

TECHNICAL INSTRUCTION

TI 087
Issue 1
March 2008
Expires: See page 2
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NETWORK RAIL - SIGNAL ENGINEERING Data Logger Permanent Installation

Relevant Standard: NR/L2/SIG/11305, GK/RT0207 section 5.3, GK/RT0209 sections C1.1, D1 & D2, NR/L2/SIG/11201, NR/GN/SIG/11701 and NR/L2/SIG/11221.

Purpose of TI

The requirements for the Permanent installation of Data Loggers are currently the same as for any permanent signalling installation. This makes rapid deployment both difficult and costly, resulting in widespread adoption of the Temporary method of installation, despite the intention to leave the system installed long term. This TI describes a revised method of installation that ensures adequate design records for a Permanent installation, yet minimises master record updates.

Scope

This TI covers the installation of Data Loggers which are intended to be in place for 6 months or more.

Definitions

'Data Logger' shall be taken to mean both digital event logging and condition monitoring systems, and combinations of these, and may refer to the complete system or any part of such a system.

Permanent Installation – an installation which is intended to be for 6 months or more.

Master records are the signalling records maintained by NRG.

Logger records are locally held detailed records for a logger installation.

Background

NR/L2/SIG/11305 defines Temporary installations for less than 6 months of operation and Permanent installations. Temporary installations are required to comply the Temporary Connection of Test or Monitoring Equipment defined in NR/L3/SIG/11231. They could be designed and installed by the Area Technical Support staff and fitted by an Instrumentation Engineer. Since the work was not incorporated in the final records for the installation, coloured wiring was used for easy recognition, which could be removed if it conflicted with future signalling works.

Permanent installations were intended to include both data logging provided as part of a new installation and retrospective fitment apart from short term incident and failure investigation. The Signalling Interface was required to comply with the Signalling Design Handbook, NR/GN/SIG/11701, and Signalling Installation Handbook, NR/GN/SIG/11720, with testing and commissioning in accordance with Signalling Works Testing. Master records were required to incorporate all of the logger detail.

Revised Method of Deployment of Permanent Data Loggers

A dispensation to full correlation, as specified in GK/RT0207, shall be applied for to restrict site checks to a survey of all relay contacts, terminations and housing space to be used by the Data Logger. Contacts and terminals containing existing wiring and housing space occupied by any other equipment, whether shown in the site wiring or not, shall not be used by the Data Logger.

Design of Permanent installations of Data Loggers shall differ from that specified in NR/L2/SIG/11201 and elsewhere as follows:-

- All changes to master records contact analysis sheets shall be incorporated,

- All changes to master records termination sheets shall be incorporated (but see #1),
- Positions occupied by logger equipment shall be incorporated (but see #2),
- A full set of logger wiring records shall be provided in the equipment room (#3),
- All Data Logger wiring shall be specified as coloured wire.

Note: #1 Terminations provided specifically for the Data Logger need not be shown in the master records provided that they are adjacent to the respective Data Logger and are clearly labelled as Data Logger terminations.

#2 The Data Logger may be shown in master records as a box occupying an area and labelled as 'Data Logger Equipment', precise detail is not required. There shall also be a note stating that a full set of logger wiring records is kept in the respective equipment room.

#3 Logger records shall show all logger wiring detail. They shall reference the main wiring sheets for contact and termination analysis, excepting those described in #1 which shall form part of the logger wiring. Logger records may be produced locally or in a design office, and shall be checked during the logger commissioning and testing process. It is acceptable for changes to be marked onto the sheets provided that these are initialled by the tester, excepting that changes to contact and termination analysis sheets in the master records shall be incorporated in accordance with existing standards.

The Permanent installation shall be in accordance with NR/GN/SIG/11720 using coloured wiring and wire labels. The wire labelling for logger circuits shall have its own short, distinct prefix using whatever character(s) or number(s) the system can support.

Works Testing, as required by GK/RT0209 and NR/L2/SIG/11221, of the Data Logger installation shall not be required provided that the commissioning and testing is carried out by an Instrumentation Engineer with signalling knowledge (defined in NR/GI/U033) who is familiar with the site, and that any required alteration follows the full process described above.

Coloured wiring may not be disconnected and Data Logger equipment removed by future signalling schemes requiring terminations, relay contacts or equipment room space, except as part of a properly designed change to the infrastructure, which must reposition or replace and where necessary increase the functionality of any provided data recorder, with the knowledge of the local signalling team. The local signalling team shall mark up the logger records to the alterations, giving details of the reason and the person making the alteration.

Compliance Requirements

This TI shall be implemented with immediate effect, and is retrospective except where the logger wiring is fully documented in master records. Schemes reaching GRIP Stage 4 before 31st December 2008 shall either follow this TI, or fully document the logger in the master records.

Action Required

Signalling schemes are to take note of these changes.

Staff to be Briefed

Maintainers, Works Testers and Designers of Signalling Schemes.

Expiry Date

This TI will expire when all relevant standards have been suitably updated.

END

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PUBLISHED UNDER NR/L2/SIG/11120



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