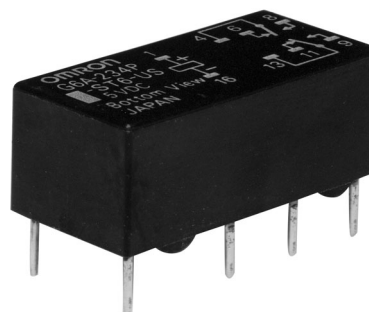


Low Signal Relay

G6A

- High sensitivity — can be driven by digital circuits.
- Low-profile design allows use in 12.70 mm (0.50 in) PC board rack.
- Surge withstand voltage meets FCC Part 68 regulation.
- Units can be mounted side by side due to low magnetic leakage.
- Special models available for ultrasonic cleaning and low thermoelectromotive force.
- Unique moving loop (permanent magnet) armature reduces relay size, magnetic interference, and contact bounce time.
- Single or dual coil winding types available.



Ordering Information

To Order: Select the part number and add the desired coil voltage rating, (e.g., G6A-274P-ST-US-DC12).

■ Non-latching

Type	Contact form	Model	
		AgPd (Au clad)	Ag (Au clad)
Standard	DPDT	G6A-234P-ST-US	G6A-274P-ST-US
	4PDT	G6A-434P-ST-US	G6A-474P-ST-US
High-sensitivity	DPDT	G6A-234P-ST15-US	G6A-274P-ST15-US
	4PDT	G6A-434P-ST20-US	G6A-474P-ST20-US
Low-sensitivity	DPDT	G6A-234P-ST40-US	G6A-274P-ST40-US
	4PDT	G6A-434P-ST40-US	G6A-474P-ST40-US

■ Latching

Single Coil

Type	Contact form	Model	
		AgPd (Au clad)	Ag (Au clad)
Standard	DPDT	G6AU-234P-ST-US	G6AU-274P-ST-US
	4PDT	G6AU-434P-ST-US	G6AU-474P-ST-US

Dual Coil

Type	Contact form	Model	
		AgPd (Au clad)	Ag (Au clad)
Standard	DPDT	G6AK-234P-ST-US	G6AK-274P-ST-US
	4PDT	G6AK-434P-ST-US	G6AK-474P-ST-US
Low-sensitivity	DPDT	G6AK-234P-ST40-US	G6AK-274P-ST40-US
	4PDT	G6AK-434P-ST40-US	G6AK-474P-ST40-US

Note: Other options available for ST10 ultra high reliability, high temperature 85°C (185°F), ST1 reverse coil polarity, BS British standard. Contact your OMRON sales representative for details.

Specifications

■ Contact Data

Type	G6A-234P-ST(15,40)-US, G6A-434P-ST(20,40)-US G6AK-234P-ST(40)-US, G6AK-434P-ST(40)-US G6AU-234P-ST-US, G6AU-434P-ST-US		G6A-274P-ST(15,40)-US, G6A-474P-ST(20,40)-US G6AK-274P-ST(40)-US, G6AK-474P-ST(40)-US G6AU-274P-ST-US, G6AU-474P-ST-US	
Load	Resistive load (p.f. = 1)	Inductive load (p.f. = 0.4) (L/R = 7 ms)	Resistive load (p.f. = 1)	Inductive load (p.f. = 0.4) (L/R = 7 ms)
Rated load	0.30 A at 125 VAC, 1 A at 30 VDC	0.20 A at 125 VAC, 0.50 A at 30 VDC	0.50 A at 125 VAC, 2 A at 30 VDC	0.25 A at 125 VAC, 1 A at 30 VDC
Contact material	AgPd (Au clad)	AgPd (Au clad)	Ag (Au clad)	Ag (Au clad)
Carry current	3 A	3 A	3 A	3 A
Max. operating voltage	250 VAC, 220 VDC	250 VAC, 220 VDC	250 VAC, 220 VDC	250 VAC, 220 VDC
Max. operating current	2 A	1 A	2 A	1 A
Max. switching capacity	125 VA, 60 W	62.50 VA, 30 W	125 VA, 60 W	62.50 VA, 30 W
Min. permissible load	10 μ A, 10 mVDC	10 μ A, 10 mVDC	10 μ A, 10 mVDC	10 μ A, 10 mVDC

