

New Super MK Relays.

Models with Latching Lever Added to the Series.

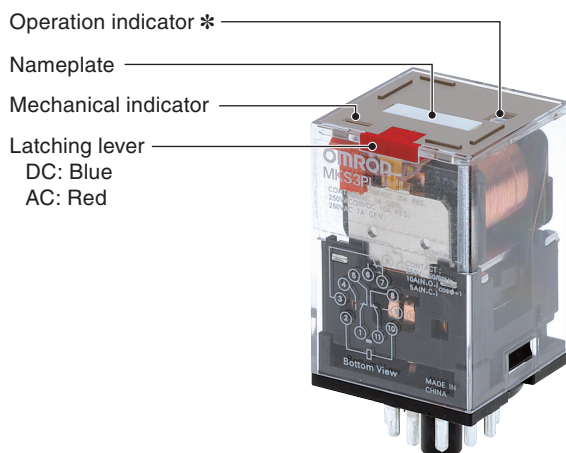
- Same mounting and internal wiring as the previous Super MK Relays
- Built-in mechanical indicator enables checking contact operation.
- Two modes can be used to check circuits for models with latching lever.
- Nameplate provided on models with latching lever.
- All materials are RoHS compliant.
- UL and IEC (TÜV) certification.



For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

Features

Models with Latching Lever

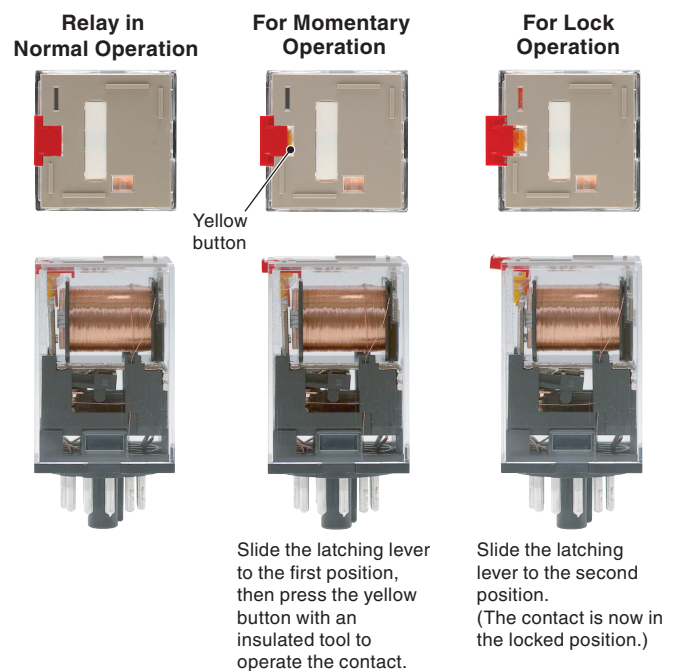


* The operation indicator is built in only on specified models.

Example of Applications of Models with Latching Levers

Operation checks in relay sequence circuits

Operating Method for Latching Lever



Model Number Structure

Model Number Legend

MKS□□□□□-□-□
1 2 3 4 5 6 7

1. Contact Form

- 2: DPDT
- 3: 3PDT

2. Terminals

- P: Plug-in

3. Mechanical Indicator/Test Button

- Blank: Mechanical indicator
- I: Mechanical indicator and lockable test button

4. LED Indicator

- Blank: Standard
- N: LED indicator

5. Coil Polarity

- Blank: Standard
- 1: Reverse polarity (DC coil only)

6. Surge Absorption

- Blank: Standard
- D: Surge absorber diode (DC coil only)
- V: Surge absorber varistor (AC coil only)

7. Internal Connections

- Blank: Standard
- 2 or 5: Non-standard connections (Refer to "Terminal Arrangement and Internal Connection (Bottom View)".)

8. Rated Voltage

- (Refer to "Coil Ratings".)

Ordering Information

When your order, specify the rated voltage.

