

**Manufacturer:**  
Signal House Ltd

**Issue :** 5  
**Valid From :** 15-06-20

### Miniature Alphanumeric Route Indicator with LED illumination

#### Product Description

Miniature Alphanumeric Route Indicator with LED illumination & CD / RA Miniature Banner with LED illumination.

#### Product Image



#### Scope of Acceptance

##### Full Acceptance:

- Miniature Alphanumeric Route Indicator accepted use as a Category 3 Alphanumeric Route Indicator as permitted by Railway Group Standard GK/RT0045 'Lineside Signals, Indicators and Layout of Signals'. May also be used for indicators using a similar alphanumeric presentation e.g. 'OFF', 'RA', 'CD', 'BU';
- CD / RA Miniature Banner combined unit accepted for use a Category 3 CD / RA and Category 3 Miniature Banner as permitted by Railway Group Standard GK/RT0045;

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  
Professional 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) No specific conditions. Please refer to the general terms & conditions.

### User

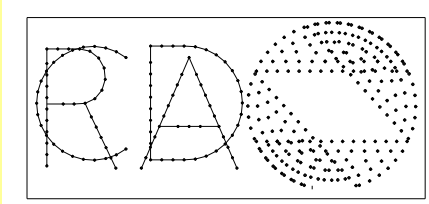
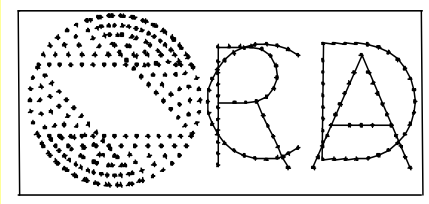
- 1) Please refer to the general terms & conditions.
- 2) To be applied as per the OEM manual and specifications.
- 3) The LED illuminator requires replacement to be scheduled every 5 years

## Product Configuration

Part No.	Description	Catalogue No.
<b>MARI Cat 3 100m</b>		
X14100-001	"OFF" LED Miniature Alphanumeric Route Indicator [Stencil], 110V, Single Sided, Cat 3 [100m] readability.	086/001417
X14100-002	"RA" LED Miniature Alphanumeric Route Indicator [Stencil], 110V, Single Sided, Cat 3 [100m] readability.	086/001416
X14100-003	"CD" LED Miniature Alphanumeric Route Indicator [Stencil], 110V, Single Sided, Cat 3 [100m] readability.	086/001418
X14100-004	"CD + RA" LED Miniature Alphanumeric Route Indicator [Stencil], 110V, Single Sided, Cat 3 [100m] readability.	086/001419
X14100-***	"DISPLAY TO BE SPECIFIED BY CUSTOMER" LED Miniature Alphanumeric Route Indicator [Stencil], 110V, Single Sided, Cat 3 [100m] readability.	086/001414
X14200-001	"OFF" LED Miniature Alphanumeric Route Indicator [Stencil], 110V, Double Sided, Cat 3 [100m] readability.	086/001407
X14200-***	"DISPLAY TO BE SPECIFIED BY CUSTOMER" LED Miniature Alphanumeric Route Indicator [Stencil], 110V, Double Sided, Cat 3 [100m] readability.	086/001415
<b>MARI Cat 5 65m</b>		
X10100-***	Fibre Optic Miniature Alphanumeric Route Indicator ('Stencil') with LED illumination, 110V, Single-sided. (Display to be specified by customer).	086/001370
X10200-***	Fibre Optic Miniature Alphanumeric Route Indicator ('Stencil') with LED illumination, 110V, Double-sided. (Display to be specified by customer).	086/001371
X10100-002	Fibre Optic Miniature Alphanumeric Route Indicator ('Stencil') with LED illumination, 110V, Single-sided, "RA".	086/001372
X10100-001	Fibre Optic Miniature Alphanumeric Route Indicator ('Stencil') with LED illumination, 110V, Single-sided, "OFF".	086/001373
X10100-003	Fibre Optic Miniature Alphanumeric Route Indicator ('Stencil') with LED illumination, 110V, Single-sided, "CD".	086/001374
X10100-004	Fibre Optic Miniature Alphanumeric Route Indicator ('Stencil') with LED illumination, 110V, Single-sided, "CD" + "RA".	086/001375

