Additions to low profile (15.7mm) G2RL range… A new high sensitivity version with 250mW power consumption (compared to 400mW on the standard G2RL), is available in SPST-NO and SPDT, as is the high capacity version – increasing the rated load to 16A. This version is also available fully sealed. The new G2RL-TP has quick connect terminals and is ideal for use in cooking applications, electric heating, washing machines and power supplies.

Environmentally aware…
Omron's commitment to increasing environmental concerns is demonstrated by taking the lead in developing and promoting new generation plastics to meet new Glow Wire European regulation (GWT based on EN60335-1 Edition 4) on its entire PCB Power relay range.

With vast investment in R&D, we are continually developing the power relay product line to match our customers' demands for small package size and higher switching loads and offer application-specific relays aimed at anything from audio speaker protection to heater controls.

BIG IDEAS
For a Small World

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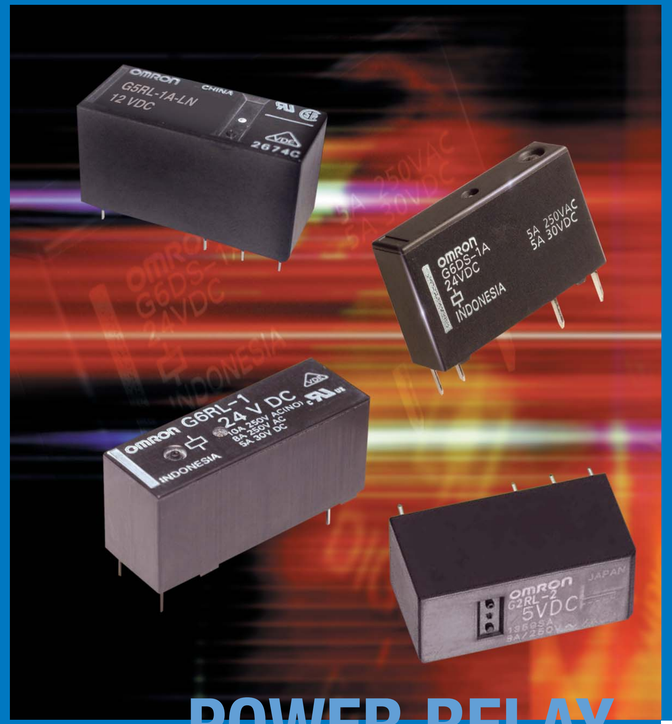


POWER RELAY
Selector Guide

PCB Power Relays

Our power relays set the standards for industry, providing switching capacity of up to 30A in a variety of contact configurations. Long lifespans are assured, even with the most arduous of loads.

New Additions… Omron is addressing the industrial automation and HVAC markets with a new power relay offering an exceptionally low profile solution whilst conforming to an industry standard footprint. The new G6RL has an overall height of just 12.3mm, nearly 20% lower than existing solutions and is capable of switching 8A at 250VAC.

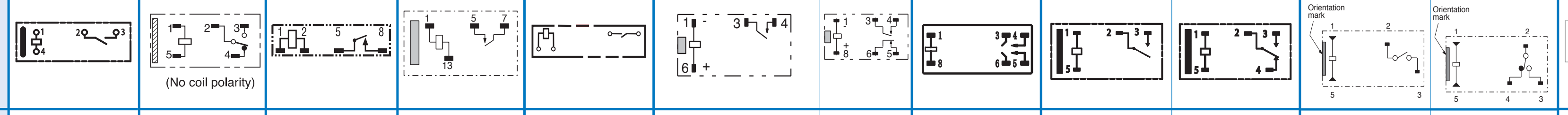
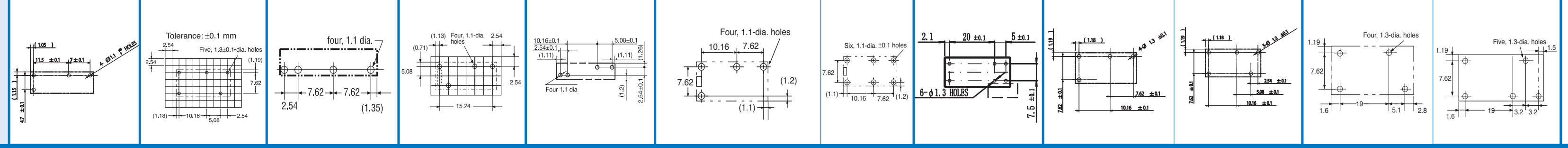
Also introduced is the small size sugar cube, single-pole 10A Power Relay. The new G5LA is 15.6mm high, and has a footprint of just 19.6 x 15.6mm. Despite its small size and light weight (7.5g) it features a dielectric strength of 2000V, withstands impulse voltage of 4,500V and is GWT compliant for use in consumer electrical appliances.

