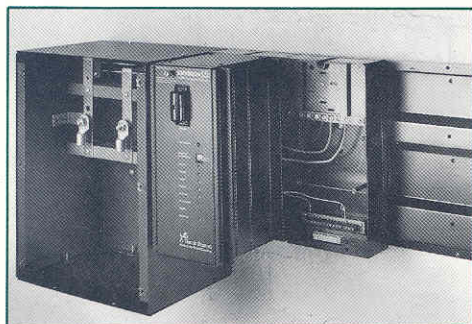


ENVIRON 2

Modular Dimmers



Environ 2 Commercial Dimmers represent a new concept in lighting control. Their modular system allows the electrical contractor to build up on site a bank of dimmers to suit the various loadings of each circuit.

How the system works

Each dimmer module consists of a moulded base unit which incorporates supply busbars plus load and control cable connections. Two separate trunking runs are provided, the upper for mains connections, the lower for the low voltage control wires.

Dimmers of different capacities can be mixed, as can tungsten and fluorescent. Both Reyrolle and Diazed Fused dimmers are available. The dimmer electronics are mounted in aluminium housings which plug into the bases.

Order Codes

Tungsten dimmers

(including base socket)

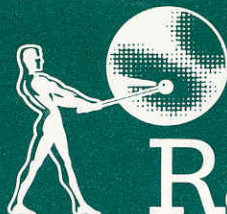
1.5kW Reyrolle 6A	09-800-04
1.5kW Diazed 6A	09-801-0T
1.5kW Preset Reyrolle 6A	09-802-05
1.5kW Preset Diazed 6A	09-803-00
4.0kW Reyrolle 16A	09-810-01
4.0kW Diazed 16A	09-811-06
4.0kW Preset Reyrolle 16A	09-812-02
4.0kW Preset Diazed 16A	09-813-07
8.0kW Reyrolle 32A	09-820-09
8.0kW Diazed 35A	09-821-04
8.0kW Preset Reyrolle 32A	09-822-0T
8.0kW Preset Diazed 35A	09-823-05

Fluorescent dimmers

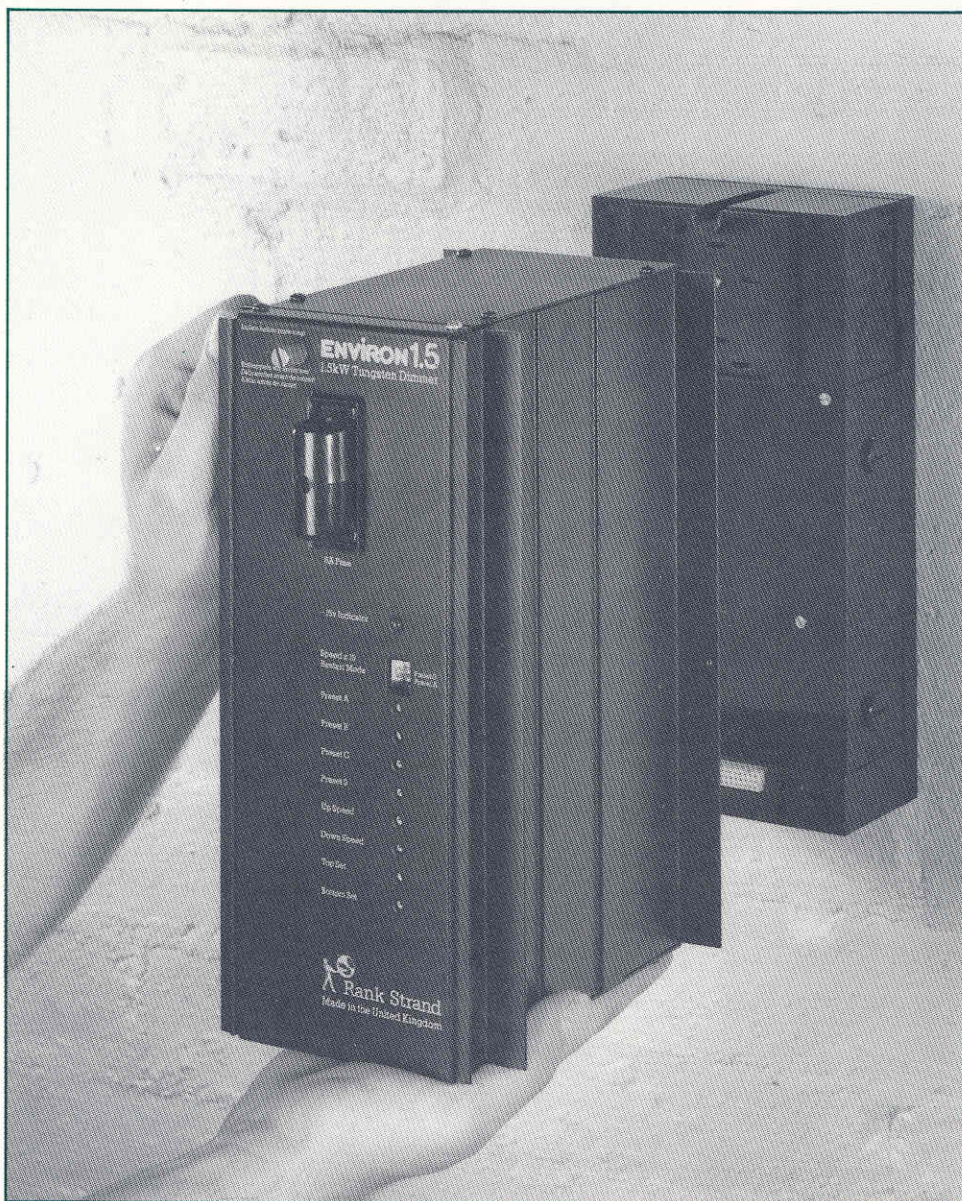
(including base sockets)

