

Owner's Information

Rackmaster 260

The Zero 88 Rackmaster 260 dimmer pack is a 2U high fan cooled professional six channel power controller capable of driving up to 10 Amps of lighting loads per channel. These loads may be resistive or inductive and include tungsten, transformer driven low voltage (eg. pinspots), and quartz halogen. Some highly inductive loads such as neon will require a ballast load of 100 watts.

Technical Specifications

Electrical:

Power supply: 50 or 60Hz;

(a) 60A 1 phase 2 wire 230 or 115v

(b) 20A 3 phase 4 wire 250/440v

(c) 20A 3 wire (Delta) 230 or 115v

(d) 3 x 20A 1 phase 230 or 115v

Max total load: 14.44kW @ 240v 7.2kW @ 120v

Load per channel: 0.1A Min; 10A Max

No load consumption: 10w

Interference Suppression: Meets BS800 & VDE 0875

Input Signals: Voltage: 0 to +10v via internal terminal blocks; the +20v nominal low voltage feed is fused at 250mA.

Physical

Max Operating Temperature: 45 °C Ambient

Size and Net Weight: 483mm x 88 x 379 (19" x 3.5" x 15"); 9.5 kg (21lbs)

WARNING

DO NOT REMOVE ANY COVER WITHOUT FIRST COMPLETELY DISCONNECTING THE RACKMASTER 260 FROM THE MAINS SUPPLY

Wiring and Internal Links

To remove the bottom cover:

- 1 Disconnect the Rackmaster 260 at the supply.
- 2 Remove from the 19 inch rack (if appropriate).
- 3 Turn the unit over and remove the four screws securing the bottom plate.
- 4 Slide out the bottom plate.

The Rackmaster 260 is designed to be hard wired into a rack or installation. Cut outs are provided on the rear panel for two 30mm (1.25") and three 20mm (0.75") glands. The packs are supplied set for 240 v, 50Hz, three phase operation. Changing a fuse and the position of a link is all that is required to change the voltage and frequency.

To set the Frequency:

Locate the frequency setting links and reposition for the frequency required on each pcb.

To set the Voltage:

Locate the fuse and reposition for the voltage required on each pcb.

To set Channel Buttons for 50% Output:

Fit the links supplied with the spares kit in the positions shown on the diagram opposite.

Remember to mark the outside of the pack in some way to show the channels affected.

Reassemble the Rackmaster 260 in the reverse order.

Output Wiring

The Rackmaster 260 is fitted as standard with a plate which has two cutouts for 19 pin Mains Socapex fixed sockets (Part No SL-EF 419AR). These should be wired in accordance with the following convention:

Circuit:	1	2	3	4	5	6
Live	1	3	5	7	9	11
Neutral	2	4	6	8	10	12
Earth	13	14	15	16	17	18

Two alternative plates are available:

Product No 218 Harting Socket Plate

This takes one Harting or one Wieland fixed socket (not included). These should be wired in accordance with the following convention:

Circuit:	1	2	3	4	5	6
Live	1	2	3	4	5	6
Neutral	9	10	11	12	13	14
Earth pins:	7	8	15	16		

The Harting part numbers are: 09300160301 (base plate) fitted with a 09330162701 (female insert)

The Wieland part numbers are: 70.320.1628 (base plate) fitted with a 70.300.1640 (female insert)

Product No 216 CEE 22 Output Kit

This takes 12 x CEE22 fixed sockets which are included.

Fusing of Inductive Loads

All inductive loads (eg. pinspots, any transformer driven lamp) must be fitted with the correct value fuse. Failure to fit the correct fuse may mean that any supply disturbances could destroy the lamp transformer. For a single pinspot, a 500mA Quick Blow or 250mA AntiSurge fuse should be used.

Supply Wiring

A separate isolator and secure mains earth are required.

Phase to Neutral voltage must not exceed 250v

Rackmaster 260s are supplied wired for three phase star connected operation.

Single Phase

Remove the single phase busbar from the spares kit supplied and fit across the three phase input bolts.

Three Phase 'Star'

Remove the single phase busbar (if fitted) from across the three phase input bolts. Ensure that the neutral busbar is in place.

Three Phase 'Delta'

To make rewiring for delta connection easier to describe, the pcb which controls channels 1 and 2 (connected to phase 1) is referred to below as the **phase 1 pcb**. The **phase 2 pcb** controls channels 3 and 4; the **phase 3 pcb** controls channels 5 and 6.

Remove the blue neutral wires from the neutral busbar. Connect the neutral wires from the phase 1 pcb to the phase 2 supply input; connect the neutral wires from the phase 2 pcb to the phase 3 supply input and then connect the neutral wires from the phase 3 pcb to the phase 1 supply input. Remove the neutral and single phase (if fitted) busbars. Connect the neutral outputs 1 and 2 to the phase 2 supply input; connect the neutral outputs 3 and 4 to the phase 3 supply input and lastly connect the neutral outputs 5 and 6 to the phase 1 supply input.

Remember, the voltage between phases must not exceed 250v when delta connected.

Front Panel Controls

Channel Test Buttons

Each channel has a test button. Pressing this switches the channel full for rigging or test purposes. By changing internal links, these buttons may be set to switch the channels half on so that 115v lamps may be safely tested.

