

Replacement Relays for I/O Blocks and Bases

Use Relays to Fill I/O Bases and to Replace Relays Supplied with I/O Blocks

■ RELAY SERIES COMPATIBILITY WITH I/O BLOCKS AND BASES

Relay series	Applicable I/O blocks and bases
G2R electromechanical	G70A output base, G730-RID and G730-ROC04 I/O modules
G3R solid state	G70A output base, G730-RIA I/O modules
G3RZ power MOSFET relay	G730-ZIA, G730-ZID and G730-ZOM I/O modules
G7T electromechanical	P7TF relay bases, G7TC relay blocks
G3TA solid state	P7TF relay bases, G7TC relay blocks
G6D electromechanical	G70D and G70D-R6-B7A relay blocks, SRT2-ROC08/-ROC16 output modules, G730
G3DZ power MOSFET relay	G70D and G70D-R6-B7A relay blocks, SRT2-ROF output modules, G730-AOM/-ZIM/-ZOM I/O modules

G2R Power PCB Relay

■ ORDERING INFORMATION

Applicable block base	Classification	Applicable load	Rated input voltage	Part number
G70A relay output base, G730-RID and G730-ROC04 I/O modules (Refer to G70A and G730-R data sheets for specific models)	Input relay	21.8 mA at 24 VDC	24 VDC	G2R-1A3-SND DC24V
				G2R-13-SND DC24V
	Output relay	10 A at 250 VAC/30 VDC	24 VDC	G2R-1-SND DC24
			12 VDC	G2R-1-SND DC12

■ INPUT RELAYS G2R-1A3-SND AND G2R-13-SND

Coil Ratings

Rated voltage		230 VAC	12 VDC	24 VDC
Rated current	50 Hz	3.7 mA	43.6 mA	21.8 mA
	60 Hz	3.1 mA		
Coil resistance		30,000 Ω	275 Ω	1,100 Ω
Must operate voltage		80% max. of rated voltage	70% max. of rated voltage	
Must release voltage		30% min. of rated voltage	15% min. of rated voltage	
Max. voltage		110% of rated voltage		
Power consumption		Approx. 0.7 W (60 Hz)	Approx. 0.53 W	

- Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerance of +15%/-20% (AC rated current) or +10% (DC coil resistance).
2. LEDs are used for the built-in operation indicator. For models equipped with these indications, the VAC rated current must be increased by approximately 1 mA; the VDC rated current, by approximately 4 mA.

■ OUTPUT RELAYS G2R-1-S AND G2R-1-SN

Coil Ratings

Rated voltage	24 VDC	
Rated current (50/60 Hz)	21.8 mA	
Coil resistance	1,100 Ω	
Coil inductance (H) (ref. value)	Armature OFF	4.27
	Armature ON	8.55
Must operate voltage	70% min. of rated voltage	
Must release voltage	15% min. of rated voltage	
Max. voltage	110% of rated voltage	
Power consumption	Approx. 0.53 W	

Contact Ratings

Also refer to Ratings/Characteristics of G70A-ZIM16-5.

Number of poles	1 pole	
Load	Resistive load (p.f. = 1)	Inductive load (p.f. = 0.4; L/R = 7 ms)
Rated load	10 A at 250 VAC; 10 A at 30 VDC	7.5 A at 250 VAC; 5 A at 30 VDC
Rated carry current	10 A	
Max. operating voltage	380 VAC, 125 VDC	
Max. operating current	10 A	
Max. switching capacity	2,500 VA, 300 W	1,875 VA, 150 W
Min. permissible load	100 mA at 5 VDC	

G3R Solid State Relay

■ ORDERING INFORMATION

Input Relays

Applicable block base	Isolation	Indicator	Response speed	Logic level		Rated input voltage	Part number
				Supply voltage	Supply current		
G70A relay input base, G730-RIA I/O modules (Refer to G70A and G730-R data sheets for specific models)	Photo-coupler	Yes	---	4 to 32 VDC	0.1 to 100 mA	100 to 240 VAC	G3R-IAZR1SN AC100-240
			High-speed			5 VDC	G3R-IDZR1SN DC5
			Low-speed			12 to 24 VDC	G3R-IDZR1SN DC12-24
						5 VDC	G3R-IDZR1SN-1 DC5
						12 to 24 VDC	G3R-IDZR1SN-1 DC12-24

Output Relays

Applicable block base	Isolation	Indicator	Zero cross function	Applicable output load	Rated input	Part number
G70A relay output base, G730-RIA I/O modules (Refer to G70A and G730-R data sheets for specific models)	Phototriac	Yes	Yes	2 A at 75 to 264 VAC	5 to 24 VDC	G3R-OA202SZN DC5-24
			No			G3R-OA202SLN DC5-24
	Photocoupler		---	2 A at 4 to 60 VDC		G3R-ODX02SN DC5-24
				1 A at 40 to 200 VDC		G3R-OD201SN DC5-24

■ RATINGS

Input Relays

Input Ratings

Part number	Rated voltage	Operating voltage	Input current	Must operate voltage	Must release voltage
G3R-IAZR1SN	100 to 240 VAC	60 to 264 VAC	15 mA max.	60 VAC max.	20 VAC min.
G3R-IDZR1SN	5 VDC	4 to 6 VDC	8 mA max.	4 VDC max.	1 VDC min.
	12 to 24 VDC	6.6 to 32 VDC		6.6 VDC max.	3.6 VDC min.
G3R-IDZR1SN-1	5 VDC	4 to 6 VDC		4 VDC max.	1 VDC min.
	12 to 24 VDC	6.6 to 32 VDC		6.6 VDC max.	3.6 VDC min.

