




- High capacity, High dielectric strength relay
- Compatible with momentary voltage drops

- No contact chattering for momentary voltage drops up to 50% of rated voltage.
- Wide range AC-activated coil that handles 100 to 120 or 200 to 240VAC at either 50 or 60Hz.
- Miniature hinge for maximum switching power, particularly for inductive loads.
- Flame resistance materials (UL94V-0-qualifying) used for all insulation material.
- Quick-connect, screw, and PCB terminals, and DIN track mounting available.



### Ordering information

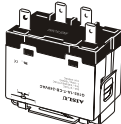
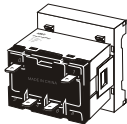
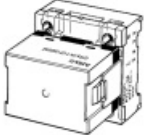
Mounting type	Contact form	Quick-connect terminals 	Screw terminals 	PCB terminals 
E-bracket	SPST-NO	G105-1A-T	G105-1A-B	—
	DPST-NO	G105-2A-T	G105-2A-B	—
E-bracket (with test button)	SPST-NO	G105-1A-TJ	G105-1A-BJ	—
	DPST-NO	G105-2A-TJ	G105-2A-BJ	—
Upper bracket	SPST-NO	G105-1A-TUB	G105-1A-BUB	—
	DPST-NO	G105-2A-TUB	G105-2A-BUB	—
Upper bracket (with test button)	SPST-NO	G105-1A-TUBJ	G105-1A-BUBJ	—
	DPST-NO	G105-2A-TUBJ	G105-2A-BUBJ	—
PCB mounting	SPST-NO	—	—	G105-1A-P
	DPST-NO	—	—	G105-2A-P

**Note:** 1. When ordering, add the insulation level and rated coil voltage to the model number.

Example: G105-2A-T-**CF-120VAC**

Insulation level ——— **CF** ——— Rated coil voltage

■ Accessories (Order separately)

Terminals	Contact Form	Model	R99-07 E-brackets 	P7LF-D DIN Track Mounting Adapter 	P7LF-06 Front connecting socket 
Quick-connect terminals	SPST-NO	G105-1A-T	YES	YES	YES
		G105-1A-TJ	YES	YES	YES
	DPST-NO	G105-2A-T	YES	YES	YES
		G105-2A-TJ	YES	YES	YES
Screw terminal	SPST-NO	G105-1A-B	YES	YES	NO
		G105-1A-BJ	YES	YES	NO
	DPST-NO	G105-2A-B	YES	YES	NO
		G105-2A-BJ	YES	YES	NO

Applicable relay	Name	Model
G105-1A-T / G105-1A-TJ / G105-1A-B / G105-1A-BJ G105-2A-T / G105-2A-TJ / G105-2A-B / G105-2A-BJ	E - bracket	R99-7
	Adapter	P7LF-D
G105-1A-T / G105-1A-TJ / G105-2A-T / G105-2A-TJ	Front-connecting Socket	P7LF-06
G105-1A-B / G105-1A-BJ / G105-1A-BUB / G105-1A-BUBJ G105-2A-B / G105-2A-BJ / G105-2A-BUB / G105-2A-BUBJ	Cover	P7LF-C

MODEL NUMBER LEGEND

G105 -              

1            2            3            4            5            6

**1.Contact Form**

1A: SPST-NO  
2A: DPST-NO

**2.Terminal shape**

T: Quick-connect terminals  
P: PCB terminals  
B: Screw terminals

**3.Mounting construction**

Blank: E-bracket  
UB: Upper bracket

**4.Special functions**

Blank: Standard mode  
J: With test button

**5.Insulation level**

CF: Class F  
CB: Class B

**6.Rated coil voltage**

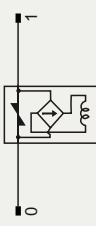

AC: 12, 24, 50, 100 to 120, 200 to 240  
DC: 6, 12, 24, 48, 100

**Application Examples**

- Compressor for air conditioners and heaterswitching controllers.
- Switching controllers for power tools or motors.
- Power controllers for water heaters.
- Power controllers for dryers
- Lamp controls, motordrivers, and power supply switching in copy machines, facsimile machines, and other office equipment.
- Lighting controllers.
- Power controllers for packers or food processing equipment.
- Magnetron control in microwaves.

### Specifications

#### Coil Ratings

Rated voltage	Rated current	Coil resistance	Must operate voltage	Must release voltage	Max.voltage	Power consumption (approx.)	Coil internal circuit	
AC(~)	12V	142 mA	—	75% max. Of rated voltage	15% min. Of rated voltage	110% Of rated voltage		
	24V	71 mA						
	50V	34 mA						
	100 to 120V	17.0 to 20.4 mA	75V	18V	132V			
	200 to 240V	8.5 to 10.2mA	150V	36V	264V			
DC(=)	6V	317 mA	18.9 Ω	75% max. Of rated voltage	15% min. Of rated voltage	110% Of rated voltage		
	12V	158 mA						75 Ω
	24V	79 mA						303 Ω
	48V	40 mA						1220 Ω
	100V	19 mA						5260 Ω

- Note:**
- The rated current and coil resistance are measured at a coil temperature of 23°C with tolerances of +15%/-20% for AC rated current and ±15% for DC coil resistance.
  - Performance characteristic data measured at a coil temperature of 23°C.
  - ~ indicates AC and = indicates DC (IEC417 publications).

