

Solid State Relays

G3FM

CSM_G3FM_DS_E_6_3

100-μA-max. Leakage Current, No Bleeder Resistor Required

- Reduces wiring work by 60% when combined with the PFY-08-PU Push-In Plus Socket (according to actual OMRON measurements).
- 1 mA to 500 mA micro-load switching.
- Switch to both AC and DC with no polarity.
- Switch for a wide range of voltages; 19.2 to 264 VAC, 19.2 to 125 VDC.
- Switch full- and half-wave rectifier AC loads.
- Same sizes and terminal arrangements as OMRON Power Relay MY Series.
- Switch MY Series (without bleeder resistor).
- Superior surge absorption with a built-in varistor.
- Optimum SSR to control minute load, valves, and solenoids.



Refer to *Safety Precautions for All Solid State Relays*.



Note: The socket is optional.

Model Number Structure

Model Number Legend

G3FM-□□□□□□
1 2 3 4 5 6

- Basic Model Name**
G3FM: Solid State Relay
- Rated Load Power Supply Voltage**
2: 200 VAC
- Rated Load Current**
R5: 0.5 A
- Terminal Type**
S: Plug-in terminals
- Zero Cross Function**
L: Not equipped with zero cross function
- Operation Indicator**
N: Equipped with operation indicator

Ordering Information






List of Models

Isolation	Zero cross function	Indicator	Rated output load	Rated input voltage	Model
Photo-voltage coupler	No	Yes	0.5 A at 24 to 240 VAC	5 VDC	G3FM-2R5SLN
			0.5 A at 24 to 110 VDC	12 VDC	
				24 VDC	

Note: When ordering, specify the rated input voltage.

■ Accessories (Order Separately)

Connection Sockets

Classification	Terminal type	Appearance	Model
Front-mounting	Screw terminals (Terminal cover structure) *		PYFZ-08
	Screw terminals (finger protection structure)		PYFZ-08-E
	Screw terminals (finger protection structure)		PYF08A-N
	Push-In Plus terminal blocks (Socket combination)		PYF-08-PU
Back-mounting	Relays with PCB Terminals		PY08-02

* Terminal cover type is PYCZ-C08. (Order Separately) For details, refer to the *Terminal Covers*.

Refer to *Common Socket and DIN Track Products* for details on Connection Sockets and DIN Track products (sold separately) of your OMRON website.

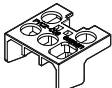
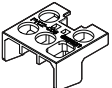
Refer to *PYF□□-PU/P2RF-□□-PU* for details on A Push-In Plus Terminal Block Socket of your OMRON website.

Hold-down Clips

Applicable Socket			Hold-down Clips
Classification	Terminal type	Model	Model
For front-mounting	Screw terminals	PYFZ-08	PYC-A1 *
	Screw terminals (finger protection structure)	PYFZ-08-E	
	Screw terminals (finger protection structure)	PYF08A-N	
For back-mounting	Relays with PCB Terminals	PY08-02	PYC-P

* PYC-A1 is provided with two clips.

Terminal Covers

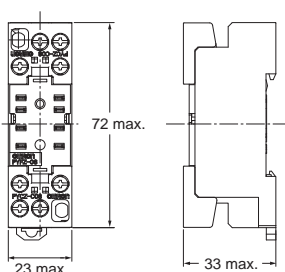
Applicable Socket	Terminal Covers	
Model	Appearance	Model
PYFZ-08	 	PYCZ-C08 (2 pcs/set)

Note: Use these covers in a combination with PYFZ-08.

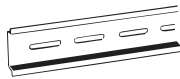
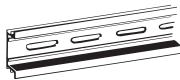


Dimensions with terminal cover

(Unit: mm)

PYCZ-C08



DIN Track Mounting Parts

Classification/ division	Type		Appearance	Model
For front-mounting	DIN Tracks	Shallow type, total length: 1 m		PFP-100N
		Shallow type, total length: 0.5 m		PFP-50N
		Deep type, total length: 1 m		PFP-100N2
	End Plate			PFP-M
	Spacer			PFP-S

Specifications

■ Ratings (at an Ambient Temperature of 25°C)

