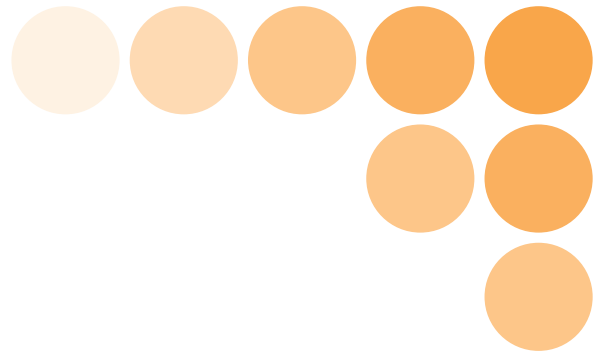


OMRON



Offering the global standard in safety.
Meeting our customers' every need
with numerous variations.

Electrical Mechanical Relay

Selection Guide

Signal Relay



Power Relay



PCB Relay

PCB Relay Types

We largely divide relays based on the maximum switching current value.

Signal Relay

Relays with less than 2 A maximum switching current value

Power Relay

Relays larger than 2 A maximum switching current value

Type Selection List (Best Selection)

Signal Relay

	Item	G5V-1	G5V-2	G6E	G6A	G6S	G6J-Y	G6K	G6K-RF
Contact form	1c	○		○					
	2c		○		○	○	○	○	○
Switching current (Max value)	1 A	○					○	○	○
	2 A		○		○	○			
	3 A			○					
Latching function	1-coil latching relay			○	○	○	○	○	○
	2-coil latching relay			○	○	○			
Enclosure rating	Sealed	○	○	○	○	○	○	○	○
	Flux protection								
Terminal rating	PCB terminal	○	○	○	○	○	○	○	○
	Surface-mounting Terminals					○	○	○	○



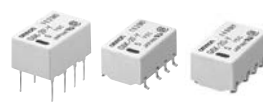

Power Relay

	Item	G6DN	G5NB(-EL)	G5Q(-EL/-EL2/-EL3)	G6D	G6B	G6RN	G6RL	G5LE	G5CA
Contact form	1a	○	○	○	○	○	○	○	○	○
	1c			○			○	○	○	
	1a1b					○				
	2a					○				
	2b					○				
Switching current (Max value)	3 A		○							
	5 A	○			○	○				
	7 A		○							
	8 A					○	○	○		
	10 A			○				○	○	○
	15 A									○
Latching function	1-coil latching relay					○				
	2-coil latching relay					○				
Enclosure rating	Sealed	○	○	○	○	○	○	○	○	○
	Flux protection		○	○		○		○	○	○
Terminal rating	PCB terminal	○	○	○	○	○	○	○	○	○
	Tab terminal									○


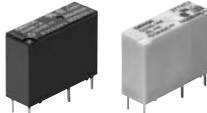
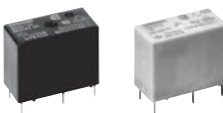

	Item	G6C	G4W	G4A	G2RL	G5RL	G5RL-U/-K	G2RG	G2R	G7L	G7L (-PV/-X)
Contact form	1a	○	○	○	○	○	○		○	○	
	1c				○	○	○		○		
	1a1b	○									
	2a		○		○			○	○	○	○
	2c				○				○		
Switching current (Max value)	4 A								○		
	5 A				○	○ (N.C.)	○ (N.C.)		○		
	8 A	○						○	○		
	10 A	○	○		○				○		
	12 A					○ (N.O.)					
	15 A		○								
	16 A				○	○ (N.O.)	○ (N.O.)		○		
	20 A			○						○	
	25 A									○	
	30 A									○	○
Latching function	1-coil latching relay	○					○				
	2-coil latching relay	○					○		○		
Enclosure rating	Sealed	○			○			○	○		
	Flux protection	○		○	○	○			○		○
	Enclosed		○							○	○
Terminal rating	PCB terminal	○	○	○	○	○	○	○	○	○	○
	Tab terminal			○					○	○	
	Screw terminal								○		

Introduction of Main Types

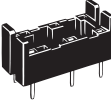
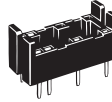
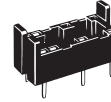
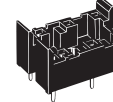
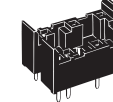
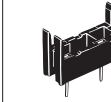
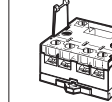
Signal Relay

Model	G6S	G6J-Y	G6K	G6K(U)-2F(P)-RF(-S,-T)
Features	Small general purpose relay High dielectric strength, high current	Ultra-small slim relay High density application possible	Ultra-small low profile relay Low power consumption	1 GHz/3 GHz range Ultra-small high frequency relay
Shape				
Contact form	2c	2c	2c	2c
Max. switching current	2 A	1 A	1 A	1 A
Coil power consumption	Approx. 140 to 200 mW	Approx. 140 to 230 mW	Approx. 100 mW	Approx. 100 mW
Dielectric strength (Between coil and contacts)	2,000 VAC (Impulse withstand voltage: 2.5 kV)	1,500 VAC (Impulse withstand voltage: 2.5 kV)	1,500 VAC (Impulse withstand voltage: 2.5 kV)	750 VAC





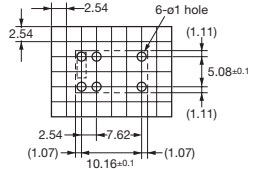
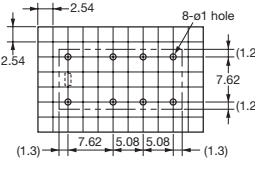
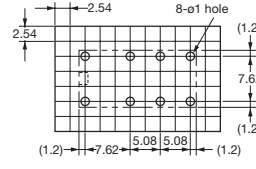
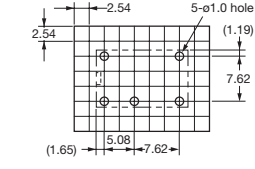
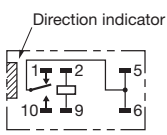
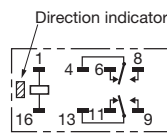
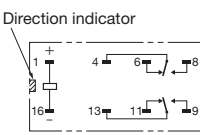
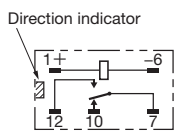
Power Relay

Model	G6DN	G5NB(-EL)	G5Q(-EL/-EL2/-EL3)	G2RL
Features	Small, slim power relay with 1-pole 5 A switching	Small general purpose relay with 1-pole switching at 7 A max	Small power relay with 1-pole 10 A switching	Low profile power relay with 1-pole 10 A/16 A throw/2-pole 5 A switching
Shape				
Contact form	1a	1a	1a, 1c	1a, 1c, 2a, 2c
Max. switching current	5 A	AC: 7 A, DC: 5 A (-EL) 3 A (standard type)	10 A	10 A/16 A (1a, 1c) 5 A (2a, 2c)
Coil power consumption	Approx. 110 mW	Approx. 200 mW	Approx. 200 mW Approx. 400 mW	5 to 24 VDC: Approx. 400 mW 48 VDC: Approx. 430 mW
Dielectric strength (Between coil and contacts)	3,000 VAC (Impulse withstand voltage: 6 kV)	4,000 VAC (Impulse withstand voltage: 10 kV)	4,000 VAC (Impulse withstand voltage: 8 kV)	5,000 VAC (Impulse withstand voltage: 10 kV)




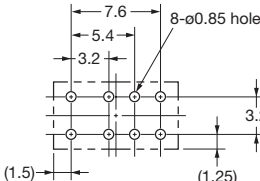
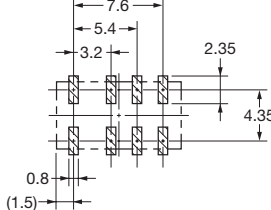
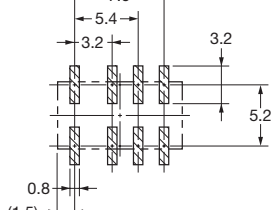
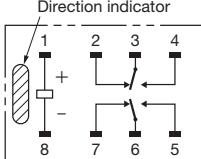
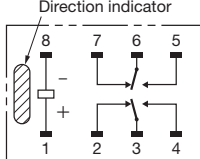
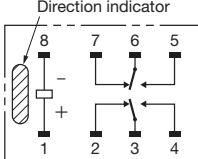
Applicable socket list

Model	G6B			G6C		G6D	G7L
Contact form	1a		1a1b, 2a, 2b	1a, 1a1b		1a	1a, 2a
Applicable socket	P6B-04P	P6B-06P (2-coil latching relay)	P6B-26P	P6C-06P	P6C-08P (2-coil latching relay)	P6D-04P	P7LF-06
Shape							




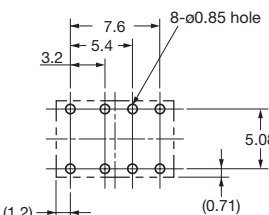
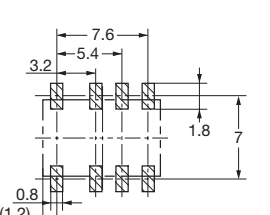
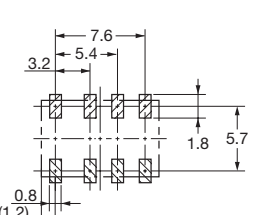
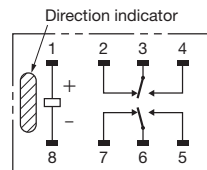
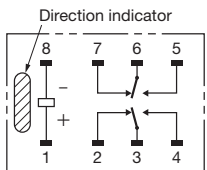
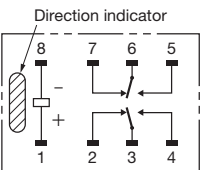
Signal Relay Product Lineup INDEX