Output Ratings

Part number	Logic level supply voltage	Logic level supply current
G3R-IAZR1SN	4 to 32 VDC	0.1 to 100 mA
G3R-IDZR1SN		
G3R-IDZR1SN-1		

Output Relays

Input Ratings

Part number	Rated voltage	Operating voltage	Input current	Must operate voltage	Must release voltage
G3R-OA202SZN	5 to 24 VDC	4 to 32 VDC	15 mA max. (at 25°C)	4 VDC max.	1 VDC min.
G3R-OA202SLN			8 mA max.		
G3R-ODX02SN					
G3R-OD201SN					

Output Ratings

Part number	Load voltage	Load current (See Note)	Inrush current
G3R-OA202SZN	75 to 264 VAC	0.05 to 2 A	30 A (60 Hz, 1 cycle)
G3R-OA202SLN			
G3R-ODX02SN	4 to 60 VDC	0.01 to 2 A	8 A (10 ms)
G3R-OD201SN	40 to 200 VDC	0.01 to 1.5 A	8 A (10 ms)

Note: The minimum current value is measured at 10°C min.

■ CHARACTERISTICS

Input Relays

Item	G3R-IAZR1SN	G3R-IDZR1SN	G3R-IDZR1SN-1
Operate time	20 ms max.	0.1 ms max.	15 ms max.
Release time	20 ms max.	0.1 ms max.	15 ms max.
Response frequency	10 Hz	1 kHz	10 Hz
Output ON voltage drop	1.6 V max.		
Leakage current	5 µA max.		
Insulation resistance	100 MΩ min. between input and output		
Dielectric strength	4,000 VAC for 1 min between input and output		
Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude		
Shock resistance	1,000 m/s ² (approx. 100G)		
Ambient temperature	Operating: -30°C to 80°C (-22°F to 176°F) with no icing Storage: -30°C to 100°C (-22°F to 212°F) with no icing		
Ambient humidity	Operating: 45% to 85%		
Weight	Approx. 18 g		

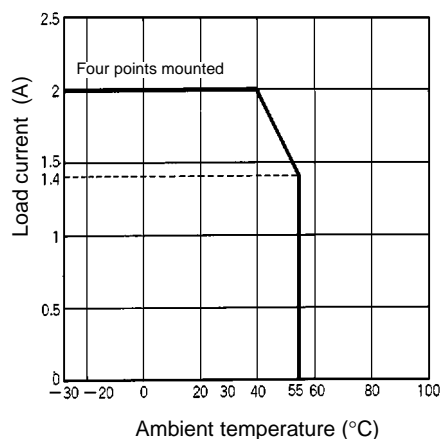
Output Relays

Item	G3R-OA202SN	G3R-OA202SLN	G3R-ODX02SN	G3R-OA201SN
Operate time	1/2 of load power source cycle + 1 ms max.		1 ms max.	
Release time	1/2 of load power source cycle + 1 ms max.		2 ms max.	
Response frequency	20 Hz		100 kHz	
Output ON voltage drop	1.6 V max.			2.5 V max.
Leakage current	1.5 mA max.		1 mA max.	
Insulation resistance	100 MΩ min. between input and output			
Dielectric strength	4,000 VAC for 1 min between input and output			
Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude			
Shock resistance	1,000 m/s ² (approx. 100G)			
Ambient temperature	Operating: -30 to 80 °C (-22°F to 176°F) with no icing Storage: -30 to 100 °C (-22°F to 212°F) with no icing			
Ambient humidity	Operating: 45% to 85%			
Weight	Approx. 18 g			

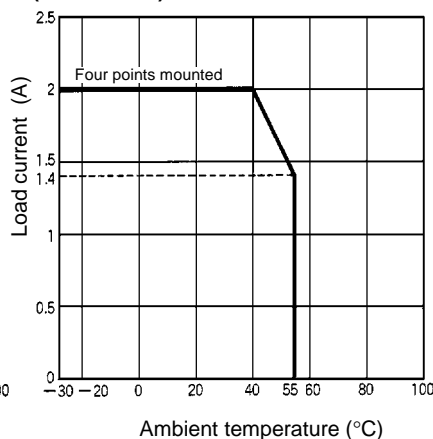
■ ENGINEERING DATA

Load Current vs. Ambient Temperature Characteristics

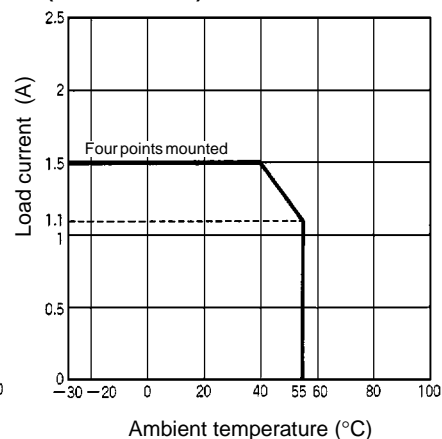
G730-ZOM04 + G3R-OA202SN



G730-ZOM04 + G3R-ODX02SN
(4 to 60 VDC)