6A Reyrolle 6A/2A	09-830-06
6A Diazed 6A/2A	09-831-02
6A Preset Reyrolle 6A/2A	09-832-07
6A Preset Diazed 6A/2A	09-833-03
16A Reyrolle 16A/6A	09-840-03
16A Diazed 16A/6A	09-841-08
16A Preset Reyrolle 16A/6A	09-842-04
16A Preset Diazed 16A/6A	09-843-09
32A Reyrolle 32A/10A	09-850-00
25A Diazed 25A/10A	09-851-06
32A Preset Reyrolle 32A/10A	09-852-01
25A Preset Diazed 25A/10A	09-853-07

Different ENVIRON 2 Dimmer Units can be used together in any combination.



Rank Strand



Control Outstations

See separate data sheets on Control Outstations and Rack Mounted Dimmers for further technical information.

Photo-Electric Cell & Amplifier

Supplied in weather proof enclosure with wall mounting bracket

09-200-07
09-201-02

Accessories

The following items are offered to aid installation of ENVIRON 2 dimmer units.

Busbar Connecting Set

The Busbar Connecting Set links the busbars between individual dimmer units

09-871-00

Mains Connection Box

The Mains Connection Box provides a main input chamber for a multi dimmer installation

09-872-06

Three Phase Link Kit

The Three Phase Link Kit is for connecting between Mains Connection Boxes on each phase in three phase installations

09-873-01

Strandrail (1m length)

Strandrail is used for fixing several dimmer units to a wall quickly and neatly. Its use ensures correct alignment of dimmers

09-874-07

Control Cables

Copper stranded conductors, PVC Insulated, colour-coded and PVC sheathed.

8 core, 1 Amp (per metre)	35-600-24
12 core 1 Amp (per metre)	35-601-11

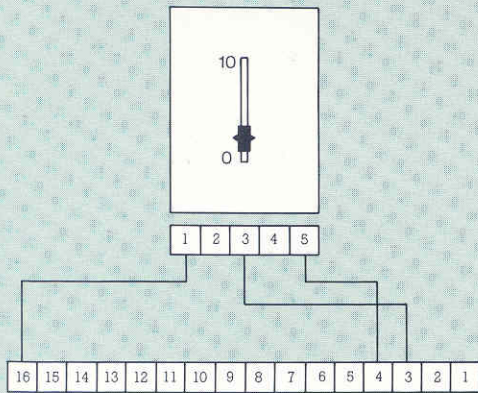
Fluorescent Dimming Ballasts

Fittings to be controlled must have dimmable ballasts. We recommend our ENVIRON range of ballasts - see separate leaflet. These ballasts incorporate all circuit components for starting and running fluorescent tubes.

