



OMRON GENERAL-PURPOSE RELAY

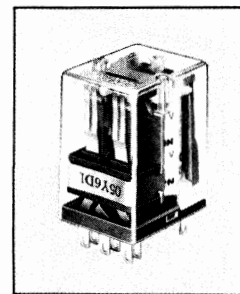
Cat. No. J08 -E1-3

Model **MHS**

High Contact Reliability Relay Ideal for Communications Equipment & Measuring Instruments

■ FEATURES

- High contact reliability is assured through employment of bifurcated crossbar contacts and card lift-off system for contact driving.
- Sealed type is also available.
- Highly stable operation with improved magnetic efficiency through use of an E-core.
- Extremely low power consumption
- Outstanding vibration and shock resistance



■ AVAILABLE TYPES

Classification		Standard type		Sealed type		High-sensitivity type		Standard approved type	
Contact	Terminal	Solder	P.C.B.	Solder	P.C.B.	Solder	P.C.B.	Solder	P.C.B.
	Contact form								
Single crossbar contact type	DPDT	MHS2P(-SM) MHS2PG(-SM)	MHS2P-0(-SM) MHS2PG-0(-SM)	—	—	MHS2P(-SM)□Ω MHS2PG(-SM)□Ω	MHS2P-0(-SM)□Ω MHS2PG-0(-SM)□Ω	MHS2P-US MHS2PG-US	MHS2P-0-US MHS2PG-0-US
	4PDT	MHS4P(-SM) MHS4PG(-SM)	MHS4P-0(-SM) MHS4PG-0(-SM)	—	—	MHS4P(-SM)□Ω MHS4PG(-SM)□Ω	MHS4P-0(-SM)□Ω MHS4PG-0(-SM)□Ω	MHS4P-US MHS4PG-US	MHS4P-0-US MHS4PG-0-US
	6PDT	MHS6P(-SM) MHS6PG(-SM)	MHS6P-0(-SM) MHS6PG-0(-SM)	—	—	—	—	MHS6P-US MHS6PG-US	MHS6P-0-US MHS6PG-0-US
Bifurcated crossbar contact type	DPDT	MHS2ZP(-SM) MHS2ZPG(-SM)	MHS2ZP-0(-SM) MHS2ZPG-0(-SM)	—	—	MHS2ZP(-SM)□Ω MHS2ZPG(-SM)□Ω	MHS2ZP-0(-SM)□Ω MHS2ZPG-0(-SM)□Ω	MHS2ZP-US MHS2ZPG-US	MHS2ZP-0-US MHS2ZPG-0-US
	4PDT	MHS4ZP(-SM) MHS4ZPG(-SM)	MHS4ZP-0(-SM) MHS4ZPG-0(-SM)	MHQ4ZP MHQ4ZPG	MHQ4ZP-0 MHQ4ZPG-0	MHS4ZP(-SM)□Ω MHS4ZPG(-SM)□Ω	MHS4ZP-0(-SM)□Ω MHS4ZPG-0(-SM)□Ω	MHS4ZP-US MHS4ZPG-US	MHS4ZP-0-US MHS4ZPG-0-US
	6PDT	MHS6ZP(-SM) MHS6ZPG(-SM)	MHS6ZP-0(-SM) MHS6ZPG-0(-SM)	—	—	—	—	MHS6ZP-US MHS6ZPG-US	MHS6ZP-0-US MHS6ZPG-0-US

NOTES: 1. The symbol "SM" suffixed to the model number denotes a special version with international 2.5mm grid terminal arrangement, intended especially for European countries.
2. The symbol "G" in the model number denotes that the relay is provided with a ground stud.
3. When placing your order for a high-sensitivity type relay, enter the desired coil resistance in the bracket portion of the model number, e.g., MHS2ZP7Ω.

OMRON

STANDARD/SEALED TYPE

■ SPECIFICATIONS

• COIL RATINGS

Contact form	Item Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (H) (reference value)		Must operate voltage	Must dropout voltage	Maximum voltage	Power consumption (W)
				Armature OFF	Armature ON				
DPDT	6	66.7	90	0.53	0.78	80 max.	10 min.	150	Approx. 0.36
	12	36.9	325	2.16	3.46				
	24	15.0	1,600	10.2	16.7				
	36	11.3	3,200	—	—				
	48	10.9	4,400	—	—				
4PDT	6	115.4	52	0.26	0.41			130	Approx. 0.72
	12	64.9	185	1.17	1.64				
	24	34.3	700	4.35	6.04				
	36	21.2	1,700	—	—				
	48	15	3,200	13.2	23.1				
6PDT	6	230.8	26	—	—			110	Approx. 1.3
	12	109.1	110	0.60	0.70				
	24	55.8	430	2.17	2.64				
	36	32.7	1,100	—	—				
	48	28.2	1,700	—	—				

NOTE: Coil resistances shown are at an ambient temperature of 20°C with a tolerance of ±10%.

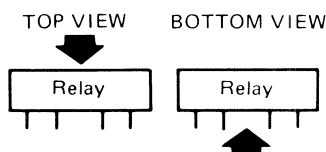
• CONTACT RATINGS

Item	Bifurcated crossbar		Single crossbar	
	Resistive load (p.f. = 1)	Inductive load (p.f. = 0.4, L/R = 7ms)	Resistive load (p.f. = 1)	Inductive load (p.f. = 0.4, L/R = 7ms)
Rated load	110 VAC 0.3A 24 VDC 0.5A	110 VAC 0.2A 24 VDC 0.12A	110 VAC 0.3A 24 VDC 0.2A	110 VAC 0.2A 24 VDC 0.12A
Carry current	2A			
Max. operating voltage	125 VAC 125 VDC			
Max. operating current	2A	1A	2A	1A
Max. switching capacity	120VA 60W	60VA 15W	120VA 50W	60VA 15W
Min. permissible load (ref. value)	0.1 VDC 10μA		1 VDC 1mA	

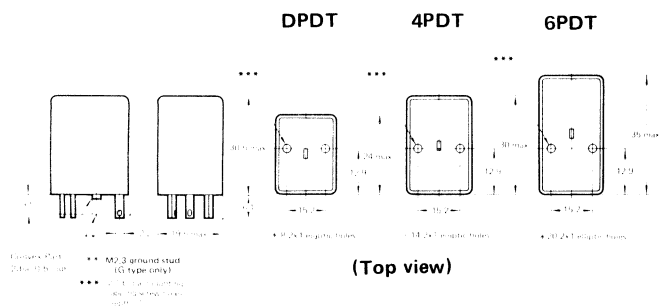
Figure 1 is a line graph showing the variation of soil temperature (°C) with sample number (1 to 9) for two depths: $d=0$ mm (upper line) and $d=5$ mm (lower line). The temperature ranges from approximately 48°C to 64°C. A 3x3 grid of numbered boxes (1-9) is shown to the right of the graph, corresponding to the sample numbers. A legend indicates that 'd' represents depth.

No		
1	2	3
4	5	6
7	8	9

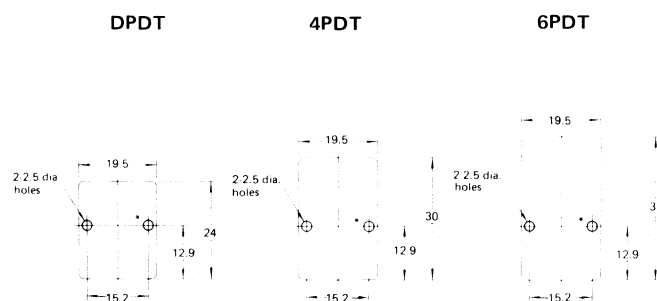
— d



- **PLUG-IN SOLDER TERMINAL TYPE**

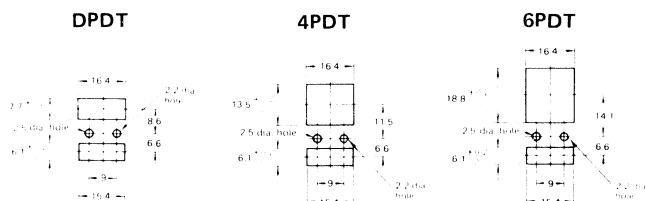


Mounting holes when mounting with tapping screws
(A tolerance of ± 0.1 applies to all dimensions)
(Top view)



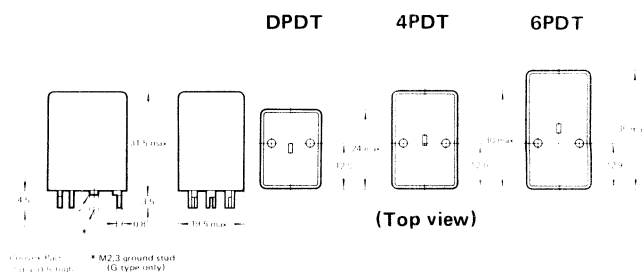
- NOTES
1. Recommended panel thickness is 2.6mm or less.
 2. Employ 7mm long 2mm dia. tapping screws as the mounting screws.
 3. The above drawings apply to the mounting of the relay with a ground stud. When mounting the relay without a ground stud, the 2.5 dia. hole shown in each of the above drawings by asterisk is not required.

Mounting of solder terminal type relay with or without connecting socket

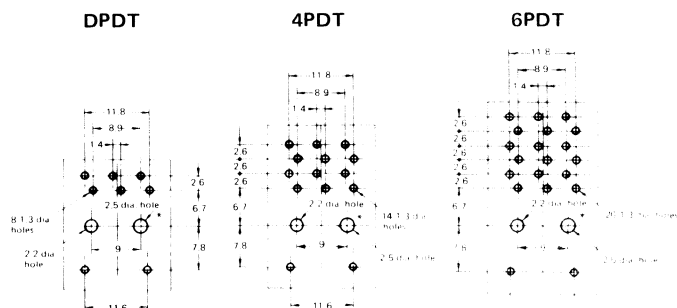


NOTE: When mounting the relay directly on a panel, only the relay with a ground stud (G type) can be mounted on a panel without use of the connecting socket.

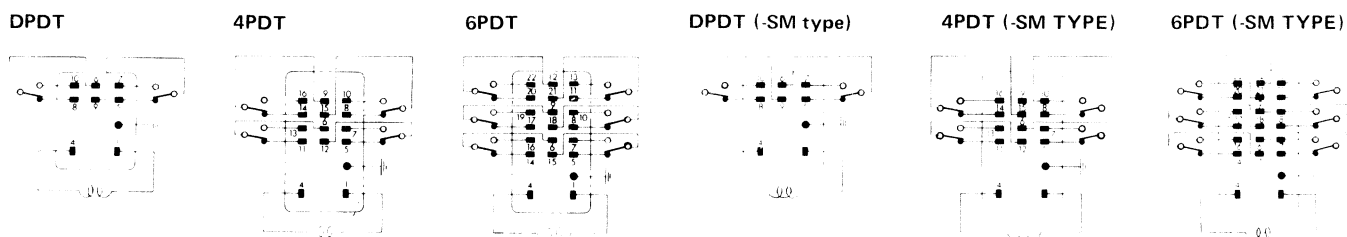
- PRINTED CIRCUIT TERMINAL TYPE



Mounting holes when mounting on P.C.B.
(A tolerance of ± 0.1 applied to all dimensions)
(Bottom view)



Terminal arrangement (Bottom view)



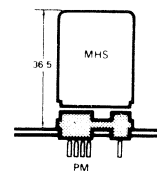
■ ACCESSORIES

● CONNECTING SOCKETS/HOLD-DOWN CLIPS

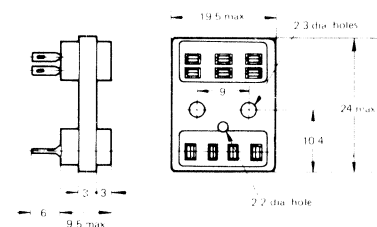
Contact form	Back connecting socket			Applicable relay hold-down clip
	Solder terminal*	PC terminal		
		2.54mm grid**	Off set*	
DPDT	PM08	PM08-0-SM	PM08-0	PMC2S
4PDT	PM14	PM14-0-SM	PM14-0	PMC4S
6PDT	PM20	PM20-0-SM	PM20-0	PMC6S

NOTES:

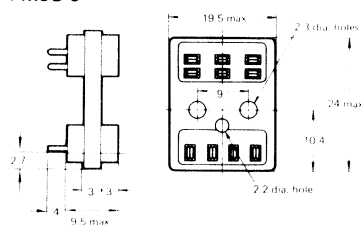
- * When Type PM□ or PM□-0 connecting socket with ground stud (G type) is used, be sure to use a ground terminal (Type PMG or PMG-1) for the connecting socket.
- ** If any of Type PM□-0-SM sockets is required with a ground stud, add symbol "G" to the part number of the socket when placing your order (e.g., PM□G-0-SM).



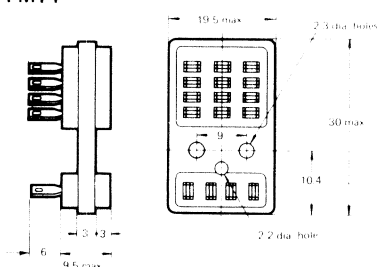
PM08



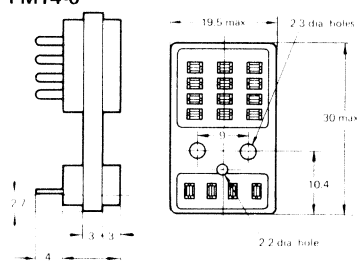
PM08-0



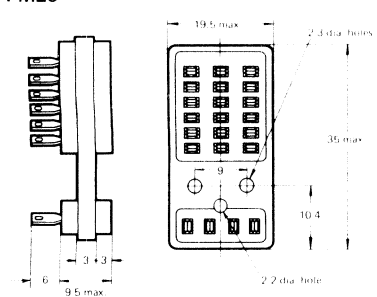
PM14



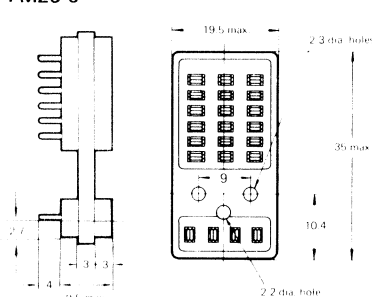
PM14-0



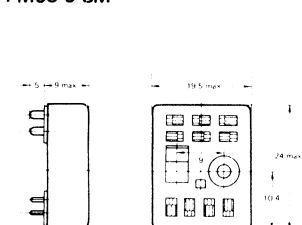
PM20



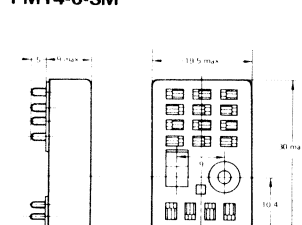
PM20-0



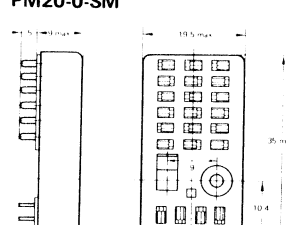
PM08-0-SM



PM14-0-SM

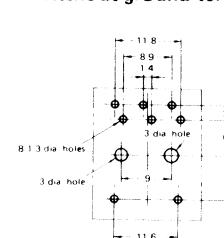


PM20-0-SM

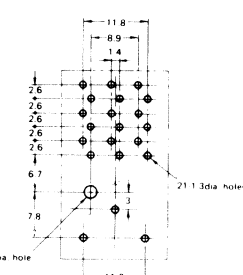
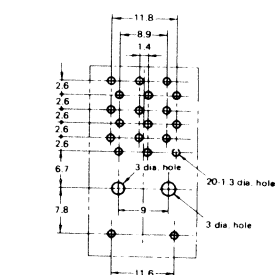
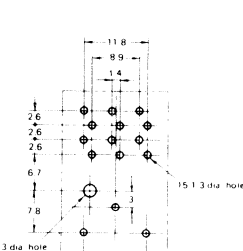
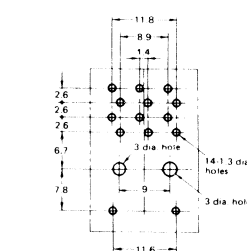
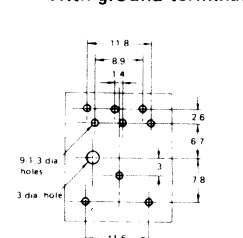


Mounting holes (Bottom view)

● Without ground terminal

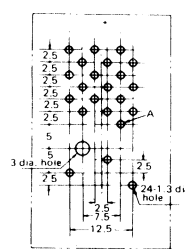
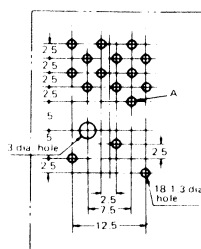
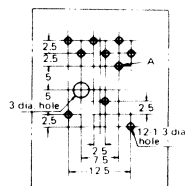


● With ground terminal



NOTE:
The above three drawings apply to the mounting of the relay with a ground stud. In this case, be sure to use a Type PMG-1 ground terminal with the connecting socket.

