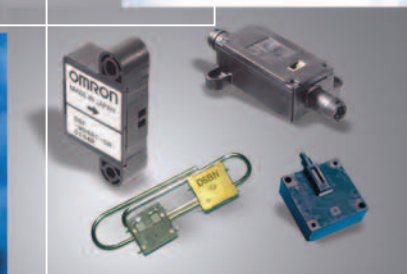
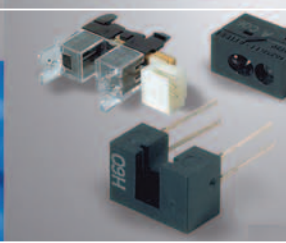


Electronic Components

Master Selection Guide



Relays

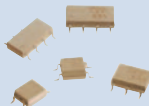
Switches

Photomicrosensors

Micro Sensors

Connectors

Relays - MOS FET

					
<i>General Attributes</i>	G3VM-200	G3VM-350	G3VM-400	G3VM High Voltage & Dielectric	G3VM Current Limiting
Dimensions mm (in)	Please refer to specific data sheets for all dimensional information	Please refer to specific data sheets for all dimensional information	Please refer to specific data sheets for all dimensional information	Please refer to specific data sheets for all dimensional information	Please refer to specific data sheets for all dimensional information
Features	• 1 & 2 channel configurations • Ideal for Instrumentation, Broadband Systems, Measurement Devices, Data Loggers, Consumer Electronics, Medical Equipment	• Broad product offering • Form A & Form B configurations • Ideal for Instrumentation, Broadband Systems, Measurement Devices, Data loggers, Consumer Electronics, Security Systems, Electronic Automatic Exchange Systems, Industrial Automation Equipment, Medical Equipment	• Broad product offering • 10kV surge withstand models available • Ideal for Instrumentation, Broadband Systems, Measurement Devices, Data Loggers, Consumer Electronics, Security Systems, Electronic Automatic Exchange Systems, Industrial Automation Equipment, Medical Equipment	• Capable of switching loads up to 600V (AC and DC) • 10kV surge withstand • Ideal for Instrumentation, Electronic Automatic Exchange Systems, Industrial Automation Systems, Measurement Devices, Security Systems, Medical Equipment	• Current limiting of 150 to 300mA • Ideal for Electronic Automatic Exchange Systems, Multi-function Telephones, Cordless Telephones, Measurement Devices, Instrumentation
Load voltage	0-200V (AC or DC)	0-350V (AC or DC)	0-400V (AC or DC)	0-600V (AC or DC)	0-350V (AC or DC)
Maximum Ratings and Electrical Characteristics					
Continuous load current	0-50mA & 0-200mA	0-90mA, 0-100mA, 0-110mA, 0-120mA, 0-150mA	0-120mA	0-100mA	0-120mA
ON resistance (typical)	5Ω & 30Ω	15Ω, 27Ω, 30Ω, 25Ω, 40Ω	17Ω & 18Ω	25Ω	22Ω
Output capacitance	—	—	—	—	—
Available switching configurations	1 Form A, 2 Form A	1 Form A, 1 Form B, 1 Form A + 1 Form B, 2 Form A, 2 Form B	1 Form A, 2 Form A	1 Form A	1 Form A, 2 Form A
Leakage current	10nA (max.) & 1.0μA (max.)	1.0μA (max.)	1.0μA (max.)	1.0μA (max.)	1.0μA (max.)
turn-ON time (typical)	40ms & 600ms	0.1ms, 0.25ms, 0.3ms, 0.5ms, 1.0ms	0.3ms & 0.5ms	0.2ms	0.3ms & 0.5ms
turn-OFF time (typical)	100ms	0.1ms, 0.15ms, 0.5ms, 1.0ms, 3.0ms	0.1ms & 0.5ms	0.2ms	0.3ms & 0.5ms
Dielectric strength (AC for 1 minute between input and output)	1,500Vrms (min.)	1,500Vrms (min.) 2,500Vrms (min.)	1,500Vrms (min.) 2,500Vrms (min.) 5,000Vrms (min.)	5,000Vrms (min.)	1,500Vrms (min.) 2,500Vrms (min.)
Available packaging & terminal choices	SOP 4 PIN, 6 PIN, 8 PIN	PCB, SMT, SOP 4 PIN, 6 PIN, 8 PIN	PCB, SMT, SOP 4 PIN, 6 PIN, 8 PIN	PCB & SMT 6 PIN	PCB, SMT & SOP 4 PIN, 6 PIN, 8 PIN
Accessories	Tape & reel	Tape & reel	Tape & reel	Tape & reel	Tape & reel
Approved standards	UL 1577	UL 1577	UL 1577	UL 1577	UL 1577

Relays - MOS FET

					
General Attributes	G3VM GR	G3VM LR	G3VM-60	G3VM-80	G3VM-22
Dimensions mm (in)	Please refer to specific data sheets for all dimensional information	Please refer to specific data sheets for all dimensional information	Please refer to specific data sheets for all dimensional information	Please refer to specific data sheets for all dimensional information	Please refer to specific data sheets for all dimensional information
Features	• C x R characteristics as low as 5pF*Ω • Low leakage current • Very high operating speed • Ideal for IC and Memory Test Equipment, SoC Testers, Measurement Devices, Instrumentation, Medical Equipment, Broadband Systems, Data Loggers, Security Systems	• Smallest MOS FET relay on the market • C x R characteristics as low as 5pF*Ω • Low leakage current • Very high operating speed • Ideal for IC and Memory Test Equipment, SoC Testers, Measurement Devices, Instrumentation, Medical Equipment, Broadband Systems, Data Loggers, Security Systems	• High current switching capability • Low ON-resistance • Low leakage current • Cost effective solutions • Ideal for Measurement Devices, Instrumentation, Security Systems, Medical Equipment, Alarm Controls, Consumer Electronics	• High current switching capability • Low leakage current • Ideal for Broadband Systems, Measurement Devices, Instrumentation, Medical Equipment, Data Loggers, Consumer Electronics	• Single input channel with dual output channels • Low ON-resistance • Ideal for Inline Interface Applications, Data Loggers, ADSL Modems and Routers, Edge Routers, Data Storage Devices
Load voltage	0-20V (AC or DC) 0-40V (AC or DC)	0-20V (AC or DC) 0-40V (AC or DC)	0-60V (AC or DC)	0-80V (AC or DC)	0-20V (AC or DC)
Maximum Ratings and Electrical Characteristics					
Continuous load current	0-120mA 0-160mA 0-300mA	0-120mA 0-160mA 0-300mA 0-450mA	0-400mA 0-500mA 0-1,000mA 0-2,000mA 0-2,500mA	0-350mA 0-1,250mA	0-150mA
ON resistance (typical)	1Ω, 5Ω, 10Ω	0.8Ω, 1Ω, 5Ω, 10Ω	0.12Ω (max.) 7Ω (max.) 1Ω (typ.)	0.11Ω & 1.0Ω	2Ω
Output capacitance	1.0pF (typ.) 5.0pF (typ.) 10pF (typ.)	0.8pF (typ.) 1.0pF (typ.) 5.0pF (typ.) 10pF (typ.)	—	—	—
Available switching configurations	1 Form A	1 Form A	1 Form A	1 Form A	Dual 1 Form A
Leakage current	1.0nA (max.)	1.0nA (max.)	1.0nA (max.) & 1.0μA (max.)	0.2nA (typ.) & 1.2nA (typ.)	1.0μA (max.)
turn-ON time (typical)	0.3ms	0.3ms	0.8ms 1.0ms 1.4ms	0.3ms 2.0ms	0.5ms
turn-OFF time (typical)	0.3ms	0.3ms	0.1ms 0.2ms 0.6ms	0.3ms 0.7ms	0.5ms
Dielectric strength (AC for 1 minute between input and output)	1,500Vrms (min.)	1,500Vrms (min.)	1,500Vrms (min.) 2,500Vrms (min.)	1,500Vrms (min.)	2,500Vrms (min.)
Available packaging & terminal choices	SOP 4 PIN	SOP 4 PIN	SOP, PCB, SMT 4 PIN, 6 PIN	SOP 4 PIN, 6 PIN	PCB & SMT 8 PIN
Accessories	Tape & reel	Tape & reel	Tape & reel	Tape & reel	Tape & reel
Approved standards	UL 1577	UL 1577	UL 1577	UL 1577	UL 1577