Model	G5V-1	G5V-2	G6A	G6E
Outer shape				
Shape (max. value mm) Length (L) x Width (w) x Height (H)	12.5 x 7.5 x 10	20.5 x 10.1 x 11.5	20.2 x 10.1 x 8.4	16 x 10 x 8
Features	General purpose low-cost 1-pole signal relay	General purpose low-cost 2-pole signal relay	FCC-standard high-voltage type	Small, high sensitivity 1-pole signal relay
Contact form	1c	2c	2c	1c
Contact type	Crossbar single	Crossbar twin	Crossbar twin	Crossbar twin
Contact	Rated load	Resistive load 100,000 operations min. at 125 VAC, 0.5 A 100,000 operations min. at 24 VDC, 1 A	Inductive load COSφ=0.4 L/R=7 ms —	—
	Max. switching current (A)	1 A	2 A	3 A
Failure rate (mA) P level (reference value)	5 VDC 1 mA	10 mVDC 10 μA	10 mVDC 10 μA	10 mVDC 10 μA
Rated voltage	3 to 24 VDC	3 to 48 VDC	3 to 48 VDC	5 to 48 VDC
Coil	Rated power consumption	Standard type: Approx. 500 to 580 mW High sensitivity type: Approx. 150 to 300 mW	Standard type: Approx. 200 to 235 mW High sensitivity type: Approx. 150 mW	Approx. 200 to 400 mW
Mechanical endurance	5,000,000 operations min. 1,000 VAC (Impulse withstand voltage 1.5 kV FCC part 68 standard)	15,000,000 operations min. 1,000 VAC (Impulse withstand voltage 1.5 kV FCC part 68 standard)	100,000,000 operations min. 1,000 VAC (Impulse withstand voltage 1.5 kV FCC part 68 standard)	100,000,000 operations min. 1,500 VAC (Impulse withstand voltage 2.5 kV FCC part 68 standard)
Dielectric strength	Between coil and contacts	—	—	—
	Between contacts of different polarity	—	—	—
	Between contacts of the same polarity	400 VAC	750 VAC (Impulse withstand voltage: 1.5 kV)	1,000 VAC (Impulse withstand voltage 1.5 kV FCC part 68 standard)
Between set/reset coil	—	—	250 VAC	—
Ambient operating temperature	-40°C to 70°C (Standard type) -40°C to 90°C (G5V-1-T90)	-25°C to 65°C (High sensitivity between -25 and 70°C)	-40°C to 70°C	-40°C to 70°C
Functions	2-coil latching relay	—	●	●
	1-coil latching relay	—	●	●
	Other	—	—	Ultrasonically cleanable
Enclosure rating	Enclosed	—	—	—
	Flux protection	—	—	—
	Sealed	●	●	●
Terminal	PCB terminal	●	●	●
	Surface-mounting terminals	—	—	—
	Tab terminal	—	—	—
Approved standards	UL, CSA	UL, CSA	UL, C-UL	UL, CSA
Minimum packing unit	25 pcs/tube	25 pcs/tube	25 pcs/tube	25 pcs/tube
Weight	Approx. 2 g	Approx. 5 g	Approx. 3.5 g	Approx. 2.7 g
PCB diagram	G5V-1  (Unit: mm) (BOTTOM VIEW)	G5V-2  (BOTTOM VIEW)	G6A-274P  (BOTTOM VIEW)	G6E-134P-US G6E-134PL-US  (BOTTOM VIEW)
Terminal array diagram/ internal connection diagram	G5V-1  (BOTTOM VIEW)	G5V-2  (BOTTOM VIEW)	G6A-274P  (BOTTOM VIEW) (Take note of coil polarity)	G6E-134P-US G6E-134PL-US  (BOTTOM VIEW) (Take note of coil polarity)




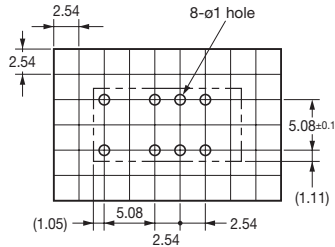
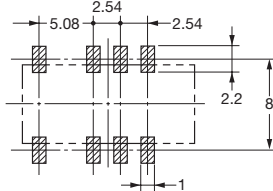
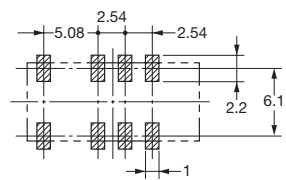
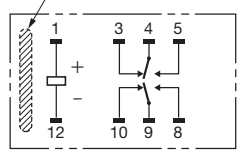
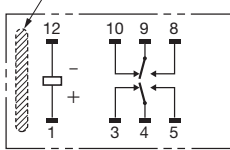
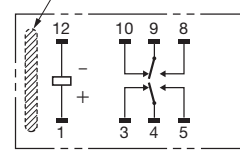
Signal Relay Product Lineup INDEX

Model		G6J-Y		
		G6J-2P-Y	G6J-2FS-Y	G6J-2FL-Y
		PCB terminal	Surface-mounting terminal (short)	Surface-mounting terminal (long)
Outer shape				
	Shape (max. value mm) Length (L) x Width (w) x Height (H)	10.9 x 6 x 9.3	10.9 x 6 x 10	10.9 x 6 x 10
Features		Ultra-small ultra-thin surface-mounting 2-pole signal relay		
Contact	Contact form	2c		
	Contact type	Crossbar twin		
	Rated load	Resistive load	100,000 operations min. at 125 VAC, 0.3 A	
		Inductive load COSφ=0.4 L/R=7 ms	100,000 operations min. at 30 VDC, 1 A	
	Max. switching current (A)	1 A		
Failure rate (mA) P level (reference value)		10 mVDC 10 μA		
Coil	Rated voltage	3 to 24 VDC		
	Rated power consumption	Approx. 140 to 230 mW		
Mechanical endurance		50,000,000 operations min.		
Dielectric strength	Between coil and contacts	1,500 VAC (Impulse withstand voltage 2.5 kV Telcordia standard) (Impulse withstand voltage 1.5 kV FCC part 68 standard)		
	Between contacts of different polarity	1,000 VAC (Impulse withstand voltage 1.5 kV FCC part 68 standard)		
	Between contacts of the same polarity	750 VAC (Impulse withstand voltage 1.5 kV FCC part 68 standard)		
	Between set/reset coil	—		
Ambient operating temperature		-40°C to 85°C		
Functions	2-coil latching relay	—		
	1-coil latching relay	●		
	Other	—		
Enclosure rating	Enclosed	—		
	Flux protection	—		
	Sealed	●		
Terminal	PCB terminal	●	—	
	Surface-mounting Terminals	—	●	—
	Tab terminal	—		
	Approved standards		UL, C-UL	
Minimum packing unit		50 pcs/tube	50 pcs/tube, 400 pcs/relay	
Weight		Approx. 1.0 g		
PCB diagram		G6J-2P-Y	G6J-2FS-Y	G6J-2FL-Y
	(Unit: mm)			
Terminal array diagram/ internal connection diagram		G6J-2P-Y	G6J-2FS-Y	G6J-2FL-Y
				
		(BOTTOM VIEW) (Take note of coil polarity)	(TOP VIEW) (Take note of coil polarity)	(TOP VIEW) (Take note of coil polarity)





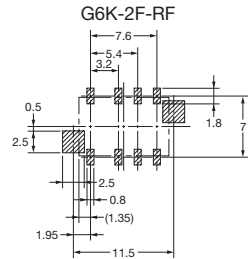
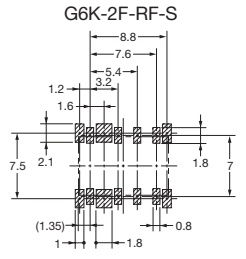
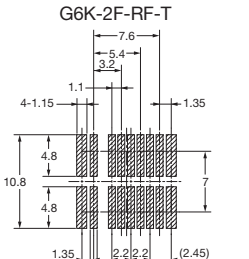
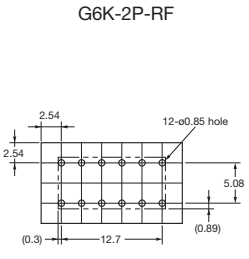
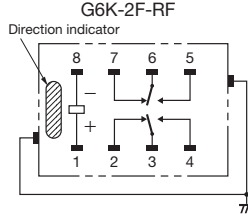
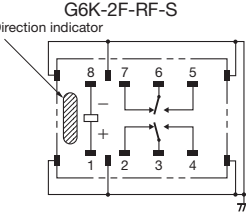
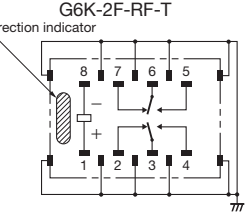
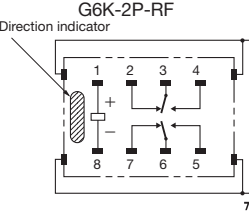
Signal Relay Product Lineup INDEX