Mounting holes (Bottom view)

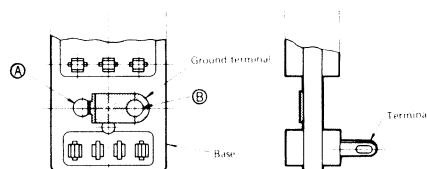


NOTE: Hole A is required only when type PM□G-0-SM is used.

● GROUND TERMINAL

When mounting the connecting socket to the relay requiring grounding, be sure to use the ground terminal for the socket.

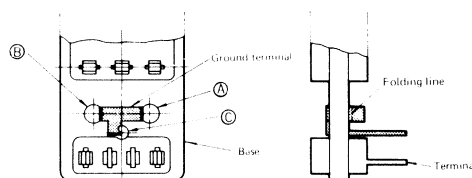
● PMG (for PM□)



Mounting method

1. Insert the legs of the ground terminal into the holes (A) and (B) in the base, as shown in the above drawing.
2. Mount it on the panel together with the base by inserting the screw into hole (B).

● PMG-1 (for PM□-0)



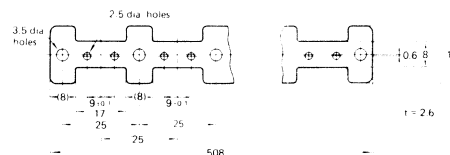
Mounting method

1. Insert the legs of the ground terminal into the holes (A), (B) and (C), respectively, in the base, as shown in the above drawing.
2. Secure the ground terminal by bending inwards the two respective legs inserted into holes (A) and (B).

● RELAY MOUNTING PLATE (PMP-20)

When a number of relay are to be mounted directly on a panel in a row, use the Type PMP relay mounting plate which permits the mounting of a maximum of 20 relays. The relay mounting plate also permits the mounting of Types PM08, PM14 and PM20 connecting sockets.

The relays with a ground stud (G type) only can be mounted directly on the relay mounting plate.



HIGH-SENSITIVITY TYPE

■ SPECIFICATIONS/DIMENSIONS

Same as the Standard Type with the following exception.

● COIL RATINGS

Model	MHS2P(G)-(Q)-(SM)□□						MHS4P(G)-(Q)-(SM)□□					
	MHS2ZP(G)-(Q)-(SM)□□						MHS4ZP(G)-(Q)-(SM)□□					
Coil resistance (Ω)	Operate current (mA)	Max. permissible current (mA)	Release current (mA)	Operating voltage (V)	Recommended voltage (V)	Release voltage (V)	Operate current (mA)	Max. permissible current (mA)	Release current (mA)	Operating voltage (V)	Recommended voltage (V)	Release voltage (V)
1.5	210	910	29.4	0.35 to 1.5	0.55	0.04	324	910	45.3	0.54 to 1.5	0.8	0.06
2.6	165	690	23.1	0.47 to 1.9	0.7	0.05	250	690	35.0	0.72 to 1.9	1.1	0.08
5.1	125	495	17.5	0.7 to 2.9	1.0	0.08	190	495	26.5	1.07 to 2.9	1.6	0.12
6.8	127	430	17.7	0.95 to 3.2	1.5	0.09	200	430	28	1.5 to 3.2	2.3	0.13
7	105	420	14.7	0.8 to 3.2	1.2	0.09	158	420	22.1	1.22 to 3.2	1.8	0.13
9.5	110	360	15.4	1.15 to 3.9	1.7	0.12	172	360	24.1	1.8 to 3.9	2.7	0.18
15	72	290	10.0	1.2 to 4.9	1.7	0.13	110	290	15.4	1.8 to 4.9	2.7	0.20
18	65	260	9.1	1.3 to 5.3	2	0.14	100	260	14.0	2.0 to 5.3	3	0.22
28	53	210	7.4	1.65 to 6.7	2.3	0.18	82	210	11.4	2.5 to 6.7	3.7	0.28
46*	42	165	5.8	2.1 to 8.3	3	0.24	65	165	9.1	3.3 to 8.3	4.8	0.35
58	40	145	5.6	2.6 to 9.8	3.5	0.29	62	145	8.6	4.0 to 9.8	5.3	0.4
80	33	125	4.6	2.9 to 10.9	4	0.33	50	125	7.0	4.4 to 10.9	6	0.5
110	29	105	4.0	3.5 to 13.1	4.7	0.4	44	105	6.1	5.3 to 13.1	7.5	0.6
150*	24	91	3.3	4.0 to 15.5	6	0.4	37	91	5.1	6.1 to 15.5	8.5	0.7
170	23	86	3.2	4.3 to 15.9	6	0.5	35	86	4.9	6.5 to 15.9	9	0.7
220	22	75	3.1	5.4 to 18.8	8	0.5	34	75	4.7	8.3 to 18.8	12	0.8
250	19	71	2.6	5.2 to 19.4	7	0.6	29	71	4.0	8.0 to 19.4	12	0.9
280	20	67	2.8	6.2 to 20.3	9	0.6	31	67	4.3	9.6 to 20.3	15	0.9
325*	17	62	2.3	6.1 to 22.5	9	0.6	26	62	3.6	9.3 to 22.5	13	1.0
385	16	57	2.2	6.8 to 24.0	8.5	0.7	24	57	3.3	10 to 24.0	14	1.1
530	13	49	1.8	7.6 to 29.1	10	0.8	19	49	2.6	11 to 29.1	16	1.2
635*	12	44	1.6	8.4 to 30.8	12	0.9	19	44	2.6	13 to 30.8	18	1.4
890*	11	37	1.5	10.8 to 37.6	13	1.2	17	37	2.3	17 to 37.6	21	1.8
1,100	10	34	1.4	12.7 to 40.6	18	1.4	15	34	2.1	19 to 40.6	24	2.0
1,700*	8	27	1.1	15.6 to 55.4	19	1.7	12	27	1.6	23.5 to 55.4	30	2.4
2,100*	7	24	1.0	16.9 to 56.1	24	1.9	11	24	1.5	25 to 56.1	36	2.8
3,200*	6	20	0.8	22.0 to 70.5	25	2.3	9	20	1.2	33 to 70.5	40	3.4
5,300*	4.5	15	0.7	25.0 to 89.1	36	3.3	6.5	15	1.0	38 to 89.1	48	4.7
7,600	4	13	0.5	34.0 to 108.1	48	3.4	6.5	13	0.9	52 to 108.1	60	6.1
9,000	3.7	12	0.5	36.8 to 117	60	3.7	5.4	12	0.7	54 to 117	80	6.5
15,000	3	9	0.4	50.0 to 150	100	5.4	4.5	9	0.6	68 to 150	100	8.1

● CHARACTERISTICS

Service life	Electrically: 5,000,000 operations min. (under rated load)
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NOTES:

- 1.* Recommended type
2. The appropriate coil resistance value indicated in the leftmost column must be entered in the bracket portion of each model number.
3. Coil resistances are at an ambient temperature of 20°C with a tolerance of ±10%. A change of approx. 0.4% in coil resistance must be taken into account for a change of ±1°C in ambient temperature.
4. Working voltages are at an ambient temperature of 20°C. Note that working voltage will increase by approx. 0.4% at each ambient temperature rise of 1°C.

STANDARD APPROVED TYPE

When placing your order for UL and CSA approved versions, please indicate "UL" or "CSA" as desired in addition to the model number.

■ SPECIFICATIONS/DIMENSIONS

Same as the Standard Type with the following exceptions.

● RATINGS

UL recognized type (File No. E41515)/CSA certified type (File No. LR34815)

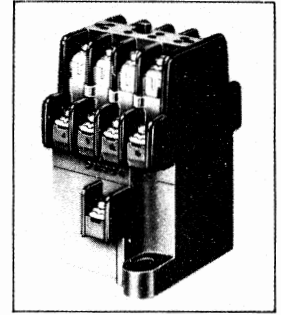
Type	Contact form	Coil ratings	Contact ratings
MHS	DPDT 4PDT 6PDT	6 to 110 VDC	2A 125 VAC/28 VDC (resistive load)

NOTE: ALL DIMENSIONS SHOWN IN THIS CATALOG ARE IN UNITS OF MILLIMETERS.
To convert millimeters into inches multiply by 0.03937. To convert grams into ounces multiply by 0.03527.

Electromagnetic Relay Boasting Highly Reliability & Long Life

FEATURES

- Cone-shaped, wiping-rolling type movable contacts ensure high contact reliability.
- Special iron core construction guarantees more than 10 million mechanical operations.
- Compact design requires minimal mounting space.
- Hermetically sealed electromagnetic section prevents the ingress of iron powder and dust into the iron core section.
- Easy assembly, disassembly, and parts replacement with the two clamping screws.
- Lloyd listed type is also available.



AVAILABLE TYPES

Carry current	No. of poles	Type	Standard	DC operated*	Standard approved**
		Contact form			
6A	3	3PST-NO+3PST-NC	MA306	—	MA306-US***
		3PST-NO	MA306-30	—	MA306-30-US***
		DPST-NO+SPST-NC	MA306-21	—	MA306-21-US***
	4	4PST-NO+4PST-NC	MA406N(B)	—	MA406N(B)-US
		4PST-NO+3PST-NC	—	MA406N(DC)	—
		4PST-NO	MA406N(B)-40	—	MA406N(B)-40-US
		3PST-NO+SPST-NC	MA406N(B)-31	—	MA406N(B)-31-US
		DPST-NO+DPST-NC	MA406N(B)-22	—	MA406N(B)-22-US
15A	4	4PST-NO+4PST-NC	MA415N	—	MA415-US
		4PST-NO+3PST-NC	—	MA415N(DC)	—
		4PST-NO	MA415N-40	—	MA415-40-US
		3PST-NO+SPST-NC	MA415N-31	—	MA415-31-US
		DPST-NO+DPST-NC	MA415N-22	—	MA415-22-US
20A	5	5PST-NO+5PST-NC	MA520N	—	—
		5PST-NO	MA520N-50	—	—
		4PST-NO+SPST-NC	MA520N-41	—	—
		3PST-NO+DPST-NC	MA520N-32	—	—

NOTES:

- * In the DC operated type, N.C. contact is used as an auxiliary contact by connecting it internally.
- ** Unless otherwise specified, all types are approved by UL & CSA.
- *** Certified only by CSA.

STANDARD TYPE

SPECIFICATIONS

- COIL RATINGS (NOTE: The rated current is measured at a coil temperature of 20°C with tolerance of ±20%.)

MA406N(B)/-40/-31/-22

Rated voltage (V)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Must operate voltage (% of rated voltage)	Must dropout voltage (% of rated voltage)	Maximum voltage (V)	Power consumption (VA)	
			Armature OFF	Armature ON				Value at start	Rated value
AC	6	1,737	1,400	0.6	0.00154	0.127	—	—	—
	12	740	600	2.3	0.0066	0.054	—	—	—
	24	400	320	9	0.025	0.20	—	—	—
	50	134	147	35	0.114	0.35	—	—	—
	100	87	71	160	0.49	4.1	80% max	35% min	110%
	100 (110)	—	—	—	—	—	—	—	—
	200	44	37	690	1.9	15.7	—	—	—
	200 (220)	—	—	—	—	—	—	—	—
	400	23	20	3,300	8.38	69.3	—	—	—
	400	—	—	—	—	—	—	—	—

MA306/-30/-21

Rated voltage (V)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Must operate voltage (% of rated voltage)	Must dropout voltage (% of rated voltage)	Maximum voltage (V)	Power consumption (VA)	
			Armature OFF	Armature ON				Value at start	Rated value
AC	6	1,850	1,470	0.6	0.0020	0.011	—	—	—
	12	865	700	2.3	0.0081	0.045	—	—	—
	24	460	370	9	0.031	0.17	—	—	—
	50	210	170	35	0.14*	0.79	—	—	—
	100	95	89	160	0.61	3.4	80% max	30% min	110%
	100 (110)	—	—	—	—	—	—	—	—
	200	45	42.5	690	2.37	13.1	—	—	—
	200 (220)	—	—	—	—	—	—	—	—
	400	21	19.9	2,760	11	61	—	—	—
	400	—	—	—	—	—	—	—	—

MA415N/-40/-31/-22

Rated voltage (V)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Must operate voltage (% of rated voltage)	Must dropout voltage (% of rated voltage)	Maximum voltage (V)	Power consumption (VA)	
			Armature OFF	Armature ON				Value at start	Rated value
AC	6	1,863	1,500	0.39	0.00141	0.109	—	—	—
	12	965	770	1.65	0.0054	0.043	—	—	—
	24	523	415	6.59	0.023	0.18	—	—	—
	50	223	180	29.8	0.104	0.80	—	—	—
	100	95	80	122	0.43	3.3	80% max	35% min	110%
	100 (110)	—	—	—	—	—	—	—	—
	200	43	40	456	1.66	12.8	—	—	—
	200 (220)	—	—	—	—	—	—	—	—
	400	22	19	1,707	6.64	51	—	—	—
	400	—	—	—	—	—	—	—	—

MA520N/-50/-41/-32

Rated voltage (V)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Must operate voltage (% of rated voltage)	Must dropout voltage (% of rated voltage)	Maximum voltage (V)	Power consumption (VA)	
			Armature OFF	Armature ON				Value at start	Rated value
AC	6	2,420	2,080	0.7	0.00087	0.0075	—	—	—
	12	1,270	930	2	0.0035	0.03	—	—	—
	24	680	480	5.5	0.014	0.12	—	—	—
	50	320	230	20	0.063	0.54	—	—	—
	100	175	120	67	0.25	2.16	80% max	30% min	110%
	100 (110)	—	—	—	—	—	—	—	—
	200	104	56	290	1	8.6	—	—	—
	200 (220)	—	—	—	—	—	—	—	—
	400	57.6	28	1,120	4	34.5	—	—	—
	400	—	—	—	—	—	—	—	—

CONTACT RATINGS

Item	Type	6A; 3, 4-pole		15A; 4-pole		20A; 5-pole	
		Resistive load (p.f.=1)	Inductive load (p.f.=0.4, L/R=7ms.)	Resistive load (p.f.=1)	Inductive load (p.f.=0.4, L/R=7ms.)	Resistive load (p.f.=1)	Inductive load (p.f.=0.4, L/R=7ms.)
Rated load		220 VAC 6A 24 VDC 6A	220 VAC 4A 24 VDC 6A	220 VAC 15A 24 VDC 15A	220 VAC 10A 24 VDC 15A	220 VAC 20A 24 VDC 20A	220 VAC 13A 24 VDC 16A
Carry current		6A		15A		20A	
Max. operating voltage		550 VAC 250 VDC		550 VAC 250 VDC		550 VAC 250 VDC	
Max. operating current		6A		15A		20A	
Max. switching capacity		1,650VA 500W	1,100VA 200W	3,300VA 1,000W	2,200VA 480W	4,400VA 1,000W	2,800VA 630W
Min. permissible load (ref. value)		MA306/406/415 series: 5 VDC 100mA; MA520 series: 5 VDC 1A					

CHARACTERISTICS

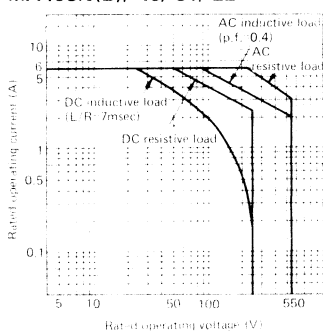
Contact resistance	50mΩ max.
Operate time	AC: 30msec max. DC: 50msec max.
Release time	AC: 30msec max. DC: 50msec max.
Operating frequency	Mechanically: 1,800 operations/hour Under rated load: 1,800 operations/hour
Insulation resistance	100MΩ min. (at 500 VDC)
Dielectric strength	2,000 VAC, 50/60Hz for 1 minute
Vibration	Mechanical durability: 10 to 55Hz; 1.5mm double amplitude Malfunction durability: 10 to 55Hz; 1.0mm double amplitude
Shock	Mechanical durability: 1,000m/s ² (approx. 100G's) Malfunction durability: 200m/s ² (approx. 20G's)
Ambient temperature	Operating: -10 to +40°C
Humidity	45 to 85% RH
Service life	Mechanically: 10,000,000 operations min. (5,000,000 operations min. for MA306 and MA520N) Electrically: 500,000 operations min. (under rated load)
Weight	MA306: Approx. 240g MA406N: Approx. 290g MA415N: Approx. 390g MA520N: Approx. 550g

NOTE: The data shown above are of initial value.

