



## ■ Accessories

### Socket

Applicable Relay	Model
All G7T I/O Relay and the G3TA models.	P7TF-05

### P70 Indicator Module

Remove the transparent style strip of the Socket and mount this module. It will function as an operation indicator with surge suppression.

Model	Applicable Relay coil voltage	Remarks
For AC Relay	P70A	100/110 VAC
		200/220 VAC
For DC Relay	P70D	12/24 VDC

- Note:**
1. Order the Indicator Module that is suited to the Relay coil voltage.
  2. The Indicator Module for DC Relays has a multiple power supply common to 12 and 24 VDC.
  3. Input current (reference values):  
 100/110 VAC: 1.14 to 1.38 mA  
 200/220 VAC: 1.40 to 1.71 mA  
 12/24 VDC: 4.83 to 5.90 mA

## Specifications

### ■ Ratings

#### Coil Ratings (Common to Both Input and Output)

Rated voltage (V)	Item	Rated current		Coil resistance	Must operate voltage	Must release voltage	Max. voltage	Power consumption
		50 Hz	60 Hz					
AC	100/110	8.2/9 mA	7/7.7 mA	8,700 Ω	80% max. of rated value	30% min. of rated value	110% of rated value	0.7 VA
	200/220	4.1/4.5 mA	3.5/3.85 mA	33,300 Ω				
DC	12	42 mA		290 Ω	80% max. of rated value	10% min. of rated value	110% of rated value	0.5 W
	24	21 mA		1,150 Ω				
	100/110	5 mA		20,000 Ω	80% max. of rated value	10% min. of rated value	110% of rated value	0.5 W

- Note:**
1. The rated current and coil resistance values are measured at a coil temperature of 23°C. Tolerances of AC rated current are +15%, -20% and tolerances of coil resistance are ±15%.
  2. Four rated voltages or currents are available to single AC models used with the P7TF-05 Socket. Only three rated voltages or currents are available, however, when the Relay is used in place of the G7TC.
  3. The operating characteristics values are for a coil temperature of 23°C.
  4. The maximum voltage is one that is applicable to the Relay coil instantaneously at 23°C and not continuously.

#### Contact Ratings

Item	Classification	For input		For output	
		Resistive load (cosφ = 1)	Inductive load (L/R = 7 ms)	Resistive load (cosφ = 1)	Inductive load (cosφ = 0.4, L/R = 7 ms)
Contact mechanism	Crossbar bifurcated			Single	
Contact material	Au-clad Ag			AgSnIn	
Rated load		1 A at 24 VDC	0.5 A at 24 VDC	5 A at 24 VDC 2 A at 220 VAC	2 A at 24 VDC 1 A at 220 VAC
Rated carry current		1 A		5 A	
Max. switching voltage		250 VAC, 125 VDC			
Max. switching current		1 A		5 A	
Failure rate (reference value)		100 μA at 1 VDC		10 mA at 5 VDC	

## ■ Characteristics

<b>Contact resistance (see note 2)</b>	50 mΩ max.
<b>Operate time (see note 3)</b>	15 ms max.
<b>Release time (see note 3)</b>	15 ms max.
<b>Max. operating frequency</b>	Mechanical: 18,000 operations/hour Electrical: 1,800 operations/hour (under rated load)
<b>Insulation resistance (see note 4)</b>	100 MΩ (at 500 VDC)
<b>Dielectric strength</b>	Between coil and contacts: 2,000 VAC, 50/60 Hz for 1 minute Between contacts of same polarity: 1,000 VAC, 50/60 Hz for 1 minute
<b>Vibration resistance</b>	Malfunction: 10 to 55 to 10 Hz, 0.5 mm single amplitude (1.0 mm double amplitude)
<b>Shock resistance</b>	Malfunction: 200 m/s <sup>2</sup>
<b>Mechanical endurance</b>	50,000,000 operations
<b>Electrical endurance (see note 5)</b>	Input: 10,000,000 operations (10 mA) or 50,000 operations (1 A) with resistive load 2,500,000 operations (10 mA) or 20,000 operations (0.5 A) with inductive load Output: 1,000,000 operations with rated load
<b>Error rate (level P) (Reference value) (see note 6)</b>	Input: 100 μA at 1 VDC Output: 10 mA at 5 VDC
<b>Ambient temperature</b>	Operating: -40°C to 70°C (with no icing or condensation)
<b>Ambient humidity</b>	Operating: 5% to 85% (with no icing or condensation)
<b>Weight</b>	Approx. 17 g

