

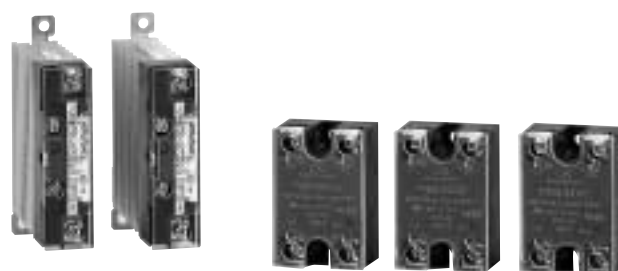
# Heater Power Regulator Solid State Relays PGM10N/F

## ■ Features

The PGM10N/F are solid state relays with zero-cross functions for single phase power.

It is used to control heating in conjunction with time proportioning voltage pulse output controllers.

- The models with or without heat sink are available. Either model can be selected according to the application.
- All models without heat sink (15A, 25A and 45A) has common mounting dimensions and external dimensions.
- The model with heat sink has a thin structure. It can be mounted on DIN rail.
- Gang-mounting is possible, contributing to space saving.
- The following items are provided as standard unit or function for all models with and without heat sink:



- Terminal cover
- Operation indicator
- Built-in varistor
- Wide voltage range is adopted for the input signal.

## ■ Specifications

### ● Model without heat sink

| Model No.                     | PGM10N015          | PGM10N025      | PGM10N045      |
|-------------------------------|--------------------|----------------|----------------|
| Maximum load current          | 15A                | 25A            | 45A            |
| Input voltage range           | 3.5 to 30V         |                |                |
| Input current                 | 10mA max.          |                |                |
| Pick-up voltage               | 3.5Vdc max.        |                |                |
| Drop-out voltage              | 1Vdc min.          |                |                |
| Load voltage range            | 35 to 264Vac       |                |                |
| Maximum surge current         | 150A (1 cycle)     | 225A (1 cycle) | 440A (1 cycle) |
| Turn-on time                  | 1/2 cycle+1ms max. |                |                |
| Turn-off time                 | 1/2 cycle+1ms max. |                |                |
| Output ON voltage drop        | 1.5V max.          |                |                |
| Leakage current               | 12mA max.          |                |                |
| Dielectric strength           | 3000Vac            |                |                |
| Operating ambient temperature | -20 to +80°C       |                |                |
| Applicable standards          | UL, cUL            |                |                |
| Weight                        | 65g                |                | 100g           |

● Model with heat sink

| Model No.                     | PGM10F015          | PGM10F025      |
|-------------------------------|--------------------|----------------|
| Maximum load current          | 15A                | 25A            |
| Input voltage range           | 4.5 to 30V         |                |
| Input current                 | 12mA max.          |                |
| Pick-up voltage               | 4.5Vdc max.        |                |
| Drop-out voltage              | 1Vdc min.          |                |
| Load voltage range            | 60 to 280Vac       |                |
| Maximum surge current         | 150A (1 cycle)     | 250A (1 cycle) |
| Turn-on time                  | 1/2 cycle+1ms max. |                |
| Turn-off time                 | 1/2 cycle+1ms max. |                |
| Output ON voltage drop        | 1.0V max.          |                |
| Leakage current               | 10mA max.          |                |
| Dielectric strength           | 2500Vac            |                |
| Operating ambient temperature | -20 to +80°C       |                |
| Applicable standards          | UL, cUL, CE, TUV   |                |
| Weight                        | 220g               |                |

■ Model Selection Guide

● Model without heat sink

I II Example: PGM10N015

| I               | II       | Contents                                   |
|-----------------|----------|--|
| Basic model No. | Capacity |  |
| PGM10N          |          | Solid state relay, model without heat sink |
|                 | 015      | Load current: 15A                          |
|                 | 025      | Load current: 25A                          |
|                 | 045      | Load current: 45A                          |

