POWER SOURCE

HC-MP-86KW-120A-415V-230AUX

86KW

3 Phase Power Controller

Panel Mounting

Features

- 0-10V Input Control
- 86kW Output
- PWM Control
- Zero Cross Over Switching
- Auto / Manual Override
- Self Powered or 240V Aux.
- IP20
- CE Compliant
- BS EN50178 Build Standard

Specification

POWER SOURCE

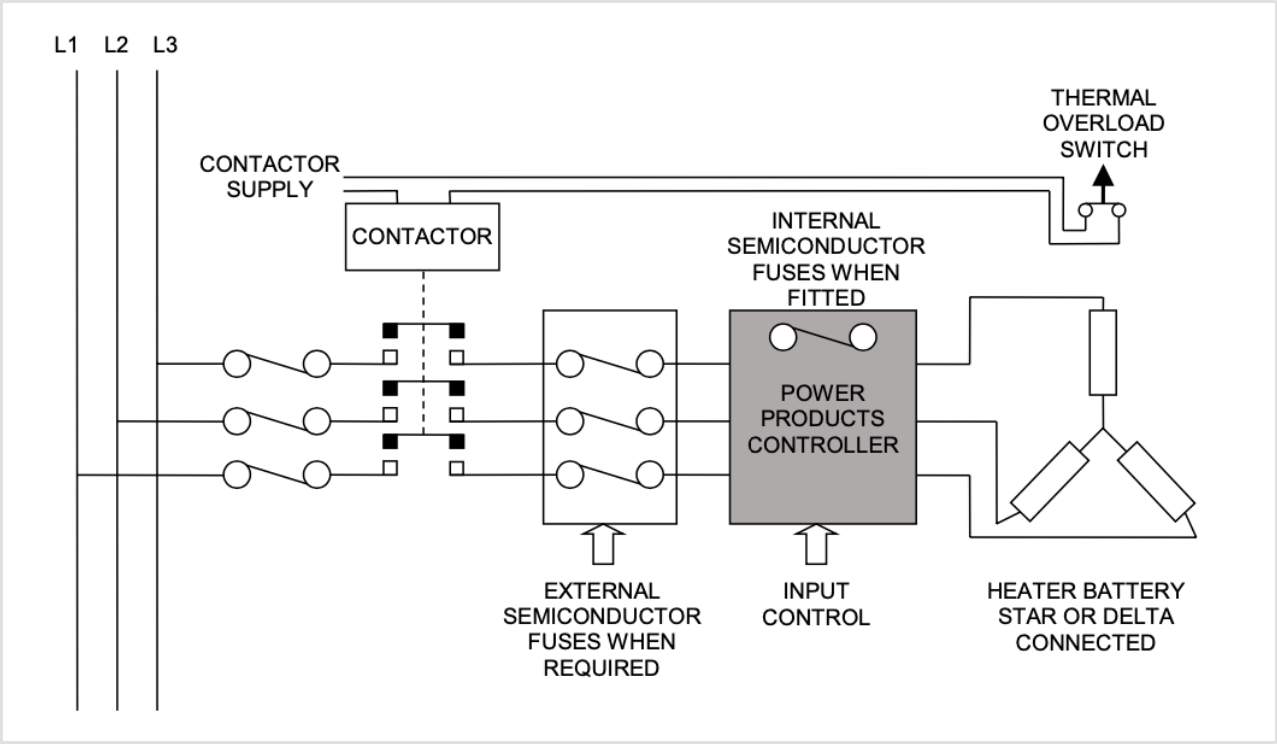
Type Number	HC-MP-BULKHEAD
Order Code	HC-MP-86KW-120A-415V-230AUX
Total Rating (kW)	86 (three phase)
Maximum Current rms (A)	120
Losses (W)	227
Supply Voltage (Vac rms)	415 (-15 ~ +10%)
Frequency (Hz)	50 ~ 60
Power Supply	Line / Self Powered
Aux. Arm Supply (Vac rms)	230 (-15 ~ +10%)
Controlled Arms	Two
Cooling	Natural Air Convection
Fuse Type (per controlled phase)	2 x 100FE
Terminal mm^2	25
Auto / Manual Override	Yes
Input Signal (Vdc)	0-10
Input Impedance (Ω)	47K
Cycle Time (S)	0.4 at 50% output rising to 1 at 0% and 100%
Isolation (V)	3600
Operating Temperature (°C)	-10 ~ +40°C
De rating	20% @ 50°C
Dimensions (mm) (H*W*D)	201*265*159
Weight (kg)	7.5

