

Site Transformer with Time Clock Controlled Lighting Circuits

To reduce unnecessary power consumption at night and at weekends, Blakley Electrics offer two designs of Site Transformer with time clock controlled outputs, which can be used to control site lighting without damaging batteries and tubes within emergency fittings. It is important to note that if emergency fittings are switched off at the end of every shift, unless circuits are designed correctly, batteries and tubes will be irrevocably damaged within a few weeks. In addition, batteries require over 24 hours to recharge before they will provide 3 hours of emergency lighting. It is therefore essential on financial and safety grounds that the circuit design does not allow emergency fittings to discharge routinely.

On page 2 of this data sheet the two alternative designs that we offer are described in detail. The differences between the two concepts is summarised below.

Option A

The design of Option A is based on having separate circuits for Standard Lights and Emergency Lights. At the end of each shift, the supply to the Standard Lights is switched OFF but the supply to the Emergency Lights remains ON. Although the Emergency Lights will consume power for 24 hours a day, they do provide basic Security and Safety Lighting, which can be a benefit on some installations.

Option B

The design of Option B is based on supplying all lights via 4 core cable but with only one switched core. This formation enables the tubes within Standard Lights and Emergency Lights to be switched OFF at the end of each shift but with battery packs within Emergency Lights fed via the unswitched cores. When the tubes are turned OFF the power consumed by the battery packs is minimal.

If there is a requirement to leave some lights on 24/7 (for security or safety reasons) Option B has the added advantage of enabling the installer to configure specific Emergency Lights so that the tubes stay ON at the end of a shift (the supply to the tube circuit is simply moved from a switched to an unswitched core).

For a third alternative to controlling lights on sites, please refer to our TemPower Data Sheet ref. TMPDS24, which describes an MDA (part S140441) that controls the supply to multiple Site Transformers (and therefore a large number of lights) via one time clock.



S210042 - Type TA/P/3/10/L6/TC



S210078 - Type TA/P/3/10/L6/TC/4C



S140441 - MDA with Time Clock

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Cert. No. 902091

HPDS26 - 07/10

Option A

Part S210042, Type TA/P/3/10/L6/TC

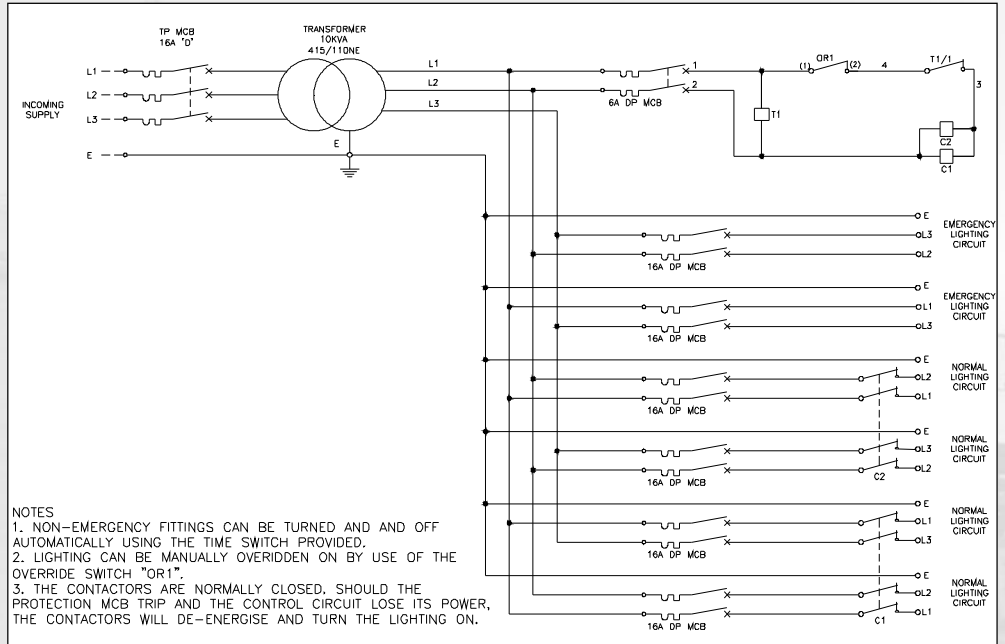
Site lighting transformer manufactured in accordance with BS4363. Rated at 10 kVA three-phase, with a voltage ratio of 400:110NE, the transformer provides a Reduced Low Voltage supply in accordance with BS7671.