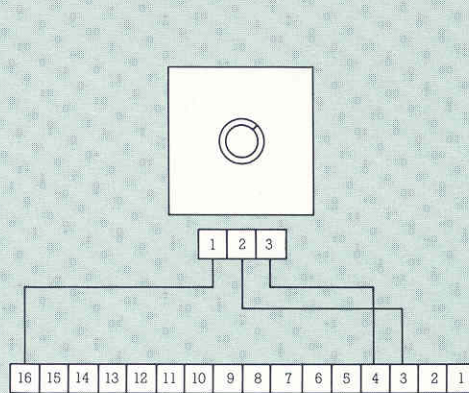
Tubes

T12 38mm tubes up to 1800mm (6ft) can be dimmed satisfactorily by ENVIRON 2. T8 26mm tubes are not suitable for dimming.

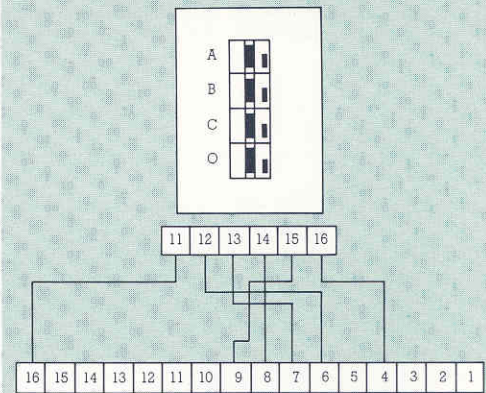
