

Certificate of Acceptance

PA05/03007

Manufacturer:
Signal House Ltd

Issue : 5
Valid From : 15 July 2015

Long Range LED Colour Light Signals

Product Description

Long range, 800m readability LED colour light signals with a +/- 3 degree beam profile. Available in 1, 2 3 & 4-Aspect variants with long or short hoods.

Product Image

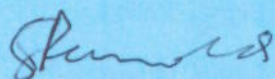


Scope of Acceptance

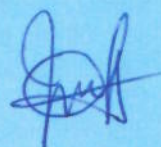
Full Acceptance:

LED Long Range Colour Light Signals (800m readability) accepted for national use where signals compliant with NR/SP/SIG/10062 are required.

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:



Steve Rennolds
Process & Change 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) Issue B modules can no longer be supplied.
- 2) All issue B modules received for repair or servicing must be modified to Issue C status.

User

- 1) No further issue B modules are to be installed for new works.
- 2) Issue B modules controlled by relay circuitry shall have the transformer tapings set to the 0 – 121V positions (Technical Instruction T1155).

Product Configuration

System or Complete Assembly

Part No.	Description	Catalogue No.
Signals with Short Hoods		
SS1001	Signal House 1 Aspect LED Colour Light Signal, Red, 110V ac, 300mm hood	086/009325
SS1002	Signal House 1 Aspect LED Colour Light Signal, Yellow, 110V ac, 300mm hood	086/009326
SS1003	Signal House 1 Aspect LED Colour Light Signal, Green, 110V ac, 300mm hood	086/009327
SS2001	Signal House 2 Aspect LED Colour Light Signal, Red/Green, 110V ac, 300mm hood	086/009328
SS2002	Signal House 2 Aspect LED Colour Light Signal, Yellow/Green, 110V ac, 300mm hood	086/009329
SS2003	Signal House 2 Aspect LED Colour Light Signal, Red/Yellow, 110V ac, 300mm hood	086/009330
SS3001	Signal House 3 Aspect LED Colour Light Signal, Red/Yellow/Green 110V ac, 300mm hood	086/009331
SS3002	Signal House 3 Aspect LED Colour Light Signal, Yellow/Green/Yellow, 110V ac, 300mm hood	086/009332
SS4001	Signal House 4 Aspect LED Colour Light Signal, Red/Yellow/Green/Yellow, 110V ac, 300mm hood	086/009333
Signals with Extended Hoods		
SS1001E	Signal House 1 Aspect LED Colour Light Signal, Red, 110V ac, 600mm hood	086/009334
SS1002E	Signal House 1 Aspect LED Colour Light Signal, Yellow, 110V ac, 600mm hood	086/009335
SS1003E	Signal House 1 Aspect LED Colour Light Signal, Green, 110V ac, 600mm hood	086/009336
SS2001E	Signal House 2 Aspect LED Colour Light Signal, Red/Green, 110V ac, 600mm hood	086/009337
SS2002E	Signal House 2 Aspect LED Colour Light Signal, Yellow/Green, 110V ac, 600mm hood	086/009338

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Part No.	Description	Catalogue No.
SS2003E	Signal House 2 Aspect LED Colour Light Signal, Red/Yellow, 110V ac, 600mm hood	086/009339
SS3001E	Signal House 3 Aspect LED Colour Light Signal, Red/Yellow/Green 110V ac, 600mm hood	086/009340
SS3002E	Signal House 3 Aspect LED Colour Light Signal, Yellow/Green/Yellow, 110V ac, 600mm hood	086/009341
SS4001E	Signal House 4 Aspect LED Colour Light Signal, Red/Yellow/Green/Yellow, 110V ac, 600mm hood	086/009342
Ground Mounted Signals		
SS3005	Signal House Ground Mounted 3 Aspect LED Colour Light Signal, Red/Yellow/Green 110V ac, 300mm hood	086/009351
SS3005E	Signal House Ground Mounted 3 Aspect LED Colour Light Signal, Red/Yellow/Green 110V ac, 600mm hood	086/009352
SS4005	Signal House 4 Aspect LED Colour Light Signal, Ground Mounted, Yellow/Green/Yellow/Red, 110V ac, 300mm hood.	086/009355
SS4005E	Signal House 4 Aspect LED Colour Light Signal, Ground Mounted Yellow/Green/Yellow/Red, 110V ac, 600mm hood	086/009356

Hardware (Maintenance Spares and Line Replaceable Units)

Part No.	Description	Catalogue No.
X12000	Special Replacement 'Octal' EKR for Signal House LED Long Range Signal <u>only</u> .	086/009346
X10700	Special Replacement 'Octal' EKR for flashing aspects (marked 'FR') for Signal House LED Long Range Signals <u>only</u> .	086/009347
1810/R Issue C	Red Issue C LED colour light signal module	086/009348
1810/Y Issue C	Yellow Issue C LED colour light signal module	086/009349
1810/G Issue C	Green Issue C LED colour light signal module	086/009350
1809/13/1	300mm replacement hood for Signal House LED colour light signal	086/009353
1809/13/2	600mm replacement hood for Signal House LED colour light signal	086/009354