Silent as a Mouse… To address growing demand in the home automation market, Omron has introduced a quiet version of its popular G5RL power relay. Aimed specifically at the home market, in applications ranging from panel heaters to video games, where ambient sound levels need to be kept to a minimum, the G5RL-LN relay creates a sound pressure level (SPL) of typically just 45dB at a distance of 15cm, when switching – almost inaudible.

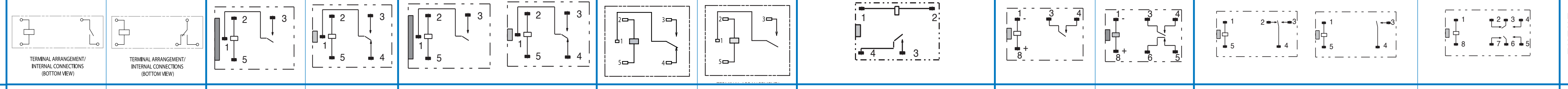
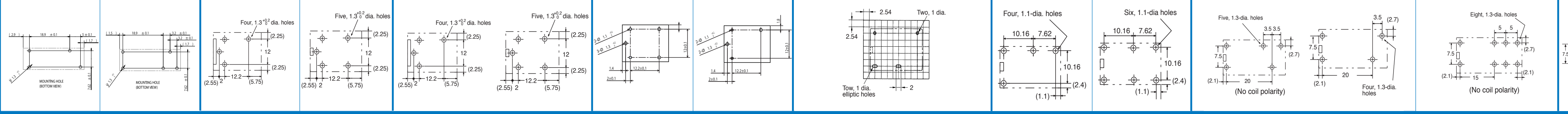
BIG IDEAS
For a Small World