**Note:** 1. The above values are all initial values.

2. The contact resistance was measured with 1 A at 5 VDC using the voltage drop method.

3. The operate and the release times were measured with the rated voltage imposed with any contact bounce ignored at an ambient temperature of 23°C.

4. The insulation resistance was measured with a 500-VDC megger applied to the same places as those used for checking the dielectric strength.

5. The electrical endurance was measured at an ambient temperature of 23°C.

6. This value was measured at a switching frequency of 120 operations per minute.

## ■ Socket Ratings

### Features

- Easily mounts or dismounts the G7T I/O Relay.
- Also mounts the Indicator Module (with surge suppressing function).
- Only 19 mm in width.
- Terminals corresponding to the NO and NC contacts of a Relay are arranged on top of the Socket to enhance maintainability.
- Also permits mounting of the G3TA Solid-state I/O Relay.

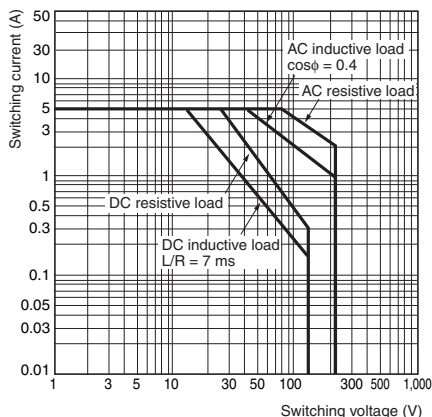
### Specifications

<b>Model</b>	P7TF-05
<b>Contact resistance *</b>	10 mΩ max.
<b>Dielectric strength</b>	2,000 VAC for 1 minute
<b>Insulation resistance</b>	1,000 MΩ min. (at 500 VDC)
<b>Vibration resistance</b>	10 to 55 to 10 Hz, 0.5 mm single amplitude (1.0 mm double amplitude)
<b>Shock resistance</b>	1,000 m/s <sup>2</sup>
<b>Ambient temperature</b>	Operating: -40°C to 70°C (with no icing or condensation)
<b>Ambient Humidity</b>	Operating: 5% to 85%RH
<b>Weight</b>	Approx. 28 g

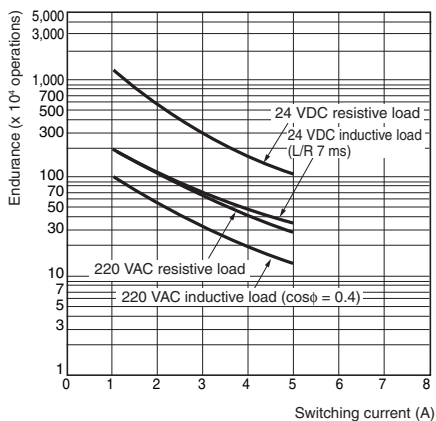
\* Measurement condition: 1 A at 5 VDC.

