typical values)	13 ms / 3 ms
Electrical life	• resistive AC1 > 5 x 10 <sup>4</sup> 8 A, 250 V AC • cosφ see Fig. 2
Mechanical life (cycles)	> 2 x 10 <sup>7</sup>
Dimensions (L x W x H)	28,6 x 21 x 35,5 mm
Weight	35 g
Ambient temperature	• storage -40...+85 °C • operating (non-condensation and/or icing) -20...+55 °C
Cover protection category	IP 40 EN 60529
Environmental protection	RTI EN 61810-1
Shock resistance	(NO/NC) 10 g / 5 g
Vibration resistance	5 g 10...150 Hz

The data in bold type relate to the standard versions of the relays. \*The relays are designed for continuous operation while maintaining the parameters declared in the data sheet. ❶ For single phase motors for 110-120 V AC do not use motors with higher FLA than given for 240 V AC.

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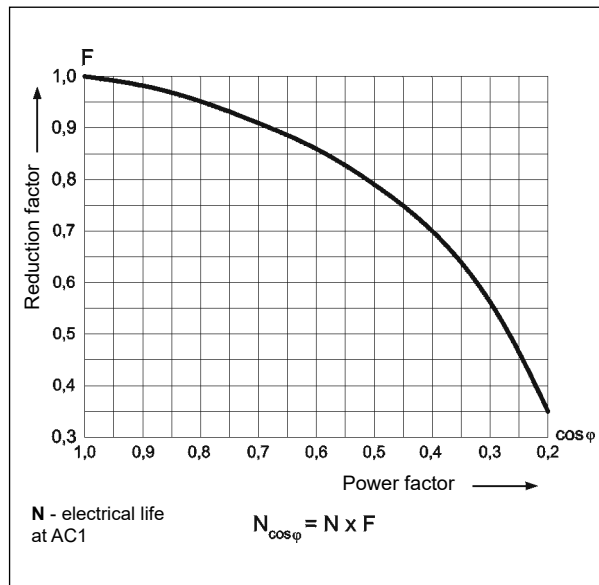
**Electrical life at AC resistive load.**  
Switching frequency: 1 200 cycles/hour