G730-ZOM04 + G3R-OD201SN
(40 to 200 VDC)

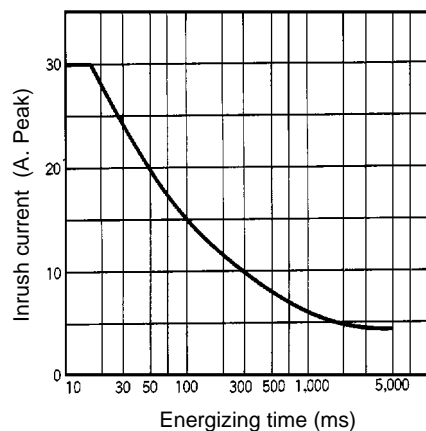


Note: The above data are for a G730 mounted with four G3Rs.

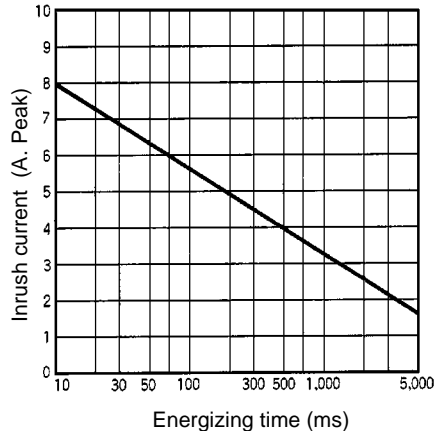
Inrush Current Resistivity

Non-repetitive (Keep the inrush current to half the rated value if it occurs repetitively.)

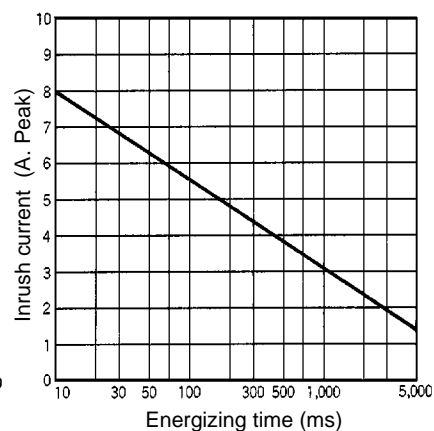
G3R-OA202SN



G3R-ODX02SN



G3R-OD201SN



G3RZ Power MOSFET Relay ———

■ ORDERING INFORMATION

Input/Output Relays

Applicable block base	Classification	Insulation method	Indicator	Zero cross function	Applicable output load	Rated input voltage	Part number
G730-ZIA, G730-ZID and G730-ZOM I/O bases (Refer to G730-R data sheets for specific models)	Input relay or output relay	Photodiode array	Yes	No	1.0 A at 3 to 264 VAC/3 to 125 VDC	5 VDC	G3RZ-201SLN DC5
						12 VDC	G3RZ-201SLN DC12
						24 VDC	G3RZ-201SLN DC24

■ RATINGS

Input/Output Relays

Input Ratings

Part number	Rated voltage	Operating voltage	Input impedance	Must operate voltage	Must release voltage
G3RZ-201SLN	5 VDC	4 to 6 VDC	400 Ω \pm 20%	4 VDC max.	1 VDC min.
	12 VDC	9.6 to 14.4 VDC	1.1 k Ω \pm 20%	9.6 VDC max.	
	24 VDC	19.2 to 28.8 VDC	2.2 k Ω \pm 20%	19.2 VDC max.	

Output Ratings

Load voltage	Load current	Inrush current
3 to 264 VAC, 3 to 125 VDC	100 μ A to 1.0 A	10 A (10 ms)

■ CHARACTERISTICS

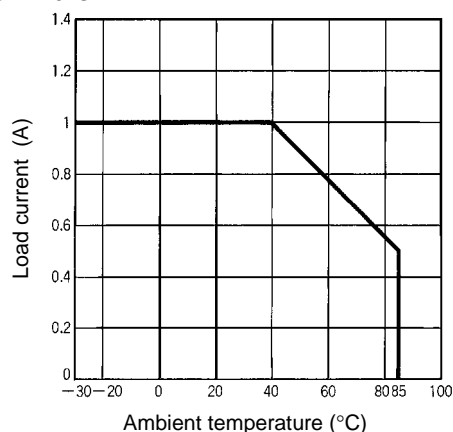
Input/Output Relays

Item	G3RZ-201SLN
Operate time	6 ms max.
Release time	10 ms max.
Output ON-resistance	2.4 Ω max.
Leakage current	10 μ A max. at 125 VDC
Insulation resistance	100 M Ω min. at 500 VDC
Dielectric strength	2,500 VAC, 50/60 Hz for 1 min between input and output
Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude
Shock resistance	1,000 m/s ² (approx. 100G)
Ambient temperature	Operating: -30°C to 85°C (-22°F to 185°F) with no icing Storage: -30°C to 100°C (-22°F to 212°F) with no icing
Ambient humidity	Operating: 45% to 85%
Weight	Approx. 20 g

