

TELEPHONE KIOSKS

Electrical Installation

1. General.—This Instruction deals with the installation of wiring, control and protective equipment required for the lighting of telephone kiosks where the electricity supply is obtained from the normal public supply mains.

2. Arrangement.—The layout of the apparatus and the method of wiring to be adopted is shown on Drgs. P/EL 580 and P/EL 66. The circuit arrangement is shown on Drg. P/P 740.

3. Control of lighting.—The lighting should be controlled by time switch. Two types are available :—

- (a) With an electrically-wound clockwork mechanism, for d.c. supplies and a.c. 50 c/s 200-250V supplies not controlled for timekeeping.
- (b) With a synchronous-motor-driven mechanism for a.c. 50 c/s 200-250V supplies controlled for timekeeping.

The equipment required for various mains supplies is indicated in Table 1.

Proposals to provide control by other means, e.g. by signals, either superimposed on the mains or conducted separately, to operate special switching apparatus should be referred to the Eng. Dept. (P) for examination and approval.

4. Setting of solar dial.—As most of the agreements with the Area Electricity Boards are for lighting kiosks from half an hour after sunset until half an hour before sunrise, it should be checked that the switch operating rollers are set to '½ hr.' in the correct direction on the IN and OUT switch arms. Where local arrangements allow other times the rollers should be set in the appropriate holes.

5. Protective equipment.—Protection against over-current is afforded by fuse(s) within the case containing the time switch.

Where an earth-leakage circuit-breaker is required in accordance with C 3471 this should be mounted directly above the Area Electricity Board's cut-out(s) as indicated in Fig. 2 of Drg. P/EL 580, with as small a separation as possible between the cover and the cut-out, bearing in mind the requirements of cabling. The auxiliary earth electrode should comprise a Spike, Earth, No. 1 driven into the ground so that its top is 1 ft. below the surface at a distance not less than 8 ft. from the main earth electrode and underground cables. The auxiliary earth electrode must be connected to the terminal marked E on the earth-leakage circuit-breaker using 0.0045 sq. in. P.V.C. cable, insulated for 250V and coloured green. (This cable should be purchased locally.)

6. Earthing.—The back panel of the kiosk is provided with an earthing bolt to which the main earth is connected. Where an earth-leakage circuit-breaker is installed a connexion must be made from the earthing bolt to the terminal F of the breaker by means of Wire, Copper, Soft, Stranded, 7/20. Where a connexion to the Supply Authority's cable sheath is permissible (see C 3471) the earthing bolt should be connected to it in a similar manner.

7. Method of supply lead-in.—The supply should be brought in through the base of the kiosk, suitable provision being made during the preparation of the base. In those cases where an earth connexion to the sheath of the cable cannot be made, care must be taken to ensure that there is no contact between the metal-work of the kiosk and (a) the sheath or armouring (if any)

TABLE 1

Supply characteristics	Time switch	Solar dial†	Case
D.C. 200-220V (incl.)	Time-switch No. 1, D.C., 200/220V	Solar Dial No. 1...	Case, Time-switch, No. 1
D.C. Above 220-250V (incl.)	Time-switch No. 1, D.C., 230/250V	Solar Dial No. 1...	Case, Time-switch, No. 1
A.C. 50 c/s 200-250V (incl.) Uncontrolled	Time-switch No. 1, A.C., 200/250V	Solar Dial No. 1...	Case, Time-switch, No. 1‡
A.C. 50 c/s 200-250V (incl.) Controlled	Time-switch No. 2, A.C., 200/250V	Solar Dial No. 2...	Case, Time-switch, No. 2

† Suffix letter (A to H & K as required) to follow numeral to indicate zone (see C 3502).

‡ If the system is operated with the neutral permanently earthed a Case, Time-switch, No. 2 should be requisitioned and the Switch Plate and Socket (see Drg. P/EL 537) removed and returned to the Supplies Dept.

of the supply cable, (b) conduits (if any) containing the service cable and (c) the case of the cut-out, if of metal. This precaution is to prevent the kiosk becoming 'alive' from a fault on the supply cable; the earth-leakage circuit-breaker would operate but would not clear the fault. This requirement precludes the use of metallic ducts in such a case for leading the supply cable through the base of the kiosk.

When plastic cut-outs are used by the Area Electricity Board it has been agreed that they will supply and fit a steel cover for protection (see also C 3501).

8. When the electricity supply is from overhead power lines, reference should be made to C 3501.

9. **Lighting.**—Information regarding lamps, lamp-holders and lighting fittings is given in Lighting, A 3101.

References :—C 3471, C 3501, C 3502
(P3/3) Lighting, A 3101

E N D