*other three phase supply voltages may be accomodate - please enquire for details

Implementation & Wiring Information

Typical three phase installation:

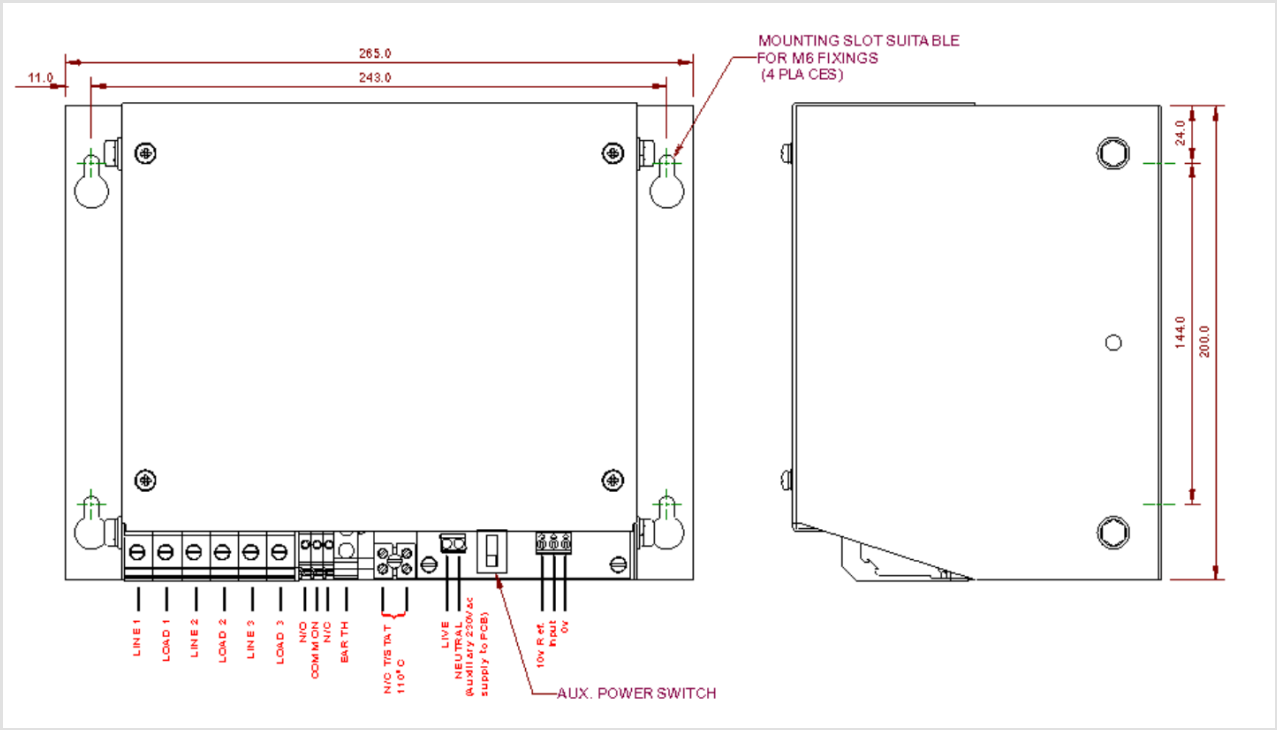
(Load shown in 3-wire star configuration, a delta connected load can also be used. No mains neutral should be connected, for example 4-wire star.)