#### Contact Ratings

Load	G105-1A-T, G105-1A-B		G105-2A-T, G105-2A-B		G105-1A-P, G105-2A-P	
	Resistive load (cosφ =1)	Inductive load (cosφ =0.4)	Resistive load (cosφ =1)	Inductive load (cosφ =0.4)	Resistive load (cosφ =1)	Inductive load (cosφ =0.4)
Rate load	30A, 220VAC		25A, 220VAC		20A, 220VAC	
Contact material	AgCdO					
Carry current	30A		25A		20A	
Max.Operating voltage	250VAC					
Max.Operating current	30A		25A		20A	
Max.Switching capacity	6,600VA	5,500VA			4,400VA	
Min.Permissible load	100mA, 5VDC					

**Note:** P level:  $\lambda_{60}=0.1 \times 10^{-6}$  /operation

#### Characteristics

<b>Contact resistance</b>		50mΩ max
<b>Operate time</b>		30ms max
<b>Release time</b>		30ms max
<b>Max.operating frequency</b>	<b>Mechanical</b>	1,800 operations/hour
	<b>Electrical</b>	1,800 operations/hour (under rated load)
<b>Insulation resistance</b>		1,000mΩ min.(at 500VDC)
<b>Dielectric strength</b>		4,000VAC, min./5,000VAC typical, 50/60Hz for 1 minute between coil and contacts
		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 (DPST-NO type)
<b>Impulse withstand voltage</b>		Between coil and contact: 10,000V (impulse wave used: 1.20x50 <sup>μ</sup> s )
<b>Vibration</b>	<b>Mechanical durability</b>	10 to 55 Hz, 1.50mm(0.06in) double amplitude
	<b>Malfunction durability</b>	10 to 55 Hz, 1.50mm(0.06in) double amplitude
<b>Shock</b>	<b>Mechanical durability</b>	1,000m/s <sup>2</sup> (approx. 100G)
	<b>Malfunction durability</b>	1,000m/s <sup>2</sup> (approx. 100G)
<b>Life expectancy</b>	<b>Mechanical</b>	5,000,000 operations min.(at 1,800 operations/hour)
	<b>Electrical</b>	100,000 operations min.(at 1,800 operations/hour under rated load)
<b>Ambient temperature</b>		-20°C to 85°C (-4°F to 185°F)
<b>Humidity</b>		35% to 85%RH
<b>Weight</b>	Quick-connect terminal type: approx. 90g(3.17oz)	
	PCB terminal type: approx. 100g(3.52oz)	
	Screw terminal type: approx. 120g(4.32oz)	

**Note:** Data shown are of initial value.

■ **Approved by standards**

UL/CSA:UL508 recognitions

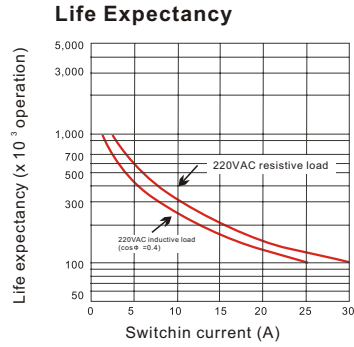
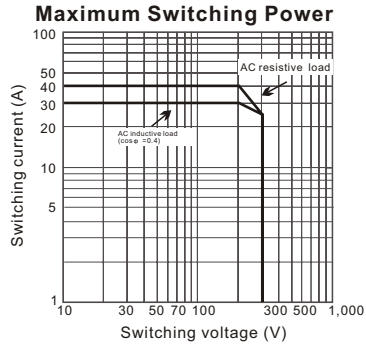
Model	Contact Form	Coil Ratings	Contact Ratings
G105-1A-T G105-1A-B	SPST-NO	12 to 240VAC 5 to 220VDC	40A @ 277VAC (RES) 30A @ 277VAC (GEN) 30A @ 120VAC (GEN)  1.5HP@120VAC 3P @ 277VAC  20FLA/120LRA @ 120VAC 17FLA/102LAR @ 265VAC
G105-2A-T G105-2A-B	DPST-NO		30A @ 277VAC (RES) 25A @ 277VAC (GEN) 25A @ 120VAC (GEN)  1.5HP@120VAC 3P @ 277VAC  20FLA/120LRA @ 120VAC 17FLA/102LAR @ 265VAC
G105-1A-P G105-2A-P	SPST-NO DPST-NO		20A @ 277VAC (RES) 20A @ 277VAC (GEN) 20A @ 120VAC (GEN)  1.5HP@120VAC 3P @ 277VAC  20FLA/120LRA @ 120VAC 17FLA/102LAR @ 265VAC