POWER RELAY SELECTOR GUIDE

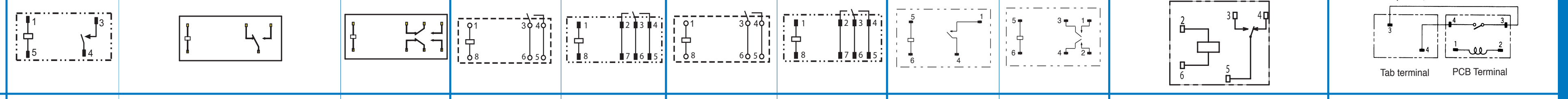
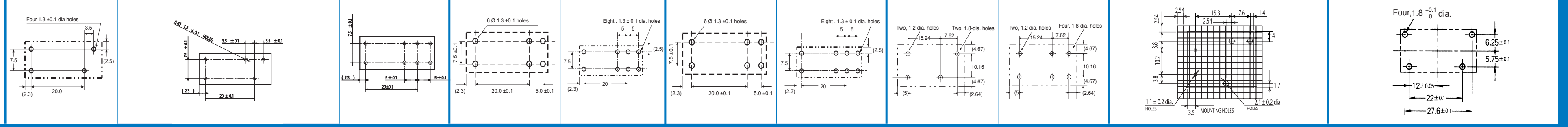
Model		G5NB-E	G5SB	G6M	G6D	G6DS	G6B			G2RG	G5Q-EU		G6RN	
Characteristics		Compact single pole 5A high isolation relay CTI: 250	Environmentally friendly compact relay	Slim single in-line miniature relay	Slim, miniature relay capable of relaying controller output	Slim miniature relay with 1 pole 5A switching capability	Sub-miniature relay			Power Relay with 2 x 1.5 mm contact gap. Meets requirements of european UPS standards.	Compact low cost high isolation relay CTI: 250		Slim, low profile heavy duty relay	
		ROHS compliant	ROHS compliant	ROHS compliant	ROHS compliant	ROHS compliant	ROHS compliant			ROHS compliant	ROHS compliant		ROHS compliant	
Dimensions (LxWxH)		20.5 x 7.2 x 15.3	20.3 x 10.3 x 15.8	20.3 x 5.1 x 17.7	17.5 x 6.5 x 12.5	20.3 x 5.08 x 12.5	20.0 x 10.0 x 10.0	20.0 x 10.0 x 12.5	20.0 x 11.0 x 11.0	29.0 x 13.5 x 25.5	20.3 x 10.3 x 15.8		28.5 x 10.0 x 15.0	
Contact Ratings	Contact Form	SPST-NO	SPDT	SPST-NO	SPST-NO	SPST-NO	SPST-NO	SPST-NO (High Capacity)	SPST-NO/-NC, DPST-NO, DPST-NC	DPST-NO	SPST-NO	SPDT	SPST-NO	SPDT
	Contact Material	AgNi	AgNi + AgSnIn	AgNi	AgSnIn	AgNi	AgNi (FD version = AgSnIn)			AgSnIn	AgNi		AgNi	
	Resistive Load	5 A at 250 VAC 3 A at 30 VDC	5 A at 250 VAC 5 A at 30 VDC	3 A at 250 VAC 3 A at 30 VDC	5 A at 250 VAC 5 A at 30 VDC	5 A at 250 VAC 5 A at 30 VDC	5A(3A*) at 250VAC 5A(3A*) at 30VDC	8A(5A*) at 250VAC 8A(5A*) at 30VDC	5A(3A*) at 250VAC 5A(3A*) at 30VDC	8 A at 250 VAC	10 A at 250 VAC 5 A at 30 VDC (NO)		8 A at 250 VAC 5 A at 30 VDC	
	Maximum Switching Current	5 A	5A	5A	5A	5A	5A(5A*)	8A(5A*)	5A(5A*)	8A	10A (NO), 3A (NC)		8 A	
	Minimum Permissible Load	10 mA at 5 VDC	10 mA at 5 VDC	10 mA at 5 VDC	10 mA at 5 VDC	5 mA at 24 VDC	10 mA at 5 VDC			10 mA at 5 VDC	10 mA at 5 VDC		10 mA at 5 VDC	
Coil Ratings	Rated Voltage	5 to 24 VDC	5 to 24 VDC	5 to 24 VDC	5 to 24 VDC	5 to 24 VDC	3 to 48 VDC			12 & 24 VDC	5 to 24 VDC		5 to 48 VDC	
	Power Consumption (Approx.)	200 mW	400 mW	120 mW	200 mW	180 mW, 120 mW (high sensitivity)	200 mW		300 mW	800 mW	200 mW	400 mW	220-250 mW	
Endurance	Electrical (operations)	100,000 min (5A/250VAC-NO) 50,000 min (5A/30VDC-NO)	50,000 min	100,000 min	70,000 min	100,000 min	100,000 min			10,000 min	25,000 min (10A/250VAC-NO) 100,000 min (3A/250VAC-NC)		50,000 min	