Specification

POWER SOURCE

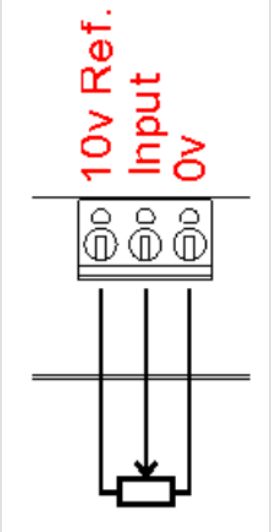
Input configuration and Mechanical Layout:



Heatsink Over Temperature Thermostat:
Heatsink thermostat is normally closed opening at 110 °C.
Contact rating 250Vac 10A.

Fuse Failure Indication:
Fuse failure indication is either normally closed or normally open, indication will operate if any of the internal fuses were to fail.
Contact rating 250Vac 4A, 110Vdc 0.7A.

Single Phase Mode:
The thyristor controller can also be used for up to two single phase loads. If this is required then the line and loads would have to be connected to line/load 1 and line/load 3 terminals, line/load 2 cannot be used as it is a straight through connection (uncontrolled phase leg). If the controller is to be used for single phase connections then the unit has to be powered by an aux. 230Vac supply into the terminal block on the control board and by
selecting “Aux. Powered” using the switch.
Each single phase load can be rated to a maximum of 120A.



Input Signal:

The thyristor controller is factory set to accept an automatic signal of 0-10Vdc, however a +10Vdc reference is provided if a manual signal would rather be used from an externally connected potentiometer. For example:

Operating & Safety Instructions

OPERATION

This power controller is designed to regulate a resistive load by switching the load on and off in time proportioned bursts according to the incoming dc signal (Factory set 0-10Vdc).

LOCATION

Install power controller with heatsink fins in the vertical plane. Allow a minimum of 100mm clearance top and bottom, and 25mm horizontally. Control panels should have sufficient ventilation (grills or louvres as required) to maintain the ambient temperature through the thyristor unit to below 40 Degrees C to run unit to specified kW rating.

SAFETY

It is essential to fit a safety device that will disconnect the mains supply from the controller in case the heating element overheats. This can be a suitably rated contactor or circuit breaker. It is also recommended to fit suitably rated fuses for cable protection. (The on board fuses are for controller protection only). Heater batteries should be protected with an over temperature cut-out.

FUSES

Where power controllers are fitted with ultra-fast fuses to protect the semiconductor replacements should be of exactly the same type and should be purchased via your supplier. External fuses may be fitted where notprovided, according to normal practice for the protection of wiring etc.

Operating & Safety Instructions Cont..

INPUT SIGNAL

These power controllers accept 0 – 10Vdc input signal from a BEMS or controller which will regulate the current to the load in order to achieve accurate proportional control. Therefore load current will be zero, with input signal at zero or disconnected. The unit operates on the burst fire zero-voltage switched principle. Zero voltage switching is for minimum RFI. Burst firing for minimum harmonic distortion. The full load is switched on & off in timed bursts and is proportional to the input signal.

INSULATION TESTS

Thyristors can be irreparably damaged by exceeding their specified voltage rating. It is therefore important to observe proper insulation testing procedures. The thyristors can be effectively isolated from the circuit by shorting together the line and load terminals. This will protect them from damage due to possible over-voltage caused by the insulation test procedure. The insulation test can then be carried out by applying the test voltage between the line terminals and earth**.**

Please contact ADM Systems if any additional information on this procedure is required.

INSTALLATION

Power Source controllers are designed to be plug and play. Refer to wiring diagram supplied with the controller for correct installation. Before commissioning ensure that ALL power connections are tightened correctly.

It is highly recommended that only a qualified electrician carry out testing due to potentially lethal high voltages associated with this task.