TÜV/CE, IEC950, EN60950

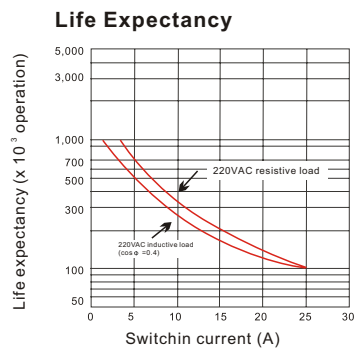
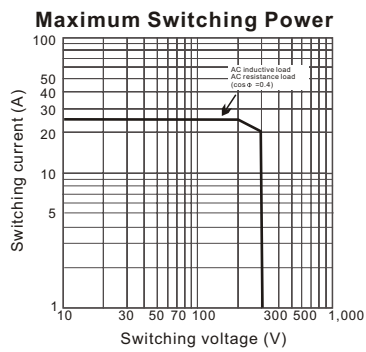
Model	Contact Form	Coil Ratings	Contact Ratings
G105-1A-T G105-1A-B	SPST-NO	6, 12, 24, 48, 100, 110, 200, 220VDC	30A, 240VAC (cosΦ =1.0) 25A, 240VAC (cosΦ =0.4) 30A, 120VAC (cosΦ =0.4)
G105-2A-T G105-2A-B	DPST-NO	12, 24, 50, 100 to 120, 200 to 240 VAC	25A, 240VAC (cosΦ =1.0) 25A, 240VAC (cosΦ =0.4)
G105-1A-P G105-2A-P	SPST-NO DPST-NO		20A, 240VAC (cosΦ =1.0) 20A, 240VAC (cosΦ =0.4)

## ■ Characteristic Data

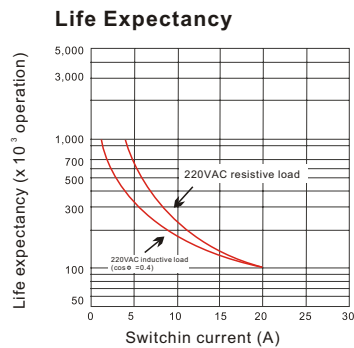
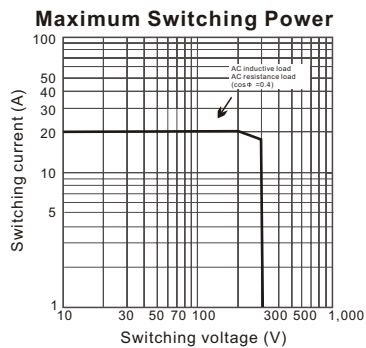
### G105-1A-T / G105-1A-B



### G105-2A-T / G105-2A-B



### G105-1A-P / G105-2A-P

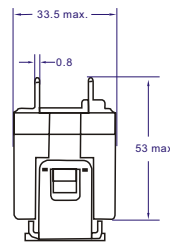
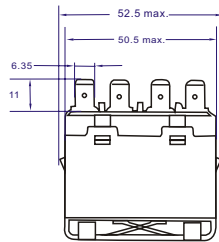
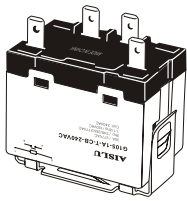


## Dimensions

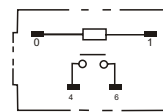
**Note:** 1. All units are in millimeters unless otherwise indicated.  
2. E-brackets are sold separately.

### ■ Quick - connect Terminals with E-bracket

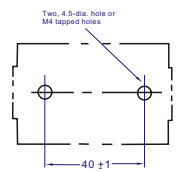
#### G105-1A-T



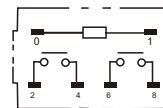
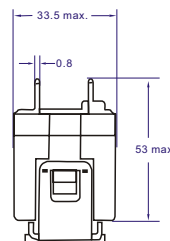
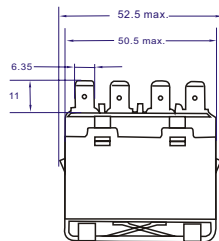
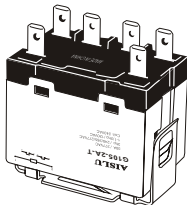
Terminal Arrangement/  
Internal Connections  
(Top View)



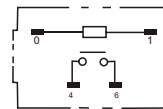
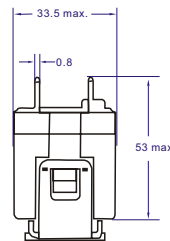
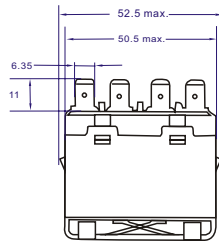
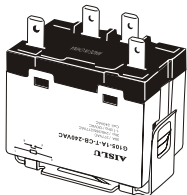
Mounting Holes



