

Engineering Change Order: CompactGrid C-1200 Blind-Mate Busbar Re-Torque & Connector Shielding

ECO Tracking Identifier: ECO-2024-044

Target Platform: Gigavolt CompactGrid C-1200 (Model: C-1200)

Effective Manufacturing Date: December 1, 2024

Impacted Subsystem: Slide-In Cassette Rear Connector Assembly (Part Number: REC-HV-REAR)

Originating Engineer: Liam O'Connor, Senior Mechanical Packaging Specialist

Justification & Root Cause

Post-market field analysis of telecom microgrid installations utilizing the C-1200 platform identified intermittent DC resistance fluctuations across the rear blind-mate high-current receptacles (REC-HV-REAR). Repetitive thermal cycling caused by daily rapid solar load shifts produced minute relaxation in the beryllium-copper finger springs within the female receptacle blocks. In 4 documented field instances, micro-arcing occurred, triggering false ERR_FUSE_001 alerts and localized charring of the cassette backplane.

Engineering Retrofit Details

- Component Modification:** Install secondary retention spring clip kit (Part Number: RET-CLIP-12) over all 24 rear receptacle housings.
- Contact Lubricant Requirement:** Apply a micro-film (0.05 mm thickness) of fluorosilicone high-voltage dielectric grease (Part Number: LUB-DIEL-09) directly to the male contact blades of each 48 kg slide-in cassette prior to insertion.
- Mounting Ear Fasteners:** Upgrade thumbscrew retention assemblies to M5 grade 8.8 hex-drive captive hardware (Torque requirement: 3.5 N·m).

Field Deployment Plan

- Field technicians executing routine preventative maintenance must deploy Kit **RET-C12-044** across all active **C-1200** units with serial numbers between **SN-C12-0001** and **SN-C12-0480**.
- Estimated technician labor time: 3.0 hours per 24-cassette enclosure.