Superseded issue B LED modules that are no longer supplied:

Part No.	Description	Version No.
1810/Y Issue B	Signal House Yellow Replacement aspect module	086/009343
1810/G Issue B	Signal House Green Replacement aspect module	086/009344
1810/R Issue B	Signal House Red Replacement aspect module	086/009345

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Assessed Documentation

Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
S.P1069.157.05	Signal House LED Colour Light Signal 1831: Independent Safety Assessment, Issue 1.0 - Praxis High Integrity Systems.	-	15/06/07	1
-	Signal House LED Colour Light Signal 1831: Safety Case Documentation, Vols. 1 & 2.	-	Undated	1
OC-0088-07	Assessment Report for the Signal House Solid State Colour Light Signal (.....), Issue 1 – OptiConsulting UK.	-	29/02/08	1
Letter	Declaration of Subsequent Changes - Signal House Ltd. (includes images and drawings).	-	06/03/08	1
PA05/03007/T	Trial Critical Review Report	-	30/03/09	1
Letter BG05	Build Statement of Solid State Colour Light Aspects	-	18/08/09	1
OC-0088-12	Summary Report - Optical Assessment of the Signal House SS CLS	-	19/08/09	1
OC-0088-11	Optical Test Report for the Signal House SS CLS Green Aspect	3	10/08/09	1
X10700	Product Specification for X10700	1	14/01/11	2
SC1831/AP2 Issue 2	Signal House LED Colour Light Signal SS Series When Used as a Flashing Aspect		18/02/11	2
-	Email Bill Gregory to John Walker	-	20/02/11	2
10185	St Austell - Interim Report on Signal Number PR104 Aspect Irregularity, 10 October 2010	1	16/12/10	2
PA05/05480	Trial Certificate for Issue C LED modules	-	28/06/12	3
PA05/03007	Certificate of acceptance for the Signal House LED Colour Light Signal with issue B modules	2	22/02/11	3
-	Email Chris Betteridge to John Walker re. testing at the TIC	-	13/03/12	3
1810/RYG C	Issue C modification report	1	30/03/12	3
SC1831/P2	Addendum to SC1831 Safety Case Covering the Issue C Aspect	1	11/04/12	3
CLM001	O&M Manual draft issue 9	-	March 2012	3
-	Optical test results for Issue C modules	-	March 2012	3
-	Email David Mahoney to John Walker closing out the issue C trial.	-	21/10/12	3
11152	Atkins Technical Investigation Report: Denham Golf Club – ME116 Change of Aspect Due to Current Proving Failure at ME112 Signal.	1	08/02/12	3
TI155	Signal House LED Colour Light Signals – Aspect Module Voltage Tapings	1	24/02/11	3
PA05/05480	Certificate of Trial Acceptance for Issue C Modules	-	28/06/12	3
12182	ME112 Signal - Trial of Modified Signal House LED Colour Light Signal, Summer 2012	1	16/11/12	3
SS3005	LED colour light 3-aspect GYR assembly ground mounted drawing	A	15/02/10	4

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Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
1809/GYR-20	Ground mounted signal wiring details – 3-aspect GYR	A	28/03/11	4
200-211	Label, wiring diagram 3-aspect LED signal 110V ground mounted [Green, Yellow, Red]	A	03/11/09	4
1809/13/-	LED colour light hood drawing	B	12/07/06	4
1809/13/2	LED Colour Light Hood 600mm Drawing	C	07/04/14	5
1809/13/1	LED Colour Light Hood 300mm Drawing	C	07/04/14	5
SS4005	LED Colour Light 4 Aspect YGYR Assembly Ground Mounted Drawing	A	12/05/15	5
1809/YGYR-21	Wiring Details – 4 Aspect YGYR Ground Mounted SS4005 Drawing	A	19/05/15	5
200-307	Label, Wiring Diagram 4 Aspect LED Signal 110V YGYR Ground Mtd. Drawing	A	12/05/15	5

Certificate History

Issue	Date	Issue History
1	09/10/2009	First accepted for use.
2	22/02/2011	Second acceptance for use in order to include a new signal head ER.
3	04/02/2013	Third acceptance to include issue C modules following successful trial under PA05/05480.
4	20/08/2013	Fourth acceptance to capture a 3-aspect ground mounted signal and to include the hoods as spare parts. X12000 EKR has replaced previous CSRE4 relay to overcome erroneous 'first filament failure' alarms during SSI power disable tests.
5	15/07/2015	Updated to capture a ground mounted

Contact Details

Manufacturer

Bill Gregory
Signal House

Bill.gregory@signalhouse.co.uk

Lead Reviewer

John Walker
Senior Engineer (CCS)

John.walker2@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.

