

Single-phase Power Controller

FPM1/FZM1 series



Forest Co., Ltd.

Specification

Number of aspects	Single phase
Maximum load capacity	AC 20A,30A,50A,70A,100A,150A,200A,300A
I/O characteristic	Straight line characteristic
Power-supply voltage	AC100V,110V,120V,200V,220V,240,380V,400V,440V,480V
Power supply frequency	50/60Hz(automatic distinction)
Permissible frequency change	Within $\pm 1\text{Hz}$
Control method	Phase control and 0 crossing control
Application load	Straight line (R: Resistance) load or inductivity (L) load(side control of the first transformer)
Input signal	DC1 $\sim$ 5V(input impedance: 10K Ω) DC4 $\sim$ 20mA(input impedance: 150 Ω)
Range of output control	0 $\sim$ 98% of the first side power-supply voltage
Cooling method	Natural cooling(AC20A,30A,50A,70A) Compulsion cooling by wind(AC100A,150A,200A,300A)
Protection function	Fuse of deciding hastily
Permissible voltage change	Within $\pm 10\%$ of ratings value
Category temperature range	0 $\sim$ 40 $^{\circ}\text{C}$
Operating humidity limits	90%RH or less(No do be dewy.)
Environment	Causticity gas and dust and vibration, etc.
Installation method	Vertical installation
Insulation resistance	500VDC 50M Ω or more between main circuit terminal and case
Withstand voltage	2000VAC 1 minute between main circuit terminal and case
Weight	20/30A:2.0kg,50A:3.2kg,70A:3.9kg,100A:4.6kg, 150/200A:7.8kg,300A:8.0kg

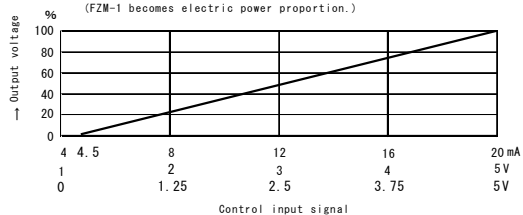
FPM-1/FZM-1Type name code

Specification	Content	Specification code					
		F ☐ M ☐ - 1 ☐	☐	☐	☐	☐	- ☐
Control method	Phase control 0 crossing control	F P M F Z M					
Power-supply voltage	AC100V $\sim$ 110V AC200V $\sim$ 220V AC380V AC400V $\sim$ 440V		1 2 3 4				
Current rating	20A 30A 50A 70A 100A 150A 200A 300A			02 03 05 07 10 15 20 30			
Application load	Straight line(R:Resistance) load Inductivity(L) load				R L		
Input signal	DC4 $\sim$ 20mA DC1 $\sim$ 5V DC0 $\sim$ 5V + Other input signals					A C X	
Option	Manual switch and automatic operation/inclination setting	Phase control	0 crossing control				1
	Fuse disconnection warning	☐	☐				4
	H-L control	☐	☐				5
	Constant voltage circuit	☐	x				6
	Current limiter	☐	x				8
	With % meter	x	☐				9
	Emergency stop	☐	☐				A
	In-flight temperature warning	☐	☐				B
	Overcurrent warning	☐	x				D
	Constant current control	☐	x				E
	Thyristor element abnormality warning(SOR Warning)	☐	☐				G
	Heater disconnection warning	☐	☐				H
	Fixed electric power control	☐	x				W
	Load voltage/load current monitor output	☐	x				M
	Standard foreign voltage (AC240V etc.)	☐	☐				T

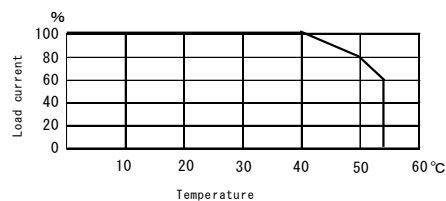
FPM-1/FZM-1Characteristic table

Proportion control output characteristic

(FZM-1 becomes electric power proportion.)



