

Transformer Distribution Rack, Section 12 Compliant, for LUL

Blakley Electrics has a well established range of Transformer and Distribution assemblies, which are used widely within London Underground installations, for applications such as Platform Sockets, Unmanned Ticketing Machines, Hand Drier Supplies, etc. The assemblies are designed and manufactured to offer a compliant assembly for installation in Section 12 designated locations, as well as in Depots and Workshops.

The TDR range of Transformer Distribution Racks is derived from our standard LUL products and combine multiple windings and distribution assemblies within a composite enclosure. TDRs typically comprise of up to three vertical sections with each section combining an incoming main isolator, step-down double-wound transformer and a 12 way double-pole MCB backplate distribution arrangement. The assembly provides a 110 volt Reduced Low Voltage Supply (RLV) to BS 7671, utilising transformers with dual 55V secondary windings to LUL. Please see over the page for full details.



TDR with Optional Master Isolator

General Specification of Transformer Distribution Racks (TDR)

Enclosure

TDR enclosures are of robust construction, floor standing, non-vented to IP55 and incorporate floor fixing points and removable lifting eye brackets. Enclosures are segregated into vertical sections. Each vertical section has two compartments and each compartment has a side hinged, gasketed door. The lower compartment houses the transformer isolator, transformer and transformer secondary protection and the upper compartment houses the MCB backplate assembly. The transformer isolator within the lower compartment has a door interlocked rotary operating handle, permitting access only when the isolator is in the OFF position. The MCB compartment door is fitted with quick release fasteners and incorporates a shield plate to prevent access to live parts (the MCB dollies protrude through the shield plate). Incoming cable entry is via a bottom mounted removable gland plates, with distribution cable exit via top mounted removable gland plates. The enclosure is finished in Light Admiralty Grey, LUL approved Interpon electro-statically applied, polyester powder paint.

Main Isolators

Each section is fitted with a 100A DP Isolator with a metallic, door interlocked, padlockable, rotary operating handle. The handle is finished in red utilising an LUL approved Copon paint finish.

Transformer Ratings

Each section incorporates a transformer rated at 6 kVA for 3 hours and 4.5 kVA for 8 hours. The transformer is manufactured in accordance with BS EN 61558 Parts 1 and 4 and utilises materials with a Class F insulation rating.

Primary Volts: 240 volts with off-load tapplings at 220 and 260 volts.

Secondary Volts: 110V line to line and 55V line to earth, in accordance with LUL drawing 2-8569-L20163 rev 5.

Transformers are supplied with the main earth bond connected from B2 to earth reference A1. The connection from B1 to an independent earth is to be made by the installer at the time of installation. A wiring diagram is supplied with each transformer.

Distribution

Each section is fitted with 1 no. 12W TP&N Crabtree Polestar backplate assembly configured for use on a 110V Reduced Low Voltage (RLV) system (achieved by removing the neutral connections and blanking-off every third way). The MCB backplate assembly accepts up to 12 no. DP MCBs from the Crabtree Polestar range. Each backplate can be provided either equipped with the required ratings of double-pole MCBs or unequipped with all ways blanked-off.

Option

Master Isolator

The Master Isolator comprises of a 100A 4P Isolator with metallic, door interlocked, padlockable, rotary operating handle finished in a red LUL approved Copon paint finish. The isolator is housed within a horizontal section beneath the three vertical sections.

The horizontal Master Isolator Section can incorporate a side or top mounted removable gland plate and incoming terminations capable of accepting up to a 4 core 35mm² SWA cable. The Master Isolator splits the incoming TP&N supply into three single phase & neutral supplies (one for each of the three vertical sections).