

# 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.

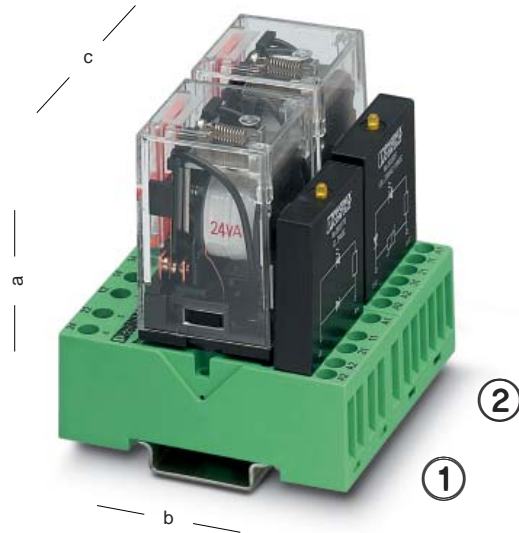
## Robust Octal Relays





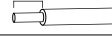
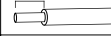
Octal relays have been used in many sectors of industry for years due to their robust structure, with an 8 or 11-pos. circular connector. They are ideal for use in applications where a solid mechanical structure, powerful power contacts, and easy, error-free operation of a miniature product are important 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

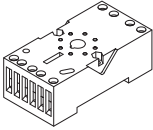
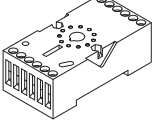

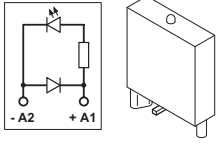
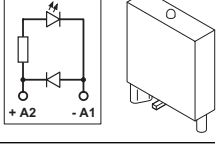
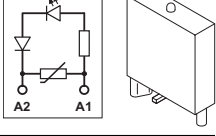
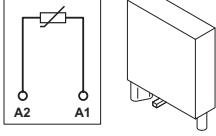
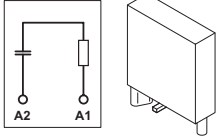
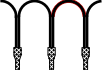


|                                    | ①   | ②   |
|------------------------------------|---|---|
|                                    | PR3-BSC1/2x21   | PR3-BSC1/3x21   |
| Nominal voltage U <sup>1)</sup>    | 400 V AC  | 400 V AC  |
| Nominal current I <sup>1)</sup>    | 10 A  | 10 A  |
| Conductor 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.)<br> | 10 mm (0.39 in.)<br> |
| 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<br>(-40°F...+185°F)   | -40°C...+85°C<br>(-40°F...+185°F)   |

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

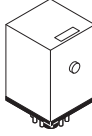
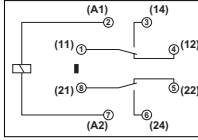
<sup>2)</sup> Details on request.

# 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:<br/>– 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><br/>Input voltage:<br/>– 12 - 24 V DC <math>\pm 20\%</math><br/>– 48 - 60 V DC <math>\pm 20\%</math><br/>– 110 V DC <math>\pm 20\%</math></p>                       | <b>LDP3-12-24DC</b><br><b>LDP3-48-60DC</b><br><b>LDP3-110DC</b>   | <b>28 33 77 0</b><br><b>28 33 78 3</b><br><b>28 33 79 6</b> | 10<br>10<br>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)<br/>Input voltage:<br/>– 12 - 24 V DC <math>\pm 20\%</math><br/>– 48 - 60 V DC <math>\pm 20\%</math><br/>– 110 V DC <math>\pm 20\%</math></p>  | <b>LDM3-12-24DC</b><br><b>LDM3-48-60DC</b><br><b>LDM3-110DC</b>   | <b>28 33 80 6</b><br><b>28 33 81 9</b><br><b>28 33 82 2</b> | 10<br>10<br>10 |
| <p><b>Plug-in module</b>, for mounting on PR3, with varistor and yellow LED<br/>Input voltage:<br/>– 12 - 24 V AC/DC <math>\pm 20\%</math><br/>– 48 - 60 V AC/DC <math>\pm 20\%</math><br/>– 120 - 230 V AC/110 V DC <math>\pm 20\%</math></p>                                        | <b>LV3-12-24UC</b> (30 V varistor)<br><b>LV3-48-60UC</b> (75 V varistor)<br><b>LV3-120-230AC/110 DC</b> (275 V varistor)              | <b>28 33 83 5</b><br><b>28 33 84 8</b><br><b>28 33 85 1</b> | 10<br>10<br>10 |
| <p><b>Plug-in module</b>, for mounting on PR3, with varistor<br/>Input voltage:<br/>– 12 - 24 V AC/DC <math>\pm 20\%</math><br/>– 48 - 60 V AC/DC <math>\pm 20\%</math><br/>– 120 - 230 V AC/DC <math>\pm 20\%</math></p>   | <b>V3-12-24UC</b> (30 V varistor)<br><b>V3-48-60UC</b> (75 V varistor)<br><b>V3-120-230UC</b> (275 V varistor)                        | <b>28 33 92 9</b><br><b>28 33 93 2</b><br><b>28 33 94 5</b> | 10<br>10<br>10 |
| <p><b>Plug-in module</b>, for mounting on PR3, with RC element<br/>Input voltage:<br/>– 12 - 24 V AC/DC <math>\pm 20\%</math><br/>– 48 - 60 V AC/DC <math>\pm 20\%</math><br/>– 120 - 230 V AC/DC <math>\pm 20\%</math></p>   | <b>RC3-12-24UC</b> (220 nF/100 $\Omega$ )<br><b>RC3-48-60UC</b> (220 nF/220 $\Omega$ )<br><b>RC3-120-230UC</b> (100 nF/470 $\Omega$ ) | <b>28 33 89 3</b><br><b>28 33 90 3</b><br><b>28 33 91 6</b> | 10<br>10<br>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:<br/>– Blue<br/>– Black<br/>– Gray</p>    | <b>DB 50-90 BU</b><br><b>DB 50-90 BK</b><br><b>DB 50-90 GY</b>  | <b>28 21 18 0</b><br><b>28 20 91 6</b><br><b>28 20 92 9</b> | 1<br>1<br>1    |

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

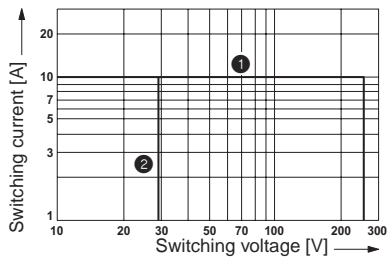
# Plug-In Octal Relays With DPDT or 3PDT Contacts, Suitable for PR3 Relay Base

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

# Diagrams for REL-OR... Octal Relays

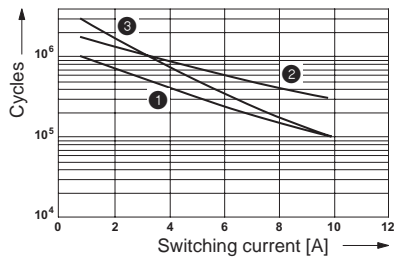
## REL-OR...2x21 (DPDT Contacts) and REL-OR...3x21 (3PDT Contacts)

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

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«JONHON» (основан в 1970 г.)

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«FORSTAR» (основан в 1998 г.)

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