■ Coil Data

Standard Non-latching DPDT (G6A-234P-ST-US, G6A-274P-ST-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Pick-up voltage	Dropout voltage	Maximum voltage	Power consumption (mW)
			Armature OFF	Armature ON				
3	66.70	45	0.07	0.07	70% max.	10% min.	200% at 23°C (73°F) 150% at 70°C (158°F)	Approx. 200
5	40	125	0.20	0.18				
6	33.30	180	0.29	0.26				
9	22.20	405	0.63	0.57				
12	16.70	720	1.10	1.06				
24	8.30	2,880	4.50	4.10				
48	4.90	9,750	13.70	12.50				
								Approx. 235

High-sensitivity Non-latching DPDT (G6A-234P-ST15-US, G6A-274P-ST15-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Pick-up voltage	Dropout voltage	Maximum voltage	Power consumption (mW)
			Armature OFF	Armature ON				
1.50	100	15	0.02	0.02	80% max.	10% min.	200%	Approx. 150
3	50	60	0.09	0.08				
4.50	33.30	135	0.22	0.20				
5	30	167	0.25	0.21				
6	25	240	0.35	0.31				
9	16.70	540	0.80	0.70				
12	12.50	960	1.35	1.25				
24	6.30	3,840	5.60	5.10				
48	3.20	15,000	22.50	20.00				

Note: The rated current and coil resistance are measured at a coil temperature of 23°C (73°F) with a tolerance of $\pm 10\%$.

Low-sensitivity Non-latching DPDT (G6A-234P-ST40-US, G6A-274P-ST40-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Pick-up voltage	Dropout voltage	Maximum voltage	Power consumption (mW)
			Armature OFF	Armature ON				
3	133.30	22.50	0.03	0.02	70% max.	10% min.	150% at 23°C (73°F)	Approx. 400
5	80	62.50	0.08	0.07				
6	66.70	90	0.11	0.10				
9	44.30	203	0.27	0.23				
12	33.30	360	0.52	0.43				
24	16.70	1,440	2.10	1.80			110% at 70°C (158°F)	
48	8.30	5,760	7.50	6.40				

Standard Non-latching 4PDT (G6A-434P-ST-US, G6A-474P-ST-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Pick-up voltage	Dropout voltage	Maximum voltage	Power consumption (mW)	
			Armature OFF	Armature ON					% of rated voltage
3	120	25	0.05	0.05	70% max.	10% min.	150% at 23°C (73°F)	Approx. 360	
5	72.50	69	0.14	0.12					
6	60	100	0.20	0.17					
9	40	225	0.45	0.38					
12	30	400	0.80	0.68					
24	15	1,600	3.20	2.70			110% at 70°C (158°F)		
48	7.50	6,400	12.80	10.90					

High-sensitivity Non-latching 4PDT (G6A-434P-ST20-US, G6A-474P-ST20-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Pick-up voltage	Dropout voltage	Maximum voltage	Power consumption (mW)
			Armature OFF	Armature ON				
3	66.70	45	--	--	70% max.	10% min.	200% at 50°C (122°F)	Approx. 200
5	40	125	--	--				
6	33.30	180	--	--				
9	22.20	405	--	--				
12	16.70	720	--	--				
24	8.30	2,880	--	--				
48	4.20	11,520	--	--				

Low-sensitivity Non-latching 4PDT (G6A-434P-ST40-US, G6A-474P-ST40-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Pick-up voltage	Dropout voltage	Maximum voltage	Power consumption (mW)
			Armature OFF	Armature ON				
3	133.30	22.50	0.04	0.02	70% max.	10% min.	150% at 23°C (73°F)	Approx. 400
5	80	62.50	0.12	0.09				
6	66.70	90	0.17	0.13				
9	44.30	203	0.42	0.30				
12	33.30	360	0.70	0.52				
24	16.70	1,440	2.80	2.20			110% at 70°C (158°F)	
48	8.30	5,760	10.20	8.60				

Note: The rated current and coil resistance are measured at a coil temperature of 23°C (73°F) with a tolerance of $\pm 10\%$.

