

Manufacturer:
Dual Inventive

Issue : 2
Valid From : 06.11.2018

Critical Rail Temperature Monitor 3000

Product Description

The CRTM 3000 (Critical Rail Temperature Monitor) monitoring system enables people to monitor rail temperature in real time. The system is able to notify designated people via text and email when critical thresholds are being approached.

Product Image



Scope of Acceptance

Full Acceptance

Approved for us in the monitoring of rail temperatures on the rail network.

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:



Usha Trivedi
Product Acceptance Coordinator



Gareth Evans
Professional Head - Track

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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.

User

- 1) System readings to be checked for accuracy
- 2) Surface of rail to be clean and free from debris prior to use of CRTM 3000

Product Configuration

System or Complete Assembly

Part No.	Description	Catalogue No.
40003000	CRTM 3000 set (1 x 40003001 + 2 X 40003002)	087/000887
40003001	CRTM 3000 - Gateway	087/000888
40003002	CRTM 3000 - Sensor	087/000889
40005000	Solar Panel plus support and connector	087/000890
60100004	MAIN Battery	087/000890
70001003	MTINFO 3000 - Servicepack CRT-M 3000 Set	087/000891
70001004	MTINFO 3000 - Servicepack CRT-M 3000 Gateway	087/000892
70001005	MTINFO 3000 - Servicepack CRT-M 3000 Sensor	087/000893
40.00.70.00	The Greenhub 3000 - battery and solar panel all in one unit	087/000872

Hardware (Maintenance Spares and Line Replaceable Units)

Part No.	Description	Catalogue No.
80500001	Fleetservice CRT-M 3000 set	087/000894
80500002	Fleetservice CRT-M 3000 sensor	087/000895
80500003	Fleetservice CRT-M 3000 Gateway	087/000896

Software

Part No.	Description	Version No.
40003001	CRTM 3000 - Gateway	2.00
40003002	CRTM 3000 - Temperature Sensor	2.00

Assessed Documentation

Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
14C01593RPT01	Electromagnetic Compatibility Test Report		06/01/2015	1
	CRT-M Risk Analysis			1
	CRTM 3000 Quick Start		07/2013	1
	CRTM 3000 presentation		08/2013	1
	CRT Trial data		04/2013	1
	CRTM 3000 Support to 05415 CAR v2.00		08/2013	1

Certificate of Acceptance

PA05/05415

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Reference	Title	Doc. Rev.	Date and Applies to Cert. issue No.	
	EMC testplan – Gateway & Sensors v2.00		16/12/2014	1
	Product Specifications CRTM 3000		08/2013	1

Certificate History

Issue	Date	Issue History
1	02/07/2013	First accepted for use
2	06/11/2018	Battery and solar panel all in one unit added to certificate as additional part.

Contact Details

Manufacturer

Dual Inventive
www.dualinventive.co.uk

Sponsor

Andrew Richardson
Andrew.Richardson2@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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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.