

**Manufacturer:**  
Westermo

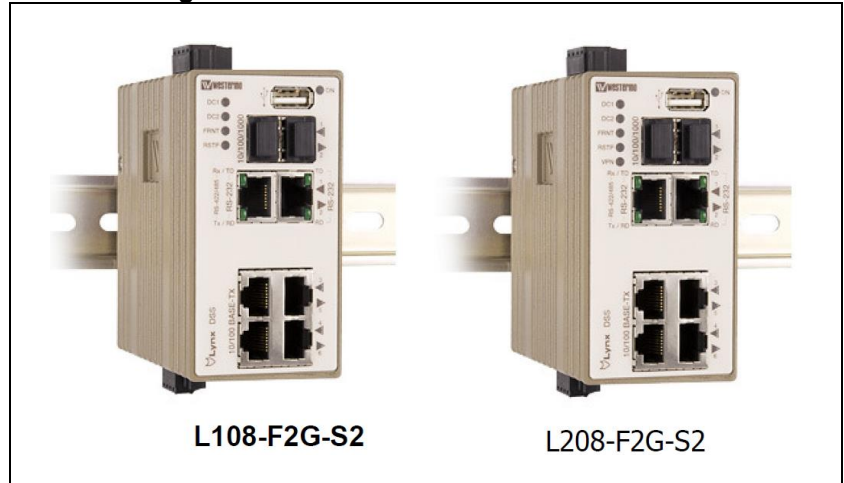
**Issue :** 3  
**Valid From :** 24/05/2023

### LAN Switches with RS232/ RS285 Support Over Packet Network

#### Product Description

- L108-F2G-S2  
Device Server Switch (L2 LAN Switch with RS232 & RS485 support)
- L208-F2G-S2  
Device Server Switch with Routing Functionality (L2/ L3 LAN Switch with RS232 & RS485 support)

#### Product Image



#### Scope of Acceptance

##### Full Acceptance

The L108-F2G-S2 and L208-F2G-S2 are compliant with railway EMC environment and may be deployed within 3m from the centre of the nearest track.

Both units have two RS232 ports allowing two separate V24 circuits to be encapsulated into Ethernet frames for onward transmission. However, only one RS232 port should be used. The CPUs in these units are not designed to process constant streams of V24 traffic from both ports simultaneously. Using both RS232 ports, where at least one port is supporting a constant stream of traffic will result in both V24 circuits incurring errors.

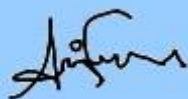
##### Change made in issue 3:

WeOS 4.32.4 included as the latest s release. Network Rail do not currently harmonise all deployed units to the latest approved WeOS release hence older approved releases are kept on the certificate. For new deployments (not faulty unit replacement), units with WeOS 4.32.4 shall be used.

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:



Aamir Malik  
Product Acceptance Coordinator



Fraser Allan  
Network Technical Head of Telecoms

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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) 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 PA05/05858.
  - c) Art no (this is Westermo's hardware and build number).
- 2) Contact Network Rail Technical Authority via [prodacc@networkrail.co.uk](mailto:prodacc@networkrail.co.uk) regarding any firmware and hardware changes. The emails shall include the certificate of acceptance number, the product involved and the changes.

#### User

- 1) Install in accordance with the equipment's instructions
- 2) It is project's responsibility to make sure the equipment can support the intended applications. In particular it should be noted that the L208-F2G-S2 is a layer 3 switch rather than a router and has routing throughput limitations.
- 3) Network Rail approved power supplies shall be used with this range of equipment.
- 4) STP cable to be used when deployed at location which is subjected to railway EMC levels.
- 5) Screened data cable to be used when deployed at location which is subjected to railway EMC levels.
- 6) SFP listed in PA05/ 05350 may be used.
- 7) When creating new network, the latest approved WeOS release shall be used. However, it is recommended all L108-F2G-S2 and L208-F2G-S2 used within the same network should work with the same WeOS release.
- 8) The WeOS release on the faulty replacement unit should match the release on the faulty unit. The WeOS in the replacement unit should be downgraded to match before use.
- 9) The CPUs used in both L108-F2G-S2 and L208-F2G-S2 are not designed to process constant streams of V24 traffic from both ports simultaneously. Using both RS232 ports, where at least one port is supporting a constant stream of traffic will result in both V24 circuits incurring errors. The recommendation is no more than one V24 port shall be used on these devices.