List of Models

Type	Terminals	Contact form	Internal connections (See note 3.)	With mechanical indicator	With mechanical indicator and lockable test button	Coil ratings	
Standard Models	Plug-in	DPDT	Standard	MKS2P	MKS2PI	AC/DC	
			Non-standard	MKS2P-2	MKS2PI-2		
		3PDT	Standard	MKS3P	MKS3PI		
			Non-Standard	MKS3P-2	MKS3PI-2		
				MKS3P-5	MKS3PI-5		
Models with LED Indicator (See note 2.)		DPDT	Standard	MKS2PN(1)	MKS2PIN(1)	AC/DC	
			Non-standard	MKS2PN(1)-2	MKS2PIN(1)-2		
		3PDT	Standard	MKS3PN(1)	MKS3PIN(1)		
			Non-Standard	MKS3PN(1)-2	MKS3PIN(1)-2		
				MKS3PN(1)-5	MKS3PIN(1)-5		
Models with Diode (See note 2.)		DPDT	Standard	MKS2P(1)-D	MKS2PI(1)-D	DC	
			Non-standard	MKS2P(1)-D-2	MKS2PI(1)-D-2		
		3PDT	Standard	MKS3P(1)-D	MKS3PI(1)-D		
			Non-Standard	MKS3P(1)-D-2	MKS3PI(1)-D-2		
				MKS3P(1)-D-5	MKS3PI(1)-D-5		
Models with LED Indicator and Diode		DPDT	Standard	MKS2PN-D	MKS2PIN-D	DC	
			Non-standard	MKS2PN-D-2	MKS2PIN-D-2		
		3PDT	Standard	MKS3PN-D	MKS3PIN-D		
			Non-Standard	MKS3PN-D-2	MKS3PIN-D-2		
				MKS3PN-D-5	MKS3PIN-D-5		
Models with Varistor		DPDT	Standard	MKS2P-V	MKS2PI-V	AC	
			Non-standard	MKS2P-V-2	MKS2PI-V-2		
		3PDT	Standard	MKS3P-V	MKS3PI-V		
			Non-Standard	MKS3P-V-2	MKS3PI-V-2		
				MKS3P-V-5	MKS3PI-V-5		
Models with LED Indicator and Varistor		DPDT	Standard	MKS2PN-V	MKS2PIN-V	AC	
			Non-standard	MKS2PN-V-2	MKS2PIN-V-2		
		3PDT	Standard	MKS3PN-V	MKS3PIN-V		
			Non-Standard	MKS3PN-V-2	MKS3PIN-V-2		
				MKS3PN-V-5	MKS3PIN-V-5		

Note: 1. When ordering, add the rated voltage to the model number. Rated voltages are given in the coil ratings table in the specifications.

Example: MKS3P 24 VDC

Rated voltage

2. The DC coil comes in two types: standard coil polarity and reverse coil polarity.

Refer to *Terminal Arrangement and Internal Connections (Bottom View)*.

Example: MKS2PIN1-2 24 VDC

Reverse coil polarity

3. Refer to *Terminal Arrangement and Internal Connections (Bottom View)* for non-standard internal connections.

List of Models (Order Separately)

Item	Type	Model
Track-mounted Socket	8-pin	PF083A-E
	11-pin	PF113A-E
	8-pin	PF083A-D
	11-pin	PF113A-D
Hold-down Clip (For PF083A-E and PF113A-E)		PFC-A1

Specifications

Ratings

Coil Ratings

Rated voltage		Rated current		Coil resistance	Must operate voltage	Must release voltage	Max. voltage	Power consumption
		50 Hz	60 Hz					
AC	6 V	443 mA	385 mA	3.1 Ω	80% max. of rated voltage	30% min. of rated voltage at 60 Hz 25% min. of rated voltage at 50 Hz	110% of rated voltage	Approx. 2.3 VA at 60 Hz Approx. 2.7 VA at 50 Hz
	12 V	221 mA	193 mA	13.7 Ω				
	24 V	110 mA	96.3 mA	48.4 Ω				
	100 V	26.6 mA	23.1 mA	760 Ω				
	110 V	24.2 mA	21.0 mA	932 Ω				
	200 V	13.3 mA	11.6 mA	3,160 Ω				
	220 V	12.1 mA	10.5 mA	3,550 Ω				
	230 V	10.0 mA	11.5 mA	4,250 Ω				
	240 V	11.0 mA	9.6 mA	4,480 Ω				
DC	6 V	224 mA		26.7 Ω	80% max. of rated voltage	15% min. of rated voltage	110% of rated voltage	Approx. 1.4 W
	12 V	112 mA		107 Ω				
	24 V	55.8 mA		430 Ω				
	48 V	28.1 mA		1,710 Ω				
	100 V	13.5 mA		7,390 Ω				
	110 V	12.3 mA		8,960 Ω				
	125 V	10.8 mA		11,576 Ω				

- Note:**
1. The rated current and coil resistance are measured at a coil temperature of 23°C with tolerances of +15%/–20% for AC rated current and ±15% for DC coil resistance.
 2. Performance characteristic data are measured at a coil temperature of 23°C.
 3. The maximum voltage is one that is applicable instantaneously to the Relay coil at 23°C and not continuously.
 4. For DC-operated Relays with the LED indicator built-in, add an LED current of approx. 5 mA to the rated current.