SLIDER FADER



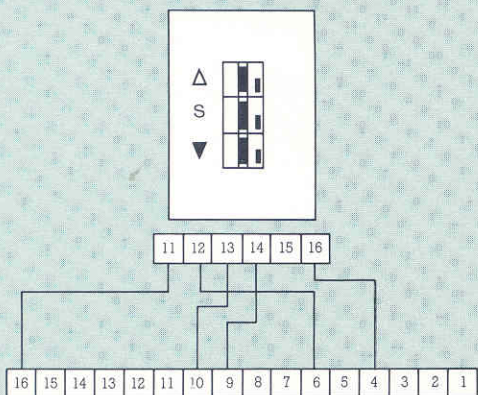
ROTARY FADER



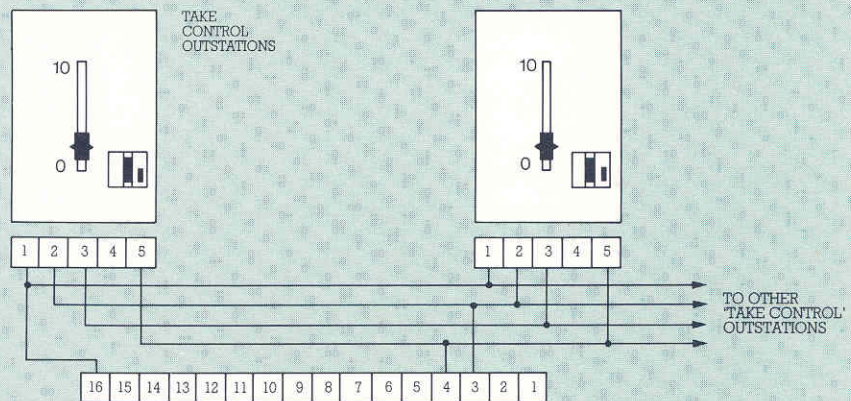
PRESET PUSHBUTTONS



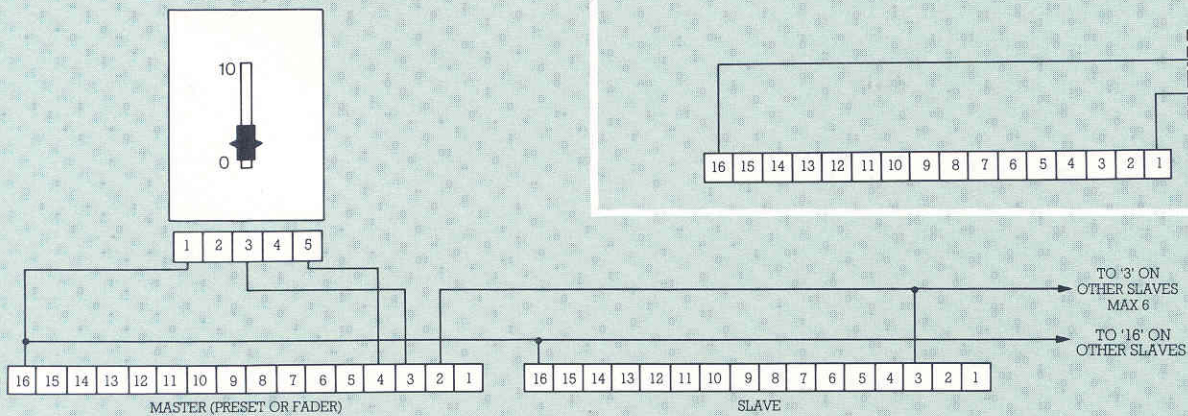
UP-STOP-DOWN