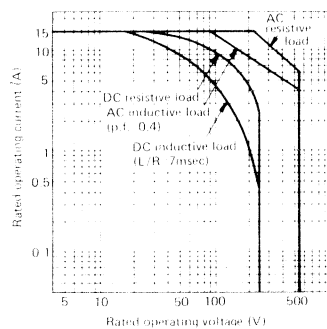
CHARACTERISTIC DATA

Maximum switching capacity

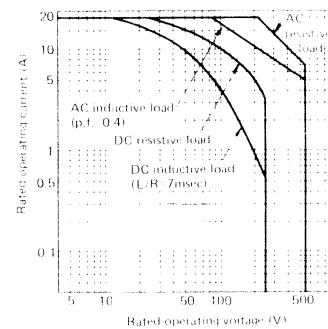
MA306/-30/-21,
MA406N(B)/-40/-31/-22



MA415N/-40/-31/-22

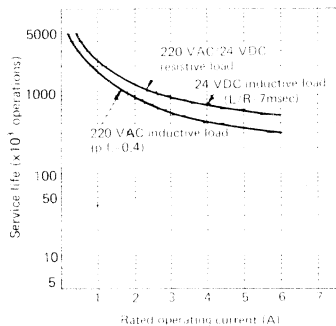


MA520N/-50/-41/-32

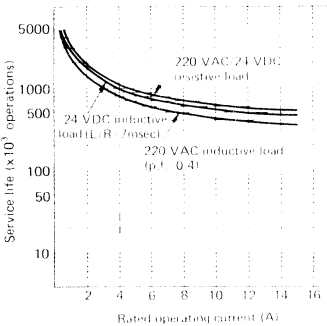


Electrical service life

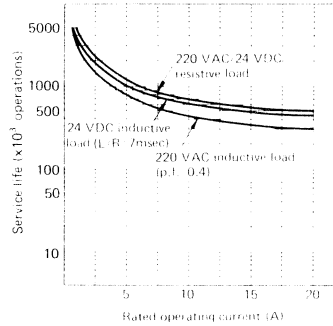
MA306/-30/-21,
MA406N(B)/-40/-31/-22



MA415N/-40/-31/-22

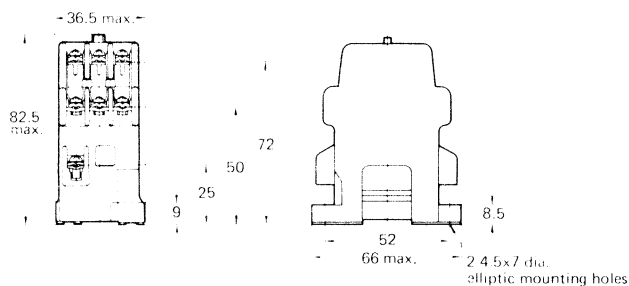


MA520N/-50/-41/-32



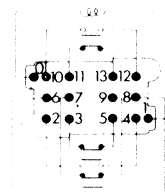
DIMENSIONS

MA306

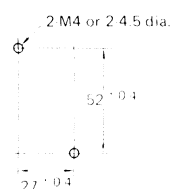


Terminal arrangement (Top view)

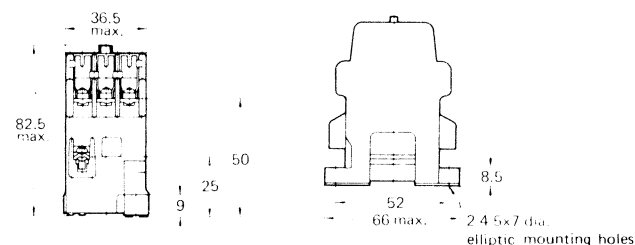
MA306



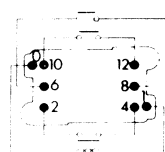
Mounting holes



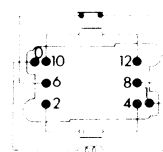
MA306-30, MA306-21



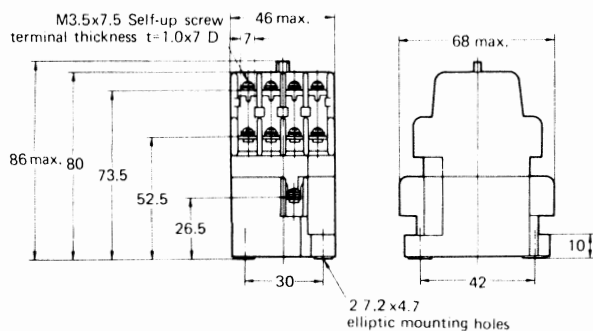
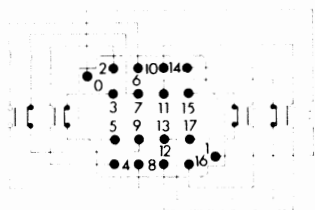
MA306-30



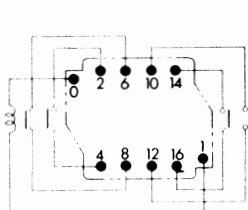
MA306-21



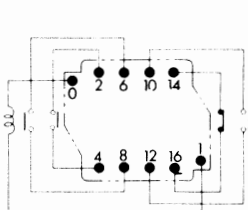
• MA406N

Terminal arrangement (Top view)
MA406N

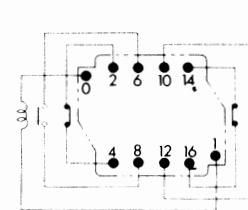
MA406N-40



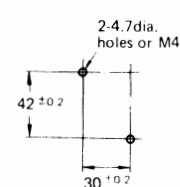
MA406N-31



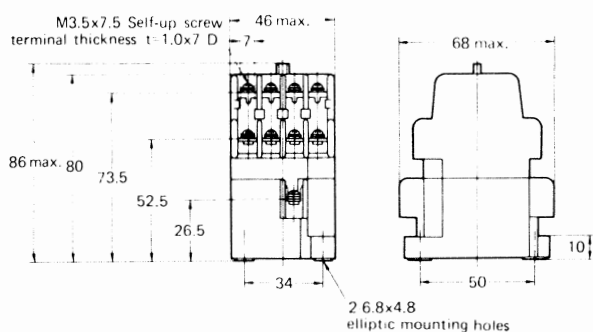
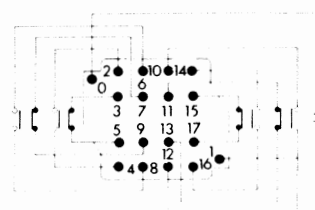
MA406N-22



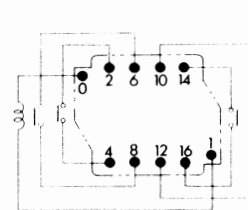
Mounting holes



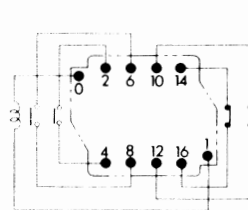
• MA406NB

Terminal arrangement (Top view)
MA406NB

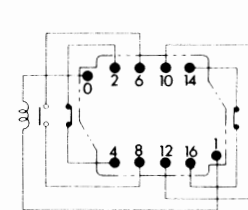
MA406NB-40



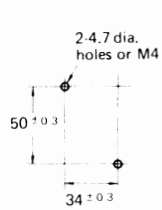
MA406NB-31



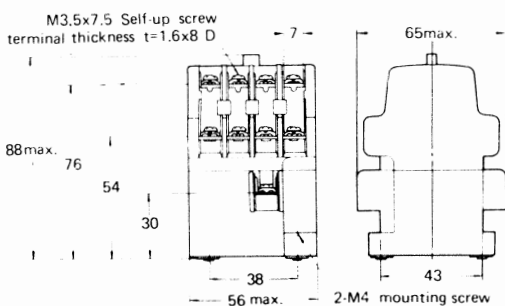
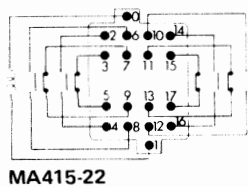
MA406NB-22



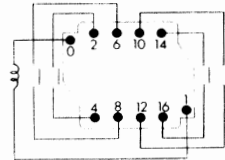
Mounting holes



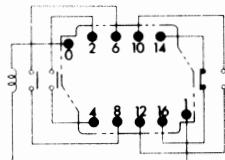
• MA415N

Terminal arrangement (Top view)
MA415N

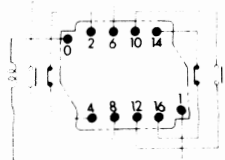
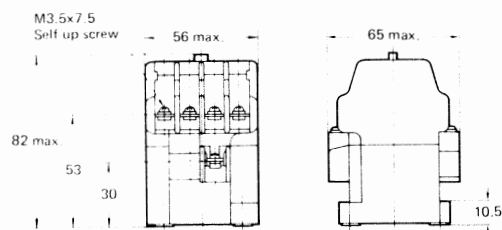
MA415-40



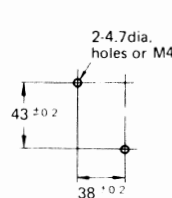
MA415-31



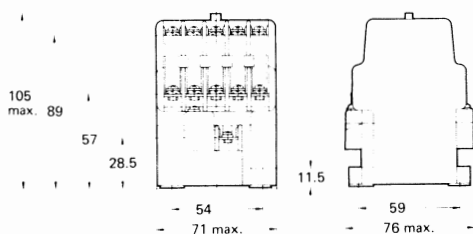
MA415-22

• MA415N-40, MA415N-31,
MA415N-22

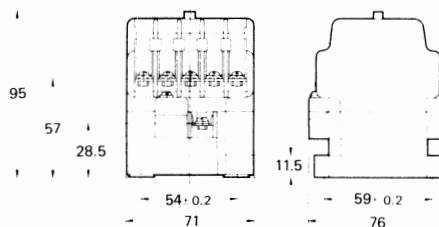
Mounting holes



● MA520N



● MA520N-51, MA520N-41, MA520N-32

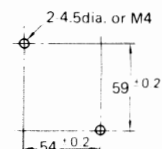
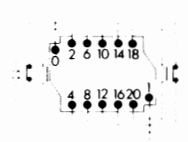
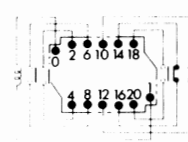
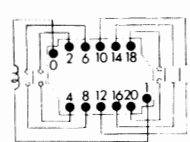
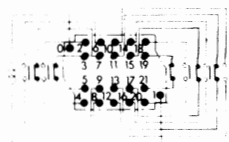
Terminal arrangement (Top view)
MA520N

MA520N-50

MA520N-41

MA520N-32

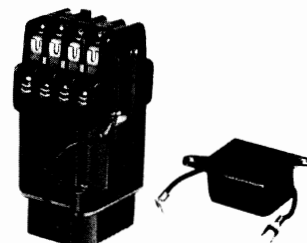
Mounting holes



■ ACCESSORY

● SURGE ABSORBER

When the Model MA is to be used in a circuit containing solid state components, Model MAG series high-performance surge absorber developed for exclusive use with the MA relay, should be employed to protect the semiconductor devices from the surge voltage generated by the Model MA relay coil.



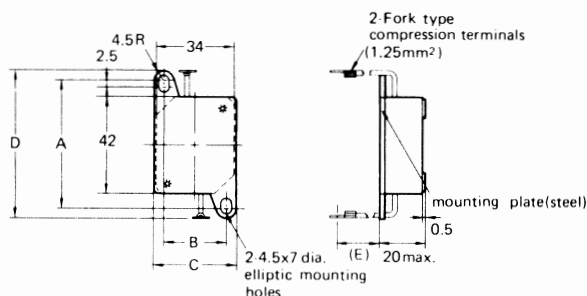
Available types

Applicable relay	Surge absorber
MA306	MAG1(H)
MA406N	MAG2(H)
MA415N MA506N	MAG3(H)
MA406NB	MAG4(H)

Specifications

Maximum applicable voltage	250V (500 for H-type)
Maximum rated current	20mA (19mA for H-type)
Insulation resistance	1,000MΩ min. (at 500 VDC)
Dielectric strength	2,000 VAC, 50/60Hz, for 1 min. between mounting plate and surge absorber device
Shock	Mechanical durability: 1,000m/s ² (approx. 100G's)
Ambient temperature	Operating: -10 to +40°C
Service life	10 million operations or more in terms of magnetic relay operation

Dimensions



	MAG1(H)	MAG2(H)	MAG3(H)	MAG4(H)
A	54.5±0.2	44±0.2	43±0.2	52±0.2
B	27±0.2	30±0.2	38±0.2	34±0.2
C	36.5 max.	39.5 max.	48.5 max.	46 max.
D	64 max.	53.5 max.	53.5 max.	64 max.
E	30	55	55	30

Mounting holes

MAG1(H)	Same as MA306N with 2-4.5x7 dia. elliptic holes
MAG2(H)	Same as MA406N with 2-7.2x4.7 dia. elliptic holes
MAG3(H)	Same as MA415N with 2-4.7 dia. holes
MAG4(H)	Same as MA406NB with 2-6.8x4.7 dia. elliptic holes

Hints on correct use

- Securely connect the lead wires to the surge absorber to prevent loose connections. A loose connection may prevent the surge absorber from functioning normally.
- When mounting screws are required, order separately.

HINTS ON CORRECT USE

● Mounting

- When a number of relays are to be arrayed, provide the following mounting space between the relays.



● Connection

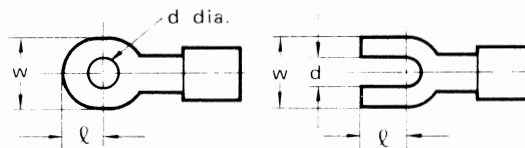
- When wiring, employ the polyvinyl chloride insulated wire listed below or its equivalents.

Type	Diameter (mm)
MA306Z MA406NZ	0.8 to 1.2
MA306 MA406N MA506N	1.0 to 1.2
MA415N MA520N	1.2 to 1.6

- When more than one lead wire is to be connected at one point, employ solderless terminals or lead wires of the same diameter.

Series	Mounting space A (mm)
MA306 series	41 min.
MA406 series	50 min.
MA506N series	61 min.
MA415N series	61 min.
MA520N series	76 min.

- When employing solderless terminals, refer to the following table for the terminal size.



Type	W (mm)	l (mm)	d (mm)
MA306(Z)	6.5 max.	5 max.	3.5 max.
MA406N(Z)	6.5 max.	4 max.	3.5 max.
MA506N	6.5 max.	4 max.	3.5 max.
MA415N	7.8 max.	4 max.	3.5 max.
MA520N	8.5 max.	5 max.	4 max.