# Engineering Data

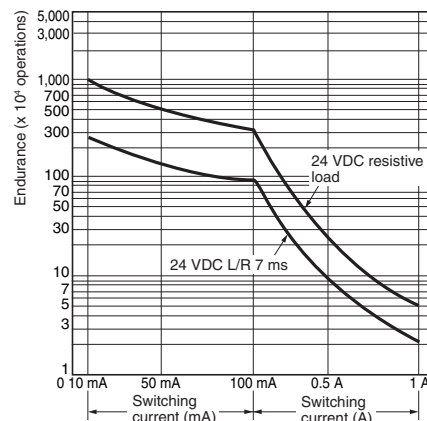
## Maximum Switching Power (Output Model with Life of 1,000,000 Operations)



## Electrical Endurance Output Relay



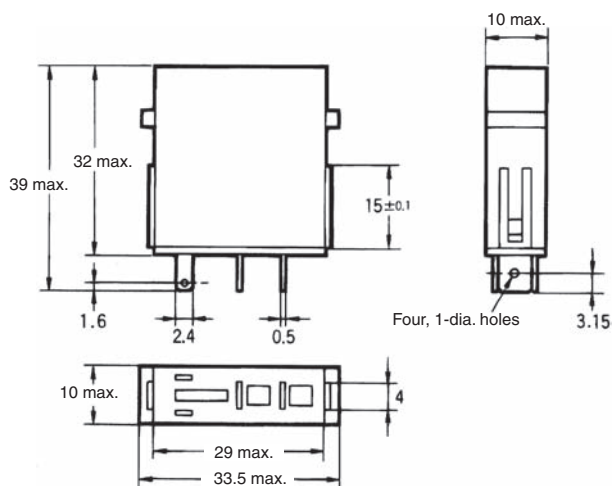
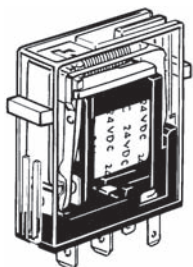
## Input Relay



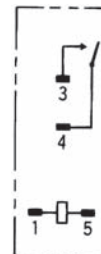
# Dimensions

Note: All units are in millimeters unless otherwise indicated.

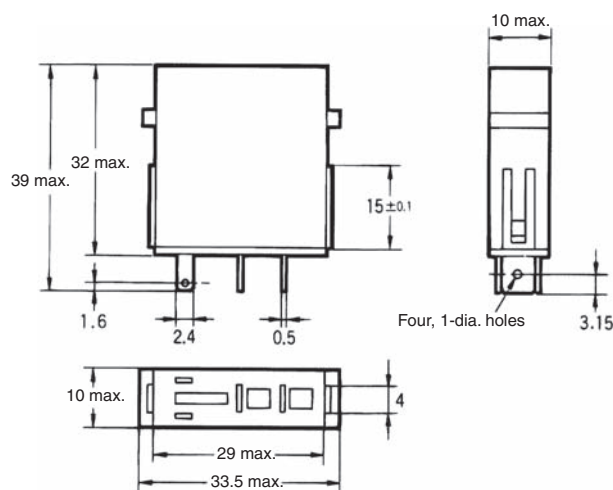
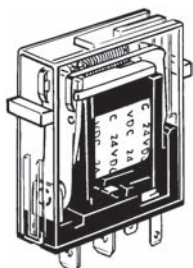
## SPST-NO Type G7T-1122S (for input) G7T-1112S (for output)



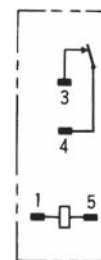
### Terminal Arrangement/ Internal Connections (Bottom View)



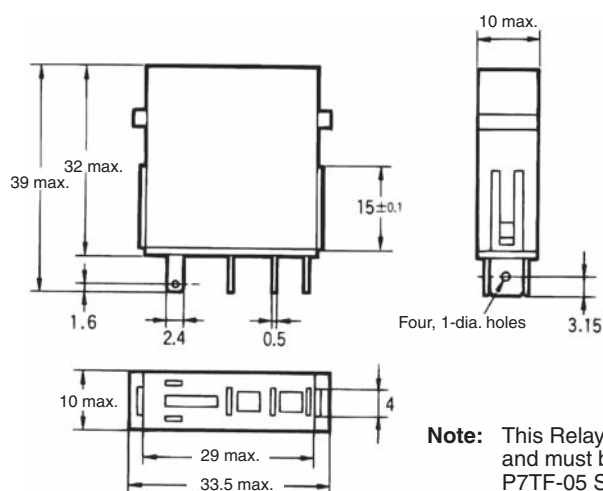
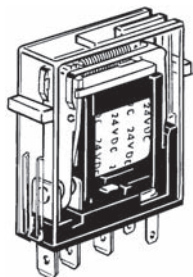
## SPST-NC Type G7T-1012S (for output)



