

## TH series Wall Mounting RLV Transformers, 2kVA to 10kVA, IP55

Although developed to provide a safe working voltage for users of portable power tools and temporary lighting on construction sites, 110V Reduced Low Voltage has been widely adopted by other industries as a means of increasing safety for users of portable equipment in fabrication shops, plant rooms, railway repair sheds, craft workshops and many other locations. In these permanent installations, transformers and socket outlets are fixed in position and installations have to comply with all elements of BS7671, the IET Wiring Regulations.

To meet the varied requirements of supplying 110V in fixed installations, we supply TLW series transformers with integral sockets, TDC series transformers fitted with double-pole (DP) MCBs, and TH series transformers with hard wired outputs to supply sockets via DP MCB boards, as detailed on this data sheet.

As the output from an RLV transformer incorporates two live lines (instead of a line and neutral), all switchgear has to be double-pole. In addition, because of concerns with meeting the 5 second disconnection time on 110V RLV circuits, due to the relatively high earth loop impedance and low line to earth voltage (55V), RLV transformers, MCB boards and socket outlets are all offered with optional RCDs, which are designed to operate on a 110V supply. See Tech Data Sheet TDS10 for further details on RLV systems.

Detailed below are part numbers, etc., for our standard IP55 wall / floor mounting transformers. Transformer windings have a voltage ratio of 230:110, they are double-wound, continuously rated and manufactured in accordance with BS EN 61558 Parts 1, 2-4 and 2-23 (where applicable) but with an earthed secondary winding. Where quoted, intermittent ratings are based on a duty cycle of 5 minutes on and 15 minutes off.

All items are housed in robust, steel enclosures, non-vented to IP55. Enclosures are supplied with wall mounting and floor fixing brackets. The secondaries are protected by either (i) DP Type "C" MCB, (ii) DP Type "C" MCB with 300mA RCD or (iii) DP Type "C" MCB with 300mA Selective RCD (to discriminate with 110V sockets with 30mA RCD). Although RCDs are current operated, we incorporate specific devices, which are suitable for operation on a 110V RLV supply, in accordance with BS EN 61008-1.



Part No. S210365 - 2 kVA, 230:110CTE

Part No.	Type Number	Description
S210362	TH/1/2/C1/IP55	2 kVA continuous rating (3300VA intermittent), 1 x 16A DP MCB on secondary
S210365	TH/1/2/C1/RCD-300/IP55	As S210362 but fitted with 1 x 16A DP MCB + 300mA Type A RCD on secondary
S210368	TH/1/2/RCD-300S/IP55	As S210365 but fitted with a 300mA Selective Type A RCD on secondary
S210363	TH/1/5/C1/IP55	5 kVA continuous rating, 1 x 50A DP MCB on secondary
S210366	TH/1/5/C1/RCD-300/IP55	5 kVA continuous rating, 1 x 50A DP MCB + 300mA Type A RCD on secondary
S210369	TH/1/5/C1/RCD-300S/IP55	5 kVA continuous rating, 1 x 50A DP MCB + 300mA Selective Type A RCD on secondary
S210364	TH/1/10/C1/IP55	10 kVA continuous rating, 1 x 80A DP MCB on secondary
S210367	TH/1/10/C1/RCD-300/IP55	10 kVA continuous rating, 1 x 80A DP MCB + 300mA Type A RCD on secondary
S210370	TH/1/10/C1/RCD-300S/IP55	10 kVA continuous rating, 1 x 80A DP MCB + 300mA Selective Type A RCD on secondary
Overall Dimensions (W x D x H): 2kVA - 379 x 348 x 283mm; 5kVA and 10kVA - 441 x 391 x 422mm.		
Weights: 2kVA - 25 kgs; 5kVA - 55 kgs; 10kVA - 85 kgs.		

Primary windings have tapings at 220, 230, 240 and 250V, because variations in the supply voltage alter the secondary voltage in proportion and change the inrush current characteristics.

