

Manufacturer:
Transformers & Rectifiers Ltd

Issue : 5
Valid From : 20-07-2015

25kV Auxiliary Power Transformer and Voltage Regulator

Product Description

25kV Auxiliary Power Ground Mounted Transformer & Voltage Regulator equipment.

Product Image



Scope of Acceptance

Full Acceptance

Site specific acceptance applies to the 25000/240V units and includes Law, Lockerbie, Rutherglen, Kilwinning, Barrassie, Hunterston, Craigendoran, Jordanhill and Coatbridge.

Site specific acceptance applies to the 25000/650V units and includes Winsford TSC, Hartford TSC, Weaver TSC, Rugeley ASC and Colwich ASC, Queensville SATS, Milford & Brockton TSC, Stafford FS, Gailey TSC, Wolverhampton FS, Coseley TSC and Soho TSC.

Site specific acceptance applies to the 25000/800V transformer and includes Thorpe-le-Soken TSC only.

Site specific acceptance for 25000/400V ground mounted transformer at Queensville PSP.

Additional sites shall only be added with the agreement of the Technology Manager EP.

Network Rail Acceptance Panel (NRAP) hereby authorises the product above for use and trial use on railway infrastructure for which Network Rail is the Infrastructure Manager under the ROGS regulations.
Authorised by:

Vanessa Cumine
Process & change Specialist

Alex Buchinger
Head of Power Distribution HV/LV (Acting)

Manufacturer:
Transformers & Rectifiers Ltd

Issue : 5
Valid From : 20-07-2015

Specific Conditions

The following Conditions are specific to the approved product/s contained within this Certificate. These conditions must be adhered to in addition to the Network Rail General Conditions contained within the "General Terms and Conditions" section.

Failure to adhere to these conditions may result in the withdrawal or suspension of Acceptance of some, or all of the items contained within the accepted configuration.

Manufacturer

- 1) Transformer H.V. termination to be supplied with heat shrink with a Raychem heat shrink boot type EPP-0014-10/94.

User

- 1) Transformer H.V. cable termination is rated at 36kV and must have a Raychem heat shrink boot type EPP-0014-10/94 applied during installation.
- 2)

Product Configuration

System or Complete Assembly

Part No.	Description	Catalogue No.
RZOAXIF 65/300/550	25kVA Signalling Transformer & Voltage Stabiliser, 25000/240V, 1 Phase, 50Hz, Ground Mounted	086/045834
RDEOXIF 85/300/550	50kVA Signalling Transformer & Voltage Stabiliser, 25000/240V, 1 Phase, 50Hz, Ground Mounted	086/045835
RDEOAXIF 2X85/300/550	75kVA Signalling Transformer & Voltage Stabiliser, 25000/240V, 1 Phase, 50Hz, Ground Mounted	086/045836
RDOAXIF 2X85/300/550	100kVA Signalling Transformer & Voltage Stabiliser, 25000/240V, 1 Phase, 50Hz, Ground Mounted	086/045837
	25kVA Signalling Transformer & Voltage Stabiliser, 25000/650V, 1 Phase, 50Hz, Ground Mounted	086/046000
	50kVA Signalling Transformer & Voltage Stabiliser, 25000/650V, 1 Phase, 50Hz, Ground Mounted	086/046001
	75kVA Signalling Transformer & Voltage Stabiliser, 25000/650V, 1 Phase, 50Hz, Ground Mounted	086/046002
	100kVA Signalling Transformer & Voltage Stabiliser, 25000/650V, 1 Phase, 50Hz, Ground Mounted	086/046003
	50kVA Signalling Transformer, 25000/800V, 1 Phase, 50Hz, Ground Mounted	086/046004
	100kVA, 25kV/400V, 1 Phase, Signalling Power Transformer Ground Mounted	086/046005