■ REFERENCE DATA

Load Current vs. Ambient Temperature Characteristics

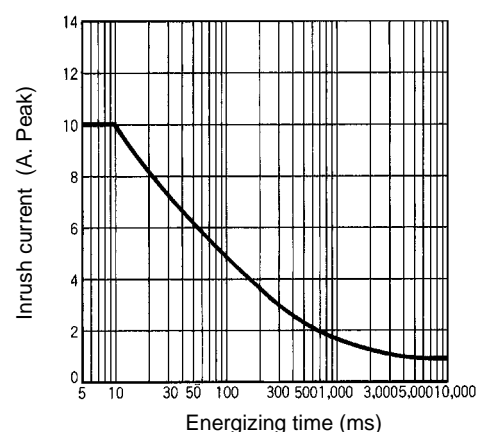
G3RZ-201SLN



Inrush Current Resistivity

Non-repetitive (Keep the inrush current to half the rated value if it occurs repetitively.)

G3RZ-201SLN



Note: The above data are for a G730 mounted with four G3RZs.

G7T Power Relay

■ ORDERING INFORMATION

Applicable block base	Classification	Applicable load	Rated input voltage	Part number
P7TF bases and G7TC I/O blocks (Refer to G7TC data sheet for specific models)	Input relay, AC coil	10 to 100 mA	110/120 VAC	G7T-1122S AC110/120 V
			200/220 VAC	G7T-1122S AC200/220V
	Input relay, DC coil	10 to 100 mA	24 VDC	G7T-1122S DC24V
	Output relay, DC coil	5 A	12 VDC	G7T-1112S DC12V
			24 VDC	G7T-1112S DC24V

■ RATINGS

Input/Output Relays

Coil Ratings (Common to Input/Output per Relay)

Rated voltage (V)		Rated current (mA)		Coil resistance (See Note 1)	Must operate	Must release	Maximum voltage	Power consumption	
		50 Hz	60 Hz					per Relay	per 16 Relays
AC	110/120 220/240	7.5/— 3.7/—	6.4/7.0 3.2/3.5	13,000 Ω 48,300 Ω	80% max.	30% min.	110%	0.7 VA	11 VA
DC	12	42		290 Ω	80% max.	10% min.	110%	0.5 W	8 W
DC	24	21		1,150 Ω	80% max.	10% min.	110%	0.5 W	8 W

- Note: 1. The rated current and coil resistance are measured at a coil temperature of +23°C with a tolerance of +15%/-20% for AC rated current and ±15% for coil resistance.
 2. Approx. 4 mA flows into each LED indicator. To calculate the power supply capacity, add the current value of each indicator.

Contact Ratings (Common to Input/Output per Relay)

Classification	For input		For output	
	Resistive load (cosφ=1)	Inductive load (cosφ=0.4 L/R=7 ms)	Resistive load (cosφ=1)	Inductive load (cosφ=0.4 L/R=7 ms)
Carry current	1 A		5 A	
Switching voltage	250 VAC, 125 VDC			
Switching current	1 A	0.5 A	5 A	2 A
Switching power	DC 24 W	DC 12 W	DC 120 W AC 440 VA	DC 48 W AC 220 VA
Min. permissible load	100 μA at 1 V		10 mA at 5 V	
Electrical life	10,000,000 operations (at 10 mA) 50,000 operations (at 1 A)	2,500,000 operations (at 10 mA) 20,000 operations (at 1 A)	1,000,000 operations (under rated load)	
Mechanical life	50,000,000 operations			

■ CHARACTERISTICS: G7T RELAYS

Part number		G7TC-IA16 (Input, AC coil)	G7TC-ID16 (Input, DC coil)	G7TC-OC16 (-1) (output, DC coil)	G7TC-OC08 (-1) (output, DC coil)
LED color		Red	Green	Green	
Case color		Transparent red	Transparent green	Transparent	
Contact resistance		50 mΩ max.			
Operate time		15 ms max.			
Release time		15 ms max.			
Max. operating frequency	Mechanical limit	18,000 operations/hour			
	At rated load	1,800 operations/hour			
Insulation resistance		100 MΩ at 500 VDC			
Dielectric strength	Between coil and contact	2,000 VAC, 50/60 Hz for 1 minute			
	Between same polarity contacts	1,000 VAC, 50/60 Hz for 1 minute			
	Between paired connectors	250 VAC, 50/60 Hz for 1 minute			
Malfunction vibration		10 to 55 Hz with 1.0-mm double amplitude			
Malfunction shock		200 m/s ²			
Noise immunity		Noise level: 1.5 kV; pulse width: 100 ns to 1 μs			
Rated voltage between positive and negative terminal blocks		Rated voltage of controller's (PLC or other) input circuit		24 VDC ±5%	
Rated current between positive and negative terminal blocks		Input circuit current of controller (PLC or other) x number of ON points		24 VDC: 25 mA x number of ON points	
Cable length	To controller	5 m max. (reference value)			
	To I/O devices	50 m max. (reference value, for 2-mm ² CVV cable)		Dependent on load	
Ambient operating temperature		0°C to 55°C (32°F to 131°F)			
Ambient operating humidity		35% to 85%			
I/O terminal tightening torque		8 to 12 kg • cm			
Coil surge absorber		Variable resistor	Diode (1 A, 400 V)		
Weight		Approx. 640 g	Approx. 630 g	Approx. 670 g	Approx. 350 g

