CSM_G7T_DS_E_4_1

Slim-styled I/O Relay Saves Space in Panel

- SPST-NO, SPST-NC, and SPDT contact forms available for output (SPST-NO only for input).
- Ultra-slim housing measuring 29 (W) x 10 (D) x 32 (H) mm.
- All Output Relays provide a long endurance (1,000,000 operations at 5 A), while all Input Relays provide microswitching power (100 μA at 1 V).
- Approved by UL and CSA standards.









Ordering Information

Refer to Safety Precautions for All Relays.

CI	assification	Model	Rated voltage
Input (bifurcated contact)	SPST-NO	G7T-1122S (see note 2)	12 VDC
			24 VDC
			100/110 VAC
			200/220 VAC
Output (single contact)	SPST-NO	G7T-1112S (see note 2)	12 VDC
			24 VDC
	SPST-NC	G7T-1012S	12 VDC
			24 VDC
	SPDT	G7T-112S	12 VDC
			24 VDC

- Note: 1. When ordering, add the rated voltage to the model number. Rated voltages are given in the coil ratings table in Specifications. Example: G7T-112S 12 VDC
 - 2. The G7T-1122S and G7T-1112S are approved by UL and CSA. Contact your OMRON representative for the coil ratings of other models. The G7T-112S cannot be used in place of the G7TC. The G7T-112S can only be used with the P7TF-05 Socket.
 - 3. "Input" and "output" indicate the I/O relationship to a PLC. Input Relays are mainly suitable for input signals to a PLC or other device. Output Relays are mainly suitable to switching loads that receive output signals from a PLC or other device. The Input and Output Relays have different switching performances. Select a suitable Relay for the application.

Model Number Legend



- 1. No. of Contact Poles
- 2. Contact Form

No indication: Transfer contact
Number: Number of NO contacts

- 3. Contact Mechanism
 - 1: Single contact
 - 2: Bifurcated contact
- 4. Enclosure Construction
 - 2: Casing
- 5. Terminal Type
 - S: Plug-in Terminal

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	Surge suppressing system with varistor	
		200/220 VAC		
For DC Relay	P70D	12/24 VDC	Surge suppressing system with diode	

- 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.
 - 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)

	lte	em	Rated current		Coil resistance	Must operate voltage	Must release voltage	Max. voltage	Power consumption
Rated voltage (V)			50 Hz	60 Hz					
AC	100/110		8.2/9 mA	7/7.7 mA	8,700 Ω		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 290Ω 80% max. of		10% min. of rat-	110% of rated	0.5 W			
	24		21 mA		1,150 Ω	rated value	ed value	value	
	100/110		5 mA		20,000 Ω	80% max. of rated value	10% min. of rat- ed 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

Classification	For input		For output		
Item	Resistive load (cos (cos = 1)	Inductive load (L/R = 7 ms)	Resistive load (cos (cos = 1)	Inductive load (cosφ = 0.4, L/R = 7 ms)	
Contact mechanism	Crossbar bifurcated		Single		
Contact material	AgAu-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		

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■ Characteristics

0	Iso o		
Contact resistance (see note 2)	50 m $Ω$ max.		
Operate time (see note 3)	15 ms max.		
Release time (see note 3)	15 ms max.		
Max. operating frequency	Mechanical: 18,000 operations/hour Electrical: 1,800 operations/hour (under rated load)		
Insulation resistance (see note 4)	100 M Ω (at 500 VDC)		
Dielectric strength	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		
Vibration resistance	Malfunction: 10 to 55 to 10 Hz, 0.5 mm single amplitude (1.0 mm double amplitude)		
Shock resistance	Malfunction: 200 m/s ²		
Mechanical endurance	50,000,000 operations		
Electrical endurance (see note 5)	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 (1 A) with inductive load Output:1,000,000 operations with rated load		
Error rate (level P) (Reference value) (see note 6)	Input: 100 μA at 1 VDC Output: 10 mA at 5 VDC		
Ambient temperature	Operating:-40°C to 70°C (with no icing or condensation)		
Ambient humidity	Operating: 5% to 85% (with no icing or condensation)		
Weight	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