Lamp Preheat

Each Rackmaster 260 control input has a defined 'off' state in addition to its normal control range. If the input signal is disconnected, the output is 'off', so the lamp is without preheat.

Each pair of channels has a preheat adjustment on the front panel. These may be used to set the preheat level of the channels provided that a controller is connected and set to minimum level on both the channels that are being adjusted.

Diagnostic Lights

The green lights on each control board have the following functions:

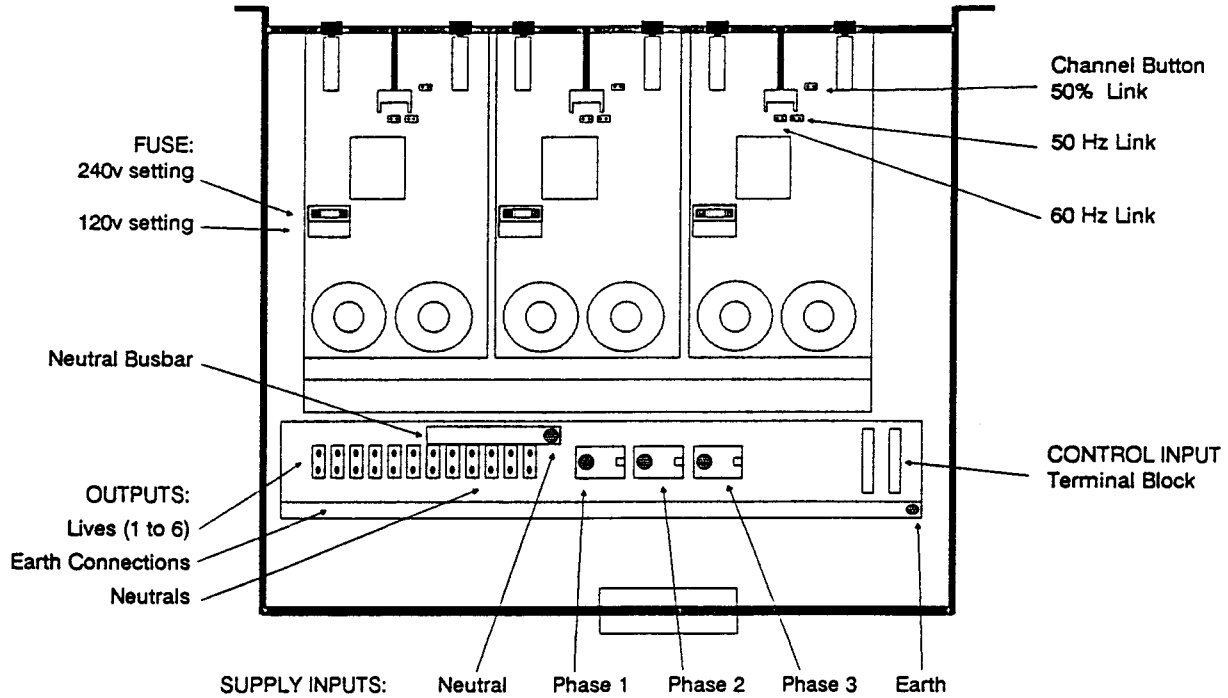
Ref OK : When lit the reference circuit is OK

Channel : Will be on slightly whenever a controller is connected. This shows that the electronics driving the opto isolator is OK. If any light is completely out, check that the signal cable is OK.

Fuse Blown Neons

Located next to each channel fuse, these will glow if the fuse is blown provided a load is connected.

View of the underside with the bottom cover removed



Simple Fault Finding

REGULARLY check that

All the connectors are pushed fully on and all the screw terminals are checked for tightness.

Symptom	Action	Result	Fault
One channel dead	Check bulb & cable Press channel button	1: Red Neon On 2: Ref OK on, channel off 3: Ref OK on, channel on	See below for a simple check 10 Amp fuse blown Channel drive circuit dead; change board.
One pair of channels dead (common ref)	Press both channel buttons	1: Ref Ok off, both channels off 2: Ref OK on, both channels off 3: Ref OK on, both channels on	a: Phase dead, check wiring and supply b: Reference circuit dead, change board c: Thermal cutout has operated. Check fan is working OK and filter is clear. If this happens repeatedly and fan is OK, change cutout. Both channels have circuits dead; change board. Both channels have one main triac and/or opto isolator dead. Replace each in turn to find faulty item.
All channels dead	Check all Ref OK Lights	1: All off 2: All on	Mains supply faulty or disconnected. Press all channel buttons, if lights come on, signal lead or connectors are dead.
One or more channels work on test buttons but not with controller	Ensure test buttons OFF and controller FULL ON	Channel light(s) completely out	a: Test signal cable b: Inspect cable inside Rackmaster between input pcb and each control board

Servicing

An open circuit check: Remove the fuse, the red neon should come FULLY on. If it only comes slightly on, the cable or bulb is open circuit.

To change a Main Triac: Remove the three wires, unscrew and replace with a new one, reconnect the wires and compare with the other triacs for correct wiring.

To change an opto Isolator: Unplug from its socket and replace with a new one.

To change a control board: Unplug the wires and signal connector, remove the six securing screws. When the replacement board has been fitted, check the wiring and voltage/frequency settings with the other boards.

REGULARLY CHECK AND CLEAN THE FAN FILTER