● Model without heat sink

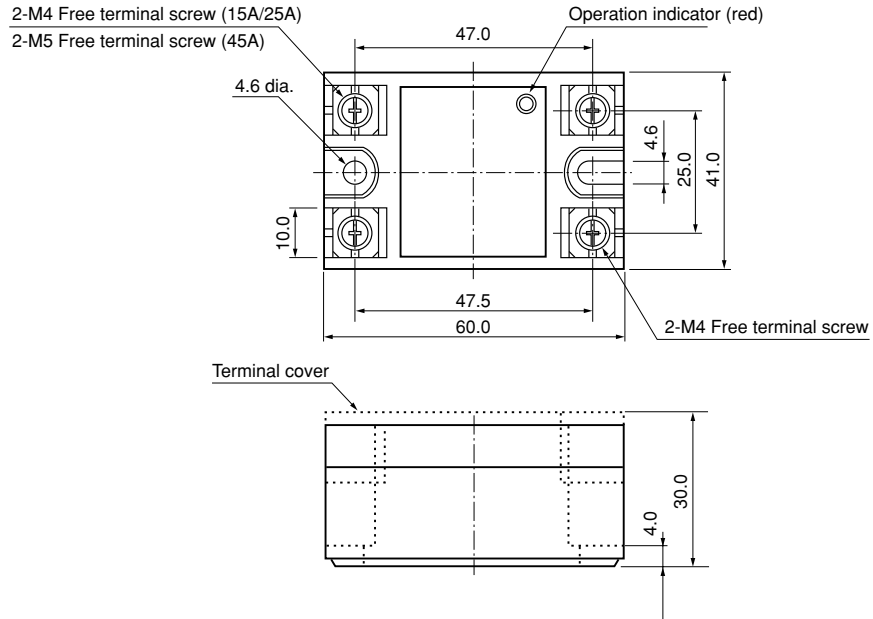
I II Example: PGM10F015

| I               | II       | Contents                                |
|-----------------|----------|---|
| Basic model No. | Capacity |   |
| PGM10F          |          | Solid state relay, model with heat sink |
|                 | 015      | Load current: 15A                       |
|                 | 025      | Load current: 25A                       |

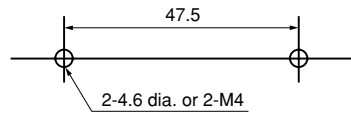
## ■ Dimensions

### ● Model without heat sink

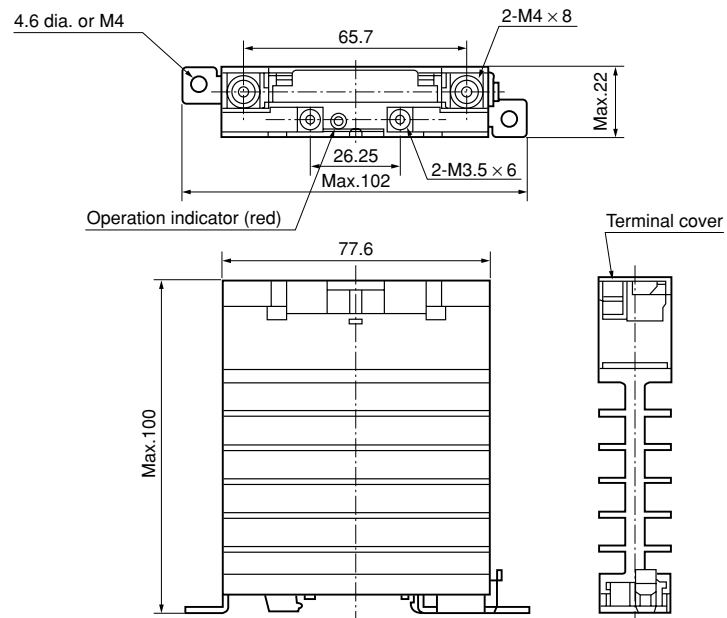
(Unit: mm)