Model		G6K			
		G6K-2P-Y	G6K-2F-Y	G6K-2G-Y	
		PCB terminal	Outer L shape surface-mounting terminal	Inner L shape surface-mounting terminal	
Outer shape					
	Shape (max. value mm) Length (L) x Width (w) x Height (H)	10.2 x 6.7 x 5.3	10.2 x 6.7 x 5.4	10.2 x 6.7 x 5.6	
Features		Ultra-small low power consumption Ultra-thin low profile surface-mounting 2-pole signal relay			
Contact	Contact form	2c			
	Contact type	Crossbar twin			
	Rated load	100,000 operations min. at 125 VAC, 0.3 A 100,000 operations min. at 30 VDC, 1 A			
		Resistive load			
		Inductive load COSφ=0.4 L/R=7 ms	—		
Max. switching current (A)	1 A				
Failure rate (mA) P level (reference value)	10 mVDC 10 μA				
Coil	Rated voltage	3 to 24 VDC			
	Rated power consumption	Approx. 100 mW			
Mechanical endurance		50,000,000 operations min.			
Dielectric strength	Between coil and contacts	1,500 VAC (Impulse withstand voltage 2.5 kV Telcordia standard) (Impulse withstand voltage 1.5 kV FCC part 68 standard)			
	Between contacts of different polarity	1,000 VAC (Impulse withstand voltage 1.5 kV FCC part 68 standard)			
	Between contacts of the same polarity	750 VAC (Impulse withstand voltage 1.5 kV FCC part 68 standard)			
	Between set/reset coil	—			
Ambient operating temperature		-40°C to 70°C			
Functions	2-coil latching relay	—			
	1 coil latching relay	●			
	Other	—			
Enclosure rating	Enclosed	—			
	Flux protection	—			
	Sealed	●			
Terminal	PCB terminal	●	—		
	Surface-mounting terminals	—	●		
	Tab terminal	—			
Approved standards		UL, CSA			
Minimum packing unit		50 pcs/tube	50 pcs/tube, 900 pcs/relay		
Weight		Approx. 0.7 g			
PCB diagram		G6K-2P-Y	G6K-2F-Y	G6K-2G-Y	
	(Unit: mm)				
Terminal array diagram/ internal connection diagram		(BOTTOM VIEW)	(TOP VIEW)	(TOP VIEW)	
		G6K-2P-Y	G6K-2F-Y	G6K-2G-Y	
					
		(BOTTOM VIEW) (Take note of coil polarity)	(TOP VIEW) (Take note of coil polarity)	(TOP VIEW) (Take note of coil polarity)	




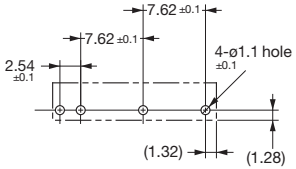
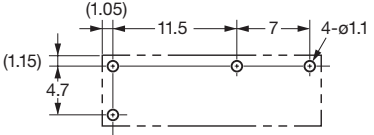
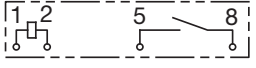
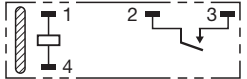
Signal Relay Product Lineup INDEX

Model		G6S		
		G6S-2	G6S-2F	G6S-2G
		PCB terminal	Outer L shape surface-mounting terminal	Inner L shape surface-mounting terminal
Outer shape	Shape (max. value mm)			
	Length (L) x Width (w) x Height (H)	15 x 7.5 x 9.4	15 x 7.5 x 9.4	15 x 7.5 x 9.4
Features		Small general purpose high dielectric strength, high current surface-mounting 2-pole signal relay		
Contact	Contact form	2c		
	Contact type	Crossbar twin		
	Rated load	Resistive load	100,000 operations min. at 125 VAC, 0.5 A	
		Inductive load COSφ=0.4 L/R=7 ms	100,000 operations min. at 30 VDC, 2 A	
	Max. switching current (A)	2 A		
Coil	Failure rate (mA) P level (reference value)	10 mVDC 10 μA		
	Rated voltage	3 to 24 VDC		
	Rated power consumption	Approx. 140 to 200 mW		
Mechanical endurance		100,000,000 operations min.		
Dielectric strength	Between coil and contacts	2,000 VAC (Impulse withstand voltage 2.5 kV Telcordia standard) (Impulse withstand voltage 1.5 kV FCC part 68 standard)		
	Between contacts of different polarity	1,500 VAC (Impulse withstand voltage 2.5 kV Telcordia standard) (Impulse withstand voltage 1.5 kV FCC part 68 standard)		
	Between contacts of the same polarity	1,000 VAC (Impulse withstand voltage 1.5 kV FCC part 68 standard)		
	Between set/reset coil	500 VAC		
Ambient operating temperature		-40°C to 85°C		
Functions	2-coil latching relay	●		
	1-coil latching relay	●		
	Other	—		
Enclosure rating	Enclosed	—		
	Flux protection	—		
	Sealed	●		
Terminal	PCB terminal	●	—	
	Surface-mounting Terminals	—	●	
	Tab terminal	—		
	Approved standards		UL, CSA, EN/IEC (BSI certification -Y type)	
Minimum packing unit		50 pcs/tube	50 pcs/tube, 400 pcs/relay	
Weight		Approx. 2 g		
PCB diagram	(Unit: mm)			
		(BOTTOM VIEW)	(TOP VIEW)	(TOP VIEW)
Terminal array diagram/ internal connection diagram				
		(BOTTOM VIEW) (Take note of coil polarity)	(TOP VIEW) (Take note of coil polarity)	(TOP VIEW) (Take note of coil polarity)





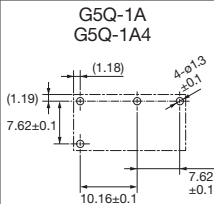
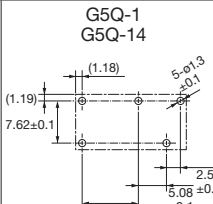
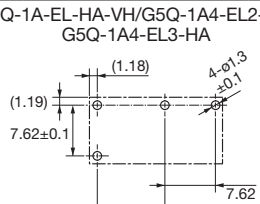
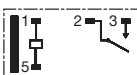
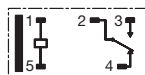
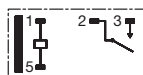
Signal Relay Product Lineup INDEX

Model		G6K(U)-2(F/P)-RF(-S,-T)			
		G6K(U)-2F-RF	G6K(U)-2F-RF-S	G6K(U)-2F-RF-T	G6K-2P-RF
Outer shape					NEW
	Shape (max. value mm) Length (L) x Width (w) x Height (H)	10.6 x 7.2 x 5.7	11.0 x 7.2 x 5.7	11.0 x 7.2 x 5.7	13.6 x 7.2 x 5.5
Features		1 GHz range ultra-small high frequency relay	1 GHz range ultra-small high frequency relay (space-saving type)	3 GHz range ultra-small high frequency relay	Series of PCB terminals
Characteristic resistance		50 Ω			
High frequency characteristics	Isolation (similar poles)	20 dB min. at 1 GHz		20 dB min. at 1 GHz 18 dB min. at 3 GHz	20 dB min. at 1 GHz
	Isolation (different poles)	30 dB min. at 1 GHz		30 dB min. at 1 GHz 25 dB min. at 3 GHz	30 dB min. at 1 GHz
	Insertion loss	0.2 dB max. at 1 GHz		0.2 dB max. at 1 GHz 0.6 dB max. at 3 GHz	0.2 dB max. at 1 GHz
	Return loss	20.8 dB min. at 1 GHz		20.8 dB min. at 1 GHz 15.6 dB min. at 3 GHz	20.8 dB min. at 1 GHz
	V.SWR	1.2 max. at 1 GHz		1.2 max. at 1 GHz 1.4 max. at 3 GHz	1.2 max. at 1 GHz
Contact	Contact form	2c			
	Contact type	Crossbar twin			
	Rated load	100,000 operations min. at 125 VAC, 0.3 A 100,000 operations min. at 30 VDC, 1 A 100,000 operations min. at 1 GHz, 1 W			
	Inductive load	—			
Coil	Max. switching current (A)	1 A			
	Rated voltage	3 to 24 VDC			
Coil	Rated power consumption	Approx. 100 mW			
	Mechanical endurance	50,000,000 operations min.			
Dielectric strength	Between coil and contacts	750 VAC			
	Between contacts of different polarity	750 VAC			
	Between contacts of the same polarity	750 VAC			
	Between coil, contact, and earth	500 VAC			
Ambient operating temperature		-40°C to 70°C			
Functions	2-coil latching relay	—			
	1-coil latching relay	●		—	
	Other	—			
Enclosure rating	Enclosed	—			
	Flux protection	—			
	Sealed	●		—	
Terminal	PCB terminal	—		●	
	Surface-mounting Terminals	●		—	
	Tab terminal	—			
Approved standards		—			
Minimum packing unit		300 pcs/tray, 300, 900 pcs/relay			30 pcs/tube
Weight		Approx. 0.95 g			
PCB diagram					
	(Unit: mm)	(TOP VIEW)	(TOP VIEW)	(TOP VIEW)	(BOTTOM VIEW)
Terminal array diagram/ internal connection diagram					
	(TOP VIEW)	(TOP VIEW)	(TOP VIEW)	(BOTTOM VIEW)	


