

Manufacturer:
iLECSYS Rail Ltd.

Issue : 1
Valid From : 10-05-2019

Integrated FSP and DITA

Product Description

Integrated FSP and DITA for segregation of existing signalling power distribution feeder circuits. Ratings from 5kVA, 10kVA, 15kVA and 40kVA inclusive.

Product Image



Scope of Acceptance

Full Acceptance

Full acceptance for Isolating transformer at 5kVA, 10kVA, 15kVA and 40kVA and Protection and Control Unit for integration into a trackside apparatus housing to form a DITA in accordance with NR/L2/SIGELP/27419.

DITA to be installed in a signalling power distribution system in accordance with NR/L2/SIGELP/27410 Iss 2.

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:



Sam Flint
Product Acceptance Coordinator



Felix Langley
Professional 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) Mechanical drawings, Electrical Schematics, Factory Acceptance Test (FAT), site reports, EMC statements and O & M Manuals shall be provided with equipment.
- 2) The FSP shall meet the requirements of NR/L2/SIGELP/27409 Issue 2
- 3) The DITA shall meet the requirements of NR/L2/SIGELP/27419
- 3) The Manufacturer conditions of previously approved products shall still remain i.e. (PA05/06087, PA05/05342, PA05/05344, PA05/06433, PA05/06436, PA05/06490, PA05/06592)
- 4) Clear instructions and labelling is required where a DITA is installed that introduces different earthing system to that of the primary (ie, 650 V IT to 650 V TN).
- 5) Clear drawings to be provisioned and fixed to the inside of the enclosure clearly detailing the earthing arrangements and their connection to local and remote earthing systems. This shall be site specific.
- 6) The O&M manual shall be updated to include reference to different earthing systems and how compliance can / will be met.
- 7) Metallic apparatus housings can be used but must be product approved and suitable for housing DITA equipment.

User

- 1) The DITA shall be installed in a signalling power distribution system such that the 5kVA, 10kVA, 15kVA and 40kVA capacity of the equipment is not exceeded.
- 2) Equipment to be installed with Class II switchgear in accordance with NR/L2/SIGELP/27409 Issue 2 and alarm transmission facilities to form a DITA in accordance with NR/L2/SIGELP/27419.
- 3) The requirements for a Class II installation are satisfied if the DITA is installed in accordance with NR/L2/SIGELP/27410 Issue 2 – Specification for Class II Based Signalling Power Distribution Systems.
- 4) Suitable BS HD 60269-2 / BS88-2 fusing (as per the manufacturers Data Sheet) to provide protection against near source faults shall be provided at the input of the Isolating transformer and shall discriminate with downstream protective devices.
- 5) The cabling between Class II FSP switchgear and the Isolating transformer shall be enclosed in insulated conduit system in accordance with NR/L2/SIGELP/27421 and NR/L2/SIGELP/27422.
- 6) Prior to energising the DITA within a Signalling Power Distribution system, the installer shall be satisfied that the DITA settings are suitably designed, installed and adjusted to provide appropriate power characteristics and circuit protection to all connected loads including, signalling functional supplies.
- 7) Protection and Control Unit (PCU) Definite Minimum Time breaker shall be adjusted in accordance with overall system power protection design to achieve discrimination with upstream PSP protection and downstream FSP transformer protection.
- 8) The DITA shall be earthed with a target value in accordance with NR/L3/SIGELP/27410 Issue 2 section 9.1. The earthing system shall be installed in accordance with NR/L3/SIGELP/27418.
- 9) Site Acceptance Test (SAT) specific to this installation shall be completed on commissioning.


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- 10) In the event of a fault the manufacturer shall be responsible for investigation and rectification.
- 11) Any changes to the signalling power distribution system will be done in accordance to NR/L2/SIGELP/27416 Issue 1
- 12) The GRP Housing shall not be installed within the Overhead Contact Line Zone (OCLZ) as defined in BS EN 50122-1:2011+A4:2017
- 13) Product approved metallic housings can be used but must be supplied from ilecsys Rail Ltd.
- 14) The User conditions of previously approved products shall still remain i.e. (PA05/06087, PA05/05342, PA05/05344, PA05/06433, PA05/06436, PA05/06490)
- 15) Protection of TN systems must be designed and specified to the installer before energisation. The local earthing electrode or other earthing connection shall be coordinated with the protection design to meet a disconnection time that not exceeding the limits set in BS7671 for distribution systems. Any local earthing system connected to the TN system shall be clearly marked to indicate that it is intended to afford protection against electric shock under first fault conditions.
- 16) Where earthing systems connected to the 650TN are disconnected for the purpose of periodic testing the incoming power supply shall be isolated.
- 17) The iLECSYS DITA is intended to be supplied as a complete wired and tested assembly and not as a series of individual components. The DITA modules can be provided for use in an REB or PSP without a case but must be installed, commissioned and tested by iLECSYS engineers or competent contractor under supervision from iLECSYS prior to operational use on the network.

