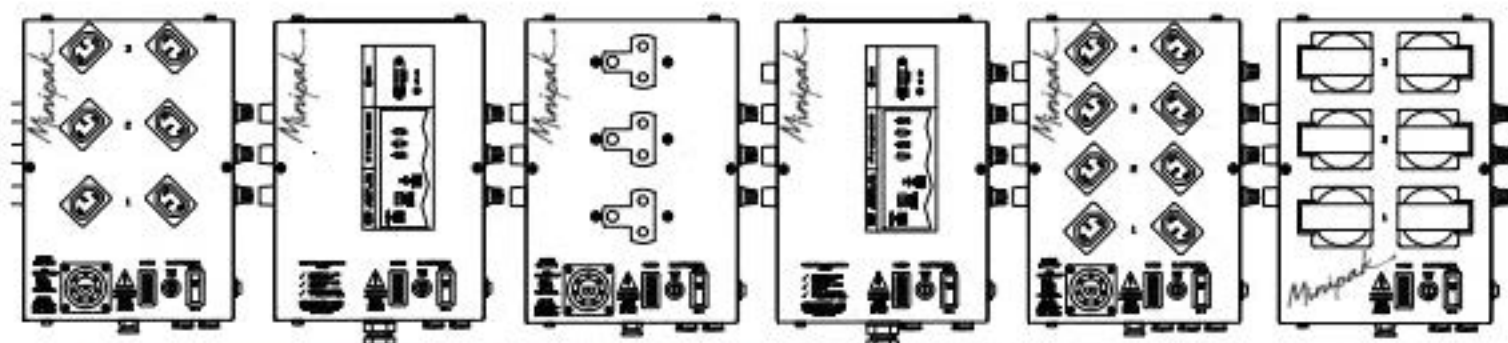


MINIPAK RANGE



SPECIFICATION

- 27700 - 3 x 5A - 6 x IEC Sockets with Plugs
- 27720 - 3 x 5A - 6 x 110V Sockets
- 27730 - 3 x 5A - 3 x 15A Sockets
- 27740 - 4 x 5A - 8 x IEC Sockets with Plugs
- 27750 - 3 x 5A - Hardwired
- 27760 - 4 x 5A - Hardwired
- 27780 - 3 x 5A - 6 x Schuko Sockets

The Minipaks are capable of controlling resistive or inductive loads, making them suitable for running all types of low voltage lamps (including Pincots and projectors), electric motors, neon lights, properly ballasted fluorescent lamps etc. besides ordinary resistive tungsten lamps. These different types of loads may be mixed in any combination.

The Minipaks are not suitable for capacitive loads.

POWER HANDLING - 5 Amps maximum per channel. Inductive loads take a higher current than indicated by their wattage rating so although the 5 Amp limit still applies, a wattage reduction is necessary.

INSTALLATION AND VENTILATION

INSTALLATION AND SERVICE must only be carried out by suitably skilled and competent persons. The Minipaks must be connected in accordance with current local and national wiring regulations. When not in use for a period of time or before working on the lighting installation, replacing lamps or loads, the Minipaks should be isolated (disconnected) from the mains supply. If the Minipaks are not installed or operated according to this instruction leaflet then the protection provided by the Minipaks may be impaired.

VENTILATION - All Dimmer Packs generate a certain amount of heat, so it is essential to leave a 25mm air gap around the Minipak.

TRUSS MOUNTING - The Minipak may be mounted directly on trussing using the M6 U-bolts supplied.

END PANEL CONNECTIONS

MAINS SUPPLY - 100-240 VAC, 50-60 Hz. (self adjusting). We recommend the use of a Residual Current Circuit Breaker. The mains plug should be fitted with a suitably approved and rated plug. Note: in some countries it is a requirement that such a plug be fitted by a qualified electrician.

CABLE COLOURS

- Green/Yellow = \perp Earth / Ground
- Brown = Live / Phase / Hot
- Blue = Neutral

WARNING - THIS APPLIANCE MUST BE EARTHED

POWER CONSUMPTION - The Minipak itself uses very little power so the maximum power consumed (when all the lights are on full) = the total wattage of lamps connected.

- 3 Ch. Minipaks -15 Amps Max - depending on load connected.
- 4 Ch. Minipaks -20 Amps Max - depending on load connected.