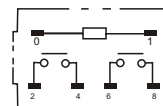
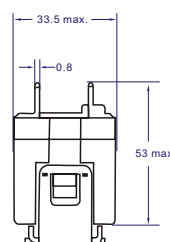
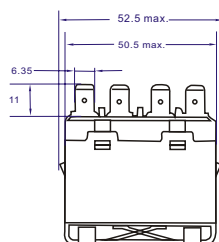
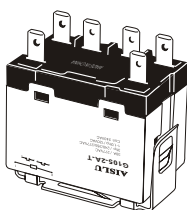
#### G105-2A-T



#### G105-1A-TJ (With test button)

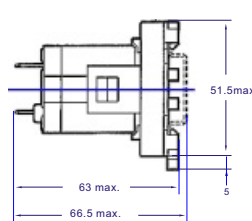
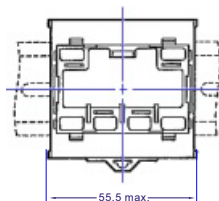
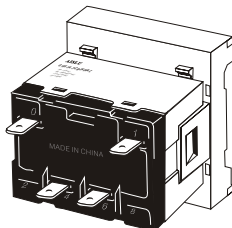


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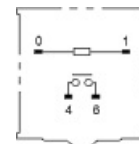


### ■ Quick - connect Terminals with DIN Track Mounting Adapter

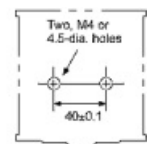
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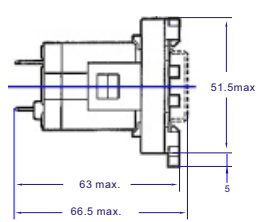
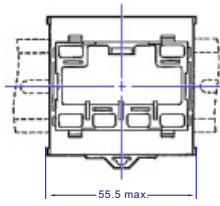
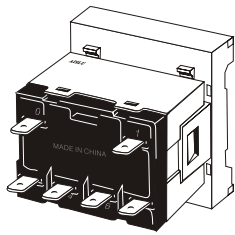
Terminal Arrangement/  
Internal Connections  
(Top View)



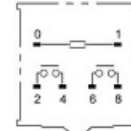
Mounting Holes



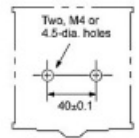
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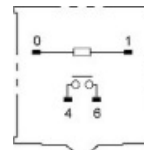
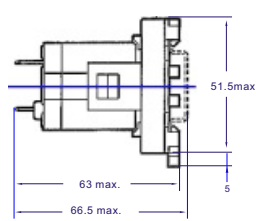
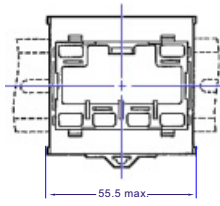
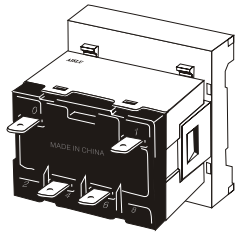
Terminal Arrangement/  
Internal Connections  
(Top View)



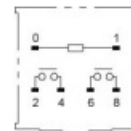
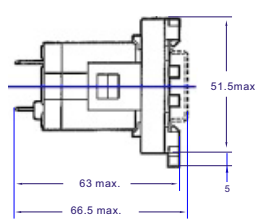
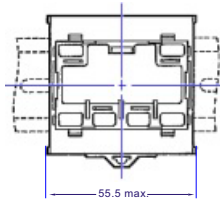
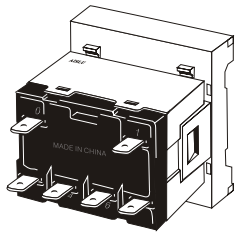
Mounting Holes



### G105-1A-TJ (With test button)



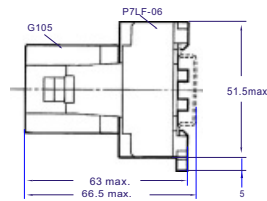
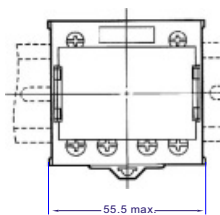
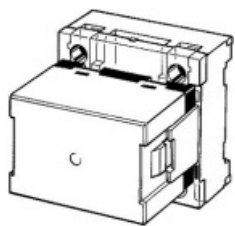
### G105-2A-TJ (With test button)



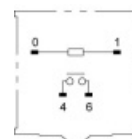
### ■ Quick - connect Terminals with Front-connecting socket

- Note:** 1. The Front-connecting socket and DIN tracks are sold separately.  
2. The Fron-connecting can betrack-mounted or screw-mounted.