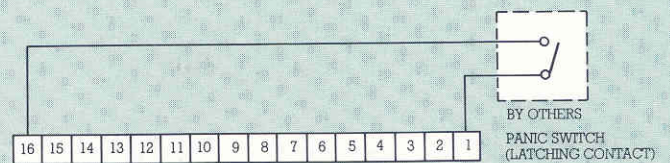
TAKE CONTROL



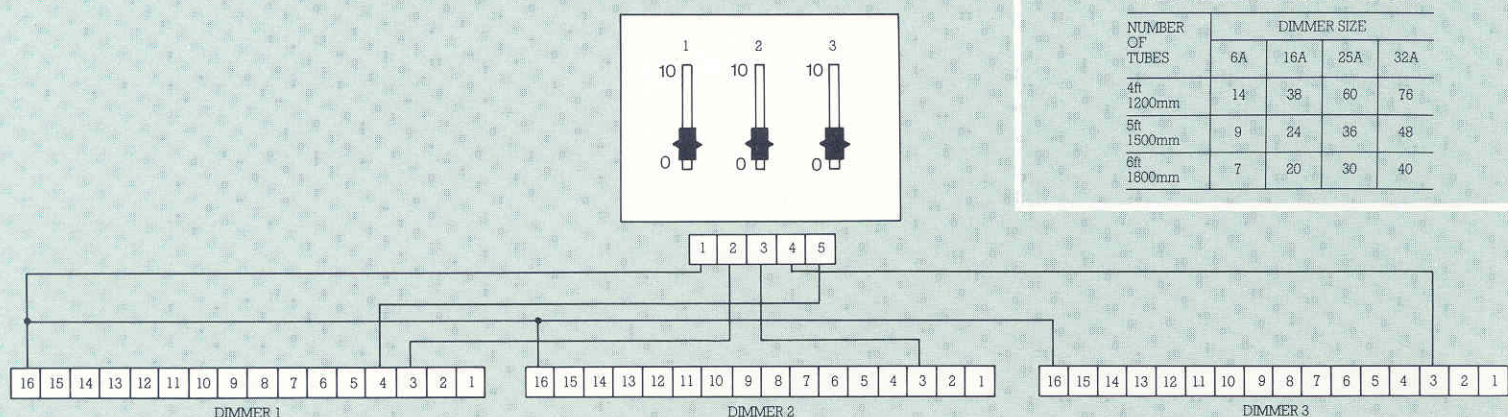
SLAVING



PANIC



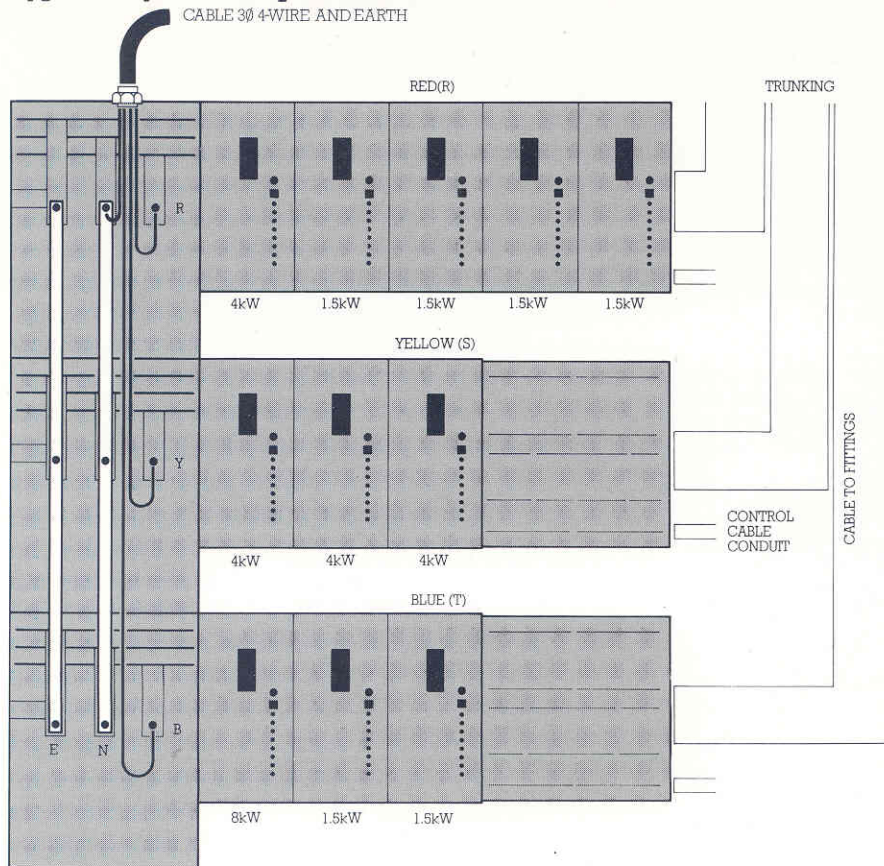
THREE DIMMERS FROM A THREE WAY FADER