Product Configuration


DITA Housing

Part No.	Description	Image	Catalogue No.
ILS200004-001	GRP Full LOC case		0087/007533



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Transformer Options


Part No.	Description	Image	Catalogue No.
T3258	5kVA 650:650V Single Output		0086/011903
T3258-2	5kVA 230:230V Single Output		0086/011904
T3259	10kVA 650:650V Single Output		0086/011905
T3260	15kVA 650:650V Single Output		0086/011906
T3263	40kVA 650:650V Single Output		0086/011907

Connection Box Options


Part No.	Description	Image	Catalogue No.
FSP/SEG/K4C-2040	Class I M10 Stud Terminals for 16-95mm ² Al/Cu Cable M63 Removable Gland Plate		0086/011908
FSP-CII/SEG/A-2040	Class II Tunnel Terminals for 35-120mm ² Al/Cu Cable 2/4c M63 Removable Gland Plate		086/034711

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Part No.	Description	Image	Catalogue No.
FSP-CII/SEG/K4C-2040	Class II M10 Stud Terminals for 16-95mm ² Al/Cu Cable 2/4c M63 Removable Gland Plate		0086/011909

Definite Minimum Time Protection Options

Part No.	Description	Image	Catalogue No.
P/N 1SDA067067R1	ABB Tmax XT2 160 Ekip LSI 10A		0086/011910
P/N 1SDA067068R1	ABB Tmax XT2 160 Ekip LSI 25A		0086/011911
P/N 1SDA067069R1	ABB Tmax XT2 160 Ekip LSI 63A		0086/011912

Insulation Resistance Monitoring Options




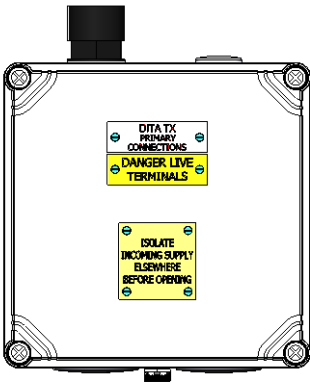
Part No.	Description	Image	Catalogue No.
	265 ILR Insulation Monitoring Unit (Using Bender IRDH265 + Voestalpine Mini-Logger) (required to cover existing installations)		0086/011913
ILS200020-001	685 ILR Insulation Monitoring Unit (Using Bender iso685W-D + Voestalpine Mini-Logger) (required to cover new installations)		0086/011914

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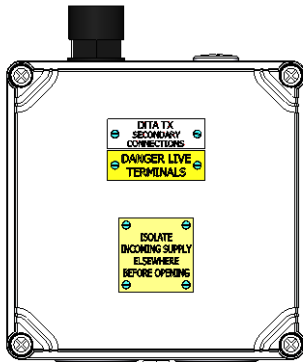
Part No.	Description	Image	Catalogue No.
RS3/1	RS3 Signal Earth Fault Location System		086/000103

Spare Parts

Part No.	Description	Images	Catalogue No.
170224-194	DITA Input Module C/W ABB E92/125 Fuse-holder (22 x 58mm)		0086/011915
170228-214	DITA 1 Switch Combined Auxiliary/ Distribution Box		0086/011916
170227-199	DITA Output Module C/W 2 x Tmax Ekip LSI units		0086/011917
181019-1349	DITA Control Case (1) Transformer Connections Plate (Only for multi-case installations for 20 – 40kVA transformers)		0086/011918

