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All about e-mobility

High Voltage On-board System Emulator LISN1000

Emulation of the on-board electrical system impedance

The LISN1000 (Line Impedance Stabilization Network) is a network for emulating the DC impedance of the vehicle on-board electrical system. The network is used to perform measurements on components with high-voltage DC supply on test benches under replicable conditions. The LISN1000 fulfils the requirements of the standards for electrically powered road vehicles ISO21498, MBN11123 and comparable standards.

Cooling unit optional, Illustration of customer project

Main features

- The resistance values can be changed by jumpers between 2 x 25 mΩ, 2 x 50 mΩ, 2 x 75 mΩ and 2 x 100 mΩ
- Decoupling capacitor at the DC input
- Water cooling
- Active discharge of the decoupling capacitor, controlled by the test bench via CAN or emergency stop
- Measurement of internal heat sink and water temperatures with limit value monitoring
- Display for showing status messages and the measured temperatures
- Galvanically isolated CAN interface for reading out temperatures, error messages and controlling the discharge

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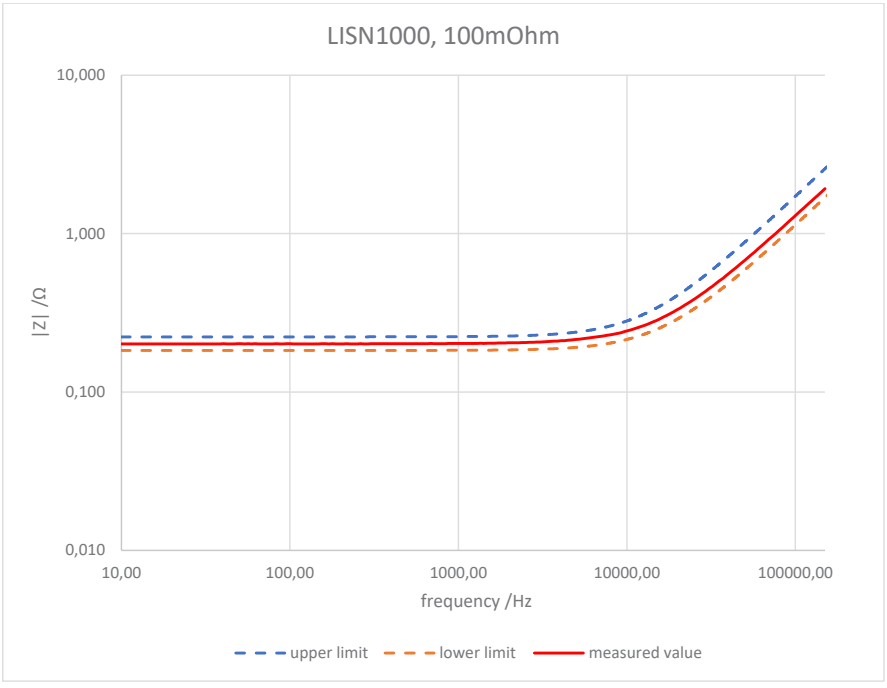
Technical data:

Maximum DC current:	1050 A max. 1 Min
Continuous current:	max. 650 Aeff
DC voltage:	max. 1000 V
Superimposed AC voltage:	max. 100 Vpp
Impedance:	2x Ri + Lv + Cy Ri adjustable via jumpers: 25 / 50 / 75 / 100 mΩ Lv = 1 µH Cy = 1 µF Decoupling-C: 11 mF
Stray inductance:	< 200 nH
Ambient temperature:	5 – 40 °C, non-condensing humidity
Auxiliary supply:	230 V (max. 500 VA)

Dimensions and cooling water connection:

Enclosure (W x D x H):	800 x 820 x 2000 mm
Weight:	approx. 430 kg control cabinet
Cooling water requirement:	Min. 144 l/min bei 20 °C flow temperature; Water/glycol (25%)

Impedance characteristic:



Cooling unit (optional):

Specification according to requirements (on request)