Standard Single Coil Latching DPDT (G6AU-234P-ST-US, G6AU-274P-ST-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Set pick-up voltage	Reset pick-up voltage	Maximum voltage	Power consumption (mW)
			Armature OFF	Armature ON				
3	33.70	89	0.15	0.11	70% max.	70% min.	200% at 23°C (73°F)	Approx. 100
5	20	250	0.44	0.35				
6	16.70	360	0.64	0.48				
9	11.10	810	1.38	1.07				
12	8.30	1,440	2.50	2				
24	4.20	5,760	9.20	7.20			150% at 70°C (158°F)	Approx. 120
48	2.50	19,000	28.50	22				

Standard Dual Coil Latching (G6AK-234P-ST-US, G6AK-274P-ST-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)				Set pick-up voltage	Reset pick-up voltage	Maximum voltage	Power consumption (mW)
			Set coil		Reset coil					
			Armature OFF	Armature ON	Armature OFF	Armature ON				
3	66.70	45	0.04	0.03	0.03	0.04	70% max.	70% min.	200% at 23°C (73°F)	Approx. 200
5	36	139	0.11	0.08	0.08	0.11				Approx. 180
6	30	200	0.16	0.12	0.12	0.16				Approx. 200
9	20	450	0.38	0.28	0.28	0.38				
12	15	800	0.60	0.45	0.45	0.60				
24	7.50	3,200	2.10	1.50	1.50	2.10			150% at 70°C (158°F)	
48	4.20	11,520	8.50	6.30	6.30	8.50			Approx. 200	

Dual Coil Latching Low-sensitivity DPDT (G6AK-234P-ST40-US, G6AK-274P-ST40-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)				Set pick-up voltage	Reset pick-up voltage	Maximum voltage	Power consumption (mW)	
			Set coil		Reset coil						
			Armature OFF	Armature ON	Armature OFF	Armature ON					
3	120	25	0.02	0.01	0.01	0.02	70% max.	70% min.	150% at 23°C (73°F)	Approx. 360	
5	72.50	69	0.05	0.04	0.04	0.05					
6	60	100	0.07	0.05	0.05	0.07					
9	40	225	0.16	0.12	0.12	0.16					
12	30	400	0.28	0.20	0.20	0.28					
24	15	1,600	1.10	0.75	0.75	1.10			110% at 70°C (158°F)		
48	7.50	6,400	4	2.90	2.9	4					

Standard Single Coil Latching 4PDT (G6AU-434P-ST-US, G6AU-474P-ST-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)		Set pick-up voltage	Reset pick-up voltage	Maximum voltage	Power consumption (mW)
			Armature OFF	Armature ON				
3	106.80	28.10	0.03	0.02	70% max.	70% min.	150% at 23°C (73°F)	Approx. 320
5	64	78.10	0.08	0.06				
6	53.30	112.50	0.11	0.08				
9	35.60	253	0.25	0.18				
12	26.70	450	0.45	0.32				
24	13.30	1,800	1.80	1.30			110% at 70°C (158°F)	
48	6.70	7,200	7.00	5.20				

Standard Dual Coil Latching 4PDT (G6AK-434P-ST-US, G6AK-474P-ST-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)				Set pick-up voltage	Reset pick-up voltage	Maximum voltage	Power consumption (mW)
			Set coil		Reset coil					
			Armature OFF	Armature ON	Armature OFF	Armature ON			% of rated voltage	
3	106.80	28.10	0.03	0.02	0.02	0.03	70% max.	70% min.	150% at 23°C (73°F)	Approx. 320
5	64	78.10	0.08	0.06	0.06	0.08				
6	53.30	112.50	0.11	0.08	0.08	0.11				
9	35.60	253	0.25	0.18	0.18	0.25				
12	26.70	450	0.45	0.32	0.32	0.45				
24	13.30	1,800	1.80	1.30	1.30	1.80				
48	6.70	7,200	7.00	5.20	5.20	7.00				

Dual Coil Latching Low-sensitivity 4PDT (G6AK-434P-ST40-US, G6AK-474P-ST40-US)

Rated voltage (VDC)	Rated current (mA)	Coil resistance (Ω)	Coil inductance (ref. value) (H)				Set pick-up voltage	Reset pick-up voltage	Maximum voltage	Power consumption (mW)
			Set coil		Reset coil					
			Armature OFF	Armature ON	Armature OFF	Armature ON				
3	120	25	0.02	0.02	0.02	0.02	70% max.	70% min.	150% at 23°C (73°F)	Approx. 360
5	72.50	69	0.07	0.05	0.05	0.07				
6	60	100	0.09	0.08	0.08	0.09				
9	40	225	0.18	0.14	0.14	0.18				
12	30	400	0.30	0.23	0.23	0.30				
24	15	1,600	1.20	0.82	0.82	1.20				
48	7.50	6,400	4.40	3.20	3.20	4.40			110% at 70°C (158°F)	

Note: The rated current and coil resistance are measured at a coil temperature of 23°C (73°F) with a tolerance of $\pm 10\%$.

