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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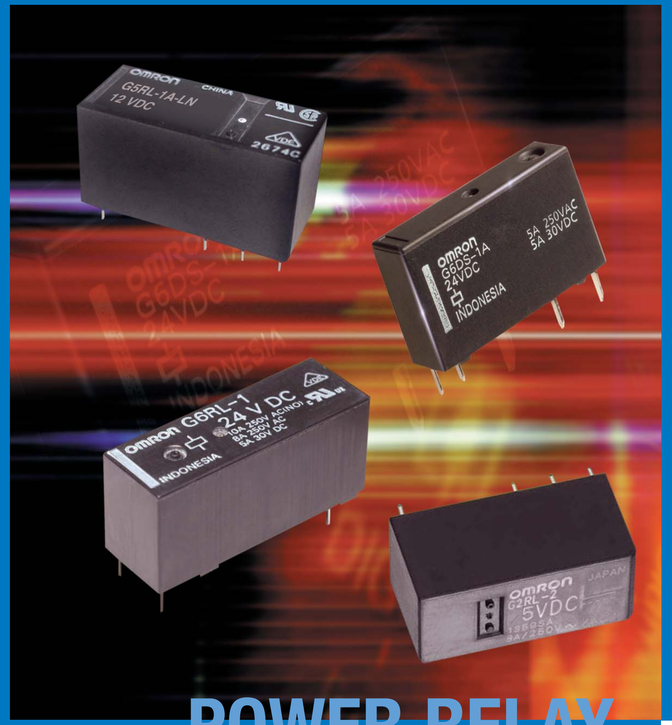

POWER RELAY
Selector Guide

BIG IDEAS
For a Small World

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.