REMOTE CONTROL - 2 x 8 pin DIN sockets are provided to allow connection to a Remote Desk. The pin connections are:

3 Channel Minipaks:

Pin	Left Socket	Right Socket
1	Low Voltage Supply Out	Low Voltage Supply Out
2	\perp Earth / Ground	\perp Earth / Ground
3	Channel 1	Thru to left socket pin 6
4	Channel 2	Thru to left socket pin 7
5	Channel 3	Thru to left socket pin 8
6	Thru to right socket pin 3	Channel 1
7	Thru to right socket pin 4	Channel 2
8	Thru to right socket pin 5	Channel 3

The DIN sockets are internally wired to allow a 6 Channel Desk to control two 3 Channel Minipaks. If the Desk is connected to the **Left Hand Socket** (the one closest to the Mains Cable) then slider 1-3 on the Desk will control channels 1-3 on the Minipak. If the Desk is connected to the **Right Hand Socket** then slider 4-6 on the Desk will control channels 1-3 on the Minipak.

Connecting a standard DIN cable between the remaining DIN Socket on the first Minipak (e.g. right) and the opposite socket on the second Minipak (e.g. left) allows sliders 1-3 to work the first Minipak and sliders 4-6 to work the second Minipak.

4 Channel Minipaks (both DIN sockets):

Pin 1 = Low Voltage Supply Out	Pin 5 = Channel 3
Pin 2 = \perp Earth/Ground	Pin 6 = Channel 4
Pin 3 = Channel 1	Pin 7 = Thru
Pin 4 = Channel 2	Pin 8 = Thru

Technical Details:

- 0V = lights off, +10V = lights full on.
- The input impedance is 100k ohms.
- The **Low Voltage Supply (LV Supply)** available for a Controller from pin 1 of the DIN sockets is +18...25V at up to 200mA.
- Control cables do not need to be screened as the inputs of the Minipak are filtered against hum and interference.
- The control cables may be as long as necessary and the minimum size of their conductors is limited only by considerations of mechanical strength.

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REGISTERED IN ENGLAND 1300938

FRONT PANEL

Phase Supply Neon - shows when there is mains voltage present at the Minipak.

Electronics On/Off Switch With Built In Indicator Neon controls the power to the electronics.

CONNECTION TO YOUR LOAD - MAX 5 AMPS / CHANNEL
Disconnect the Minipak from the mains supply before working on the load.

Connect your load to the **Bulgin P552 Socket** using Pulsar standard multiway leads. The pin connections of the multiway system are printed on the front panel.

AND / OR

Connect your load to the **IEC, Schuko, 15A or 110V Sockets** provided on the front of the unit. Where plugs are provided the pin connections are printed inside the plugs where,

L = Live / Phase / Hot N = Neutral  = Earth / Ground

HARD WIRED VERSIONS

Live, Neutral and Earth Inputs: Use the internal brass connection blocks to connect the incoming mains supply cables.

Live, Neutral and Earth Outputs: All of the Hardwired Minipak range provide terminal blocks for connection to your lamps etc.

Two terminals are provided for each live output.

Various pre-wired socket panel options to replace the cable gland panels normally supplied are available for the Minipak range (see Accessories).

SIDE PANEL CONTROLS

A **Lamp Preheat Switch** prevents the lamp filaments from cooling right down. This prevents the surge currents that occur when cold filaments are switched on and thus extends lamp life. **Level Controls** are provided to allow the Pack to be used in "stand alone mode". For use with a Remote Desk the Level Controls should be set to the Remote Control position.

FUSE INFORMATION

Failure of the **Electronics Fuse** located on the front panel indicates an internal fault and servicing by a qualified engineer will be required. If a channel fails to light, a fuse may have blown. These fuses will only blow if the output is overloaded. Do not exceed the maximum load of 5 Amps per Channel and do not short circuit the outputs. We recommend that you check your lighting equipment regularly for damaged wiring, loose connections and potential short circuits. If a fuse blows, locate and rectify the fault before replacing it.

One, 5 Amp, F-Fast, 5 x 20mm, Ceramic, High Rupture Current (HRC) output fuse is provided for each channel. Only this type of fuse has the correct blowing characteristics to protect the triacs - **do NOT use any other type of fuse**. The fuses are in fuse holders mounted on the side panel.

OTHER INFORMATION

WARNING - FUSING OF INDUCTIVE LOADS In the unlikely event of a fault occurring in your unit, it is occasionally possible that damage could occur to incorrectly fused transformers or ballasts of inductive loads. Make sure that your inductive loads are fitted with the lowest value of anti-surge fuse that does not blow in normal use. If in doubt, contact Pulsar. Pulsar cannot be held responsible for damage to incorrectly fused inductive loads under these circumstances. Pulsar Pinspots are fully protected by self-resetting, solid-state fuses.

