

## PR3 Relay Base for: – Octal Relays With DPDT or 3PDT Contacts

### Universal Modular System

The 38 mm (1.496 in.) wide PR3 relay base range is a modular system consisting of PR3-B... relay bases, robust REL-OR... electromechanical octal relays with DPDT and 3PDT contacts, and a range of practical accessories. These include:

- Plug-in input/interference suppression modules
- Relay retaining bracket
- Continuous jumpers

Depending on the application, complete coupling relays can be created, which are optimized in terms of cost and function.

### Base Versions

PR3-B... relay bases are available in two versions with screw connections - the PR3-BSC1/2x21 type for octal relays with DPDT contacts and the PR3-BSC1/3x21 for octal relays with 3PDT contacts. Both bases can be extended in terms of functions through the use of keyed plug-in modules with various display and interference suppression elements.

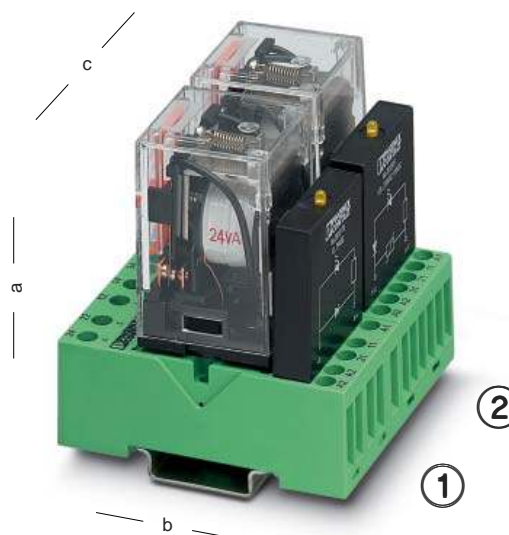
### Robust Octal Relays







Octal relays have been used in many sectors of industry for years due to their robust structure, with an 8 or 11-pos. circular connector. They are ideal for use in applications where a solid mechanical structure, powerful power contacts, and easy, error-free operation of a miniature product are important and where global availability is required. The Phoenix Contact REL/OR... series includes the following versions:

- With two 10 A PDT contacts
- With three 10 A PDT contacts
- In all major AC and DC coil voltages

Considerably more expensive miniature contactors can thus be replaced cost-effectively in many applications without adversely affecting machine or system operation. All octal relays have the following standard features:

- Manual test key (AC coil = red key, DC coil = blue key)
- Mechanical switch setting display
- Keying to prevent connection errors

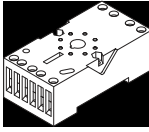
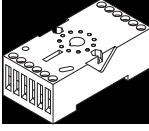

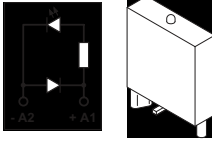
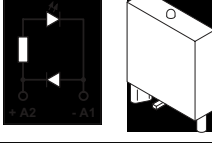
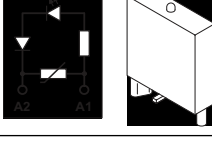
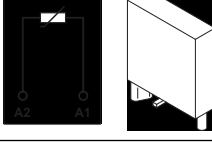
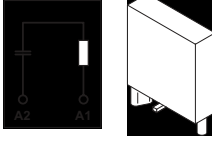
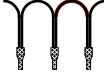


	①	②
	PR3-BSC1/2x21	PR3-BSC1/3x21
Nominal voltage U <sup>1)</sup>	400 V AC	400 V AC
Nominal current I <sup>1)</sup>	10 A	10 A
Conductor cross section		
– Solid	2 x 2.5 mm <sup>2</sup>	2 x 2.5 mm <sup>2</sup>
– Flexible	2 x 2.5 mm <sup>2</sup>	2 x 2.5 mm <sup>2</sup>
American Wire Gauge	2 x 14 AWG	2 x 14 AWG
Connection type	 M 3	 M 3
Approvals <sup>2)</sup>		
Stripping length	10 mm (0.39 in.) 	10 mm (0.39 in.) 
Height (a) with retaining bracket:		
– EL3-M52	84 mm (3.307 in.)	86 mm (3.386 in.)
Depth (b)	75 mm (2.953 in.)	75 mm (2.953 in.)
Width (c)	38 mm (1.496 in.)	38 mm (1.496 in.)
Ambient temperature	-40°C...+85°C (-40°F...+185°F)	-40°C...+85°C (-40°F...+185°F)

<sup>1)</sup> The maximum electrical data is relay dependent.

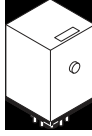
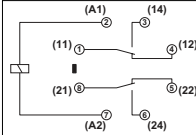
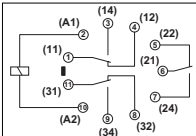
<sup>2)</sup> Details on request.