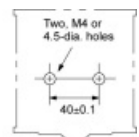
### G105-1A-T



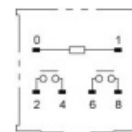
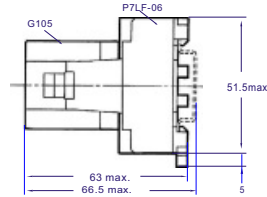
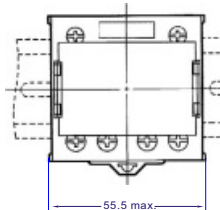
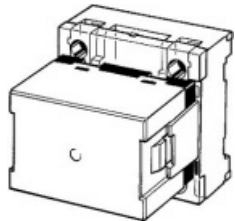
Terminal Arrangement/  
Internal Connections  
(Top View)



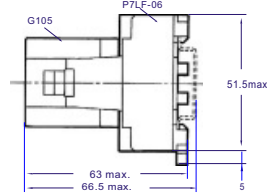
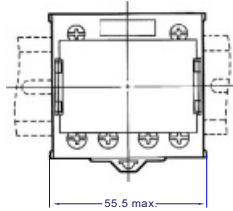
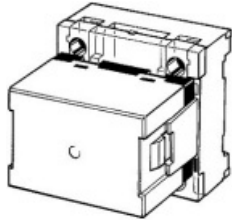
Mounting Holes



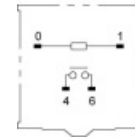
### G105-2A-T



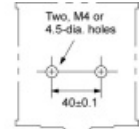
### G105-1A-TJ (With test button)



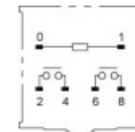
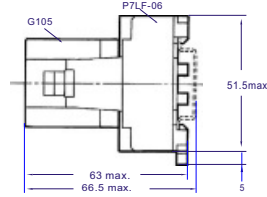
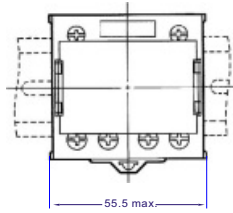
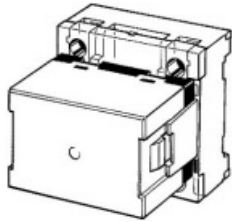
Terminal Arrangement/  
Internal Connections  
(Top View)



Mounting Holes

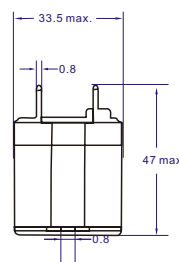
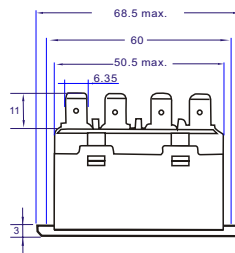
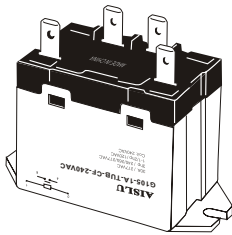


### G105-2A-TJ (With test button)

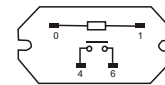


## Quick - connect Terminals with Upper Bracket

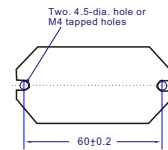
### G105-1A-TUB



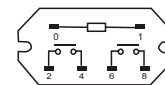
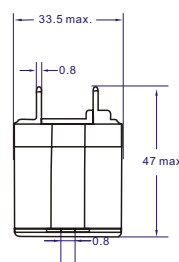
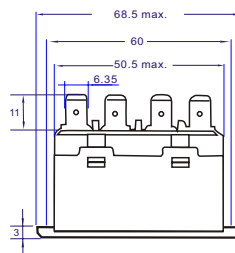
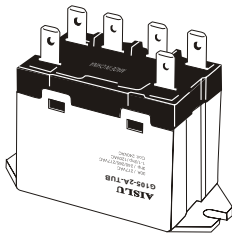
Terminal Arrangement/  
Internal Connections  
(Top View)



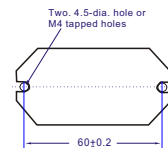
Mounting Holes



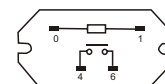
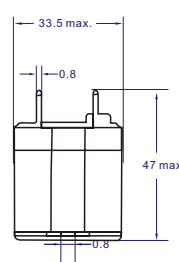
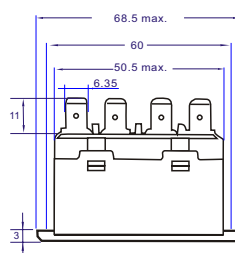
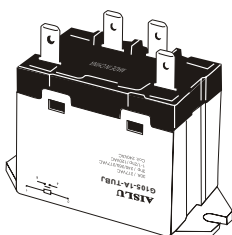
### G105-2A-TUB



