

# Certificate of Acceptance

OFFICIAL  
PA05/04648

**Manufacturer:**  
Blakley Electric Ltd

**Issue :** 8  
**Valid From :** 23-05-2022  
**Review Date :** 24-06-2027

## Isolating Transformers

### Product Description

Isolating Transformer range 5kVa to 90kVa Single or Three Phase for Incoming Power Supplies.

### Product Image



### Scope of Acceptance

#### Full Acceptance

To provide isolation between DNO and traction/signalling earthing systems

The following equipment have site specific restriction as detailed below:

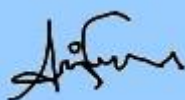
Location	Transformer
Shawford	15kVA
Otterbourne	15kVA
Buckhurst	15kVA
Portsea	15kVA
Ewell West	15kVA
Kempton park	10kVA

Additional variants may be permitted as authorised by the Professional Head or delegate in writing.

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.

Reviewed by:

Authorised by:



Aamir Malik  
Product Acceptance Coordinator



Felix Langley  
Network Technical Head of Power Distribution HV/LV

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## 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) Transformers are limited to 5 x inrush current in accordance with NR/L2/ELP40045 and NR/L2/SIG/30007
- 2) Site Specific Restrictions will be removed when full DFR evidence has been provided.

### User

- 1) Transformers with IP55 ratings are only to be used on continuously energised systems

## Product Configuration

### System or Complete Assembly

Part No.	Description	Catalogue No.
<b>SINGLE PHASE IP23 MILD STEEL</b>		
1Ø-ST/1/5/IP23 (230-230)	Single Phase Isolating Transformer 5kVA for incoming power supplies.	054/212503
1Ø-ST/1/10/IP23 (230-230)	Single Phase Isolating Transformer 10kVA for incoming power supplies.	054/212501
1Ø-ST/1/15/IP23 (230-230)	Single Phase Isolating Transformer 15kVA for incoming power supplies.	054/212504
1Ø-ST/1/20/IP23 (230-230)	Single Phase Isolating Transformer 20kVA for incoming power supplies.	054/212505
1Ø-ST/1/25/IP23 (230-230)	Single Phase Isolating Transformer 25kVA for incoming power supplies.	054/212506
1Ø-ST/1/30/IP23 (230-230)	Single Phase Isolating Transformer 30kVA for incoming power supplies.	054/212507
1Ø-ST/1/35/IP23 (230-230)	Single Phase Isolating Transformer 35kVA for incoming power supplies.	054/212508
1Ø-ST/1/40/IP23 (230-230)	Single Phase Isolating Transformer 40kVA for incoming power supplies.	054/212509
1Ø-ST/1/45/IP23 (230-230)	Single Phase Isolating Transformer 45kVA for incoming power supplies.	054/212510
1Ø-ST/1/50/IP23 (230-230)	Single Phase Isolating Transformer 50kVA for incoming power supplies.	054/212511
STH/140/1/15/440-440EF	Single phase Isolating transformer, 15kVA 440:440V (with options of IT secondary earthing arrangement to meet NR company standards and IP55 housing for outdoor installation requested).	054/212550

