



Technology Introduction Group  
Network Rail  
Floor 5, 40 Melton Street  
London. NW1 2EE

## Certificate of Acceptance

Certificate No: PA05/04211

Issue: 3

Date: 5 Aug 2010

Effective date: 5 Aug 2010

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<b>Product:</b>	Isolator and Converter range
<b>Manufacturer:</b>	Westermo – Teleindustri SE – 640 40 Stora Sundby Sweden
<b>UK Agent:</b>	Westermo Data Communications Ltd Talisman Business Centre Duncan Road Park Gate, Southampton. SO31 7GA

*The product above is accepted for use on railway infrastructure for which Network Rail is the Duty Holder (as per the ROGS regulations) within the defined Scope of Acceptance and any specific conditions in the certificate. Where the product is to be used as part of infrastructure for which NR is not the duty holder (e.g. Leased station), this certificate may be taken as evidence that the product is compatible with NR infrastructure (within the Scope of Acceptance), however it shall not absolve the sponsor from complying with any product acceptance requirements of that duty holder before committing that product to use.*

*Failure to abide by the certificate requirements may lead to acceptance by Network Rail becoming invalid.*

MD-45 LV and MD-45 HV: RS232 to RS422/ 485 Converter
<ol style="list-style-type: none"><li>1. To provide conversion of RS232 to RS422/ 485 for transmission over telecoms copper cabling infrastructure.</li><li>2. It is the project responsibility to make sure that the equipment is suitable for supporting the intended application.</li><li>3. The equipment shall be installed within environmentally controlled location.</li><li>4. MD-45 LV shall be powered by Network Rail approved DC power supply.</li><li>5. MD-45 HV may be powered from standard AC or Network Rail 110V AC supply.</li><li>6. The equipment is suitable to be used within heavy industry EMC environment.</li></ol>
MD-52: RS232 isolator
<ol style="list-style-type: none"><li>1. To provide RS232 isolation</li><li>2. It is the project responsibility to make sure that the equipment is suitable for supporting the intended application.</li><li>3. The equipment shall be installed within environmentally controlled location.</li><li>4. MD-52 AC may be powered from standard 230 V AC mains.</li><li>5. MD-52 DC DC and MD-52 36-55 DC shall be powered by Network Rail approved DC power supply.</li><li>6. The equipment is suitable to be used within heavy industry EMC environment.</li></ol>
MD-54: CTS Generator
<ol style="list-style-type: none"><li>1. To provide/ convert asynchronous data handshaking.</li><li>2. It is the project responsibility to make sure that the equipment is suitable for supporting the intended application.</li><li>3. MD-54 DC shall be powered by Network Rail approved DC power supply.</li><li>4. MD-54 AC may be powered from standard 230 V AC mains</li><li>5. The equipment is suitable to be used within residential EMC environment.</li></ol>

\*Refer to page 2 for further advice re EMC.

### Specific Conditions:

Refer to the pages which follow for the product configuration and detailed conditions of use.

### Authorised by:

Eur. Ing. Steve Hailes MA, CEng, MIET, FIRSE  
Professional Head, Signal & Telecommunications Engineering

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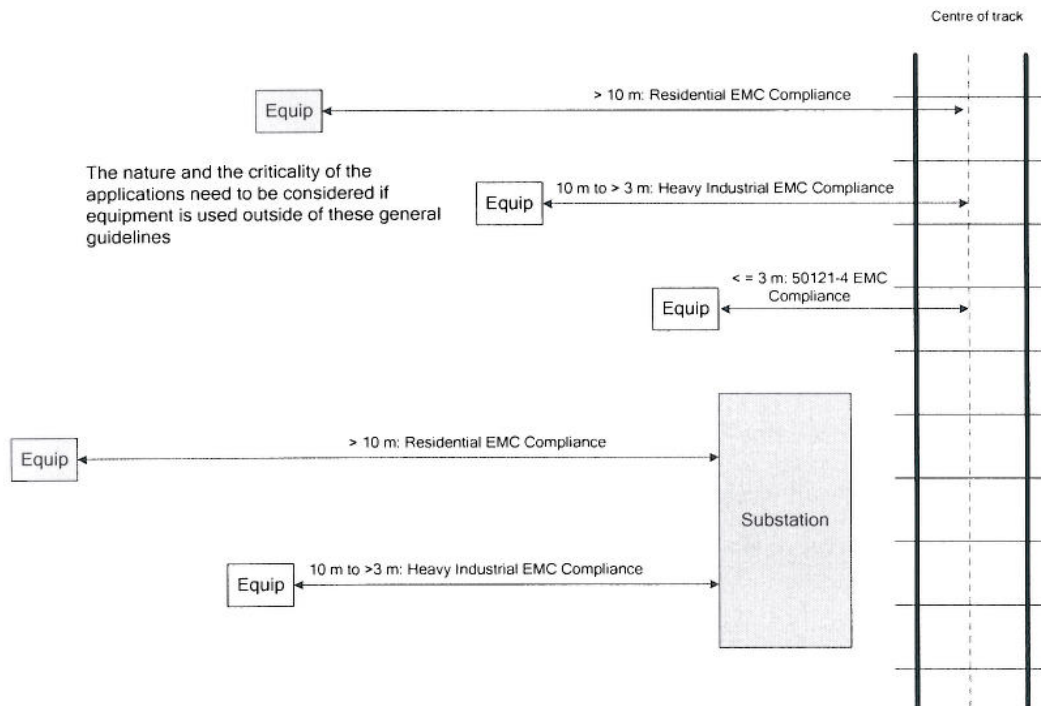
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## EMC Advice

- The diagram below illustrates a very high level simplistic general rule for classifying EMC environment. Projects shall not depend on this illustration and shall seek proper EMC advice if they are unsure of the EMC environment which they are deploying the equipment within.