- Tighten the screw terminals to 10kg-cm torque max.

DC OPERATED TYPE

SPECIFICATIONS/DIMENSIONS

Same as the Standard Type with the following exceptions.

● COIL RATINGS

● MA406N (DC)

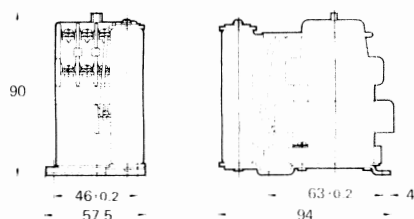
Rated voltage (V)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Must operate voltage	Must dropout voltage	Maximum voltage	Power consumption (W)	
			Armature OFF	Armature ON				Value at start	Rated value
DC	6	968	1.2	6.9	10.8	80 max.	10 min.	110	Ap- prox. 40
	12	492	4.4	32.4	51.1				
	24	247	17	93.6	189				
	48	132	64	534	858				
	100	66.8	245	2360	3630				
	200	33.7	930	10300	14300				

● MA415N (DC)

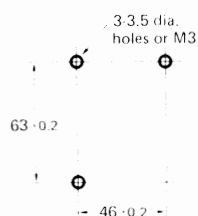
Rated voltage (V)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Must operate voltage	Must dropout voltage	Maximum voltage	Power consumption (W)	
			Armature OFF	Armature ON				Value at start	Rated value
DC	6	960	1.25	6.5	10.2	80 max.	10 min.	110	Ap- prox. 50
	12	475	5.25	25.1	39.2				
	24	242	19	98.9	145				
	48	127	77	455	717				
	100	63	330	1880	3730				
	200	30	1460	7190	14100				

DIMENSIONS

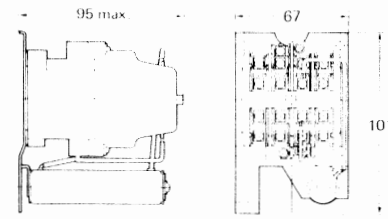
● MA406N(DC)



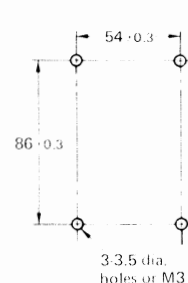
Mounting holes
MA406N(DC)



● MA415N(DC)

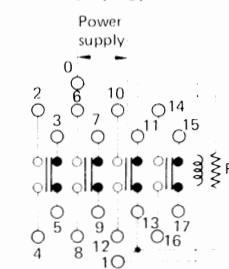


MA415N(DC)

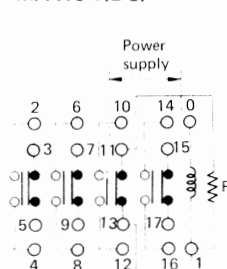


Terminal arrangement (Top view)

MA406N(DC)



MA415N(DC)



R: Externally connected resistor

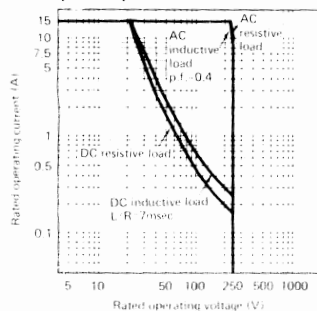
CHARACTERISTICS

Item \ Type	Open type	Covered type
Contact resistance	25mΩ max.	50mΩ max.
Operate time	AC: 25msec max. DC: 50msec max.	
Release time	30msec max.	
Operating frequency	Mechanically: 7,200 operations/hour Electrically: 1,800 operations/hour (under rated load)	
Insulation resistance	100MΩ min. (at 500 VDC)	
Dielectric strength	2,000 VAC, 50/60Hz for 1 minute (1,500 VAC, 50/60Hz for 1 minute between the same poles)	
Vibration	Mechanical durability: 10 to 55Hz; 1.5mm double amplitude Malfunction durability: 10 to 50Hz; 1mm double amplitude	
Shock	Mechanical durability: 1,000m/s ² (approx. 100G's) Malfunction durability: 100m/s ² (approx. 10G's)	
Ambient temperature	Operating: -10 to +55°C	
Humidity	45 to 85% RH	
Service life	Mechanically: 5,000,000 operations min. (at operating frequency of 7,200 operations/hour) Electrically: See "CHARACTERISTIC DATA."	
Weight	MM2: Approx. 160g MM2P: Approx. 220g MM3: Approx. 270g MM3P: Approx. 360g MM4: Approx. 300g MM4P: Approx. 410g	

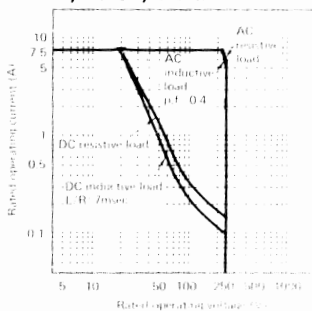
NOTE: The data shown are of initial value.

CHARACTERISTIC DATA

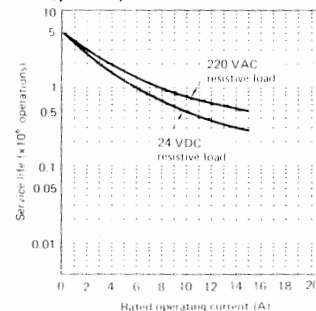
Maximum switching capacity MM2, MM3, MM4



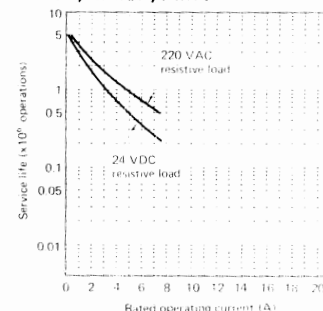
MM2P, MM3P, MM4P



Electrical service life MM2, MM3, MM4

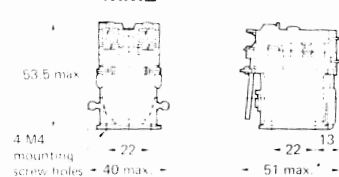


MM2P, MM3P, MM4P

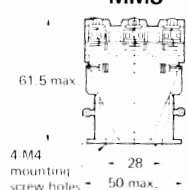


DIMENSIONS

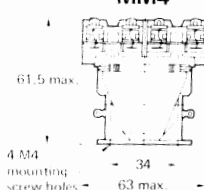
MM2



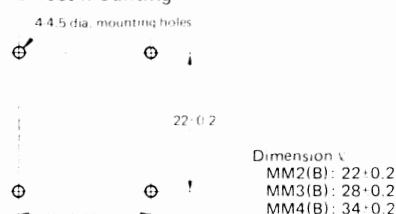
MM3



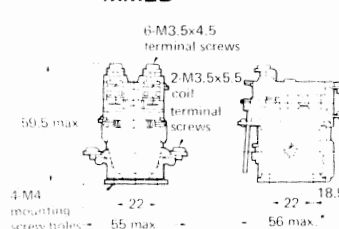
MM4



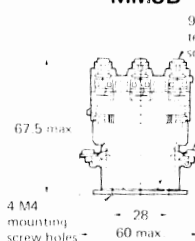
Mounting holes Direct mounting



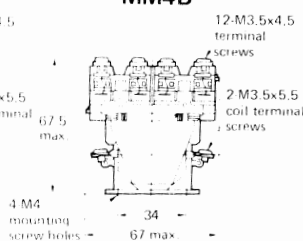
MM2B



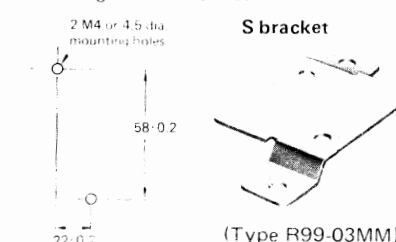
MM3B



MM4B

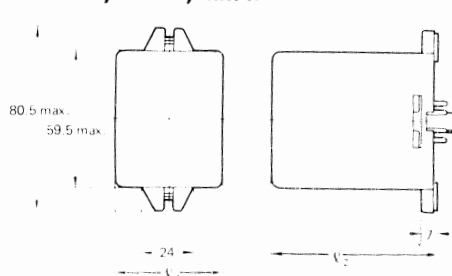


Mounting with S bracket

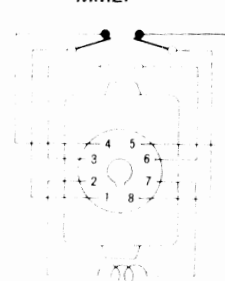


(Type R99-03MM)

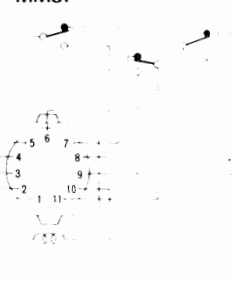
MM2P, MM3P, MM4P



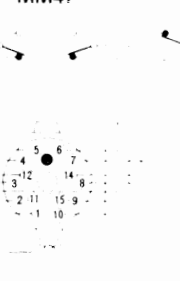
Terminal arrangements MM2P



MM3P

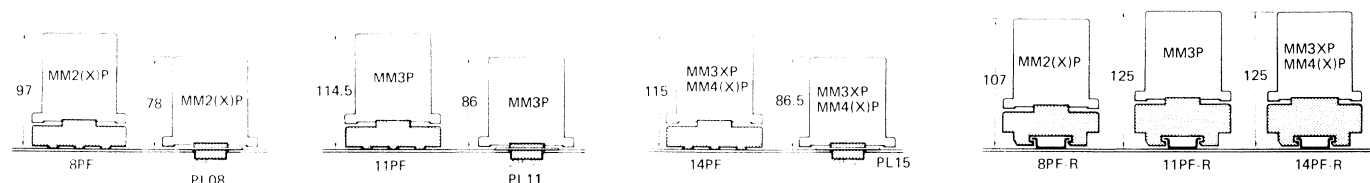


MM4P



NOTE: When mounting the relay, use the connecting socket shown in ACCESSORY.

Mounting height of relay with connecting socket



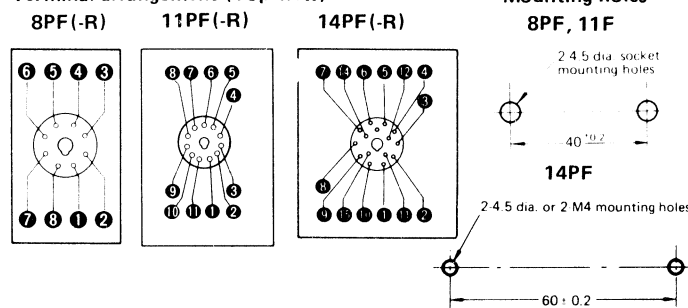
ACCESSORY

CONNECTING SOCKETS

Relay	Socket	Front connecting socket	Track mounted socket	Back connecting socket	
				Solder terminal	Wire-wrap terminal
2-pole		8PF	8PF-R	PL08	PL08-Q
3-pole		11PF	11PF-R	PL11	PL11-Q
4-pole		14PF	14PF-R	PL15	—

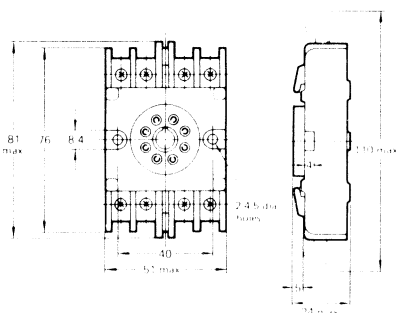
NOTE: When placing your order for the relay, also specify the desired mounting socket.

Terminal arrangement (Top view)



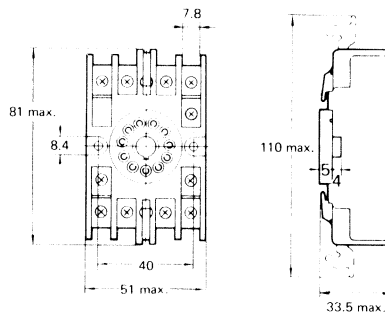
Front Connecting Socket

8PF



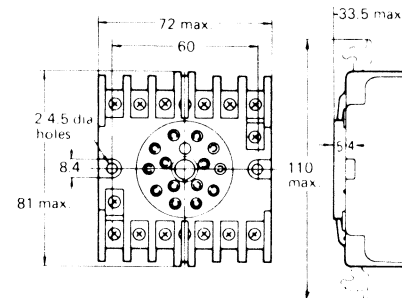
Terminal screw: M3.5x11.5s

11PF



Terminal screw: M3.5x11.5s

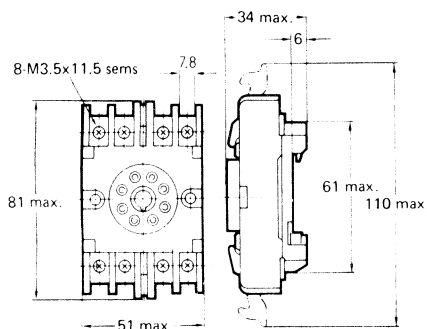
14PF



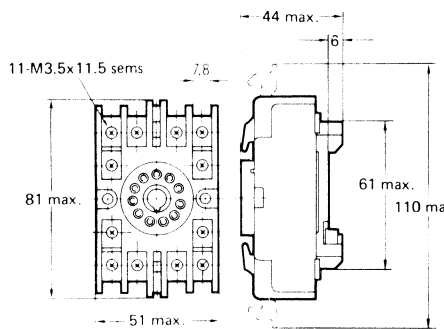
Terminal screw: M3.5x11.5s

Track Mounted Socket

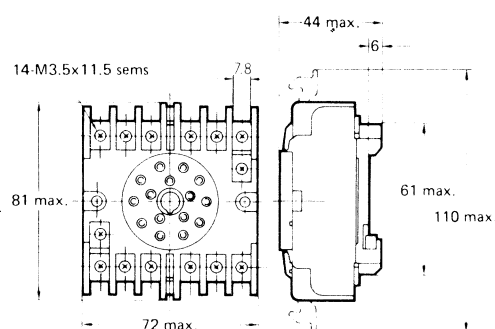
8PF-R



11PF-R



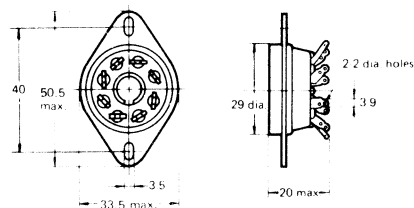
14PF-R



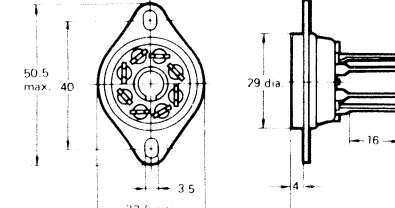
Top view

Back Connecting Socket

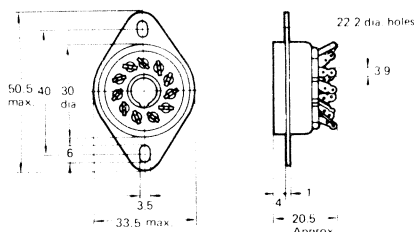
PL08



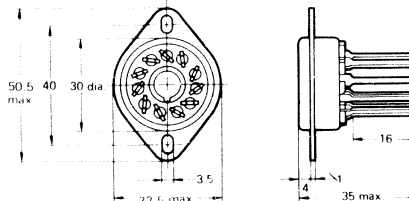
PL08-Q

Terminal arrangement (Bottom view)
PL08(-Q), P3D-08T

PL11



PL11-Q



PL11(-Q), P3D-11T



(RESET COIL)

Rated voltage (V)		Rated current (mA)		Coil resistance (Ω)	Coil inductance (ref. value) (H)		Must reset voltage	Power consumption (W,VA) /
		50Hz	60Hz		Armature OFF	Armature ON	% of rated voltage	
AC	6	975	833	2	0.012	0.019	80 max.	Approx. 5.0
	12	488	417	8.1	0.048	0.075		
	24	243	208	35.2	0.19	0.3		
	50	117	100	161	0.8	1.75		
	100	58.5	50	600	3.1	5.0		
	110	54	45	768	3.8	6.0		
	120	49	42	864	4.6	7.2		
	200	29.2	25	2,870	12	19		
	220	27	23	3,190	15	24		
240	25	21	3,329	18	29			
DC	6	422		14.2	0.097	0.115		Approx. 2.8
	12	215		55.9	0.43	0.7		
	24	107		225.1	1.55	2.5		
	48	55		875	5.8	10		
	100	28		3,580	25	40		
	200	14		14,370	95	155		

NOTES:

1. The rated current and coil resistance are measured at a coil resistance of 20°C with tolerances of +15%, -20% for rated current and $\pm 15\%$ for coil resistance.
2. The performance characteristics are measured at coil temperatures ranging from 5 to 35°C.