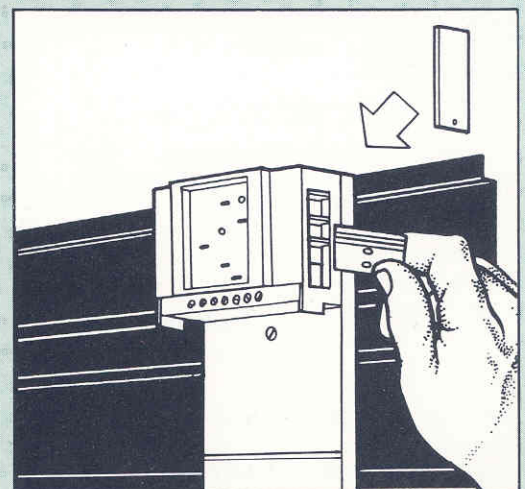
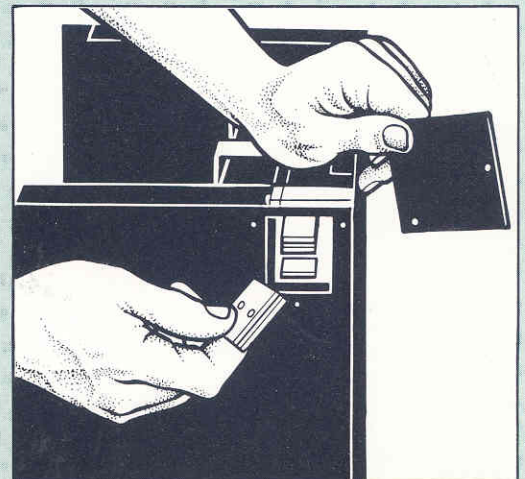
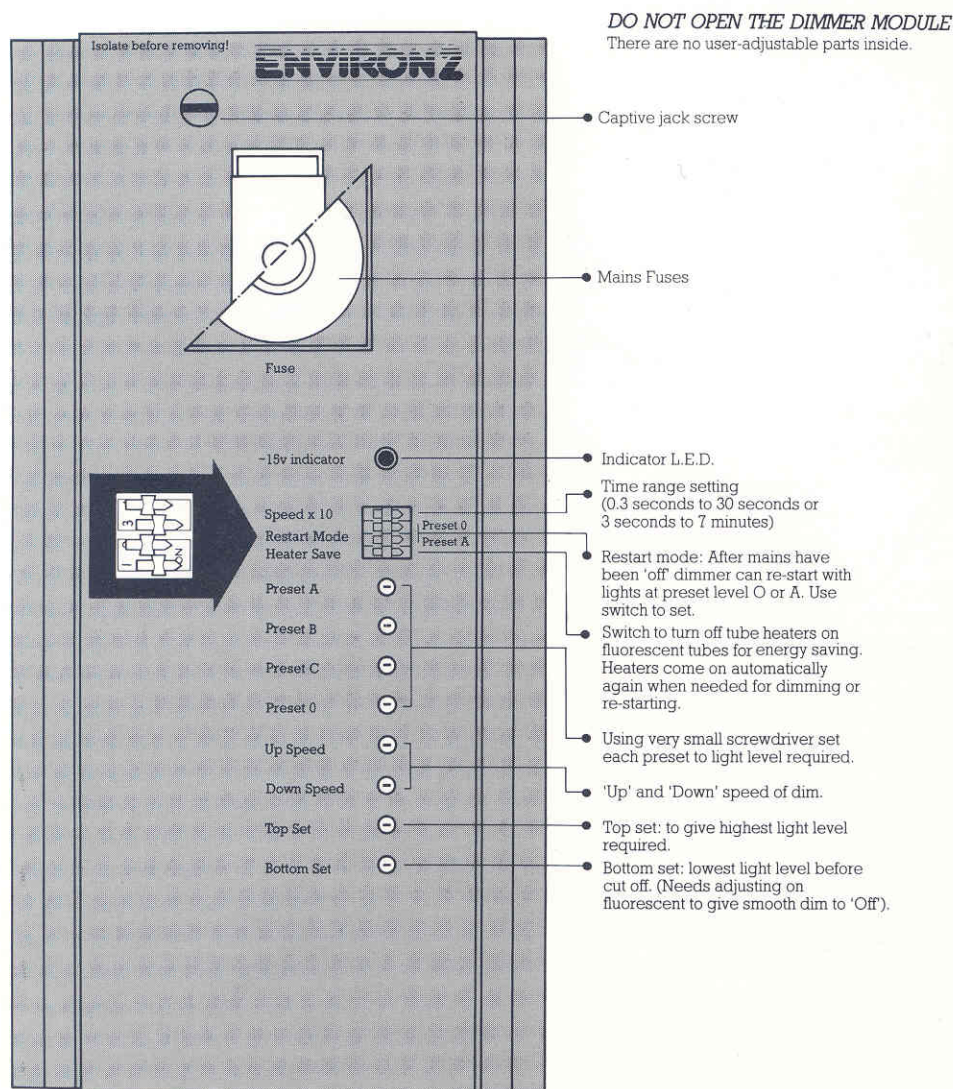
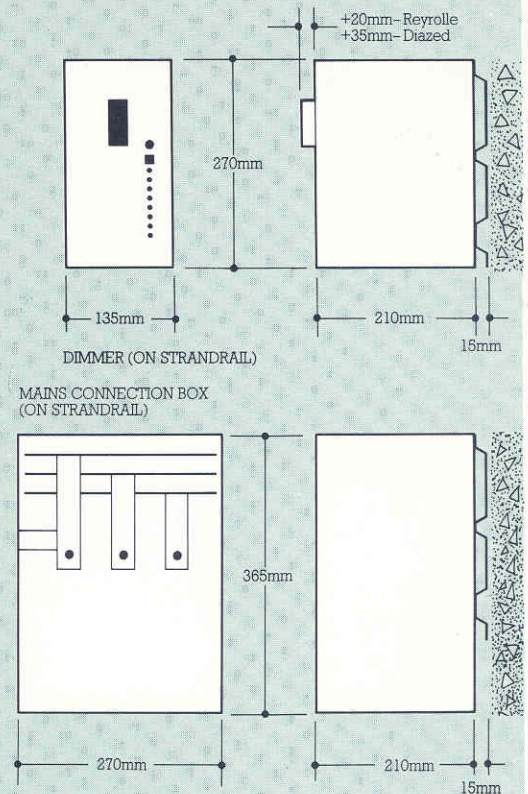
DIMMER CAPACITY FOR FLUORESCENT TUBES