A simplistic representation- Trackside Compliance Requirements



## SPECIFIC CONDITIONS

### MANUFACTURER

- Ensure that the latest relevant standards/ drawings are available and worked to, and that the product is compliant.
- Notify Network Rail Technology Introduction Group:
  - Within 48 hours, of any deficiencies affecting the product quality, functionality and safety integrity of the product (including corrective action undertaken or proposed).
  - Of any intended change to the accepted product. Changes include:
    - a change to the product configuration (to the actual product or its application);
    - a variation to or addition of manufacturing locations or processes; and
    - a change in the name or ownership of the manufacturing company.
- Provide all documentation in the English (UK) language.



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- Provide operating and maintenance manuals to purchasers/users of the product.
- Provide training manuals and an appropriate level of training to purchasers/users of the product.
- A label shall be attached to the equipment and the packaging to indicate the equipment has been product approved by Network Rail. The label shall include;
  - a. 'Network Rail Approved'
  - b. Network Rail's product approval certificate number. In this case it is ' PA05/ 04211'
  - c. Art no (this is Westermo's hardware and build number)
  - d. Equipment model. Eg: 'MD-45 LV' etc.
- Equipment shall come with shrouded power connector to prevent the connections from being accidentally touched.

### USER CLAUSES

#### User Conditions (end user or operator)

1. Project wishing to use the Westermo MD 45 shall note the legs are polarity conscience and crossing the A-leg with B-leg. Will prevent the link from being established. This is not made clear in the equipment's manual.
2. Project and maintainers shall check that the equipment has a label indicating that it has been product approved by Network Rail. Equipment without this label means the equipment may be a variant which has not been approved by Network Rail.
3. Equipment shall be installed in accordance with the manufacturer's instructions.
  - Users of the product are responsible for ensuring compliance with the certificate conditions. If a condition is not understood guidance must be sought from Network Rail Technology Introduction Group.
  - Users are responsible for ensuring that the product is fit for purpose and that the application of use complies with the scope of acceptance. Any product defect should be taken up immediately with the supplier. If the defect is a design or manufacturing fault likely to affect performance and/or the safe operation of the railway this shall be reported in writing to Network Rail Technology Introduction Group.
  - Anyone becoming aware of a change to the product configuration (to the actual product or its application) should inform Network Rail Technology Introduction Group in writing.
  - All staff required to use the equipment shall be suitably trained and, where appropriate, qualified as competent to use it.
  - Products shall be maintained in accordance with the manufacturer's recommendations.
  - Products shall be repaired / serviced by the manufacturer or its nominated agent only.
  - Where the product is to be used in areas where Network Rail is not the Duty Holder (e.g. Leased Stations), the sponsor shall obtain formal consent from the Duty Holder for the locality where the equipment is to be installed in compliance with Railway Group Standard GE/RT8270 to deploy that equipment on, or about, or as part of that party's on or about their infrastructure. The decision of that party is absolute, and cannot be overridden except through the escalation processes established in the ROGS regulations.



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### SUPPLY CHAIN ARRANGEMENTS

- If a product is accepted for use, Network Rail (or it's formally appointed agents) may wish to purchase the product direct from the manufacturer or alternatively contract an installer or other contractor who will purchase the product from the manufacturer.
- Network Rail's approach to sourcing products following acceptance will vary across different product categories. However it is not necessary (and it is not a requirement of Network Rail) for a manufacturer to enter into an exclusive supply arrangement with a reseller or other supplier in order to supply your products/equipment to Network Rail.

### Network Rail INFRASTRUCTURE INVESTMENT (NR IP) or INSTALLER

- Responsibility shall not be transferred to the Maintainer unless the project has been completed or contingency plans agreed for outstanding work.
- NR II or the installer shall ensure that the maintainer has received training to a suitable and acceptable level prior to commissioning and handover to maintenance of new installations.

### Network Rail INFRASTRUCTURE MAINTENANCE (NR IM)

- Before accepting maintenance responsibility the Maintainer shall be assured in writing by NR II or the Installer that the project has been completed or shall agree contingency plans for outstanding work.
- Maintenance must be carried out in accordance with Network Rail Company Specifications and the manufacturer's recommendations.
- Training to be undertaken for all maintainers to a suitable and acceptable level. Training and competence of the maintainer shall be confirmed prior to handover to maintenance.

### PRODUCT CONFIGURATION

#### Hardware

Part No.	Description	Comments	PADS No.
3157-0001	MD-45 LV (Converter)	Power: 12-30 VAC or 12 – 48 VDC	087/026858
3157-1101	MD-45 HV (Converter)	Power: 95 – 240 VAC or 110 – 250 VDC	087/026859
3601-0001	MD-52 DC DC (Isolator)	Power: 12-36 VDC	087/026853
3601-0003	MD-52 36-55 DC (Isolator)	Power: 36-55 VDC	087/026868
3601-0101	MD-52 AC (Isolator)	Power: 207 – 264 VAC	087/026869
3605-0001	MD-54 DC (CTS Generator)	Power: 12-36 VDC	087/026898
3605-0101	MD-54 AC (CTS Generator)	Power: 207-264 VAC	087/026899





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## **DISTRIBUTION**

### **Manufacturer**

Ray Lock  
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### **UK Supplier**

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### **For PADS records**

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### **For Information/briefing**

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