Relays - Low Signal

					
General Attributes	G6J-Y	G6K	G6H	G6S	G6A
Dimensions mm (in)	10.0 H x 10.6 L x 5.7 W (0.39 x 0.42 x 0.22)	5.30 H x 10.20 L x 6.70 W (0.21 x 0.40 x 0.26)	5.08 H x 13.97 L x 8.89 W (0.20 x 0.55 x 0.35)	9.40 H x 15 L x 7.50 W (0.37 x 0.59 x 0.30)	8.40 H x 20.20 L x 10.10 W (0.33 x 0.80 x 0.40)
Switching	1A max.	1A max.	1A max.	2A max.	2A max.
Features	• Slimline, 2 Form C, 1 Amp relay • SMT & PCB versions • 2.5kV surge withstand • Available in SMT & PCB • Latching & non-latching versions • Ideal for Telecom, Test & Measurement, Medical, Security, Computer Peripheral, Office Automation	• Small real estate, 2 Form C, 1 Amp relay • 100mW power consumption • 2.5kV surge withstand • SMT & PCB versions • Latching & non-latching models • Ideal for Telecom, Test & Measurement, Medical, Security, Office Automation, Computer Peripheral	• Low profile (5mm), 2 Form C, 1 Amp relay • Available in SMT & PCB • 1.5kV surge withstand • 140mW power consumption • Ideal for Telecom, Test & Measurement, Medical, Security, Office Automation, Computer Peripheral	• Industry standard, 2 Form C, 2 Amp relay • 2.5 kV surge withstand • SMT gullwing, SMT inside-L, PCB models • Latching & non-latching versions • European version available (supplementary insulation at 250V at pollution degree 2 per EN60950/EN41003) • Ideal for Telecom, Thermostats, Medical, Test & Measurement, Security	• Industry standard, 2 Form C, 2 Amp relay • 200mW, 400mW versions • 2 Pole & 4 Pole models • Latching & non-latching versions • 1.5kV surge withstand • Ideal for Telecom, Test & Measurement, Security
Contact Information					
Contact form	2 Form C	2 Form C	2 Form C	2 Form C	2 Form C, 4 Form C
Contact type	Bifurcated crossbar	Bifurcated crossbar	Bifurcated crossbar	Bifurcated crossbar	Bifurcated crossbar
Contact material	Ag with Au alloy clad	Ag with Au clad	Ag with Au clad	Ag with Au clad; AgPd with Au clad	Ag with Au clad; AgPd with Au clad
Rated load (under resistive load)	0.3A @ 125VAC, 1A @ 30VDC	0.3A @ 125VAC, 1A @ 30VDC	0.5A @ 125VAC, 1A @ 30VDC	0.5 @ 125VAC, 2A @ 30VDC	0.3A to 0.5A @ 125VAC, 1A to 2A @ 30VDC
Max. operating voltage	125VAC, 110VDC	125VAC, 60VDC	125VAC, 110VDC	250VAC, 220VDC	250VAC, 220VDC
Max. switching capacity under resistive load	37.5VA, 30W (NO)	37.5VA, 30W	62.5VA, 33W	62.5VA, 60W	125VA, 60W
Min. electrical service life (operations at rated load)	100,000	100,000	100,000	100,000	500,000
Min. permissible load (for reference only)	10µA @ 10mVDC	10µA @ 10mVDC	10µA @ 10mVDC	10µA @ 10mVDC	10µA @ 10mVDC
Coil Information					
Coil voltage	3, 4.5, 5, 12, 24VDC	3, 4.5, 5, 6, 9, 12, 24VDC	3, 5, 6, 9, 12, 24, 48VDC	3, 4.5, 5, 6, 9, 12, 24VDC	3, 5, 6, 9, 12, 24, 48VDC
Power consumption	140mW (230mW for DC24)	100mW (standard and latching)	140mW (standard)	140mW (standard) 140mW, 200mW (latching)	200mW (DPDT standard) 180mW (DPDT latching) 360mW (4PDT standard)
Characteristics					
Dielectric strength between coil & contacts (50/60 Hz for 1 minute)	1,500VAC	1,500VAC	1,000VAC	2,000VAC	1,000VAC
Surge withstand	2.5kV (2 x 10µs)	2.5kV (2 x 10µs)	1.5kV (10 x 160µs)	2.5kV (2 x 10µs)	1.5kV (10 x 160µs)
Terminal choices	SMT Gullwing, PCB	SMT Gullwing, SMT Inside-L, PCB	PCB (G6H), SMT Gullwing (G6H-2F)	SMT Gullwing, SMT Inside-L, PCB	PCB
Packaging	Tape & reel available	Tape & reel available	Tape & reel available	Tape & reel available	—
Approved standards	Bellcore 2.5kV / Telcordia GR-1089-CORE 2.5kV between coil and contacts	Bellcore 2.5kV / Telcordia GR-1089-CORE 2.5kV between coil and contacts	UL, CSA, (FCC Part 68)	Bellcore 2.5 kV / Telcordia GR-1089-CORE 2.5 kV (between coil and contacts)	UL, CSA, (FCC Part 68)

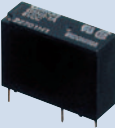
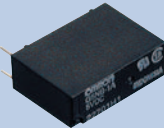
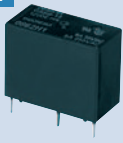
Relays - Low Signal

					
General Attributes	G5A	G5V-1	G6L	G5V-2	G6E
Dimensions mm (in)	8.38 H x 16 L x 9.9 W (0.33 x 0.63 x 0.39)	10.0 H x 12.50 L x 7.50 W (0.39 x 0.49 x 0.30)	4.5 H x 10.6 L x 7.0 W (0.18 x 0.42 x 0.28)	11.43 H x 20.32 L x 9.91 W (0.45 x 0.80 x 0.39)	8.38 H x 16 L x 9.9 W (0.33 x 0.63 x 0.39)
Switching	1A max.	1A max.	1A max.	2A max.	3A max.
Features	• General use, 2 Form C, 1 Amp relay • Semi-sealed or fully-sealed construction • Ideal for Telecom, Security, Computer Peripheral, Office Automation	• General use, 1 Form C, 1 Amp relay • 150mW power consumption • 1.5kV surge withstand • Ideal for Telecom, Security, Computer Peripheral	• Very low profile, 1 Form A, 1 Amp relay • 1.5kV surge withstand • SMT & PCB versions • Ideal for Security & General Use	• 2 Form C, 1-2 Amp relay • Ideal for general use • Industry standard footprint • 150mW, 360mW & 500mW coil power versions • 1.5 kV surge withstand	• General use, 1 Form C, 3 Amp relay • 2.5 kV surge withstand • 200mW, 400mW models • Latching and non-latching versions
Contact Information					
Contact form	2 Form C	1 Form C	1 Form A	2 Form C	1 Form C
Contact type	Bifurcated crossbar	Single crossbar	Single crossbar	Bifurcated crossbar	Bifurcated crossbar
Contact material	Ag with Au clad	Ag with Au clad	Ag with Au clad	Ag with Au clad	Ag with Au clad
Rated load (under resistive load)	0.5A @ 24VAC, 1A @ 24VDC	0.5A @ 125VAC, 1A @ 24VDC	0.3A @ 125VAC, 1A @ 24VDC	0.5A @ 125VAC, 2A @ 30VDC	0.4A @ 125VAC, 2A @ 30VDC
Max. operating voltage	125VAC, 125VDC	125VAC, 60VDC	125VAC, 60VDC	125VAC, 125VDC	250VAC, 220VDC
Max. switching capacity under resistive load	37.5VA, 33W	62.5VA, 30W	37.5VA, 24W	62.5VA, 60W	50VA, 60W
Min. electrical service life (operations at rated load)	100,000	100,000	100,000	300,000	100,000
Min. permissible load (for reference only)	1mA @ 5VDC	1mA @ 5VDC	1mA @ 5VDC	10µA @ 10mVDC	10µA @ 10mVDC
Coil Information					
Coil voltage	5, 6, 9, 12, 24, 48VDC	5, 6, 9, 12, 24VDC	3, 4.5, 5, 12, 24VDC	3, 5, 6, 9, 12, 24, 48VDC	3, 5, 6, 9, 12, 24, 48VDC
Power consumption	200mW (standard & latching)	150mW	180mW (standard)	500mW (standard) 360mW (high-sensitivity) 150mW (ultra-sensitive)	200mW (standard) 400mW (standard)
Characteristics					
Dielectric strength between coil & contacts (50/60 Hz for 1 minute)	1,000VAC	1,000VAC	1,000VAC	1,000VAC	1,500VAC
Surge withstand	—	1.5kV (10 x 160µs)	—	1.5kV (10 x 160µs)	2.5kV (2 x 10µs)
Terminal choices	PCB	PCB	PCB, SMT Gullwing	PCB	PCB
Packaging	—	—	Tape & reel available	—	—
Approved standards	UL, CSA	UL, CSA	UL/CSA (FCC Part 68)	UL, CSA	UL/CSA (FCC Part 68) Bellcore 2.5kV / Telcordia GR-1089-CORE 2.5kV between coil and contacts