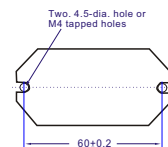
Mounting Holes



### G105-1A-TUBJ (With test button)

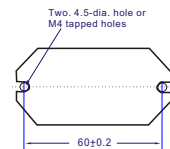
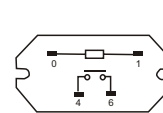
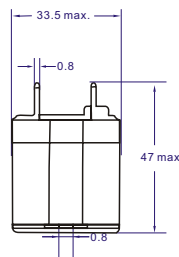
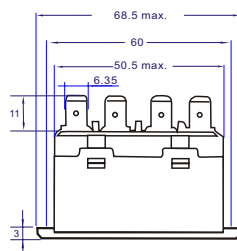
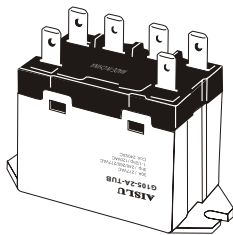


Mounting Holes



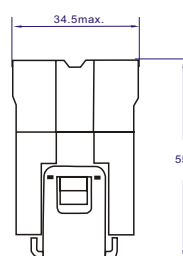
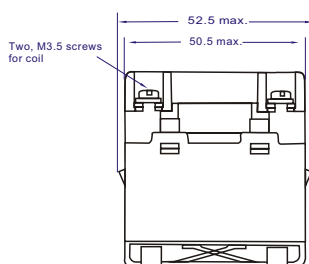
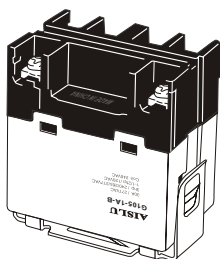


### G105-2A-TUBJ (With test button)

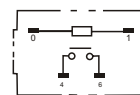


### ■ Screw terminals with E-bracket

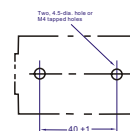
#### G105-1A-B



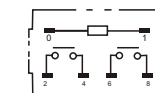
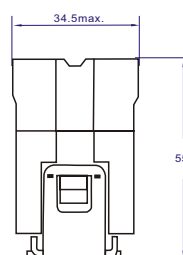
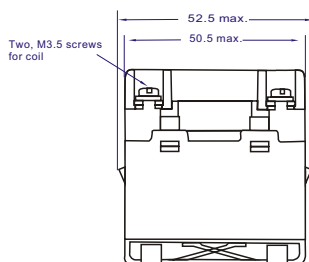
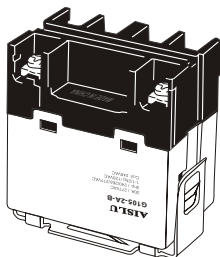
Terminal Arrangement/  
Internal Connections  
(Top View)



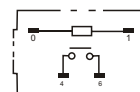
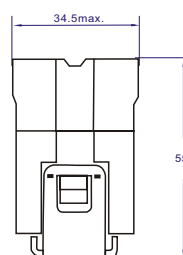
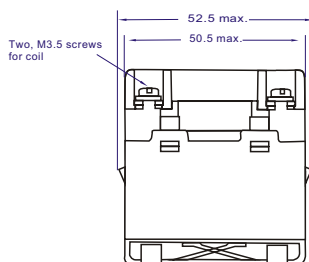
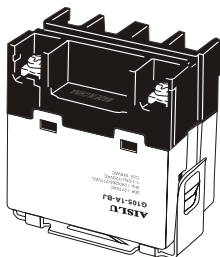
Mounting Holes



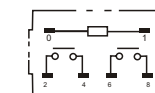
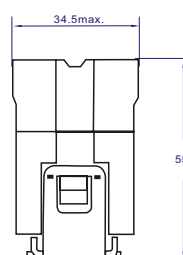
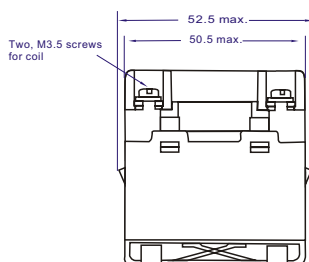
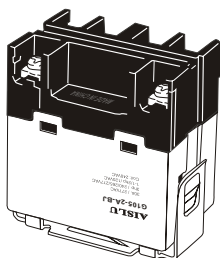
#### G105-2A-B



#### G105-1A-BJ (With test button)



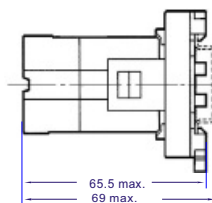
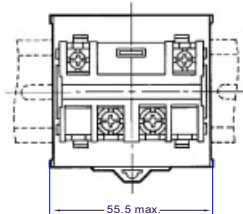
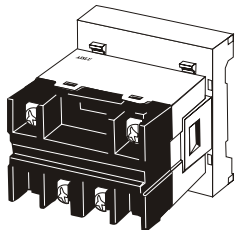
#### G105-2A-BJ (With test button)



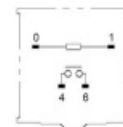
■ Screw terminals with DIN Track Mounting Adapter

Note: 1. The DIN Track Mounting Adapter and DIN tracks are sold separately.  
2. The DIN Track Mounting Adapter can be track-mounted or screw-mounted.

