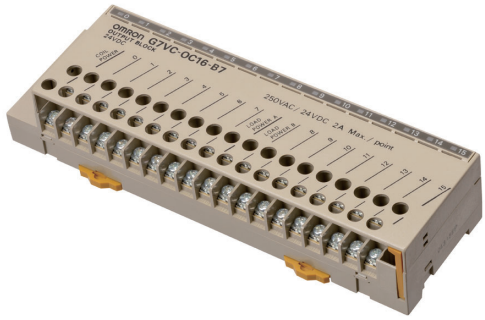
Relay Terminal for Connection to B7A and PLC Connectors

G7VC-OC16-B7

CSM_G7VC-OC16-B7_DS_E_1_1

Compact Output Relay Terminals for Connection to B7A Link Terminals and PLC Connectors



- Compact size: 192 (W) × 58 (D) × 38.5 (42.5) (H) mm.
- New design with rotating front cover for increased safety.
- Direct connection of wiring to loads.
- LED operation indicators.
- Surge absorption diodes included.
- Equipped with relay removal tool.
- DIN Track or screw mounting.

Ordering Information

Relay Terminals

Output Terminals

I/O classification	Points	Internal I/O common	Rated voltage	Model
Relay outputs	16 (SPST-NO × 16)	NPN (+ common)	24 VDC	**G7VC-OC16-B7**

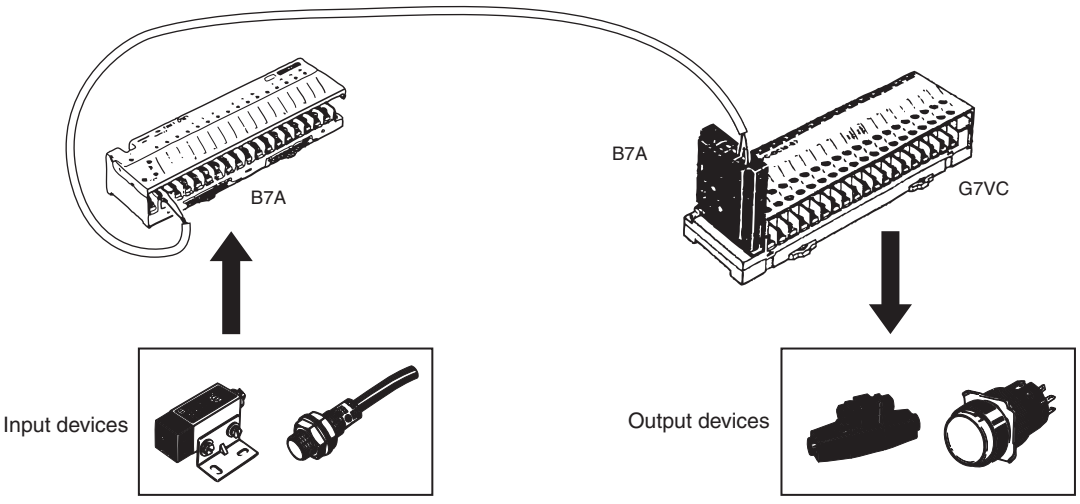
Accessories (Order Separately)

Link Terminals

I/O classification	Wiring type	Appearance	I/O delay time	Output configuration	Error processing	Model
Output (reception)	PLC connector, 16 pins		Normal speed (typical: 10.2 ms)	NPN open-collector, 50 mA/point	HOLD	**B7A-R6A13**
					LOAD OFF	**B7A-R6A33**
			High speed (typical: 3 ms)		HOLD	**B7A-R6A18**
					LOAD OFF	**B7A-R6A38**

Refer to the B7A Datasheet for details.

Cable Connection Examples: B7A and G7VC-OC16-B7



Shorting Bar

Model
G78-V02

Accessories for DIN Track Mounting

Refer to your OMRON website for details on the PFP-☐.

