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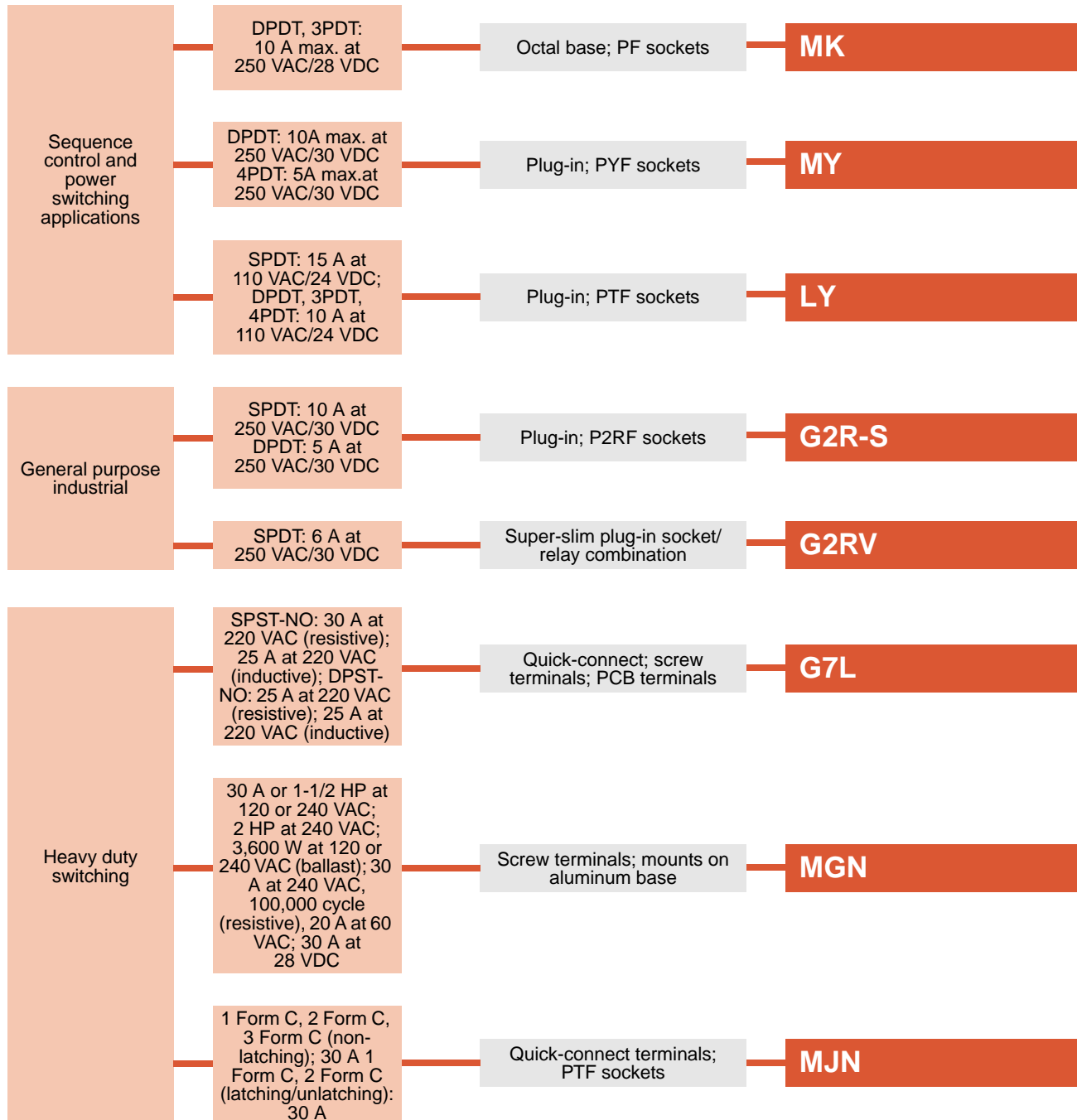
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Selection Guide

Electromechanical Relays

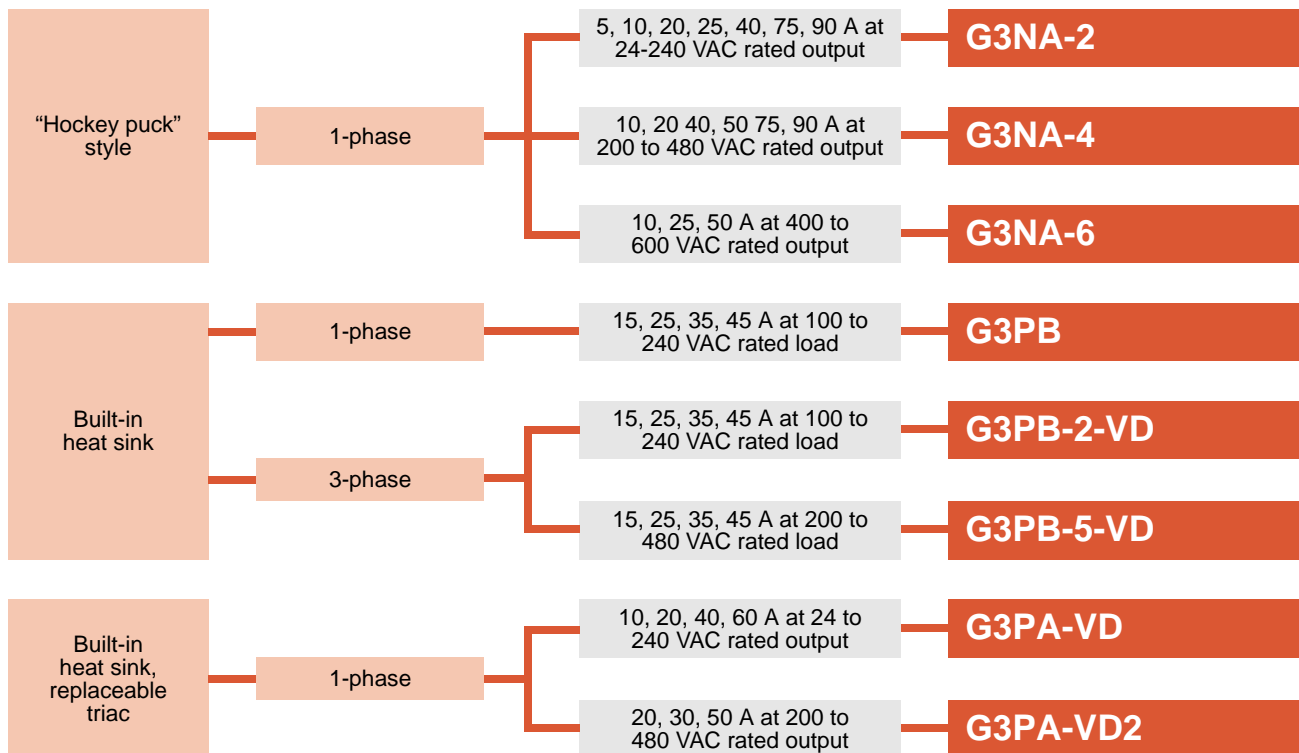


Selection Guide

Electromechanical Relays (continued)