● CONTACT RATINGS

Standard type

Load Item	Open type		Covered type	
	Resistive load (p.f.=1)	Inductive load (p.f.=0.4, L/R =7msec)	Resistive load (p.f.=1)	Inductive load (p.f.=0.4, L/R =7msec)
Rated load	220 VAC 10A 24 VDC 7A	220 VAC 10A 24 VDC 4A	220 VAC 5A 24 VDC 4A	220 VAC 5A 24 VDC 4A
Carry current	10A		5A	
Max. operating voltage	500 VAC 250 VDC		500 VAC 250 VDC	
Max. operating current	10A		5A	
Max. switching capacity	2,200VA, 170W		1,100VA, 90W	
Min. permissible load (ref. value)	5 VDC 1mA			

Direct load switching type

Rated carry current (A)	Switching capacity			
	Rated voltage (V)	Rated operating current (A)		
		Resistive load (p.f.=1)	Inductive load (p.f.=0.4, L/R=7msec)	
10(5)	DC	6	10(5)	10(5)
		12	10(5)	10(5)
		24	10(5)	10(5)
		48	10(5)	10(5)
		100	10(5)	6(5)
		200	4(3.5)	3(3)

- NOTES: 1. The figures in parenthesis apply to the covered type.
2. With respect to the switching capacity of 200 VDC inductive load, note that an unstable range which prevents switching, exists in the vicinity of 0.5 to 2.5A.

● CHARACTERISTICS

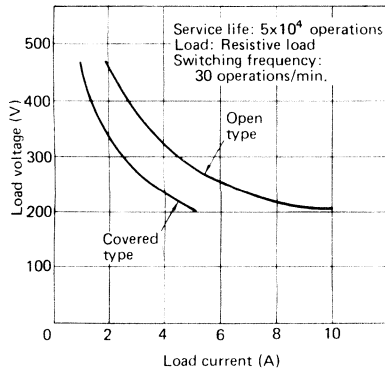
Item	Classification	Open type	Covered type
Contact resistance		25m Ω max.	50m Ω max.
Operate (Set) time		AC: 30msec max. DC: 60msec max.	
Release (Reset) time		30msec max.	
Operating frequency		Mechanically: 1,800 operations/hour Under rated load: 1,800 operations/hour	
Insulation resistance		100M Ω min. (at 500 VDC)	
Dielectric strength		2,000 VAC, 50/60Hz for 1 minute (1,500 VAC between non-continuous contacts)	
Vibration		Mechanical durability: 10 to 55Hz; 1.5mm double amplitude Malfunction durability: 10 to 35Hz; 1.0mm double amplitude	
Shock		Mechanical durability: 1,000m/sec ² (approx. 100G's) Malfunction durability: 50m/sec ² (approx. 5G's)	
Ambient temperature		Operating: -10 to +40°C	
Humidity		45 to 85% RH	
Service life		Mechanically: 2,500,000 operations min. (at operating frequency of 1,800 operations/hour) Electrically: See "CHARACTERISTIC DATA."	
Weight		Approx. 250 to 550	

NOTE: The data shown above are of initial value.

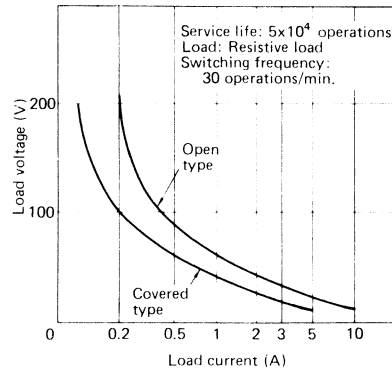
● CHARACTERISTIC DATA

Electrical service life

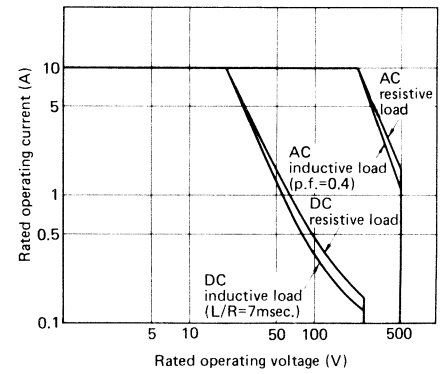
AC Load



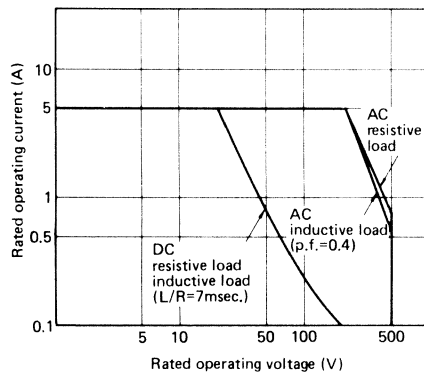
DC Load



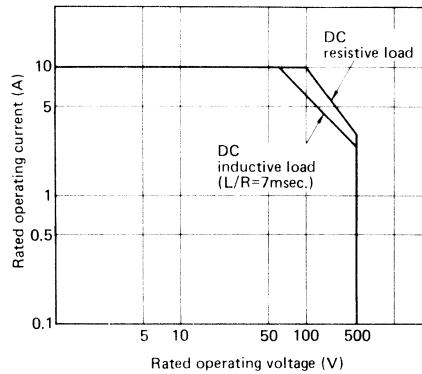
Maximum switching capacity MM2K, MM3K, MM4K



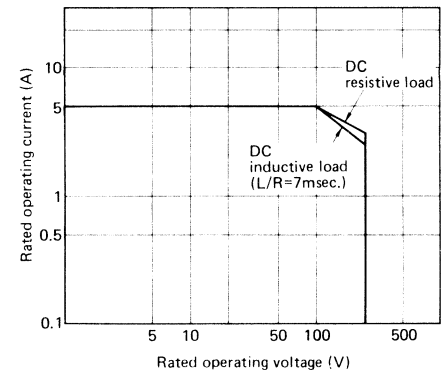
Maximum switching capacity MM2KP, MM3KP, MM4KP



Maximum switching capacity MM2XK, MM3XK, MM4XK

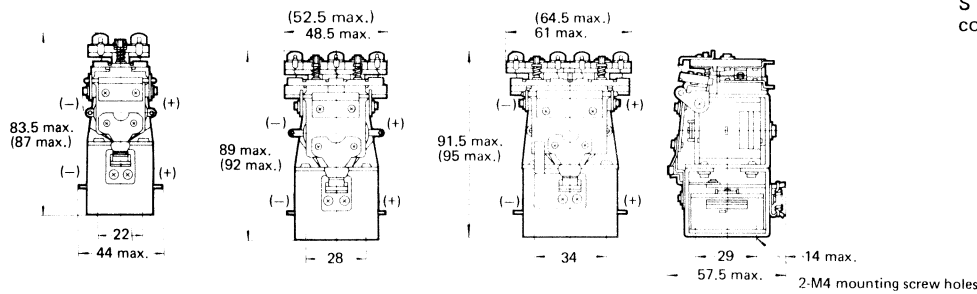


Maximum switching capacity MM2XKP, MM3XKP, MM4XKP



■ DIMENSIONS

● MM2(X)K, MM3(X)K, MM4(X)K



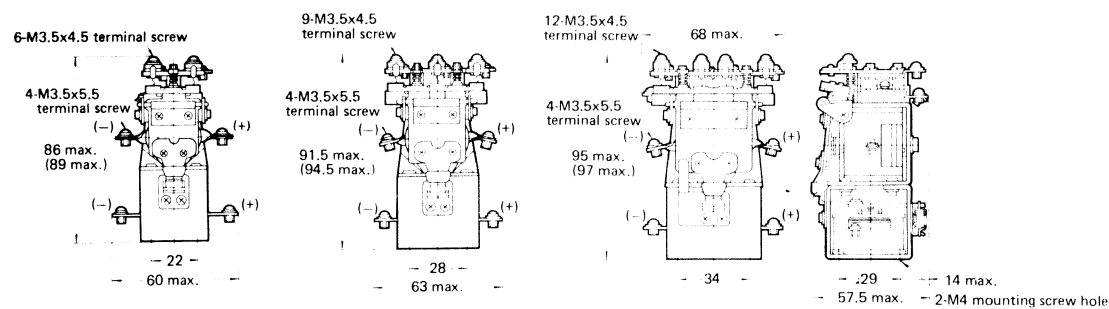
Mounting bracket

S bracket is available for mounting the covered type latch relay.



NOTE: Dimension in parenthesis applies to the DC load switching type (-X). With this type, connect common C to (+) terminal.

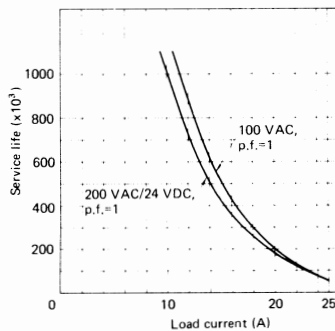
● MM2(X)KB, MM3(X)KB, MM4(X)KB



NOTE: Dimension in parenthesis applies to the DC load switching type (-X). With this type, connect common C to (+) terminal.

CHARACTERISTIC DATA

Electrical service life



UL recognized type (File No. E41643)

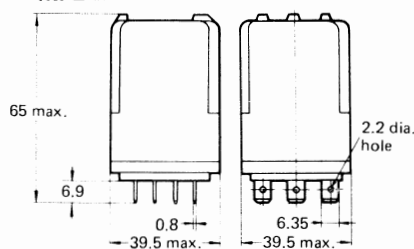
Type	Contact form	Coil ratings	Contact ratings
MP□	DPST-NO +DPST-NC, DPST-NO	24 to 300 VAC 6 to 200 VDC	25A 240 VAC, 25A 24 VDC (resistive load) 1kW 115 VAC (tungsten lamp load)
MP□ -CS			25A 120 VAC, 10A 240 VAC, 25A 24 VDC (resistive load) 1kW 120 VAC (tungsten lamp load)

CSA certified type (File No. LR35535)

Type	Contact form	Coil ratings	Contact ratings
MP□ -CS	DPST-NO +DPST-NC, DPST-NO	24 to 300 VAC 6 to 200 VDC	1kW 120 VAC (tungsten lamp load)
		24 to 150 VAC 6 to 150 VDC	25A 120 VAC, 10A 240 VAC, 25A 24 VDC (resistive load)

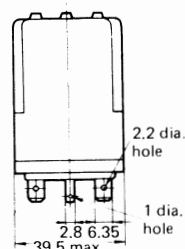
DIMENSIONS

MP2-□

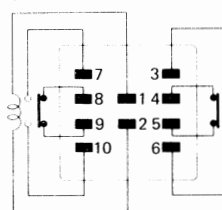


↑ Bottom view

MP2P-□

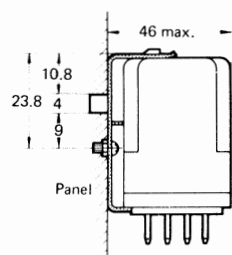


Terminal arrangement (Bottom view)

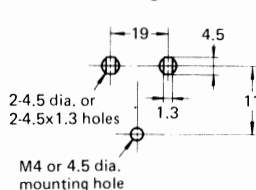


ACCESSORIES

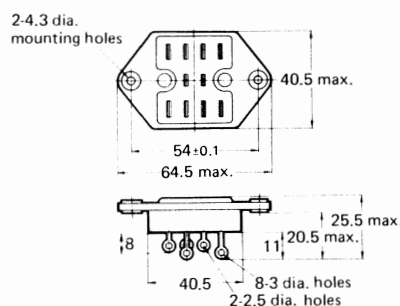
METAL FITTING



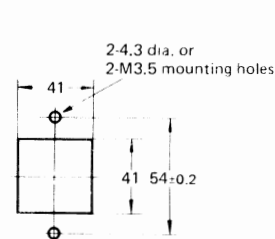
Mounting holes



CONNECTING SOCKET (PP10)



Panel cutout



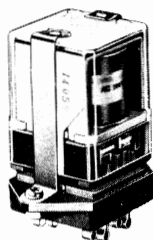
NOTE:

The connecting socket is approved by UL & CSA.

NOTES:

1. Panel thickness: 1.6 to 8.0mm
2. When a number of relays are to be mounted in line, be sure to provide a minimum space of 10mm between two juxtaposed relays.

RELAY HOLD-DOWN CLIP



NOTE:

The relay hold-down clip is supplied with the connecting socket as an accessory.

NOTE: ALL DIMENSIONS SHOWN IN THIS CATALOG ARE IN UNITS OF MILLIMETERS.

To convert millimeters into inches multiply by 0.03937. To convert grams into ounces multiply by 0.03527.

Designed Small, Yet Makes and Breaks 20A Loads

FEATURES

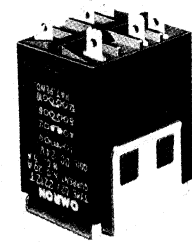
- Double make and break contact mechanism with silver alloy contacts.
- Creepage distance of minimum 6.5mm conforms to various standards including UL, CSA and VDE.
- Hinge type with less operating noise and requiring 1/2 the starting current is available for both AC and DC operations.
- Nonflammable insulating materials employed in the hinge type meet UL94V-0.

AVAILABLE TYPES

Classification	Type	Contact form	Mounting style	
			Basic type*	Lower surface mount type
Standard type	Hinge type	SPST-NO	G2J-1112T	—
		SPST-NO+SPST-NC	G2J-2112T	
		DPST-NO	G2J-2212T	
		DPST-NO+SPST-NC	G2J-3212T	
	Plunger type	DPST-NO+DPST-NC	G2J-4212T	G2J-42124T
		3PST-NO	G2J-3312T	G2J-33124T
		3PST-NO+SPST-NC	G2J-4312T	G2J-43124T
		4PST-NO	G2J-4412T	G2J-44124T
Approved standard type	Hing type	SPST-NO	G2J-1112T-US**	—
		SPST-NO+SPST-NC	G2J-2112T-US**	
		DPST-NO	G2J-2212T-US**	
		DPST-NO+SPST-NC	G2J-3212T-US**	
	Plunger type	DPST-NO+DPST-NC	G2J-4212T-US	G2J-42124T-US
		3PST-NO	G2J-3312T-US	G2J-33124T-US
		3PST-NO+SPST-NC	G2J-4312T-US	G2J-43124T-US
		4PST-NO	G2J-4412T-US	G2J-44124T-US

NOTE:

- * The basic types cannot be mounted without an S or W mounting bracket. When ordering, please specify the appropriate mounting bracket type (R99-03G2J for the S mounting bracket or R99-04G2J for the W mounting bracket) together with the basic type.
- ** When the relay approved as TV-10 is required, add "TV10-8" to the model number in your order.



