

KONE Internal Maintenance Manual – HMI Display Panel Fault

1. General Information

Device ID: ELEV-HK101-000472 Site Location: Mannerheimintie 15, Helsinki, Finland Warranty Period: 2022-11-17 - 2025-11-17 Service Contract: Standard Preventive Maintenance (Warranty Covered) Maintenance Cycle: Monthly Field Technician: Juha Makinen Assigned Engineer: Mika Rautio

2. Safety Instructions

- Disconnect elevator from main power using lock-out procedure (KONE SOP-EL-110). - Wear ESD protection when handling display units and internal connectors. - Ensure cabin is immobilized on maintenance floor and "Out of Service" tag is placed. - Use insulated tools and wear gloves when accessing electronic panels.

3. Problem Statement

Cabin display panel reboots intermittently during upward movement. Voice announcement fails during reboot events. Occurs primarily between 2nd to 6th floors. Observed over past 10 days; increasing frequency.

4. Fault Diagnostics Procedure

Step 1: Run HMI self-diagnostics via Service Tool. Step 2: Inspect 24V DC supply rail to HMI board. Step 3: Read event log via elevator controller. Step 4: Inspect harness for damage or loose connection. Step 5: Cross-test panel on test rig. Step 6: Check firmware version. Result Summary: Voltage drops detected, firmware is up-to-date, panel fails stress test.

5. Tools and Spare Parts Required

- HMI Display Panel (7"): KONE-H23-TFT-7 - Cable harness: KONE-CAB-H23-V2 - KONE Service Tool: KST-2024 - ESD Gloves: PPE-ESD-K1 - Screwdriver (Torx T10): TOOL-T10

6. Repair Procedure

1. Preparation: Enter Maintenance Mode, disconnect power, remove casing. 2. HMI Panel Removal: Disconnect cables, unscrew module, remove panel. 3. Install New Panel: Align and connect new display, secure mount. 4. Post-Replacement: Power on, calibrate, test audio, perform travel tests.

7. Final Testing Protocol

Test boot stability, floor indicator, audio output, log check, visual quality. All tests must pass before returning to service.

8. Customer Communication

Inform customer about completed panel replacement, successful testing, and return to service. Provide contact for follow-up.

9. Documentation and Archiving

Update SAP records, archive logs, attach manual to ticket, store printed version at office.