

Shinko

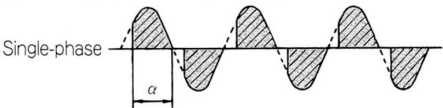
PA-3000-HZ Series (Single phase)



The PA-3000-HZ series includes a phase control system function for efficient control and a frequency division control system function for noise reduction.

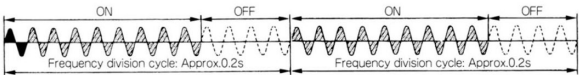
Phase control system

This control system allows infinite resolution. Power to the load can be smoothly adjusted by varying α (conduction angle) modulation depending on the input signal.



Frequency division control system

This control system suppresses noise. Power to the load can be adjusted by varying ON/OFF time ratio depending on the input signal.



Features

- Compact and lightweight
- Phase control/frequency division control selectable
- Automatic frequency detecting function
- Linearization of Input/Output characteristics
- Programmable soft start time

PA-3000-HZ series is compact and lightweight, which allows for ease of mounting in an instrumentation panel. Six models for current ratings of 20A, 30A, 40A, 50A, 75A and 100A are available for the regulation of AC power in conjunction with a controller. Two control systems, phase control (H) for continuous power control and frequency division control (Z) with zero-cross switching, can be selected by the built-in switch and available for various applications and power environments.

Model name

| P A - 3 □ □ □ - H Z | | Single phase | |
|---------------------|-------|--------------|---|
| Rated current | 0 2 0 | 2 0 A | W48×H172×D143mm |
| | 0 3 0 | 3 0 A | |
| | 0 4 0 | 4 0 A | W68×H188×D148mm |
| | 0 5 0 | 5 0 A | |
| | 0 7 5 | 7 5 A | W116×H200×D157mm |
| | 1 0 0 | 1 0 0 A | |
| Control system | | H Z | H: Phase control (Default), Z: Frequency division control |

Please specify the specifications from the above □ □ □ column.
For further details, consult the agent or us.

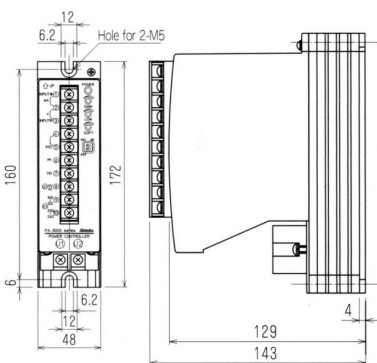
Ordering example

P A - 3 0 3 0 - H Z

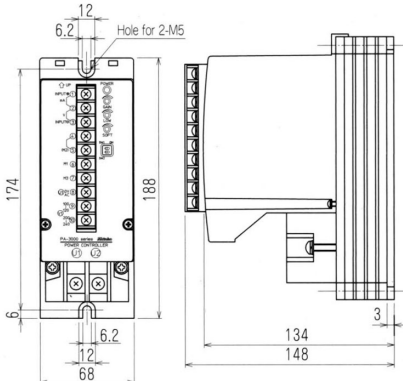
- Base model
- Rated current: 30A
- Control system: Phase control/Frequency division control