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Part No.	Description	Catalogue No.
STH/I50/1/20/440-440EF	Single phase Isolating transformer, 20kVA 440:440V (with options of IT secondary earthing arrangement to meet NR company standards and IP55 housing for outdoor installation requested).	054/212551
<b>THREE PHASE IP23 MILD STEEL</b>		
3Ø-STTS/3/5/IP23 (400-400)	Three Phase Isolating Transformer 5kVA for incoming power supplies	054/212512
3Ø-STTS/3/10/IP23 (400-400)	Three Phase Isolating Transformer 10kVA for incoming power supplies	054/212502
3Ø-STTS/3/15/IP23 (400-400)	Three Phase Isolating Transformer 15kVA for incoming power supplies	054/212513
3Ø-STTS/3/20/IP23 (400-400)	Three Phase Isolating Transformer 20kVA for incoming power supplies	054/212514
3Ø-STTS/3/25/IP23 (400-400)	Three Phase Isolating Transformer 25kVA for incoming power supplies	054/212515
3Ø-STTS/3/30/IP23 (400-400)	Three Phase Isolating Transformer 30kVA for incoming power supplies	054/212516
3Ø-STTS/3/35/IP23 (400-400)	Three Phase Isolating Transformer 35kVA for incoming power supplies	054/212517
3Ø-STTS/3/40/IP23 (400-400)	Three Phase Isolating Transformer 40kVA for incoming power supplies	054/212518
3Ø-STTS/3/45/IP23 (400-400)	Three Phase Isolating Transformer 45kVA for incoming power supplies	054/212519
3Ø-STTS/3/50/IP23 (400-400)	Three Phase Isolating Transformer 50kVA for incoming power supplies	054/212520
<b>SINGLE PHASE IP55 STAINLESS STEEL</b>		
A7034770 STH/I/1/15/C1/SS/IP55/NR	Single Phase Isolating Transformer 15kVA for incoming power supplies. (Site Specific Restriction)	054/213285
A7034570 STH/I/1/10/C1/IP55/SS/NR	Single Phase Isolating Transformer 10kVA for incoming power supplies. (Site Specific Restriction)	054/213286
A7030844 STH/I/1/25	Single Phase Isolating Transformer 25kVA for incoming power supplies.	054/212564
A7031027 STH/I/1/25/F100/SS/IP55/NR	Single Phase Isolating Transformer 25kVA for incoming power supplies.	054/212492
<b>SINGLE PHASE IP55 MILD STEEL</b>		
STH/3/30/230:230NE/IP55	Single Phase Isolating Transformer 30kVA for incoming power supplies.	054/212549
<b>THREE PHASE IP55 MILD STEEL</b>		
A7040184 STH/I/3/25	Three Phase Isolating Transformer 25kVA for incoming power supplies.	054/212565
A7040185 STH/I/3/40	Three Phase Isolating Transformer 40kVA for incoming power supplies	054/212566
<b>THREE PHASE IP55 STAINLESS STEEL</b>		
A7040186 STH/I/3/70	Three Phase Isolating Transformer 70kVA for incoming power supplies	054/212567
A7040187 STH/I/3/90	Three Phase Isolating Transformer 90kVA for incoming power supplies	054/212568

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## Assessed Documentation

Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
NR/L2/SIG/30007	Product Specification for Power Transformers		01/12/2007	1
NR/L2/ELP/40045	Electric Point Heating		28/08/2008	1
A7040109	General Assembly Drawing		03/02/2006	1
C4187 rev F	TH Series Transformer Enclosure		10/04/2000	1
WD 1533	Wiring Diagram for 25kVA 3PH TK Unit 400/400		10/02/2006	1
WD 1886	Schematic Transformer Layouts Network Rail		26/04/2010	1
W034485	Final Test and Inspection record Sheet (example)		22/03/2004	1
7906	Transformer Design and Specification Sheet		31/03/2003	1
7906	Transformer Winding and Assembly Sheet		15/04/2003	1
-----	Transformers for General Industrial Use – Recommended Maintenance		Undated	1
-----	Blakley Electrics Limited – Installation Instructions			1
-----	Email from Jeremy Lay – Product Acceptance Requirements		14/05/2010	1
-----	Email from Luan Ajdini re Transformers for Temple Mills		10/05/2010	1
-----	Email from Luan Ajdini re Blakley Isolation Transformers		10/05/2010	1
-----	Email from Jeremy Lay confirming that entire range conforms to the same standards and QA (See CCMS2)		03/02/2011	1
	Various e-mails between URL, Andrew Feben, Nick Snell and Jeremy Lay re: new items to be added to the product configuration		----	3
	Controlled Catalogue number request form from Robert McNally to add a 15kVA SP 400/400V isolating transformer			
	Quotation 31297 from Blakley Electrics		28/11/2012	4
	Revised Quotation 31297 from Blakley Electrics		20/12/2012	4
	Engineering Recommendation from Martin Cooper		03/01/2013	4
	Correspondence Ian Poole to Kyle Windsor requesting IP55 transformer		26/09/2013	4
	Correspondence Jeremy Lay to Ian Poole confirming transformer is to same specification as existing transformers		02/10/2013	4
A7034087	G.A. drawing 30kVA IP55 Isolating Transformer		23/09/2013	5
A7034087	Isolating Transformer 30kVA IP55 O & M Manual		20/09/2013	5
ABB/GWEP 25kVA March 2015 (Cover)	Letter from Dave Stokes requesting inclusion of 25kVA IP55 transformer		13/03/2015	6