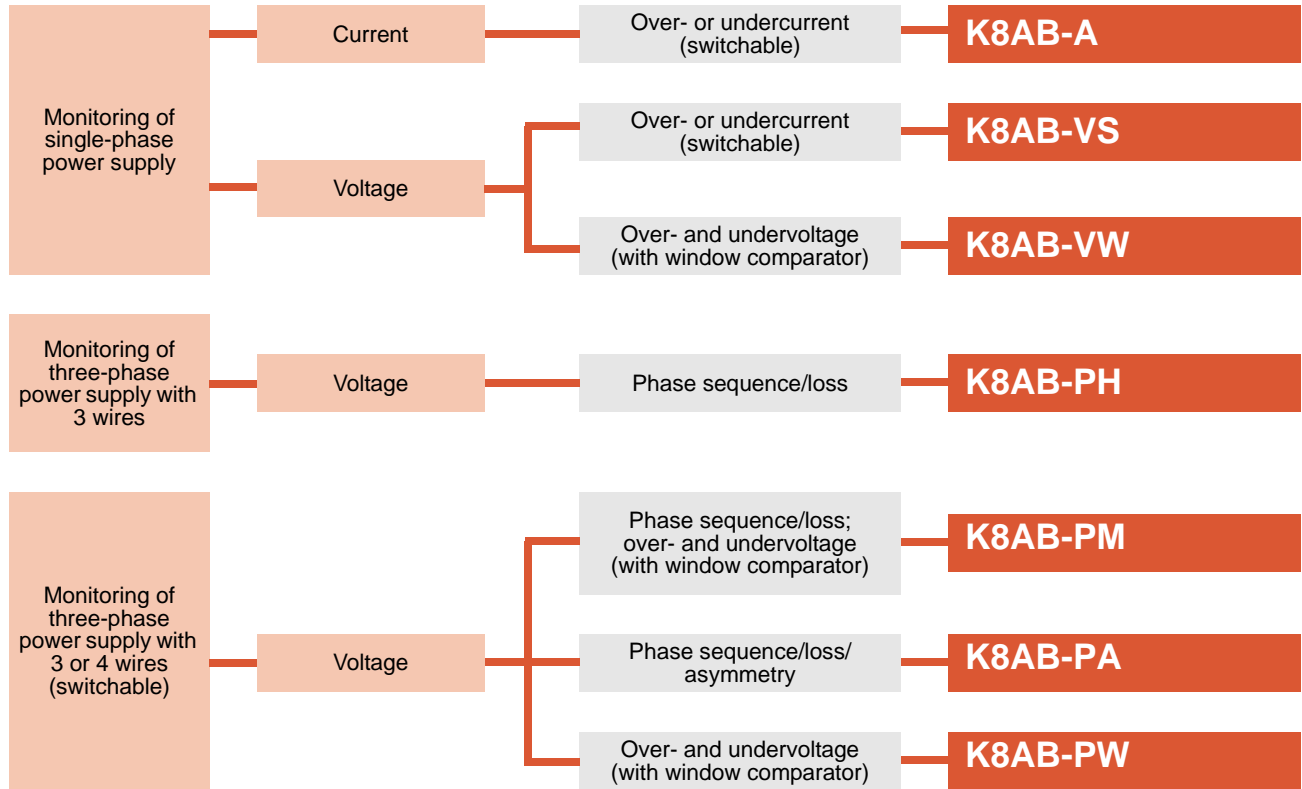


Solid State Relays



Selection Guide

Monitoring Relays



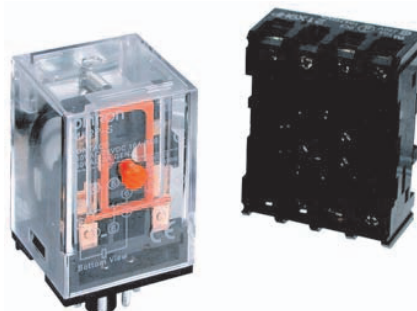
Electromechanical Relays MK



General-Purpose Plug-In Power Relay

Reliable MK relays with silver contacts ensure a long service life. Easily check contact operation by mechanical indicator and/or push-to-test button options.

- 8-pin DPDT and 11-pin 3PDT contact types
- Mechanical and LED operation indication
- Push-to-test button
- Diode and varistor surge suppression available
- 10 A rated load
- Reverse polarity models available
- All relays fit standard 8-pin or 11-pin round sockets
- RoHS compliant



Ordering Information

Relays

Type	Features	Coil polarity	Coil ratings	Contact form model			
				DPDT (2-pole)	3PDT (3-pole)		
Standard	Mechanical indicator	Standard	AC and DC	MK2P-I	MK3P-5-I		
	Mechanical indicator and push-to-test button			MK2P-S	MK3P-5-S		
LED indicator	Mechanical indicator			DC only	MK2PN-I	MK3PN-5-I	
	Mechanical indicator and push-to-test button				MK2PN-S	MK3PN-5-S	
LED indicator and diode	Mechanical indicator				AC only	MK2PND-I	MK3PND-5-I
	Mechanical indicator and push-to-test button					MK2PND-S	MK3PND-5-S
LED indicator and varistor	Mechanical indicator		DC only		MK2PNV-I	MK3PNV-5-I	
	Mechanical indicator and push-to-test button				MK2PNV-S	MK3PNV-5-S	
Diode	Mechanical indicator		AC only	MK2PD-I	MK3PD-5-I		
	Mechanical indicator and push-to-test button			MK2PD-S	MK3PD-5-S		
Varistor	Mechanical indicator			MK2PV-I	MK3PV-5-I		
	Mechanical indicator and push-to-test button			MK2PV-S	MK3PV-5-S		

Accessories

Item	Description	Model
Sockets	DIN-rail/surface-mounting, screw terminal, MK2 relays	PF083A-E
	DIN-rail/surface-mounting, screw terminal, MK3 relays	PF113A-E
Hold-down clips	Fits both MK2 and MK3 relays	PFC-A1

Specifications

- Contact form: DPDT, 3PDT
- Contact ratings:
 - Resistive: 10 A at 250 VAC/28 VDC
 - Inductive: 7 A at 250 VAC
- Operate time: 20 ms max. (AC); 30 ms max. (DC)
- Release time: 20 ms max.
- Must operate voltage: 80% max. of rated voltage
- Must release voltage: 30% max. of rated voltage (AC); 15% max. (DC)
- Electrical service life: 100,000 operations minimum
- Dimensions: 34.5 H x 34.5 W x 52.5 D mm

Coil Ratings

	Rated voltage	Must operate voltage	Must release voltage	Max. voltage	Power consumption
		% of rated voltage			
AC	12 V, 24 V, 50 V, 100 V, 110 V	80% max.	30%	90 to 110%	2.3 VA (60 Hz)
	120 V, 220 V, 230 V, 240 V	80%			2.7 VA (60 Hz)
DC	6 V, 12 V, 24 V, 48 V, 100/110 V	80% max.	15%		1.5 W

Technical Data

Item	2- and 3-pole
Operating time	AC: 20 ms max.; DC: 30 ms max.
Release time	20 ms max.
Dielectric strength	2,500 VAC (coil contact)
Ambient temperature	Operating -10°C to 40°C (no icing or condensation)
Size in mm	53.3 H x 34.5 W x 34.5 D

Contact Ratings

Number of poles	2-pole and 3-pole	
Load	Resistive load	Inductive load
Rated load	10 A at 250 VAC	7 A at 250 VAC
	10 A at 28 VDC	—
Rated carry current	10 A	
Max. switching voltage	250 VAC, 250 VDC	
Max. switching current	10 A	
Max. switching power	2,500 VA, 280 W	1,750 VA
Min. permissible load	10 mA at 1 VDC	
Mechanical life	10,000,000 operations minimum	
Electrical life	100,000 operations minimum	

Electromechanical Relays MY



Plug-In Mini Power Relay Offer Time-Saving Features

Versatile MY relays offer convenience features that save time during installation, commissioning and operation.

- 10 A (DPDT) and 5 A (4DPT) contact types
- Gold-clad contact for maximum reliability (MY4)
- Mechanical and LED operation indication
- Push-to-test button offers momentary and lockable settings
- Large write-on label area allows clear identification
- Hermetically sealed (MYH) and latching (MY2K) versions available
- All relays have plug-in socket/solder terminals
- RoHS compliant



Ordering Information

Type	Features	Coil polarity	Coil ratings	Contact form model		
				DPDT (2-pole)	4PDT (4-pole)	4PDT (4-pole) bifurcated
Standard	LED indicator	Standard	AC and DC	MY2N	MY4N	MY4ZN
	LED indicator and lockable test button			MY2IN	MY4IN	MY4ZIN
	Without LED indicator			MY2	MY4	MY4Z
With built-in diode	LED indicator	Standard	DC only	MY2N-D2	MY4N-D2	MY4ZN-D2
	LED indicator and lockable test button			MY2IN-D2	MY4IN-D2	MY4ZIN-D2
With built-in CR	LED indicator	Standard	110/120 VAC and 220/240 VAC only	MY2N-CR	MY4N-CR	MY4ZN-CR
	LED indicator and lockable test button			MY2IN-CR	MY4IN-CR	MY4ZIN-CR
Standard	LED indicator	Reversed	DC only	MY2N1	MY4N1	MY4ZN1
	LED indicator and lockable test button			MY2IN1	MY4IN1	MY4ZIN1
With built-in diode	LED indicator	Reversed	DC only	MY2N1-D2	MY4N1-D2	MY4ZN1-D2
	LED indicator and lockable test button			MY2IN1-D2	MY4IN1-D2	MY4ZIN1-D2