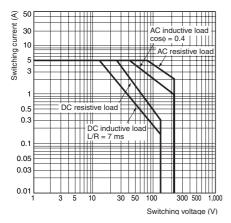
Model	P7TF-05		
Contact resistance	10 m Ω max.		
Dielectric strength	2,000 VAC for 1 minute		
Insulation resistance	1,000 MΩ (at 500 VDC)		
Vibration resistance	10 to 55 to 10 Hz, 0.5 mm single amplitude (1.0 mm double amplitude)		
Shock resistance	1,000 m/s ²		
Ambient temperature	Operating: 0°C to 55°C		
Ambient Humidity	Operating: 5% to 85%		
Weight	Approx. 28 g		

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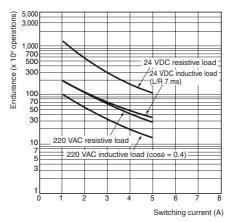
4

Engineering Data

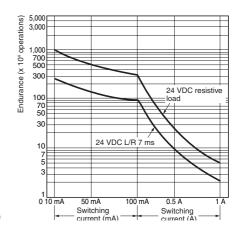
Maximum Switching Power (Output Model with Life of 1,000,000 Operations)



Electrical Endurance Output Relay



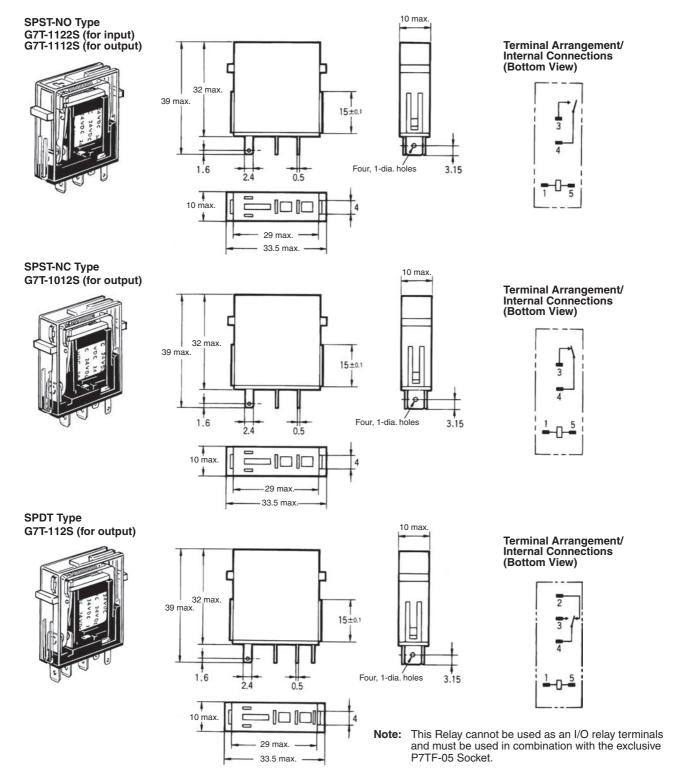
Input Relay



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Dimensions

Note: All units are in millimeters unless otherwise indicated.

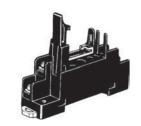


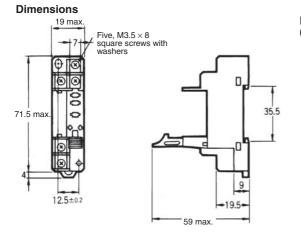
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■ Accessories

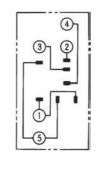
Socket

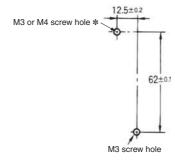
P7TF-05





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.

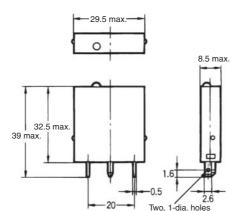
* We recommend that you insert washers when mounting with M3 screws. A washers are not required when mounting with M4 screws.

Indicator Module (with Surge Suppressing Function)

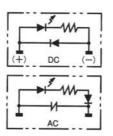
Dimensions

P70





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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