Specifications

Ratings

Relay Specifications

The following values are for when the Relay is mounted on the G7VC-OC16-B7 Relay Terminal. The values are different from those for an individual G6B-1174P-FD-US DC24V Relay.

Operating Coil (Per one G6B-11174P-FD-US DC24V Relay mounted on the Relay Terminal)

Rated voltage (V)	Rated current (mA)	Coil resistance (Ω)	Must-operate of rated voltage	Must-release of rated voltage	Maximum of rated voltage	Power consumption (W)	
						Per 1 point	Per 16 points
24 VDC	8.3	2,880	80% max.✻	10% min.	110%	Approx. 0.2	Approx. 3.2

✻ However, the value is 75% max. if the Relay is mounted upside down.

Note: 1. The rated current and coil resistance are measured at a coil temperature of 23°C with a tolerance of ±15% for coil resistance.

2. The operating characteristics are measured at a coil temperature of 23°C.

3. The value for the maximum voltage is the maximum value within the allowable voltage fluctuation range for the relay coil's operating power supply. Continuous operation at this voltage is not within product specifications.

4. Approx. 4 mA flows into each LED indicator. To calculate the power supply capacity, add the power value of each LED indicator.

Contact Ratings

Item	Resistive load (cos ϕ = 1)	Inductive load (cos ϕ = 0.4, L/R = 7 ms)
Rated load	2 A at 220 VAC, 2 A at 24 VDC	0.8 A at 220 VAC, 0.8 A at 24 VDC
Rated carry current	2 A (per one Relay), 8 A per 8-point common terminal, and 16 A per 16-point common terminal	
Max. switching voltage	250 VAC, 125 VDC	
Max. switching current	2 A	0.8 A
Max. switching capacity (reference value)	AC: 440 VA, DC: 48 W	AC: 176 VA, DC: 10.2 W
Error rate (reference value)✻	10 mA at 5 V	
Electrical endurance	200,000 operations	
Mechanical endurance	50,000,000 operations	

✻ The above values are for a switching frequency of 120 operations/

Characteristics

Item \ Model		G7VC-OC16-B7
		Relay outputs
Contact form		16 (SPST-NO × 16)
Contact mechanism		Single contact
Contact material		AgInSn
Contact resistance ✻1		50 mΩ max.
Must operate time ✻2		15 ms max.
Release time ✻2		15 ms max.
Max. switching frequency	Mechanical limit	18,000 operations/hour
	At rated load	1,800 operations/hour
Insulation resistance		100 MΩ min. (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
Vibration resistance		10 to 55 to 10 Hz with 1.0-mm double amplitude
Shock resistance		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		24 VDC ±5%
Rated current between positive and negative terminal blocks		24 VDC: 12.3 mA × number of ON points
Cable length	To controller	5 m max. (reference value for AWG28)
	To I/O devices	Dependent on load
Ambient operating temperature		0 to 55°C (with no icing or condensation)
Ambient operating humidity		35% to 85%
Tightening torque for external connections		0.78 to 1.18 N·m
Mounting strength		No damage when a tensile force of 5 kgf (49 N) is applied for one second in each direction. In the direction of the track, the strength is 1 kg (9.8 N) min.
Terminal tightening torque		No damage when a tensile force of 5 kgf (49 N) is applied for one second in each direction. In the direction of the track, the strength is 1 kg (9.8 N) min. No damage when a tensile force of 5 kgf (49 N) is applied.
LED color		Orange
Coil surge absorber		Diode (400 V, 300 mA)
Weight		Approx. 300 g

Note: The above values are initial values.

✻1. Measurement condition: 1 A at 5 VDC.

