

TXL series, 30kVA to 250kVA

A range of made to order transformer assemblies rated from 30kVA to 250kVA with voltages of up to 500V. Higher voltages can be accommodated (up to 3300V), subject to the specification of the overall assembly. Transformers can be step-down, step-up or have a 1:1 ratio. They can be single or three phase, double or auto wound. They are usually presented in heavy duty enclosures fabricated from mild steel or stainless steel. Applications include: IT supplies for merchant and military ships; signalling supplies in the rail sector (see data sheet TRDS032 for details of Network Rail approved transformers); LV supplies within National Grid HOT sites; isolated supplies for construction sites to ensure separation between temporary and permanent supplies; step-up and step-down pairs for tunnel and trackside applications; permanent or temporary LV / RLV supplies within large industrial complexes such as dockyards and offshore fabrication yards.

Ratings

Transformer cores are manufactured in accordance with BS EN 60076, in virtually any rating from 30kVA to 250kVA, single or three phase. Typically transformers are double wound but auto wound transformers can be incorporated when the voltage is being transformed for purely functional purposes. Transformer assemblies are naturally air cooled and continuously rated at an ambient of 40°C (higher ambient temperatures can be catered for if advised at the time of enquiry). For critical installations, thermocouples can be embedded into the windings to enable the temperature to be monitored whilst in use. As our equipment is typically used in harsh operating conditions, all TXL windings are vacuum varnish impregnated.

Voltages

Primary and secondary winding voltages are to be specified at the time of enquiry. We are generally able to accommodate voltages up to 3300V, although incorporating switchgear at this voltage is not usually practical.

Tappings

BS7671:2018 permits a supply voltage tolerance of -6% to +10%. Any variation in the voltage connected to the primary of the transformer will proportionally vary the secondary voltage and also alter the inrush current characteristics. To address the impact of supply voltage variations, voltage tapplings can be incorporated into the primary winding. We would be pleased to quote for transformers with primary tapplings. Tap changing is usually a manual operation but off-load tap changing switches can be incorporated to facilitate easier switching and access to the tap changing switch is restricted by a padlockable cover.

Earthing

Specifying the secondary earthing arrangement is critical, as is the relationship between the earthing of the primary and secondary circuits (particularly on 1:1 ratio transformers).

Inrush Current

Transformers typically have an inrush current of 10 to 15 times full load. Please advise at time of enquiry if a low inrush current design is required (and the impedance of the supply).

Switchgear

A range of switchgear can be incorporated including isolators / switch disconnectors, MCBs, MCCBs, Switch Fuses, IMDs and RCD protection, dependent upon the voltage of the windings.

Please see over the page for details of standard enclosures and images of other high power rating transformers.



30kVA 1:1 transformer housed in a TXL/A enclosure



200kVA 1:1 transformer housed in a TXL/E enclosure

TXL series, continued

Enclosure

TXL series transformers are offered in a range of five enclosure sizes, as detailed on the table below. Enclosures are floor standing and non-vented to IP55 (IP23 vented enclosures can also be supplied). Enclosures can be fabricated from mild steel with a durable polyester powdercoat finish (Blakley B finish) or from various grades of stainless steel with a painted finish (Blakley L finish). Stainless steel enclosures can be unpainted but this is not generally recommended, unless the aesthetic appearance is not a consideration. External chambers are incorporated to house switchgear, socket outlets or to terminate large or oversized cables. To reduce the risk of condensation forming, IP rated breathers are incorporated within switchgear compartments.

Ordering

TXL transformers are made to order. If you can advise requirements in the following areas, we will be able to provide a detailed quotation: rating; duty; ambient temperature; single or three phase; auto or double wound; maximum inrush current; voltage ratio; tapplings; earthing arrangements; cable terminations; switchgear; sockets; enclosure material (steel or stainless steel); IP rating; shade of paint; space constraints; delivery location.

TXL series - Dimensions and Typical Weights			
Ref.	Rating Range	Overall Dimensions, including switchgear / terminal boxes, H x D x L, mm	Typical Weight kg
TXL/A	20 to 30kVA	1166 x 938 x 1136	350 to 400
TXL/B	40 to 50kVA	1366 x 1138 x 1336	600 to 700
TXL/C	75 to 100kVA	1499 x 1388 x 1476	1000 to 1300
TXL/D	125 to 150kVA	1699 x 1488 x 1676	1300 to 1500
TXL/E	200 to 250kVA	1899 x 1688 x 1876	1500 to 2000

Images of high power rating, double wound transformers



55kVA three-phase, 1:1 ratio, IP55 with switchgear



41.25kVA three-phase in crash frame, for a dockyard



50kVA tropicalised transformer for military application



60kVA RLV transformer with 110V and 400V sockets