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## Product Configuration

### Hardware (Maintenance Spares and Line Replaceable Units)

| Part No.  | Description   | Firmware                            | Catalogue No. |
|-----------|---|-------------------------------------|---------------|
| 3643-0200 | L108-F2G-S2<br>Includes a short RJ45t (plug) to 9 way D-type (socket) serial patch cable<br><br><b>The latest approved WeOS release should be used for new network deployments.</b> | WeOS:<br>4.13.1<br>4.24.0<br>4.32.4 | 087/045468    |
| 3643-0205 | L208-F2G-S2<br>Includes a short RJ45t (plug) to 9 way D-type (socket) serial patch cable<br><br><b>The latest approved WeOS release should be used for new network deployments.</b> | WeOS:<br>4.13.1<br>4.24.0<br>4.32.4 | 087/045469    |
| 1211-2210 | Short RJ45 to DB9 V24 patch cable   | N/ A                                | 087/045470    |

## Assessed Documentation

| Reference                        | Title  | Doc. Rev. | Date and Applies to Cert. issue No. |   |
|----------------------------------|--|-----------|-------------------------------------|---|
| -- --                            | 05858 - Product Acceptance Document - Westermo -returned.pdf   | -- --     | -- --                               | 1 |
| Created by R. Matthews           | Stability performance Test Report Lynx 108 Ethernet/ Device serial Server Switch   | -- --     | 10/12/13                            | 1 |
| Created by R. Matthews           | Stability performance Test Report Lynx 208 Ethernet/ Device serial Server Switch   | -- --     | 03/01/14                            | 1 |
| Email from R. Matthews to T. Lam | Supporting Documents for PA05/05858 Product Acceptance (2).<br><br>To clarify items within Lynx 208 stability report                               | -- --     | 10/01/14                            | 1 |
| -- --                            | Lynx 108-F2G-S2 data sheet   | -- --     | -- --                               | 1 |
| TEL-T-0024                       | Test Plan, Westermo WeOS release 4.24.0 for inter firmware releases compatibility. DDW-225, DDW-226, Lynx L110, Lynx L210, Lynx L108 and Lynx L208 | 1         | 19/02/19                            | 2 |
| TEL-T- 0033 - TL                 | Westermo WeOS release 4.32.4 for inter firmware releases compatibility. DDW-142, DDW-225, DDW-226, Lynx L110, Lynx L210, Lynx L108 and Lynx L208   | 2         | 04/05/23                            | 3 |

# Certificate of Acceptance

PA05/05858

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## Manuals and Training Materials

| Reference         | Title   | Doc. Rev. | Date and Applies to Cert. issue No. |   |
|-------------------|---|-----------|-------------------------------------|---|
| 6101-3201         | Westermo OS Management Guide                                  | 4.13.1    |                                     | 1 |
| 6643-2220         | Lynx DSS Industrial Ethernet Device Server Switch- User Guide | B         |                                     | 1 |
| NRT-TEMA-MAN-0039 | Westermo WeOS Guide to Downgrade from Release 4.32.4          | 1         | 18/05/2023                          | 3 |

## Certificate History

| Issue | Date       | Issue History  |
|-------|------------|--|
| 1     | 20/01/2014 | First accepted for use.  |
| 2     | 01/03/2019 | Included WeOS release 4.24.0 and tidied up the comments regarding which release to use for new networks. |
| 3     | 24/05/2023 | Included WeOS release 4.32.4.  |

## Contact Details

### Manufacturer

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### Sponsor

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Principal Engineer  
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### Lead Reviewing Engineer

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## General Terms & Conditions

### 1) General

- 1) This certificate can only be amended by Network Rail Product Acceptance, the relevant Network Technical Head or nominated delegate. Any alterations made by a other persons 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 via the NR sponsoring applicant.

### 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 Network Rail Design for Reliability Standard (DFR) NR-L2-RSE-0005 and in any deed of warranty for the relevant certificate number.
- 2) Notify Network Rail Product Acceptance in writing (email [prodacc@networkrail.co.uk](mailto:prodacc@networkrail.co.uk)):
  - 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 Product Acceptance or National Supply Chain (NSC) 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 Network Rail Product Acceptance.
- 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, where the specification and/or Product Acceptance Certificates specify quality assurance classifications 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 Product Acceptance.
- 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 Product Acceptance.
- 4) Inform Network Rail Product Acceptance 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 sponsoring applicant 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 RIS-8270-RST, 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 and Road) 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