UL and CSA Standards

Standard G7TC I/O Blocks, except for the G7TC-OC16-1 and the G7TC-OC08(-1), have met UL and CSA standards (UL file no. E41643; CSA file no. LR31928).

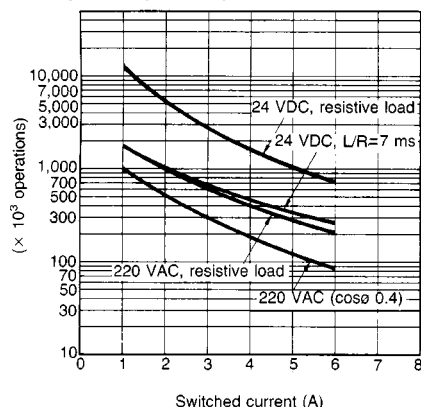
Note that the following UL- and CSA-qualifying ratings differ from the performance characteristics of the individual models:

Model	Coil ratings	Contact ratings
G7TC-ID16, G7TC-IA16	10 mA/point, 24 VDC	250 VAC max.
G7TC-OC16	Coil drive current, 24 VDC	Inductive load: 10 A, 250 VAC Resistive load: 10 A, 30 VDC Rated horsepower: 1/2 HP, 240 VAC

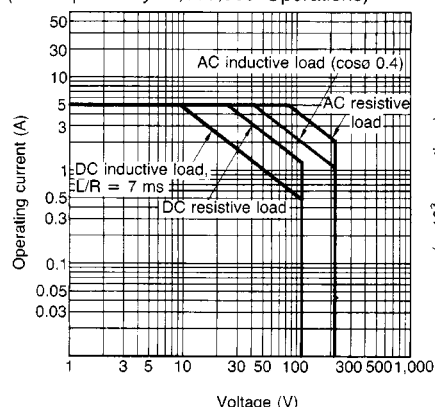
■ ENGINEERING DATA

G7T Relays

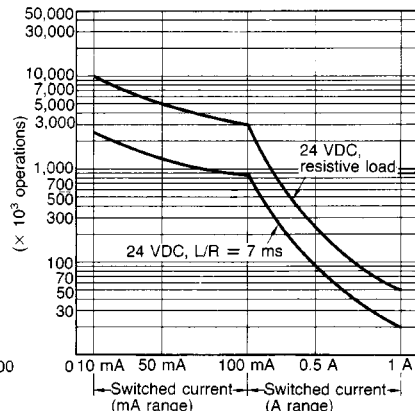
Life Expectancy of Output



Max. Switching Capacity of Output
(Life expectancy: 1,000,000 Operations)



Life Expectancy of Input



G3TA Solid State Relay

■ ORDERING INFORMATION

Applicable block base	Classification	Applicable load	Rated input voltage	Part number
P7TF bases and G7TC I/O blocks (Refer to G7TC data sheet for specific models)	Input relay, AC coil	25 mA	100-240 VAC	G3TA-IAZR02S AC100/240V
	Input relay, DC coil	25 mA	5-24 VDC	G3TA-IDZR02S DC5-24V
	Output relay, DC coil	2 A	12 VDC	G3TA-ODX02S 12VDC
		2 A	24 VDC	G3TA-ODX02S DC24V
		1 A	24 VDC	G3TA-OD201S DC24V

■ RATINGS: G3TA SOLID STATE RELAYS

Input Relay

Input Ratings

Part number	Rated voltage	Operating voltage	Input current	Voltage level	
				Must operate voltage	Must release voltage
G3TA-IAZR02S AC100/240V	100 to 240 VAC	80 to 264 VDC	5 mA max.	80 VAC max.	10 VAC min.
G3TA-IDZR02S DC5-24V	5 to 24 VDC	4 to 32 VDC		4 VDC max.	1 VDC min.