Relays - Low Signal RF/HF

					NEW! 
General Attributes	G6W	G6Y	G6Z	G6K-RF	G9YA
Dimensions mm (in)	8.9 H x 20 L x 9.4 W (0.35 x 0.79 x 0.37)	9.20 H x 20.70 L x 11.70 W (0.36 x 0.81 x 0.46)	8.9 H x 20 L x 8.6 W (0.35 x 0.79 x 0.34)	5.4 H x 10.3 L x 6.9 W (0.21 x 0.41 x 0.27)	39.0 H x 34.0 L x 13.2 W (1.54 x 1.34 x 0.52)
Switching	0.5A max.	1A max.	0.5A max.	1A max.	100mA max.
Features	• 5GHz+ HF relay • 1 Form C • Tri-plate micro strip line technology • Latching & non-latching models • SMT and PCB versions • Ideal for Base Station LNA & TMA switching, Test & Measurement, Broadcast, FWA	• 900MHz+ HF relay • 1 Form C • Micro strip line technology • Ideal for CATV, Digital TV tuners, Test & Measurement	• 2.6GHz+ HF relay • 1 Form C • Micro strip line technology • 75 Ω & 50 Ω impedance models • Latching & non-latching models • Reverse terminal configurations • Y & E terminal configurations • SMT and PCB versions • Ideal for Base Station LNA & TMA switching, CATV, Digital TV tuners, Test & Measurement, Broadcast, FWA	• 1GHz+ HF relay • 2 Form C • 100mW coil power • Smallest 2 Form C on the market • Ideal for Test & Measurement, CATV, Digital TV tuners	• 26.5GHz bandwidth • Coaxial HF relay • 60dB isolation (26.5GHz) • Contact carry power of 120W at 3GHz • Available in failsafe & TTL-driven models • Also available in non-latching and dual latching configurations • Ideal for Mobile Communications Infrastructure Equipment, Broadcast Equipment, Test and Measurement Equipment, Wireless LAN
HF Characteristics					
Isolation	65dB (2GHz) 60dB (2.5GHz) 40dB (5.0GHz)	65dB (900MHz)	60 - 65dB (900MHz) 30 - 45dB (2.6GHz)	20 - 30dB (1GHz)	60dB (26.5GHz) 65dB (12.4GHz)
Insertion loss	0.2dB (2GHz) 0.2dB (2.5GHz) 0.4dB (5.0GHz)	0.5dB (900MHz)	0.1 - 0.2dB (900MHz) 0.3 - 0.5dB (2.6GHz)	0.2dB (1GHz)	0.8dB (26.5GHz) 0.4dB (12.4GHz) 0.3dB (8GHz)
VSWR	1.2 (2GHz) 1.2 (2.5GHz) 1.5 (5.0GHz)	1.5 (900MHz)	1.1 - 1.2 (900MHz) 1.3 - 1.5 (2.6GHz)	0.2dB (1GHz)	1.7 (26.5GHz) 1.35 (12.4GHz) 1.25 (8GHz)
Contact Information					
Contact form	1 Form C	1 Form C	1 Form C	2 Form C	1 Form C
Contact type(s)	Twin crossbar	Twin crossbar	Twin crossbar	Bifurcated crossbar	Twin crossbar
Contact material	Au clad Cu alloy	Au clad Cu alloy	Au clad Cu alloy	Au alloy on Ag base	Au clad Cu alloy
Rated load (under resistive load)	10mA @ 30VAC 10mA @ 30VDC 2.5GHz, 10W	10mA @ 30VAC; 10mA @ 30VAC; 900 MHz, 1W	10mA @ 30VAC; 10mA @ 30VDC; 900MHz, 10W	0.3A @ 125VAC; 1A @ 30VDC	100mA @ 30VDC
Max. operating voltage	30VDC, 30VAC	30VDC, 30VAC	30VDC, 30VAC	60VDC, 125VAC	30VDC
Max. switching capacity under resistive load	10VA, 10W	10VA, 10W	10VA, 10W	37.5VA, 30W	120W (3GHz)
Min. electrical service life (operations at rated load)	300,000	300,000	300,000	300,000	5,000,000
Coil Information					
Coil voltage	3, 4.5, 9, 12, 24VDC	3, 4.5, 5, 6, 9, 12, 24VDC	3, 4.5, 5, 9, 12, 24VDC	3, 4.5, 5, 6, 9, 12, 24VDC	4.5, 5, 12, 15, 24, 28VDC
Power consumption	200mW (standard) 200mW (single latching) 360mW (dual latching)	200mW	200mW (standard) 200mW (single latching) 360mW (dual latching)	100mW	500mW (dual latching) 700mW (failsafe)
Characteristics					
Dielectric strength between coil & contacts (50/60 Hz for 1 minute)	1,000VAC	1,000VAC	1,000VAC	750VAC	500VAC
Terminal choices	PCB, SMT Gullwing	PCB	PCB, SMT Gullwing	SMT Gullwing	SMA Terminals, Solder Terminals, Pin Terminals
Packaging / Options	—	—	Tape & reel available	—	Connector Cables

Relays - Power PCB

	NEW!	NEW!	NEW!	
				
General Attributes	G5NB	G5NB-E	G5SB	G6D-ASI
Dimensions mm (in)	15.3 H x 20.5 L x 7.2 W (0.60 x 0.81 x 0.28)	15.3 H x 20.5 L x 7.2 W (0.60 x 0.81 x 0.28) max.	15.8 H x 20.3 L x 10.3 W (0.62 x 0.80 x 0.41)	12.5 H x 17.5 L x 6.5 W (0.49 x 0.69 x 0.26)
Switching	3A/5A	3A/5A	5A(NO)/3A(NC)	5A
Features	• High capacity 5A version available • Meets EN tracking resistance CTI>250 • HA version for home appliances	• Small compact form for 10 kV impulse and 5A switching capability • Meets EN tracking resistance CTI>250	• High insulation between coil & contact • Impulse withstand of 8kV • Fully Sealed • Incorporates 5A NO contact	• Subminiature, slim lightweight design • Low power consumption • Fully Sealed
Contact Information				
Contact form	1 Form A	1 Form A	1 Form A	1 Form A
Contact type(s)	Single button	Single button	Single button	Single button
Contact material(s)	AgNi	AgSnIn	AgNi/AgSnIn	AgNi/AgSnIn
Electrical service life (@ 1800 ops./hr.)	(resistive load) 200,000 (resistive): 3A @ 125VAC/30VDC	200,000 (resistive): 3A @ 30VDC 100,000: 5A @ 250VAC	For resistive loads: 200,000: 3 A (NO)/3 A (NC) at 125 VAC; 50,000: 5 A (NO)/3 A (NC) at 125 VAC; 50,000: 5 A (NO) at 250 VAC; 10,000: 3 A (NC) at 250 VAC; 10,000: 5 A (NO)/3 A (NC) at 30 VDC	300,000: 2A @ 30VDC/250VAC 70,000: 5A @ 30VDC/250VAC
Max. switching capacity (and resistive load)	375VA, 90W	1,250VA, 90W	1,250VA, 150W(NO) 750VA, 30W(NC)	1,250VA, 150W
Minimum permissible load (for reference only)	10mA @ 5VDC	10mA @ 5VDC	10mA @ 5VDC	10mA @ 5VDC
Coil Information				
Coil voltage	5, 12, 18, 24VDC	5, 12, 18, 24VDC	5, 9, 12, 24VDC	5, 12, 24, 48, 110/120VDC
Power consumption	200mW	200mW	400mW	200mW
Insulation class	Class A	Class B	Class B	Class B
Characteristics				
Operating temperature	-40 to +70°C	-40 to +85°C	-40 to +70°C	-25 to +70°C
Impulse withstand voltage (1.2 x 50µ sec. unless noted)	10kV	10kV	8kV	6kV
Dielectric strength (50/60 Hz for 1 minute)	4,000VAC (coil-contact) 750VAC (open contacts)	4,000VAC (coil-contact) 750VAC (open contacts)	4,000VAC (coil-contact) 1,000VAC (open contacts)	3,000VAC (coil-contact) 750VAC (open contacts)
Terminal choices	PCB	PCB	PCB	PCB
Protection level	Semi-sealed	Semi-sealed	Semi-sealed	Semi-sealed
Accessories	N/A	N/A	N/A	Socket for back connecting, sockets with PCB terminals
Approved standards	UL, CSA, VDE	UL, CSA, VDE	UL, CSA, VDE	UL, CSA, TUV, SEV

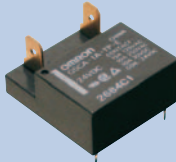
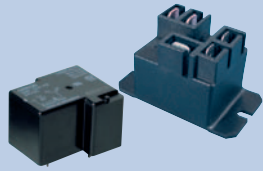
Relays - Power PCB

	NEW!	NEW!		
				
General Attributes	G6DS	G6M	G2RG	G6B
Dimensions mm (in)	12.4 H x 20 L x 5.0 W (0.60 x 0.81 x 0.28)	17.7 H x 20.3 L x 5.08 W (0.70 x 0.80 x 0.20)	25.5 H x 29 L x 13 W (1.00 x 1.14 x 0.51)	9.91 H x 20.07 L x 9.91 W (0.39 x 0.79 x 0.39)
Switching	5A	5A	8A	8A/5A
Features	• Slim 5mm for max. density mounting • High sensitive coil option reduces power consumption • Meets EN reinforced insulation requirement for control equipment • Fully sealed • Resistant to mechanical shock	• Slim 5mm width, & reduced PCB area (103mm²) ideal for high-density mounting • Highly efficient magnetic circuit for high sensitivity • UL Class I, Division II approved for hazardous locations	• 1.5mm contact gap x 2 poles=3mm total gap meeting UPS standards • Dimensions & mounting holes are same as G2R relay series • Sealed construction, standard • Meets EN tracking resistance CTI > 250 • UL508/CSA 22.2	• Subminiature and low power • Sealed construction standard • Single & dual coil latching available
Contact Information				
Contact form	1 Form A	1 Form A	2 Form A	1 Form A, 2 Form A, 2 Form B 1 Form A + 1 Form B
Contact type(s)	Single button	Single button	Single button	Single button
Contact material(s)	AgNi	Ag-Alloy	AgSnO ₂	AgSnO ₂
Electrical service life (@ 1800 ops./hr.) (resistive load)	100,000: 5A @ 30VDC/250VAC 80,000 (high sensitivity): 5A @ 30VDC/250VAC	100,000: 3A @ 30VDC/250VAC 6,000: 5A @ 250VAC/24VDC	10,000: 8A @ 250VAC	100,000: 5A @ 30 VDC/250VAC 8A @ 30 VDC/250VAC (high-capacity)
Max. switching capacity (resistive load)	1,250VA, 150W	750VA, 90W	2,000 VA	1,250VA, 150W 2,000VA, 240W (high-capacity type)
Minimum permissible load (for reference only)	5mA @ 24VDC	10mA @ 5VDC	10mA @ 5VDC	10mA @ 5VDC
Coil Information				
Coil voltage	5, 12, 24VDC	5, 12, 24VDC	12, 24VDC	5, 6, 12, 24VDC
Power consumption	180mW 120mW (high-sensitivity)	120mW	800mW	200mW (1 pole) 300mW (2 pole)
Insulation class	Class B	Class B	Class B	Class A
Characteristics				
Operating temperature	-40 to +85°C	-40 to +85°C	-40 to +70°C	-25 to +70°C
Impulse withstand voltage (1.2 x 50μ sec. unless noted)	6kV	5.08kV	10kV	—
Dielectric strength (50/60 Hz for 1 minute)	3,000VAC (coil-contacts) 750VAC (open contacts)	3,000VAC (coil-contact) 750VAC (open contacts)	5,000VAC (coil-contact) 3,000VAC (contacts pole-pole) 1,000VAC (open contacts)	4,000VAC (coil-contact) 2,000VAC (contacts pole-pole) 1,000VAC (open contacts)
Terminal choices	PCB	PCB	PCB	PCB
Protection level	Fully Sealed	Fully sealed	Fully sealed	Fully sealed
Accessories	Socket for back connecting, sockets with PCB terminals	N/A	N/A	Sockets & clips for back connecting sockets with PCB terminals
Approved standards	UL, CSA, VDE	UL, CSA, VDE, EN, IEC 61131-2, IEC 61010	UL, CSA, VDE (0700/0110)	UL, CSA, (FCC Part 68) SEV, TUV, IEC

