

# THYRISTOR REGULATOR JB series



JB series small and lightweight thyristor regulators for single-phase loads are characterized with high panel installation density. 6 models for the rated current of 20A, 30A, 40A, 50A, 75A and 100A are available for regulation of alternative current power by the combination with a controller or by manual control.

Two control systems, a phase control for continuous power control and a zero-cross control, are built-in and selectable for various applications and power environment.

The applications include small electric furnaces, calibration bath, casting dies heating and heating units for laboratory use.



## FEATURES

### ●Compact structure

Compact, lightweight and high panel installation density.

### ●Phase control/zero-cross control

The phase control and the zero-cross control can be selected by internal dipswitches. You can select an appropriate system depending on applications or power environment.

### ●Automatic frequency detecting function

### ●Linearization of input/output characteristics

### ●Programmable soft-start time

With a built-in trimmer, the soft-start time and soft up/down time are programmable. This function is convenience to countermeasure a rapid change of load voltage and input signal, and to prevent overloading to loads by over-current.

### ●Built-in slope setting function

The slope of output to input signal can be adjusted by a built-in trimmer. A slope-setting unit is separately available, too.

### ●Built-in low-limit setting function

By the built-in low-limit setting function, the variation band of output to on-off contact input signal can be adjusted for sensitive control. A low-limit setting unit is separately provided, too.

### ●Abundant Accessories

Separate setting units for slope and high/low limit(s), and easy-to-mount external fast-acting fuse unit are provided.

## Model

JB-2□□□

Rated current

020 : 20A

030 : 30A

040 : 40A

050 : 50A

075 : 75A

100 : 100A

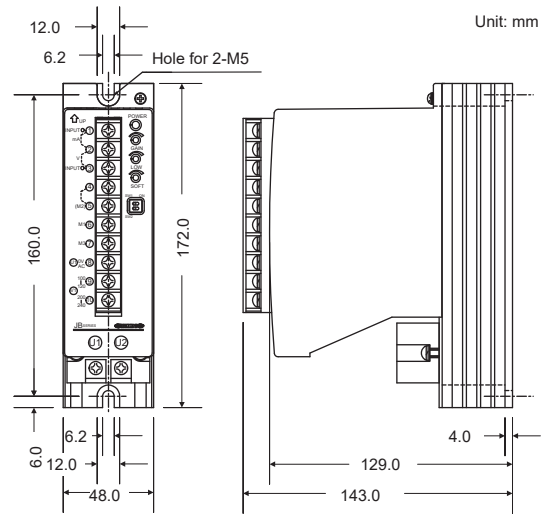
# JB SERIES

## SPECIFICATIONS

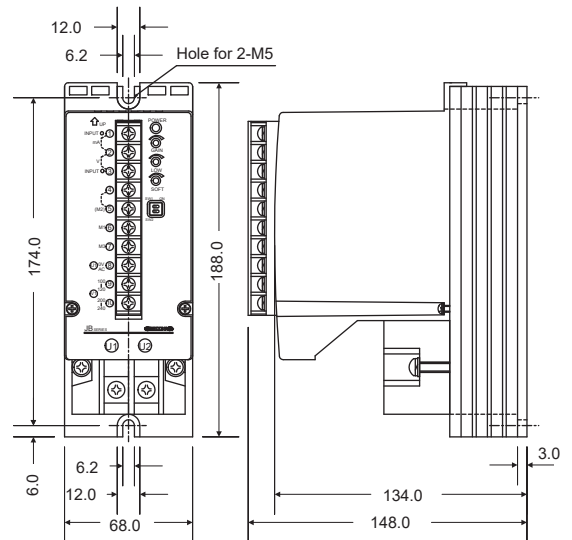
- No. of phases: Single phase
- Rated voltage: 100 to 120VAC and 200 to 240VAC  
Common to 100V line and 200V line  
(selectable by terminals)
- Allowable voltage fluctuation:  
90% to 110% of rated voltage
- Rated frequency:  
50Hz/60Hz (automatic selection)
- Allowable frequency fluctuation:  
Performance guarantee... $\pm 1$  Hz of rated frequency  
Operation guarantee... $\pm 2$  Hz of rated frequency
- Rated current: 20, 30, 40, 50, 75 and 100A, 6 types
- Input signal: 4 to 20mA DC 1 to 5 V DC or on-off contact signal
- Input resistance:  
100  $\Omega$  (4 to 20 mA DC), 25 k $\Omega$  (1 to 5 V DC)
- 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 and phase control only, Magnetic flux density 1.25T or Less)
- Control system: Phase control and zero-cross control  
(selectable by built-in dipswitches)
- Output setting range:  
Slope setting (0 to 100%)  
Low-limit setting (0 to 100%)
- Other functions: Soft start, soft up/down (approx. 1 to 20 sec.)  
Soft start at reset of power interruption
- Working temperature range:  
Performance guarantee ...0 to 40°C  
Operation guarantee..... -15 to +55 °C
- Working humidity range:  
30 to 90%rh
- Insulation resistance:  
500V DC, higher than 20MQ between power terminals and case
- Dielectric strength:  
2000V AC, 1 minute
- Weight: Model JB-2020 Approx. 1.0 kg  
Model JB-2030 Approx. 1.0 kg  
Model JB-2040 Approx. 1.3 kg  
Model JB-2050 Approx. 1.3 kg  
Model JB-2075 Approx. 1.9 kg  
Model JB-2100 Approx. 1.9 kg
- Environmental regulations:  
RoHS
- Environmental regulations standards:  
EN IEC 63000 conformity