POWER RELAY SELECTOR GUIDE

OMRON

Model	G5NB-E	G5SB	G6M	G6D	G6DS	G6B	G2RG	G5Q-EU	G6RN
Characteristics	Compact single pole 5A high isolation relay CTI: 250	Enviormentally 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)	DPST-NO	SPST-NO / SPDT	SPST-NO / SPDT
Contact Ratings – Contact Material	AgNi	AgNi + AgSnIn	AgNi	AgSnIn	AgNi	AgNi (FD version + AgSnIn)	AgSnIn	AgNi	AgNi
Contact Ratings – 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(NA) at 250VAC 5A(NA) at 30VDC 8A(A*) at 250VAC 8A(A*) at 30VDC 5A(NA) at 250VAC 5A(NA) 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
Contact Ratings – Maximum Switching Current	5 A	5A	5A	5A	5A	5A(5A*) / 8A(5A*) / 5A(5A*)	8A	10A (NO), 3A (NC)	8 A
Contact Ratings – 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
Coil Ratings – 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
Endurance – 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
Dielectric Strength – Between contacts of different polarity	–	–	–	–	–	– / – / 2,000 VAC	3,000 VAC	–	–
Dielectric Strength – 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
Insulation Distance – 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	•	•	•	•	•	•	•	•	•
Variations – Single Winding Latching						•			
Variations – Double Winding Latching						•			
Variations – PCB Terminal	•	•	•	•	•	•	•	•	•
Variations – Plug-in Terminal									
Variations – Quick Connect Terminal									
Variations – Panel Mount						•			
Variations – Fully Sealed	•		•	•	•		•	•	•
Variations – 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)
Packaging – 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 / SPST-NO	DPST-NO	SPST-NO	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
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*)
	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
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
Contact Ratings – Contact Material	AgNi	AgSnIn	AgSnI02 (AgSnIn optional)	$AgSnO_2$	AgSnIn	AgNi (FD version AgSnIn)
Contact Ratings – 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 30 VDC
Contact Ratings – Maximum Switching Current	10A(NA),8A(NC)	10 A	10A, 16A (G5LE-E)	10 A	10 A / 15 A	10A (10A*) / 8A (8A*)
Contact Ratings – 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
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
Coil Ratings – Power Consumption (Approx.)	220 - 240mW	360-400 mW	360-400 mW 700mW (G5LE-G)	360 mW (48VDC:480mW)	200 mW (100 mW high sensitivity version)	200 mW
Endurance – Electrical (operations)	50,000 min	100,000 min	100,000 min	100,000 min	300,000 min / 100,000 min	100,000 min
Endurance – 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
Dielectric Strength – Between coil & contacts	5,000 VAC	2,000 VAC	2,000 VAC	2,000 VAC	2,500 VAC	2,000 VAC
Dielectric Strength – Between contacts of different polarity	–	–	–	–	–	– / 2,000 VAC
Dielectric Strength – Between contacts of same polarity	1,000 VAC	750 VAC	750VAC (E) 1,500VAC (G)	750 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
Protective Construction	Flux Protection (RTII)	Flux Protection (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
Insulation Distance – Clearence (Typical)	10.0 mm	2.7 mm	2.7 mm	2.7 mm	2.8 mm	5.5 mm
Tracking Resistance (CTI)	250 V	250 V	250 V	250 V	250 V	175 V
Variations – Single Side Stable	•	•	•	•	•	•
Variations – Single Winding Latching						•
Variations – Double Winding Latching						•
Variations – PCB Terminal	•	•	•	•	•	•
Variations – Plug-in Terminal					•	•
Variations – Quick Connect Terminal						•
Variations – Panel Mount						•
Variations – Fully Sealed	•	•	•	•	•	•
Variations – Flux Protection	•	•			•	•
Approved Standards	UL, CSA, EN (VDE)	UL, CSA, EN (VDE), EN (TÜV)	UL, CSA, EN (VDE)	UL, CSA, EN (VDE)	UL, CSA, EN (VDE), EN (TUV)	UL, CSA, EN (VDE), EN (SEV), EN (TUV)
Packaging – Minimum Pack Quantity	100 (Tray)	100 (Tray), 25 (Tube)	100 (Tray), 25 (Tube)	100 (Tray), 25 (Tube)	20 (Tube)	100 (Tray), 20 (Tube)
Packaging – Minimum Order Quantity	100 (Tray)	500 (Tray), 250 (Tube)	500 (Tray), 250 (Tube)	500 (Tray), 1,000 (Tube)	200	100 (Tray), 200 (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
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 (15A), high sensitivity type (250mW) and quick connect terminal type (G8T-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, SPDT (High sensitivity) / DPST-NO, DPDT (High sensitivity) / DPST-NO, DPDT (High sensitivity)	SPDT, SPST-NO / SPDT	SPST-NO / SPST-NO (High capacity)	SPST-NO / DPST-NO	SPST-NO / SPDT	SPST-NO
Contact Ratings – Contact Material	$AgSnO_2$	AgSnIn	AgSnIn	AgSnIn	AgSnIn	$AgSnO_2$
Contact Ratings – Resistive Load	12A at 250VAC 12A at 24VDC / 16A at 250VAC 16A at 24VDC / 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
Contact Ratings – 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
Contact Ratings – 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
Coil Ratings – 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
Endurance – 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
Dielectric Strength – Between contacts of different polarity	– / – / – / 2,500 VAC	–	–	– / 2,000 VAC	–	–
Dielectric Strength – 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	-40°C to 85°C	-40°C to 85°C	-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	8.0 mm / 8.0 mm min.	8.0 mm min.	8.0 mm min.	4.08 mm min.	6.4 mm
Insulation Distance – 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	•			•	•	•
Variations – Single Winding Latching						
Variations – Double Winding Latching						
Variations – PCB Terminal	•	•	•	•	•	•
Variations – Plug-in Terminal						•
Variations – Quick Connect Terminal				•	•	
Variations – Panel Mount	•				•	
Variations – Fully Sealed					•	
Variations – 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)
Packaging – 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 (Top View, Bottom View, Tab terminal, PCB Terminal)	SPST-NO
Standard Mounting Holes (for other variations refer to data)						

Omron Electronic Components Europe BV reserves the right to make any changes to the specifications of the products described on this packaging at its sole discretion and without prior notice.
Please note: Part pictures are not to scale. Not all product variations shown - please refer to datasheets for further models.