

## 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.

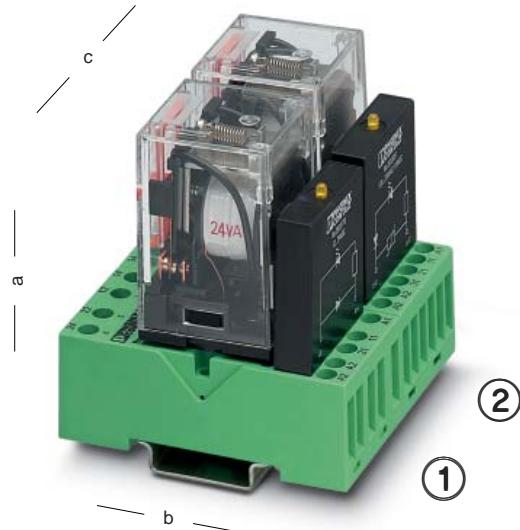
### Robust Octal Relays

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

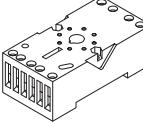
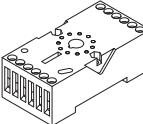
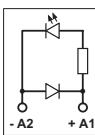
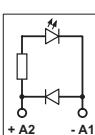
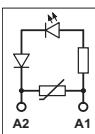
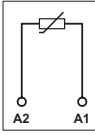
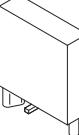
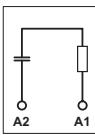


|  | ①  | ②  |
|--|--|--|
| PR3-BSC1/2x21  | PR3-BSC1/3x21  | PR3-BSC1/3x21  |
| Nominal voltage U <sup>1)</sup><br>Nominal current I <sup>1)</sup>         | 400 V AC<br>10 A   | 400 V AC<br>10 A   |
| Conductor cross<br>section<br>– Solid<br>– Flexible<br>American Wire Gauge | 2 x 2.5 mm <sup>2</sup><br>2 x 2.5 mm <sup>2</sup><br>2 x 14 AWG | 2 x 2.5 mm <sup>2</sup><br>2 x 2.5 mm <sup>2</sup><br>2 x 14 AWG |
| Connection type  |  |  |
| Approvals <sup>2)</sup>  |  |  |
| Stripping length   | 10 mm (0.39 in.)<br>   | 10 mm (0.39 in.)<br>   |
| Height (a) with<br>retaining bracket:<br>– 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.

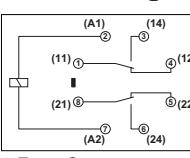
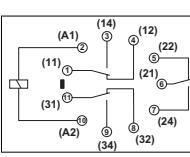
<sup>2)</sup> Details on request.

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

| Description   | Type   | Order No.            | Pcs./Pkt.        |            |    |
|---|--|----------------------|------------------|------------|----|
| <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  |   | PR3-BSC1/2x21        | 28 33 60 2       | 10         |    |
| <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  |   | PR3-BSC1/3x21        | 28 33 61 5       | 10         |    |
| <b>Relay retaining bracket</b> , wire version, suitable for PR3 relay base:<br>– For 52 mm (2.047 in.) high octal relays  |   | EL3-M52              | 28 33 62 8       | 10         |    |
| <b>Plug-in module</b> , for mounting on PR3, with free-wheeling diode and yellow LED, polarity: A1 +, A2 –<br>Input voltage:<br>– 12 - 24 V DC ±20%<br>– 48 - 60 V DC ±20%<br>– 110 V DC ±20%                     | <br>     | LDP3-12-24DC         | 28 33 77 0       | 10         |    |
|   |  | LDP3-48-60DC         | 28 33 78 3       | 10         |    |
|   |  | LDP3-110DC           | 28 33 79 6       | 10         |    |
| <b>Plug-in module</b> , for mounting on PR3, with free-wheeling diode and yellow LED, polarity: A1 –, A2 + (Japanese standard)<br>Input voltage:<br>– 12 - 24 V DC ±20%<br>– 48 - 60 V DC ±20%<br>– 110 V DC ±20% | <br>   | LDM3-12-24DC         | 28 33 80 6       | 10         |    |
|   |  | LDM3-48-60DC         | 28 33 81 9       | 10         |    |
|   |  | LDM3-110DC           | 28 33 82 2       | 10         |    |
| <b>Plug-in module</b> , for mounting on PR3, with varistor and yellow LED<br>Input voltage:<br>– 12 - 24 V AC/DC ±20%<br>– 48 - 60 V AC/DC ±20%<br>– 120 - 230 V AC/110 V DC ±20%                                 | <br> | LV3-12-24UC          | (30 V varistor)  | 28 33 83 5 | 10 |
|   |  | LV3-48-60UC          | (75 V varistor)  | 28 33 84 8 | 10 |
|   |  | LV3-120-230AC/110 DC | (275 V varistor) | 28 33 85 1 | 10 |
| <b>Plug-in module</b> , for mounting on PR3, with varistor<br>Input voltage:<br>– 12 - 24 V AC/DC ±20%<br>– 48 - 60 V AC/DC ±20%<br>– 120 - 230 V AC/DC ±20%  | <br> | V3-12-24UC           | (30 V varistor)  | 28 33 92 9 | 10 |
|   |  | V3-48-60UC           | (75 V varistor)  | 28 33 93 2 | 10 |
|   |  | V3-120-230UC         | (275 V varistor) | 28 33 94 5 | 10 |
| <b>Plug-in module</b> , for mounting on PR3, with RC element<br>Input voltage:<br>– 12 - 24 V AC/DC ±20%<br>– 48 - 60 V AC/DC ±20%<br>– 120 - 230 V AC/DC ±20%  | <br> | RC3-12-24UC          | (220 nF/100 Ω)   | 28 33 89 3 | 10 |
|   |  | RC3-48-60UC          | (220 nF/220 Ω)   | 28 33 90 3 | 10 |
|   |  | RC3-120-230UC        | (100 nF/470 Ω)   | 28 33 91 6 | 10 |
| <b>Wire jumper</b> , 50-pos., can be separated, maximum jumping distance of 60 mm (2.36 in.), 0.5 mm <sup>2</sup> (20 AWG), insulation:<br>– Blue<br>– Black<br>– Gray  |   | DB 50-90 BU          | 28 21 18 0       | 1          |    |
|   |  | DB 50-90 BK          | 28 20 91 6       | 1          |    |
|   |  | DB 50-90 GY          | 28 20 92 9       | 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.  |
|---|---|--|--|
| <b>Plug-in octal relays, with power contacts, DPDT contacts, test key, mechanical switch setting display</b><br>Coil voltage:<br>– 24 V DC<br>– 24 V AC<br>– 120 V AC<br>– 230 V AC | <br><br> | REL-OR-24DC/2x21<br>REL-OR-24AC/2x21<br>REL-OR-120AC/2x21<br>REL-OR-230AC/2x21 | 28 34 23 2<br>28 34 24 5<br>28 34 25 8<br>28 34 26 1 |
| <b>with power contacts, 3PDT contacts, test key, mechanical switch setting display</b><br>Coil voltage:<br>– 24 V DC<br>– 24 V AC<br>– 120 V AC<br>– 230 V AC                       | 2 Form C contacts<br>3 Form C contacts  | REL-OR-24DC/3x21<br>REL-OR-24AC/3x21<br>REL-OR-120AC/3x21<br>REL-OR-230AC/3x21 | 28 34 27 4<br>28 34 28 7<br>28 34 29 0<br>28 34 30 0 |