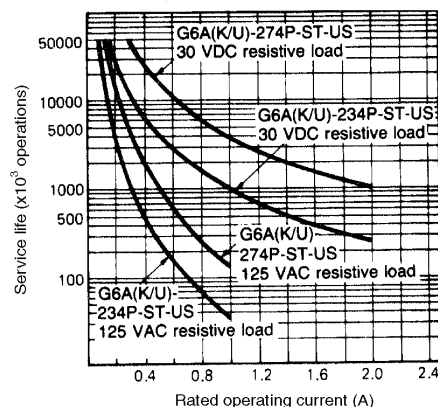
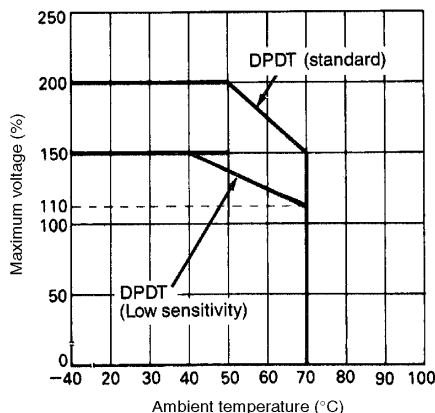
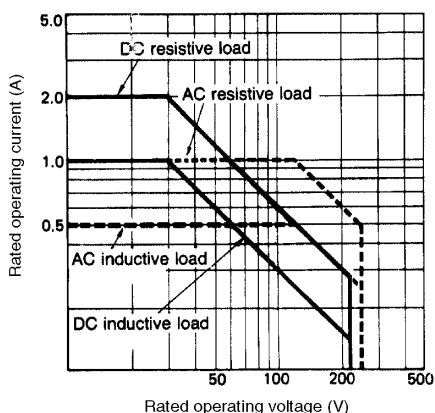
■ Characteristics

Type		Non-latching	Latching
Contact resistance		50 mΩ max.	
Operate (set) time	DPDT	5 ms max. (mean value approx. 3 ms)	5 ms max. (mean value approx. 2.50 ms)
	4PDT	7 ms max. (mean value approx. 3.80 ms)	7 ms max. (mean value approx. 3.30 ms)
Release (reset) time	DPDT	3 ms max. (mean value approx. 1.20 ms)	5 ms max. (mean value approx. 2.50 ms)
	4PDT	5 ms max. (mean value approx. 1.30 ms)	7 ms max. (mean value approx. 2.70 ms)
Bounce time	Operate	Actual value approx. 0.50 ms	
	Release	Actual value approx. 0.50 ms	
Operating frequency	Mechanical	36,000 operations/hour	
	Electrical	1,800 operations/hour (under rated load)	
Insulation resistance		1,000 MΩ min. (at 500 VDC)	
Dielectric strength		1,000 VAC, 50/60 Hz for 1 minute between coil and contacts	
		1,000 VAC, 50/60 Hz for 1 minute between contacts of different poles	
		1,000 VAC, 50/60 Hz for 1 minute between contacts of same pole	
		250 VAC, 50/60 Hz for 1 minute between set and reset coils	
Surge withstand voltage		1,500 V 10 x 16 μs (conforms to FCC Part 68)	
Vibration	Mechanical durability	10 to 55 Hz; 5 mm (0.20 in) double amplitude	
	Malfunction durability	10 to 55 Hz; 3.3 mm (0.13 in) double amplitude	
Shock	Mechanical durability	1,000 m/s ² (Approx. 100G)	
	Malfunction durability	DPDT: 500 m/s ² (Approx. 50 G); 4PDT: 300 m/s ² (Approx. 30 G)	
Ambient temperature		-40° to 70° C (-40° to 158° F)	
Humidity		45% to 85% RH	
Service life	Mechanical	100 million operations min. (at 36,000 operations/hour)	
	Electrical	See "Characteristic Data"	
Weight	DPDT	Approx. 3.5 g (0.12 oz)	
	4PDT	Approx. 6.0 g (0.21 oz)	

Note: Data shown are of initial value.

