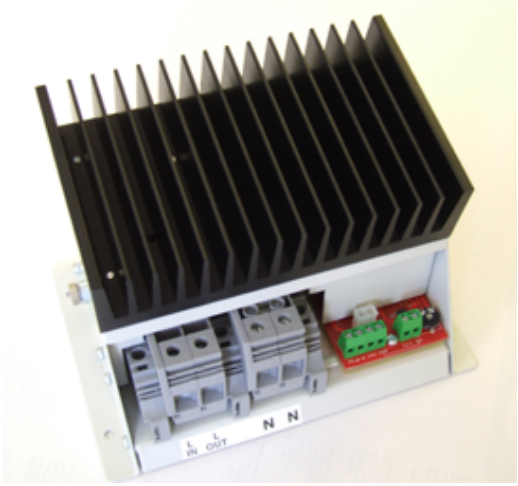
AX-PPR-1-12/18

Single Phase Power Regulators 12 and 18kW - Panel



Product Overview

The AX-PPR1-12/18 Power Regulator is designed to provide continuously adjustable control of electric heating loads from a BMS Controller or similar. Applications include electric heating coils, heating cables and electric furnaces. The AX-PPR1-12/18 use solid-state switching with "zero crossing technology" for minimum RFI and to provide accurate switching control. The Controller features Over Temperature Protection with automatic reset and Alarm Output, LED Indication of Output ON and are designed for panel mounting. The AX-PPR-1-18 includes a fan.

Features

- 0-10Vdc Control Input
- 12kW and 18kW single phase
- PWM Control
- Auto Reset Over Temperature Protection
- 24Vac/dc Powered
- Alarm Output
- LED Indication
- Small Footprint

Product Specifications

Input:		0-10Vdc
Power Supply:		24Vac/dc +/-10%
Alarm Output:		VFC - Open when over temperature
Max Heater Duty:		12kW and 18kW
Rated Load:	12kW	52A
	18kW	75A
Rated Supply:		220-240Vac / 50-60Hz
LED Indication:		ON when output is on.
Dissipated Heat:	12kW	85W
	18kW	126W
Terminals:		
Control:		Rising Clamp for 0.5-2.5mm^2 Cable
Power:		Rising Clamp for 16mm^2 Cable
Ambient Temp. Range:		0 to 55°C Note; The units are rated at 40°C. If using at higher ambient temperature derate the unit by 10% for every 5°C above 40°C.
Dimensions:	12kW	188 x 130 x 128
	18kW	188 x 130 x 160
Weight:	12kW	2.0Kgs
	18kW	2.5Kgs
Country of Origin:		United Kingdom

Order Codes

AX-PPR-1-12	-	**12kW Single Phase Power Controller**
AX-PPR-1-18	-	**18kW Single Phase Power Controller**

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Installation and Configuration

TheAX- PPR1-12/18 Power Controller is designed for mounting on a vertical panel. It is important that free air movement around the heatsink is not restricted. Allow sufficient air space between adjacent units to allow optimum performance of the heatsink. Installation must be carried out by a suitably trained electrician, and in accordance with the relevant statuatory regulations.

Load Supply and Back-up Protection:

The AX-PPR1-12/18 Module must be protected by external fuse. The fuses should be rated at or below the maximum rating of the module and must be of the quick acting semiconductor type. These are available from Axio, together with suitable DIN rail fuse holders. Load cables must be sized such that they are rated in excess of the fuse ratings. If in doubt, contact Axio for advice.

Control Supply:

The control circuitry is fully isolated from the load supply and needs its own 24V (ac or dc) supply. The control supply common is linked to the 0-10V Input Signal common. All low voltage signal and supply cables should be kept separate from high voltage or mains cables, separate trays or conduit should be used. Screened cable should be used for connections to BMS Controllers, where possible the cable screen should be connected to a functional earth (not mains safety earth); normally the screen should be earthed at one end only to avoid earth loops.

Cycle Time:

The Cycle Time is preset. An 0-10Vdc Input Signal of 5V equates to the load being at 50% ON and likewise with an input of 2.5V the load will be 25% ON. A 10V input will equal 100% i.e.full ON. Adjustment of the Cycle Time is possible using Test Point J2, and R1 but is not normally required. **Caution**: Incorrect adjustment of these controls can cause an overload condition and subsequent destruction of the AX-PPR1 unit. DO NOT ATTEMPT TO ADJUST THESE CONTROLS WITHOUT REFERENCE TO THE FACTORY.

Maximum load:

The power rating of the units are given as a guide. The maximum current (which is dependant on the actual supply voltage and actual load) as shown in the above table must not be exceeded.