NUMBER OF TUBES	DIMMER SIZE			
	6A	16A	25A	32A
4ft 1200mm	14	38	60	76
5ft 1500mm	9	24	36	48
6ft 1800mm	7	20	30	40

Typical layout for 3-phase Environ 2 installation



Dimensions of Environ 2 Dimmer



Busbar System

When busbars are connected using the special connectors Code No. 09-871-00 the combined continuous single phase rating is 130A. Centre feeding of busbars is permissible and the mains connection box Code No. 09-872-06 may be fitted with connectors on both sides.

ENVIRON 2

Technical Specification

Mechanical Data:

Dimmers

Dimmer Enclosure

Extruded aluminium finned sides with matching matt black painted cover plates, fitted with substantial mains connection pins and a slotted retaining screw.

Base Socket

Injection moulded noryl with matching black plastic cover plates and shuttered mains receptacle.

Overall size

270mm high x 135mm wide x 210mm deep, including base socket. Add 20mm to depth to cover Reyrolle fuses and 35mm to cover Diazed fuses.

Weight

1.5kW or 6A size 3.5Kg including socket
4kW or 16A size 4.0 Kg including socket
8kW or 32A size 5.5 Kg including socket

Fixings

Three vertical holes 5.5mm dia in centre of base moulding (at +95mm and -120 mm spacing). Fix direct to wall at 135mm horizontal centres or use pre-drilled Strandrail code no 09-874-07.

Max. Ambient Temp

35°C/95°F - Derating may be necessary above 35°C - refer to Rank Strand - Always allow for adequate ventilation.

Fixing Position

Fix rigidly to wall with long side vertical and mains connection at top. Avoid excessively quiet areas as all dimmers emit a small amount of mechanical noise.

Mains Connection Box

Black painted folded sheet steel, with top and bottom removable gland plates.

Size 365mm (H) x 270mm (W) x 210mm (D).
Weight 6.5Kg.

Takes the space of two dimmer units, and automatically spaces dimmer rows in a three phase installation.

Connect busbars in dimmer bases on either or both sides.

Maximum rating of busbars 130A, single phase.

Busbar Connectors (Set of three)

Size 35mm x 20mm x 8mm each.

Weight 0.5Kg (Pack of three).

Maximum rating of connectors 130A.

Strandrail

Black painted folded sheet steel with welded nuts to align with dimmer base for securing to wall. Slots provided for cutting to length when less than 7 dimmers are used. Size: Length: 945mm x Height: 270mm x Depth: 15mm
Weight 3Kg.

Electrical Data:

Mains Voltage

210-250V AC. 50/60Hz single phase, neutral and earth. For three phase use three separate rows of dimmers. Variants available on request.

Maximum Supply Cable Size

10 sq.mm

Maximum Feed Cable to Fittings

10 sq.mm

Control Voltage

-15V DC internally derived and thermally protected.

Maximum Control Cable

1.5 sq.mm

Maximum Length of Control Cable

1000 metres from dimmer to outstation.