# PR3 Relay Base for Octal Relays With DPDT or 3PDT Contacts

Description	Type	Order No.	Pcs. Pkt.
<p><b>PR3... relay base</b>, for REL-OR octal relays with DPDT contacts, screw connections, optional connection of input/interference suppression modules, for mounting on 3</p> 	PR3-BSC1/2x21	28 33 60 2	10
<p><b>PR3... relay base</b>, for REL-OR octal relays with 3PDT contacts, screw connections, optional connection of input/interference suppression modules, for mounting on 3</p> 	PR3-BSC1/3x21	28 33 61 5	10
<p><b>Relay retaining bracket</b>, wire version, suitable for PR3 relay base: – For 52 mm (2.047 in.) high octal relays</p> 	EL3-M52	28 33 62 8	10
<p><b>Plug-in module</b>, for mounting on PR3, with free-wheeling diode and yellow LED, polarity: <b>A1 +, A2 –</b> Input voltage: – 12 - 24 V DC <math>\pm 20\%</math> – 48 - 60 V DC <math>\pm 20\%</math> – 110 V DC <math>\pm 20\%</math></p> 	LDP3-12-24DC LDP3-48-60DC LDP3-110DC	28 33 77 0 28 33 78 3 28 33 79 6	10 10 10
<p><b>Plug-in module</b>, for mounting on PR3, with free-wheeling diode and yellow LED, polarity: <b>A1 –, A2 +</b> (Japanese standard) Input voltage: – 12 - 24 V DC <math>\pm 20\%</math> – 48 - 60 V DC <math>\pm 20\%</math> – 110 V DC <math>\pm 20\%</math></p> 	LDM3-12-24DC LDM3-48-60DC LDM3-110DC	28 33 80 6 28 33 81 9 28 33 82 2	10 10 10
<p><b>Plug-in module</b>, for mounting on PR3, with varistor and yellow LED Input voltage: – 12 - 24 V AC/DC <math>\pm 20\%</math> – 48 - 60 V AC/DC <math>\pm 20\%</math> – 120 - 230 V AC/110 V DC <math>\pm 20\%</math></p> 	LV3-12-24UC (30 V varistor) LV3-48-60UC (75 V varistor) LV3-120-230AC/110 DC (275 V varistor)	28 33 83 5 28 33 84 8 28 33 85 1	10 10 10
<p><b>Plug-in module</b>, for mounting on PR3, with varistor Input voltage: – 12 - 24 V AC/DC <math>\pm 20\%</math> – 48 - 60 V AC/DC <math>\pm 20\%</math> – 120 - 230 V AC/DC <math>\pm 20\%</math></p> 	V3-12-24UC (30 V varistor) V3-48-60UC (75 V varistor) V3-120-230UC (275 V varistor)	28 33 92 9 28 33 93 2 28 33 94 5	10 10 10
<p><b>Plug-in module</b>, for mounting on PR3, with RC element Input voltage: – 12 - 24 V AC/DC <math>\pm 20\%</math> – 48 - 60 V AC/DC <math>\pm 20\%</math> – 120 - 230 V AC/DC <math>\pm 20\%</math></p> 	RC3-12-24UC (220 nF/100 $\Omega$ ) RC3-48-60UC (220 nF/220 $\Omega$ ) RC3-120-230UC (100 nF/470 $\Omega$ )	28 33 89 3 28 33 90 3 28 33 91 6	10 10 10
<p><b>Wire jumper</b>, 50-pos., can be separated, maximum jumpering distance of 60 mm (2.36 in.), 0.5 mm<sup>2</sup> (20 AWG), insulation: – Blue – Black – Gray</p> 	DB 50-90 BU DB 50-90 BK DB 50-90 GY	28 21 18 0 28 20 91 6 28 20 92 9	1 1 1

<sup>1)</sup> See INTERFACE catalog

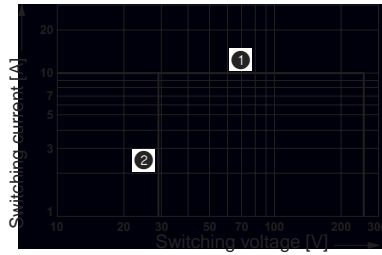
# Plug-In Octal Relays With DPDT or 3PDT Contacts, Suitable for PR3 Relay Base

