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INSTRUCTION LEAFLET

THYRISTOR UNIT DIMMERS TYPE PTU, TU

Up, Down, Preset Control

MOUNTING

External fixing lugs are provided for wall-mounting. The cover should not be removed until fixing has been completed. Only front and right-hand end access is necessary but when more than one unit dimmer is installed do not impede the natural ventilation by mounting one immediately above another. The ambient temperature must not exceed 35°C (95°F) but, as the total heat dissipated by each unit dimmer never exceeds 2½% of the maximum load capacity, external means of ventilation will only be needed in very confined spaces.

ACCESS TO TERMINALS

Release the four mushroom headed screws on the front of the cover and pull cover forward. Pressure-pad type terminals are provided for all external connections. A removable plate is fitted over the cable entry which is at the bottom of the right-hand end. The cover must not be removed or replaced while the equipment is switched on.

SUPPLY & LOAD CONNECTIONS

The AC supply is connected to terminals P and N, and the tungsten lamp load, which must not exceed the maximum rating of the dimmer, is connected to terminals N and L. It is important, with this method of waveform switching voltage control, that every conductor path carries equal and opposite current components at all times, i.e. the phase and neutral conductors for each dimmer must be adjacent throughout their length. Each dimmer is fitted with internal interference suppression capacitors and an earth/ground conductor is essential; a connection point is provided adjacent to the cable entry.

If necessary, unit dimmers controlled collectively, can be fed from different phases of the supply; the control circuit is completely isolated from the load circuit.

WARNING

High-voltage insulation testers must not be used on this equipment, because the high voltage generated would exceed the peak voltage rating of the Thyristors and would cause considerable damage. A warning label to this effect is provided on each unit-dimmer.

FUSES

To protect the thyristors, fuse cartridge replacements **must** be of the special type fitted, as shown in Table below:—

Type	Supply V	Max W.	Fuse
PTU50 or TU50	200-250	5 KW	Reyrolle LD20
PTU20 or TU20	200-250	2 KW	Reyrolle LC10
PTU30/L or TU30/L	110-120	3 KW	English Elec HRC 30AK
PTU20/L or TU20/L	110-120	2 KW	English Elec HRC 20AK
Control Fuse for all types PTU: 1A, 1¼" x ¼" GLASS FUSE			

CONTROL CONNECTIONS

The control connections and inter-connections are shown in detail on page 3. Note that although the layout of the control terminals is the same for Type PTU and Type TU the internal wiring is different and these two types are not inter-changeable. Type PTU has an additional printed circuit card and associated fused transformer for the control circuit power supplies. Up to 10 unit-dimmers can be simultaneously controlled providing one of them is a Type PTU. The control circuit voltage is under 24V; 14/0.0076 (0.0006 sq.in.) conductors in the Imperial size, or 16/0.2 (0.5 sq.mm.) in the Metric size, or equivalent, are convenient and adequate for all control wiring.

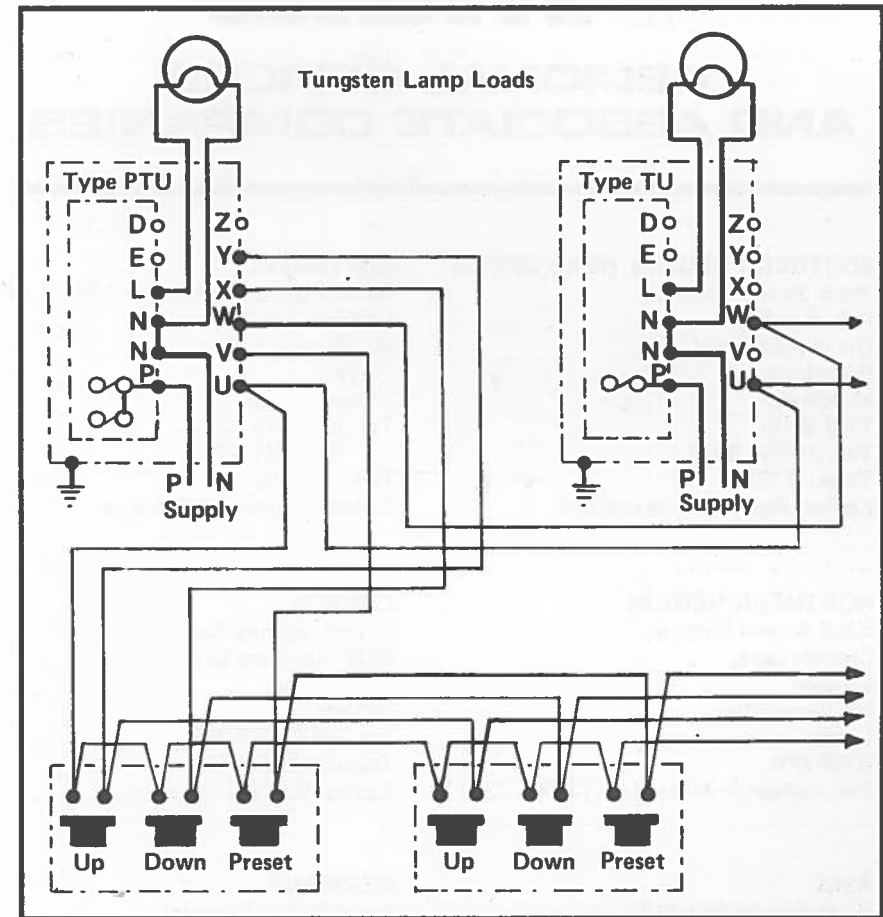
NOTE: Do not run the push-switch connection wiring in the same trunking or cabling as the load wiring or any wiring to pulse-switching circuits.

Suitable push-button boxes are available from electrical wholesalers; most manufacturers now offer suitable normally-open push-button components in their grid-switch range thus providing a wide choice of coverplate finishes (those manufactured by M.K. Electric are recommended in the U.K.). There is no limit to the number of push-button stations that can be used as these are all parallel-connected.

TIMING ADJUSTMENT

The 'UP' time from blackout to full-on is set to approximately 7 seconds at the time of manufacture and the 'Down' time is set to 15 seconds. These timings will be found to suit the majority of applications.

If travel times as set are not suitable these can be adjusted on the Ref.987 card, i.e. the one on the right.



'UP' time is set on RV2. The range possible is 3 to 30 seconds nominal. To increase 'UP' time, turn RV2 clockwise. To decrease 'UP' time, turn RV2 anticlockwise.

'Down' time is set on RV1 on the Ref.987 card. The range possible is 3 to 30 seconds nominal. To increase 'Down' time, turn RV1 clockwise. To decrease 'Down' time, turn RV1 anticlockwise.

The lighting intensity corresponding to the 2 'Preset' conditions is set on the external potentiometers.

NOTE: PTU Dimmers manufactured before April 1979 were fitted with control P.C.B. Ref.942. Details of timing adjustment for this card are available from Head Office.