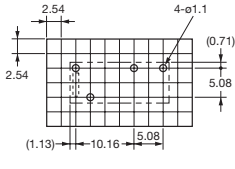
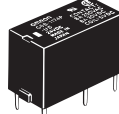
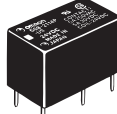
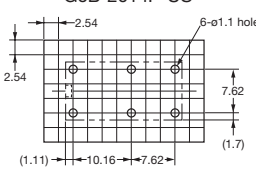
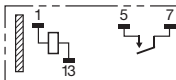
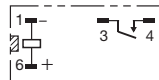
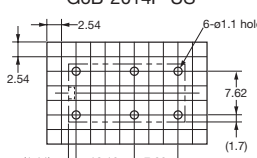
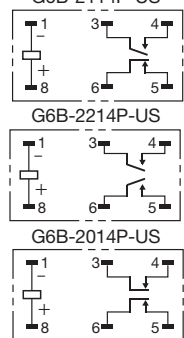
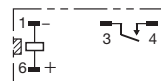
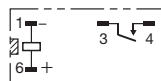
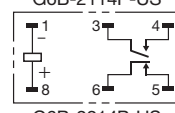
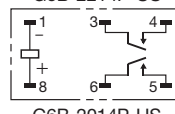
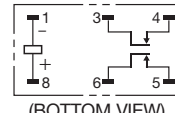
Power Relay Product Lineup INDEX

Model		G6DN	G5NB	
			Standard type	-EL
Outer shape	Shape (max. value mm)			 NEW
	Length (L) x Width (w) x Height (H)	20.0 x 5.08 x 12.5	20.5 x 7.2 x 15.3	20.5 x 7.2 x 15.3
Features		Small, slim power relay with 1-pole 5 A switching	1-pole 3 A switching relay with impulse withstand voltage of 10 kV And EN61010 strengthened insulation	Small power relay with 1-pole 7 A switching and ignition resistance international-standard compatibility
Contact	Contact form	1a	1a	
	Contact type	Crossbar twin	Single	
	Rated load	Resistive load	100,000 operations min. at 250 VAC, 3 A (Standard) 100,000 operations min. at 30 VDC, 3 A (Standard) 80,000 operations min. at 250 VAC, 5 A (Standard) 80,000 operations min. at 30 VDC, 5 A (Standard) 100,000 operations min. at 250 VAC, 5 A (High durability) 100,000 operations min. at 30 VDC, 5 A (High durability)	200,000 operations min. at 125 VAC, 3 A 200,000 operations min. at 30 VDC, 3 A
		Inductive load COSφ=0.4 L/R=7 ms	200,000 operations min. at 250 VAC, 2 A (Standard) 100,000 operations min. at 30 VDC, 2 A (Standard) 200,000 operations min. at 250 VAC, 2 A (High durability) 200,000 operations min. at 30 VDC, 2 A (High durability)	—
		Capacitive load	—	—
	Max. switching current (A)	5 A	3 A	AC: 7 A, DC: 5 A
	Failure rate (mA) P level (reference value)	0.1 VDC 0.1 mA	5 VDC 10 mA	
Coil	Rated voltage	4.5 to 24 VDC	5 to 24 VDC	12 to 24 VDC
	Rated power consumption	Approx. 110 mW	Approx. 200 mW	
Mechanical endurance		20,000,000 operations min.	5,000,000 operations min.	
Dielectric strength	Between coil and contacts	3,000 VAC (Impulse withstand voltage: 6 kV)	4,000 VAC (Impulse withstand voltage: 10 kV)	
	Between contacts of different polarity	—	—	
	Between contacts of the same polarity	750 VAC	750 VAC	
	Between set/reset coil	—	—	
Ambient operating temperature		-40°C to 90°C	-40°C to 70°C	-40°C to 85°C
Functions	2-coil latching relay	—	—	
	1-coil latching relay	—	—	
	Other	—	—	
Enclosure rating	Enclosed	—	—	
	Flux protection	—	●	—
	Sealed	●	●	●
Terminal	PCB terminal	●	●	—
	Surface-mounting Terminals	—	—	—
	Tab terminal	—	—	—
	Screw terminal	—	—	—
Approved standards		UL, C-UL, EN/IEC (VDE certification)	UL, CSA, EN/IEC (VDE certification)	
Minimum packing unit		25 pcs/tube	100 pcs/tray	
Weight		Approx. 3 g	Approx. 4 g	
PCB diagram		G6DN-1A 	G5NB-1A/G5NB-1A4-EL-HA 	
		(BOTTOM VIEW)	(BOTTOM VIEW)	
Terminal array diagram/ internal connection diagram		G6DN-1A 	G5NB-1A/G5NB-1A4-EL-HA 	
		(BOTTOM VIEW)	(BOTTOM VIEW)	

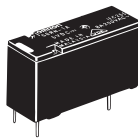
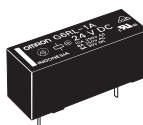
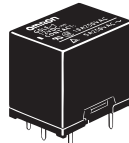
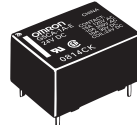
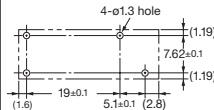
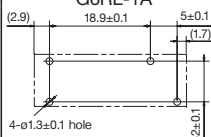
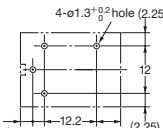
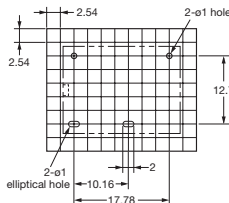
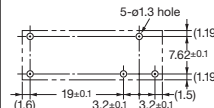
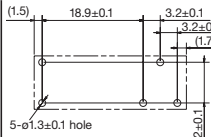
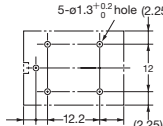
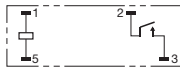

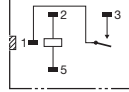
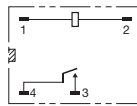
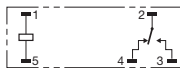

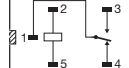
Power Relay Product Lineup INDEX

Model		G5Q					
		Standard type		-EL	-EL2	-EL3	
Outer shape	Shape (max. value mm)			 NEW	 NEW	 NEW	
	Length (L) x Width (w) x Height (H)	20.3 x 10.3 x 15.8		20.3 x 10.3 x 15.8	20.3 x 10.3 x 15.8	20.3 x 10.3 x 15.8	
Features		Small power relay with 1-pole 10 A switching		10 A (250 VAC) high switching capacity with over 100,000 operations and long operating life, with ignition resistance international-standard compatibility	Switching at 40 A inrush current through inrush-current resistance, with ignition resistance international-standard compatibility	30 A inrush current and 3 A breaking current motor load switching, with ignition resistance international-standard compatibility	
Contact	Contact form	1a		1c			
	Contact type	Single					
	Rated load	Resistive load	100,000 operations min. at 125 VAC 10 A (N.O.) 200,000 operations min. at 125 VAC 3 A (N.O.) 100,000 operations min. at 250 VAC 3 A (N.O.) 100,000 operations min. at 30 VDC 5 A (N.O.)	200,000 operations min. at 125 VAC 3 A (N.C.) 100,000 operations min. at 250 VAC 3 A (N.C.) 100,000 operations min. at 30 VDC 3 A (N.C.)	100,000 operations min. at 250 VAC, 10 A	—	—
		Inductive load COSφ=0.4 L/R=7 ms	—		—	—	Motor load 250 VAC, Inrush: 30 A/0.5 s, Breaking: 3 A cosφ=0.5, 300,000 operations min.
		Capacitive load	—		—	250 VAC, Inrush: 40 A/100 μs, Breaking: 1 A, 100,000 operations min.	—
	Max. switching current (A)	10 A					
	Failure rate (mA) P level (reference value)	5 VDC 10 mA					
	Coil	Rated voltage	5 to 24 VDC		12 VDC, 24 VDC		5 to 24 VDC
Rated power consumption		Approx. 200 mW		Approx. 400 mW			
Mechanical endurance		10,000,000 operations min.					
Dielectric strength	Between coil and contacts	4,000 VAC (Impulse withstand voltage: 8 kV)					
	Between contacts of different polarity	—					
	Between contacts of the same polarity	1,000 VAC					
	Between set/reset coil	—					
Ambient operating temperature		-40°C to 85°C					
Functions	2-coil latching relay	—					
	1-coil latching relay	—					
	Other	—					
Enclosure rating	Enclosed	—					
	Flux protection	●		●	—	—	
	Sealed	●		—	●	●	
Terminal	PCB terminal	●					
	Surface-mounting	—					
	Terminals	—					
	Tab terminal	—					
	Screw terminal	—					
Approved standards		UL, CSA, EN/IEC (VDE certification)					
Minimum packing unit		40 pcs/tube				100 pcs/tray	
Weight		Approx. 6.5 g					
PCB diagram	(Unit: mm)						
		(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)			
Terminal array diagram/ internal connection diagram							
		(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)			