	Mechanical (operations)	5,000,000 min	5,000,000 min	20,000,000 min	20,000,000 min	20,000,000 min	50,000,000 min			1,000,000 min	10,000,000 min		10,000,000 min	
Dielectric Strength	Between coil & contacts	4,000 VAC	4,000 VAC	3,000 VAC	3,000 VAC	3,000 VAC	3,000 VAC			5,000 VAC	4,000 VAC		4,000 VAC	
	Between contacts of different polarity	–	–	–	–	–	–	–	2,000 VAC	3,000 VAC	–		–	
	Between contacts of same polarity	750 VAC	1,000 VAC	750 VAC	750 VAC	750 VAC	1,000 VAC			1,000 VAC	1,000 VAC		1,000 VAC	
Ambient Temperature (operating)		-40°C to 85°C	-40°C to 70°C	-40°C to 85°C	-25°C to 70°C	-40°C to 85°C	-25°C to 70°C			-40°C to 70°C	-40°C to 85°C		-40°C to 85°C	
Protective Construction		Flux Protection (RTII)	Flux Protection (RTII)	Fully Sealed (RTIII)	Fully Sealed (RTIII)	Fully Sealed (RTIII)	Flux Protection (RTII) Fully Sealed (RTIII)			Fully Sealed (RTIII)	Fully Sealed (RTIII)		Fully Sealed (RTIII)	
Insulation Distance	Creepage (Typical)	7.2 mm	6.7 mm	3.5 mm	4.5 mm	6.4 mm	5.0 mm		3.2 mm	10.0 mm	6.7 mm		9.8 mm	
	Clearence (Typical)	7.1 mm	5.8 mm	3.5 mm	4.5 mm	5.2 mm	4.1 mm		2.7 mm	9.3 mm	5.8 mm		8.1 mm	
Tracking Resistance (CTI)		250 V	250 V	250 V	100 V	175 V	100 V			250 V	250 V		250 V	
Variations	Single Side Stable	•	•	•	•	•	•			•	•		•	
	Single Winding Latching						•							
	Double Winding Latching						•							
	PCB Terminal	•	•	•	•	•	•			•	•		•	
	Plug-in Terminal													
	Quick Connect Terminal													
	Panel Mount						•							
	Fully Sealed	•		•	•	•				•	•		•	
	Flux Protection	•								•	•			
Approved Standards		UL, CSA, EN (VDE)	UL, CSA, EN (VDE)	UL, CSA, EN (VDE)	UL, CSA, EN (VDE)	UL, CSA, EN (VDE)	UL, CSA, EN (VDE), EN (TÜV)			UL, CSA, EN (VDE)	UL, CSA, EN (VDE)		UL, CSA, EN (VDE)	
Packaging	Minimum Pack Quantity	100 (Tray), 50 (Tube)	100 (Tray), 50 (Tube)	25 (Tube)	25 (Tube)	25 (Tube)	100 (Tray), 20 (Tube)			100 (Tray)	40 (Tube)		20 (Tube)	
	Minimum Order Quantity	500 (Tray), 400 (Tube)	500	500	500	500	100 (Tray), 400 (Tube)			100 (Tray)	400		400	
Standard Terminal Arrangement (for other variations refer to data)		SPST-NO	SPDT (No coil polarity)	SPST-NO	SPST-NO	SPST-NO	SPST-NO		SPST-NO/-NC	DPST-NO	SPST-NO	SPDT	SPST-NO	SPDT
Standard Mounting Holes (for other variations refer to data)														

