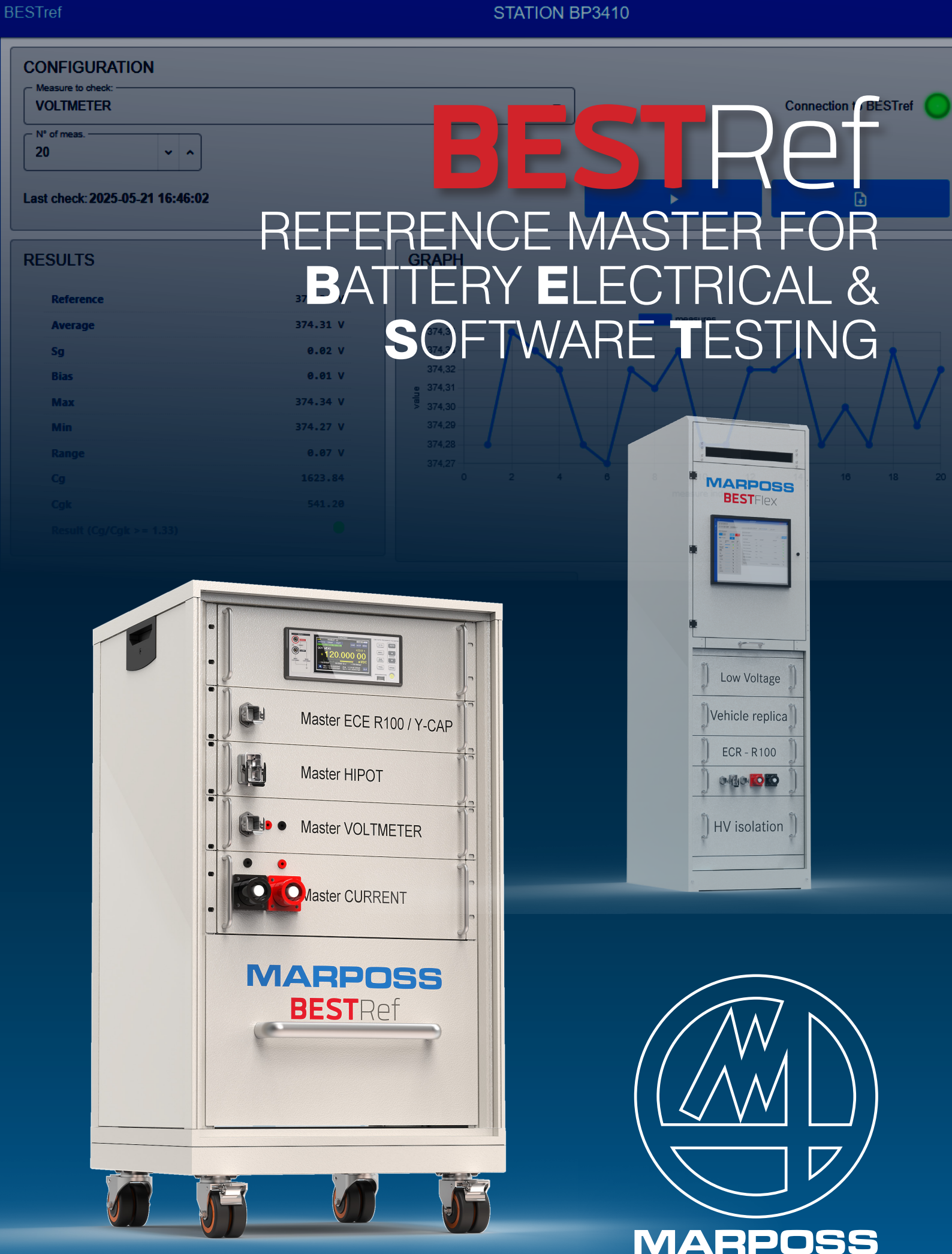
BESTRef

REFERENCE MASTER FOR BATTERY ELECTRICAL & SOFTWARE TESTING



MARPOSS

INTRODUCTION

The automotive industry is undergoing a radical transformation, with industrial processes progressively shifting from internal combustion propulsion systems towards electric traction solutions. In this new technological landscape, lithium-ion battery modules and packs have taken on a central role, setting new standards for testing, monitoring and traceability throughout the production process.

In the ever-evolving automotive industry, which is moving towards electric mobility, it is essential to ensure quality and regulatory compliance through precise and reliable battery system measurements. This is precisely what BESTRef was designed for: a mobile trolley dedicated to the periodic verification and calibration of instruments and measurement systems integrated into automated testing lines, such as the BESTFlex system.

BESTRef allows metrological checks to be carried out without disassembling the test system, thereby minimising production downtime and ensuring operational continuity and safety.

DESCRIPTION

BESTRef is an agile, modular and integratable solution designed to support maintenance and instrument verification in battery production lines. Its mobile and flexible architecture enables fast, precise and standards-compliant interventions, optimising the lifecycle of measurement instruments and ensuring consistent performance over time. The same trolley can be used on all machines within a production line.

Modular and Professional Design	→ Ergonomic and easily transportable trolley, designed to operate in production environments without interfering with ongoing activities.
Plug & Play Connection	→ It is compatible with existing measurement and testing systems, such as BESTFlex, enabling verification without the need for disassembly or operational interruption.
Ease of Use and Intuitive Interface	→ The integrated software has a simple graphical interface and multilingual support. This enables verification and calibration procedures to be managed quickly using the same machine interface.
Fast and Automated Verifications	→ Perform quick and safe checks directly in line with real-time monitoring of measurement conditions and automated procedures to eliminate the need for manual data entry.
Capability Verification	→ Reference instrumentation is calibrated and compliant with international standards to ensure accurate, traceable results. Capability studies such as Cg, Cgk and R&R can be performed in accordance with international standards (AIAG MSA, VDA5, GUM, NIST, etc.).
Optimized Metrological Maintenance	→ Periodic controls are scheduled to anticipate malfunctions and ensure operational continuity.

MAIN APPLICATIONS

BESTRef is ideal for verifying all battery test modules, including:

- **Voltage and current measurements up to 1500 V and 1 kA**
- **Insulation resistance up to 5 kV**
- **ECE R100 from MΩ to TΩ**
- **Y-Capacitance from 1 to 1000 nF**

BESTRef is ideal for verifying all battery test modules. It is available in Auto Master mode for direct machine integration where frequent and automatic checks are required (e.g. pogo-pin oxidation control, pyro fuse check and ACIR calibration and verification).

BESTRef enables manufacturers to guarantee the quality and reliability of their battery testing systems, all while maintaining production efficiency and regulatory compliance.