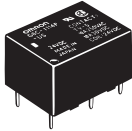



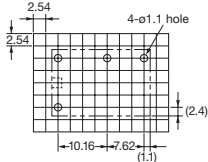
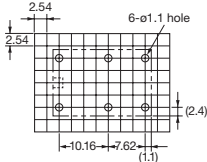
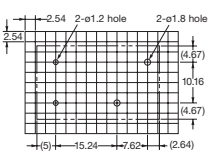
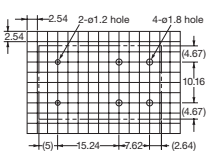
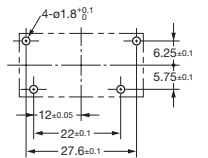
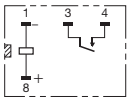
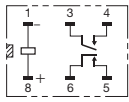
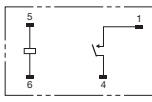
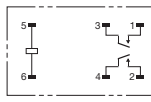
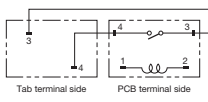
Power Relay Product Lineup INDEX

Model			G6D	G6B		
Outer shape				1-pole		2-pole
				Standard type	High capacity type	Standard type
						
Shape (max. value mm) Length (L) x Width (w) x Height (H)			17.5 x 6.5 x 12.5	20 x 10 x 10	20.2 x 10 x 12.5	20 x 11 x 11
Features			Small 5 A 1-pole power relay	Small 5 A (8 A) 1a contact power relay		Small 5 A 1a1b, 2a, 2b contact power relay
Contact	Contact form		1a	1a		1a1b, 2a, 2b
	Contact type		Single	Single		
	Rated load	Resistive load	70,000 operations min. at 250 VAC, 5 A 70,000 operations min. at 30 VDC, 5 A 300,000 operations min. at 250 VAC, 2 A 300,000 operations min. at 30 VDC, 2 A	100,000 operations min. at 250 VAC, 5 A 100,000 operations min. at 30 VDC, 5 A	100,000 operations min. at 250 VAC, 8 A 100,000 operations min. at 30 VDC, 8 A	100,000 operations min. at 250 VAC, 5 A 100,000 operations min. at 30 VDC, 5 A
		Inductive load COSφ=0.4 L/R=7 ms	—	100,000 operations min. at 250 VAC, 2 A 100,000 operations min. at 30 VDC, 2 A	100,000 operations min. at 250 VAC, 2 A 100,000 operations min. at 30 VDC, 2 A	100,000 operations min. at 250 VAC, 1.5 A 100,000 operations min. at 30 VDC, 1.5 A
	Max. switching current (A)		5 A	5 A	8 A	5 A
	Failure rate (mA) P level (reference value)		5 VDC 10 mA	5 VDC 10 mA		
	Rated voltage		5 to 24 VDC	5 to 24 VDC		
Coil	Rated power consumption		Approx. 200 mW	Approx. 200 mW		Approx. 300 mW
	Mechanical endurance		20,000,000 operations min.	50,000,000 operations min.		
Dielectric strength	Between coil and contacts	3,000 VAC (Impulse withstand voltage: 6 kV)	Single stable type: 3,000 VAC (impulse withstand voltage 6 kV) Latching type: 2,000 VAC (impulse withstand voltage 4.5 kV)			
	Between contacts of different polarity	—	—		2,000 VAC	
	Between contacts of the same polarity	750 VAC	1,000 VAC			
	Between set/reset coil	—	250 VAC	—		
Ambient operating temperature			-25°C to 70°C			
Functions	2-coil latching relay		—	—		
	1-coil latching relay		—	—		
	Other		Ultrasonically cleanable			
Enclosure rating	Enclosed		—			
	Flux protection		—	● (G6B-1177P-ND)		
	Sealed		●	●		
Terminal	PCB terminal		●	●		
	Surface-mounting Terminals		—			
	Tab terminal		—			
	Screw terminal		—			
Approved standards			UL, CSA, EN/IEC (TÜV certification)			
Minimum packing unit			25 pcs/tube	100 pcs/tray	20 pcs/tube	100 pcs/tray
Weight			Approx. 3 g	Approx. 3.5 g	Approx. 4.6 g	Approx. 4.5 g
PCB diagram			G6D-1A-ASI(-AP)	G6B-1114P-US	G6B-1174P-US	G6B-2114P-US G6B-2214P-US G6B-2014P-US
(Unit: mm)						
(BOTTOM VIEW)			(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)
Terminal array diagram/ internal connection diagram			G6D-1A-ASI(-AP)	G6B-1114P-US	G6B-1174P-US	G6B-2114P-US G6B-2214P-US G6B-2014P-US
						  
(BOTTOM VIEW)			(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)



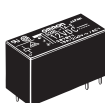
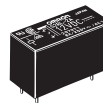
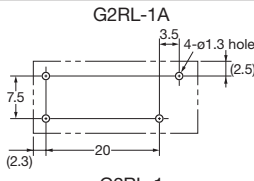
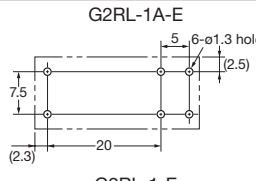
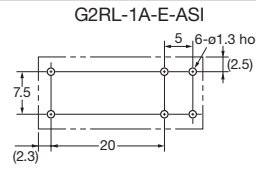
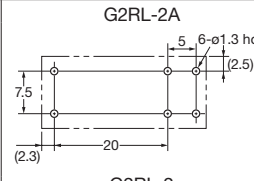
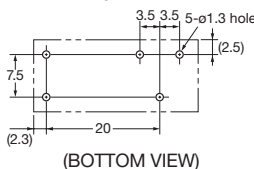
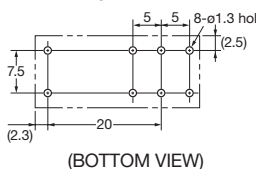

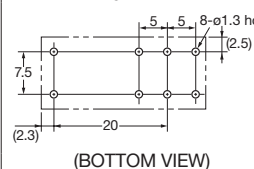
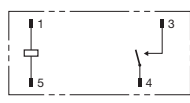
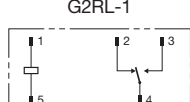
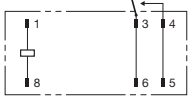

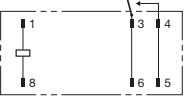


Power Relay Product Lineup INDEX

Model			G6RN	G6RL	G5LE	G5CA		G5CA-E
Outer shape								22 x 16 x 11
Shape (max. value mm) Length (L) x Width (w) x Height (H)			28.5 x 10 x 15	28.5 x 10 x 12.3	22.5 x 16.5 x 19			
Features			Small 1-pole power relay with 8 A switching and impulse withstand voltage of 10 kV	Low profile 1-pole power relay with 10 A switching and 12.3 mm height	10 A cubic type 1-pole power relay	Flat power relay with 10, 15 A switching		
Contact	Contact form		1a, 1c	1a, 1c	1a, 1c	1a		
	Contact type		Single	Single	Single	Single		
	Rated load	Resistive load	50,000 operations min. at 250 VAC, 8 A 50,000 operations min. at 30 VDC, 5 A	50,000 operations min. at 250 VAC, 8 A 50,000 operations min. at 24 VDC, 5 A	100,000 operations min. at 120 VAC, 10 A 100,000 operations min. at 30 VDC, 8 A	300,000 operations min. at 250 VAC, 10 A 100,000 operations min. at 30 VDC, 10 A	100,000 operations min. at 110 VAC, 15 A 100,000 operations min. at 30 VDC, 10 A	
		Inductive load COSφ=0.4 L/R=7 ms	—	—	—	100,000 operations min. at 250 VAC, 3 A 100,000 operations min. at 30 VDC, 3 A	100,000 operations min. at 110 VAC, 5 A 100,000 operations min. at 30 VDC, 3 A	
	Max. switching current (A)		8 A	10 A	10 A	10 A	15 A	
Failure rate (mA) P level (reference value)			5 VDC 10 mA	5 VDC 10 mA	5 VDC 100 mA	5 VDC 100 mA		
Coil	Rated voltage		5 to 24 VDC	3 to 48 VDC	5 to 24 VDC	5 to 24 VDC		
	Rated power consumption		Approx. 220 mW	Approx. 220 to 240 mW	Approx. 400 mW	Approx. 150 to 200 mW		
Mechanical endurance			10,000,000 operations min.	10,000,000 operations min.	10,000,000 operations min.	20,000,000 operations min.		
Dielectric strength	Between coil and contacts		4,000 VAC (Impulse withstand voltage: 10 kV)	5,000 VAC (Impulse withstand voltage: 10 kV)	2,000 VAC (Impulse withstand voltage: 4.5 kV)	2,500 VAC (Impulse withstand voltage: 4.5 kV)		
	Between contacts of different polarity		—	—	—	—		
	Between contacts of the same polarity		1,000 VAC	1,000 VAC	750 VAC	1,000 VAC		
	Between set/reset coil		—	—	—	—		
Ambient operating temperature			-40°C to 85°C	-40°C to 85°C	-25°C to 85°C	-25°C to 70°C		
Functions	2-coil latching relay		—	—	—	—		
	1-coil latching relay		—	—	—	—		
	Other		—	—	—	—		
Encapsulating	Enclosed		—	—	—	—		
	Flux protection		—	●	●	●		
	Sealed		●	●	●	●	—	
Terminal	PCB terminal		●	●	●	●	●	
	Surface-mounting Terminals		—	—	—	—	—	
	Tab terminal		—	—	—	—	●(#187) TP type	
	Screw terminal		—	—	—	—		
Approved standards			UL, CSA, EN/IEC (VDE certification)	UL, C-UL, EN/IEC (VDE certification)	UL, CSA, EN/IEC (VDE certification), EN/IEC (TÜV certification)	UL, CSA, EN (TÜV certification)		
Minimum packing unit			20 pcs/tube	100 pcs/tray	100 pcs/tray	20 pcs/tube		
Weight			Approx. 9 g	Approx. 7.8 g	Approx. 12 g	Approx. 8 g (TP type: approx. 9.6 g)		
PCB diagram (Unit: mm)			G6RN-1A 	G6RL-1A 	G5LE-1A 	G5CA-1A(-E) 		
			G6RN-1 	G6RL-1 	G5LE-1 			
			(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)		
Terminal array diagram/ internal connection diagram			G6RN-1A 	G6RL-1A 	G5LE-1A 	G5CA-1A(-E) 		
			G6RN-1 	G6RL-1 	G5LE-1 			
			(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)		