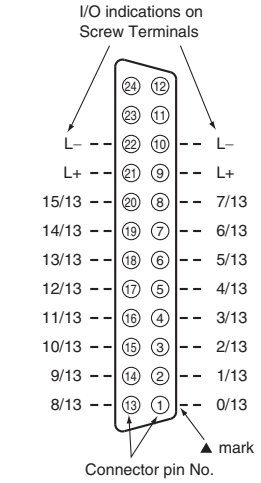
✻2. Ambient temperature: 23°C

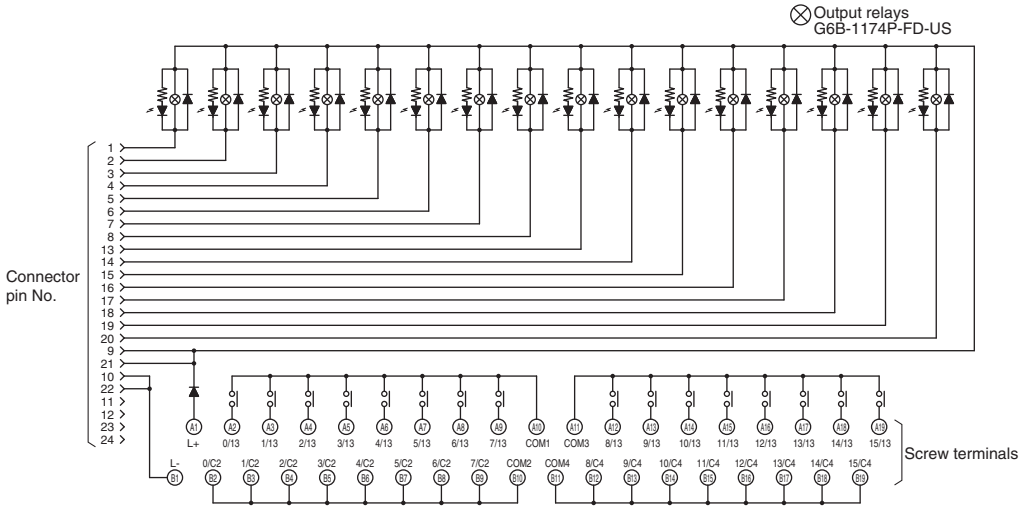
Internal Circuits

G7VC-OC16-B7 (NPN output/- common)

Note: A controller with an NPN transistor, - common output can be connected to the G7VC-OC16-B7.

Connector Pin Configuration
Top View





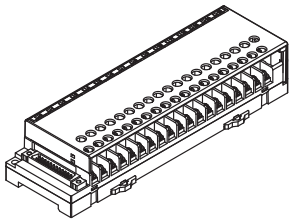
Note: Pin numbers are indicated for convenience. The ▲ mark can be used to determine orientation.

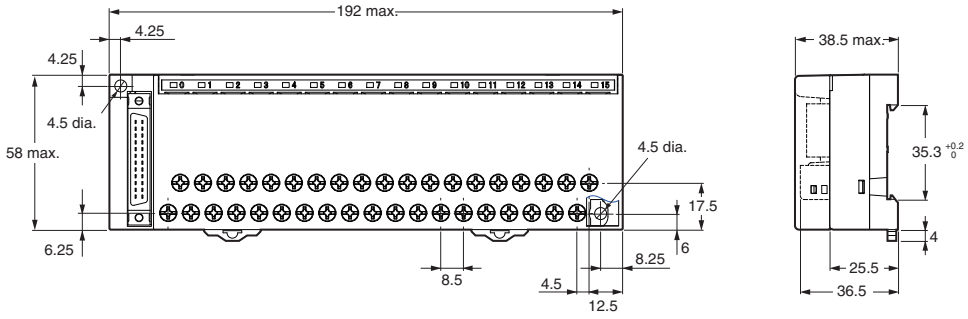
Dimensions

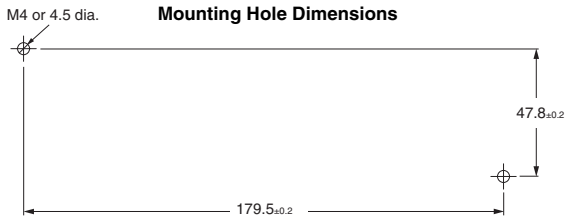
(Unit: mm)