## DIMENSIONS

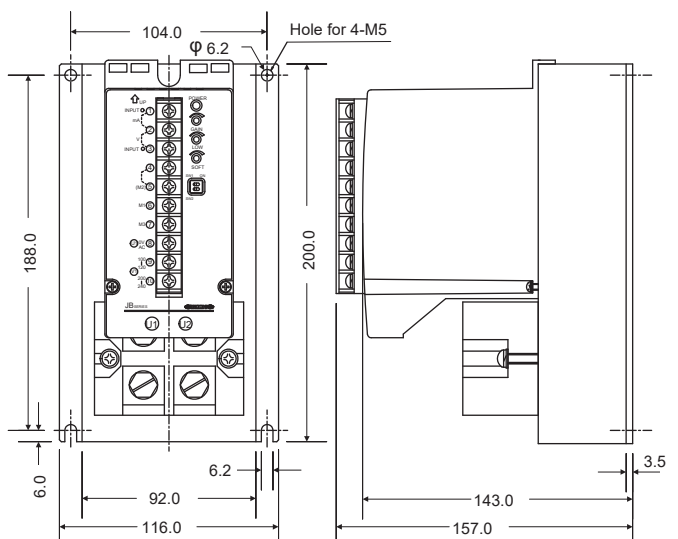
### ●20A, 30A



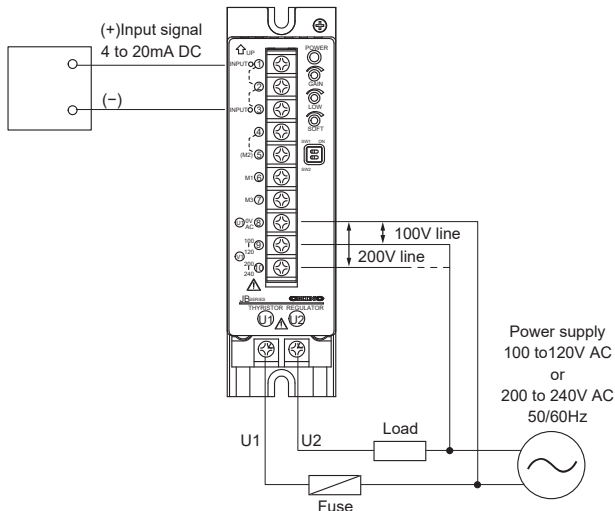
### ●40A, 50A



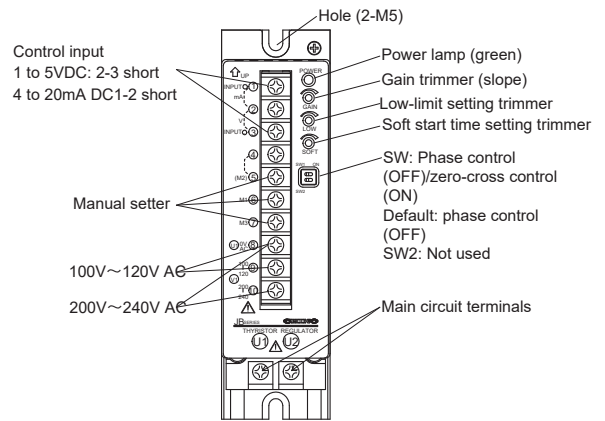
### ●75A, 100A



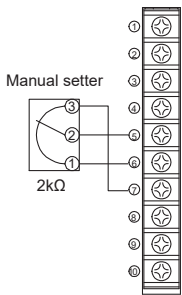
## Wiring



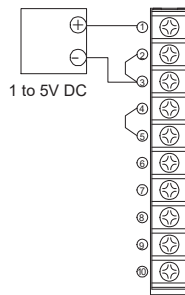
## View (Model JB-2030)



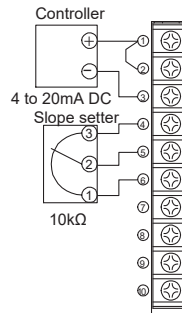
### Manual setter



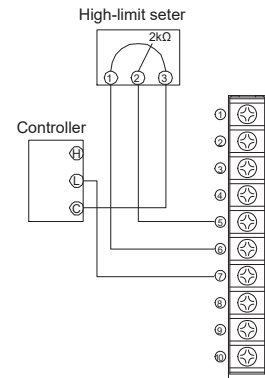
### Voltage signal 1 to 5V DC



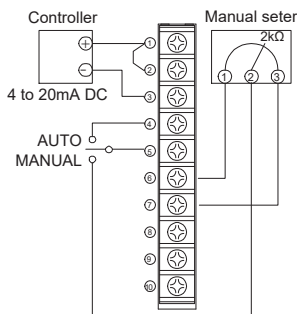
