TH series

Heavy Duty, double wound, enclosed type, industrial transformer assemblies, rated from 100VA to 25 kVA, single or three phase.

Applications

Designed for installation in harsh locations, including plant rooms, workshops, road and rail locations, dockyards, water treatment works, etc. TH series transformers are available in a wide range of power ratings and voltage ratios and can incorporate a variety of fitments including MCBs, RCDs, Fusegear, Sockets and Isolators.

Enclosures

Fabricated from 1.5mm or 2.0mm sheet steel, enclosures are of seam welded construction and, as standard, incorporate wall mounting and floor mounting brackets.

IP Ratings

Standard IP ratings are vented to IP21 or non-vented to IP44.
Non-Standard IP ratings are vented to IP23 or non-vented to IP55.

Finish

The standard finish is a zinc phosphate pre-treatment to BS3189 followed by polyester powder topcoat, shade Dark Admiralty Grey. The standard finish provides corrosion protection for approximately 10 years when the equipment is installed outdoors in a normal pollution environment.
For locations with a high level of pollution (acid rain, chemically laden atmosphere, etc) non-standard finishes are available including hot dip galvanized to BS729 or flame sprayed with zinc to BS2569 followed by polyester powder coating, shade to reasonable choice. We are also able to fabricate enclosures from various grades of stainless steel for road tunnel, rail, food industry and pharmaceutical installations. We would be pleased to advise on the best corrosion protection for specific installation environments.

Ratings

Continuously rated from 100VA to 25 kVA, single or three phase. Transformer windings are designed and manufactured in accordance with BS EN 61558 Parts 1, 2-4, 2-6 and 2-23, where applicable. PTO for a full list of standard ratings, weights and dimensions.

Voltages

Primary Voltages: 230 and 400 volts

Secondary Voltages: 12, 24, 25, 42, 50, 110 and 230 volts

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 tappings can be incorporated into the primary winding. We would be pleased to quote for transformers with primary tappings.

Transformers with dual secondary windings are available to feed a power tool at 110 volts and an inspection lamp at 24 volts. The required earthing arrangement of all secondary windings must be specified. See page 2 for guidance on the earthing of transformer windings.

Fitments

TH series transformers can be fitted with a wide variety of MCBs, RCDs, Fusegear, Sockets and Isolators. Our Customer Service Centres would be pleased to quote prices against specific requirements.

Special TH series for a Tunnel Application

Approximate Weights and Dimensions (not including fitments)

Single-phase Transformers		
Standard Ratings, kVA	**Dimensions, mm (W x D x H)**	**Approx Wt, kg**
0.1, 0.15, 0.2, 0.25, 0.35, 0.5, 0.75 and 1 kVA	282 x 248 x 217	4 to 15
1.5, 2, 2.5, 3 and 4 kVA	379 x 348 x 284	20 to 50
5, 6, 7.5 and 10 kVA	441 x 391 x 423	70 to 103
12, 15, 20 and 25 kVA	On Application	120 to 165

Three phase Transformers		
Standard Ratings, kVA	**Dimensions, mm (W x D x H)**	**Approx Wt, kg**
1, 2 and 3 kVA	441 x 391 x 423	35 to 52
5, 7.5 and 10 kVA	579 x 548 x 517	84 to 115
15, 20 and 25 kVA	On Application	150 to188

Guidance on the Earthing of Secondary Windings

To enable us to supply transformers correctly configured for each installation it is necessary to specify the earthing arrangement of the secondary winding.

Detailed below are the normal earthing arrangements for standard TH series transformers.

Secondary Voltage	Earthing Arrangement	BS 7671 Definition	Comments
12 Volts, single or three phase	Earth Free	Separated Extra Low Voltage (SELV)	Hard wired or non-standard 2P socket. Over current protection to be DP or TP.
24, 25, 42 or 50 Volts, single or three phase	Earth Free	Separated Extra Low Voltage (SELV)	Sockets to be 2P or 3P. Over current protection to be DP or TP.
24, 25, 42 or 50 Volts, single phase	Neutral Earthed	Protective Extra Low Voltage (PELV)	Sockets to be SP+N+E. Over current protection to be SP.
24, 25, 42 or 50 Volts, single phase	Centre-tapped to Earth	Protective Extra Low Voltage (PELV)	Sockets to be 2P+E. Over current protection to be DP.
110 Volts, single phase	Centre-tapped to Earth	Reduced Low Voltage (RLV)	Sockets to be 2P+E. Over current protection to be DP.
110 Volts, three phase	Neutral Earthed	Reduced Low Voltage (RLV)	Sockets can be 2P+E or 3P+E. Over current protection to be DP or TP
120 Volts, single phase	Neutral Earthed	Low Voltage (LV)	Sockets to be SP+N+E. Over current protection to be SP. USA domestic voltage.
208 Volts, three phase	Neutral Earthed	Low Voltage (LV)	208 volts L to L, 120 volts L to N. USA industrial voltage. DY11.
230 Volts, single phase	Neutral Earthed	Low Voltage (LV)	Sockets to be SP+N+E. Over current protection to be SP.
230 Volts, single phase	Earth Free	Protection by Electrical Separation	Maximum of one socket (feeding one appliance). Over current protection to be DP
400 Volts, three phase	Neutral Earthed	Low Voltage (LV)	400V L to L, 230V L to N. DY11.
400 Volts, three phase	Earth Free	Protection by Electrical Separation	Maximum of one socket (feeding one appliance). Over current protection to be TP