Output Ratings

Part number	Logic level supply voltage	Output breakdown voltage	Output current	Output current (load current)
G3TA-IAZR02S AC100/240V	4 to 32 VDC	32 VDC max.	25 mA max.	0.1 to 25 mA
G3TA-IDZR02S DC5-24V				

Output Relay

Input Ratings

Part number	Rated voltage	Operating voltage	Input impedance	Voltage level	
				Must operate voltage	Must release voltage
G3TA-OA202SZ DC12V	12 VDC	9.6 to 13.2 VDC	0.9 kΩ±20%	9.6 VDC max.	2 VDC min.
G3TA-OA202SZ DC24V	24 VDC	19.2 to 26.4 VDC	1.7 kΩ±20%	19.2 VDC max.	
G3TA-ODX02S DC24V	12 VDC	9.6 to 13.2 VDC	3.5 kΩ±20%	9.6 VDC max.	
	24 VDC	19.2 to 26.4 VDC	6.5 kΩ±20%	19.2 VDC max.	
G3TA-OD201S DC24V	24 VDC	19.2 to 26.4 VDC	6.4 kΩ±20%	19.2 VDC max.	

Output Ratings

Part number	Applicable load			
	Rated load voltage	Load voltage	Load current (See Note)	Inrush current
G3TA-OA202SZ	100 to 240 VAC	75 to 264 VAC	0.05 to 2 A	30 A (60 Hz, 1 cycle)
G3TA-OA202SL	100 to 240 VAC	75 to 264 VAC		
G3TA-ODX02S	5 to 48 VDC	4 to 60 VDC	0.01 to 2 A	12 A (10 ms)
G3TA-OD201S	48 to 200 VDC	40 to 200 VDC	0.01 to 1 A	6 A (10 ms)

Note: The minimum current value is measured at 10°C min.

■ CHARACTERISTICS: G3TA SOLID STATE RELAYS

Input Relay

Item	G3TA-IAZR02S	G3TA-IDZR02S
Operate time	20 ms max.	0.5 ms max.
Release time	20 ms max.	0.5 ms max.
Output ON voltage drop	1.6 V max.	
Leakage current	5 μA max.	
Insulation resistance	100 MΩ min. at 500 VDC	
Dielectric strength	4,000 VAC, 50/60 Hz for 1 min between input and output	
Vibration resistance	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude	
Shock resistance	Malfunction: 1,000 m/s ² {approx. 100G}	
Ambient temperature	Operating: -30°C to 80°C (-22°F to 176°F) with no icing or condensation Storage: -30°C to 100°C (-22°F to 212°F) with no icing or condensation	
Ambient humidity	Operating: 45% to 85%	
Approved standards	UL508 file No. E64562/CSA C22.2 (No. 0, No. 14) file No. LR35535	
Weight	Approx. 16 g	

Output Relay

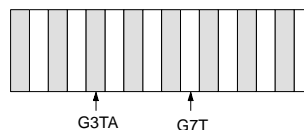
Item	G3TA-OA202SZ	G3TA-ODX02S	G3TA-OD201S
Operate time	1/2 of load power source cycle + 1 ms max.	0.5 ms max.	2 ms max.
Release time	1/2 of load power source cycle + 1 ms max.	2 ms max.	2 ms max.
Output ON voltage drop	1.6 V max.		2.5 V max.
Leakage current	5 mA max. at 200 VAC	1 mA max.	
Insulation resistance	100 MΩ min. at 500 VDC		
Dielectric strength	4,000 VAC, 50/60 Hz for 1 min between input and output		
Vibration resistance	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude		
Shock resistance	Malfunction: 1,000 m/s ² {approx. 100G}		
Ambient temperature	Operating: -30°C to 80°C (-22°F to 176°F) with no icing or condensation Storage: -30°C to 100°C (-22°F to 212°F) with no icing or condensation		
Ambient humidity	Operating: 45% to 85%		
Approved standards	UL508 file No. E64562, CSA C22.2 (No. 14) file No. LR3553		
Weight	Approx. 23 g		

■ MIXING G3TA WITH G7T RELAYS IN THE SAME I/O BLOCK

With up to four G3TA SSRs mounted before G7T Relays, 2-A loads can be switched.



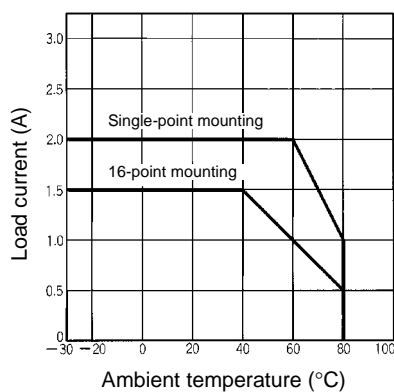
With G3TA SSRs mounted before every other G7T Relays, 2-A loads can be switched.