OMRON

STANDARD TYPE

SPECIFICATIONS

COIL RATINGS

Classification	Rated voltage (V)	Rated current (mA)		Coil resistance (Ω)	Coil inductance (ref. value) (H)		Must operate voltage	Must dropout voltage	Maximum voltage	Power consumption (VA, W)	
		50Hz	60Hz		Armature OFF	Armature ON				Value at start	Rated value
Hinge type	AC	6	833	600	1.7	0.009	0.02	80 max.	50Hz: 25 min. 60Hz: 30 min.	110	Approx. 8 Approx. 3.6
		12	417	300	5.7	0.039	0.08				
		24	200	150	25.5	0.16	0.34				
		50	100	72	95	0.66	1.55				
		100	50	36	410	2.8	6.1				
		110	45	33	530	3.6	8				
		120	42	30	620	4.4	9.4				
		200	25	18	1,650	11.6	25				
		220	23	16	1,850	14	30				
		240	21	15	2,310	17	37				
		6	200	30	0.1	0.47	2.1				
		12	100	120	0.5	0.5	2.1				
		24	53	450	1.7	7.2	7.2				
		48	23.4	1,800	7	29.5	29.5				
		100	12	7,050	27	115	115				
		6	833	667	1.5	0.004	0.018	80 max.	50Hz: 25 min. 60Hz: 30 min.	110	Approx. 17 Approx. 4
Plunger type	AC	12	417	334	5	0.016	0.079				
		24	208	168	18	0.071	0.35				
		50	100	80	77.5	0.32	1.6				
		100	50	40	310	1.3	6.4				
		200	25	20	1,290	5.8	28.5				
		6	200	30	0.1	0.47	2.1				
		12	100	120	0.5	0.5	2.1				
		24	53	450	1.7	7.2	7.2				
		48	23.4	1,800	7	29.5	29.5				
		100	12	7,050	27	115	115				
		6	200	30	0.1	0.47	2.1				
		12	100	120	0.5	0.5	2.1				
		24	53	450	1.7	7.2	7.2				
		48	23.4	1,800	7	29.5	29.5				
		100	12	7,050	27	115	115				

NOTES: 1. The rated current and coil resistance are measured at a coil temperature of 20°C with tolerances of ±15%.
2. The performance characteristics are measured at coil temperatures ranging from +5°C to +35°C.

CONTACT RATINGS

Item	Load	Resistive load (p.f.=1)
Rated load	220 VAC 20(5) A	
Carry current	20(5) A	
Max. operating voltage	250 VAC	
Max. operating current	20(5) A	
Max. switching capacity	4,400(1,100) VA	
Min. permissible load (ref. value)	5 VDC 1A	

NOTE: Data in parenthesis apply to N.C. contact type.

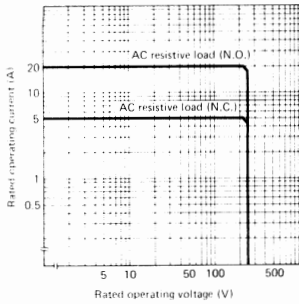
CHARACTERISTICS

Item	Type	Hinge type	Plunger type
Contact resistance		50mΩ max.	
Operate time		30msec max.	
Release time		30msec max.	
Operating frequency		Mechanically: 1,800 operations/hour Under rated load: 1,800 operations/hour	
Insulation resistance		100MΩ min. (at 500 VDC)	
Dielectric strength		2,000 VAC, 50/60Hz for 1 minute	
Vibration		Mechanical durability: 10 to 55Hz; 1.5mm double amplitude Malfunction durability: N.O.: 10 to 44Hz, N.C.: 10 to 26Hz (1.5mm double amplitude)	
Shock		Mechanical durability: 1,000m/s ² (approx. 100G's) Malfunction durability: N.O.: 50m/s ² (approx. 5G's), N.C.: 20m/s ² (approx. 2G's)	
Ambient temperature		Operating: -10 to +50°C (Must not be allowed to freeze.)	
Humidity		45 to 85% RH	
Service life		Mechanically: 2,500,000 operations min. (at operating frequency of 1,800 operations/hour) Electrically: See "CHARACTERISTIC DATA."	Mechanically: 500,000 operations min. (at operating frequency of 1,800 operations/hour) Electrically: See "CHARACTERISTIC DATA."
Weight		Approx. 160g (with S bracket)	Approx. 180g (with S bracket)

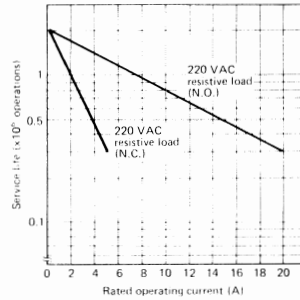
NOTE: The data shown above are of initial value.

CHARACTERISTIC DATA

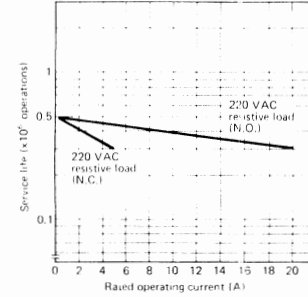
Maximum switching capacity G2J



Electrical service life G2J-2



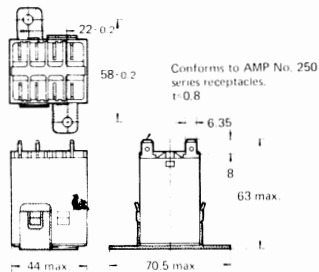
G2J-4



DIMENSIONS

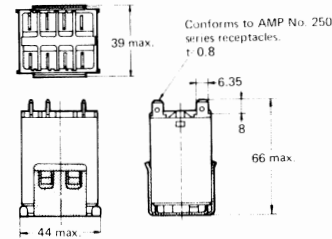
G2J-2212T

with S mounting bracket



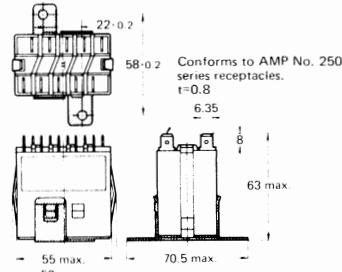
G2J-2212T

with W mounting bracket



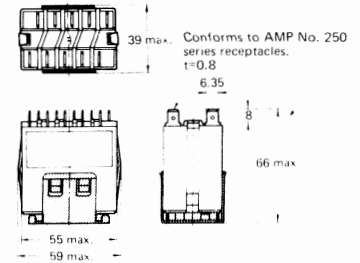
G2J-4312T

with S mounting bracket



G2J-4312T

with W mounting bracket

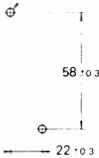


Mounting holes

S mounting bracket

W mounting bracket

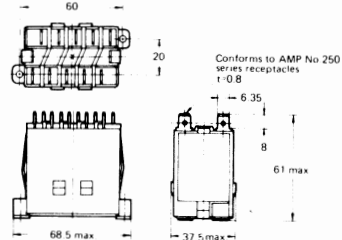
2 M4 mounting holes



2 M4 mounting holes



Lower surface mount type



Mounting holes



Terminal layout/Internal connection (Top view)

SPST-NO

SPST-NO+
SPST-NC

DPST-NO

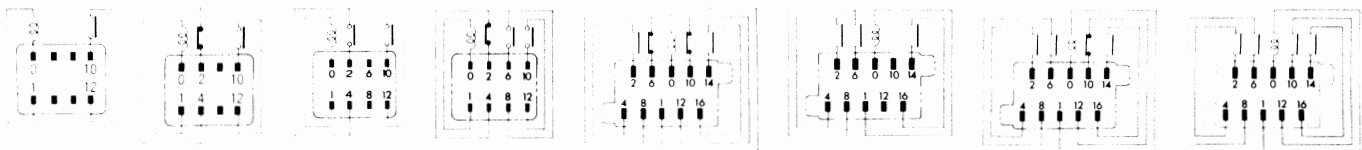
DPST-NO+
SPST-NC

DPST-NO+
DPST-NC

3PST-NO

3PST-NO+
SPST-NC

4PST-NO



STANDARD APPROVED TYPE

When placing your order for UL and CSA approved versions, please indicate "UL" or "CSA" as desired in addition to the model number.

SPECIFICATIONS/DIMENSIONS

Same as the Standard Type with the following exceptions.

RATINGS

UL recognized type (File No. E41515)

CSA certified type (File No. LR35535)

Type	Classification	Coil ratings	Contact ratings
G2J-□□□□□ -US	Hinge type	6 to 240 VAC 6 to 100 VDC	- N.O. contact 20A 240 VAC (resistive load) 10A 240 VAC (inductive load) 20A 120 VAC (inductive load) 1kW 120 VAC (tungsten lamp load) - N.C. contact 5A 240 VAC (inductive load)
	Plunger type	6 to 240 VAC	

NOTE: ALL DIMENSIONS SHOWN IN THIS CATALOG ARE IN UNITS OF MILLIMETERS.
To convert millimeters into inches multiply by 0.03937. To convert grams into ounces multiply by 0.03527.

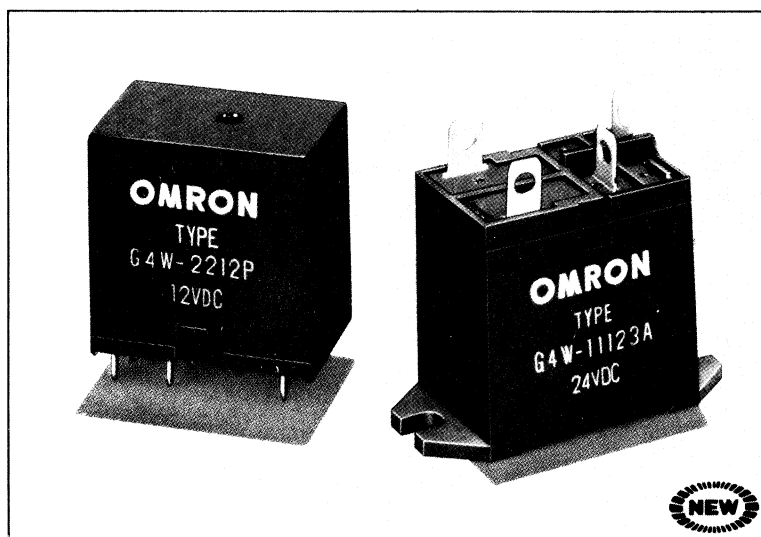
Boasts High Impulse Withstand Voltage (10KV) & Dielectric Strength (4KV) — Ideal for Power Switching

FEATURES

- Impulse withstand voltage of 10,000V between input and output (coil and contact).
- Creepage distance of 8mm min. between coil and contact fully meets VDE C/250 and dielectric strength of 4,000 VAC min. conforms to UL, CSA and IEC Class II.
- Both SPST-NO and DPST-NO types conform to TV ratings, TV-8 and TV-5, respectively.
- International 2.54mm terminal pitch.
- Low power consumption (0.8W).

AVAILABLE TYPES

Classification	Mounting style	Standard mounting	Upper mounting bracket
	Terminal		
Standard type	SPST-NO	G4W-1112P	G4W-11123A
	DPST-NO	G4W-2212P	—
Standard approved type	SPST-NO	G4W-1112P-US	G4W-11123A-US
	DPST-NO	G4W-2212P-US	—



STANDARD TYPE

SPECIFICATIONS

COIL RATINGS

Rated voltage	Item	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Must operate voltage	Must dropout voltage	Maximum voltage	Power consumption (mW)
				Armature OFF	Armature ON				
12 VDC		66.7	180	—	—	80 max.	10 min.	110	Approx. 800
24 VDC		33.3	720	—	—				
100 VDC		8	12,500	—	—				

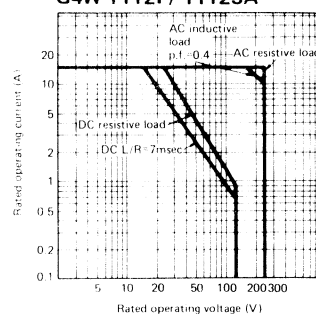
NOTE: The rated current and coil resistance are measured at a coil temperature of 20°C with tolerances of ±15%.

CONTACT RATINGS

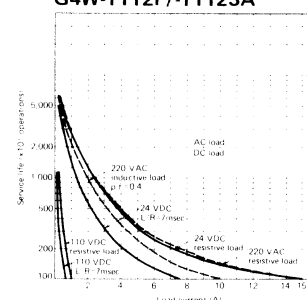
Type	G4W-1112P, G4W-11123A		G4W-2212P	
	Resistive load (p.f.=1)	Inductive load (p.f.=0.4, L/R=7msec)	Resistive load (p.f.=1)	Inductive load (p.f.=0.4, L/R=7msec)
Rated load	220 VAC 15A	220 VAC 10A	220 VAC 10A	220 VAC 7.5A
Carry current	15A		10A	
Max. operating voltage	250 VAC		250 VAC	
Max. operating current	15A		10A	
Max. switching capacity	3,750VA	2,500VA	2,500VA	1,850VA
Min. permissible load (ref. value)	5 VDC 100mA			

CHARACTERISTIC DATA

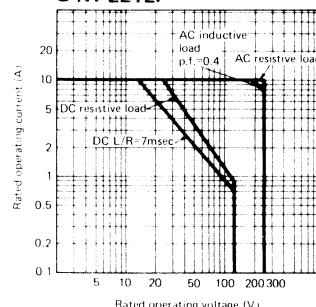
Max. switching capacity G4W-1112P/-11123A



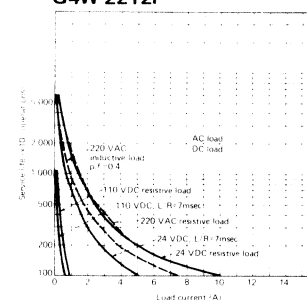
Electrical service life G4W-1112P/-11123A



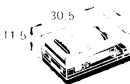
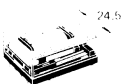
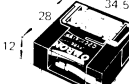
G4W-2212P

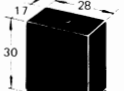
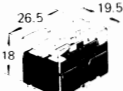
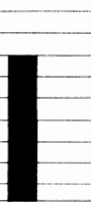
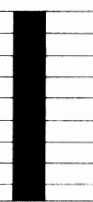
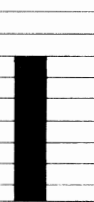
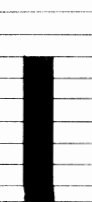


G4W-2212P



SELECTION GUIDE

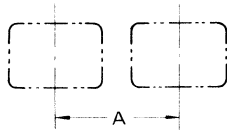
Applications		Interface											
		Signal control											
		Power drive											
Model (Type)		LZN					G2C						
		LZN2	LZN4	LZN6	LZN203	LZN403	G2C-212P	G2C-212P-V	G2C-412P	G2C-412P-V	G2C-232P(-V)	G2C-432P(-V)	
Features		Low profile relay with 3A switching capacity. Sealed, latching and make-before-break contact types are also available.					Low profile, PC board-use relay ideal for high-density circuit design						
Appearance & dimensions		   LZN2 LZN4 LZN6					  G2C-212P G2C-412P-V						
Contact ratings	Contact form	DPDT	4PDT	6PDT	DPDT	4PDT	DPDT	4PDT	DPDT	4PDT			
	Contact type	Bifurcated crossbar					Single crossbar			Bifurcated crossbar			
	Contact material	AgPd (Au clad)			Ag (Au clad)		AgNi (Au plated)			AgPd			
		AgPd (Au clad)			Ag (Au clad)		Ag (Au plated)			AgPd (Au clad)			
	Max. operating current (under resistive load)	10A											
		8A											
		5A											
		3A											
		2A											
	Minimum permissible load	1A											
0.5A													
0.3A													
0.25A													
10mA													
Rated load (under resistive load)	1mA												
	100μA												
		0.1 VDC 100μA					5 VDC 1mA		1 VDC 1mA				
		110 VAC 0.5A 24 VDC 1A					110 VAC 2A 24 VDC 3A		220 VAC/24 VDC 3A			110 VAC 0.5A 24 VDC 1A	
Coil ratings	Rated voltage (V)	DC 5, 6, 12, 24, 48, 60					AC 6, 12, 24, 50, 100, 110, 200, 220 DC 5, 6, 12, 24, 48, 100						
	Power consumption	1.4					1.2VA		0.9	1.2VA	0.9		
		1.2											
		1.0											
		0.8											
		0.6											
		0.4											
		0.2											
Service life	Mechanically	100 x 10 ⁶ min.					50 x 10 ⁶ min.			5 x 10 ⁶ min.			
Approved standards		UL®					UL®						
Page		73					77						