WARNING - CAPACITIVE LOADS Remove all Power Factor Correction capacitors. Damage to your load may occur if this is not done. Pulsar cannot be held responsible for damage to capacitive loads under these circumstances. If in doubt contact Pulsar.

INTERFERENCE SUPPRESSION - The Minipaks have a comprehensive choke/capacitor interference suppression system which reduces the level of interference produced to below the levels required by EN55014, BS900, VDE0875 etc.. However a small amount of residual interference always exists with this type of equipment, so it is advisable to keep all lighting and mains leads associated with the Minipak as far away as possible from sensitive microphone or guitar pick up leads and A.M. radios; by doing this we do not envisage any problems.

PORTABLE APPLIANCE TESTING - The Minipak Range may be safely Earth Bond and Insulation (500V) Tested.

STANDARDS - The Minipak Range complies with the following International and National Standards:

Electrical Safety - IEC65, EN60065, BS415

EMC - EN50081-1, EN55014, EN55022, EN50082-1

Index of Protection - IP20



Marking Directive 93/68/EEC - The Minipak Range meets both the EMC Directive 89/336/EEC and the Low Voltage Directive 73/23/EEC.

GUARANTEE - 12 months from the date of original purchase. The guarantee is limited to parts and labour. The guarantee is void if the unit is mis-used, repairs are performed by unauthorised persons, or the incorrect type of fuse has been used. In the unlikely event of a fault occurring, do not use without repair. Return the unit, with a description of the fault, to your supplier or direct to Pulsar for immediate attention.

ACCESSORIES

The following products have been designed to work with and complement the **Pulsar 3 and 4 Channel Minipaks**. Please contact us to receive further details of these superb products!

Digital Control

Product No.	Controller
23000	48Ch. Masterpiece Control Desk
24000	108Ch. Masterpiece Control Desk
27300	Universal Interface

Analogue Control

Product No.	Controller
23100.2	3Ch. Manual Control Desk
23705	4Ch. Manual Control Desk
25200	6Ch. Manual Control Desk
23910	12Ch. Single Preset Manual Control Desk
23920	18Ch. Single Preset Manual Control Desk
23900.1	12Ch. 2 Preset Manual Control Desk
23900.2	18Ch. 2 Preset Manual Control Desk
24405	8Ch. Rock Desk
24400	12Ch. Rock Desk
24900	3Ch. Modulator
25000	4Ch. Modulator
26000.3	12Ch. Programmable Touch Panel II

Lanterns

A comprehensive range of stage, rock and effects lanterns.

Cables

Product No.	Cable
22300	2 x P551 Multiway Lead - 1 metre
21500	2 x P551 Multiway Lead - 5 metre
21600	2 x P551 Multiway Lead - 10 metre
28100	2 x 8 pin DIN Plug Signal Lead - 1.5 metre
28000	2 x 8 pin DIN Plug Signal Lead - 10 metre
28100.1	2 x 8 pin DIN Plug Signal Lead - 25 metre
28200	8 pin DIN (Plug + Socket) Signal Lead - 10 metre

Splitter Blocks

Product No.	Splitter Blocks
22200	4 x P552 Sockets
22250	2 x P552 - 4 x IEC Sockets
22500.1	2 x P552 - 4 x 13A Sockets
22500.2	2 x P552 - 4 x 15A Sockets
22500.3	2 x P552 - 4 x Schuko Sockets

Pre-wired Socket Panels

Product No.	Socket Option
28901.1	2 x Bulgin P552
28901.2	1 x Socapex
28901.3	3 x 110V (USA)
28901.4	3 x IEC (with plugs)
28901.5	6 x IEC in 3 series pairs (with plugs)
28901.6	6 x IEC in 3 parallel pairs (with plugs)
28901.7	1 x Harting (German)
28902.3	4 x 110V (USA)
28902.8	3 x Schuko
28902.9	3 x French
23703	4 x IEC (with plugs)

Code	Unit	Width	Height	Depth	Weight
		mm	mm	mm	kg
27700	3 x 5A - 6 x IEC Sockets+Plugs	314.0	178.0	80.0	4.5
27720	3 x 5A - 6 x 110V Sockets	314.0	178.0	80.0	4.5
27730	3 x 5A - 3 x 15A Sockets	314.0	178.0	80.0	4.5
27740	4 x 5A - 8 x IEC Sockets+Plugs	314.0	178.0	80.0	5.0
27750	3 x 5A - Hardwired	314.0	178.0	80.0	4.5
27760	4 x 4A - Hardwired	314.0	178.0	80.0	5.0
27780	3 x 5A - 6 x Schuko Sockets	314.0	178.0	80.0	4.5