■ Characteristic Data

Maximum Switching Capacity Ambient Temperature vs. Electrical Service Life
DPDT Maximum Voltage (reference only) DPDT

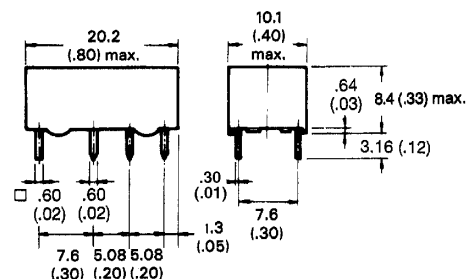


Dimensions

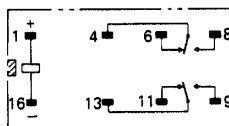
Unit: mm (inch)

■ Non-latching

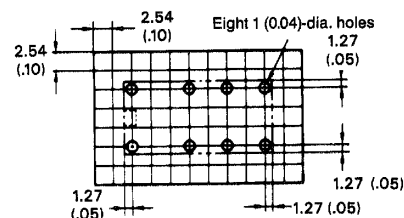
G6A-234P-ST(15,40)-US, G6A-274P-ST(15,40)-US



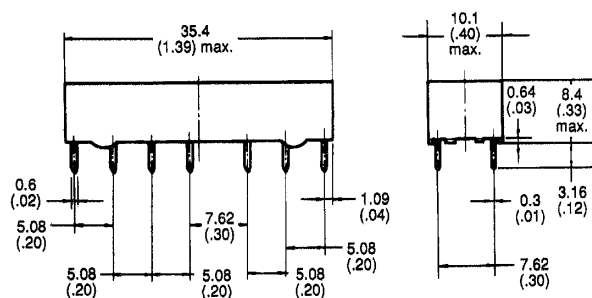
Terminal arrangement/
Internal connections
(Bottom view)



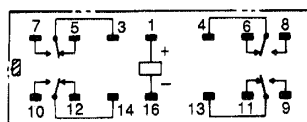
Mounting holes
(Bottom view)



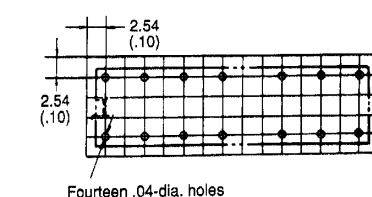
G6A-434P-ST(20,40)-US, G6A-474P-ST(20,40)-US



Terminal arrangement/
Internal connections
(Bottom view)

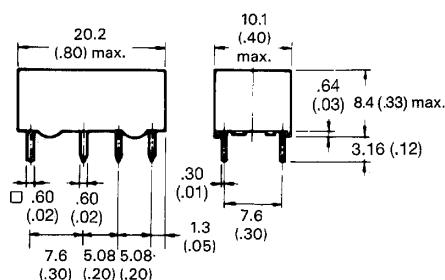


Mounting holes
(Bottom view)

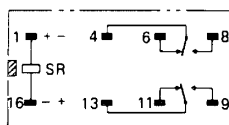


■ Latching

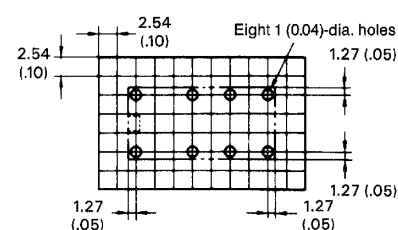
G6AU-234P-ST-US, G6AU-274P-ST-US



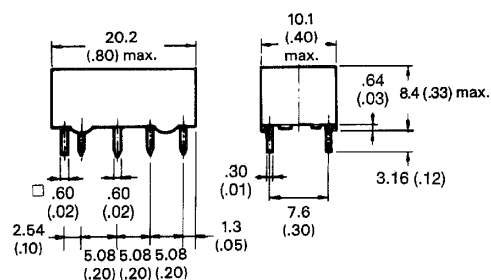
Terminal arrangement/
Internal connections
(Bottom view)



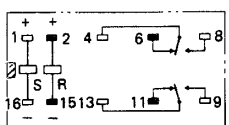
Mounting holes
(Bottom view)