Applications		Interface										
		Signal control										
		Power drive										
Model (Type)		G2P	G2U	G2W		G2Z	G4C		G4D			
				G2W -112P-V	G2W -1112P-V							
Features		DIP type relay for power drive with 3A, 250 VAC switching capacity.	Switches 5A loads Sealed type is also available.	Power output relay for power switching in printed circuit		Audio equip-ment protective relay ideal for protection of amplifiers, speakers, mut-ing circuits	High impulse withstand voltage (7kV)—ideal for applications requiring re-sistance to voltage surges		Double-pole relay that breaks 5A loads			
Appearance & dimensions												
Contact ratings	Contact form	SPDT		SPDT	SPDT	SPST-NO	DPDT	SPDT		DPDT		
	Contact type	Single button		Single button		Single button		Fixed, single button Movable, bifurcated button	Single crossbar	Single button		
	Contact material	Ag (Au clad)		AgCdO		AgCdO		Ag (Au plated)	AgPd (Au clad)	AgCdO		
		Ag (Au clad)		AgCdO		AgCdO		Ag (Au plated)	AgPd (Au clad)	AgCdO		
	Max. operating current (under resistive load)	10A 8A 5A 3A 2A 1A 0.5A 0.3A 0.25A										
		Minimum permissible load	10mA 1mA 100µA 15µA									
	5 VDC 10mA		5 VDC 100mA		5 VDC 100mA		1 VDC 100µA	5 VDC 1mA	5 VDC 100mA			
Rated load (under resistive load)	NO contact 110 VAC 3A 220 VAC 1.5A 24 VDC 2A		NC contact 110 VAC 1A 220 VAC 0.5A 24 VDC 1A		110 VAC/ 24 VDC 5A		220 VAC/ 24 VDC 10A	220 VAC 15A	110 VAC/ 24 VDC 5A			
	110 VAC 5A 220 VAC 3A 24 VDC 5A		110 VAC 5A 220 VAC 3A 24 VDC 5A		110 VAC 5A 220 VAC 3A 24 VDC 5A		110 VAC 5A 220 VAC 3A 24 VDC 5A	110 VAC 5A 220 VAC 3A 24 VDC 5A	110 VAC 5A 220 VAC 3A 24 VDC 5A			
Coil ratings	Rated voltage (V)	DC 5, 6, 12, 24		DC 6, 12, 24		AC 6, 12, 24, 50, 100, 110, 120, 200, 220, 240 DC 6, 12, 24, 48, 100		DC 6, 12, 24, 48				
	Power consumption (W)	1.4 1.2 1.0 0.8 0.6 0.4 0.2		1.3VA 1.0W		0.63		0.36				
Service life	Mechanically	10 x 10 ⁶ min.		10 x 10 ⁶ min.		10 x 10 ⁶ min.		10 x 10 ⁶ min.				
Approved standards		—		UL		UL		UL				
Page		97		99		101		103				

HINTS ON CORRECT USE

● Mounting

- When a number of relays are to be arrayed, provide the following mounting space between the relays.



● Connection

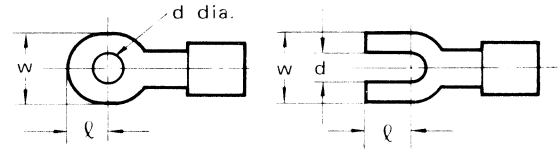
- When wiring, employ the polyvinyl chloride insulated wire listed below or its equivalents.

Type	Diameter (mm)
MA306Z MA406NZ	0.8 to 1.2
MA306 MA406N MA506N	1.0 to 1.2
MA415N MA520N	1.2 to 1.6

- When more than one lead wire is to be connected at one point, employ solderless terminals or lead wires of the same diameter.

Series	Mounting space A (mm)
MA306 series	41 min.
MA406 series	50 min.
MA506N series	61 min.
MA415N series	61 min.
MA520N series	76 min.

- When employing solderless terminals, refer to the following table for the terminal size.



Type	W (mm)	l (mm)	d (mm)
MA306(Z)	6.5 max.	5 max.	3.5 max.
MA406N(Z)	6.5 max.	4 max.	3.5 max.
MA506N	6.5 max.	4 max.	3.5 max.
MA415N	7.8 max.	4 max.	3.5 max.
MA520N	8.5 max.	5 max.	4 max.

- Tighten the screw terminals to 10kg-cm torque max.

DC OPERATED TYPE

SPECIFICATIONS/DIMENSIONS

Same as the Standard Type with the following exceptions.

● COIL RATINGS

● MA406N (DC)

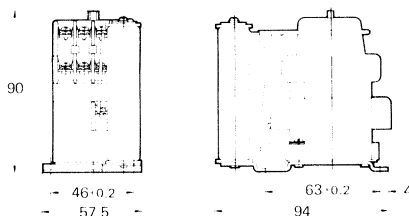
Rated voltage (V)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Must operate voltage	Must dropout voltage	Maximum voltage	Power consumption (W)	
			Armature OFF	Armature ON				Value at start	Rated value
DC	6	968	1.2	6.9	10.8	80 max.	110 min.	110	Ap-prox. 40
	12	492	4.4	32.4	51.1				
	24	247	17	93.6	189				
	48	132	64	534	858				
	100	66.8	245	2360	3630				
	200	33.7	930	10300	14300				

● MA415N (DC)

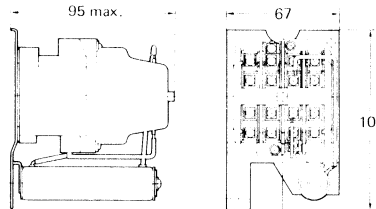
Rated voltage (V)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Must operate voltage	Must dropout voltage	Maximum voltage	Power consumption (W)	
			Armature OFF	Armature ON				Value at start	Rated value
DC	6	960	1.25	6.5	10.2	80 max.	110 min.	110	Ap-prox. 50
	12	475	5.25	25.1	39.2				
	24	242	19	98.9	145				
	48	127	77	455	717				
	100	63	330	1880	3730				
	200	30	1460	7190	14100				

DIMENSIONS

● MA406N(DC)

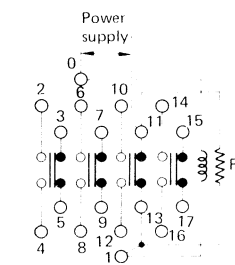


● MA415N(DC)

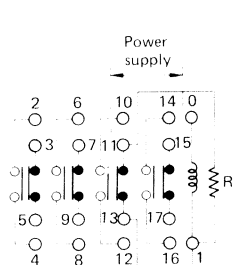


Terminal arrangement (Top view)

MA406N(DC)



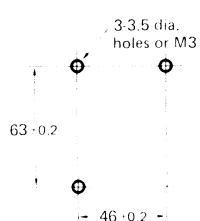
MA415N(DC)



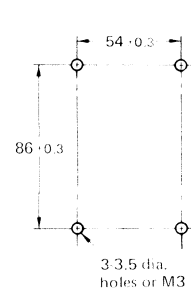
R: Externally connected resistor

Mounting holes

MA406N(DC)



MA415N(DC)



STANDARD APPROVED TYPE

When placing your order for foreign standard approved versions, please indicate "UL," "CSA," etc. as desired in addition to the model number.

SPECIFICATIONS/DIMENSIONS

Same as the Standard Type with the following exceptions.

● RATINGS

UL recognized type (File No. E41643)

Type	No. of poles	Coil ratings	Contact ratings
MA406N	4	6 to 240 VAC	6A 240 VAC, 10A 120 VAC (inductive load) 1HP 240 VAC (motor load)
MA415N	4		10A 240 VAC, 15A 120 VAC (inductive load) 1HP 240 VAC (motor load)

CSA certified type (File No. LR31167)

Type	No. of poles	Coil ratings	Contact ratings
MA306 MA406N	3 4	6 to 240 VAC	1HP 240 VAC (motor load) 10A 120 VAC, 6A 240 VAC (inductive load)
MA415N	4		1HP 240 VAC (motor load) 15A 120 VAC, 10A 240 VAC

NOTE: ALL DIMENSIONS SHOWN IN THIS CATALOG ARE IN UNITS OF MILLIMETERS.
To convert millimeters into inches multiply by 0.03937. To convert grams into ounces multiply by 0.03527.

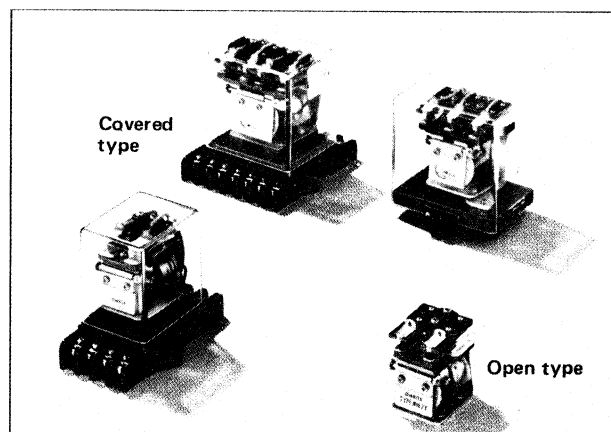
Versatile Relay Satisfying All Purposes

■ FEATURES

- Various loads from low to medium power sources can be switched.
- Specially designed construction provides excellent contact wipe.
- Capable of making and breaking comparatively large DC because of the unique magnetic blowout construction.
- Lloyd listed type is also available.

■ AVAILABLE TYPES

Construction	Terminal	Type Contact form	Standard	DC load switching
Open type	Solder	DPDT	MM2	MM2X
		3PDT	MM3	MM3X
		4PDT	MM4	MM4X
	Screw	DPDT	MM2B	MM2XB
		3PDT	MM3B	MM3XB
		4PDT	MM4B	MM4XB
Covered type	Plug-in	DPDT	MM2P	MM2XP
		3PDT	MM3P	MM3XP
		4PDT	MM4P	MM4XP



OMRON

STANDARD TYPE

■ SPECIFICATIONS

• COIL RATINGS

Contact form	Rated voltage (V)	Rated current (mA)				Coil resistance (Ω)	Coil inductance (ref. value) (H)		Must operate voltage	Must dropout voltage	Maximum voltage	Power consumption (VA, W)					
		Open type		Covered type			Armature OFF	Armature ON				Value at start	Rated value				
		50Hz	60Hz	50Hz	60Hz												
DPDT	AC	6	790	655	690	590	1.1	0.02	0.02	80 max.	50Hz: 25 min. 60Hz: 30 min.	Approx. 4.1	Approx. 3.5				
		12	395	325	345	295	4.7	0.07	0.1								
		24	195	160	170	145	19	0.28	0.41								
		50	94	78	82	70	82	1.2	1.7								
		100	47	39	41	35	340	4.8	6.7								
		110	43	35	37	32	430	6	8								
		120	39	32.5	34	29	540	7	9.6								
		200	23.5	19.5	20.5	17.5	1,540	20	25.6								
	DC	220	21	18	18.6	16	1,750	24	32	70 max.	10 min.	Approx. 2.1	Approx. 2.7				
		240	19.6	16	17.1	14.6	1,960	29	38								
		6	340				17.5	0.2	0.36					80 max.	50Hz: 25 min. 60Hz: 30 min.	Approx. 6.3	Approx. 5.1
		12	176				68	0.74	1.0								
24	87				275	4.2	5.8										
3PDT 4PDT	AC	48	41				1,180	20.4	26	80 max.	50Hz: 25 min. 60Hz: 30 min.	Approx. 6.3	Approx. 5.1				
		100	17				5,750	81.6	92.5								
		110	19				5,750	81.6	92.5								
		6	1,120	950	975	850	0.5	0.01	0.03					80 max.	50Hz: 25 min. 60Hz: 30 min.	Approx. 6.3	Approx. 5.1
		12	560	480	490	430	2.0	0.04	0.07								
		24	280	240	245	210	8.5	0.18	0.28								
		50	134	114	117	102	36	0.75	1.2								
		100	67	57	58.5	51	150	3	4.5								
	110	61	52	53	46	182	3.6	5.5									
	120	56	47.5	49	42.5	220	4.5	6.4									
	DC	200	33.5	28.5	29	25.5	620	12	19	70 max.	10 min.	Approx. 2.7	Approx. 2.7				
		220	30	26	26.5	23	780	15	21								
240		28	24	24.5	21.5	960	18	26									
6		450				13.4	0.23	0.35									
DC	12	220				54	0.87	1.4	70 max.	10 min.	-	Approx. 2.7					
	24	94				255	5.6	9.2									
	48	52				930	27.3	45.5									
	100	22				4,500	61.4	96.5									
	110	24.5				4,500	61.4	96.5									

NOTES: 1. The power consumption values in () are for the covered type with plug-in terminals.
 2. The performance characteristics are measured at coil temperatures ranging from 5 to 35 °C.
 3. The rated current and coil resistance are measured at a coil temperature of 20 °C with tolerances being +15%, -20% for rated current, and +15% for coil resistance.

• CONTACT RATINGS

Item	Load	Type	Open type		Covered type	
			Resistive load (p.f.=1)	Inductive load (p.f.=0.4; L/R=7msec)	Resistive load (p.f.=1)	Inductive load (p.f.=0.4; L/R=7msec)
Rated load			220 VAC 15A, 24 VDC 10A		220 VAC 7.5A; 24 VDC 5A	
Carry current			15A		7.5A	
Maximum operating voltage			250 VAC, 250 VDC		250 VAC, 250 VDC	
Maximum operating current			15A		7.5A	
Maximum switching capacity			3,300VA, 240W		1,700VA, 120W	
Minimum permissible load (ref. value)			5 VDC 25mA			

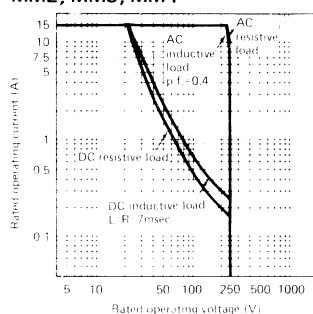
CHARACTERISTICS

Item	Type	Open type	Covered type
Contact resistance		25mΩ max.	50mΩ max.
Operate time		AC: 25msec max. DC: 50msec max.	
Release time		30msec max.	
Operating frequency		Mechanically: 7,200 operations/hour Electrically: 1,800 operations/hour (under rated load)	
Insulation resistance		100MΩ min. (at 500 VDC)	
Dielectric strength		2,000 VAC, 50/60Hz for 1 minute (1,500 VAC, 50/60Hz for 1 minute between the same poles)	
Vibration		Mechanical durability: 10 to 55Hz; 1.5mm double amplitude Malfunction durability: 10 to 50Hz; 1mm double amplitude	
Shock		Mechanical durability: 1,000m/s ² (approx. 100G's) Malfunction durability: 100m/s ² (approx. 10G's)	
Ambient temperature		Operating: -10 to +55°C	
Humidity		45 to 85% RH	
Service life		Mechanically: 5,000,000 operations min. (at operating frequency of 7,200 operations/hour) Electrically: See "CHARACTERISTIC DATA."	
Weight		MM2: Approx. 160g MM2P: Approx. 220g MM3: Approx. 270g MM3P: Approx. 360g MM4: Approx. 300g MM4P: Approx. 410g	

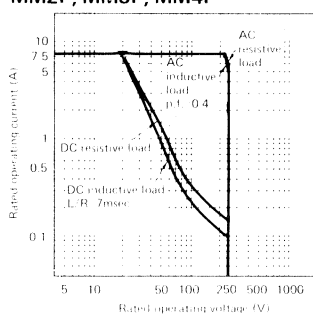
NOTE: The data shown are of initial value.