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Part No.	Description	Images	Catalogue No.
181019-1350	DITA Transformer Case (2) Transformer Connections Plate (Only for multi-case installations for 20 – 40kVA transformers)	 <p>The image shows a technical drawing of a rectangular metal plate with rounded corners and four mounting holes. It features two safety labels: a white label at the top with the text 'DITA TX SECONDARY CONNECTIONS' and 'DANGER, LIVE TERMINALS', and a yellow label at the bottom with the text 'ISOLATE INCOMING SUPPLY ELSEWHERE BEFORE OPENING'.</p>	0086/011919

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Assessed Documentation

Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
	Initial Evidence Pack	Folder	01/09/2015	T1
	PA05-06430 Submission 1 - 180417	Folder	18/04/2017	T1
	Submission 2	Folder	31/07/2017	T1
E-mail	Re DITA Trial Certificate	1	24/05/2017	T1
E-mail	Tmax XT2N 160 Ekip	1	25/07/2017	T1
E-mail	Recommendation sign off	1	21/12/2018	T1
EMC Test Cert	C3784 ABB Tmax	1	20/12/2018	T1
EMC Test Report	Test Report EMC Testing of ABB Tmax EKIP LSI	2	20/12/2018	T1
Compliance Statement	Copy of PA05-06430 - Product Acceptance Compliance v9 iLecsyp 06-12-18JP	1	10/05/2019	1
PA Certificate	PA05_04750 Bender Earth Fault Monitoring Components	1	10/05/2019	1
ISO Accreditation	iLECSYS Rail ISO9001 Certificate	1	10/05/2019	1
DFR Information	DITA Reliability Calculations	1	10/05/2019	1
Brochure	Dita Guide_5.0_small	1	10/05/2019	1
Declaration of Conformity	DITA DofC	1	10/05/2019	1
	Copy of BS EN 61439-2 Checklist	1	10/05/2019	1
Test Report	B3725 Schneider NSX Ekip Test Report B3307TR1	1	10/05/2019	1
Test Certificate	B3725 Schneider NSX Ekip Test Certificate B3308TC1	1	10/05/2019	1
PA Certificate	04856 - Full Certificate Voestalpine CDS Loggers	1	10/05/2019	1
	Complete_Doc_Pack_RS3_REV01 (2)	1	10/05/2019	1
Test Report	C4613 ATL Transformers Report C13127TR1	1	10/05/2019	1
Declaration of Conformity	1sdl000282r959-1	1	10/05/2019	1
Drawing	1SDC210033D0203_Tmax-XT-en-151-346	1	10/05/2019	1
	124119-DITA-Proposals	1	10/05/2019	1
Trial Report	PA05_06430 trial Criteria (Complete Trial Site Data)	1	10/05/2019	1

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Manuals and Training Materials

Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
NR/SPS M010	Distribution Interface Transformer Assembly (DITA) Maintenance	01		1
NR/SPS F005	DITA Equipment Test Results	01		1
	PA05-06430 iLECSYS DITA OM Manual V2.2	2.2	10/05/2019	1
ABB TMAX Maintenance Manual	Tmax XT Maintenance	1	10/05/2019	1
ABB TMAX Manual	1SDC210033D0203_Tmax XT en.pdf	1	10/05/2019	1
	TECH142 - OM Manual Aluminum Wound Class II DITA Network Rail DITA Sche	1	10/05/2019	1
ISOMETER O&M Manual	IRDH265-365_D00014_01_M_XXEN	1	10/05/2019	1

Certificate History

Issue	Date	Issue History
T1	21/12/2017	Initial issue for trial purposes
T2	16/03/2018	Second Trial issue to capture the 40kVA rating
T3	17/08/2018	New site added to capture 10kVA rating at West Hampstead
1	10/05/2019	Full Acceptance granted

Contact Details

Manufacturer

iLECSYS Rail Ltd.
Peter Dickson
Engineering Manager
pjd@ilecsys.co.uk

Applicant

Tahir Ayub
Programme Engineering Manager
Network Rail
Tahir.Ayub@networkrail.co.uk

Mariusz Tyszka
Project Engineer
Network Rail
Mariusz.Tyszka@networkrail.co.uk

Nilda Sanchez
Senior Engineer
Network Rail
nilda.sanchez@networkrail.co.uk

Lead Reviewing Engineer

James Palmer
Engineer (M&E) (Distribution)
Network Rail
James.Palmer2@networkrail.co.uk

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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.

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.

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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 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.