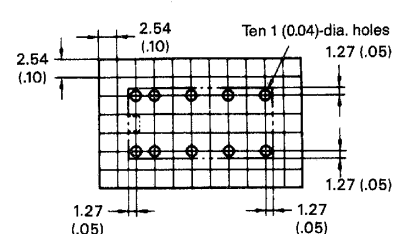
G6AK-234P-ST(40)-US, G6AK-274P-ST(40)-US



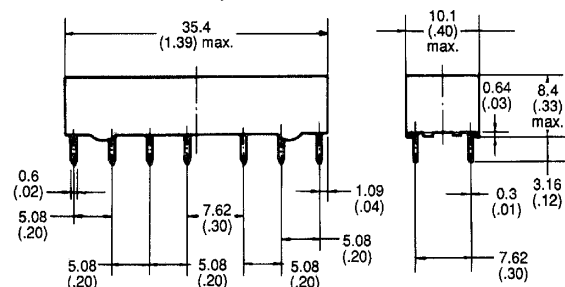
Terminal arrangement/
Internal connections
(Bottom view)



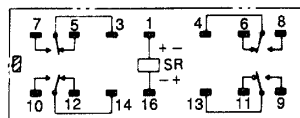
Mounting holes
(Bottom view)



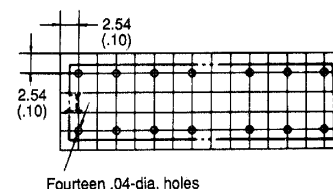
G6AU-434P-ST-US, G6AU-474P-ST-US



**Terminal arrangement/
Internal connections**
(Bottom view)

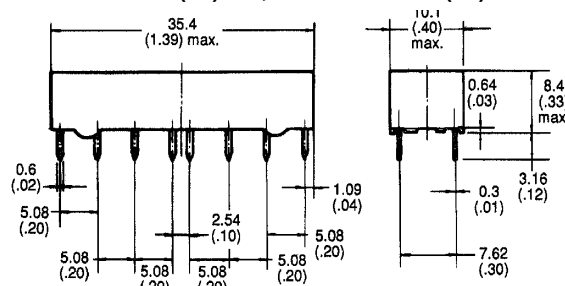


Mounting holes
(Bottom view)

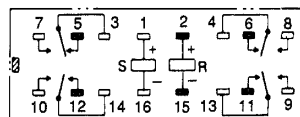


Fourteen .04-dia. holes

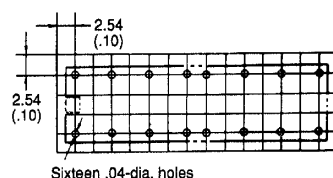
G6AK-434P-ST(40)-US, G6AK-474P-ST(40)-US



**Terminal arrangement/
Internal connections**
(Bottom view)



Mounting holes
(Bottom view)



Sixteen .04-dia. holes

Note: [Hatched box] [] ate mounting orientation marks.

■ Approvals

UL (File No. E41515)/CSA (File No. LR24825)

Type	Contact form	Coil rating	Contact ratings
G6A-234P-ST-US G6A-234P-ST40-US G6A-234P-ST15-US	DPDT	1 to 48 VDC	0.60 A, 125 VAC 1 A, 30 VDC 0.60 A, 110 V+DC
G6A-274P-ST-US G6A-274P-ST40-US G6A-274P-ST15-US			0.60 A, 125 VAC 2 A, 30 VDC 0.60 A, 110 V
G6A-434P-ST-US G6A-434P-ST20-US G6A-434P-ST40-US			0.60 A, 125 VAC 1 A, 30 VDC 0.60 A, 110 V
G6A-474P-ST-US G6A-474P-ST20-US G6A-474P-ST40-US	4PDT	1 to 48 VDC	0.60 A, 125 VAC 2 A, 30 VDC 0.60 A, 110 V
G6AK-234P-ST(40)-US G6AU-234P-ST-US	DPDT	1 to 48 VDC	0.60 A, 125 VAC 1 A, 30 VDC 0.60 A, 110 V
G6AK-274P-ST(40)-US G6AU-274P-ST-US			0.60 A, 125 VAC 2 A, 30 VDC 0.60 A, 110 V
G6AK-434P-ST(40)-US G6AU-434P-ST(40)-US	4PDT	1 to 48 VDC	0.60 A, 125 VAC 1 A, 30 VDC 0.60 A, 110 V
G6AK-474P-ST(40)-US G6AU-474P-ST(40)-US			0.60 A, 125 VAC 2 A, 30 VDC 0.60 A, 110 V

- Note:**
1. The rated values approved by each of the safety standards (e.g., UL and CSA) may be different from the performance characteristics individually defined in this catalog.
 2. In the general interest of product improvement, specifications are subject to change.
 3. UL1950 recognition.