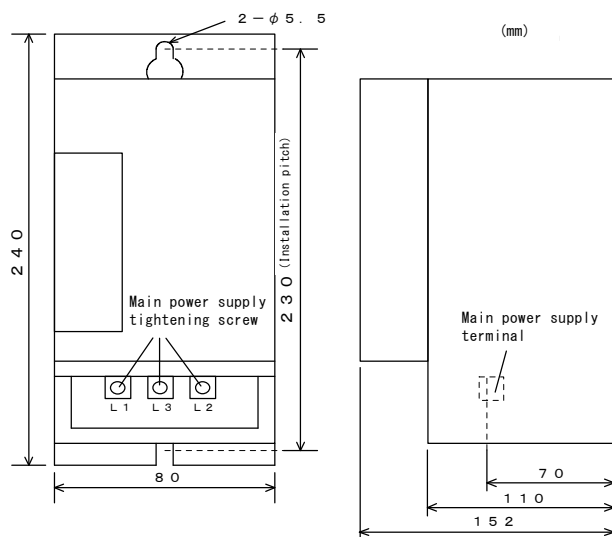
Load current temperature characteristic



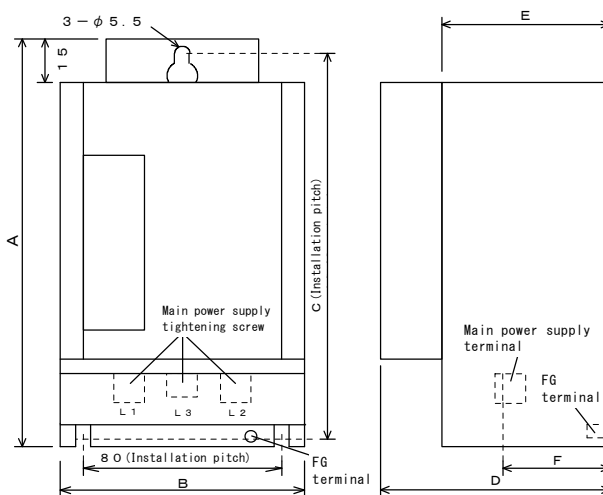
Dimensional Outline Drawings

FPM-1/FZM-1Externals dimensional drawing

20A/30A



50A/70A/100A/150A/200A/300A

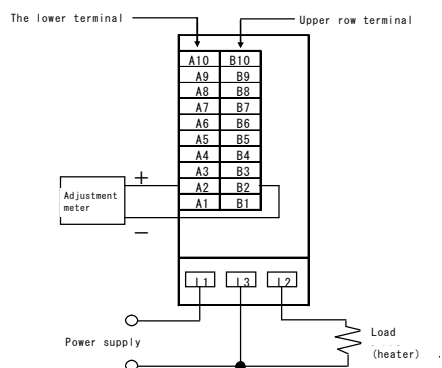


単位 : mm

	A	B	C	D	E	F
50A	235	105	227	212	170	120
70A	285	105	277	212	170	120
100A	285	105	277	212	170	120
150A	335	140	327	265	223	170
200A	335	140	327	265	223	170
300A	335	140	327	265	223	170

The example of external connection

FPM-1/FZM-1Example of external connecting wires



Business line

Automatic temperature control meter

Various temperature detection edges

Direct-current ampere-hour meter

Direct-current ampere-hour meter by microcomputer control

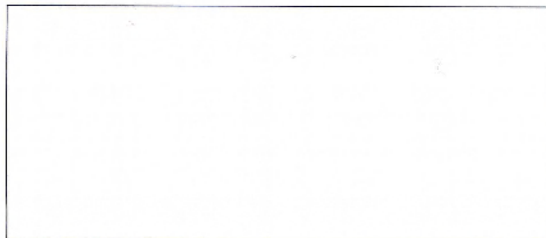
Thyristor power controller

Heater disconnection alarm

In addition, electronic application apparatus



ISO9001
Q3223



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Caution in using

- Since this product is not manufactured for the applications stipulated in the Export Trade Control Ordinance, it cannot be used for the purpose of weapons of mass destruction.
- The final application and final customer must be checked so that it will not be used for weapons of mass destruction (military application, military equipment). Due attention must also be paid to the re-sale so that it will not be illegally exported.

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