Note: When ordering add the rated coil voltage and (S) to the ordering number, for example: MY4 110/120VAC (S), see specifications

Accessories

Applicable relay model	DIN-rail / surface-mounting socket		Back-mounting socket	
	Screwless clamp terminal	Screw terminal	Solder terminals	Solder terminals with clip
MY2	PYF08S	PYF08A-E	PY08	PY08-Y1
	—	PYF08A-N	—	—
MY4	PYF14S	PYF14A-E	PY14	PY14-Y1
	—	PYF14A-N	—	—

Specifications

Coil Ratings

	Rated voltage	Must operate voltage	Must release voltage	Max. voltage	Power consumption
		% of rated voltage			
AC	12 V, 24 V	80% max.	30%	110%	1.0 to 1.2 VA (60 Hz)
	110/120 V, 220/240 V	80%			0.9 to 1.1 VA (60 Hz)
DC	6 V, 12 V, 24 V, 48 V, 100/110 V	80% max.	10%		0.9 W

Technical Data

Item	1-pole
Operating time	20 ms max.
Release time	20 ms max.
Dielectric strength	2,000 VAC (coil contact)
Ambient temperature	Operating -55°C to 70°C (no icing or condensation)
Size in mm	28 H x 21.5 W x 36 D

Contact Ratings

Number of poles	2-pole		4-pole		4-pole (bifurcated)	
	Resistive load	Inductive load	Resistive load	Inductive load	Resistive load	Inductive load
Rated load	5 A at 250 VAC	2 A at 250 VAC	3 A at 250 VAC	0.8 A at 250 VAC	3 A at 250 VAC	0.8 A at 250 VAC
	5 A at 30 VDC	2 A at 30 VDC	3 A at 30 VDC	1.5 A at 30 VDC	3 A at 30 VDC	1.5 A at 30 VDC
Rated carry current	10 A		5 A			
Max. switching voltage	250 VAC, 125 VDC					
Max. switching current	10 A		5 A			
Max. switching power	2,500 VA, 300 W	1,250 VA, 300 W	1,250 VA, 150 W	500 VA, 150 W	1,250 VA, 150 W	500 VA, 150 W
Min. permissible load	1 mA at 5 VDC		1 mA at 1 VDC		100 µA at 1 VDC	
Mechanical life	AC: 50,000,000 operations min., DC: 100,000,000 operations min.				20,000,000 operations min.	
Electrical life	500,000 operations minimum		200,000 operations		100,000 operations	

Electromechanical Relays

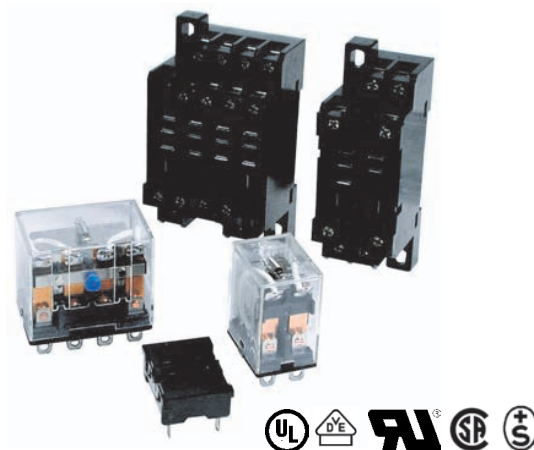
LY



Plug-In General-Purpose Relay

The LY series is equipped with an arc barrier and built-in diode. Wide range of contact forms and mounting options available. Long dependable service life is assured by Ag-alloy contacts.

- SPDT, DPDT, 3PDT and 4PDT contact types
- 10 A rated load
- DIN rail by socket, also PCB and flange mounting types available
- High dielectric strength (2,000 VAC)
- Choose models with single or bifurcated contacts, LED indicator, diode surge suppression, push-to-test button, or RC circuit
- All models meet UL and CSA approvals; VDE, LR, and SEV approved versions are available
- Relays plug into sockets, offer solder terminals
- RoHS compliant



Specifications

- Contact form: SPDT, DPDT, 3PDT, 4PDT
- Contact ratings:
 - SPDT: 15 A at 110 VAC/24 VDC (resistive);
 - 10 A at 110 VAC/7 A at 24 VDC (inductive)
 - DPDT, 3PDT, 4PDT: 10 A at 110 VAC/24 VDC (resistive);
 - 7.5 A at 110 VAC/5 A at 24 VDC (inductive)
 - DPDT bifurcated contacts: 5 A at 110 VAC/24 VDC (resistive);
 - 4 A at 110 VAC/24 VDC (inductive)
- Operate time: 25 ms max.
- Release time: 25 ms max.
- Must operate voltage: 80% max. of rated voltage
- Must release voltage: 30% max. of rated voltage (AC); 10% max. (DC)
- Electrical service life: 200,000 operations minimum;
 - 500,000 operations minimum, bifurcated contact models
- Dimensions:
 - LY1, LY2: 28 H x 21.5 W x 36 D mm
 - LY3: 28 H x 31.5 W x 36.5 D mm
 - LY4: 28 H x 41.5 W x 36 D mm

Ordering Information

Relays

Features	Contact form	Coil ratings		Power consumption	Model	
		Voltage	Resistance (ohms)			
Plug-in	SPDT	24 VAC	180	1.0 to 1.2 VA	LY1-AC24	
		120 VAC	4430	0.9 to 1 VA	LY1-AC110/120	
		12 VDC	160	0.9 W	LY1-DC12	
		24 VDC	650		LY1-DC24	
	DPDT			180	1.0 to 1.2 VA	LY2-AC24
			120 VAC	4430	0.9 to 1 VA	LY2-AC110/120
			12 VDC	160	0.9 W	LY2-DC12
			24 VDC	650		LY2-DC24
	3PDT		120 VAC	2300	1.6 to 2.0 VA	LY3-AC120
			24 VDC	410	1.4 W	LY3-DC24
	4PDT		120 VAC	1800	1.95 to 2.5 VA	LY4-AC120
			12 VDC	100	1.5 W	LY4-DC12
		24 VDC	650	LY4-DC24		

Relays (Continued)

Features	Contact form	Coil ratings		Power consumption	Model	
		Voltage	Resistance (ohms)			
Plug-in with LED and test button	DPDT	120 VAC	4430	0.9 to 1 VA	LY2I4N-AC110/120	
		24 VDC	650	0.9 W	LY2I4N-DC24	
Flange mounting	SPDT	24 VAC	180	1.0 to 1.2 VA	LY1F-AC24	
		120 VAC	4430	0.9 to 1 VA	LY1F-AC110/120	
		12 VDC	160	0.9 W	LY1F-DC12	
		24 VDC	650		LY1F-DC24	
	DPDT			180	1.0 to 1.2 VA	LY2F-AC24
		120 VAC	4430	0.9 to 1 VA	LY2F-AC110/120	
		12 VDC	160	0.9 W	LY2F-DC12	
		24 VDC	650		LY2F-DC24	

Accessories

Item	Description	Model
Sockets	DIN-rail/surface-mounting, screw terminal, LY1 (1-pole), LY2 (2-pole) relays	PTF08A-E
	DIN-rail/surface-mounting, screw terminal, LY3 (3-pole) relays	PTF11A
	DIN-rail/surface-mounting, screw terminal, LY4 (4-pole) relays	PTF14A-E
	Back mounting socket, solder terminals, LY1 (1-pole), LY2 (2-pole) relays	PT08
	Back mounting socket, solder terminals, LY3 (3-pole) relays	PT11
	Back mounting socket, solder terminals, LY4 (4-pole) relays	PT14

Electromechanical Relays

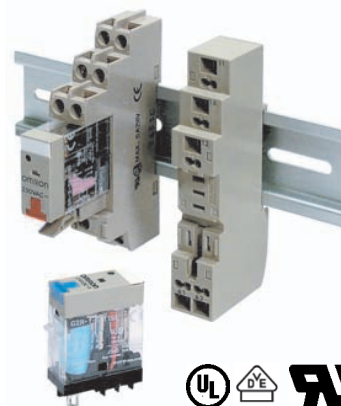
G2R-S

Quick Link
R225

General-Purpose, Plug-In Relays

The G2RS relay sets new standards in feature design and reliability. These slim-line interface relays give enhanced features and flexibility for more user-friendly installation, commissioning and operation. G2RS comes with standard nameplate and mechanical indicator.