CHARACTERISTIC DATA

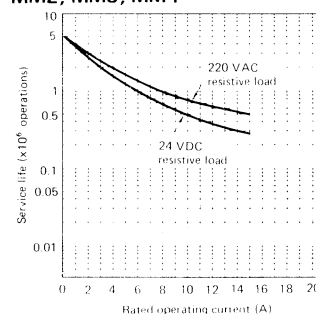
Maximum switching capacity MM2, MM3, MM4



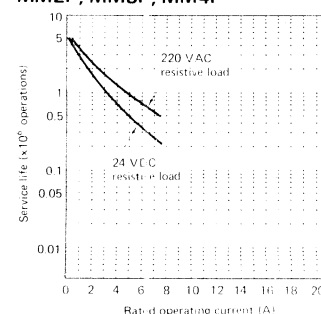
MM2P, MM3P, MM4P



Electrical service life MM2, MM3, MM4

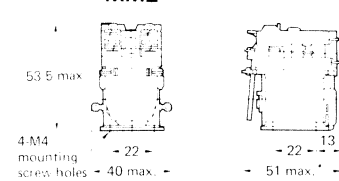


MM2P, MM3P, MM4P

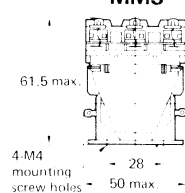


DIMENSIONS

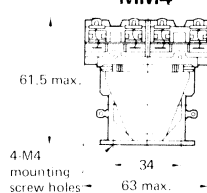
MM2



MM3

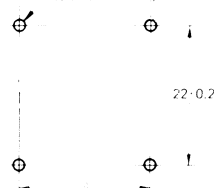


MM4



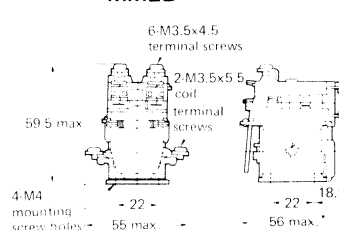
Mounting holes Direct mounting

4.4.5 dia. mounting holes

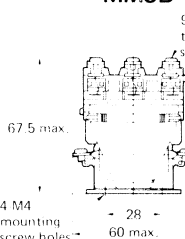


Dimension L
MM2(B): 22±0.2
MM3(B): 28±0.2
MM4(B): 34±0.2

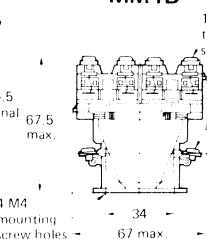
MM2B



MM3B

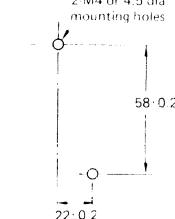


MM4B

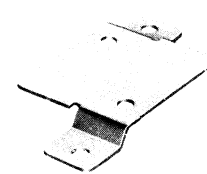


Mounting with S bracket

2 M4 or 4.5 dia. mounting holes

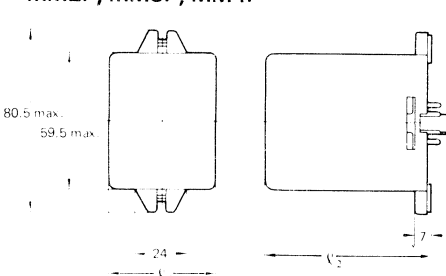


S bracket

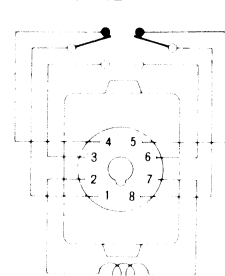


(Type R99-03MM)

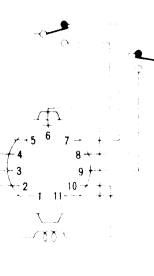
MM2P, MM3P, MM4P



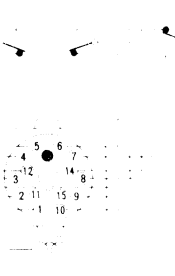
Terminal arrangements MM2P



MM3P



MM4P



Dimension L₁
MM2P: 47.5 max.
MM3P: 61.5 max.
MM4P: 79.5 max.
Dimension L₂
MM2P: 73 max.
MM3P: 81.5 max.
MM4P: 81.5 max.

NOTE: When mounting the relay, use the connecting socket shown in ACCESSORY.

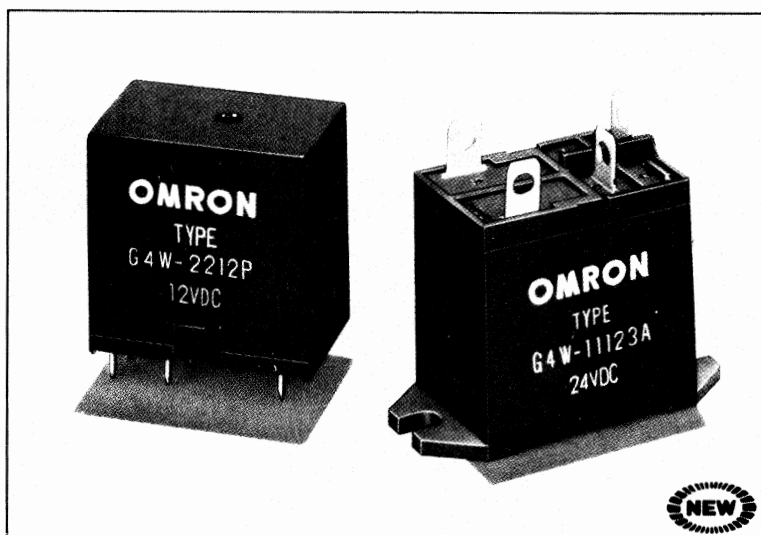
Boasts High Impulse Withstand Voltage (10KV) & Dielectric Strength (4KV)—Ideal for Power Switching

FEATURES

- Impulse withstand voltage of 10,000V between input and output (coil and contact).
- Creepage distance of 8mm min. between coil and contact fully meets VDE C/250 and dielectric strength of 4,000 VAC min. conforms to UL, CSA and IEC Class II.
- Both SPST-NO and DPST-NO types conform to TV ratings, TV-8 and TV-5, respectively.
- International 2.54mm terminal pitch.
- Low power consumption (0.8W).

AVAILABLE TYPES

Classifi- cation	Mounting style	Standard mounting	Upper mounting bracket
	Terminal Contact form	PCB	Solder
Standard type	SPST-NO	G4W-1112P	G4W-11123A
	DPST-NO	G4W-2212P	—
Standard approved type	SPST-NO	G4W-1112P-US	G4W-11123A-US
	DPST-NO	G4W-2212P-US	—



STANDARD TYPE

OMRON

SPECIFICATIONS

COIL RATINGS

Item	Rated voltage	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Must operate voltage	Must dropout voltage	Maximum voltage	Power consumption (mW)
				Armature OFF	Armature ON				
	12 VDC	66.7	180	—	—	80 max.	10 min.	110	Approx. 800
	24 VDC	33.3	720	—	—				
	100 VDC	8	12,500	—	—				

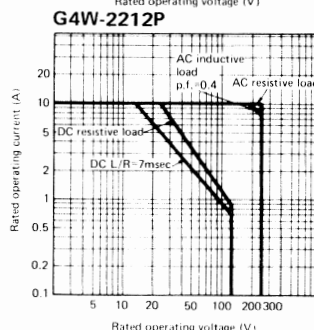
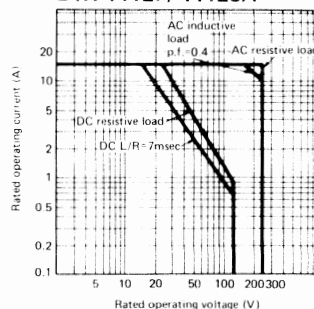
NOTE: The rated current and coil resistance are measured at a coil temperature of 20°C with tolerances of ±15%.

CONTACT RATINGS

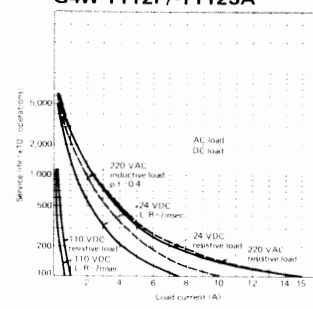
Type	G4W-1112P, G4W-11123A		G4W-2212P	
	Resistive load (p.f.=1)	Inductive load (p.f.=0.4, L/R=7msec)	Resistive load (p.f.=1)	Inductive load (p.f.=0.4, L/R=7msec)
Item				
Rated load	220 VAC 15A	220 VAC 10A	220 VAC 10A	220 VAC 7.5A
Carry current	15A		10A	
Max. operating voltage	250 VAC		250 VAC	
Max. operating current	15A		10A	
Max. switching capacity	3,750VA	2,500VA	2,500VA	1,850VA
Min. permissible load (ref. value)	5 VDC 100mA			

CHARACTERISTIC DATA

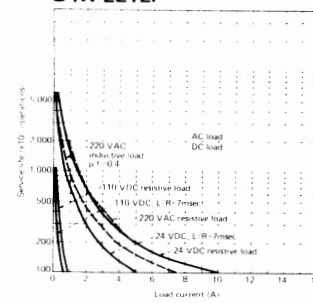
Max. switching capacity G4W-1112P/-11123A



Electrical service life G4W-1112P/-11123A



G4W-2212P



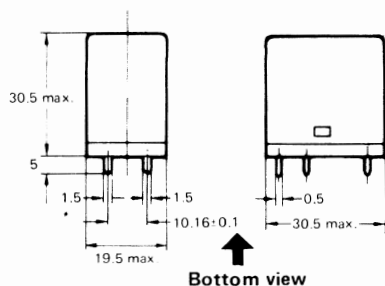
CHARACTERISTICS

Contact resistance	30mΩ max.
Operate time	20msec max.
Release time	5msec max.
Operating frequency	Mechanically: 18,000 operations/hour Electrically: 1,800 operations/hour (under rated load)
Insulation resistance	100MΩ min. (at 500 VDC)
Dielectric strength	4,000 VAC, 50/60Hz for 1 minute between coil and contact 2,000 VAC, 50/60Hz for 1 minute between contacts of same pole 2,000 VAC, 50/60Hz for 1 minute between contacts of different poles
Vibration	Mechanical durability: 10 to 55Hz; 1.5mm double amplitude Malfunction durability: 10 to 55Hz; 1.5mm double amplitude
Shock	Mechanical durability: 1,000m/sec ² (approx. 100G's) Malfunction durability: 150m/sec ² (approx. 15G's)
Ambient temperature	Operating: -25 to +55°C
Humidity	45 to 85% RH
Service life	Mechanically: 5,000,000 operations min. (at operating frequency of 18,000 operations/hour) Electrically: See "CHARACTERISTIC DATA."
Weight	Approx. 29g

NOTE: The data shown above are of initial value.

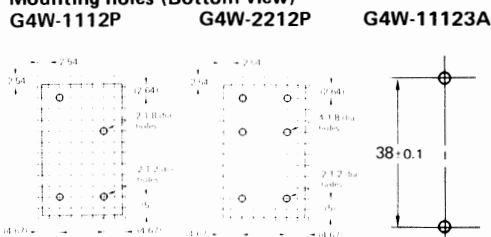
DIMENSIONS

G4W-1112P, G4W-2212P

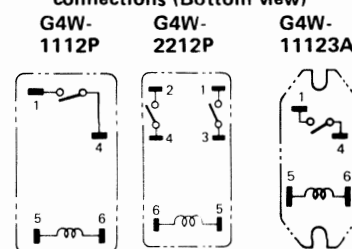


* Coil width terminal is 0.75mm.

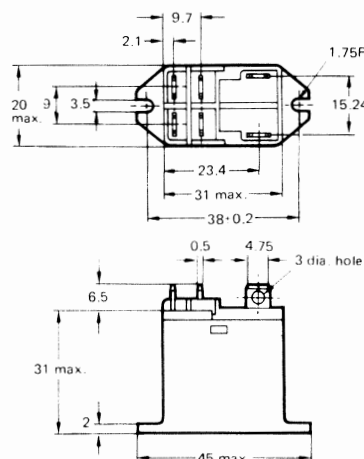
Mounting holes (Bottom view)



Terminal arrangement/Internal connections (Bottom view)

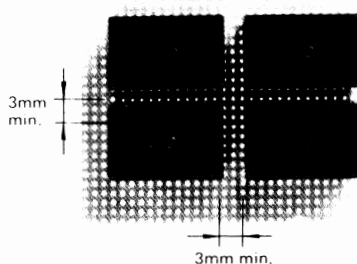


G4W-11123A, G4W-22123A



HINTS ON CORRECT USE

When a number of relays are to be mounted on a PC board, be sure to provide mounting space as shown below.



STANDARD APPROVED TYPE

When placing your order for UL and CSA approved versions, please indicate "UL" or "CSA" as desired in addition to the model number.

SPECIFICATIONS/DIMENSIONS

Same as the Standard Type with the following exceptions.

RATINGS

- UL recognized type (File No. E41515)
- CSA certified type (File No. LR31928)

Type	No. of poles	Coil rating	Contact ratings
G4W-1112P G4W-11123P	1	6 to 120 VDC	15A 24 VDC (inductive load) 15A 250 VAC (inductive load) TV-8
G4W-2212P	2		10A 24 VDC (resistive load) 10A 250 VAC (inductive load) TV-5

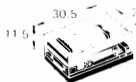
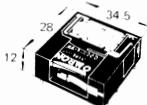
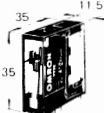
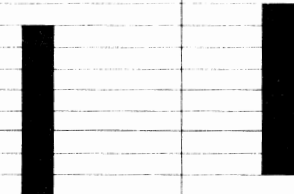
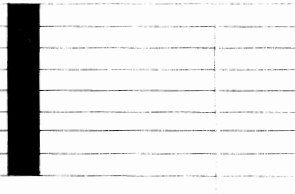
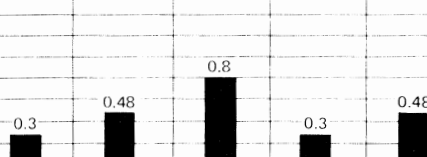
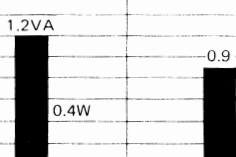
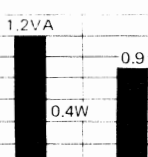
NOTE: ALL DIMENSIONS SHOWN IN THIS CATALOG ARE IN UNITS OF MILLIMETERS.
To convert millimeters into inches multiply by 0.03937. To convert grams into ounces multiply by 0.03527.

PC BOARD-USE RELAYS

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SELECTION GUIDE

Applications	Interface										
	Signal control										
	Power drive										
Model (Type)		LZN					G2C				
		LZN2	LZN4	LZN6	LZN203	LZN403	G2C-212P	G2C-212P-V	G2C-412P	G2C-412P-V	G2C-232P(-V)
Features		Low profile relay with 3A switching capacity. Sealed, latching and make-before-break contact types are also available.					Low profile, PC board-use relay ideal for high-density circuit design				
Appearance & dimensions		   LZN2 LZN4 LZN6					  G2C-212P G2C-412P-V				
Contact ratings	Contact form	DPDT	4PDT	6PDT	DPDT	4PDT	DPDT	4PDT	DPDT	4PDT	
	Contact type	Bifurcated crossbar					Single crossbar		Bifurcated crossbar		
	Contact material	AgPd (Au clad)			Ag (Au clad)		AgNi (Au plated)		AgPd		
		AgPd (Au clad)			Ag (Au clad)		Ag (Au plated)		AgPd (Au clad)		
	Max. operating current (under resistive load)	10A									
		8A									
		5A									
Minimum permissible load	3A	0.1 VDC 100μA					5 VDC 1mA		1 VDC 1mA		
	2A										
	1A										
Rated load (under resistive load)	0.5A	110 VAC 0.5A 24 VDC 1A					220 VAC/24 VDC 3A		110 VAC 0.5A 24 VDC 1A		
	0.3A										
	0.25A										
Coil ratings	Rated voltage (V)	DC 5, 6, 12, 24, 48, 60					AC 6, 12, 24, 50, 100, 110, 200, 220 DC 5, 6, 12, 24, 48, 100				
	Power consumption										
Service life	Mechanically	100 x 10 ⁶ min.					50 x 10 ⁶ min.		5 x 10 ⁶ min.		
Approved standards		UL CE					UL CE				
Page		73					77				