Relays - Power PCB

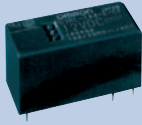
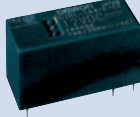
		NEW! 	NEW! 	
General Attributes	G6RN	G5LE/-E	G5LB/-25	G5Q
Dimensions mm (in)	15 H x 28.5 L x 10 W (0.59 x 1.12 x 0.39)	19 H x 22.5 L x 16.5 W (0.75 x 0.89 x 0.65)	15.2 H x 19.6 L x 15.6 W (0.60 x 0.77 x 0.61)	15.8 H x 20.3 L x 10.3 W (0.62 x 0.80 x 0.41)
Switching	8A	10A (16A for Semi-sealed "E" type)	10A	10A (NO contacts)
Features	• 8 mm coil/contact creepage • Low profile • Sealed construction standard • Ideal for switching contactors, solenoids & motors	• Small "sugar cube" size used as common platform • Sealed construction optional • High capacity contacts: -E • Increased (0.8) contact gap: -G8 • Special application versions available	• Sealed construction optional • 10A switching in low profile "sugar cube" package • Optional -25 type meets stringent EU requirements, including tracking resistance CTI > 250 & extended life • 4.5kV impulse withstand • Low power consumption	• Compact PCB relay with high insulation • Withstands impulse of 8kV coil-contacts • Meets EN tracking resistance CTI > 250 • Class F coil insulation standard • Low power consumption
Contact Information				
Contact form	1 Form A, 1 Form C	1 Form A, 1 Form C	1 Form A, 1 Form C	1 Form A, 1 Form C
Contact type(s)	Single button	Single button	Single button	Single button
Contact material(s)	AgNi +gold plating	AgSnO ₂ /AgSnIn (either with gold plating option)	AgSnO ₂	AgNi
Electrical service life (@ 1800 ops./hr.) (resistive load)	100,000: 8A @ 250VAC 5A @ 30VDC	100,000: 13A @ 120VAC (@ 85°C/87°C) 5A @ 250 VAC (AgSnO ₂) 6 FLA, 6 LRA @ 120VAC @ 85°C TV-5 @120VAC 50,000: 10A @ 250VAC 50,000 16A @ 250VAC 1/8 HP @ 120 VAC (@ 85°C) 30,000: 12A @ 120VAC	100,000: 10A @ 120VAC/250VAC 8A @ 30VDC	200,000: 3A (NO)/3 A (NC) @ 125VAC 100,000: 3A (NO)/3 A (NC) @ 250VAC 5A (NO)/3 A (NC) @ 30VDC 50,000: 10A (NO) @125VAC (900 ops. per hour)
Max. switching capacity (resistive load)	2,000VA, 150W	1,200VA, 240W	1,200VA, 240W 2,500VA, 240W (-25 type)	1,250VA, 150W (NO) 375 VA, 90W (NC)
Minimum permissible load (for reference only)	10mA @ 5 VDC	100mA @ 5VDC,	100mA @ 5VDC	10mA @ 5VDC
Coil Information				
Coil voltage	5, 6, 12, 24, 48VDC	5, 6, 9, 12, 24, 48VDC	3, 5, 6, 9, 12, 24, 36, 48VDC	5, 12, 24VDC
Power consumption	220mW, 250mW (DC24/48)	400mW /360mW available	360mW (standard) 400mW ("40" style) 600mW ("60" style)	400mW Form C 200mW Form A
Insulation class	Class B	Class B, F (UL/CSA ONLY)	Class B, F (-25 type)	Class F
Characteristics				
Operating temperature	-40 to +85°C	-40 to +85°C	-40 to +85°C	-40 to +105°C
Impulse withstand voltage (1.2 x 50μ sec. unless noted)	—	4.5kV	4.5kV	8kV
Dielectric strength (50/60 Hz for 1 minute)	4,000VAC (coil-contact) 1,000 (open contacts)	2,000VAC (coil-contact) 750VAC (open contacts)	2,000VAC (coil-contact) 750VAC (open contacts)	4,000VAC (coil-contact) 1,000VAC (open contacts)
Terminal choices	PCB	PCB	PCB	PCB
Protection level	Sealed	Standard: Semi-sealed/vented, Option: sealed	Standard: Semi-sealed/vented, Option: sealed	Standard: Semi-sealed/vented, Option: sealed
Accessories	N/A	N/A	N/A	N/A
Approved standards	UL, CSA, VDE	UL, CSA, TUV, VDE	UL, CSA, VDE	UL, CSA, VDE

Relays - Power PCB

			NEW TYPES 	
General Attributes	G6C	G5CA	G5PA-1	G8PT
Dimensions mm (in)	9.91 H x 20.07 L x 14.99 W (0.39 x 0.79 x 0.59)	11 H x 16 L x 22 W (10A) (0.43 x 0.63 x 0.87) 11 H x 22 L x 25 W (15A)	25 H x 24 L x W 10 (0.985 x 0.95 x 0.40)	Multiple, refer to catalog. Basic: 20.1(H)x 32.1(L) x 27.7(W)
Switching	10A	10A (15A high capacity)	5A (10A option)	30A (SPST) 10A-30A (SPDT)
Features	- Low power consumption for high power switching - Low profile 10A power relay - Single & dual coil latching types available - Sealed construction available - Meets EN tracking resistance CTI > 250	- Fully sealed or flux-sealed - High capacity versions - High sensitivity types - PCB or PCB+QC versions	- Ideal for TVs, tuner, & audio power supply switching, both front panel and remote controlled. Also auxiliary switched power outlets on tuners and TVs. - A variety of versions in a single standard package meet most UL/FCC power isolation requirements - Rated to 100A inrush @ 250 VAC for minimum 40,000 operations	- Industry standard form with 30A switching - UL Class F insulation standard - Wide range of coil ratings - Various sealing forms: open frame, vented/flux sealed, fully sealed - UL508/UL873 Column A spacings - Meets EN Tracking resistance CTI > 175 - High dielectric at open contacts
Contact Information				
Contact form	1 Form A + 1 Form B, 1 Form A	1 Form A	1 Form A	1 Form A, 1 Form C
Contact type(s)	Single button	Single button	Single button	Single button
Contact material(s)	Ag-Alloy	AgSnIn	AgSnO ₂	AgSnIn (other alloys available)
Electrical service life (@ 1800 ops./hr.) (resistive load)	100,000: 10A @ 30VDC/250VAC	100,000: 10A @ 30VDC 15A @ 110VAC (high capacity) 10A @ 250VAC (fully sealed, std) 300,000: 10A @ 250VAC (semi-sealed)	30,000: 5A @ 277 VAC 5A @ 30VDC / 277VAC (high capacity type) 25,000: TV-5 TV-8 (optional) 6,000: 5A @ 30VDC 100,000: 10A @ 250 VAC (high-capacity type)	100,000: 30A @ 277VAC (NO) 50,000: 30A @ 277VAC (NC) Consult catalog for other ratings
Max. switching capacity (resistive load)	2,500VA, 300W 2,000VA, 240W (latching)	2,500VA, 300W	N/A	1 Form A: 7,500VA, 560W 1 Form C: 5000/2500VA, 560W/280W*
Minimum permissible load (for reference only)	10mA @ 5VDC	100mA @ 5VDC	10mA @ 5 VDC	500mA @ 5VDC
Coil Information				
Coil voltage	3, 5, 6, 12, 24VDC	5, 12, 24VDC	5, 6, 9, 12, 24 VDC (4.5 VDC non-standard)	5, 9, 12, 24, 48, 110VDC Other coil voltages available
Power consumption	200mW (monostable & single coil latching) 280mW (dual coil latching)	200mW (standard & high capacity) 150mW (high sensitivity)	250mW 530mW (high capacity, extended electrical life) 150mW (under development)	900mW
Insulation class	Class A	Class B	Class B	Class F
Characteristics				
Operating temperature	-40 to +70°C	-25 to +70°C	-40 to +70°C	-55°C to +105°C
Impulse withstand voltage (1.2 x 50μ sec. unless noted)	4.5kV	4.5kV	10kV 12kV	6kV
Dielectric strength (50/60 Hz for 1 minute)	2,000VAC (coil -contact) 2,000VAC (contacts pole-pole) 1,000VAC (open contacts)	2,500VAC (coil-contact) 1,000VAC (open contacts)	4,000VAC (coil-contacts) 1,000VAC (open contacts)	2,500VAC, (coil-contact) 1,500VAC, (open contacts)
Terminal choices	PCB, self clinching	PCB Optional: PCB+quick-connect contact terminals	PCB	PCB (optional self-clinching) PCB coil /quick connect contact Flange mount all quick connect
Protection level	Semi-sealed Fully sealed option	Semi-sealed Fully sealed option	Semi-sealed	Open frame, Vented/semi-sealed, Fully sealed
Accessories	Socket for QC contact terms., PCB terms., socket clip	N/A	N/A	N/A
Approved standards	UL, CSA, VDE, SEV	UL, CSA, SEV, SEMKO, IEC/TUV	UL, CSA, SEMKO TUV, VDE	UL, CSA, VDE