- Space saving - 16 mm width with socket
- LED indicator models; color coded green for DC versions, red for AC versions
- Test button, momentary and lockable, blue for DC, red for AC versions
- Diode and varistor surge suppression models available
- Additional coil voltages available
- Screw-less clamp-terminal sockets available
- RoHS compliant



Specifications

- Contact form: SPDT (G2R-1-S); DPDT (G2R-2-S)
- Contact resistance: 100 mΩ max.
- Contact ratings: 10 A at 250 VAC (G2R-1-S), resistive
 - 5 A at 250 VAC (G2R-2-S), resistive
- Minimum permissible load: SPDT: 100 mA at 5 VDC
 - DPDT: 10 mA at 5 VDC
- Operate time: 15 ms max.
- Release time: SPDT: 10 ms max. (AC), 5 ms max. (DC)
 - DPDT: 15 ms max. (AC), 10 ms max. (DC)
 - Models with diode: 20 ms max.
- Must operate voltage: 80% max. of rated voltage (AC); 70% max. (DC)
- Must release voltage: 30% min. of rated voltage (AC); 15% min. (DC)
- Electrical service life: 100,000 operations minimum
- Dimensions: 35.5 H x 13 W x 29 D mm

Ordering Information

Relays

A wide range of contact forms and coil voltages are available. Contact Omron.

Features	Contact form	Coil ratings			Power consumption	Model
		Voltage	Current (mA)	Resistance (ohms)		
General purpose	SPDT	12 VDC	43.2	278	0.53 W	G2R-1-S-DC12S
		24 VDC	21.6	1113		G2R-1-S-DC24S
		120 VAC	7.5	7286	0.9 VA at 60 Hz	G2R-1-S-AC24S
		240 VAC	3.2	30,360		G2R-1-S-AC240S
	DPDT	12 VDC	43.2	278	0.53 W	G2R-2-S-DC12S
		24 VDC	21.6	1113		G2R-2-S-DC24S
		120 VAC	7.5	7286	0.9 VA at 60 Hz	G2R-2-S-AC24S
		240 VAC	3.2	30,360		G2R-2-S-AC240S
LED indicator	SPDT	24 VDC	21.6	1113	0.53 W	G2R-1-SN-DC24S
		120 VAC	7.5	7286		G2R-2-SN-AC120S
	DPDT	240 VAC	3.2	30,360	0.9 VA at 60 Hz	G2R-2-SN-AC240S
		12 VDC	43.2	278		G2R-1-SND-DC12S
LED indicator and diode	SPDT	24 VDC	21.6	1113	0.53 W	G2R-1-SND-DC24S
		12 VDC	43.2	278		G2R-2-SND-DC24S

Accessories

Description	Model
Track mount socket for G2R-1-S, screw-less clamp terminals	P2RF-05-S
Track mount socket for G2R-1-S, screw terminals	P2RF-05-E
Back mount socket for G2R-1-S	P2R-05P
Track mount socket for G2R-2-S, screw-less clamp terminals	P2RF-08-S
Track mount socket for G2R-2-S, screw terminals	P2RF-08-E
Back mount socket for G2R-2-S	P2R-08-P

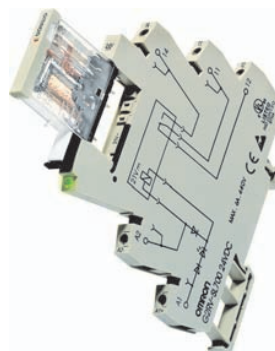
Electromechanical Relays

G2RV

Quick Link
R226

Industrial Super Slim 6 A Relay

- Reinforced relay plug-in terminals for reliable connection and replacement
- LED indicator, clear relay case, and mechanical flag for easy verification of operation
- Slim outline to save space in high volume rack and PLC applications
- Low power consumption for system energy savings
- Rated at full 6 A @ 250 VAC/30 VDC
- 6.2 mm wide screw terminal sockets or push-in clamp terminal sockets for simplified wiring
- RoHS compliant



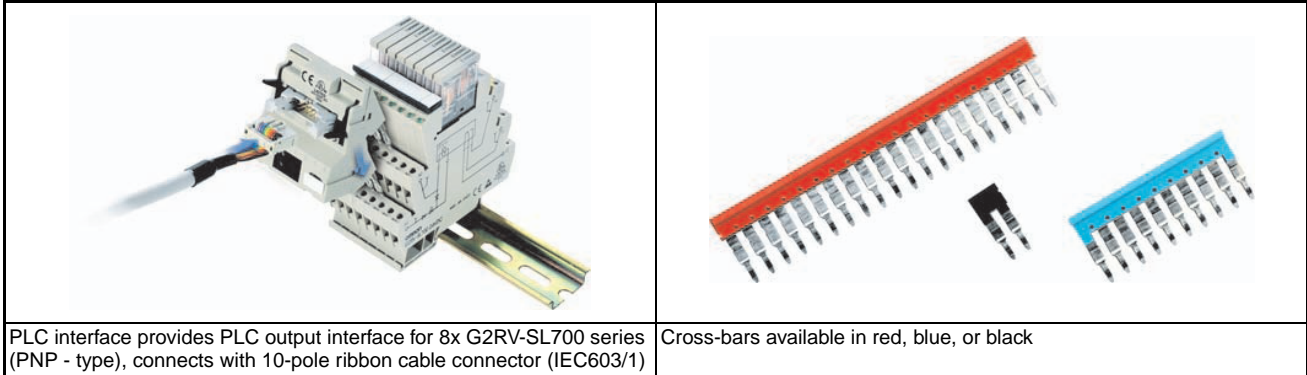
Ordering Information

Relay and Socket Combinations

Input voltage	Screw terminal models	Push-in terminal models
12 VDC	G2RV-SL700 DC12 (DC11)	G2RV-SL500 DC12 (DC11)
24 VDC	G2RV-SL700 DC24 (DC21)	G2RV-SL500 DC24 (DC21)
24 VAC/DC	G2RV-SL700 AC/DC24	G2RV-SL500 AC/DC24
48 VAC/DC	G2RV-SL700 AC/DC48	G2RV-SL500 AC/DC48
110 VAC	G2RV-SL700 AC110	G2RV-SL500 AC110
230 VAC	G2RV-SL700 AC230	G2RV-SL500 AC230

Accessories

Item	Description	Model	Note
PLC interface	Connect 8 relays and PLC output	P2RVC-8-0-F	—
Cross bar	2-pole	P2RVM-020_	_ = select color R (red) S (blue) B (black)
	3-pole	P2RVM-030_	
	4-pole	P2RVM-040_	
	10-pole	P2RVM-100_	
	20-pole	P2RVM-200_	
Label	Plastic labels for mounting on socket	R99-15	—
Label (sticker)	Paper labels for mounting on socket or relay	R99-16	
Separating plates	50 plates (minimum order) provides isolation between adjacent relays to achieve 400 V isolation	P2RV-S	
Relay	Replacement for 12 VDC G2RV-SL Series	G2RV-1-S DC11	
	Replacement for 24 VDC and 24 VAC/VDC G2RV-SL Series	G2RV-1-S DC21	
	Replacement for 48 VAC/VDC and 110, 230 VAC G2RV-SL Series	G2RV-1-S DC48	



Specifications

Coil Ratings

Rated voltage	Rated current			Operate voltage	Release voltage	Power consumption		Input voltage
	AC		DC			% of rated voltage	AC (VA) Approx.	
	50 Hz	60 Hz		% of rated voltage				
12 VDC	—	—	27.2	80%	10%	—	300 mW	±10%
24 VDC	—	—	13.3	—	—	—	—	—
24 VAC/DC	21.1	22.5	13	—	—	0.5 VA	—	—
48 VAC/DC	8.5	9	5.2	—	—	0.4 VA	250 mW	—
110 VAC	7.1	7.5	—	—	—	0.8 VA	—	—
230 VAC	7.3	7.9	—	1.7 VA	—	—	—	—

Technical Data

Item	Description
Operating time	15 ms max.
Release time	5 ms max.
Dielectric strength	4,000 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
Ambient temperature	Operating: -40°C to 70°C (with no icing or condensation)
Size in mm	97.4 H x 6.2 W x 106.7 D max. (relay and socket complete unit)