Model		G6RL NEW		G5LE		G5LE-E/G NEW	G5LA-E NEW		G5CA		G6C		G2R				
Characteristics		Low profile 12.3mm height 8A high insulation relay		Sub-miniature 'sugar-cube' relay		16A 250VAC 'sugar-cube' 10A 35VDC 0.8mm contact gap	Low profile 10A 'sugar-cube' relay		Flat power relay		General purpose power relay *=FD type 8A(8A*)		General purpose power relays				
		ROHS compliant		ROHS compliant		ROHS compliant	ROHS compliant		ROHS compliant		ROHS compliant		ROHS compliant				
Dimensions (LxWxH)		28.5 x 10.0 x 12.3		22.5 x 16.5 x 19.0		22.5 x 16.5 x 19.0	19.8 x 15.8 x 15.8		22.0 x 16.0 x 11.0		20.0 x 15.0 x 10.0		29.0 x 13.0 x 25.5				
Contact Ratings	Contact Form	SPST-NO	SPDT	SPST-NO	SPDT	SPST-NO	SPST-NO (G5LA-1A)	SPDT (G5LA-1-E)	SPST-NO		SPST-NO	SPST-NO/-NC	SPST-NO, SPDT	SPST-NO, SPDT (High capacity)	SPST-NO, SPDT (High sensitivity)	DPST-NO, DPDT (High sensitivity)	DPST-NO, DPDT (High sensitivity)
	Contact Material	AgNi		AgSnIn		AgSn02 (AgSnIn optional)	$AgSn0_2$		AgSnIn		AgNi (FD version AgSnIn)		AgSnin				
	Resistive Load	8A at 250VAC , 5A at 30VDC		10 A at 120 VAC 8 A at 30 VDC		10A at 250VAC, 8A at 30VDC 10A at 35VDC (G5LE-G) 16A at 250VAC (G5LE-E)	NO: 10A at 250VAC, 10A at 24VDC NO/NC: 5A at 250VAC, 5A at 24VDC		10 A at 250 VAC 10 A at 30 VDC	15 A at 110 VAC	10A (8A*) at 250 VAC 10A (8A*) at 30 VDC	8A (8A*) at 250 VAC 8A (8A*) at 30 VDC	10 A at 250 VAC 10 A at 30 VDC	16 A at 250 VAC 16 A at 30 VDC	5 A at 250 VAC 5 A at 30 VDC	5 A at 250 VAC 5 A at 30 VDC	3A at 250VAC 3A at 30VDC
	Maximum Switching Current	10A(NO),8A(NC)		10 A		10A, 16A (G5LE-E)	10 A		10 A	15 A	10A (10A*)	8A (8A*)	10 A	16 A	5A	5 A	3A
	Minimum Permissible Load	10mA at 5VDC		100 mA at 5 VDC		100mA at 5VDC	100 mA at 5 VDC		100 mA at 5 VDC		10 mA at 5 VDC		100 mA at 5 VDC	100mA at 5VDC	100mA at 5VDC	10mA at 5VDC	10mA at 5VDC
Coil Ratings	Rated Voltage	3 to 48VDC		5 to 48 VDC		5 to 48 VDC	5 to 48VDC		5 to 24 VDC		3 to 24 VDC		5 to 100VDC, 12 to 240VAC				
	Power Consumption (Approx.)	220 - 240mW		360-400 mW		360-400 mW 700mW (G5LE-G)	360 mW (48VDC:480mW)		200 mW (150 mW high sensitivity version)		200 mW		DC: 530mW; 360mW high sensitivity version AC: 0.9 VA				
Endurance	Electrical (operations)	50,000 min		100,000 min		100,000 min	100,000 min		300,000 min	100,000 min	100,000 min		100,000 min				