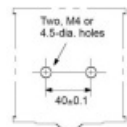
**G105-1A-B**



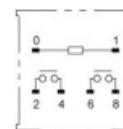
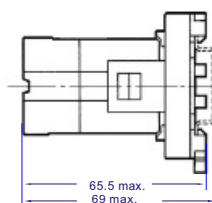
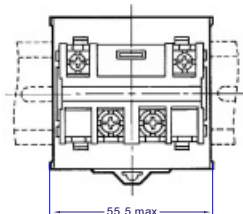
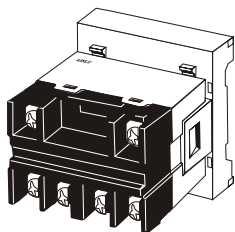
Terminal Arrangement/  
Internal Connections  
(Top View)



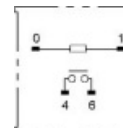
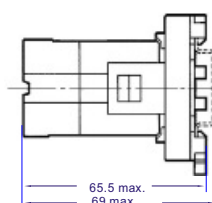
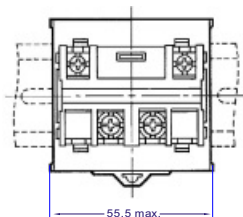
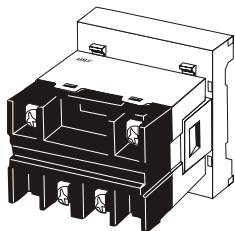
Mounting Holes



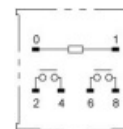
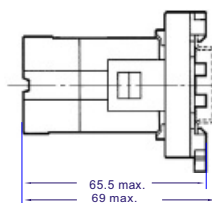
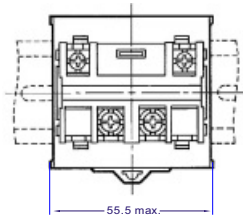
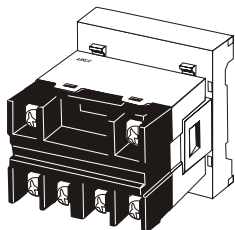
**G105-2A-B**



**G105-1A-BJ** (With test button)

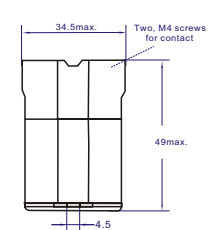
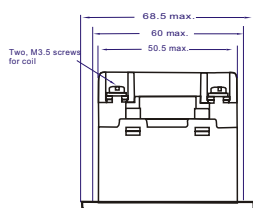
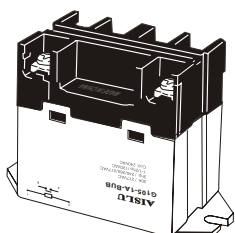


**G105-2A-BJ** (With test button)

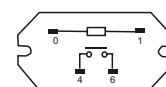


■ Screw terminals with Upper Bracket

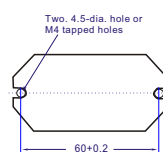
**G105-1A-BUB**



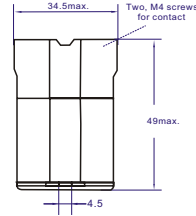
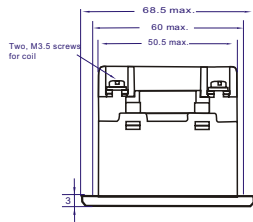
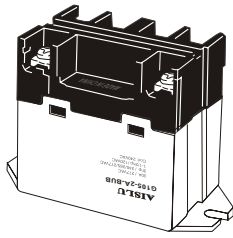
Terminal Arrangement/  
Internal Connections  
(Top View)



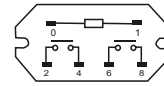
Mounting Holes



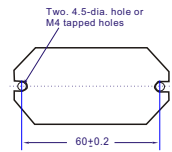
### G105-2A-BUB



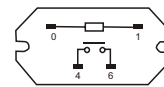
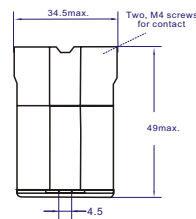
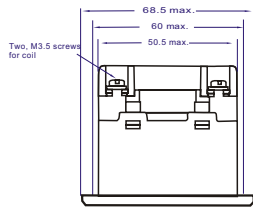
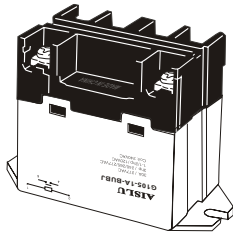
Terminal Arrangement/  
Internal Connections  
(Top View)