Omron Electronic Components, LLC

Terms and Conditions of Sales

I. GENERAL

- Definitions:** The words used herein are defined as follows.
 - Terms:** These terms and conditions
 - Seller:** Omron Electronic Components LLC and its subsidiaries
 - Buyer:** The buyer of Products, including any end user in section III through VI
 - Products:** Products and/or services of Seller
 - Including:** Including without limitation
- Offer/Acceptance:** These Terms are deemed part of all quotations, acknowledgments, invoices, purchase orders and other documents, whether electronic or in writing, relating to the sale of Products by Seller. Seller hereby objects to any Terms proposed in Buyer's purchase order or other documents which are inconsistent with, or in addition to, these Terms.
- Distributor:** Any distributor shall inform its customer of the contents after and including section III of these Terms.

II. SALES

- Prices/Payment:** All prices stated are current, subject to change without notice by Seller. Buyer agrees to pay the price in effect at time of shipment. Payments for Products received are due net 30 days unless otherwise stated in the invoice. Buyer shall have no right to set off any amounts against the amount owing in respect of this invoice.
- Discounts:** Cash discounts, if any, will apply only on the net amount of invoices sent to Buyer after deducting transportation charges, taxes and duties, and will be allowed only if (a) the invoice is paid according to Seller's payment terms and (b) Buyer has no past due amounts owing to Seller.
- Interest:** Seller, at its option, may charge Buyer 1.5% interest per month or the maximum legal rate, whichever is less, on any balance not paid within the stated terms.
- Orders:** Seller will accept no order less than 200 U.S. dollars net billing.
- Currencies:** If the prices quoted herein are in a currency other than U.S. dollars, Buyer shall make remittance to Seller at the then current exchange rate most favorable to Seller; provided that if remittance is not made when due, Buyer will convert the amount to U.S. dollars at the then current exchange rate most favorable to Seller available during the period between the due date and the date remittance is actually made.
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 - Delivery and shipping dates are estimates only; and
 - Seller will package Products as it deems proper for protection against normal handling and extra charges apply to special conditions.
- Claims:** Any claim by Buyer against Seller for shortage or damage to the Products occurring before delivery to the carrier must be presented in detail in writing to Seller within 30 days of receipt of shipment.

III. PRECAUTIONS

- Suitability:** IT IS THE BUYER'S SOLE RESPONSIBILITY TO ENSURE THAT ANY OMRON PRODUCT IS FIT AND SUFFICIENT FOR USE IN A MOTORIZED VEHICLE APPLICATION. BUYER SHALL BE SOLELY RESPONSIBLE FOR DETERMINING APPROPRIATENESS OF THE PARTICULAR PRODUCT WITH RESPECT TO THE BUYER'S APPLICATION INCLUDING (A) ELECTRICAL OR ELECTRONIC COMPONENTS, (B) CIRCUITS, (C) SYSTEM ASSEMBLIES, (D) END PRODUCT, (E) SYSTEM, (F) MATERIALS OR SUBSTANCES OR (G) OPERATING ENVIRONMENT. Buyer acknowledges that it alone has determined that the Products will meet their requirements of the intended use in all cases. Buyer must know and observe all prohibitions of use applicable to the Product/s.
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 - Use in consumer Products or any use in significant quantities.

- Energy control systems, combustion systems, railroad systems, aviation systems, medical equipment, amusement machines, vehicles, safety equipment, and installations subject to separate industry or government regulations.
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- Errors And Omissions:** The information on Seller's website or in other documentation has been carefully checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.
- Export Controls:** Buyer shall comply with all applicable laws, regulations and licenses regarding (a) export of the Products or information provided by Seller; (b) sale of Products to forbidden or other proscribed persons or organizations; (c) disclosure to non-citizens of regulated technology or information.

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- Waiver:** No failure or delay by Seller in exercising any right and no course of dealing between Buyer and Seller shall operate as a waiver of rights by Seller.
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- Amendment:** These Terms constitute the entire agreement between Buyer and Seller relating to the Products, and no provision may be changed or waived unless in writing signed by the parties.
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NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.
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