Relay Terminals

G7VC-OC16-B7





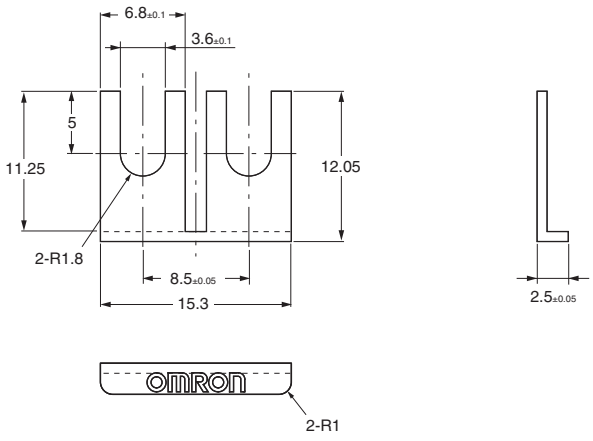


Accessories (Order Separately)

Short Bar

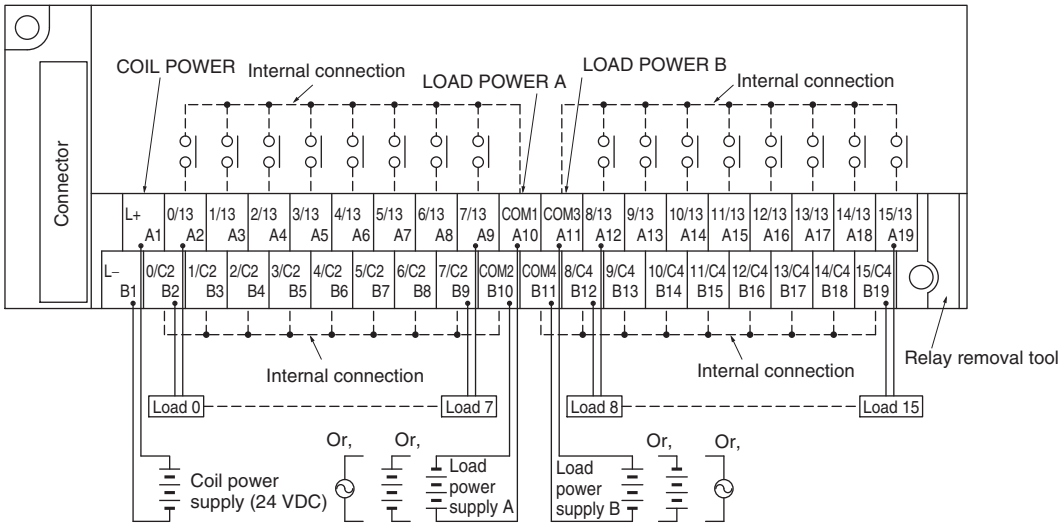
G78-V02

For 16-point common connection.
Max. current flow: 10 A



Terminal Arrangement/Terminal Connection Example

G7VC-OC16-B7



Note: 1. ----: Internal connections.

2. Connect the power supply to drive the SSRs between A1 (L+) and B1 (L–). A1 (L+) is the positive terminal and B1 (L–) is the negative terminal.

3. On the contact side, there are 2 commons with 8 points each. To use a 16-point common terminal, connect A10 (COM1) to A11 (COM3) and connect B10 (COM2) to B11 (COM4). (Optional short bar Type G78-V02 is available.)

4. The following pairs of terminals are connected internally: B2 (0/C2) to B10 (COM2), and B11 (COM4) to B19 (15/C4).

Safety Precautions

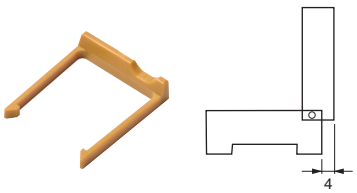
Be sure to read the *Common Precautions for I/O Relay Terminal* in the website at the following URL: http://www.ia.omron.com/.