	Mechanical (operations)	10,000,000 min		10,000,000 min		10,000,000 min	10,000,000 min		20,000,000 min		50,000,000 min		DC: 20,000,000 min AC: 10,000,000 min				
Dielectric Strength	Between coil & contacts	5,000 VAC		2,000 VAC		2,000 VAC	2,000 VAC		2,500 VAC		2,000 VAC		5,000 VAC				
	Between contacts of different polarity	–		–		–	–		–		–	2,000 VAC	–	–	–	3,000 VAC	–
	Between contacts of same polarity	1,000 VAC		750 VAC		750VAC (E) 1,500VAC (G)	750 VAC		1,000 VAC		1,000 VAC		1,000 VAC				
Ambient Temperature (operating)		-40°C to 85°C		-40°C to 85°C		-40°C to 85°C	-40°C to 85°C		-25°C to 70°C		-25°C to 70°C		-40°C to 70°C				
Protective Construction		Flux Protection (RTII)		Flux Protection (RTII) Fully Sealed (RTIII)		Flux protecxtion (RTII) Fully Sealed (RTIII)	Flux Protection (RTII) Fully Sealed (RTIII)		Flux Protection (RTII) Fully Sealed (RTIII)		Flux Protection (RTII) Fully Sealed (RTIII)		Flux Protection (RTII) Fully Sealed (RTIII)				
Insulation Distance	Creepage (Typical)	10.0 mm		3.3 mm		3.3 mm	3.3 mm		3.5 mm		5.5 mm		10.0 mm				
	Clearence (Typical)	10.0 mm		2.7 mm		2.7 mm	2.7 mm		2.8 mm		5.5 mm		9.3 mm				
Tracking Resistance (CTI)		250 V		250 V		250 V	250 V		250 V		175 V		175 V				
Variations	Single Side Stable	•		•		•	•		•		•		•				
	Single Winding Latching										•						
	Double Winding Latching										•		•				
	PCB Terminal	•		•		•	•		•		•		•				
	Plug-in Terminal												•				
	Quick Connect Terminal								•				•				
	Panel Mount												•				
	Fully Sealed	•		•		•	•		•		•		•				
	Flux Protection	•		•		•	•		•		•		•				
Approved Standards		UL, CSA, EN (VDE)		UL, CSA, EN (VDE), EN (TUV)		UL, CSA, EN (VDE)	UL, CSA, EN (VDE)		UL, CSA, EN (VDE), , EN (TUV)		UL, CSA, EN (VDE), EN (SEV), EN (TUV)		UL, CSA, EN (VDE), SEV, SEMKO, IEC (TÜV), IEC (EN)				
Packaging	Minimum Pack Quantity	100 (Tray)		100 (Tray), 25 (Tube)		100 (Tray), 25 (Tube)	100 (Tray), 25 (Tube)		20 (Tube)		100 (Tray), 20 (Tube)		100 (Tray), 15 (Tube)				
	Minimum Order Quantity	100 (Tray)		500 (Tray), 250 (Tube)		500 (Tray), 250 (Tube)	500 (Tray), 1000 (Tube)		200		100 (Tray), 200 (Tube)		150 (Tube)				
Standard Terminal Arrangement (for other variations refer to data)		SPST-NO	SPDT	SPST-NO	SPDT	SPST-NO / SPDT	SPST-NO	SPDT	SPST-NO		SPST-NO	SPST-NO/-NC	SPDT	SPST-NO		DPDT	
Standard Mounting Holes (for other variations refer to data)																	