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Part No.	Description	Catalogue No.
<b>Single Character MARI With Reduced Size Housing</b>		
X10600-***	Single character Fibre Optic Miniature Alphanumeric Route Indicator with LED illumination in small 300 x 300mm housing for reduced clearances. Can display 1 or 2 aspects.	086/038259
<b>Two Character MARI, 400mm Width</b>		
X12400-***	Two Character Fibre Optic Miniature Alphanumeric Route Indicator ("Stencil") 400mm wide, LED Illumination, 110V, Single-Sided (Display to be specified by customer)	086/001412
X12400-001	Two Character Fibre Optic Miniature Alphanumeric Route Indicator ("Stencil") 400mm wide, LED Illumination, 110V, Single-Sided, RA.	086/001413
<b>CD / RA Miniature Banner Signal Combined Unit</b>		
X10800	<p>Fibre Optic Miniature Alphanumeric Route Indicator ("Stencil") "CD &amp; RA" with combined Miniature Banner Repeater Signal with LED Illumination, 110V single sided.</p> <p>As viewed by the driver the Miniature Banner is on the right.</p> 	086/001410
X10900	<p>Fibre Optic Miniature Alphanumeric Route Indicator ("Stencil") "CD &amp; RA" with combined Miniature Banner Repeater Signal with LED Illumination, 110V single sided.</p> <p>As viewed by the driver the Miniature Banner is on the left.</p> 	086/001411
<b>Spares</b>		
1814	LED illuminator for use in Signal House Banner Repeater Signal (086/001287), Signal House Miniature Banner Signal (086/001350 & 086/001351) & Signal House Miniature Alphanumeric Route Indicators (086/001370, 086/001371, 086/001372, 086/001373, 086/001374, 086/001375, 0086/001417, 0086/001416, 0086/001418, 0086/001419, 0086/001414, 0086/001407 & 0086/001415)	086/001285

# Certificate of Acceptance

PA05/03162

**Manufacturer:**  
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## Assessed Documentation

Reference	Title	Date and Applies to Cert. issue No.	
SC1814 Issue B (with attachments)	Safety Case for the LED Illuminated Banner Signal	09/01/07	1
OC-0204-01 issue 1	Readability Trial Report	21/04/10	1
Issue 1	Product Acceptance Requirements Report: LED Fibre Optic MARI	02/06/10	1
PA05/02710	Product Acceptance file for Banner signal with LED illuminator	-	1
CSTR16 Issue 1	CSTR16 Transformer test report	12/08/11	2
X10600-*** Issue 1	Single character MARI Supporting Documentation	21/01/11	2
PA05/03162	Signal House acceptance report	12/09/11	3
X10800	RA / CD / MB general assembly drawing	19/09/11	3
X10900	MB / RA / CD general assembly drawing	19/09/11	3
SD X12400 Iss. A	LED MARI Stencil 400 x 300 Drawing	02/04/14	4
X12400 Iss. A	LED MARI Stencil 400 x 300 Drawing	02/04/14	4
EXT2 PA05/03162	Support Documentation Report for LED MARI 400 wide to display RA character aspect	23/04/14	4
Letter dated 25 <sup>th</sup> March	Product Acceptance change request to PA05/03162	25/03/2020	5
Letter dated 8 <sup>th</sup> April	Product Design for reliability responses to application	08/04/2020	5
TM014	Operation, Installation and Maintenance Manual for the LED Miniature Alphanumeric Route Indicator [Stencil] CAT 3 Signals X14100 and X14200 types.	22/04/2020	5
-	Cat 3 Signal House Minatare Alphanumeric Route Indicator	April 2020	5

## Certificate History

Issue	Date	Issue History
1	14/09/10	First accepted for use.
2	21/09/11	Second acceptance in order to add an additional item to the accepted range.
3	10/08/12	Third acceptance to add combined CD / RA & Miniature Banners to the range.
4	12/08/14	Fourth acceptance to add a 2-character MARI to the range of accepted products.
5	15/06/2020	Part numbers added for cat 3 (100m) MARI.

## Contact Details

### Manufacturer

Bill Gregory  
Signal House Ltd  
bill.gregory@signalhouse.co.uk

### Applicant

Nick Taylor  
Route Asset Manager  
[Nick.Taylor@Networkrail.co.uk](mailto:Nick.Taylor@Networkrail.co.uk)

### Lead Reviewing Engineer

Chris Cresswell  
Senior Engineer CCS  
[Chris.Cresswell@Networkrail.co.uk](mailto:Chris.Cresswell@Networkrail.co.uk)

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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