* N.O. Contact / N.C. Contact

Relays - Power PCB

			NEW! 	NEW! 
General Attributes	G2R	G2RL	G5RL	G2RL-TP
Dimensions mm (in)	25.5 H x 29 L x 13 W (1 x 1.14 x 0.51)	15.5 H x 29 L x 12.7 W (0.61 x 1.14 x 0.50)	15.7 H x 28.8 L x 12.5 W (0.61 x 1.14 x 0.49)	15.7H x 40.4 L x 12.5 W (0.61 x 1.60 x 0.49)
Switching	16A max.	16A max.	16A max. (NO), 5A max. (NC)	16A max.
Features	• High dielectric withstand • 8mm coil/contact spacing • 1 & 2 pole models • 3mm contact gap version available (see G2RG) • Meets EN tracking resistance CTI > 250	• Low profile for power rating • High isolation • Class F insulation option • Low power consumption • Quick connect terminal option • Meets EN tracking resistance CTI > 250	• High dielectric due to large internal creepage distances. • AC coil in industry standard package	• Increased temperature & insulation ratings in low profile package. • Simplifies PCB design by allowing removal of high power PCB tracings. • Contact/load terminals in both 5mm for RAST5 connection & 7.5mm existing standard • Single mounting/soldering process for both types of terminals reduces PCB assembly costs.
Contact Information				
Contact form	1 Form A, 1 Form C, 2 Form A, 2 Form C	1 Form A, 1 Form C, 2 Form A, 2 Form C	1 Form C	1 Form A
Contact type(s)	Single button, bifurcated button	Single button (bifurcated available)	Single button	Single button
Contact material(s)	Ag alloy	AgSnO ₂ (1 pole); AgNi (2 pole)	AgSnIn	Ag alloy
Electrical service life (@ 1800 ops./hr.) (resistive load)	100,000: (high-capacity type) 16A @ 30VDC/250VAC Consult catalog for other ratings	100,000: 16A @ 250VAC 6,000: 25A @ 240VAC Consult catalog for other ratings	50,000: 16A @ 24VDC/277VAC (NO) 25,000: TV-5 (NO)	50,000: 16A @ 24VDC/277VAC 20A @ 24 VAC (@ 85°C) 25,000: TV-5
Max. switching capacity (resistive Load)	4,000VA, 480W (high-capacity 1 pole) Consult catalog for other ratings	4,000VA, 384W (high-capacity 1 pole) Consult catalog for other ratings	4,000VA, 384W (NO) 1,250VA, 120W (NC)	4,000VA,
Minimum permissible load (@1800 ops./hr.)	1 pole: 100mA @ 5VDC; 2 pole: 10mA @ 5VDC	40mA, 24VDC	40mA @ 24VDC	—
Coil Information				
Coil voltage	12, 18, 24, 48, 50, 100, 110/120, 110, 120, 200/220, 220, 230, 240VAC 5, 6, 9, 12, 18, 24, 48, 60, 100, 110VDC	5, 12, 24, 48VDC	24, 100, 115/120, 200, 230/240 VAC 5, 12, 24, 48VDC	12, 24VDC Consult catalog for other coil voltages
Power consumption	0.9VA, 530mW (standard) 360mW (high sensitivity) 850mW (latching set), 600mW (latching reset)	400mW (430mW for 48VDC)	0.75VA 400mW (430mW @ 48VDC)	400mW (430mW for 48VDC)
Insulation class	Class B available	Class F	—	Class F
Characteristics				
Operating temperature	-40 to +70°C (+85°C option)	-40 to +85°C	-40 to +70°C (AC coil) -40 to +85°C (DC coil)	-40 to +105°C
Impulse withstand voltage (1.2 x 50μ sec. unless noted)	10kV	10kV	10kV	10kV
Dielectric strength (50/60 Hz for 1 minute)	5,000VAC (coil-contact) 1,000 VAC (open contacts)	5,000VAC (coil-contact) 1,000 VAC (open contacts)	6,000VAC (coil-contact) 1,000VAC (open contacts)	5,000 VAC, (coil-contact) 1,000 VAC, (open contacts)
Terminal choices	PCB, plug in quick-connect (flange mount)	PCB, optional quick-connect contact terminals (-TP type)	PCB	PCB (coil terminals) Quick-connect (contact terminals)
Protection level	Semi-sealed Fully sealed option	Semi-sealed Fully sealed option	Semi-sealed	Semi-sealed
Accessories	N/A	N/A	N/A	N/A
Approved standards	UL, CSA, SEV SEMKO, VDE, TUV	UL, CSA, VDE	UL, CSA, VDE	UL, CSA, EN 60335

Relays - DC Power

The switching and driving sections are isolated, gas injected and hermetically sealed. This advanced construction requires no arc space, saves space, & helps ensure safety.



General Attributes

G9EA

G9EB

G9EC

Model	G9EA-1(-B)	G9EA-1(-B)-CA	G9EB (-1B)	G9EC-1(-B)
Classification	Switching/current conduction	High-current conduction	Switching/current conduction	Switching/current conduction
Features	Standard compact model carries/switches 400VDC, 60A loads	Carries 100A Low contact resistance when carrying current	Smallest in series 250VDC, 25A loads	Largest capacity in series Carries/switches 400V, 200A loads
Contact Information				
Contact Form	SPST-NO	SPST-NO	SPST-NO	SPST-NO
Contact structure	Double-break, single	Double-break, single	Double-break, single	Double-break, single
Contact resistance	30mΩ max. (0.6mΩ typical)	10mΩ max. (0.3mΩ typical)	30mΩ max.	30mΩ max. (0.2mΩ typical)
Switching voltage drop	0.1V max. (for a carry current of 60A)	0.1V max. (for a carry current of 100A)	0.1V max (for a carry current of 25A)	0.1V max. (for a carry current of 200A)
*Electrical endurance	120VDC, 100A, 3,000 operations min. 400VDC, 60A, 3,000 operations min. 400VDC, 30A, 30,000 operations min.	400VDC, 30A, 1,000 operations min. 120VDC, 30A, 2,500 operations min.	250VDC, 25A, 30,000 operations min.	400VDC, 200A, 3,000 operations min.
Max. switching current	100A	30A	25A	200A
Rated carry current	60A	100A	25A	200A
Short-time carry current	100A (10 min.)	150A (10 min.)	50A (5 min.), 40A (10min.)	300A (15min.)
*Max. interruption current	600A @ 300VDC (5 times)	—	100A @ 250VDC (5 times)	1,000A @ 400VDC (10 times)
*Overload interruption	180A @ 400VDC (100 times min.)	100A @ 120VDC (150 times min.)	50A @ 250VDC (50 times min.)	700A @ 400VDC (40 times min.)
Reverse polarity interruption	-60A @ 200VDC (1,000 times min.)	—	—	-200A @ 200VDC (1,000 times min.)
Coil Information				
Rated voltage	12, 24, 48, 60 & 100VDC	12, 24, 48, 60 & 100VDC	12, 24, 48, 60 & 100VDC	12, 24, 48, 60 & 100VDC
Power consumption	Approx. 5 to 5.4W	Approx. 5 to 5.4W	Approx. 2W	Approx. 11W
Mechanical endurance	200,000 operations min.	200,000 operations min.	100,000 operations min.	200,000 operations min.
Insulation resistance				
Between Coil & Contacts	1,000MΩ min.	1,000MΩ min.	1,000MΩ min.	1,000MΩ min.
Between contacts of the same polarity	1,000MΩ min.	1,000MΩ min.	1,000MΩ min.	1,000MΩ min.
Dielectric strength				
Between coil & contacts	2,500VAC for 1min.	2,500VAC for 1min.	2,500VAC for 1min.	2,500VAC for 1min.
Between contacts of the same polarity	2,500VAC for 1min.	2,500VAC for 1min.	2,500VAC for 1min.	2,500VAC for 1min.
Impulse withstand voltage	4,500V	4,500V	4,500V	4,500V
Ambient operating temperature	-40 to +70°C (with no icing or condensation)	-40 to +70°C (with no icing or condensation)	-40 to +70°C (with no icing or condensation)	-40 to +50°C (with no icing or condensation)
Terminals				
Screw terminals	Yes	Yes	Yes	Yes
Lead wire output	Yes	Yes	Yes	Yes

*When using a varistor as protective circuit against reverse surge in the relay coil

