

NovaCarts Shunt Simulation Module

Developed for the test of battery management systems, this external module simulates the shunt voltage generated by the battery current with extreme precision. It can be located in the direct vicinity of the relevant BMS measurement input in order to ensure the required high level of shunt voltage accuracy. Thanks to the dynamics exceeding ten kilohertz, the module is even suitable for sophisticated battery applications, such as simulating starter batteries or future BMS functions.

Furthermore, the module allows automobile manufacturers and suppliers to simulate functions, such as the specific performance leaps typically arising in conjunction with errors. A connection to the RT system is established via NC-BEB1100 (Resistor Simulation Board).

Impedance converter Control unit input switching remains unchanged Test with activated shunt diagnosis possible **Output parameters** » Voltage: +/- 250 mV Accuracy: $\pm - 15 \mu V + < 0.1\%$ **Galvanic isolation** of the set value Speed: >10 kHz » Safe applications up to 1 kV **Diagnosis and maintenance** Simple maintenance through self-detection and configuration Advanced diagnostic capability through automatic error detection and message **External module** » High accuracy » High interference resistance

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Data Sheet

Module name: **NC-BEM1000**Data sheet version: **2V0**

Features	
Shunt emulation	1 channel
Operating temperature	0 to +55 °C
Storage temperature	-20 to +70 °C
Humidity	10 to 90 % (no condensation)
Dimensions	8 cm x 6 cm x 3 cm
Connection to RT system	Via NC-BEB1100 (Resistance Simulation Board)

Output voltage*	+/- 250 mV	
Accuracy	$+/- 15 \mu V + < 0.1 \%$ of the final value	
Resolution	16 bit	
Galvanic isolation	1,000 V	

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