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Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
ABB/GWEP 25kVA March 2015	GWEP Isolation Transformer Specification – 25kVA		09/03/2015	6
A704184	GA Drawing 25kVA IP55 Isolating Transformer		10/03/2015	6
WD 2407	Wiring Diagram for 25kVA 3P GWEP Isolation Transformer		18/03/2015	6
	Correspondence Dave Stokes to Alan Hodge confirming 25kVA IP55 transformer is to same specification as existing transformers.		18/03/2015	6
	Correspondence Dave Stokes to Alan Hodge confirming 40kVA, 70kVA and 90kVA IP55 transformers are to same specification as existing transformers.		20/03/2015	6
ABB/GWEP 40kVA March 2015 (Cover)	Letter from Dave Stokes requesting inclusion of 40kVA IP55 transformer		13/03/2015	6
ABB/GWEP 40kVA March 2015	GWEP Isolation Transformer Specification – 40kVA			6
A704185	GA Drawing 40kVA IP55 Isolating Transformer		10/03/2015	6
WD 2408	Wiring Diagram for 40kVA 3P GWEP Isolation Transformer		10/03/2015	6
ABB/GWEP 70kVA March 2015 (Cover)	Letter from Dave Stokes requesting inclusion of 70kVA IP55 transformer		11/03/2015	6
ABB/GWEP 70kVA March 2015	GWEP Isolation Transformer Specification – 70kVA			6
A704186	GA Drawing 70kVA IP55 Isolating Transformer		10/03/2015	6
WD 2409	Wiring Diagram for 70kVA 3P GWEP Isolation Transformer		10/03/2015	6
ABB/GWEP 90kVA March 2015 (Cover)	Letter from Dave Stokes requesting inclusion of 90kVA IP55 transformer		11/03/2015	6
ABB/GWEP 90kVA March 2015	GWEP Isolation Transformer Specification – 90kVA			6
A704187	GA Drawing 90kVA IP55 Isolating Transformer		05/03/2015	6
WD 2406	Wiring Diagram for 90kVA 3P GWEP Isolation Transformer		10/03/2015	6
WD 2410	Wiring Diagram for 25kVA 1P GWEP Isolation Transformer		11/03/2015	6
A703844	GA Drawing 25kVA IP55 1P Isolating Transformer		11/03/2015	6
ABB/ GWEP 25kVA 1 Ph March 2015	GWEP Isolation Transformer Specification – 25kVA Single Phase		03/2015	6
ABB/ GWEP 25kVA 1Ph March 2015 (Cover)	Re: GWEP DNO Isolation Transformer Approval		13/03/2015	6
A7031027	GA Drawing 25kVA IP55 Isolating Transformer		21/09/2018	7
A7031027 W140266	Blakley Electrics Test Report		19/04/2018	7
WD2743	25kVA IP55 Isolating Transformer Wiring Diagram		06/03/2018	7
TRDS032	Isolation Transformer Assembly		02/02/2022	8
SQ77354	10kVA Single Phase Stainless Steel IP55 Isolation Transformer Quote / Specification		02/02/2022	8

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Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
SQ75847	15kVA Single Phase Stainless Steel IP55 Isolation Transformer Quote / Specification		02/02/2022	8
A7034770	GA Drawing for 15kVA Single Phase Stainless Steel IP55 Isolation Transformer		02/02/2022	8
A7034570	GA Drawing for 10kVA Single Phase Stainless Steel IP55 Isolation Transformer		02/02/2022	8

## Manuals and Training Materials

Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
A7034087	Isolating Transformer 30kVA IP55 O & M Manual		20/09/2013	5

## Certificate History

Issue	Date	Issue History
1	01/06/2010	First accepted for use
2	03/02/2011	Rane extended to 1kVA to 50kVA (was 15kVA to 45kVA)
3	18/02/2011	Certificate re-issued to add new items to the product configuration.
4	08/01/2012	Certificate re-issued to add new items to the product configuration.
5	09/10/2013	IP55 30kVA transformer added
6	13/04/2015	Certificate re-issued to add new IP55 items to the product configuration.
7	28/09/2018	Addition of 25kVA IP55 with additional primary tapplings
8	24/06/2022	Certificate re-issued to add new items to the product configuration.

## Contact Details

### Manufacturer

Robert Laming  
Blakley Electrics Limited

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### Applicant

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### Lead Reviewing Engineer

James Webb  
(Power Distribution) Engineer

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## 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 a 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 via the NR sponsoring applicant.

### 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 Network Rail Design for Reliability Standard(DFR) NR-L2-RSE-0005 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, where the specification and/or Product Acceptance Certificates specify quality assurance classifications 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.

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## 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 RIS-8270-RST, 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 and Road) 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.