Contact Ratings

Contact form	SPDT	
Load	Resistive (co θ = 1)	Inductive (co θ = 0.4, L/R = 7 ms)
Rated load	2 A at 400 VAC; 6 A at 250 VAC; 6 A at 30 VDC	2.5 A at 250 VAC; 2 A at 30 VDC
Rated carry current	6 A	
Max. switching voltage	440 VAC, 125 VDC	
Max. switching current	6 A	
Max. switching power	1,500 VA; 180 W	500 VA; 60 W
Min. permissible load	5 mA at 5 VDC	
Mechanical life	5 million operations	
Electric life	100,000 operations (typical under rated load)	

Electromechanical Relays

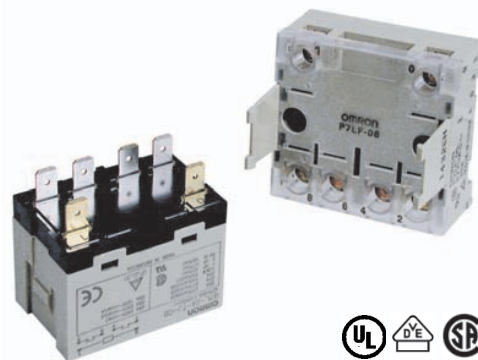
G7L

Quick Link
R227

High-Capacity Relay Withstands Voltage Drops Without Chattering

High-capacity G7L relays offer a high-withstand voltage compatible with momentary voltage drops. Even with momentary voltage drops up to 50% of rated voltage, G7L was designed for no contact chattering. Long dependable service life is assured by Ag-alloy contacts.

- SPST-NO and DPST-NO types
- 30 A rated load
- UL Class B construction standard
- Wide-range AC-activated coil that handles 100 to 120 VAC at either 50 or 60 Hz
- Miniature hinge for maximum switching capacity, particularly for inductive loads
- Flame resistant materials (UL94V-0-qualifying) used for all insulation material
- Quick-connect, screw, and PCB terminals available



- DIN rail mounting socket with cover available
- Choose models with "E" bracket and upper bracket mounting, and push-to-test button
- RoHS compliant

Specifications

- Contact form: SPST-NO, DPST-NO
- Contact ratings:
 - SPST-NO: 30 A at 220 VAC (resistive); 25 A at 220 VAC (inductive)
 - DPST-NO: 25 A at 220 VAC (resistive); 25 A at 220 VAC (inductive)
- Minimum permissible load: 100 mA at 5 VDC
- Operate time: 30 ms max.
- Release time: 30 ms max.
- Must operate voltage: 75% max. of rated voltage
- Must release voltage: 15% max. of rated voltage
 - Electrical service life: 100,000 operations minimum
- Dimensions: Quick-connect: 47 H x 33.5 W x 50.5 D mm
 - Screw terminal: 49 H x 34.5 W x 50.5 D mm
 - 68.5 D mm at mounting flanges

Ordering Information

A wide range of other coil voltages and mounting configurations are available. Contact Omron.

Relays with Quick-Connect Terminals

Features	Contact form	Coil ratings		Power consumption	Model
		Voltage	Resistance (ohms)		
Upper bracket mounting, with test button	SPST-NO	24 VAC	303	1.7 to 2.5 VA	G7L-1A-TUBJ-CB AC24
		110/120 VAC	5260		G7L-1A-TUBJ-CB AC110120
	DPST-NO	24 VAC	303		G7L-2A-TUBJ-CB AC24
		110/120 VAC	5260		G7L-2A-TUBJ-CB AC110120

Relays with Screw Terminals

Features	Contact form	Coil ratings		Power consumption	Model
		Voltage	Resistance (ohms)		
Upper bracket mounting, with test button	SPST-NO	24 VAC	303	1.7 to 2.5 VA	G7L-1A-BUBJ-CB AC24
		110/120 VAC	5260		G7L-1A-BUBJ-CB AC110120
	DPST-NO	24 VAC	303		G7L-2A-BUBJ-CB AC24
		110/120 VAC	5260		G7L-2A-BUBJ-CB AC110120

Accessories

Item	Description	Model
Socket and cover	DIN-rail mounting front-connecting socket with screw terminals and cover	P7LF-06

Multi-Pole Power Relay

G7Z

Quick Link
R228

Multi-Pole Power Relay for Carrying and Switching Contactor Current Range of 40 A at 440 VAC

- Typical applications: high current or high inrush power supplies, commercial and industrial. 40 A at 440 VAC can be carried and switched on each of 4 poles
- Possible to reach a maximum load capacity of 160 A when using 4-pole parallel connections
- Provides EN 60947-4-1 certified safety functionality via mirror contact mechanisms
- Using a combination of the relay and auxiliary contact blocks, loads range from 0.1 mA to 40 A in the same relay
- Directly mounts to DIN track
- Contact configurations: 4PDT, 3PST-NO/SPST-NC, or DPDT/DPDT
- Auxiliary contacts: DPST-NO, SPST-NO/SPST-NC, or DPST-NC
- Connection: Screw terminals
- Double break, AgSnIn main contact; bifurcated crossbar auxiliary contact
- Service life: 100,000 operations minimum with DC resistive load
- RoHS compliant
- Approved standards: UL508, UL840 (File No. E41643), CSA C22.2 No. 14, TÜV (EN 60947-4-1, Certification No. R50079155) and CE
- Dimensions: 92 H x 62 W x 45 D mm



Specifications

Ratings

Coil Ratings

Rated voltage	Item	Rated current	Coil resistance	Must operate voltage	Must release voltage	Maximum voltage	Power consumption
				Percentage of rated voltage			
12 VDC		333 mA	39 Ω	75% max.	10% min.	110%	Approx. 3.7 W
24 VDC		154 mA	156 Ω				

- Note:**
1. Rated current and coil resistance were measured at a coil temperature of 23°C with coil resistance of ±15%.
 2. Operating characteristics were measured at a coil temperature of 23°C.
 3. The maximum allowable voltage is the maximum value of the fluctuation range for the Relay coil operating power supply and was measured at an ambient temperature of 23°C. There is, however, no continuous allowance.

Contact Ratings

Relay

Item	Model Load	G7Z-4A-□Z, G7Z-3A1B-□Z, G7Z-2A2B-□Z		
		Resistive load	Inductive load $\cos\phi = 0.3$	Resistive load L/R = 1 ms
Contact structure		Double break		
Contact material		AgSnIn		
Rated load	NO	40 A at 440 VAC	22 A at 440 VAC	5 A at 110 VDC
	NC	25 A at 440 VAC	10 A at 440 VAC	5 A at 110 VDC
Rated carry current	NO	40 A	22 A	5 A
	NC	25 A	10 A	5 A
Maximum contact voltage		480 VAC		125 VDC
Maximum contact current	NO	40 A		
	NC	25 A		
Maximum switching capacity	NO	17,600 VA	9,680 VA	550 W
	NC	11,000 VA	4,400 VA	550 W
Minimum load		2 A at 24 VDC		

Note: The ratings for the auxiliary contact block mounted on the G7Z are the same as those for the G73Z auxiliary contact block.

Auxiliary Contact Block

Item	Model Load	G73Z-20Z, G73Z-11Z, G73Z-02Z		
		Resistive load	Inductive load $\cos\phi = 0.3$	Resistive load L/R = 1 ms
Contact structure		Double break		
Contact material		AgSnIn + Ag Rotary		
Rated load		1 A at 440 VAC	0.5 A at 440 VAC	5 A at 110 VDC
Rated carry current		1 A		
Maximum contact voltage		480 VAC		125 VDC
Maximum contact current		1 A		
Maximum switching capacity		440 VA	220 VA	110 W
Minimum load		1 mA at 5 VDC		

Ordering Information

Relay with Auxiliary Contact Block

Relay with Auxiliary Contact Block (for Screw Terminals)

Contact configuration		Rated voltage	Model
Relay	Auxiliary contact block		
4PST-NO	DPST-NO	12, 24 VDC	G7Z-4A-20Z
	SPST-NO/SPST-NC		G7Z-4A-11Z
	DPST-NC		G7Z-4A-02Z
3PST-NO/SPST-NC	DPST-NO		G7Z-3A1B-20Z
	SPST-NO/SPST-NC		G7Z-3A1B-11Z
	DPST-NC		G7Z-3A1B-02Z
DPST-NO/DPST-NC	DPST-NO		G7Z-2A2B-20Z
	SPST-NO/SPST-NC		G7Z-2A2B-11Z
	DPST-NC		G7Z-2A2B-02Z

Accessories (Order Separately)

Auxiliary Contact Block

Contact configuration	Model
DPST-NO	G73Z-20Z
SPST-NO/SPST-NC	G73Z-11Z
DPST-NC	G73Z-02Z

Electromechanical Relays MGN



Heavy Duty Power Relay Switches 30-Amp Loads

Rugged MGN relays handle high switching loads and feature rugged construction.