Warning Indications

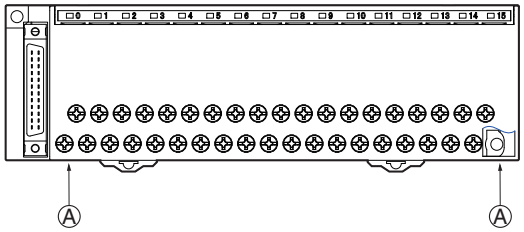
Precautions for Correct Use	**Supplementary comments on what to do or avoid doing, to prevent failure to operate, malfunction or undesirable effects on product performance.**

Precautions for Correct Use

- This Relay Terminal is for outputs only.
- G6B-1174P-FD-US DC24V Relays are mounted as a standard feature on the G7VC.
- To replace the Relays, use the yellow relay removal tool provided on the right side of the screw terminals.



- When the cover is opened, it will extend 4 mm past the exterior of the Relay Terminal. Allow sufficient room to open the cover when you install the Relay Terminal.
- Contact output terminals are connected in the unit of eight COMs. Supply the power to A10 (COM1) and B10 (COM2) for the relays No. 0 to No. 7.
  B10 (COM2) and B2 thru B9 are connected internally. Similarly, supply the power to A11 (COM3) and B11 (COM4). B11 (COM4) and B12 thru B19 are connected internally.
  In the case of using the product with 16 COMs, connect A10 (COM1) to A11 (COM3) and B10 (COM2) to B11 (COM4), respectively.
  For short-circuit, the optional short bar Type G78-V02 is available. However, use it at the current less than 10 A for unit (16 COMs), less than 8 A for 8 COMs and less than 2 A for a COM.
- Avoid connecting and disconnecting the connectors while the power is ON. Otherwise misoperation may be caused.
- It is dangerous to mount or remove a Relay while power is being supplied.
- Opening the Front Cover (Rotating)
  Use both hands to lift up on the edges (A) at the bottom of the cover and rotate the cover.



Terms and Conditions Agreement

Read and understand this catalog.
Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

Warranties.
(a) Exclusive Warranty. Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied.
(b) Limitations. OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE
PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE.
Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) Buyer Remedy. Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Omron's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty.
See http://www.omron.com/global/ or contact your Omron representative for published information.

Limitation on Liability; Etc.
OMRON COMPANIES SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY.
Further, in no event shall liability of Omron Companies exceed the individual price of the Product on which liability is asserted.

Suitability of Use.
Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases.
NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

Programmable Products.
Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.

Performance Data.
Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations of Liability.

Change in Specifications.
Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.

Errors and Omissions.
Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

2017.1

In the interest of product improvement, specifications are subject to change without notice.

OMRON Corporation
Industrial Automation Company

http://www.ia.omron.com/

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for I/O Modules ***category:***

Click to view products by Omron ***manufacturer:***

Other Similar products are found below :

G21960000700 G34960002700 OACU C4SWOUT G34960001700 DA5 IDC5P FC6A-L03CN1 FC6A-N32B3 G3TAOD201SDC24 C200H-OD211 GT1-OD16 GT1-AD04CST GT1-DA04 70GRCQ24-HS M-OAC5 70MRCK24-DIN 6202 6402 IL MOD BK DI8 DO4-PAC FC6A-J2C1 FC6A-KC1C FC6A-R081 FC6A-M24BR1 FC6A-J8CU1 GP32900003700 641-480-5022 PB16H AP24MX3DB25F ADAM-5053S-AE WISE-S614-A 112092-5010 M-IDC5F DA3 SE-105 PB4 6311 6321 ADAM-6017-CE PB-32Q 84115502 2688433 2688527 2688899 2700992 2701224 2701239 2701835 2702053 2702068