

MGA CT B-50 / 100

Coupling transformer with differential amplifier

CS101, MIL-STD-461, DO-160

- 1:2 coupling transformer for the extended audio frequency range
- Integrated 0.5 Ω resistor (active cooling) for CS101 power calibration
- Integrated differential amplifier
- Additional connection cables included in the scope of delivery

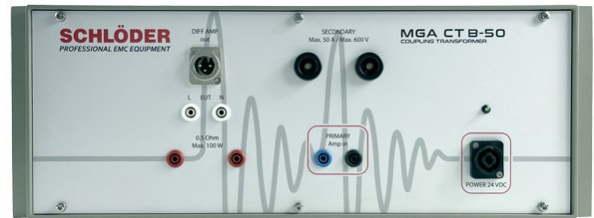


Image similar

Fully automatic tests in conjunction with the MGA 1033 magnetic field generator.

Overview

The MGA CT B-50/100 is the complete solution for immunity testing. It can be used universally for CS101 MIL-STD-461G as well as for other standards such as DO-160. In addition to the usual 50 A variant, a 100 A type is also available.

When testing for conducted immunity on power lines according to MIL-STD-461, CS 101, a coupling transformer is used.

Due to the high common-mode voltage on the mains side, a differential amplifier is built into the coupling transformer, which enables simple measurement of the copied-in differential voltage.

Key facts

- Integrated differential amplifier for measuring the coupled test voltage, switchable for CS101 and DO-160 test level
- For optimum measurement, the amplification is adapted to the frequency response of the CS101 test level or for DO-160DC tests
- Automated test environment with the MGA 1033
- Optional couplable current sensor for measuring the secondary current (EUT)
- All necessary connection cables included in the delivery



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Technical data

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Transformator

Frequency range	10 Hz - 150 kHz
Turns ratio	2 : 1 (step down)
Inductance	(unloaded)
Primary:	~ 4 mH
Secondary:	~ 1 mH
Current carrying capacity	
Primary:	16 A
Secondary:	
MGA CT B-50	50 A (AC / DC without saturation)
MGA CT B-10	100 A (AC / DC without saturation)
Input voltage (saturation) Primary:	15 Hz: > 12.5 V _{RMS} 30 Hz: > 25 V _{RMS}
Connector	
Primary:	safety socket Ø 4 mm
Secondary:	safety socket Ø 6 mm (> 32 A), with integrated jack Ø 4 mm (< 32 A)

Resistor

Precision resistor	0.5 Ω, 1%, 100 W permanent, actively cooled
Connector	safety sockets, Ø 4 mm

Differential amplifier

Frequency range	10 Hz - 2 50 kHz
Switchable amplification	for CS101/DO-160-AC and DO-160-DC, individually calibrated
Common-mode negative-pressure	> 60 dB (400 Hz)
Max. Input voltage	DC: 600 V AC (16,7...800 Hz): 300 V _{RMS}
Output noise (DC...2 MHz)	CS101: < 1,5 mV _{RMS} DO160: < 3,0 mV _{RMS}
Output impedance	50 Ω
Connector	Input: 4 mm safety sockets Output: 3 pole XLR connectors

Current sensor

Frequency range	DC - 250 kHz
Max. current measuring range	±100 A
Typ. conversion dimension	0.05 V/A
Plug connector	Input: 6 mm safety sockets (> 32 A) with integrated 4 mm socket (max. 32 A) Output: Inside 5-pin XLR additional input cable

General data

Power supply	±15 V/100 mA via the additional input of the MGA
Dimensions (W x H x D)	480 mm x 180 mm x 315 mm
Weight	appr. 13 kg