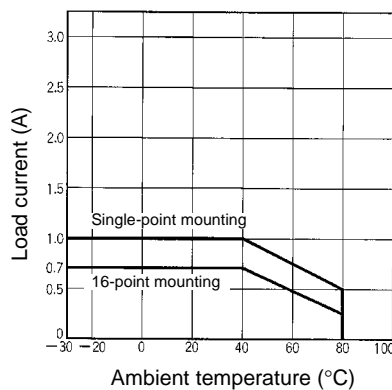
■ ENGINEERING DATA

Load Current vs. Ambient Temperature Characteristics

G3TA-OA202SZ/OA202SL/ODX02S

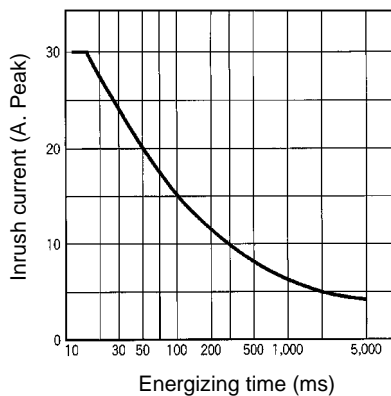


G3TA-OD201S

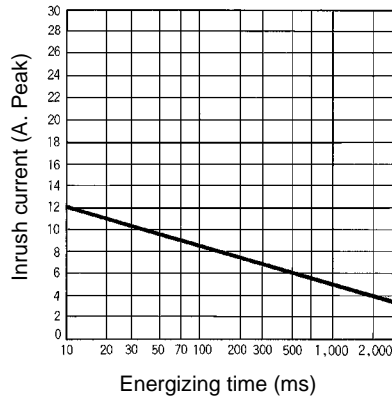


Non-repetitive (Keep the inrush current to half the rated value if it occurs repetitively.)

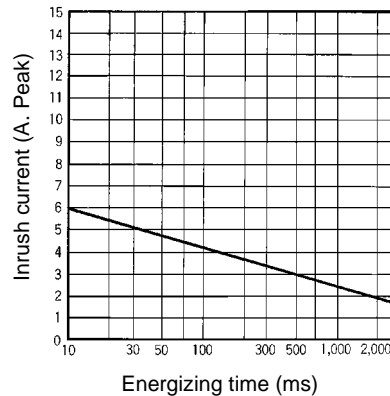
G3TA-OA202SZ



G3TA-ODX02S



G3TA-OD201S



G6D Power Relay

■ ORDERING INFORMATION

Applicable block base	Classification	Applicable load	Rated coil voltage	Part number
G70D and G70D-R6-B7A output bases, SRT2-ROC08/-ROC16 output modules and G730 modules. (Refer to G70D, G70D-R6-B7A, SRT□-R and G730-R data sheets for specific models)	Output relay	5 A	5 VDC	G6D-1A DC5
			12 VDC	G6D-1A DC12
			24 VDC	G6D-1A DC24

■ RATINGS

Coil Ratings

Rated voltage	5 VDC	12 VDC	24 VDC
Rated current	40 mA	16.7 mA	8.3 mA
Coil resistance	125 Ω	720 Ω	2,880 Ω
Must operate voltage (See Note 1)	70% max. of rated voltage		
Must release voltage	10% min. of rated voltage		
Max. voltage	130% of rated voltage		
Power consumption	Approx. 200 mW		

- Note: 1. The must operate voltage is 75% or less of the rated voltage if the relay is mounted upside down.
 2. Rated current and coil resistance were measured at a coil temperature of 23°C with a tolerance of ± 10%.
 3. Operating characteristics were measured at a coil temperature of 23°C.
 4. The maximum allowable voltage is the maximum value of the allowable voltage range for the relay coil operating power supply. There is no continuous allowance.

Contact Ratings

Load classification	Resistive load (p.f. = 1)	Inductive load (p.f. = 0.40, L/R = 7 ms)
Rated load	5 A at 250 VAC, 30 VDC	2 A at 50 VAC, 30 VDC
Carry current	5 A	
Max. operating voltage	250 VAC, 30 VDC	
Max. operating current	5 A	
Max. switching capacity	1250 VA, 150 W	500 VA, 60 W
Min. permissible load	10 mA at 5 VDC	
Life expectancy	Mechanical: 20,000,000 operations min. (at 18,000 operations/hr) Electrical: 100,000 operations min. (5 A at 250 VAC, resistive load) 100,000 operations min. (5 A at 30 VDC, resistive load) 300,000 operations min. (2 A at 250 VAC, resistive load) 300,000 operations min. (2 A at 30 VDC, resistive load) (at 1,800 operations/hr)	

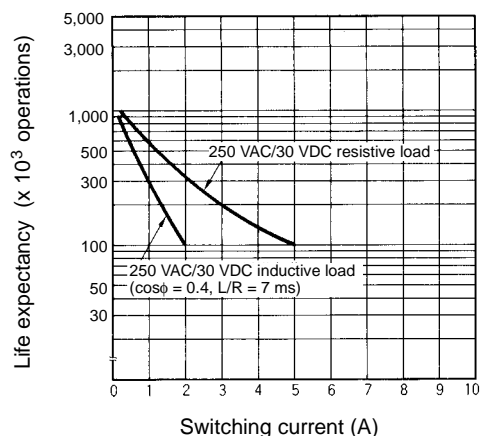
■ CHARACTERISTICS

Contact resistance (See Note 2)	100 mΩ max.
Operate time	10 ms max.
Release time	5 ms max.
Insulation resistance	1,000 MΩ min. at 500 VDC
Dielectric strength	3,000 VAC, 50/60 Hz for 1 min between coil and contacts 750 VAC, 50/60 Hz for 1 min between contacts of same polarity
Surge withstand voltage	6,000 V, 1.2 x 50 μs between coil and contacts
Vibration resistance	Destruction: 10 to 55 Hz, 1.5-mm double amplitude Malfunction: 10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Destruction: 1,000 m/s ² Malfunction: 100 m/s ²
Ambient temperature	Operating: -25°C to 70°C (-13°F to 158°F)
Ambient humidity	Operating: 45% to 85%
Weight	Approx. 3 g