Manufacturer:
Transformers & Rectifiers Ltd

Issue : 5
Valid From : 20-07-2015

Assessed Documentation

Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
Scot/LLC890/PA/P&D/1	Product Approval Ref PA05/03417/P – Report for Ground Mounted 25kV Power Transformer & Voltage Regulator for various PSP locations in Scotland.		18/11/2010	1
T/C/SSP/1	Babcock Rail – testing & Commissioning Document		18/11/2009	1
TL2300/1	50kVA Transformer test certificate		22/10/2008	2
T20/W959	Rating plate diagram 50kVA transformer. Issue 1		23/06/2008	2
T18/X5546	Outline for 50-25kVA ONAN Transformer		29/03/2006	2
Q13974	Typical specification for Trackside signalling transformers and voltage stabilisers		Undated	2
TL2300/1	O&M manual for 25000V/800V signalling transformer (Thorpe-le-Soken)		Undated	2
	Application for Configuration Change or Update		05/08/2011	3
	Application for Technology Introduction or Change		04/11/2014	5
	Typical Specification for Q14365-100kVA (Cable Box) for Signalling Transformer		Undated	5
	Typical Specification for Q14365/Rev 1 - 100kVA (Cable Box) for Signalling Transformer		Undated	5
	Email correspondence Paul Glasscock – Neil Smith		04/11/2014	5
T18/X5743	Outline for 100kVA, ONAN, High Voltage Power Transformer		03/02/2012	5
Q14365	Project: Signalling Transformers		28/08/2013	5
	Email correspondence Michael Coleman – Neil Smith		16/06/2015	5
	Correspondence Martin Cooper to Neil Smith re H.V. termination rating and assembly		116/07/2015	5
	Correspondence Martin Cooper to Dominic Banham-Hall re acceptance of H.V. termination arrangement		20/07/2015	5

Manuals and Training Materials

Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
TL2300/1	O&M manual for 25000V/800V signalling transformer (Thorpe-le-Soken)		Undated	2
TL2735/1	Signalling Transformer Operation, Instruction & Maintenance Manual		Undated	5

Manufacturer:
Transformers & Rectifiers Ltd

Issue : 5
Valid From : 20-07-2015

Certificate History

Issue	Date	Issue History
1	17/12/2010	First accepted for use.
2	18/07/2011	Second acceptance in order to amend scope of acceptance and existing product configuration to reflect more detail and additional items.
3	08/08/2011	Certificate re-issued to include additional trial sites.
4	29/11/2011	Certificate re-issued to include additional trial sites.
5	20/07/2015	Certificate re-issued to include 25kV/400V transformer.

Contact Details

Manufacturer

Paul Glasscock
Transformers & Rectifiers Ltd
sales@transformers.co.uk

Applicant

Original issue:
Timothy Jarvis
Network Rail
timothy.jarvis@networkrail.co.uk

Issue 5:

Neil Smith
Network Rail
neil.smith@networkrail.co.uk

Lead Reviewing Engineer

Martin Cooper
Network Rail
Martin.Cooper3@networkrail.co.uk

Manufacturer:
Transformers & Rectifiers Ltd

Issue : 5
Valid From : 20-07-2015

General Terms & Conditions

1) General

- 1) This certificate can only be amended by Network Rail Product Acceptance, the Professional Head or nominated delegate. Any alterations made by any other persons will invalidate the entire certificate.
- 2) Failure to abide by the requirements in this Certificate of Acceptance may invalidate the certificate, thereby restricting the right to operate the product and / or limiting the future supply and deployment of the product on the infrastructure.
- 3) Upon the review date this certificate and the product it relates to is invalid and not accepted for use. Manufacturers are to make an application for a review prior to the review date.

2) Manufacturer

The Manufacturer shall:

