

# General Purpose Relay

# MK

- Exceptionally reliable general purpose relay.
- Long life (minimum 100,000 electrical operations) assured by silver contacts.
- Built-in operation indicator (mechanical, LED), diode surge suppression, Varistor surge suppression.
- The contact operation can be easily checked by mechanical indicator and/or push-to-test button options.
- Conforms to CENELEC standards.
- VDE approved versions available.



## Ordering Information

To Order: Select the part number and add the desired coil voltage rating (e.g., MK3P5-S-AC120).

| Type                       | Terminal | Coil  | Contact form | Model                |                                            |
|----------------------------|----------|-------|--------------|----------------------|--------------------------------------------|
|                            |          |       |              | Mechanical indicator | Mechanical indicator & push-to-test button |
| Standard                   | Plug-in  | AC/DC | DPDT         | MK2P-I               | MK2P-S                                     |
|                            |          |       | 3PDT         | MK3P-5-I             | MK3P-5-S                                   |
| LED indicator              |          |       | DPDT         | MK2PN-I              | MK2PN-S                                    |
|                            |          |       | 3PDT         | MK3PN-5-I            | MK3PN-5-S                                  |
| LED indicator and diode    |          | DC    | DPDT         | MK2PND-I             | MK2PND-S                                   |
|                            |          |       | 3PDT         | MK3PND-5-I           | MK3PND-5-S                                 |
| LED indicator and varistor |          | AC    | DPDT         | MK2PNV-I             | MK2PNV-S                                   |
|                            |          |       | 3PDT         | MK3PNV-5-I           | MK3PNV-5-S                                 |
| Diode                      |          | DC    | DPDT         | MK2PD-I              | MK2PD-S                                    |
|                            |          |       | 3PDT         | MK3PD-5-I            | MK3PD-5-S                                  |
| Varistor                   |          | AC    | DPDT         | MK2PV-I              | MK2PV-S                                    |
|                            |          |       | 3PDT         | MK3PV-5-I            | MK3PV-5-S                                  |

- Note:** 1. Reverse polarity versions available on DC coil types. Consult your OMRON representative for further information.  
 2. VDE approved versions are available. Consult your OMRON representative for further information.

## ■ Accessories (Order separately)

To Order: Select the appropriate part numbers for sockets, clips, and mounting tracks (if required) from the available types chart.

### Track Mounted Sockets

| Relay type   | Model    |                      |                                           |
|--------------|----------|----------------------|-------------------------------------------|
|              | Socket   | Relay hold-down clip | Mounting track/end plate                  |
| SPDT<br>DPDT | PF083A-E | PFC-A1               | PFP-100N or PFP-50N and PFP-M (end plate) |
| 3PDT         | PF113A-E | PFC-A1               | PFP-100N or PFP-50N and PFP-M (end plate) |

## ■ Accessories (continued)

### Back Connecting Sockets

| Relay type | Model   |                      |
|------------|---------|----------------------|
|            | Socket  | Relay hold-down clip |
| SPDT       | PL08    | PLC-E                |
| DPDT       | PLE08-0 | PLC-10               |
|            | PL08-Q  | PLC-E                |
| 3PDT       | PL11    | PLC-E                |
|            | PLE11-0 | PLC-10               |
|            | PL11-Q  | PLC-E                |

## Specifications

### ■ Contact Data

| Load                    | Resistive load (p.f. = 1)         |                                                      | Inductive load (p.f. = 0.4) |
|-------------------------|-----------------------------------|------------------------------------------------------|-----------------------------|
|                         | 2 Pole                            | 3 Pole                                               |                             |
| Rated load              | 10 A at 250 VAC<br>10 A at 28 VDC | 10 A at 120 VAC<br>10 A at 28 VDC<br>10 A at 250 VAC | 7 A at 250 VAC              |
| Contact material        | Ag                                |                                                      |                             |
| Carry current           | 10 A                              |                                                      |                             |
| Max. operating voltage  | 250 VAC, 250 VDC                  |                                                      |                             |
| Max. operating current  | 10 A                              |                                                      |                             |
| Max. switching capacity | 2,500 VA<br>280 W                 | 2,500 VA/1,250 VA (NO/NC contacts)<br>280 W          | 1,750 VA                    |
| Min. permissible load   | 10 mA at 1 VDC                    |                                                      |                             |

### ■ Coil Data

#### AC

| Rated voltage (VAC) | Rated current (mA) (at 60 Hz) | Coil resistance (Ω) | Coil inductance (Ref. value) (H) |             | Pick-up voltage               | Dropout voltage                                  | Maximum voltage | Power consumption (mW)                                             |
|---------------------|-------------------------------|---------------------|----------------------------------|-------------|-------------------------------|--------------------------------------------------|-----------------|--------------------------------------------------------------------|
|                     |                               |                     | Armature OFF                     | Armature ON |                               |                                                  |                 |                                                                    |
| 6                   | 360                           | 3.9                 | 0.0423                           | 0.0201      | 80% max.<br>Approx.<br>2.7 VA | 30% min.<br>(at 60 Hz)<br>25% min.<br>(at 50 Hz) | 110% max.       | Approx.<br>2.3 VA<br>(at 60 Hz)<br>Approx.<br>2.7 VA<br>(at 50 Hz) |
| 12                  | 180                           | 16.3                | 0.3270                           | 0.1666      |                               |                                                  |                 |                                                                    |
| 24                  | 88.0                          | 68.0                | 0.6940                           | 0.3760      |                               |                                                  |                 |                                                                    |
| 50                  | 39.0                          | 338                 | 3.195                            | 1.530       |                               |                                                  |                 |                                                                    |
| 110                 | 21.0                          | 1240                | 13.45                            | 7.32        |                               |                                                  |                 |                                                                    |
| 120                 | 18.0                          | 1578                | 15.04                            | 7.19        |                               |                                                  |                 |                                                                    |
| 220                 | 11.0                          | 5090                | 49.73                            | 27.02       |                               |                                                  |                 |                                                                    |
| 240                 | 9.2                           | 6737                | 58.62                            | 32.07       |                               |                                                  |                 |                                                                    |

#### DC

| Rated voltage (VDC) | Rated current (mA) (at 60 Hz) | Coil resistance (Ω) | Coil inductance (Ref. value) (H) |             | Pick-up voltage               | Dropout voltage | Maximum voltage | Power consumption (mW) |
|---------------------|-------------------------------|---------------------|----------------------------------|-------------|-------------------------------|-----------------|-----------------|------------------------|
|                     |                               |                     | Armature OFF                     | Armature ON |                               |                 |                 |                        |
| 6                   | 255                           | 23.5                | 0.206                            | 0.106       | 80% max.<br>Approx.<br>2.7 VA | 15% min.        | 110% max.       | Approx.<br>1.5 W       |
| 12                  | 126                           | 95                  | 0.963                            | 0.449       |                               |                 |                 |                        |
| 24                  | 56                            | 430                 | 4.915                            | 2.478       |                               |                 |                 |                        |
| 48                  | 29.5                          | 1630                | 16.685                           | 10.487      |                               |                 |                 |                        |
| 110                 | 15.1                          | 7300                | 80.2                             | 42.6        |                               |                 |                 |                        |

**Note:** 1. The rated current and coil resistance are measured at a coil temperature of 23°C (73°F) with a tolerance of ±15% for DC rated current and +15%, -20% for AC rated current.

2. The rated current is reference value.

3. Performance characteristic data are measured at a coil temperature of 23°C (73°F).

4. For models with the LED indicator built-in, add an LED current of approximately 0 thru 5 mA to the rated current.