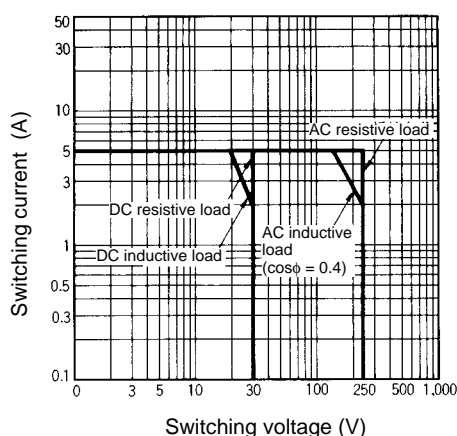
- Note: 1. The above values are initial values.
 2. Measurement condition: 1 A at 5 VDC

■ REFERENCE DATA

Life Expectancy



Max. Switching Capacity



G3DZ Power MOSFET Relay

■ ORDERING INFORMATION

Input/Output Relays

Applicable block base	Classification	Insulation method	Indicator	Zero cross function	Applicable output load	Rated input voltage	Part number
G70D and G70D-R6-B7A output bases, SRT2-ROF output modules and G730-AOM/-ZIM/-ZOM I/O modules. (Refer to G70D, G70D-R6-B7A, SRT□-R and G730-R data sheets for specific models)	Input relay or output relay	Photo-diode array	No	No	100 μA to 0.6 A 5 to 240 VAC/ 5 to 100 VDC	5 VDC	G3DZ-2R6PL DC5
						12 VDC	G3DZ-2R6PL DC12
						24 VDC	G3DZ-2R6PL DC24

■ RATINGS

Output Relay

Input Ratings

Rated voltage	Operating voltage	Input impedance	Voltage level	
			Must operate	Must release
5 VDC	4 to 6 VDC	830 Ω ±20%	4 VDC max.	1 VDC min.
12 VDC	9.6 to 14.4 VDC	2 kΩ ±20%	9.6 VDC max.	
24 VDC	19.2 to 28.8 VDC	4 kΩ ±20%	19.2 VDC max.	

Output Ratings

Load voltage	Load current	Inrush current
3 to 264 VAC, 3 to 125 VDC	100 μA to 0.6 A	6 A (10 ms)

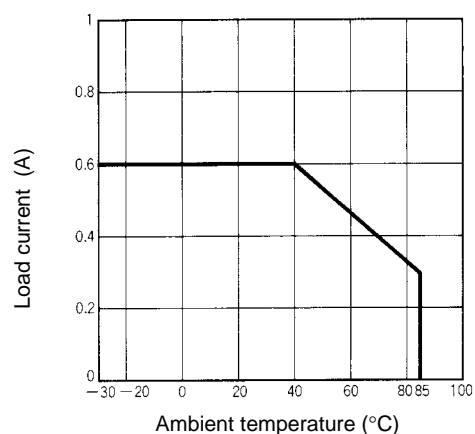
■ CHARACTERISTICS

Operate time	6 ms max.
Release time	10 ms max.
Output ON-resistance	2.4 Ω max.
Leakage current	10 μ A max. at 125 VDC
Insulation resistance	100 m Ω max. at 500 VDC
Dielectric strength	2,500 VDC, 50/60 Hz for 1 min
Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude
Shock resistance	1,000 m/s ² (approx. 100G)
Ambient temperature	Operating: -30°C to 85°C (-22°F to 185°F) with no icing Storage: -30°C to 100°C (-22°F to 212°F) with no icing
Ambient humidity	Operating: 45% to 85%
Weight	Approx. 3.1 g

■ ENGINEERING DATA

Load Current vs. Ambient Temperature Characteristics

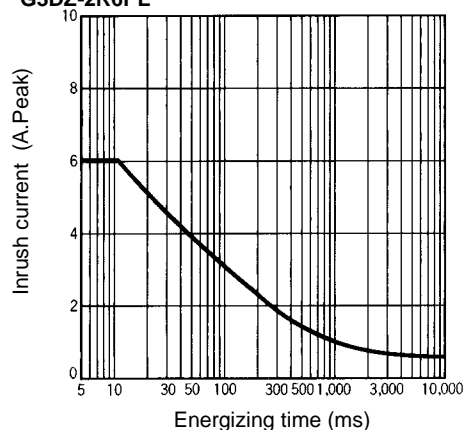
G3DZ-2R6PL



Inrush Current Resistivity

Non-repetitive (Keep the inrush current to half the rated value if it occurs repetitively.)

G3DZ-2R6PL



Note: The above data are for a G730 mounted with 8 or 16 G3DZs.

NOTE: DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters to inches divide by 25.4.

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