Description	Type	Order No.	Pcs. Pkt.																		
<p><b>Plug-in octal relays, with power contacts, DPDT contacts, test key, mechanical switch setting display</b> Coil voltage: – 24 V DC</p> <p>– 24 V AC – 120 V AC – 230 V AC</p> <p><b>with power contacts, 3PDT contacts, test key, mechanical switch setting display</b> Coil voltage: – 24 V DC</p> <p>– 24 V AC – 120 V AC – 230 V AC</p>   <p>2 Form C contacts</p>  <p>3 Form C contacts</p>	<p><b>REL-OR-24DC/2x21</b></p> <p><b>REL-OR-24AC/2x21</b> <b>REL-OR-120AC/2x21</b> <b>REL-OR-230AC/2x21</b></p> <p><b>REL-OR-24DC/3x21</b></p> <p><b>REL-OR-24AC/3x21</b> <b>REL-OR-120AC/3x21</b> <b>REL-OR-230AC/3x21</b></p>	<p><b>28 34 23 2</b></p> <p><b>28 34 24 5</b> <b>28 34 25 8</b> <b>28 34 26 1</b></p> <p><b>28 34 27 4</b></p> <p><b>28 34 28 7</b> <b>28 34 29 0</b> <b>28 34 30 0</b></p>	<p>20</p> <p>20 20 20</p> <p>20</p> <p>20 20 20</p>																		
<b>Technical Data</b>																					
<p><b>Coil Side DC Coils</b> Nominal input voltage <math>U_N</math> Permissible range (with reference to <math>U_N</math>) Typical input current at <math>U_N</math> Response time at <math>U_N</math> Release time at <math>U_N</math> DC coil resistance at 20°C (68°F)</p>	<p>24 V DC 0.8 - 1.1 56 mA 30 ms, maximum 20 ms, maximum 430 Ω ±15%</p>																				
<p><b>Coil Side AC Coils (50 Hz/60 Hz)</b> Nominal input voltage <math>U_N</math> Permissible range (with reference to <math>U_N</math>) Typical input current at <math>U_N</math> (50 Hz/60 Hz) Response time at <math>U_N</math> (depending on phase relation) Release time at <math>U_N</math> (depending on phase relation) DC coil resistance at 20°C (68°F)</p>	<table border="1"> <tr> <td>24 V AC</td> <td>120 V AC</td> <td>230 V AC</td> </tr> <tr> <td>0.8 - 1.1</td> <td></td> <td></td> </tr> <tr> <td>98 mA/88 mA</td> <td>20 mA/18 mA</td> <td>12 mA/11 mA</td> </tr> <tr> <td>20 ms, maximum</td> <td></td> <td></td> </tr> <tr> <td>20 ms, maximum</td> <td></td> <td></td> </tr> <tr> <td>62 Ω ±15%</td> <td>1520 Ω ±15%</td> <td>6170 Ω ±15%</td> </tr> </table>			24 V AC	120 V AC	230 V AC	0.8 - 1.1			98 mA/88 mA	20 mA/18 mA	12 mA/11 mA	20 ms, maximum			20 ms, maximum			62 Ω ±15%	1520 Ω ±15%	6170 Ω ±15%
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<p><b>Contact Side</b> Contact type Contact material Maximum switching voltage Minimum switching voltage Limiting continuous current Minimum switching current Maximum shutdown power (ohmic load)</p>	<p><b>REL-OR...2x21 and REL-OR...3x21</b> Single contact Ag 250 V AC/DC 1 V 10 A 10 mA 2500 VA For additional data, see diagram on page 4 0,01 W</p>																				
<p><b>General Data</b> Test voltage: Winding/contact Contact/contact Ambient operating temperature range Nominal operating mode Mechanical service life Electrical service life Standards/specifications</p> <p>Approvals Mounting position/mounting</p>	<p>2.5 kV, 50 Hz, 1 minute 2.5 kV, 50 Hz, 1 minute -10°C to +40°C (+14°F to +104°F) 100% ED 10 x 10<sup>6</sup> cycles See diagram on page 4 IEC 60 664/IEC 60 664 A/DIN VDE 0110, degree of pollution 3, Surge Voltage Category II UL; CSA; VDE Any/can be mounted without spacing</p>																				

# Diagrams for REL-OR... Octal Relays

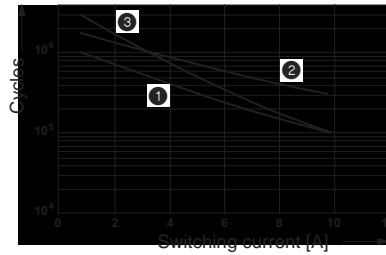
## REL-OR...2x21 (DPDT Contacts) and REL-OR...3x21 (3PDT Contacts)

Shutdown power



- ① AC, ohmic load
- ② DC, ohmic load

Electrical service life



- ① 250 V AC, ohmic load
- ② 120 V AC, ohmic load
- ③ 28 V DC, ohmic load