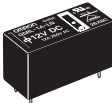

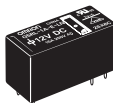

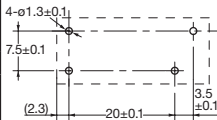
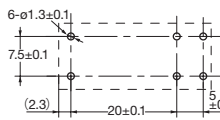
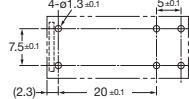
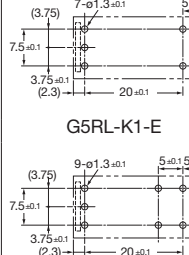

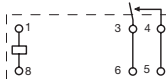
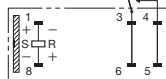
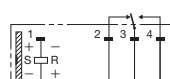
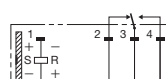
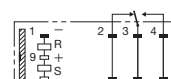
Power Relay Product Lineup INDEX

Model		G6C		G4W		G4A
Outer shape	Shape (max. value mm)					
	Length (L) x Width (w) x Height (H)	20 x 15 x 10		30.5 x 19.5 x 30.5	30.5 x 19.5 x 30.5	30.5 x 16 x 23.5
Features		Small 1-pole 10 A (1a1b, 8 A) power relay		Impulse voltage 10 kV For switching with power source with 4 kV dielectric strength		Optimal for air conditioner compressor load and inverter load 1-pole power relay
Contact	Contact form	1a	1a1b	1a	2a	1a
	Contact type	Single		Single		Single
	Rated load	100,000 operations min. at 250 VAC, 10 A 100,000 operations min. at 30 VDC, 10 A		100,000 operations min. at 250 VAC, 15 A 100,000 operations min. at 24 VAC, 15 A		100,000 operations min. at 250 VAC, 20 A
		100,000 operations min. at 250 VAC, 5 A 100,000 operations min. at 30 VDC, 5 A		100,000 operations min. at 250 VAC, 10 A 100,000 operations min. at 24 VDC, 7.5 A		—
	Max. switching current (A)	10 A		15 A		20 A
Coil	Failure rate (mA) P level (reference value)	5 VDC 10 mA		5 VDC 100 mA		5 VDC 100 mA
	Rated voltage	3 to 24 VDC		12 to 100 VDC		12 VDC, 24 VDC
	Rated power consumption	Approx. 200 mW		Approx. 800 mW		Approx. 900 mW
Mechanical endurance		50,000,000 operations min.		5,000,000 operations min.		2,000,000 operations min.
Dielectric strength	Between coil and contacts	2,000 VAC (Impulse withstand voltage: 6 kV)		4,000 VAC (Impulse withstand voltage: 10 kV)		4,500 VAC (Impulse withstand voltage: 8.5 kV)
	Between contacts of different polarity	—	2,000 VAC	2,000 VAC		—
	Between contacts of the same polarity	1,000 VAC		1,500 VAC		1,000 VAC
	Between set/reset coil	250 VAC		—		—
Ambient operating temperature		-25°C to 70°C		-25°C to 55°C		-25°C to 60°C
Functions	2-coil latching relay	●		—		—
	1-coil latching relay	●		—		—
	Other	Ultrasonically cleanable		Full wave rectification		—
Enclosure rating	Enclosed	—		●		—
	Flux protection	●		—		●
	Sealed	●		—		—
Terminal	PCB terminal	●		●		●
	Surface-mounting Terminals	—		—		—
	Tab terminal	—		—		●(#250)
	Screw terminal	—		—		—
Approved standards		UL, CSA, EN/IEC (VDE certification), EN/IEC (TÜV certification)		UL, CSA, EN/IEC (VDE certification), EN/IEC (TÜV certification)		UL, CSA, EN/IEC (VDE certification)
Minimum packing unit		100 pcs/tray		50 pcs/tray		50 pcs/tray
Weight		Approx. 5.6 g		Approx. 29 g		Approx. 23 g
PCB diagram	(Unit: mm)					
		(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)
Terminal array diagram/ internal connection diagram						
		(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)	(TOP VIEW) (BOTTOM VIEW)




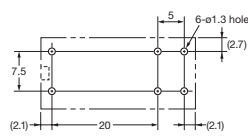
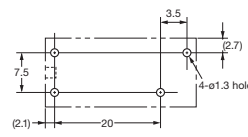
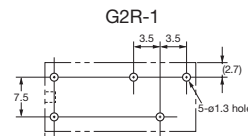
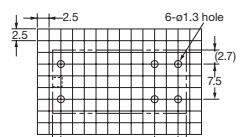
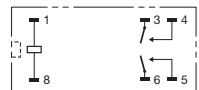
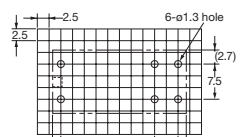
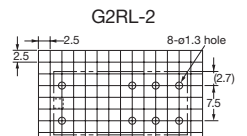
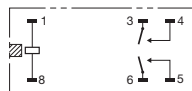
Power Relay Product Lineup INDEX

Model		G2RL			
		1-pole	1-pole (high capacity type)	1-Pole (TV-3 rating)	2-pole
Outer shape				 NEW	
Shape (max. value mm) Length (L) x Width (w) x Height (H)		29.0 x 12.7 x 15.7	29.0 x 12.7 x 15.7	29.0 x 12.7 x 15.7	29.0 x 12.7 x 15.7
Features		1-pole 10 A general purpose type	16 A high current type	TV-3 compatible type	2-pole 5 A general purpose type
Contact	Contact form	1a, 1c		1a	2a, 2c
	Contact type	Single			
	Rated load	Resistive load	50,000 operations min. at 250 VAC, 12 A 30,000 operations min. at 24 VDC, 12 A		30,000 operations min. at 250 VAC, 8 A 30,000 operations min. at 24 VDC, 8 A
		Inductive load COSφ=0.4 L/R=7 ms	—	—	—
	Max. switching current (A)	12 A	16 A		8 A
	Failure rate (mA) P level (reference value)	24 VDC 40 mA			
Coil	Rated voltage	5 to 48 VDC			
	Rated power consumption	5 to 24 VDC: Approx. 400 mW, 48 VDC: Approx. 430 mW			
Mechanical endurance		20,000,000 operations min.			
Dielectric strength	Between coil and contacts	5,000 VAC (Impulse withstand voltage: 10 kV)			
	Between contacts of different polarity	—			2,500 VAC
	Between contacts of the same polarity	1,000 VAC			
	Between set/reset coil	—			
Ambient operating temperature		-40°C to 85°C, -40°C to 105°C (-CV type)			
Functions	2-coil latching relay	—			
	1-coil latching relay	—			
	Other	—			
Enclosure rating	Enclosed	—			
	Flux protection	●			
	Sealed	●			
Terminal	PCB terminal	●			
	Surface-mounting Terminals	—			
	Tab terminal	—			
	Screw terminal	—			
Approved standards		UL, CSA, EN/IEC (VDE certification)			
Minimum packing unit		20 pcs/tube			
Weight		Approx. 12 g			
PCB diagram		 (Unit: mm)			
		 (BOTTOM VIEW)	 (BOTTOM VIEW)	 (BOTTOM VIEW)	 (BOTTOM VIEW)
Terminal array diagram/ internal connection diagram		  (BOTTOM VIEW)	  (BOTTOM VIEW)	 (BOTTOM VIEW)	  (BOTTOM VIEW)

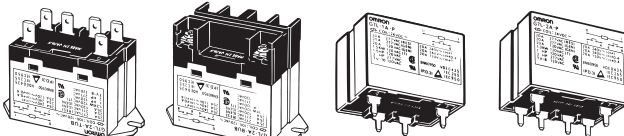


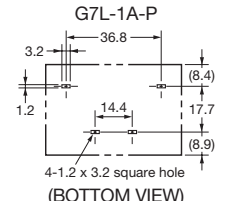
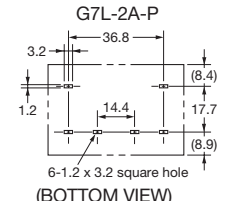
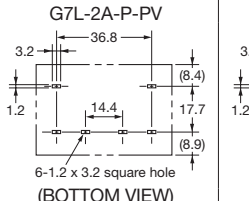
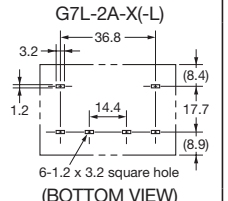
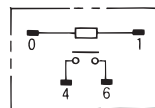
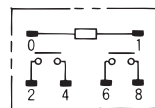
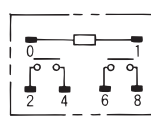
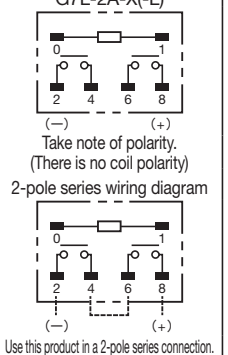
Power Relay Product Lineup INDEX