Relays - General Purpose

				
General Attributes	MY4H	MK	MY	LY
Dimensions mm (in)	35 H x 28.5 L x 22 W (1.38 x 1.12 x 0.87)	52.58 H x 34.54 L x 34.54 W (2.07 x 1.36 x 1.36)	36 H x 28 L x 21.5 W (1.42 x 1.10 x 0.85)	35.56 H x 27.94 L x 21.59 W (1.40 x 1.10 x 0.85)
Switching	3A	10 A max.	10A (2 pole); 5A (4 pole)	15A
Features	• Full hermetic seal for hazardous applications • UL Class1, Division II approved • Signal level switching option using bifurcated contacts	• Octal base plug-in • Exceptional reliability • Push-to-test button standard • CENELEC conformity	• Exceptional reliability • Push-to-test button standard • Arc barrier built into 4 pole • Built in diode (DC) or C/R Circuit • Name plate and mechanical indicator, standard	• Compact power relay • LED, Push-to-test button, bifurcated contacts and other features available • Space efficient power switching • Extended life to 500,000/200,000 operations
Contact Information				
Contact form	4 Form C	2 Form C, 3 Form C	2 Form C, 4 Form C	1 Form C, 2 Form C, 3 Form C, 4 Form C
Contact type(s)	Single button, bifurcated button	Single button	Single button, bifurcated button	Single button, bifurcated
Contact material(s)	AgSnIn	Ag (fine silver)	AgNi	Ag-Alloy
Electrical service life (@ 1800 ops./hr.) (resistive load)	100,000 min. 3A@24VDC/110VAC (50,000 min. bifurcated)	100,000 min. 10A @ 28VDC/250VAC	2P 500,000: 5A @ 30VDC/250VAC 4P 200,000: 3A @ 30VDC/250VAC 100,000: 3A@30VDC/250VAC (bifurcated)	200,000 min: 15A @ 24VDC/110VAC 10A @ 24VDC/110VAC 500,000 min: (2 pole) 10A @ 110VAC
Max. switching capacity (resistive load)	330VA, 72W	2,500VA, 280W	2,500VA, 300W 1,250VA, 150W (4-pole)	1,700VA, 360W (1 pole) 1,100VA, 240W (2, 3, 4 pole) 550VA, 120W (bifurcated)
Minimum permissible load (@1800 ops./hr.)	100µA @ 1VDC for MY4H 100µA @ 100mVDC for MY4ZH (Bifurcated contacts)	100mA @ 1VDC	2 pole: 1mA @ 5VDC 4 pole: 1mA @ 5VDC 10µA @ 1 VDC (bifurcated contacts)	100mA @ 5VDC 10mA @ 5VDC (bifurcated contacts)
Coil Information				
Coil voltage	24, 110/120VAC 12, 24VDC	12, 24, 110/120, 220/240VAC; 12, 24, 48, 100VDC	6, 12, 24, 48, 110/120, 220/240 VAC; 6, 12, 24, 48, 100/110VDC	12, 24, 110/120, 220/240VAC, 12, 24, 48, 100VDC
Power consumption	900 mW; 0.9 - 1.1VA	2.7VA, 1.5W	AC Coil: 0.9 to 1.2VA DC Coil: 0.9W	1.1VA, 0.9W (1 pole); 1.1VA, 0.9W (DPDT); 1.6VA, 1.4W (3PDT); 1.95VA, 1.5W (4PDT)
Insulation class	—	N/A	Class A	Class A
Characteristics				
Operating temperature	-25°C to +60°C	-10°C to +40°C	-55°C to +70°C	-25°C to +70°C
Impulse withstand voltage (1.2 x 50µ sec. unless noted)	—	—	—	—
Dielectric strength (50/60 Hz for 1 minute)	1,000VAC (coil-contact) 1,000VAC (contacts pole pole) 700VAC (open contacts)	2,500VAC (coil-contact) 1,000VAC (open contacts)	2,000VAC (coil-contact) 1,000VAC (open contacts)	2,000VAC (coil-contact) 1,000VAC (open contacts)
Terminal choices	Plug-in	Plug-in	PCB, plug-in	Track mounted socket PCB with .187/.250 QC
Protection level	Hermetic seal	Unsealed	Unsealed	Unsealed, semi-sealed
Accessories	PYF14A-E Socket PYC-A1 Clip	Sockets & clips for track mount sockets with screw terminals, & back connecting sockets with solder & PCB terminals	Sockets & clips for track mount sockets with screw terminals, & back connecting sockets with solder & PCB terminals. Note: PYF-S series screwless clamp terminal socket available Mounting rails= PFP	Sockets & clips for track mount sockets with screw terminals, & back connecting sockets with solder & PCB terminals
Approved standards	UL, CSA	UL, CSA, TUV, VDE, SEMKO	UL, CSA, SEV, CE, VDE, IMA	UL, CSA, SEV, VDE, CE (UL, CSA only with varistors)

Relays - General Purpose

NEW!



General Attributes

G2RV

G2R-S (S)

G7J

G7L

Dimensions mm (in)

91.0 H x 94.0 L x 6.1 W
(3.58 x 3.7 x 0.24)
Relay & terminal block

35.5 H x 29 L x 13 W
(1.40 x 1.14 x .51)

64 H x 53.5 L x 34.5 W
(2.52 x 2.11 x 1.36)

49.02 H x 68.58 L x 34.54 W
(1.93 x 2.70 x 1.36)

Switching

6A max.

1 pole: 10A max.
2 pole: 5A max.

25A max.

30A max.

Features

- Slimmest control relay available
- Capable of switching both electrical control loads (6A) and signal level loads (1mA)
- Relay available separately
- Sealed for unprotected environments

- Nameplate and mechanical flag indicator standard
- LED diode, and lockable test button option available
- Socket mount 10A relay (1-pole)

- Variety of contact forms
- Ideal for 3 phase motor control
- 4 pole mini contactor
- DIN rail mountable
- Minimal chattering
- UL94V-0

- Reliable high power relay
- 3 mm contact gap
- Conforms to IEC 950/UL 1950
- Class B insulation standard
- Most cost effective solution in its class.
- Ideal for pump, motor loads

Contact Information

Contact form

1 Form C

1 Form C
2 Form C

4 Form A, 3 Form A/1 Form B,
2 Form A/2 Form B

1 Form A-(Double Make)
2 Form A-(Double Make)

Contact type(s)

Crossbar

Single button, bifurcated crossbar

Single button

Single button

Contact material(s)

Ag Alloy

Ag Alloy

Ag Alloy

Ag Alloy

Electrical service life (@ 1800 ops./hr.) (resistive load)

6,000: 6A @ 30 VDC /250VAC

100,000 min. (at rated loads)
(see data sheet for more information)

100,000 min. (at rated loads)
(see data sheet for more information)

100,000 min. (at rated loads)
(see data sheet for more information)

Maximum switching capacity

1,500VA, 18W (resistive load)

2,500VA, 300W
(1-pole resistive load)

5,500VA, 750W (NO contacts)
1,760VA, 240W (NC contacts)

4,400VA

Minimum permissible load (@1800 ops./hr.)

5mA @ 5VDC

100mA @ 5VDC ,
10mA @ 5VDC (2 pole)

100mA @ 24VDC

100mA @ 5VDC

Coil Information

Coil voltage

12, 24, 48VDC
24, 48, 110, 230VAC

6, 12, 24, 48VDC;
24, 110 120, 230, 240VAC

6, 12, 24, 48, 100/110VDC;
6, 12, 24, 50, 100/120,
200/240VAC

12, 24, 48, 100VDC;
12, 24, 100/120, 200/240VAC

Power consumption

300mW

0.9VA, 0.53W

1.8 to 2.6VA, 2.0W

1.7 to 2.5VA, 1.9W

Insulation class

Class A

Class A

Class A, Class B (available)

Class B

Characteristics

Operating temperature

-40°C to +60°C

-40 to +70°C

-25°C to +60°C

-20°C to +85°C

Impulse withstand voltage (1.2 x 50μ sec. unless noted)

6kV

8kV

10kV (coil-contacts)

10kV (coil-contacts)

Dielectric strength (50/60 Hz for 1 minute)

4,000VAC (coil-contacts)
1,000VAC (open contacts)

1 pole: 5,000VAC (coil-contacts)
1,000VAC (open contacts)
2 pole: 5,000VAC (coil-contacts)
3,000VAC (different polarity)
1,000VAC (open contacts)

4,000VAC (coil-contacts)
4,000VAC (different polarity)
2,000VAC (open contacts)

4,000VAC (coil-contacts)
2,000VAC (different polarity)
2,000VAC (open contacts)

Terminal choices

Relay: Quick-connect
Socket: screw terminals, push-in
wire connections (sold separately)

Plug-in

Quick-connect, screw, PCB

Quick-connect, screw, PCB

Protection level

Semi-sealed

Unsealed

Unsealed
Semi-sealed

Unsealed
Semi-sealed

Accessories

Socket: G2RV-SL (UL 508)
SSR Option: G3MB / G3MC

Sockets for track mount, sockets
with screw terminals, & back
connecting sockets with solder &
PCB terminals. Note: P2RF-S series
screwless clamp terminal socket
available. SSR option: G3R.