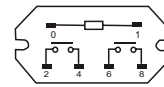
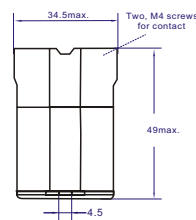
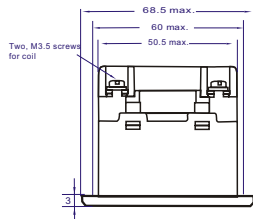
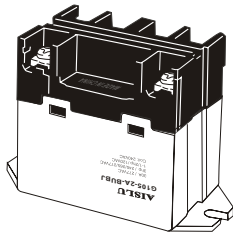
Mounting Holes



### G105-1A-BUBJ (With test button)

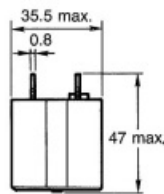
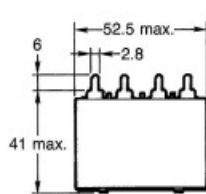
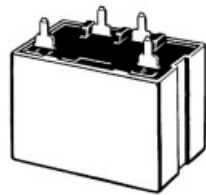


### G105-2A-BUBJ (With test button)

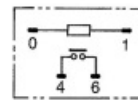


## ■ PCB terminals with PCB Mounting

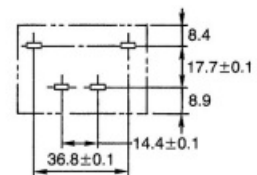
### G105-1A-P



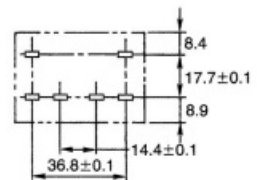
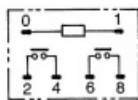
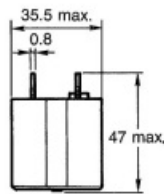
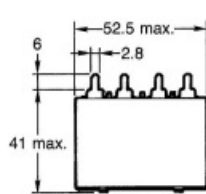
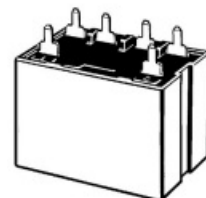
Terminal Arrangement/  
Internal Connections  
(Top View)



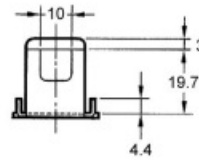
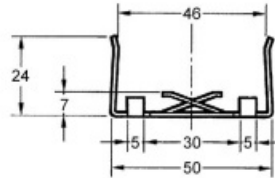
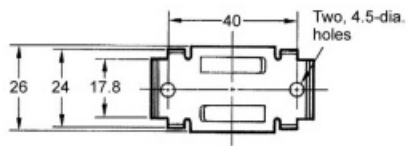
Mounting Holes



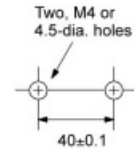
### G105-2A-P



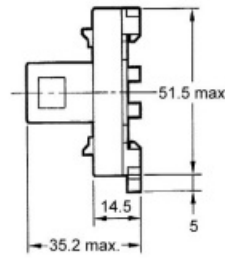
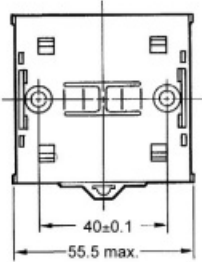
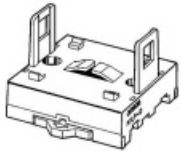
### R99-07G5D E-bracket



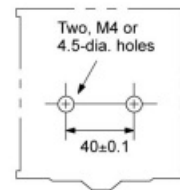
### Mounting Holes (Bottom View)



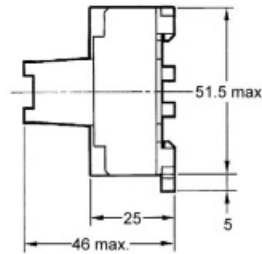
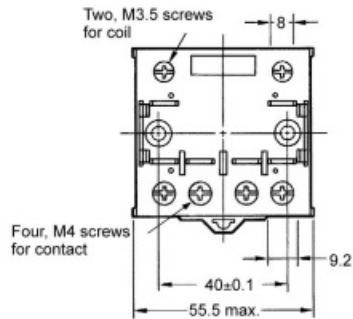
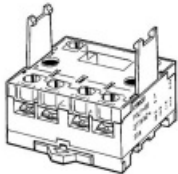
### P7LF-D Adapter



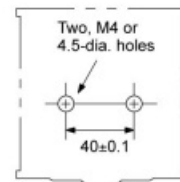
### Mounting Holes (Bottom View)



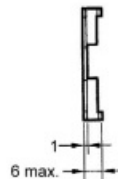
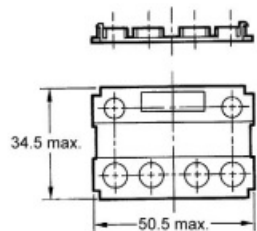
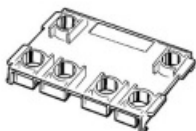
### P7LF-06 Front-connecting Socket



### Mounting Holes (Bottom View)



### P7LF-C Cover



Put the P7LF-C cover onto the terminals in order to protect the user from electric shock.