Model		G5RL			G5RL-U/-K	
		Standard (quiet)	High capacity (quiet)	High capacity (TV-8 rating)	1-coil latching relay	2-coil latching relay
Outer shape				 NEW	 NEW	
Shape (max. value mm) Length (L) x Width (w) x Height (H)		29.0 x 12.7 x 15.7	29.0 x 12.7 x 15.7	29.0 x 12.7 x 15.7	29.0 x 12.7 x 15.7	
Features		Low profile power relay with a TV-8 rating and low noise			Small latching relay with low profile and 16 A switching	
Contact	Contact form	1a			1a, 1c	
	Contact type	Single			Single	
	Rated load	Resistive load	100,000 operations min. at 250 VAC, 12 A 100,000 operations min. at 24 VDC, 12 A	50,000 operations min. at 250 VAC, 16 A 50,000 operations min. at 24 VDC, 16 A	50,000 operations min. at 250 VAC 16 A (N.O.) 50,000 operations min. at 250 VAC 5 A (N.C.) 50,000 operations min. at 24 VDC 16 A (N.O.) 50,000 operations min. at 24 VDC 5 A (N.C.)	
		Inductive load COSφ=0.4 L/R=7 ms	—			—
	Max. switching current (A)	12 A	16 A		16 A (N.O.), 5 A (N.C.)	
Failure rate (mA) P level (reference value)	5 VDC 100 mA			—		
Coil	Rated voltage	5 to 24 VDC		5 to 48 VDC	3 to 24 VDC	5 to 24 VDC
	Rated power consumption	Approx. 530 mW		Approx. 400 mW (Approx. 430 mW with 48 VDC only)	Approx. 600 mW	Approx. 750 mW (Approx. 840 mW with 24 VDC only)
Mechanical endurance		1,000,000 operations min.		10,000,000 operations min.	5,000,000 operations min.	
Dielectric strength	Between coil and contacts	6,000 VAC (Impulse withstand voltage: 10 kV)			6,000 VAC (Impulse withstand voltage: 10 kV)	
	Between contacts of different polarity	—			—	
	Between contacts of the same polarity	1,000 VAC			1,000 VAC	
	Between set/reset coil	—			—	
Ambient operating temperature		-40°C to 85°C			-40°C to 85°C	
Functions	2-coil latching relay	—			—	●
	1-coil latching relay	—			●	—
	Other	—			—	—
Enclosure rating	Enclosed	—			—	—
	Flux protection	●			●	—
	Sealed	—			—	—
Terminal	PCB terminal	●			●	—
	Surface-mounting Terminals	—			—	—
	Tab terminal	—			—	—
	Screw terminal	—			—	—
Approved standards		UL, C-UL, EN/IEC (VDE certification)		UL, CSA, EN/IEC (VDE certification)	UL, CSA, EN/IEC (VDE certification)	
Minimum packing unit		100 pcs/tray			100 pcs/tray	
Weight		Approx. 10 g			Approx. 10 g	
PCB diagram		G5RL-1A-LN	G5RL-1A-E-LN/G5RL-1A-E-TV8		G5RL-U1A-E	G5RL-K1A-E
(Unit: mm)						
		(BOTTOM VIEW)	(BOTTOM VIEW)		(BOTTOM VIEW)	(BOTTOM VIEW)
Terminal array diagram/ internal connection diagram					 Note: Take note of coil polarity.	 Note: Take note of coil polarity.
		(BOTTOM VIEW)	(BOTTOM VIEW)		G5RL-U1-E  Note: Take note of coil polarity.	G5RL-K1-E  Note: Take note of coil polarity.

Power Relay Product Lineup INDEX

Model		G2RG		G2R			
Outer shape		 29.0 x 13.5 x 25.5	1-pole	1-pole (high capacity type)	2-pole		
			 29 x 13 x 25.5	 29 x 13 x 25.5			
Features		Small power relay with high voltage 5 A switching at 110 VDC (1a contact with 2-pole series wiring at 1.5 mm)		1-pole 10 A general purpose type	16 A high capacity type	2-pole 5 A general purpose type	
Contact	Contact form	2a		1a, 1c		2a, 2c	
	Contact type	Single		Single			
	Rated load	Resistive load	10,000 operations min. at 250 VAC 8 A 10,000 operations min. at 110 VDC 5 A (with 2-pole series wiring)	100,000 operations min. at 250 VAC, 10 A 100,000 operations min. at 30 VDC, 10 A (Flux protection)	100,000 operations min. at 250 VAC, 16 A 100,000 operations min. at 30 VDC, 16 A	100,000 operations min. at 250 VAC, 5 A 100,000 operations min. at 30 VDC, 5 A (Flux protection)	
		Inductive load COSφ=0.4 L/R=7 ms	—	100,000 operations min. at 250 VAC, 7.5 A 100,000 operations min. at 30 VDC, 5 A (Flux protection)	100,000 operations min. at 250 VAC, 8 A 100,000 operations min. at 30 VDC, 8 A	100,000 operations min. at 250 VAC, 2 A 100,000 operations min. at 30 VDC, 3 A (Flux protection)	
	Max. switching current (A)	8 A		10 A (Flux protection) 8 A (Sealed)	16 A	5 A (Flux protection) 4 A (Sealed)	
	Failure rate (mA) P level (reference value)	5 VDC 10 mA		5 VDC 100 mA		5 VDC 10 mA	
Coil	Rated voltage	12 VDC, 24 VDC		5 to 100 VDC, 12 to 200 VAC			
	Rated power consumption	Approx. 800 mW		DC: Approx. 530 mW, AC: Approx. 900 mVA			
Mechanical endurance		1,000,000 operations min.		DC coil specifications: 20,000,000 operations min., AC coil specifications: 10,000,000 operations min.			
Dielectric strength	Between coil and contacts	5,000 VAC (Impulse withstand voltage: 10 kV)		5,000 VAC (Impulse withstand voltage: 10 kV)			
	Between contacts of different polarity	3,000 VAC		—		3,000 VAC	
	Between contacts of the same polarity	1,000 VAC		1,000 VAC			
	Between set/reset coil	—		1,000 VAC	—	1,000 VAC	
Ambient operating temperature		-40°C to 70°C		-40°C to 70°C			
Functions	2-coil latching relay	—		●	—	●	
	1-coil latching relay	—		—			
	Other	—		Ultrasonically cleanable, full wave rectification (excluding high current type)			
Enclosure rating	Enclosed	—		● (Tab terminal)	—		
	Flux protection	—		—	●	—	
	Sealed	●		●	—	●	
Terminal	PCB terminal	●		●			
	Surface-mounting Terminals	—		—			
	Tab terminal	—		● (#187)	—		
	Screw terminal	—		—			
Approved standards		UL, CSA, EN/IEC (VDE certification)		UL, CSA, EN/IEC (VDE certification), EN (TÜV certification)			
Minimum packing unit		50 pcs/tray		50 pcs/tray (100 pcs/tray for tab terminal)			
Weight		Approx. 17.2 g		Approx. 17 g (Approx. 20 g for tab terminal)			
PCB diagram (Unit: mm)		G2RG-2A4		G2RL-1A	G2R-1A-E	G2R-2A	
							
		(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)		
Terminal array diagram/ internal connection diagram		G2RG-2A4		G2RL-1A	G2R-1A-E	G2R-2A	
							
		(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)	(BOTTOM VIEW)		