Model		G2RL				G5RL NEW		G5RL-LN (Silent Relay) NEW		G4W		G8P		G4A	
Characteristics		High capacity type (16A), high sensitivity type (250mW) and quick connect terminal type (GR"L-TP) all available				Single pole 15A power relay. AC coil type and high inrush type available		Single pole 16A power relay with "silent" operation		Relay with 10kW impulse and 4kW withstand voltages for power supply switches applications		Small, low cost power relays		Relay with 10kV impulse and 4kV withstand voltages for power supply switching applications	
		ROHS compliant				ROHS compliant		ROHS compliant		ROHS compliant		ROHS compliant		ROHS compliant	
Dimensions (LxWxH)		29.0 x 12.7 x 15.7				29.0 x 12.7 x 15.7		29.0 x 12.7 x 15.7		30.5 x 19.5 x 30.5		32.1 x 28.2 x 20.1		30.5 x 16.0 x 23.5	30.5 x 16.0 x 26.8
Contact Ratings	Contact Form	SPST-NO, SPDT	SPST-NO, SPDT (High capacity) SPST-NO (Quick Connect)	SPDT (High sensitivity)	DPST-NO, DPDT	SPDT, SPST-NO	SPDT	SPST-NO	SPST-NO (High capacity)	SPST-NO	DPST-NO	SPST-NO	SPDT	SPST-NO	
	Contact Material	$AgSn0_2$				AgSnIn		AgSnIn		AgSnIn		AgSnIn		$AgSnO_2$	
	Resistive Load	12A at 250VAC 12A at 24VDC	16 A at 250 VAC 16 A at 24 VDC	10 A at 250 VAC 10 A at 24 VDC	8 A at 250 VAC 8 A at 30 VDC	16 A at 250 VAC (NO) 16 A at 24 VDC (NO) 5 A at 250 VAC (NC) 5 A at 24 VDC (NC)		12A at 250VAC 12A at 24VDC	16A at 250VAC 16A at 24VDC	15 A at 250 VAC 15 A at 24 VDC	10 A at 250 VAC 10 A at 24 VAC	30 A at 250 VAC 20 A at 28 VDC	20/10 A at 250 VAC 20/10 A at 30 VAC	20 A at 250 VAC	
	Maximum Switching Current	12A	16 A	10 A	8 A	16A (NO), 5A (NC)		12A	16A	15 A	10 A	30 A	20/10 A	20 A	
	Minimum Permissible Load	40 mA at 24 VDC				40 mA at 24 VDC		100mA at 5VDC		100 mA at 5 VDC		500 mA at 5 VDC		100 mA at 5 VDC	
Coil Ratings	Rated Voltage	5 to 48 VDC				24 VAC to 240 VAC		5 to 24VDC		12 to 100 VDC		5 to 110 VDC		5 to 24 VDC	
	Power Consumption (Approx.)	400 - 430mW, (250 mW high sensitivity)				400-430mW	0.75VA	530 mW		800 mW		900 mW		900 mW	
Endurance	Electrical (operations)	50,000 min				50,000 min		100,000 min	50,000 min	100,000 min		100,000 min		Motor Load: 100,000 Inverter Load: 30,000	
	Mechanical (operations)	20,000,000 min				10,000,000 min		1,000,000 min	1,000,000 min	5,000,000 min		10,000,000 min		2,000,000 min	
Dielectric Strength	Between coil & contacts	5,000 VAC				6,000 VAC		6,000 VAC		4,000 VAC		2,500 VAC		4,500 VAC	
	Between contacts of different polarity	–	–	–	2,500 VAC	–		–		–	2,000 VAC	–		–	
	Between contacts of same polarity	1,000 VAC				1,000 VAC		1,000 VAC		1,500 VAC		1,500 VAC		1,000 VAC	
Ambient Temperature (operating)		-40°C to 85°C				-40ºC to 85ºC		-40ºC to 85ºC		-25°C to 55°C		-55°C to 105°C		-20°C to 60°C	
Protective Construction		Flux Protection (RTII) Fully Sealed (RTIII)				Flux Protection (RTII)		Flux Protection (RTII)		Unsealed (RTI)		Unsealed (RTI) Flux Protection (RTII) Fully Sealed (RTIII)		Flux Protection (RTII)	
Insulation Distance	Creepage (Typical)	11.0 mm				9.0 mm	8.0 mm min.	8.0 mm min.		8.0 mm min.		4.08 mm min.		6.4 mm	
	Clearence (Typical)	10.0 mm				9.0 mm	8.0 mm min.	8.0 mm min.		8.0 mm min.		1.6 mm min.		3.2 mm	
Tracking Resistance (CTI)		250 V				250 V		250 V		175 V		175 V		250 V	
Variations	Single Side Stable	•								•		•		•	
	Single Winding Latching														
	Double Winding Latching														
	PCB Terminal	•				•		•		•		•		•	
	Plug-in Terminal													•	
	Quick Connect Terminal									•		•			
	Panel Mount											•			
	Fully Sealed	•										•			
	Flux Protection	•				•		•						•	
Approved Standards		UL, CSA, EN (VDE)				UL, CSA, EN (VDE)		UL, CSA, EN (VDE)		UL, CSA, EN (VDE), SEMKO		UL, CSA, EN (VDE)		UL, CSA, EN (VDE)	
Packaging	Minimum Pack Quantity	25 (Tube)				100 (Tray)		100 (Tray)		50 (Tray)		50 (Tray)		50 (Tray)	
	Minimum Order Quantity	100				100		100		50		250		50	
Standard Terminal Arrangement (for other variations refer to data)		SPST-NO	SPDT		DPDT	SPST-NO	SPDT	SPST-NO	SPDT	SPST-NO	DPST-NO	SPST-NO / SPDT		SPST-NO	
Standard Mounting Holes (for other variations refer to data)															

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Please note: Part pictures are not to scale. Not all product variations shown - please refer to datasheets for further models.