Contact Ratings

Load		Resistive load (cosφ = 1)	Inductive load (cosφ = 0.4)
Contact mechanism		Single	
Contact material		AgSnIn	
Rated load	NO	10 A, 250 VAC 10A, 30 VDC	7 A, 250 VAC
	NC	5 A, 250 VAC 5 A, 30 VDC	
Rated carry current		10 A	
Max. switching voltage		250 VAC, 250 VDC	
Max. switching current		10 A	
Max. switching power	NO	2,500 VA/300 W	
	NC	1,250 VA/150 W	

Characteristics

Contact resistance	100 mΩ max.
Operate time	AC: 20 ms max. DC: 30 ms max.
Release time	20 ms max. (40 ms max. for built-in Diode Relays)
Max. operating frequency	Mechanical: 18,000 operations/h Electrical: 1,800 operations/h (under rated load)
Insulation resistance	100 MΩ min. (at 500 VDC)
Dielectric strength	2,500 VAC 50/60 Hz for 1 min between coil and contacts 1,000 VAC 50/60 Hz for 1 min between contacts of same polarity and terminals of the same polarity 2,500 VAC 50/60 Hz for 1 min between current-carrying parts, non-current-carrying parts, and opposite polarity
Insulation method	Basic insulation
Impulse withstand voltage	4.5 kV between coil and contacts (with $1.2 \times 50 \mu\text{s}$ impulse wave) 3.0 kV between contacts of different polarity (with $1.2 \times 50 \mu\text{s}$ impulse wave)
Pollution degree	3
Rated insulation voltage	250 V
Vibration resistance	Destruction: 10 to 55 to 10 Hz, 0.75-mm single amplitude (1.5-mm double amplitude) Malfunction: 10 to 55 to 10 Hz, 0.5-mm single amplitude (1.0-mm double amplitude)
Shock resistance	Destruction: 1,000 m/s ² (approx. 100 G) Malfunction: 100 m/s ² (approx. 10 G)
Endurance	Mechanical: 5,000,000 operations min. (at 18,000 operations/h under rated load) Electrical: 100,000 operations h. (at 1,800 operations/h under rated load)
Failure rate P level (reference value)	10 mA at 1 VDC
Ambient temperature	Operating: -40 to 60°C (with no icing or condensation)
Ambient humidity	Operating: 5% to 85%
Weight	Approx. 90 g

Note: 1. The values given above are initial values.

2. P level: $\lambda_{60} = 0.1 \times 10^{-6}/\text{operation}$

3. Ambient temperature of models with LED indicator is -25 to 60°C.

Approved Standards

UL508 (File No. E41515) 

Coil ratings	Contact ratings	Operations
6 to 110 VDC 6 to 240 VAC	N.O. contact 10 A, 250 V AC 50/60 Hz (Resistive) 10 A, 30 V DC (Resistive) 7 A, 250 V AC 50/60 Hz (General Use)	100,000
	N.C. contact 10 A, 250 V AC 50/60 Hz (Resistive) 10 A, 30 V DC (Resistive) 7 A, 250 V AC 50/60 Hz (General Use)	
		100,000

CSA Standard: CSA C22.2 No. 14 (File No. LR35535) 

Coil ratings	Number of Poles	Contact ratings	Operations
6 to 125 VDC 6 to 240 VAC	2	10 A, 250 V AC (Resistive) 10 A, 30 V DC (Resistive) 7 A, 250 V AC (General Use)	100,000
	3	10 A, 250 V AC (Resistive) Same Polarity 10 A, 30 V DC (Resistive) Same Polarity 7 A, 250 V AC (General Use) Same Polarity	100,000

IEC Standard/TÜV Certification: IEC61810-1
(Certification No. R50104853) 

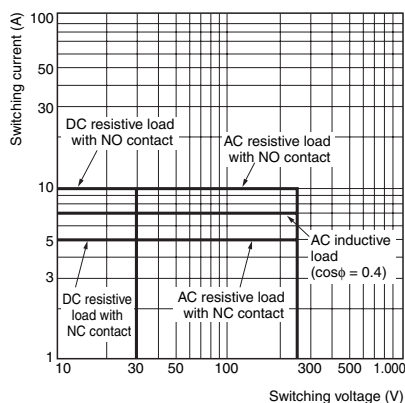
Coil ratings	Contact ratings	Operations
6, 12, 24, 48, 100, 110 VDC 6, 12, 24, 100, 110, 200, 220, 240 VAC	N.O. contact 10 A, 250 V AC 50/60 Hz (Resistive) 10 A, 30 V DC (Resistive) 7 A, 250 V AC 50/60 Hz (General Use)	100,000
	N.C. contact 5 A, 250 V AC 50/60 Hz (Resistive) 5 A, 30 V DC (Resistive) 7 A, 250 V AC 50/60 Hz (General Use)	
		100,000

Note: When Relays are mounted on the PF083A-E or PF113A-E, the maximum carrying current is 9 A.

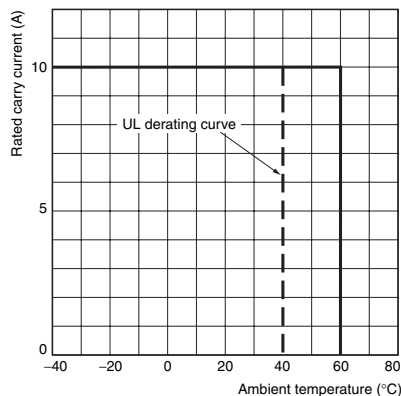
Engineering Data

Reference Data

Maximum Switching Power



Rated Carry Current vs. Ambient Rated Temperature



Note: The lower limit of the ambient operating temperature for models with built-in operation indicators is -25°C.