Power Relay Product Lineup INDEX

Model		G7L			G7L-PV	G7L-X (standard) G7L-X-L (general purpose)	
Outer shape		 52.5 x 35.5 x 41 (PCB terminal)			 52.5 x 35.5 x 41	 52.5 x 35.5 x 41	
Shape (max. value mm) Length (L) x Width (w) x Height (H)							
Features		•Multi polar power relay, strong against sudden drops in voltage •Wide range with 100 V and 200 V coils			Solar system Relay for PV inverter	600 to 1,000 VDC isolation/switching thanks to 2-pole series wiring	
Contact	Contact form	1a (-T□, B□ type)	2a (-T□, B□ type)	1a, 2a (-P type)	2a	2a	
	Contact type	Double break			Double break	Double break	
	Rated load	Resistive load	100,000 operations min. at 220 VAC, 30 A	100,000 operations min. at 220 VAC, 25 A	100,000 operations min. at 220 VAC, 20 A	30,000 operations min. at 280 VAC, 30 A	100 operations at 1,000 VDC 25 A (standard) 6,000 operations at 600 VDC 25 A (standard) 100 operations at 1,000 VDC 20 A (general purpose) 6,000 operations at 600 VDC 20 A (general purpose)
			100,000 operations min. at 220 VAC, 25 A		100,000 operations min. at 220 VAC, 20 A	30,000 operations min. at 280 VAC, 30 A (COSφ=0.8)	—
	Inductive load COSφ=0.4 L/R=7 ms	100,000 operations min. at 220 VAC, 25 A		100,000 operations min. at 220 VAC, 20 A	30,000 operations min. at 280 VAC, 30 A (COSφ=0.8)	—	
		Max. switching current (A)	30 A	25 A	20 A	30 A	25 A (standard), 20 A (general purpose)
Failure rate (mA) P level (reference value)		5 VDC 100 mA			5 VDC 100 mA	5 VDC 100 mA	
Coil	Rated voltage	6 to 100 VDC, 12 to 200/240 VAC			12 VDC, 24 VDC	12 VDC, 24 VDC	
	Rated power consumption	DC: Approx. 1.9 W, AC: Approx. 1.7 to 2.5 VA			2.3 W	Approx. 2.3 W	
Mechanical endurance		1,000,000 operations min.			1,000,000 operations min.	1,000,000 operations min.	
Dielectric strength	Between coil and contacts	4,000 VAC (Impulse withstand voltage: 10 kV)			4,000 VAC	4,000 VAC (Impulse withstand voltage: 10 kV)	
	Between contacts of different polarity	—	2,000 VAC		2,000 VAC	2,000 VAC	
	Between contacts of the same polarity	2,000 VAC			2,000 VAC	2,000 VAC	
	Between set/reset coil	—			—	—	
Ambient operating temperature		-25°C to 60°C			-25°C to 85°C	-40°C to 85°C	
Functions	2-coil latching relay	—			—	—	
	1-coil latching relay	—			—	—	
	Other	Test button (excluding P type)			—	—	
Enclosure rating	Enclosed	●			●	—	
	Flux protection	—			—	●	
	Sealed	—			—	—	
Terminal	PCB terminal	—		●	●	●	
	Surface-mounting Terminals	—		—	—	—	
	Tab terminal	●		—	—	—	
	Screw terminal	●		—	—	—	
Approved standards		UL, CSA, EN (TUV certification)			UL, VDE	UL, EN/IEC (VDE certification)	
Minimum packing unit		20 pcs/tray			20 pcs/tray	20 pcs/tray	
Weight		Approx. 90 g (tab terminal), approx. 120 g (screw terminal), approx. 100 g (PCB terminal)			Approx. 100 g	Approx. 100 g	
PCB diagram		<div><div>G7L-1A-P</div><div>(BOTTOM VIEW)</div></div> <div><div>G7L-2A-P</div><div>(BOTTOM VIEW)</div></div>			<div><div>G7L-2A-P-PV</div><div>(BOTTOM VIEW)</div></div> <div><div>G7L-2A-X(-L)</div><div>(BOTTOM VIEW)</div></div>		
Terminal array diagram/ internal connection diagram		<div><div>G7L-1A-P</div><div>(BOTTOM VIEW)</div></div> <div><div>G7L-2A-P</div><div>(BOTTOM VIEW)</div></div>			<div><div>G7L-2A-P-PV</div><div>(BOTTOM VIEW)</div></div> <div><div>G7L-2A-X(-L)</div><div>(BOTTOM VIEW)</div></div>		

Applications

For many devices and applications in every field

From household use to public infrastructure, these products can be used in every field and for all purposes with many variations.

Signal Relay

You can use single relays in the following devices for system switching, signal switching, and more.

Communication equipment

Telephone switchboard, PBX^{*1}, fax machines
IP telephones, various modems
Network devices (switches, routers, etc.)

Applications: system switching,
dial pulse transmission

*1.Private Branch exchange



Network device



PBX, switching equipment

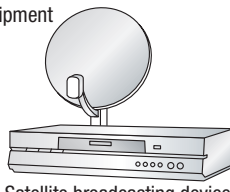
Broadcasting and video equipment

Broadcasting equipment
Satellite broadcasting receivers

Applications: redundancy switching,
system switching



Broadcasting equipment



Satellite broadcasting device

Wireless devices

Various wireless devices,
GPS^{*2} devices, etc.

Applications: system switching
*2.Global Positioning System

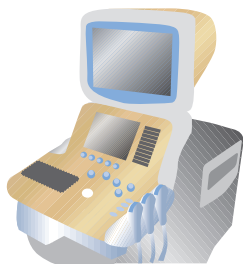


Wireless device

Medical and health-related equipment

Ultrasonic echography equipment,
various treatment devices
Various health and beauty devices

Applications: sensor switching,
system switching

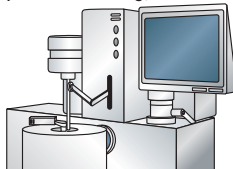


Ultrasonic echography equipment

Testing and measurement equipment

Various oscilloscope measurement devices
Various IC tester inspection equipment

Applications: input/output switching,
power switching, etc.



ATE (Automated Test Equipment)



Oscilloscope

Entertainment devices

Game machines, peripheral equipment, etc.

Applications: information output



Game machine

Security devices

Gas detectors and other disaster prevention devices
Alarm systems and other crime prevention devices

Applications: alarm output



Detector



Control panel

Industrial equipment

Machine tools, molding machines, welding machines
Mounters and other industrial robots

Applications: system switching, control switching



Machine tool

Other devices

OA devices, AV devices, electric appliances

Applications: system switching, etc.



Multimedia



Multifunction machine

Applications

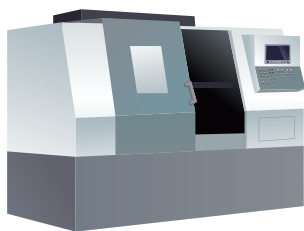
Power Relay

Can be used in a wide range of fields where power relays directly switch the loads, such as in motors, lamps, heaters, etc.

Industrial equipment

Machine tools, molding machines, welding machines, mounters and other industrial robots

Applications: control of motors, heaters, etc.



Machine tool



Robot

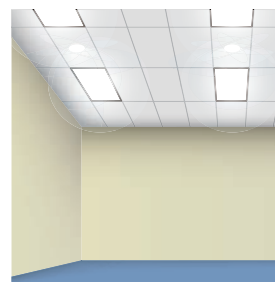
Household appliances

Shutter doors, lights

Applications: control of motors, lighting, etc.



Automatic shutter door



Lights

Power equipment

UPS, switching power

Applications: power control



UPS



Switching power

Household devices

Air conditioners, washing machines, refrigerators, etc.

Applications: control of compressors, pumps, motors, heaters, etc.



Air conditioner



Washing machine



Refrigerator

FA equipment

PLC, temperature regulators, timers, various I/O devices

Applications: control external device load



PLC



Temperature regulator



Timer



Various I/O devices

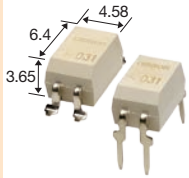
MOS FET Relay (G3VM) Introduction

● Contributing to reduction in size and maintenance reduction

Over 160 varieties of products with 6 packages (DIP/SOP/SSOP/USOP/VSON/S-VSON)

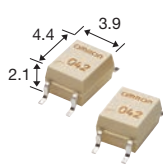
DIP

Bottom surface
100%



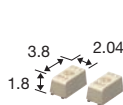
SOP

Bottom surface
59%



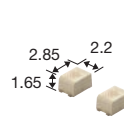
SSOP

Bottom surface
26%



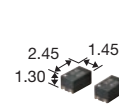
USOP

Bottom surface
21%



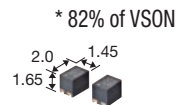
VSON

Bottom surface
12%

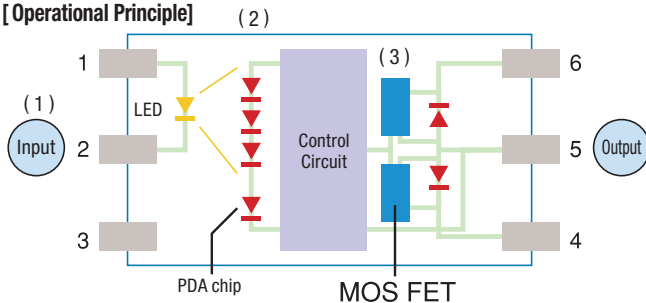


S-VSON

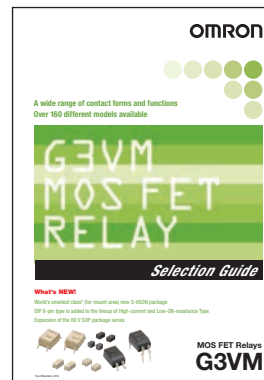
Bottom surface
10%



[Operational Principle]



- (1) The LED lights up when the current is connected at the input side.
- (2) The light sent by the LED will be converted into voltage when it is received by the photodiode.
- (3) This voltage will be the gate voltage to drive the MOS FET via control circuit.



G3VM Series MOS FET Relay
Selection Guide
(Cat. No. Y112)



G3VM Series MOS FET Relay
General Catalog
(Cat. No. X083)

- Application examples provided in this document are for reference only. In actual applications, confirm equipment functions and safety before using the product.
- Consult your OMRON representative before using the product under conditions which are not described in the manual or applying the product to nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems or equipment that may have a serious influence on lives and property if used improperly. Make sure that the ratings and performance characteristics of the product provide a margin of safety for the system or equipment, and be sure to provide the system or equipment with double safety mechanisms.

Note: Do not use this document to operate the Unit.