Enclosures

TA series enclosures are sheet steel, non-vented and provide ingress protection to IP44.

Equipment

Fitted on the input with a 16A TP Type "D" MCB and on the output with 6 no. 16A DP Type "C" MCBs, each of which feeds a 3W terminal block and associated 20mm gland to supply lighting circuits. Four of the output MCBs are controlled in pairs by 2 no. 4P contactors, which are controlled by a 7 day time clock. The time clock can be set to Open and Close the contactors at different times each day. As standard, a manual ON OFF switch is fitted alongside the MCBs which can be used to over-ride the time clock. As an extra, a key operated over-ride switch can be incorporated. Switched" glands are coloured black and "Unswitched" glands are coloured red.



Option B

Part S210078, Type TA/P/3/10/L6/TC/4C

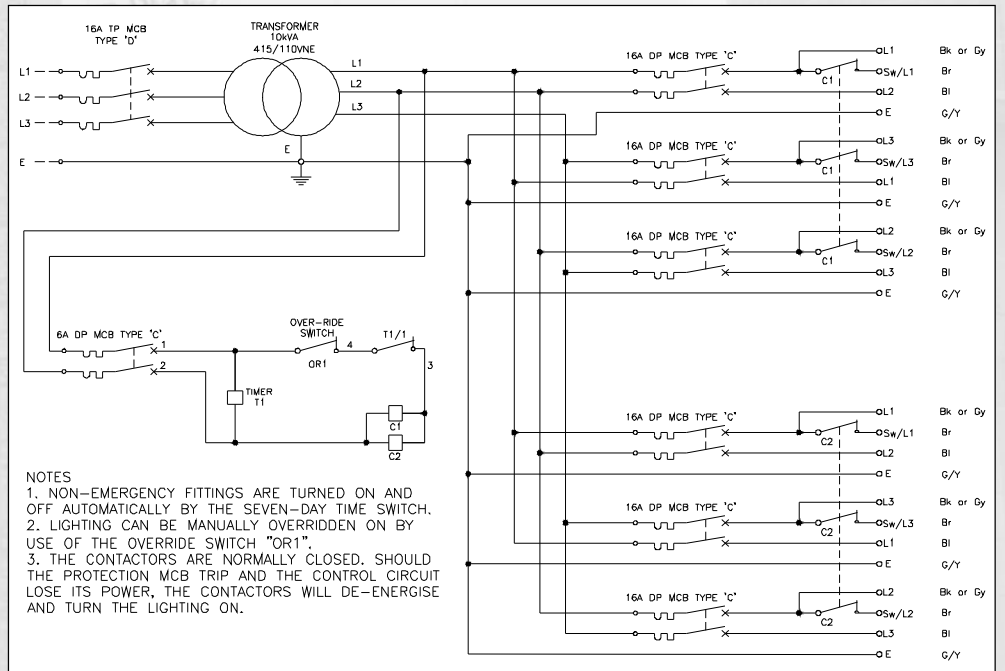
Site lighting transformer manufactured in accordance with BS4363. Rated at 10 kVA three-phase, with a voltage ratio of 400:110NE, the transformer provides a Reduced Low Voltage supply in accordance with BS7671.

Enclosures

TA series enclosures are sheet steel, non-vented and provide ingress protection to IP44.

Equipment

Fitted on the input with a 16A TP Type "D" MCB and on the output with 6 no. 16A DP Type "C" MCBs, each of which feeds a 4W terminal block and associated 20mm gland to supply lighting circuits. The supply to one pole of each terminal block is fed via a contactor, which is controlled by a 7 day time clock. For maximum savings the installer connects the contactor controlled "switched" supply to the tube circuit of each light and feeds the battery pack within Emergency Lights from the Unswitched supply. If there is a requirement to leave some Emergency Lights ON to address Security or Safety concerns, the tube circuit of individual fittings can be fed from the Unswitched supply. The time clock can be set to Open and Close the contactors at different times each day. As standard, a manual ON OFF switch is fitted alongside the MCBs which can be used to over-ride the time clock. As an extra, a key operated over-ride switch can be incorporated.



Our Customer Service Centres stock 1.5mm² and 2.5mm² 4C PVC Yellow Arctic Cable, as well as Standard and Emergency lights, loose or pre-wired with a supply cable and TEE box.

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