### Terminal Arrangement/ Internal Connections (Bottom View)



## SPDT Type G7T-112S (for output)



### Terminal Arrangement/ Internal Connections (Bottom View)

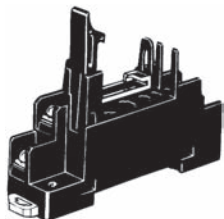


**Note:** This Relay cannot be used as an I/O relay terminals and must be used in combination with the exclusive P7TF-05 Socket.

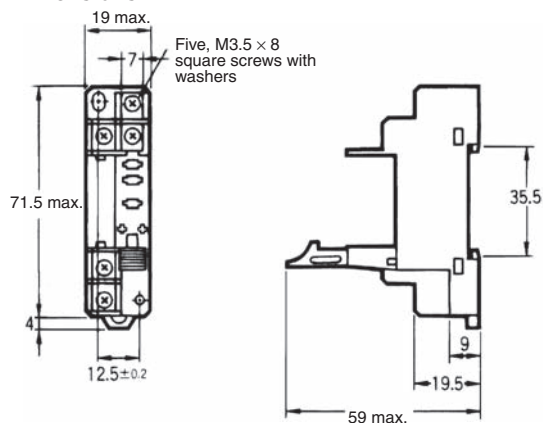
## ■ Accessories

### Socket

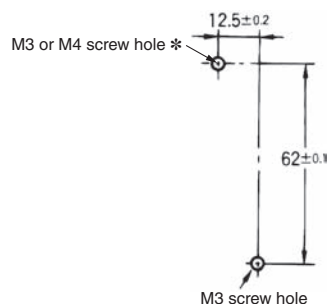
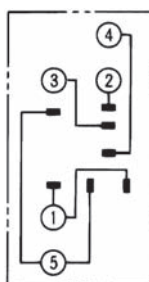
#### P7TF-05



#### Dimensions



#### Internal Connections (Top View)



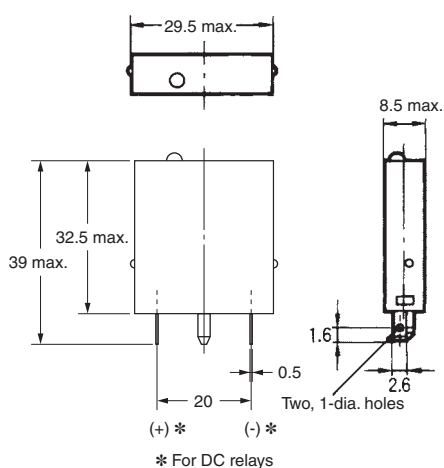
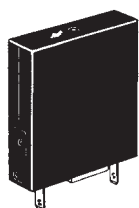
**Note:** If the I/O SSR or Indicator Module is used, be aware that the polarity of terminal 1 is positive.

\* We recommend that you insert washers when mounting with M3 screws. A washers are not required when mounting with M4 screws.

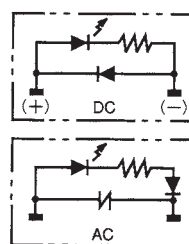
### Indicator Module (with Surge Suppressing Function)

#### P70□

#### Dimensions



#### Internal Connections



## Safety Precautions

Refer to *Safety Precautions for All Relays*.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

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

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