

Manufacturer:
Signal House Ltd

Issue : 4
Valid From : 04/10/2024

2-State Banner Repeater Signal and SARI with LED Illumination

Product Description

2-State fibre optic banner repeater signal with LED illumination.

Standard Alphanumeric Route Indicator (SARI) with LED illumination up to 16 characters.

Readable distance 250m.

Product Image



Scope of Acceptance

Full Acceptance

Accepted for use as a 2-state ("White") Banner Repeater Signal compliant with the requirements of GK/RT0057 Issue 1.

Accepted for use as a Standard Alphanumeric Indicator compliant with the requirements of GK/RT0057 Issue 1 and in accordance with BR 1651 Part 1.

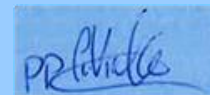
Network Rail Acceptance Panel (NRAP) hereby authorises the product above for use and trial use on railway infrastructure for which Network Rail is the Infrastructure Manager under the ROGS regulations.

Reviewed by:

Authorised by:



Steven Rennolds
Product Acceptance Specialist



Jerry Morling BEng MSc CEng MIET, MIRSE
Network Technical Head (Signalling)

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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) Please refer to the General Terms & Conditions.

User

- 1) The LED illuminator has a predicted life of 5 years and should be scheduled for replacement.
- 2) The SARI shall be used in accordance with Operation, Installation and Maintenance Manual for the LED Standard Alphanumeric Route Indicator [Theatre] CAT 2 Signals X14500.
- 3) The project / user is responsible to ensure that each SARI indication has undergone readability testing in accordance with GK/RT0057 part 4.

Product Configuration

System or Complete Assembly

Part No.	Description	Catalogue No.
1839/11	2-State Fibre Optic Banner Repeater Signal with LED illumination	086/001287
X14500-001	Standard Alphanumeric Route Indicator (SARI) with LED illumination – Site specific indications to be provided	0086/001446

Hardware (Maintenance Spares and Line Replaceable Units)

Part No.	Description	Catalogue No.
1814	LED illuminator for use in Signal House Banner Repeater Signal 086/001287 and SARI	086/001285

Assessed Documentation

Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
SC1814 (with attachments)	Safety Case for the LED Illuminated Banner Signal	B	09/01/2007	1
SP1069.157.03	Praxis HIS Independent safety assessment	1.0	25/01/2007	1
Signal House Letter	(Supplementary answers to questions)		28/03/2008	1
288/7203614	BSI Product test report		21/05/2008	1
Issue 1	Banner Repeater Trial Report		22/01/2010	1
Issue 1	LED BRS Configuration Management		23/02/2010	1
200-206	Wiring Diagram, 110Vac LED Banner 1 OFF, 1 ON, 1839,11	C	22/01/2016	2
1839/2/11	Chassis Assembly LED Banner. 1 OFF, 1 ON	B	01/12/2015	2
1839/11	LED Banner 1 ON & 1 OFF	B	02/12/2015	2
ECN 369	Change Note – 1839,1 Banner LED 1 ON, 1 OFF	--	22/01/2016	2

Certificate of Acceptance

PA05/02710

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Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
-	Response to PA05/02710 Acceptance Requirements	1	14/07/2023	3
SARI/DRFCM01	SARI DfR Compliance Assessment	1	14/07/2023	3
OC-1053-01	Signal House LED SARI PA05/02710 Phantom Optical Performance, ref. GK/RT0057 issue 1 Clause 4.1.1	1	14/07/2023	3
OC-1117-02	Report of Readability Tests on Signal House LED SARI	1	14/07/2023	3
SARI/CM01	SARI Compliance Matrix	1	14/07/2023	3
SARI X14500/001	Standard Alphanumeric Route Indicator [SARI] Critical Review Report	1	26/09/2024	4

Certificate History

Issue	Date	Issue History
1	24/02/2010	First accepted for use.
2	11/02/2016	Second acceptance to capture a change in lamp lighting transformer to align with Signal House LED MARI and fitment of touch proof terminals
3	14/07/2023	To incorporate the Trial of the Standard Alphanumeric Route Indicator (SARI) with LED light source – illuminator 1814.
4	04/10/2024	Updated to include Full acceptance of the SARI following a trial period completed with CRR captured as 086/001446.

Contact Details

Manufacturer

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Lead Engineer – Issue 4

Max Natola
Network Rail

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General Terms & Conditions

1) General

- 1) This certificate can only be amended by Network Rail Technology Introduction Group. Any alterations made by a different person 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 Technology Introduction Group:
 - 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 Technology Introduction Group 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 the Network Rail Technology Introduction Group.
- 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 Technology Introduction Group.
- 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 Technology Introduction Group.
- 4) Inform Network Rail Technology Introduction Group 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