Cable Entries

Removable side plates on dimmer (left or right) give access to upper mains cable section and lower control cable section. Always replace lid.

Terminals

Mains terminals captive in upper moulding marked P (Phase), E (Earth), N (Neutral), LV (Variable Line or Load), LF (Fixed Line or Heaters for fluorescent tubes only) and duplicate E and N.

Control terminals on strip in lower moulding marked 1 to 16. See diagram under cable tray lid for basic control connections. Refer inside this leaflet for more details.

R.F.I. Suppression

To BS 800, and VDE 0875 level N, supply level G (load and control).

Power Dissipation

Less than 2% of connected load.

Current and Fuse Ratings

Tungsten Dimmers

Also for Cold Cathode or Low Voltage Transformer Fed Fittings.

Reyrolle BS fuses	6A	16A	or 32A
Pullcap HRC			
Diazed fuses	6A	16A	or 35A
Screwcap HRC			

Fluorescent Dimmers

To control 38mm dia T12 Tubes with suitable Dimmable Ballasts.

Reyrolle BS fuses - Pullcap HRC			
LV - Load output	6A	16A	32A
LF - Heater circuit	2A	6A	10A
Diazed fuses - Screwcap HRC			
LV - Load output	6A	16A	25A
LF - Heater circuit	2A	6A	10A

Control Circuit Protection

Control circuits in all dimmers are protected by a thermal cut-out rating 105mA. If the control circuit fails, remove the dimmer from the socket and investigate the cause before re-connecting to the load.

Busbar System

When busbars are connected using the special connectors Code No. 09-871-00 the combined continuous single phase rating is 130A. Centre feeding of busbars is permissible and the mains connection box Code No. 09-872-06 may be fitted with connectors on both sides.

Electronics

Power Supply Card

Five substantial brass pins to connect mains voltages to receptacles in socket. Multi-pin control circuit connector. RFI capacitors with discharge circuit. Mains transformer 240V/18-0-18V for control circuit, protected by 105mA thermal cutout. Stabilised power supply 0 to -15V for outstations.

Mains Earth to Technical Earth - removable link at rear of card.

Polarising pin to suit dimmer rating - mates with hole in socket.

Trigger Card - Non Preset Version

Plug-in easily replaceable card having all electronic circuits associated with triggering thyristor for either tungsten or fluorescent control. Two adjustments for top set and bottom set, through front panel. Panic facility - all lights to full. Indicating neon - 'control on'.

Trigger Card - Preset Version

As above plus all electronic circuits associated with preset four level pushbutton control, up/stop/down control and speed setting. Six additional adjustments - setting of levels, A, B, C and O for output level and setting of speed of fade up and fade down separately.

Setting Switches

Provided as listed below.

Preset Dimmers

Speed Change (marked 'Speed x 10')

'On' position 0.3 - 30 seconds.

'Off' position 3 - 300 seconds.

Restart Mode

Select 'A' or 'O' so that dimmer will energize after any power disconnection at either preset 'A' or 'O'.

Fluorescent Dimmers Only

Heater Save Switch

When switch is on tube heaters are automatically disconnected when tubes are at full and automatically re-connected at commencement of dimming (Energy saving feature).

Thyristors

Dual pack adequately rated thyristor pairs bolted to heat sinks and sized as necessary.

Heater Switches (fluorescent dimmers only)

Electronic opto-triac isolating switches, adequately rated, and bolted to heat sinks and sized as necessary.

Filters

Substantial toroidal filters varnish impregnated and bolted to heat sinks and sized as necessary.

Ripple Rejection

If control signals for other equipment (such as street lighting) are superimposed upon the mains supply this ripple control can cause instability of Thyristor dimmers. If necessary the plug-on addition, on-site, of a Ripple Rejection Card to each dimmer module filters out ripple control frequencies above 300Hz, and voltages up to 20v r.m.s.

Ripple Rejection Card, plug-on 08 814 07

The Company reserves the right to make any variation in design or construction to the equipment described.



Rank Strand

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