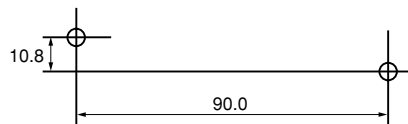
#### • Mounting hole position



### ● Model with heat sink

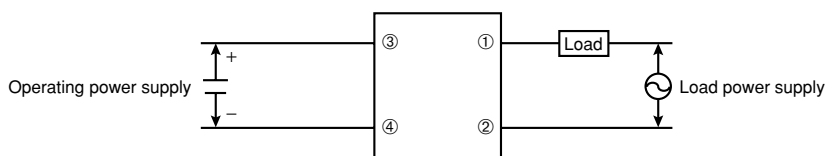


#### • Mounting hole position



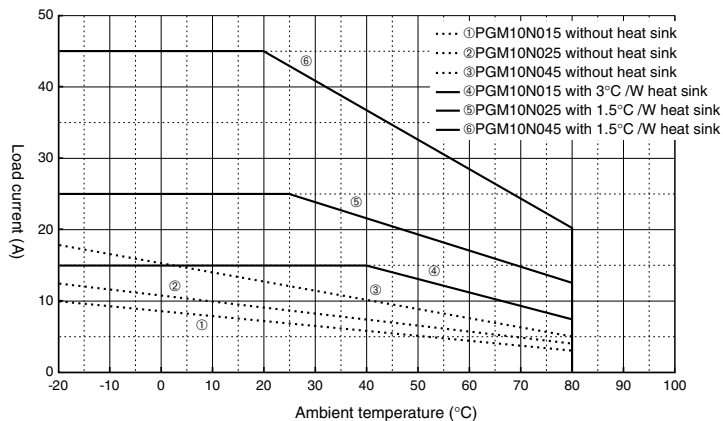
35mm DIN rail mounting or 2-4.6 dia. or M4

## ■ Wiring



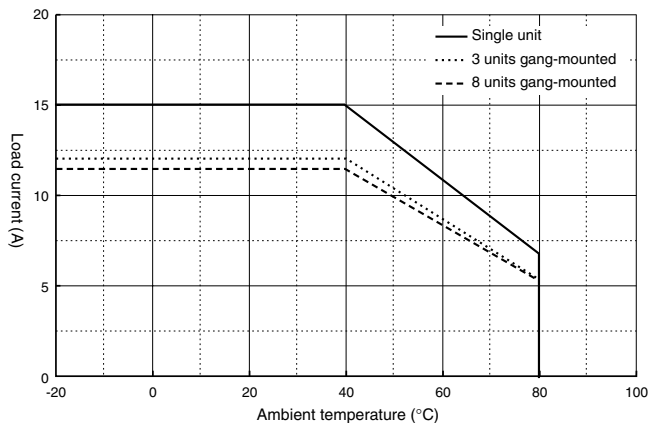
## ■ Load current vs. Ambient temperature rating table

### ● PGM10N Series

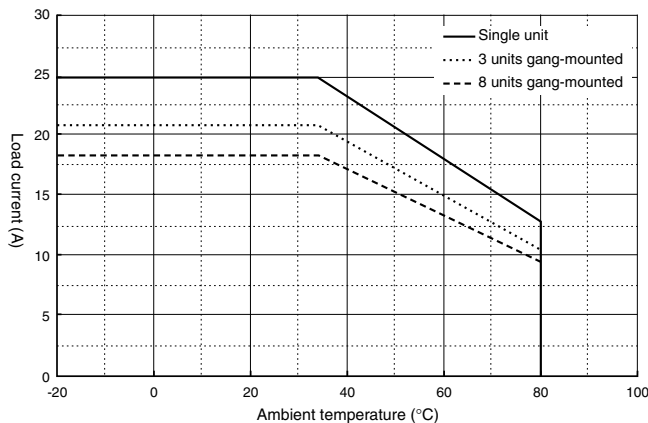


### ● PGM10F Series

#### ● PGM10F015



#### ● PGM10F025



### RESTRICTIONS ON USE

This product has been designed, developed and manufactured for general-purpose application in machinery and equipment. Accordingly, when used in the applications outlined below, special care should be taken to implement a fail-safe and/or redundant design concept as well as a periodic maintenance program.

- Safety devices for plant worker protection
- Start/stop control devices for transportation and material handling machines
- Aeronautical/aerospace machines
- Control devices for nuclear reactors

Never use this product in applications where human safety may be put at risk.

Specifications are subject to change without notice.

**YAMATAKE**

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