Earthing:

The protective conductor terminal must always be bonded to a good Earth. This earth bond lead should be rated higher than the maximum load. Refer to BS7671.

Operation

The AX-PPR1-12/18 are designed to control electric heating loads in linear proportion to the incoming 0-10Vdc control signal. Control is by solid-state semiconductor devices which control the load using pulse width modulation (PWM) techniques. These devices feature 'zero crossing point switching' of the AC load which minimises RFI.

CAUTION!

In normal operation the heatsink surface can exceed 90°C. Dangerous voltages exist inside the unit and particular care should be taken. No attempt should be made to open the unit. The AX-PPR1-12/18 Power Controller must be installed in accordance with the relevant statutory regulations and installation must be carried out by an experienced and fully qualified engineer.

Ventilation:

The AX-PPR1-12/18 are designed to operate in a maximum ambient temperature of 55°C, which should not be exceeded. Where ambient temperatures exceed 40°C enclosures or control panels should be ventilated with a cooling fan. Refer to Product Specification for derating to be applied above 40°C. The AX-PPR-1-18 includes a fan to aid the cooling.

Over Temperature Monitoring:

An electronic thermal cutout is fitted to the heatsink to protect against over temperature. The AX-PPR1-12/18 will switch off the load if the heatsink temperature exceeds 95°C and will reconnect the load once the heatsink temperature has dropped below 85°C. Under normal operating conditions the heatsink temperature will not reach 95°C but this might occur, for example, if the ambient temperature exceeds 40°C.

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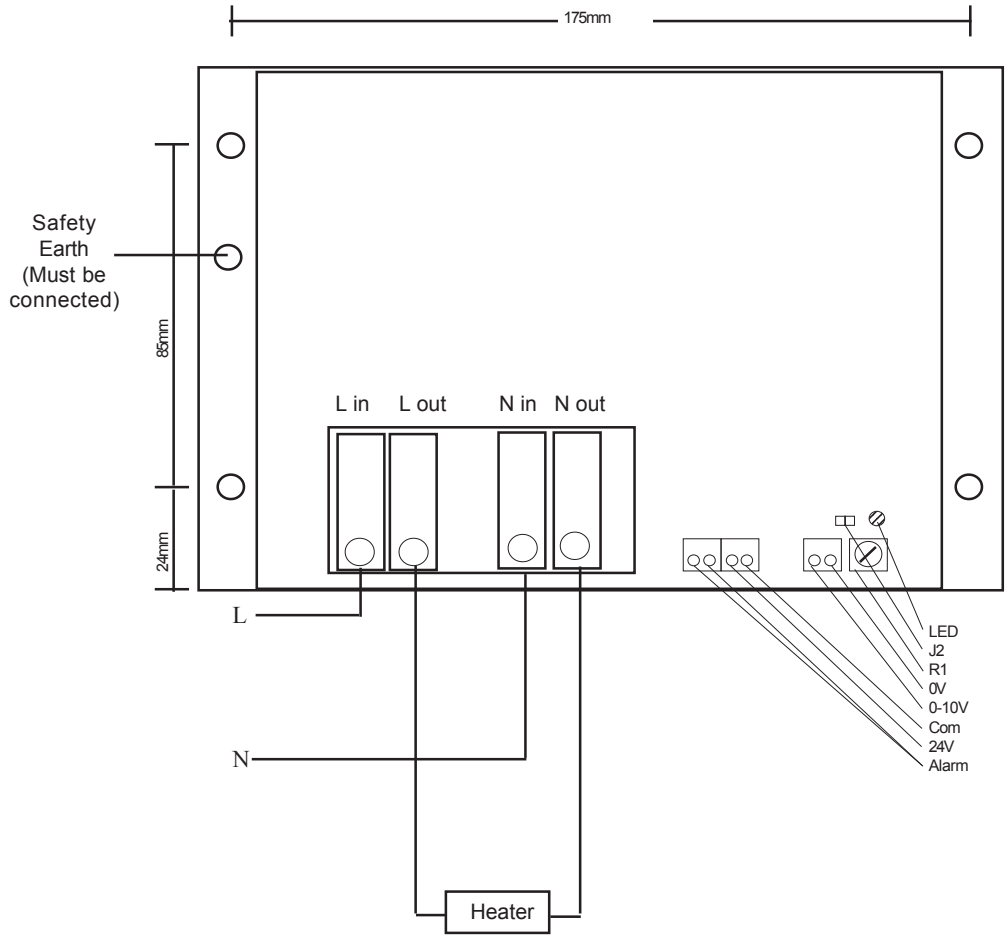
Connection



NOTE: It is imperative that the power connections are fully tightened, without excessive force, and ensure the maximum area of cable is in contact with the terminals.

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