- 30 A heavy duty power relay
- Reliable 5/16-inch diameter Ag alloy contacts
- Class F coil insulation system for 155 C total temperature
- Coil molded in DuPont Rynite® resin for environmental protection
- Rugged construction rivets screw terminals to base
- Short and long based models available
- Aluminum dust cover with sealed knock-out holes for conduit fittings available

* Rynite® is a registered trademark of E. I. du Pont de Nemours and Company for its brand of thermoplastic polyester resin.



Specification

- Contact form: SPDT, SPST-NO, DPDT, DPST-NO
- Contact ratings:
 - Resistive: 30 A at 240 VAC; 20 A at 600 VAC
 - Horsepower: 1 1/2 hp at 120 or 240 VAC; 2 hp @ 240 VAC
 - Lamp load (ballast): 3600 W at 120 or 240 VAC
- Operate time: 30 ms max.
- Release time: 30 ms max.
- Must operate voltage: 85% max. of rated voltage (AC); 75% max. (DC)
- Electrical service life: 100,000 operations minimum
- Dimensions:
 - Short base: 55.88 H x 63.5 W x 63.5 D mm
 - Long base: 60.45 x 63.5 W x 84.33 D

Ordering Information

Features	Contact form	Coil ratings		Power consumption	Model
		Voltage	Resistance (ohms)		
Short base	SPDT	24 VAC	11.5	9.5 VA	MGN1C-AC24
		120 VAC	295.0		MGN1C-AC120
		12 VDC	72.0	2 W	MGN1C-DC12
		24 VDC	290.0		MGN1C-DC24
	SPST-NO-DM	12 VAC	2.85	9.5 VA	MGN1X-AC12
		24 VAC	11.5		MGN1X-AC24
		120 VAC	295.0	2 W	MGN1X-AC120
		12 VDC	72.0		MGN1X-DC12
	24 VDC	290.0	MGN1X-DC24		
	SPST-NO		11.5	9.5 VA	MGN1A-AC24
	DPST-NO		11.5		MGN2A-AC24
		120 VAC	295.0		MGN2A-AC120
		240 VAC	1170		MGN2A-AC240
		12 VDC	72.0	2 W	MGN2A-DC12
	24 VDC	290.0	MGN2A-DC24		

Ordering Information (Continued)

Features	Contact form	Coil ratings		Power consumption	Model
		Voltage	Resistance (ohms)		
Long base	DPDT	24 VAC	11.5	9.5 VA	MGN2C-AC24
		120 VAC	295.0		MGN2C-AC120
		240 VAC	1170		MGN2C-AC240
		12 VDC	72.0	2 W	MGN2C-DC12
		24 VDC	290.0		MGN2C-DC24
		DPDT with magnetic blow-out	120 VAC		295.0
	24 VDC	290.0	2 W	MGN2CM-DC24	

Accessories

Description	Dimensions	Model
Dust cover with snap action closure. Aluminum construction.	76.2 H x 127 W x 101.6 D mm	MGCOV

Electromechanical Relays MJN



Power Relay Reduces Arcing with Wide Contact Spacing

The MJN relays are ideal for a wide range of applications including motor loads, lighting loads and resistive loads.

- 10 A heavy duty power relay
- Superior arc suppression from 3/16" through-air and 3/8" over surface spacing
- Reliable 3/16-inch dia. silver alloy contacts
- Interlocked frame and contact block assures correct contact alignment at plug-in
- Industry standard contact configuration and termination (0.187-inch tab terminals)
- Options available include open and dust cover relays, indicator lamps and push-to-test buttons
- Socket and flange mounting models



Specification

- Contact form: SPDT, DPDT, 3PDT
- Contact ratings:
 - 10 A models: 10 amp @ 28 VDC and 120/240 VAC at 80% pf, 1/3 hp @ 120 VAC, 1/2 hp @ 277/240/480/600 VAC, 36 LRA--8.5FLA at 18 VDC, 3 amp @ 480/600 VAC at 80% pf, 10 amp @ 277 VAC resistive
 - 20 A models: 20 amp @ 28 VDC and 120/240/277 VAC, 10 amp @ 480/600 VAC, 3/4 hp @ 120 VAC, 1-1/2 hp @ 240 VAC, 17FLA, 65LRA, 300 VAC
 - 30 A models: 30 amp @ 28 VDC, 15 amp @ 480/600 VAC, 1 hp @ 120 VAC, 1-1/2 hp @ 240 VAC
- Operate time: 15 ms (nominal); 20 ms max.
- Release time: 6 ms (nominal); 10 ms max.
- Latch time: 13 ms (nominal) + 50 ms minimum latch pulse at nominal voltage
- Unlatch time: 13 ms (nominal) + 50 ms minimum unlatch pulse at nominal voltage
- Duty cycle: Rated for continuous duty operation at 25% overvoltage
- Electrical service life: 100,000 operations minimum
- Dimensions:
 - Socket mount: 48.38 H x 38.73 W x 35.56 D mm
 - Flange mount: 73.66 H x 38.73 W x 35.56 D mm

Ordering Information

Contact rating	Contact form	Coil ratings		Case style	Terminals	Model
		Voltage	Resistance (ohms)			
10 A	SPDT	12 VDC	120	Socket	8-pin	MJN1C-DC12
		24 VDC	470			MJN1CF-DC12
		24 VDC	470	Flange		MJN1CF-DC24
10 A	DPDT	24 VAC	75	Socket		MJN2C-AC24
		120 VAC	2.25 K			MJN2C-AC120
		240 VAC	9.1K			MJN2C-AC240
		12 VDC	120			MJN2C-DC12
		24 VDC	470			MJN2C-DC24
		110 VDC	10 K			MJN2C-DC110
10 A	DPDT	24 VAC	75	Flange		MJN2CF-AC24
		120 VAC	2.25 K			MJN2CF-AC120
		12 VDC	120			MJN2CF-DC12
		24 VDC	470			MJN2CF-DC24

Ordering Information (Continued)

Contact rating	Contact form	Coil ratings		Case style	Terminals	Model	
		Voltage	Resistance (ohms)				
10 A	DPDT, latching	24 VAC	88 latch/1.74 K unlatch	Socket	8-pin	MJN2CK-AC24	
		120 VAC	2.09 K latch/17.43K unlatch			MJN2CK-AC120	
		12 VDC	80 latch/275 unlatch			MJN2CK-DC12	
		24 VDC	330 latch/1.07 K unlatch			MJN2CD-DC24	
10 A	3PDT		72		Flange	11-pin	MJN3C-AC24
		120 VAC	1.7 K				MJN3C-AC120
		12 VDC	120				MJN3C-DC12
		24 VDC	470				MJN3C-DC24
		110 VDC	10 K				MJN3C-DC110
10 A	3PDT	24 VAC	72			Flange	
		120 VAC	1.7 K	MJN3CF-AC120			
		240 VAC	7.2 K	MJN3CF-AC240			
		12 VDC	120	MJN3CF-DC12			
20 A	DPDT	24 VDC	470	Flange			
			75		MJN2CE-AC24		
		120 VAC	2.25 K		MJN2CE-AC120		
		12 VDC	120		MJN2CE-DC12		
		470			MJN2CE-DC24		