### Current signal 4 to 20mA DC with a separate slope setter



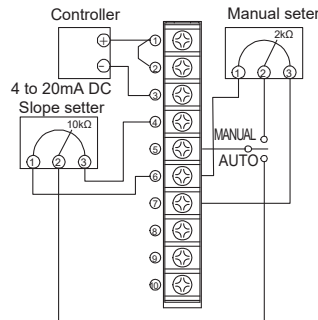
### Contact signal High-limit setter only



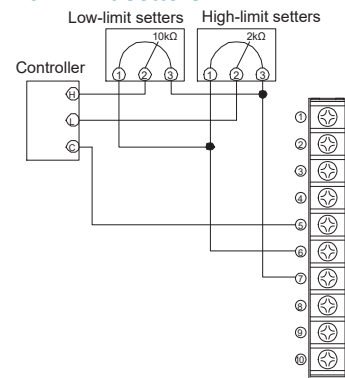
### Current signal 4 to 20mA DC with a separate setter



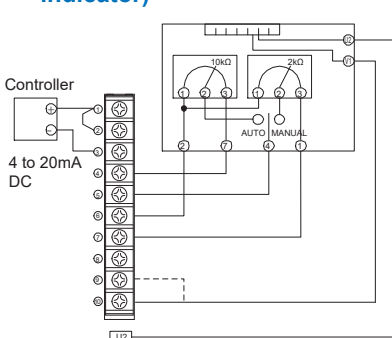
### Current signal 4 to 20mA DC with a separate slope setter and a separate manual setter



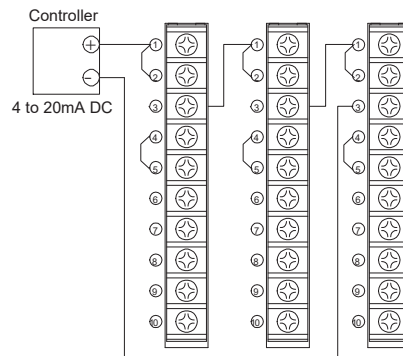
### With separate high-limit and low-limit setters



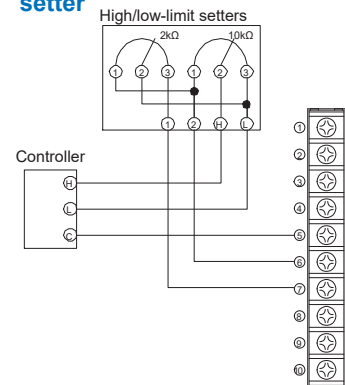
### Current signal 4 to 20mA DC with a setter (with output indicator)