## Technical Data

### Coil Side DC Coils

Nominal input voltage  $U_N$   
Permissible range (with reference to  $U_N$ )  
Typical input current at  $U_N$   
Response time at  $U_N$   
Release time at  $U_N$   
DC coil resistance at 20°C (68°F)

24 V DC  
0.8 - 1.1  
56 mA  
30 ms, maximum  
20 ms, maximum  
430  $\Omega$   $\pm 15\%$

### Coil Side AC Coils (50 Hz/60 Hz)

Nominal input voltage  $U_N$   
Permissible range (with reference to  $U_N$ )  
Typical input current at  $U_N$  (50 Hz/60 Hz)  
Response time at  $U_N$  (depending on phase relation)  
Release time at  $U_N$  (depending on phase relation)  
DC coil resistance at 20°C (68°F)

|                        |                          |                          |
|------------------------|--------------------------|--------------------------|
| 24 V AC                | 120 V AC                 | 230 V AC                 |
| 0.8 - 1.1              | 98 mA/88 mA              | 20 mA/18 mA              |
| 98 mA/88 mA            | 20 mA/18 mA              | 12 mA/11 mA              |
| 20 ms, maximum         | 20 ms, maximum           | 20 ms, maximum           |
| 62 $\Omega$ $\pm 15\%$ | 1520 $\Omega$ $\pm 15\%$ | 6170 $\Omega$ $\pm 15\%$ |

### Contact Side

Contact type  
Contact material  
Maximum switching voltage  
Minimum switching voltage  
Limiting continuous current  
Minimum switching current  
Maximum shutdown power (ohmic load)  
Minimum switching power

### REL-OR...2x21 and REL-OR...3x21

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

### General Data

Test voltage: Winding/contact  
Contact/contact

2.5 kV, 50 Hz, 1 minute

Ambient operating temperature range

2.5 kV, 50 Hz, 1 minute

Nominal operating mode

-10°C to +40°C (+14°F to +104°F)

Mechanical service life

100% ED

Electrical service life

$10 \times 10^6$  cycles

Standards/specifications

See diagram on page 4

IEC 60 664/IEC 60 664 A/DIN VDE 0110,  
degree of pollution 3, Surge Voltage Category II

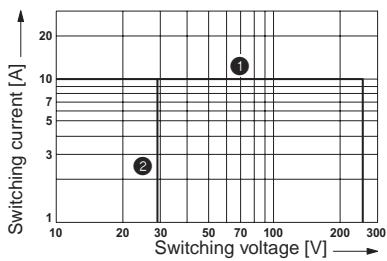
UL; CSA; VDE

Any can be mounted without spacing

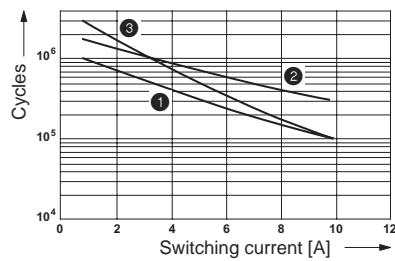
## Diagrams for REL-OR... Octal Relays

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

Shutdown power



Electrical service life



- ① AC, ohmic load
- ② DC, ohmic load

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