Accessories

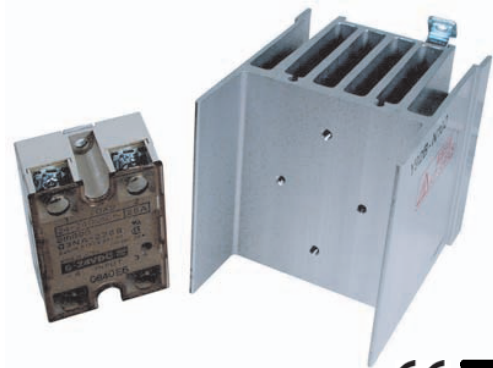
Description	Model
Track mount socket, square, 11-pin, screw terminal	PTF11PC
Screw mount socket, square, 11-pin, 0.187" quick-connect tab terminals	PTF11QDC
Screw mount socket, square, 11-pin, screw terminal	PTF21PC
Screw mount socket, square, 11-pin, PCB terminal	PTFPCB

Solid State Relays G3NA



Reliable SSRs in Industry Standard Package

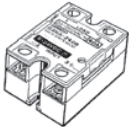
- One size for all output load models provides a uniform mounting pitch
- Built-in MOV absorbs external surges
- Operation indicator (red LED) for monitoring operation
- Protective cover for greater safety included
- AC output relays with 75 A and 90 A currents available
- 400-600 volt load models available
- All models are CE marked



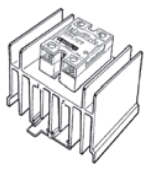
Specifications

- Zero cross function
- Leakage current: 5 mA at 100 VAC; 10 mA at 200 VAC
- Maximum output load when mounted to a heat sink





G3NA Solid State Relays

Appearance/ dimensions H x W x D mm	Isolation	Input voltage	Load current	Load voltage	Inrush current	Model	
 27 x 43 x 58	Phototriac	5 to 24 VDC	10 A at 24 to 240 VAC	19 to 264 VAC	150 A (1 cycle, 60 Hz)	G3NA-210B DC5-24	
			20 A at 24 to 240 VAC		220 A (1 cycle, 60 Hz)	G3NA-220B DC5-24	
			25 A at 24 to 240 VAC		220 A (1 cycle, 60 Hz)	G3NA-225B DC5-24	
			40 A at 24 to 240 VAC		440 A (1 cycle, 60 Hz)	G3NA-240B DC5-24	
			75 A at 24 to 240 VAC		800 A (1 cycle, 60 Hz)	G3NA-275B-UTU DC5-24	
			90 A at 24 to 240 VAC		1000 A (1 cycle, 60 Hz)	G3NA-290B-UTU DC5-24	
			Photocoupler		200 to 480 VAC	20 A at 200 to 480 VAC	180 to 528 VAC
	10 A at 400 to 600 VAC	360 to 660 VAC		150 A (1 cycle, 60 Hz)		G3NA-610B DC5-24	
	25 A at 400 to 600 VAC	220 A (1 cycle, 60 Hz)		G3NA-625B DC5-24			
	50 A at 400 to 600 VAC	440 A (1 cycle, 60 Hz)		G3NA-650B DC5-24			
	100 to 120 VAC, 50/60 Hz	25 A at 24 to 240 VAC		19 to 264 VAC	220 A (1 cycle, 60 Hz)	G3NA-225B AC100-120	
		40 A at 24 to 240 VAC			440 A (1 cycle, 60 Hz)	G3NA-240B AC100-120	
		100 to 240 VAC, 50/60 Hz			75 A at 24 to 240 VAC	800 A (1 cycle, 60 Hz)	G3NA-275B-UTU AC100-240
					90 A at 24 to 240 VAC	1000 A (1 cycle, 60 Hz)	G3NA-290B-UTU AC100-240
	10 A at 400 to 600 VAC	360 to 660 VAC	150 A (1 cycle, 60 Hz)	G3NA-610B AC100-240			
220 A (1 cycle, 60 Hz)			G3NA-625B AC100-240				
440 A (1 cycle, 60 Hz)			G3NA-650B AC100-240				

Heat Sinks

Description	Applicable solid-state relays	Model
	For 5 A and 10 A relays: G3NA-205B, G3NA-210B, G3NA-D210B, G3NA-410B, G3NA-610B	Y92B-N50
	For 20 A relays: G3NA-220B, G3NA-420B	Y92B-N100
	For 25 A and 40 A relays: G3NA-225B, G3NA-240B, G3NA-425B, G3NA-440B, G3NA-625B	Y92B-N150
	For 50 A relays: G3NA-450B	Y92B-P250
	For 50 A at 600 VAC relays: G3NA-650B DC5-24, G3NA-650B AC100-240	Y92B-P250N
	For 75 A and 90 A relays: G3NA-275B-UTU, G3NA-290B-UTU, G3NA-475-UTU, G3NA-490B-UTU	Y92B-P250NF
Standard mount	For 5 A, 10 A and 20 A relays: G3NA-205B, G3NA-210B, G3NA-D210B, G3NA-220B, G3NA-410B, G3NA-420B	Y92B-A100
	For 25 A and 40 A relays: G3NA-225B, G3NA-240B, G3NA-425B G3NA-440B	Y92B-A150N
	For 40 A relay G3NA-440B	Y92B-A250

Accessories

Description	Appearance	Dimensions H x W x D mm	Specification	Model
Mounting track		500 L x 35 H x 7.3 D	0.5 m length	PFP-50N
		1000 L x 35 H x 7.3 D	1 m length	PFP-100N
		1000 L x 35 H x 16.0 D	1 m length	PFP-100N2
End plate		50 x 10 x 10	Holds track-mounted devices in place	PFP-M
Track mounting plate		44 H x 81 W	Directly mounts SSR to DIN rail track without heat sink	R99-12 FOR G3NA

Solid State Relays G3PA/G3PB



Single Phase SSRs with Built-In Heat Sinks




- Built-in heat sink increases service life and reliability for frequently cycling circuits
- Operation indicator turns on when control power is applied
- DIN rail mount
- Relays with replaceable triac output cartridge (G3PA) simplifies maintenance
- Built-in linking brackets for dense side-by-side mounting (G3PA)
- Conforms to international safety standards: UL508 File No. E64562; CSA C22.2 (No. 14, No. 950) File No. LR35535; EN60950 File No. 5915UG





Specifications

- Zero cross function, reduces initial inrush load currents
- Leakage current:
 - 10 A and 20 A G3PA: 5 mA max. at 120 VAC 10 mA max. at 230 VAC
 - 40 A and 60 A G3PA: 10 mA max. at 120 VAC 20 mA max. at 230 VAC
 - 20 A, 200-480 VAC G3PA: 20 mA max. at 400 VAC
 - All G3PB models: 10 mA max. at 200 VAC



G3PA Single-Phase SSRs, Replaceable Triac Output Cartridge

Appearance Dimensions H x W x D mm	Isolation	Input voltage	Load current	Load voltage	Inrush current	Model
 100 x 27 x 100	Phototriac	5-24 VDC	10 amps	19 to 264 VAC (50/60 Hz)	150 amps, 60 Hz	G3PA-210B-VD DC5-24
 100 x 37 x 100			20 amps		220 amps, 60 Hz	G3PA-220B-VD-DC5-24
 100 x 47 x 100			40 amps		440 amps, 60 Hz	G3PA-240B-VD-DC5-24




G3PA Single-Phase SSRs, Replaceable Triac Output Cartridge (Cont'd)

Appearance Dimensions H x W x D mm	Isolation	Input voltage	Load current	Load voltage	Inrush current	Model
 100 x 110 x 100	Phototriac	5-24 VDC	60 amps	19 to 264 VAC (50/60 Hz)	440 amps, 60 Hz	G3PA-260B-VD DC5-24
 100 x 37 x 100		12-24 VDC	20 amps	180 to 528 VAC (50/60 Hz)	220 amps, 60 Hz	G3PA-420B-VD DC5-24

G3PB Single-Phase SSRs

Appearance Dimensions H x W x D mm	Isolation	Input voltage	Load current	Load voltage	Inrush current	Model
 100 x 22.5 x 100	Phototriac	12-24 VDC	15 amps	75 to 264 VAC (50/60 Hz)	150 amps, 60 Hz	G3PB-215B-VD DC12-24
			25 amps		220 amps, 60 Hz	G3PB-225B-VD DC12-24
 100 x 44.5 x 100			35 amps	440 amps, 60 Hz	G3PB-235B-VD DC12-24	
			45 amps		G3PB-245B-VD DC12-24	

Accessories

Description	Appearance	Dimensions H x W x D mm	Specification	Model
Mounting track		500 L x 35 H x 7.3 D	0.5 m length	PFP-50N
		1000 L x 35 H x 7.3 D	1 m length	PFP-100N
		1000 L x 35 H x 16.0 D	1 m length	PFP-100N2
End plate		50 x 10 x 10	Holds track-mounted devices in place	PFP-M