External dimensions

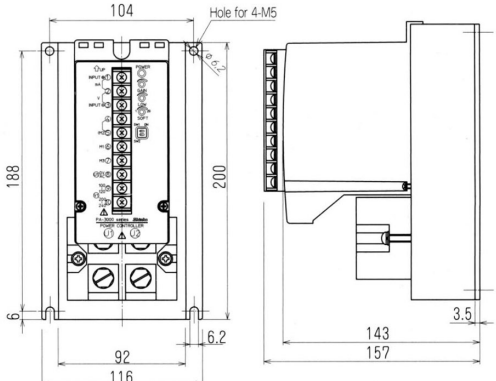
PA-3020-HZ, PA-3030-HZ



PA-3040-HZ, PA-3050-HZ



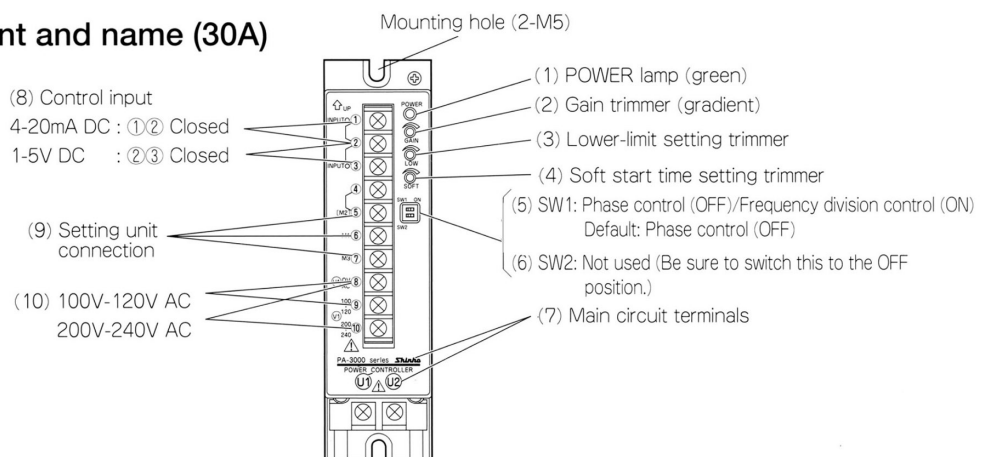
PA-3075-HZ, PA-3100-HZ



Standard specifications

| | |
|----------------------|---|
| Rated current | PA-3020-HZ----- 20A PA-3030-HZ----- 30A PA-3040-HZ----- 40A PA-3050-HZ----- 50A PA-3075-HZ----- 75A PA-3100-HZ----- 100A |
| Input signal | DC current: 4 to 20mA DC DC voltage: 1 to 5V DC or ON/OFF contact signal (selectable by terminals) |
| Input resistance | 100Ω (4 to 20mA DC), 25kΩ (1 to 5V DC) |
| Rated voltage | 100 to 120V AC, 200 to 240V AC Common to 100V line and 200V line (selectable by terminals) Allowable voltage fluctuation range: 90 to 110% of the rated voltage |
| Rated frequency | 50/60Hz (automatic selection) Allowable frequency fluctuation: ± 2 Hz of the rated frequency (operation guarantee) ± 1 Hz of the rated frequency (performance guarantee) |
| Output range | 0 to 98% of the rated voltage |
| Minimum load current | 0.5A (At 98% output) |
| Applicable load | Resistive load Inductive load (transformer primary control, Gauss: 1.25T or less for Phase control system only) |
| Control system | Phase control/Frequency division control (Selectable by built-in DIP switch) |
| Output setting range | Gradient setting (0 to 100%) Lower-limit setting (0 to 100%) |
| Other functions | Soft start, Soft up/down (approx. 1 to 20 seconds) Soft start at reset of power interruption |
| Mounting method | Surface mounting |
| Isolation resistance | Between power terminal and case: 20MΩ or greater at 500V DC |
| Dielectric strength | Between power terminal and ground (radiation fin): 2000V AC for 1 minute |
| Attached functions | <ul style="list-style-type: none"> Soft start time setting The Soft start time and Soft up/down time are programmable. This function can handle a rapid change of load voltage and input signal, and reduces overloading of loads like overcurrent. Gradient setting function The output gradient according to input signal can be adjusted by a built-in trimmer. A gradient setting unit can also be connected externally. Lower-limit setting function By the built-in lower-limit setting unit, the variation band of output according to ON/OFF contact input signal can be adjusted, so efficient control can be performed. A Lower-limit setting unit can also be connected externally. |
| Ambient temperature | -15 to 55°C (Operation guarantee) 0 to 40°C (Performance guarantee) |
| Ambient humidity | 30 to 90%RH |
| Weight | 20A, 30A : Approx. 1.0kg 40A, 50A : Approx. 1.3kg 75A, 100A : Approx. 1.9kg |
| Accessories | Instruction manual, 1 copy |

Terminal arrangement and name (30A)



| Name | Functions |
|---------------------------------|---|
| (1) POWER lamp | Lights up (green) when the power is supplied to terminals (8), (9) and (10). Flashes while identifying the frequency after the power is turned on. |
| (2) Gain trimmer (gradient) | Gradient setting is possible. 100% when turned fully to the right (↗). Generally used at 100%. For Current/Voltage input, the gradient setting unit is installed externally. |
| (3) Lower limit setting trimmer | Output value when control input is 0% (Terminal (H) is connected to (C)) can be set. The output value becomes 0% when it is turned fully to the left (↖). Generally used at 0% position. For the contact input, the lower-limit setting unit is also installed externally. |
| (4) Soft start setting trimmer | Soft start time can be set. When it is turned fully to the left (↖): Approx. 1 second. When it is turned fully to the right (↗): Approx. 20 seconds |
| (5) SW1 | Switches frequency division control (ON) or phase control (OFF). |
| (6) SW2 | Not used. Be sure to switch this to the OFF position. |
| (7) Main circuit terminals | Terminals for main circuit (U1, U2) running to the thyristor element. |
| (8) Control input | Input terminals for current (4 to 20mA DC) or voltage (1 to 5V DC) signal to control the output |
| (9) Setting unit connection | For Current/Voltage input: Terminals to connect the gradient setting unit and manual setting unit externally For Contact input: Terminals to connect output signals (H, C, L) from the controller with upper-limit and lower-limit setting units |
| (10) Power supply | Terminals to supply power to the power controller 100 to 120V AC: Terminals (8) and (9), 200 to 240V AC: Terminals (8) and (10) |