R99-04V for G5D W-bracket

R99-07G5D E bracket;
P7LF-D adapter;
P7LF-06 front connecting socket

Approved standards

UL, CSA

UL, CSA, VDE, IEC, LR, CE

UL, CSA, TUV, CE, IEC

UL, CSA, TUV, CE, VDE available

Relays - General Purpose

	NEW! 		
General Attributes	G7Z	MGN	MJN
Dimensions mm (in)	84 H x 62 L x 45 W (3.31 x 2.44 x 1.77)	Short Base: 55.88 H x 63.50 L x 63.50 W (2.20 x 2.50 x 2.50) Long Base: 60.45 H x 84.33 L x 63.50 W (2.38 x 3.32 x 2.50)	48.38 H x 35.56 L x 38.73 W (1.91 x 1.40 x 1.53)
Switching	40A max. (160A max. in parallel)	30A max.	10A, 20A, 30A (UL ratings) (see: Electrical service life)
Features	- Each pole able to switch and carry 40A in parallel - Capable of switching up to 160A - Reduced power consumption & size - Low noise - Safety function included as standard - Optional auxiliary contact block enables concurrent signal (1mA) switching	30 Amp heavy duty power relay - Class F coil insulation system for 155°C (total temperature) - Coil molded in DuPont Rynite® for environmental protection - Rugged construction rivets terminals to base - Magnetic blow-out option	- Rugged power driver offers superior 3/16" through-air & 3/8" over-surface spacing - Interlocked frame & contact block prevent contact misalignment during plug-in - Indicator lamp, push-to-operate options 10A-30A in same package - Continuous duty at 125% coil voltage
Contact Information			
Contact form	4A, 3A/1B, 2A/2B	1 Form A, 1Form B, 1Form C, 2 Form A, 2 Form C (long base)	1 Form C, 2 Form C, 3 Form C (monostable); 1 Form C, 2 Form C (latching/unlatching)
Contact type(s)	Bifurcated Crossbar	Single button	Single button
Contact material(s)	AgSnIn	5/16" diameter AgCdO ₂	3/16" diameter AgCdO ₂
Electrical service life (@ 1800 ops./hr.) (resistive load)	100,000: 5A @ 110VDC (at 1,200 ops/hr) 80,000: 40A @ 440VAC	100,000 min. 30A @ 28VDC/240VAC	100,000 min. 10A @ 28VDC/240VAC 20A @ 28VDC/277VAC 30A @ 28VDC
Max. Switching Capacity (resistive load)	17,600VA, 550W 440VA, 110W (auxiliary contact block)	N/A	N/A
Minimum permissible load (@1800 ops./hr.)	2A @ 24VDC <1mA @ 5VDC (auxiliary contact block)	N/A	N/A
Coil Information			
Coil voltage	12, 24VDC	6, 12, 24, 120, 240, 480VAC; 6, 12, 24, 48, 110VDC	6, 12, 24, 120VAC 5, 6, 12, 24, 48, 110VDC
Power consumption	3.7W	9.5VA nominal; 2W nominal	AC 1.7VA (1, 2PDT) 2.0VA (3PDT DC 1.2W)
Insulation class	Class B	Class F	Class A
Characteristics			
Operating temperature	-25°C to +60°C	At 30Amps: -45°C to +80°C (AC coil) -45°C to +115°C (DC coil)	-45°C to +60°C (1 & 2 pole AC coil), + 70°C (DC coil) -45°C to +45°C (3 pole AC coil) -45°C to +70°C (3 pole DC coil)
Impulse withstand voltage (1.2 x 50μ sec. unless noted)	10kV (coil to contacts or different polarity) 4.5kV (open contacts)	N/A	N/A
Dielectric strength (50/60 Hz for 1 minute)	4,000VAC (coil-contacts) 4,000VAC (different polarity) 2,000VAC (open contacts)	2,200Vrms, 60Hz between contacts; 2,200Vrms, 60Hz between other elements	750VAC, rms 60Hz across open contacts; 2,500VAC, rms 60Hz all other mutually insulated elements
Terminal choices	Screw	Screw	Quick-connect plug-in
Protection level	Unsealed, fully sealed	None	Semi-sealed
Accessories	Auxiliary Contact Block (2 poles of 4 poles) Signal level switching capability (2 poles of 4 poles)	Aluminum dust cover - sealed knock-out holes for standard conduit fittings. Relay mounts on pre-drilled base. Snap action cover release 127 W x 76.20 H x 101.60 D (5 x 3 x 4)	PTF11PC Socket; PTF11QDC Socket; PTF21PC Socket; PTFFCB Socket; PYMJN-PCB Retaining Clips; PYMJN-S Retaining Clips
Approved standards	UL, CSA, TUV, VDE	UL	UL, CSA

Relays - Solid State

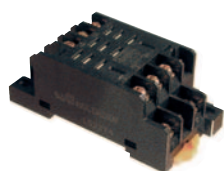
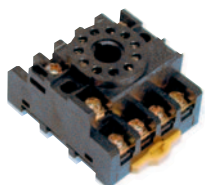
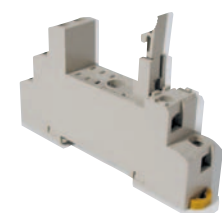
	SIP	SIP	DIP	DIP
				
General Attributes	G3MB	G3MC	G3R I/O	G3DZ
Dimensions mm (in)	20.5 H x 24.5 L x 5.5 W (0.81 x 0.96 x 0.22)	13.5 H x 24.5 L x 4.5 W (0.53 x 0.96 x 0.18)	Input & Output modules: 28 H x 29 L x 13 W (1.10 x 1.14 x 0.51)	12.5 max. H x 18.5 L x 6.5 W (0.49 x 0.73 x 0.26) max.
Switching current (resistive)	2A @ 240VAC	2A @ 240VAC	Input module: 100mA; Output module: 2A	0.6A @ 240VAC
Features	• Space saving SIP design • Industry standard footprint • Monoblock construction results in ultimate reliability	• Reduced height thin profile SIP • Ideal for close PCB mounting • Monoblock construction results in ultimate reliability • Industry standard footprint	• 4 kV insulation • Operation indicator standard • Interchangeable with G2R electromechanical relay • Ideal for DIN rail mount I/O operations	• AC/DC & AC half-wave switching with one model • 10µA max. leakage current • Matches G6D form factor
Operating temperature	-30°C to +80°C	-30°C to +80°C	-30°C to +80°C	-30°C to +85°C
Operating input	5, 12, 24VDC	5, 12, 24VDC	Input module: 5VDC; 6.6-32VDC; 60-264VAC; Output module: 4-32VDC	5, 12, 24VDC
Output voltage	75-264VAC	75-264VAC	Input module: 4-32VDC; Output module: 75-264VAC, 4-200VDC	5, 12, 24VDC
Leakage Current (max.)	1.5mA (at 200VAC)	1.5mA (at 200VAC)	Input Module: 5µA Output Module: 1.5mA (AC) 1mA (DC)	10µA (at 125VDC)
Isolation	Phototriac	Phototriac	Photocoupler, Phototriac	Phototriac
Dielectric strength (50/60Hz for 1 min.)	2,500VAC	2,500VAC	4,000VAC	2,500VAC
Zero crossing	Optional	Yes	Input module: No; Output module: Yes	No
Snubber circuit	Optional	Yes	Input module: No; Output module	Yes (Built-in Varistor)
Life (MTTF)	100,000 hours	100,000 hours	100,000 hours	100,000 hours
Mounting	PCB	PCB	Socket	PCB or Socket
Terminal	PCB	PCB	Plug-in	PCB
Approvals	UL, CSA, TUV	UL, CSA, VDE	UL, CSA, TUV	UL, CSA
Equivalent Omron EMR footprint	G2RV similar for terminal block	G2RV similar for terminal block	G2R	G6D, G6DS
Optional heat sink	N/A	N/A	N/A	N/A
Socket	N/A	N/A	P2RF-05E	P6D-04P

Relays - Solid State

	SIP	SIP	SIP	SIP
				
General Attributes	G3S/G3SD	G3CN	G3M	G3TB
Dimensions mm (in)	16.5 H x 20 L x 10 W (0.65 x 0.79 x 0.39)	26H x 33H x 14 W (1.04 x 1.30 x .55) max.	20 H x 40 L x 9 W (0.79 x 1.58 x 0.35)	Input module: 20.5 H x 43.5 L x 10 W (0.81 x 1.70 x 0.39) Output module: 30.5 H x 43.5 L x 10 W (1.20 x 1.70 x 0.39)
Switching current (resistive) (max.)	1A @ 240VAC (1.2A, G3S-PD & heatsink) (1.1A, G3SD-PD & heatsink)	2A, 3A, @ 53VDC, 26VAC	2, 3A, 5A @ 250VAC	Input module: 25mA @ 4 to 32VDC Output module: 3mA max. @ 5 to 48VDC 3mA max. @ 100 to 240 VAC 1.5 max. @ 48 to 200 VDC
Features	- AC and DC models available - Socketable - Heatsink, available - Interchanges with G6B SPST electrical mechanical relay	- Flat & vertical packages - Ideal for FA & OA equipment	- Multi-input SSR - Space-saving SIP design - Ideal for high density Power PCB applications - High current switching capability	- Color-coded input & output modules - Industry standard footprint 4kV dielectric strength - LED indicator
Operating temperature	-30°C to +80°C	-30°C to +80°C	-30°C to +80°C	-30°C to +85°C
Operating input	5, 12, 24VDC	5, 12, 24; 3~28VDC	5, 12, 24VDC	Input module: 80-264VAC, 3-32VDC; Output module: 3-32VDC
Output voltage	5, 12, 24VDC	75~264VAC 3~53VDC	75-264VAC	Input module: 4-32VDC; Output module: 75-264VAC, 4-200VDC
Leakage Current (max.)	2mA (G3S) 0.1mA @ 26VDC (G3S)	2.5/5mA	2mA @ 100VAC/5mA @ 200VAC (2Amp versions) 1.5mA @ 200VAC (3 & 5 Amp versions)	Input module: 100µA max. Output module: 5mA @ 200VAC (AC) 1mA max. (DC)
Isolation	Phototriac (G3S) Photocoupler (G3SD)	Phototriac Photocoupler	Phototriac	Photocoupler
Dielectric strength (50/60Hz for 1 min.)	2,500VAC	2,500VAC	2,000VAC (2A versions) 2,500VAC (3A and 5A versions)	4,000VAC
Zero crossing	No	Optional	Optional	Input module: No; Output module: Yes
Snubber circuit	Yes (Built-in Varistor)	No	Yes	Input module: No; Output module: Yes
Life (MTTF)	100,000 hours	100,000 hours	100,000 hours	100,000 hours
Mounting	PCB or Socket	PCB	PCB	PCB
Terminal	PCB	PCB	PCB	PCB
Approvals	UL, CSA	UL (114), CSA (22.2)	UL, CSA, TUV	UL, CSA
Equivalent Omron EMR footprint	G6B	N/A	N/A	N/A
Optional heat sink	Y92B-S08N	N/A	N/A	N/A
Socket	P6B-04P (PCB)	N/A	N/A	N/A