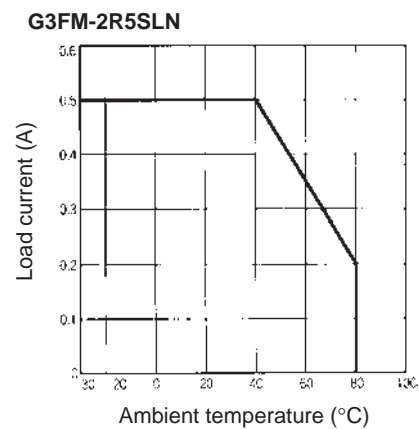
Model	Input					Output			
	Rated voltage	Operating voltage	Impedance	Voltage levels		Applicable load			
				Must operate voltage	Must release voltage	Rated load voltage	Load voltage range	Load current	Inrush current
G3FM-2R5SLN	5 VDC	4 to 6 VDC	250 Ω ±20%	4 VDC max.	1 VDC min.	24 to 240 VAC 24 to 110 VDC	19.2 to 264 VAC 19.2 to 125 VDC	1 to 500 mA at 40°C	6 A (10 ms)
	12 VDC	9.6 to 14.4 VDC	600 Ω ±20%	9.6 VDC max.					
	24 VDC	19.2 to 28.8 VDC	1.2 k Ω ±20%	19.2 VDC					

■ Characteristics

Operate time	5 ms max.
Release time	10 ms max.
Output ON voltage drop	3 V (RMS) max.
Leakage current	0.1 mA max. (at 200 VAC)
Insulation resistance	100 M Ω min. (at 500 VDC)
Dielectric strength	1,500 VAC, 50/60 Hz for 1 min
Vibration resistance	10 to 55 to 10 Hz, 0.75-mm single amplitude
Shock resistance	1,000 m/s ²
Ambient temperature	Operating: -30°C to 80°C (with no icing or condensation) Storage: -30°C to 100°C (with no icing or condensation)
Ambient humidity	Operating: 45% to 85%
Weight	Approx. 50 g
MTTFd (Reference value)	1,000 years min.

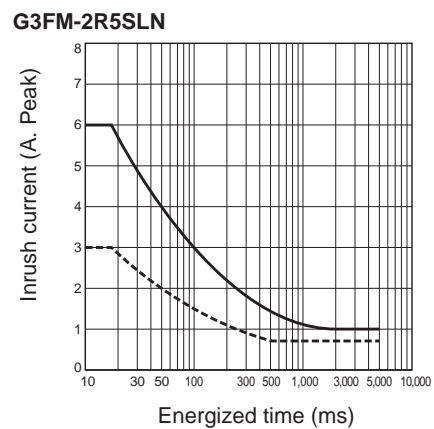
Engineering Data

Load Current vs. Ambient Temperature Characteristics



One Cycle Surge Current: Non-repetitive

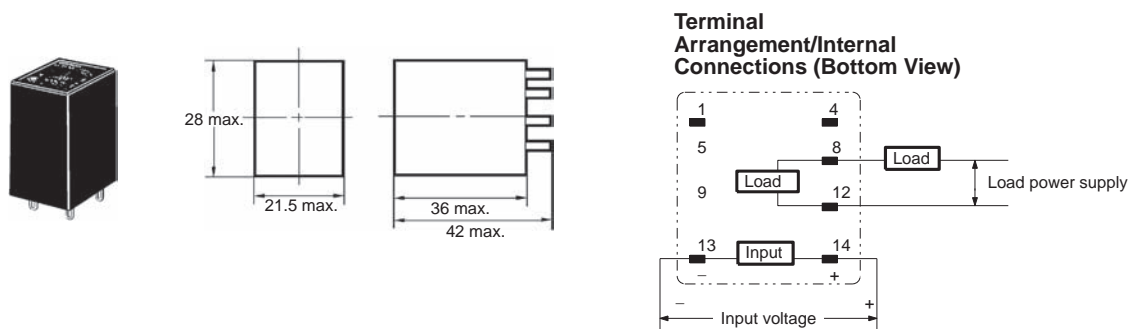
Non-repetitive (Keep the inrush current to half the rated value if it occurs repetitively.)



Dimensions

Note: All units are in millimeters unless otherwise indicated.

■ Relay



■ Accessories (Order Separately)

Connection Socket

Hold-down Clips

Terminal Covers

DIN Track Mounting Parts

Refer to *Products Related to Common Sockets and DIN Tracks* for precautions on the applicable Sockets of your OMRON website.

Refer to *PYF-□□-PU/P2RF-□□-PU* for precautions on Push-In Plus Terminal Block Sockets of your OMRON website.

Safety Precautions

Be sure to read 'the Common Precautions' in the website at the following URL:

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

Refer to the *Common Solid State Relay Precautions* for common precautions of your OMRON website.

Refer to *Products Related to Common Sockets, Terminal Covers and DIN Tracks* for precautions on the applicable Sockets of your OMRON website.

Refer to *PYF-□□-PU/P2RF-□□-PU* for precautions on Push-In Plus Terminal Block Sockets of your OMRON website.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.

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

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

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.