Fig. 1

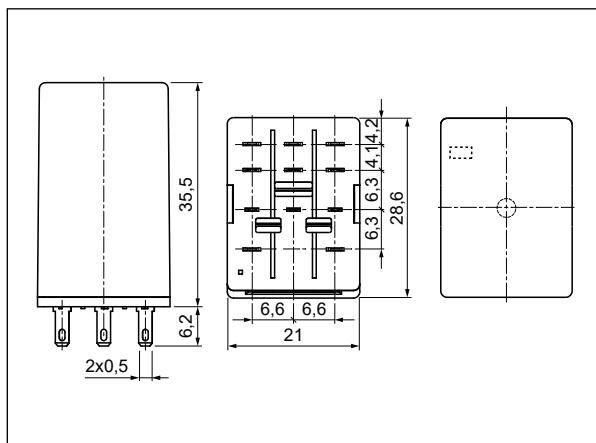


**Electrical life reduction factor at AC inductive load**

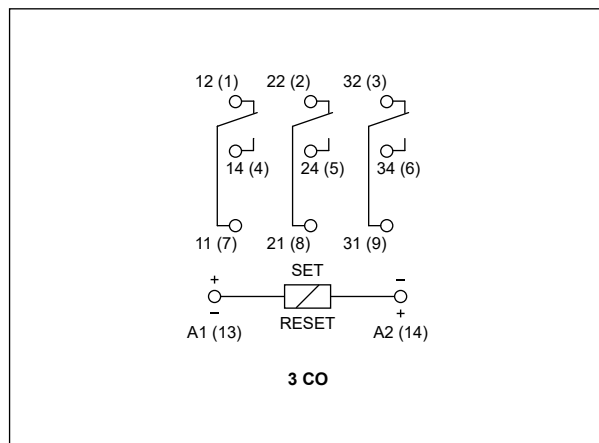
Fig. 2



**Dimensions - plug-in version**



**Connection diagram (pin side view)**



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## latching relays

### Mounting, sockets and accessories for relays

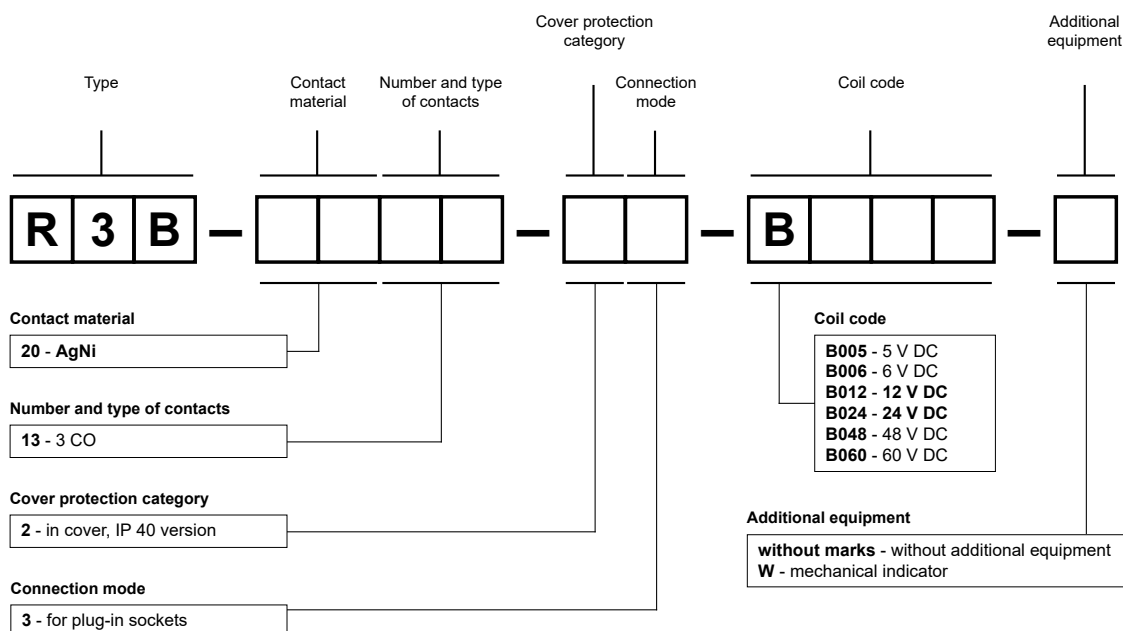
Relays **R3B-...-B** are offered in versions for plug-in sockets. **With W equipment as standard** (W - mechanical indicator).

Sockets for R3B-...-B	Accessories			Additional equipment
	Retainer / retractor clips	Spring wire clips	Description plates	
Screw terminals sockets, 35 mm rail mount (acc. to EN 60715) or on panel mounting (two M3 screws)				
GZT3	GZT4-0040, GZP4-0400	G4 1052	GZT4-0035	M... ②, ZGGZ4 ③
GZM3	GZT4-0040, GZP4-0400	G4 1052	GZT4-0035	M... ②, ZGGZ4 ③

② Signalling / protecting modules type M... - see [www.repol.com.pl](http://www.repol.com.pl)

③ Interconnection strips ZGGZ4 - see [www.repol.com.pl](http://www.repol.com.pl)

### Ordering codes



Example of ordering code:

**R3B-2013-23-B024-W**

latching relay **R3B-...-B** with one coil, for plug-in sockets, three changeover contacts, contact material AgNi, coil voltage 24 V DC, with mechanical indicator, in cover IP 40

### PRECAUTIONS:

1. Ensure that the parameters of the product described in its specification provide a safety margin for the appropriate operation of the device or system and never use the product in circumstances which exceed the parameters of the product. 2. Never touch any live parts of the device. 3. Ensure that the product has been connected correctly. An incorrect connection may cause malfunction, excessive heating or risk of fire. 4. In case of any risk of any serious material loss or death or injuries of humans or animals, the devices or systems shall be designed so to equip them with double safety system to guarantee their reliable operation.