Relays - Solid State

				
General Attributes	G3TC	G3NE	G3NA	G3PA/B
Dimensions mm (in)	31.8 H x 43.2 L x 15.2 W (1.25 x 1.7 x 0.6)	11.5 H x 47 L x 37.5 W (0.45 x 1.90 x 1.50)	27 H x 58 L x 43 W (1.06 x 2.28 x 1.69)	Consult Omron
Switching current (resistive) (max.)	Input Module: 12mA, 15mA, or 18mA (depending on model) Output Module: 3A (1A on DC output models rated < 200VDC)	20A max.@ 240VAC (264VAC max.)	Versions range from 10A to 90A max. (when using heat sink)	up to 45A
Features	• Color-coded modules • Industry standard footprint • Built-in anchor screw • Optical isolation – Dielectric 4kV • Zero cross on AC output modules	• High capacity • Panel Mount • Quick-connect terminals	• Ideal for industrial controls & commercial cooking • "Hockey Puck" standard • Operation indicator standard	• Built-in heat sink increases life and reliability • Voltage turn-on at zero crossing reduces initial inrush load currents • LED indicator when control power applied
Operating temperature	-30°C to +80°C	-30°C to +80°C	-30°C to +80°C	-30°C to +80°C
Operating input	Input Module: 90-140VDC/AC, 180-280 VDC/AC, 10-32VDC/AC Output Module: 5, 15, 24VDC	5, 12, 24VDC	4-32VDC; 75-264VAC	12-24VDC
Output voltage	Input Module: 4.5-6VDC, 12-18VDC, 20-30VDC Output Module: 75-140 VAC, 75-280VAC, 5-60 VDC, 5-200VDC	75-264VAC	19 - 264VAC 180 - 528VAC 4 - 220VDC (10A model) 400 - 600VAC (10, 25, 50A models)	75 - 264VAC 180 - 528VAC
Leakage Current (max.)	Input Module: 100µA AC Output Modules: 5mA @ 240VAC 2.5mA @ 120VAC DC Output Modules: 1mA	2mA (at 100VAC) 5mA (at 200VAC)	5mA @ 100VAC 10mA @ 200VAC 20mA @ 400VAC	10mA @ 200VAC 20mA @ 400VAC
Isolation	AC Input, DC Input, DC Output: Photocoupler AC Output: Phototriac	Phototriac	Phototriac, Photocoupler	Phototriac
Dielectric strength (50/60Hz for 1 min.)	4,000VAC	2,000VAC	2,500VAC 4000VAC (75 and 90A models)	G3PA: 4,000VAC G3PB: 2,500VAC
Zero crossing	Yes (AC output modules only)	Optional	Yes	Yes
Snubber circuit	Yes (AC output modules only)	Yes (built in varistor)	Yes	Yes
Life (MTTF)	100,000 hours	100,000 hours	100,000 hours	100,000 hours
Mounting	PCB with anchor screw	Plug-in	Panel	Panel, DIN
Terminal	PCB	Quick connect	Screw	Screw
Approvals	UL, CSA, TUV, CE	UL, CSA, TUV	UL, CSA, TUV	UL, CSA, TUV, VDE
Equivalent Omron EMR footprint	N/A	N/A	N/A	N/A
Optional heat sink	N/A	Y92B-N50, -N100	Y92B-A □ □, -B □ □, -P	N/A
Socket	N/A	Mounting plate	Mounting plate	PFP-xxx

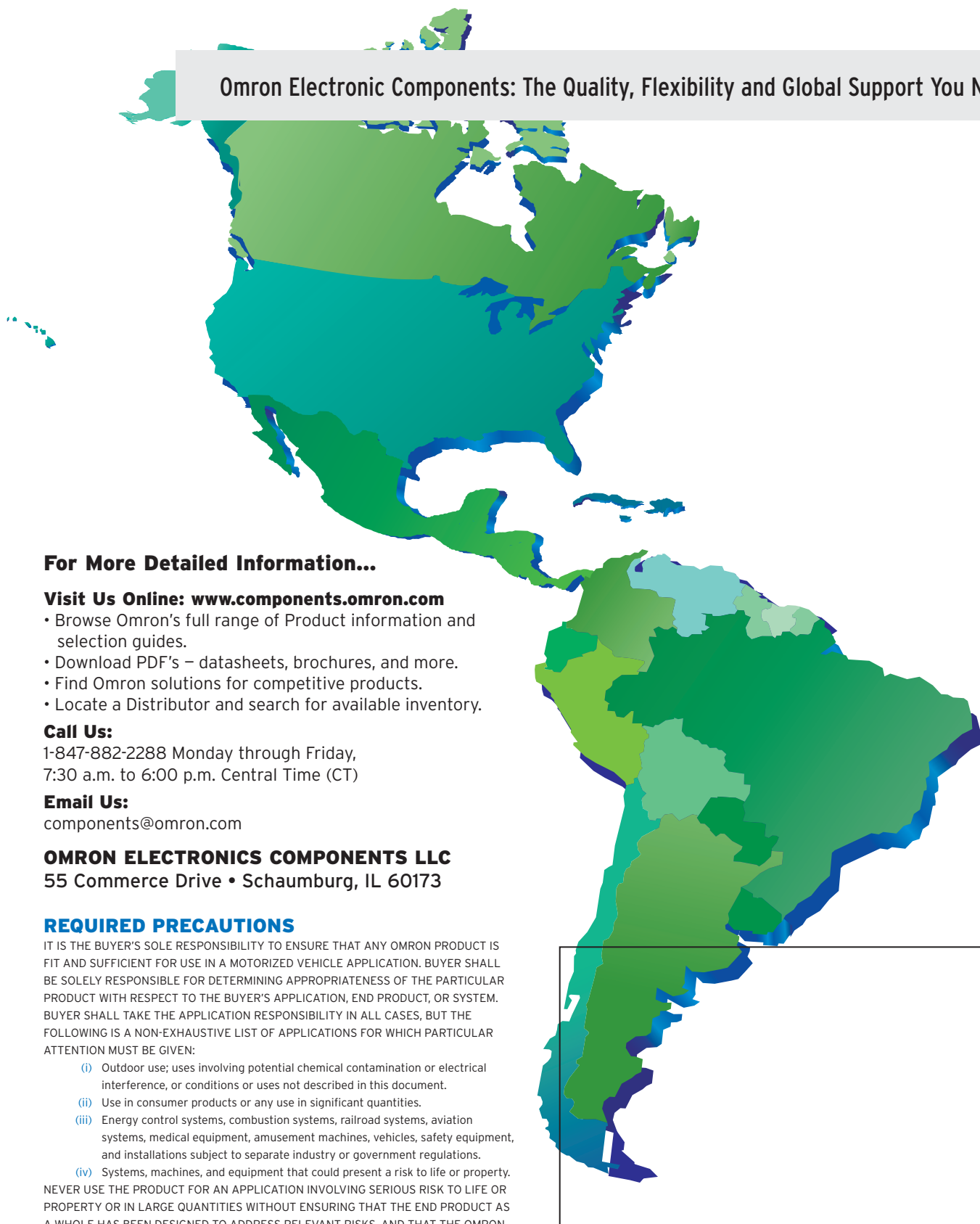


Relay Type	Track Mount Sockets	Back Connecting Sockets	
		Solder terminals	PCB terminals
G2R-1-S	P2RF-05 P2RF-05-E P2RF-05-S	P2R-05A	P2R-05P
G2R-2-S	P2RF-08 P2RF-08-E P2RF-08-S	P2R-08A	P2R-08P
G2RV	G2RL-SL500, -SL700	—	—
G6B	—	—	P6B-04P (1-pole), P6B-26P (2-pole)
G6D	—	—	P6D-04P
G6BK	—	—	P6B-06P
G6BU	—	—	P6B-04P
G6C-1, G6C-2	—	—	P6C-06P
G6CK	—	—	P6C-08P
G6CU	—	—	P6C-06P
LY1, LY2	PTF08A-E	PT08	PT08-0
LY3	PTF11A	PT11	PT11-0
LY4	PTF14A-E	PT14	PT14-0
MK2	PF083A-E	PL08	PLE08-0
MK3	PF113A-E	PL11	PLE11-0
MY2	PYF08A-E PYF08A-N PYF08-S	PY08	PY08-02
MY3	PYF11A	PY11	PY11-02
MY4	PYF14A-E PYF14A-N PYF14S	PY14	PY14-02
MY2K	PYF14A-E	PY14	PY14-02
MY4(Z)H	PYF14A-E	—	—

NOTES: 1. -E and -N models are finger-protect construction. Round terminals cannot be used. Use Y-shaped terminals.
2. -S types are screwless terminal styles.

Relay Type	Mounting	Adaptor	Front Connecting Socket
			Track Mount/Panel Mount
G7J-(ALL)	R99-04-F0R-G5F W bracket	—	—
G7L-1A-T	R99-07G5D E bracket	P7LF-D	P7LF-06
G7L-1A-TJ			P7LF-06
G7L-1A-B			—
G7L-1A-BJ			—
G7L-2A-T			P7LF-06
G7L-2A-TJ			P7LF-06
G7L-2A-B			—
G7L-2A-BJ			—

Terminal Cover	Socket Bridge	Mounting Track	Length
P&LE-C	PYDM	PFP-100N	1 meter
		PFP-50N	.5 meter



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