Replacement Parts

Description	Carry current	Applicable SSR	Model
Power device cartridge	10 A	G3PA-210B-VD DC5-24	G32A-A10-VD DC5-24
	20 A	G3PA-220-VD DC5-24	G32A-A20-VD DC5-24
	40 A	G3PA-240-VD DC5-24	G32A-A40-VD DC5-24
	60 A	G3PA-260-VD DC5-24	G32A-A60-VD DC5-24
	20 A	G3PA-420-VD DC12-24	G32A-A420-VD DC12-24

Solid State Relays G3PB



3-Phase SSRs with Built-In Heat Sinks

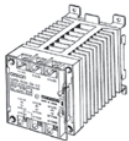
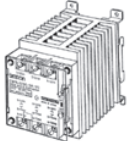
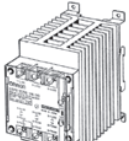
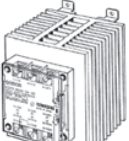
- Save space and installation time with new heat sink construction
- 3-pole models stocked; 2-pole models available
- DIN track mounting supported as standard (screw mounting also possible)
- Conforms to all UL, CSA, VDE and CE requirements






Specifications

- Zero cross function reduces noise in the circuit by restricting the switching operations to the point where the voltage crosses zero
- Leakage current: 20 mA at 480 VAC

G3PB 3-Phase SSRs

Appearance Dimensions H x W x D mm	Isolation	Input voltage	Load current (Heater capacity: Class-1 AC resistive load)	Load voltage	Inrush current	Model
 100 x 80 x 150.5	Phototriac coupler	12 to 24 VDC	15 A (12.5 kW max.)	200 to 480 VAC	220 A (60 Hz, 1 cycle)	G3PB-515B-3N-VD DC12-24
 120 x 80 x 150.5			25 A (20.7 kW max.)			G3PB-525B-3N-VD DC12-24
 140 x 80 x 150.5			35 A (29.0 kW max.)		440 A (60 Hz, 1 cycle)	G3PB-535B-3N-VD DC12-24
 140 x 110 x 150.5			45 A (37.4 kW max.)			G3PB-545B-3N-VD DC12-24

Accessories

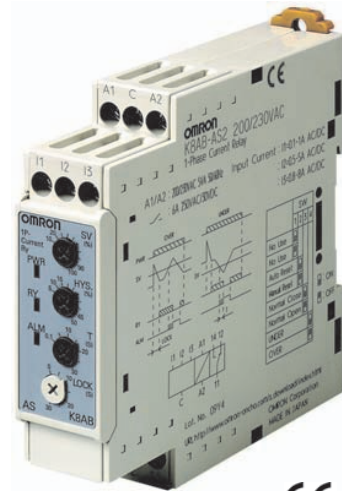
Description	Appearance	Dimensions H x W x D mm	Specification	Model
Mounting track		500 L x 35 H x 7.3 D	0.5 m length	PFP-50N
		1000 L x 35 H x 7.3 D	1 m length	PFP-100N
		1000 L x 35 H x 16.0 D	1 m length	PFP-100N2
End plate		50 x 10 x 10	Holds track-mounted devices in place	PFP-M

Monitoring Relays K8AB-AS



Ultra-Slim 22 mm Current Monitoring Relays

- Monitor industrial equipment for overcurrents and undercurrents
- Manual resetting and automatic resetting supported by one relay
- Start-up lock and operating time can be set separately
- Output relay can be switches between normally open and normally closed
- Accepts input from commercially available current transformers (0 to 1 A, 0 to 5 A)
- Monitor output status from LED indicator
- Track-mount or surface mount with M4 screws
- Dimensions: 90 H x 22.5 W x 100 D mm



Single-Phase Current Monitoring Relays

Features	Input current	Output	Model
Over- and undercurrent	2 to 20 mA AC/DC, 10 to 100 mA AC/DC 50 to 500 mA AC/DC	SPDT relay, 6 A at 250 VAC	K8AB-AS1 100-115 VAC
	0.1 to 1 A AC/DC 0.5 to 5 A AC/DC 0.8 to 8 A AC/DC		K8AB-AS1 24 VACDC
	10 to 100 A AC/DC, 20 to 200 A AC/DC; requires K8AC-CT200L current transformer		K8AB-AS2 100-115 VAC
			K8AB-AS2 24 VACDC
			K8AB-AS3 100-115 VAC
			K8AB-AS3 24 VACDC

Voltage Monitoring Relays K8AB-V



Ultra-Slim 22 mm Voltage Monitoring Relays

- Monitor overvoltage and undervoltage simultaneously with independent settings and outputs
- Manual resetting and automatic resetting supported by one relay
- Pre-alarm monitoring mode enables early warning of conditions to take preventative action
- Monitor output status from LED indicator
- Track-mount or surface mount with M4 screws
- Dimensions: 90 H x 22.5 W x 100 D mm



Single-Phase Voltage Relays

Description	Features	Input voltage	Output	Model
1-Phase Voltage Relay	Over- and undervoltage	6 to 60 mV AC/DC, 10 to 100 mV AC/DC, 30 to 300 mV AC/DC	SPDT relay, 6 A at 250 VAC	K8AB-VS1 100-115 VAC
				K8AB-VS1 24 VACDC
		1 to 10 V AC/DC, 3 to 30 V AC/DC, 15 to 150 V AC/DC		K8AB-VS2 100-115 VAC
				K8AB-VS2 24 VACDC
1-Phase Voltage Relay, Window Comparator	Over- and undervoltage, window comparator	20 to 200 V AC/DC, 30 to 300 V AC/DC, 60 to 600 V AC/DC	2 x SPDT relays, 6 A at 250 VAC	K8AB-VS3 100-115 VAC
				K8AB-VS3 24 VACDC
		6 to 60 mV AC/DC, 10 to 100 mV AC/DC, 30 to 300 mV AC/DC		K8AB-VW1 100-115 VAC
				K8AB-VW1 24 VACDC
		1 to 10 V AC/DC, 3 to 30 V AC/DC, 15 to 150 V AC/DC		K8AB-VW2 100-115 VAC
				K8AB-VW2 24 VDC
		20 to 200 V AC/DC, 30 to 300 V AC/DC, 60 to 600 V AC/DC		K8AB-VW3 100-115 VAC
				K8AB-VW3 24 VDC

Phase Monitoring Relays K8AB-P



Ultra-Slim 22 mm Phase Monitoring Relays

- Phase monitoring relay (K8AB-PH) distinguishes between positive phases, reversed phases and phase loss when power is turned ON; prevents reverse motor rotation due to incorrect wiring
- Monitor 3-phase voltage asymmetry (K8AB-PA), phase sequence and phase loss
- Monitor 3-phase power supplies (K8AB-PM) for over-voltages, undervoltages, phase sequence and phase loss
- Monitor overvoltage and undervoltage (K8AB-PW) for 3-phase power supplies
- 3-wire and 4-wire power supply input, field selectable
- Monitor output status from LED indicator
- Track-mount or surface mount with M4 screws
- Dimensions: 90 H x 22.5 W x 100 D mm



Phase Monitoring Relays

Description	Features	Input voltage	Output	Model
Phase-sequence, Phase-loss relay	For 3-phase source; prevents reverse motor rotation due to incorrect wiring	200 to 500 VAC	SPDT relay, 6 A at 250 VAC	K8AB-PH1
3-Phase voltage, phase-sequence, phase loss relay	Over- and undervoltage (window comparator) Operation level and time settings	200, 220, 230, or 240 VAC	2 x SPDT relays, 6 A at 250 VAC	K8AB-PM1
		380, 400, 415, or 480 VAC		K8AB-PM2
3-Phase asymmetry, phase-sequence, phase-loss relay	Operation level and time settings	200, 220, 230, or 240 VAC	SPDT relay, 6 A at 250 VAC	K8AB-PA1
		380, 400, 415, or 480 VAC		K8AB-PA2
3-Phase voltage relay	Over- and undervoltage (window comparator)	200, 220, 230, or 240 VAC	2 x SPDT relays, 6 A at 250 VAC	K8AB-PW1
		380, 400, 415, or 480 VAC		K8AB-PW2