### Parallel running of 3 units by current signal 4 to 20mA DC



### With a separate high-limit/low-limit setter



## ACCESSORIES

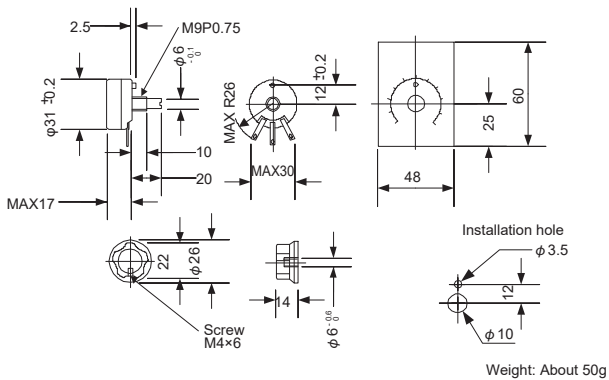
Separate purchase is required.

### ●Setters

Model	Purpose	Specifications
VL-JAL	Slope setting Low-limit setting	Variable resistor 10kΩ
VL-JMH	Manual setting High-limit setting	Variable resistor 2kΩ
VL-JHL	High-limit/low-limit setting	Variable resistor 10kΩ,2kΩ
VL-JAM□N	Output indicator/ Slope setting/ Manual setting/ Auto-manual switch	1: Voltage indicator 0 to 150V 2: Voltage indicator 0 to 250V Variable resistor 10kΩ,2kΩ

\*VL-JAL and VL-JMH is consisted of variable resistor, a scale plate and knob.  
\*VL-JAM□N cannot be used with zero cross control.

### ●VL-JAL, VL-JMH

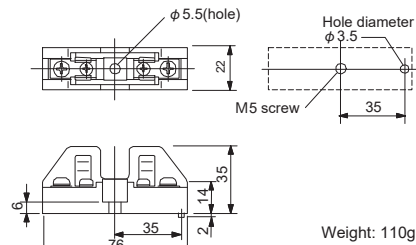


### ●Separate fuse units

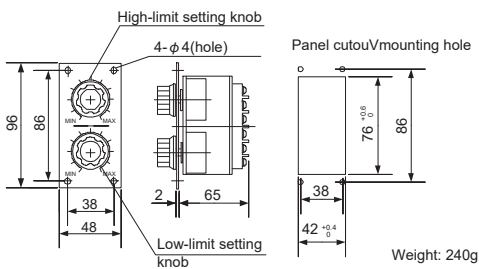
Model	Specifications
FU-J020	Applicable current 20A, fast-acting fuse and holder
FU-JA030	Applicable current 30A, fast-acting fuse and holder with cover
FU-JA040	Applicable current 40A fast-acting fuse and holder with cover
FU-JA050	Applicable current 50A, fast-acting fuse and holder with cover
FU-JA075	Applicable current 75A fast-acting fuse and holder with cover
FU-JA100	Applicable current 100A, fast-acting fuse and holder with cover

FU-JA□□□ is equipped with a fast-acting fuse melting alarm.

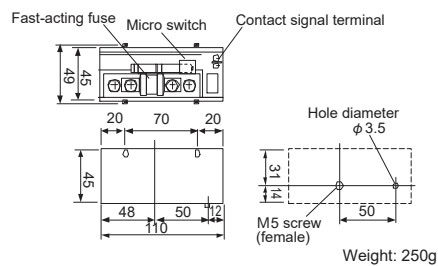
### ●FU-J020



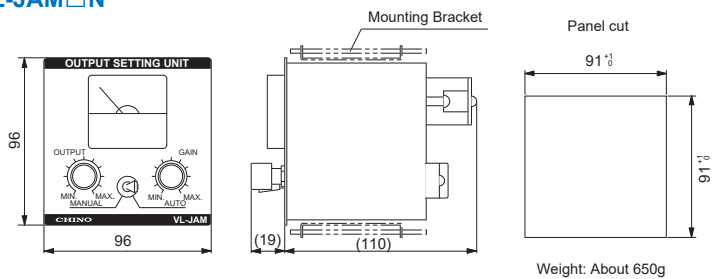
### ●VL-JHL



### ●FU-JA□□□



### ●VL-JAM□N



Unit: mm

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