- 1) Ensure that all products supplied comply with the standards defined in the Acceptance Requirements or otherwise documented as part of the assessment, including meeting the reliability requirements included in the Acceptance Requirements and in any deed of warranty for the relevant certificate number.
- 2) Notify Network Rail Product Acceptance:
 - a. Within 48 hours, of any deficiencies affecting the quality, functionality or safety integrity of the product (including corrective action undertaken or proposed).
 - b. Of any intended change to the accepted product; changes include:
 - i. a change to the product configuration (to the actual product or its application);
 - ii. a variation to or addition of manufacturing locations or processes;
 - iii. a change in the name or ownership of the manufacturing company;
 - iv. any changes to the ability or intention to support with technical services, spares or repairs.
- 3) The Manufacturer shall provide Network Rail Product Acceptance or National Supply Chain (NSC) at least 12 (twelve) months notice of its intention to discontinue supply or to provide such notice as is reasonable if such discontinuance is outside its control and will offer the opportunity of a Last Time Buy to Network Rail together with date for last order placement and supply of the parts affected. The introduction of proposed alternative products shall be communicated to Network Rail Product Acceptance.
- 4) Provide further copies of operating and maintenance manuals to purchasers / users of the product as necessary (including certificates of conformance, calibration etc).
- 5) Provide further copies of training manuals and an appropriate level of training to purchasers or users of the product as necessary.
- 6) Where applicable, specialist technical support, repairs and servicing of the product shall be carried out by the Original Equipment Manufacturer (OEM) or authorised agent only.
- 7) Network Rail may request information from the manufacturer to prove product compliance with clauses 1 and 2 above and reserve the right to suspend and/or withdraw any application where information is not forthcoming within a reasonable timeframe.
- 8) In accordance with Network Rail's Quality Assurance Policy Statement 2011, where the specification and/or Product Acceptance Certificates specify quality assurance classifications (QA1 to QA5) for the products, the manufacturer shall comply with the specified level of quality assurance for each product and allow Network Rail access to carry out its quality assurance checks.
- 9) The manufacturer shall give Network Rail's representatives access at all reasonable times to its premises and allow them to inspect its quality systems and production methods and, if requested, to inspect, examine and test the products both during and after their manufacture and the materials being used in their manufacture.

3) Conditions of Use

Specifiers, installers, operators, maintainers, etc. using the product shall:

- 1) Comply with the certificate conditions. If a condition is not understood guidance must be sought from Network Rail Product Acceptance.
- 2) Check that the application of use complies with the relevant certificate's scope of acceptance.
- 3) Report any defect if it is a design or manufacturing fault likely to affect performance and/or the safe operation of the railway in writing to Network Rail Product Acceptance.
- 4) Inform Network Rail Product Acceptance in writing of a change to the product configuration (or to the actual product or its application).
- 5) Operate, maintain and service the product in accordance with Network Rail standards and Operation and Maintenance manuals as appropriate.
- 6) Be appropriately trained and authorised for the installation, maintenance and use of the product.
- 7) Only send products for repair or reconditioning to the Original Equipment Manufacturer (OEM) or authorised agent.
- 8) Users are to be aware that Product Acceptance is not a substitute for design approval.

Manufacturer:
Transformers & Rectifiers Ltd

Issue : 5
Valid From : 20-07-2015

4) Compliance

Railways and Other Guided Systems (ROGS) Regulations

1) Where the product is to be used in areas where Network Rail is not the Infrastructure Manager (e.g. leased stations), the sponsor shall additionally obtain formal consent from the Infrastructure Manager for the locality where the equipment is to be installed. This may include a requirement for additional safety verification. The decision of that Infrastructure Manager is binding, and cannot be overridden by Network Rail except by the escalation processes established in the ROGS regulations

2) As required in Railway Group Standard GE/RT8270, at each use of this product the project or group responsible for installation and commissioning shall be required to demonstrate compatibility with:

- a. All rail vehicle types that have access rights over the area affected by the change
- b. Infrastructure managed by others
- c. Neighbours.

Railway Interoperability Regulations

3) For interoperable constituents of systems the project or group responsible for installation and commissioning shall be required to demonstrate compliance with the relevant Technical Specifications for Interoperability (TSI) where appropriate.

4) An authorisation from the national safety authority (i.e. the Railway Safety Directorate of the Office of Rail Regulation) is required before the equipment is to be used in revenue earning service.

5) Supply Chain Arrangements

1) Certificates of acceptance do not imply any particular quantity of supply nor any exclusivity of supply.

2) Products may be purchased by Network Rail or its agents, suppliers or contractors.

3) Manufacturers should note that it is not necessary to enter into any exclusive supply arrangements with resellers or other suppliers.