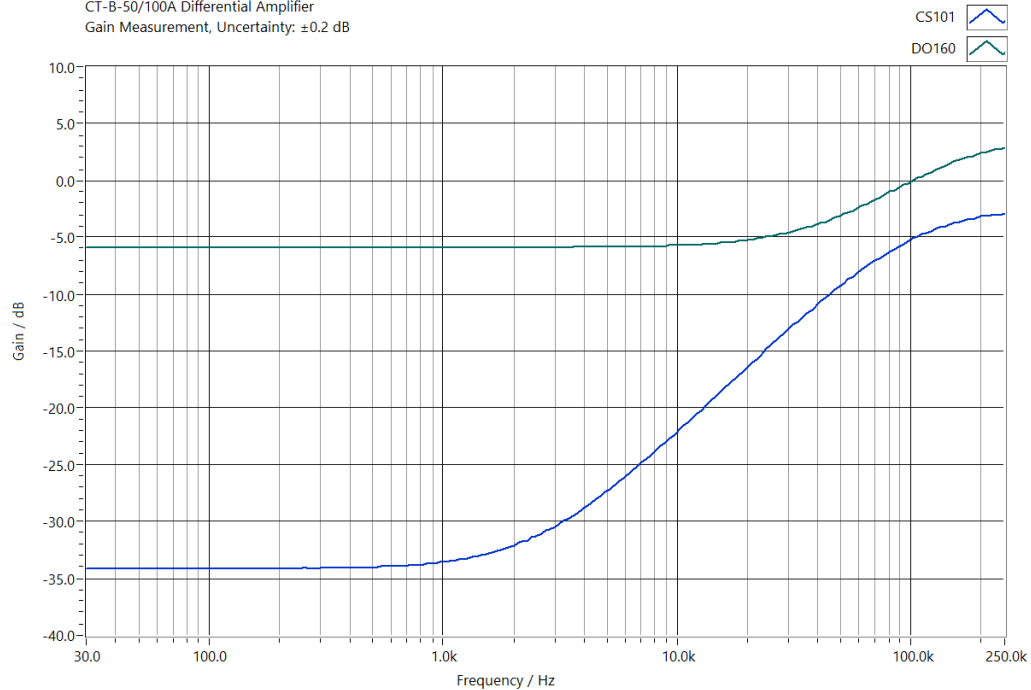


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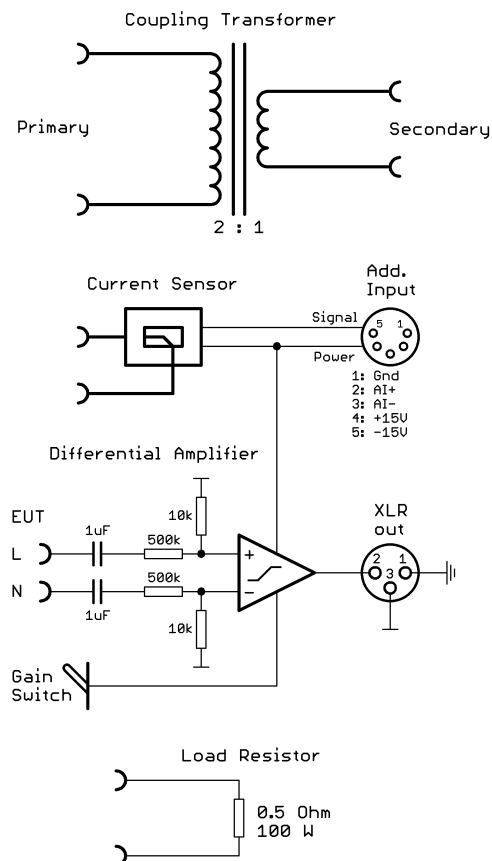
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Gain of the differential amplifier

Network Analyser HP8751A (S.-No.: 3315/01756), Test Set 87512A (S.-No. MY43100614)
CT-B-50/100A Differential Amplifier
Gain Measurement, Uncertainty: ± 0.2 dB



Block diagram



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Coupling transformer with differential amplifier

Scope of delivery (included): Additional cable

- Cable transformer secondary → EUT and LISN
 - 2x flexible connection cable 6 mm², length: 50 cm
 - 6 mm safety plug (Stäubli SLK606), second end open
- Cable transformer secondary → Current sensor
 - 2x flexible connection cable 6 mm², length: 25 cm
 - 2x6 mm safety plug (Stäubli SLK606)
- Cable transformer secondary → 0.5 Ω
 - 2x flexible connection cable 2.5 mm², length: 25 cm
 - 2x4 mm safety sockets red
 - 2x4 mm safety sockets black
- Cable differential amplifier EUT L+N → EUT
 - Flexible eavesdropper cable 2.5 mm², length: 200 cm
 - 2x4 mm safety sockets white
 - 2x4 mm safety sockets brown
- Cable differential amplifier from → MGA 1033 XLR in
 - 2-wire shielded microphone cable, length: 200 cm
 - 3-pin XLR socket, plug
 - 3 pole XLR
- Cable transformer primary → MGA 1033 output X1
 - 2x flexible connection cable 2.5 mm², length: 200 cm
 - 2x4 mm safety sockets black- 2x4 mm safety sockets blue
- Cable Additional Input: MGA 1033 Additional Input
 - 5-core shielded data cable, length: 1.5 m
 - 2 x 5-pin XLR plug

All information regarding appearance and technical data correspond to the current state of development at the time of release of this data sheet. We reserve the right to make technical changes.

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