In addition to the above standard configurations, we are also able to supply transformers in other power ratings and with different distribution arrangements.

To complete an RLV installation, overleaf are details of DP MCB boards and 110V socket outlets that are designed to be fed from the above TH series transformers.

## Equipped MCB Boards, IP66, DP, 110V

A cost effective range of heavy duty MCB distribution boards equipped with DP MCBs or RCBOs, designed to distribute a 110V Reduced Low Voltage supply.

### Enclosures

Fabricated from heavy gauges of sheet steel with a high quality paint finish. The enclosure design has been independently type tested to prove compliance with the IP66 rating. Enclosures feature side hinged key lockable and padlockable doors, top and bottom removable gland plates, external wall fixings, etc.

### Switchgear

All standard 110V boards feature 100A DP incoming switches, which are capable of terminating conductors with a cross section of up to 50mm<sup>2</sup>. On the outgoing, we offer a choice of 6, 8 or 10 no. 16A Type "C" DP Schneider MCBs or 16A Type "C" 110V DP ABB RCBOs with a sensitivity of 30mA. A spare DP way is provided in each board, which can accept a DP MCB or RCBO rated up to 32A. Both types of outgoing device can terminate conductors with a cross section of up to 25mm<sup>2</sup>. Standard order references are detailed below.

A range of standard accessories is also available, including metering modules, rain canopies and extension chambers.

### Order References

Part No.	Type No.	Distribution
S040392A	DB166/1100-2P/7W/C6-16/110V	6 no. 16A DP Type "C" MCBs
S040395A	DB166/1100-2P/7W/RCBO6-16/110V	6 no. 16A DP Type "C" RCBOs
S040393A	DB266/1100-2P/9W/C8-16/110V	8 no. 16A DP Type "C" MCBs
S040396A	DB266/1100-2P/9W/RCBO8-16/110V	8 no. 16A DP Type "C" RCBOs
S040394A	DB366/1100-2P/11W/C10-16/110V	10 no. 16A DP Type "C" MCBs
S040397A	DB366/1100-2P/11W/RCBO10-16/110V	10 no. 16A DP Type "C" RCBOs

MCB boards with different configurations can be supplied to order.

### Sockets for 110V Installations

To complement our range of 110V Transformers and DP MCB boards, we offer 110V surface sockets to BSEN 60309-2, rated at 16A and 32A, with ingress protection to IP44 or IP66/67. Sockets are available with and without RCD protection.

Please contact us for details of 110V sockets with the addition of DP MCB protection, which are required when the overcurrent rating of the protective device supplying the socket circuit exceeds the rating of the socket i.e. when a 32A MCB feeds a circuit of 16A sockets.

### Order References

Part No.	Type No.	Description
S190392	ERC/1/16/110V	Surface Socket, 16A, 110V, 2P+E, IP44 c/w RCD
S190393	ERC/1/32/110V	Surface Socket, 32A, 110V, 2P+E, IP44 c/w RCD
S190394	ERC/1/16/110/WT	Surface Socket, 16A, 110V, 2P+E, IP66 c/w RCD
S190395	ERC/1/32/110/WT	Surface Socket, 32A, 110V, 2P+E, IP66 c/w RCD
S201071	B513.1650T	Surface Socket, 16A, 110V, 2P+E, IP44
S201082	B513.3250T	Surface Socket, 32A, 110V, 2P+E, IP44
S201182	B518.1650T	Surface Socket, 16A, 110V, 2P+E, IP67
S201183	B518.3250T	Surface Socket, 32A, 110V, 2P+E, IP67



Part S040392, MCB Board, 110V, fitted with a 100A incoming isolator and 6 no. 16A DP Type "C" MCBs



MCB Boards fitted with 6, 8 or 10 no. 16A DP Type "C" MCBs or RCBOs



16A and 32A, 110V, 2P+E, IP44, Surface Sockets with 30mA RCD protection



16A and 32A, 110V, 2P+E, IP44, Surface Sockets