CDG CMP-45

Current monitoring probe

- Cable diameters up to 45 mm
- Frequency range 10 kHz to 400 MHz
- Foldable, easy positioning on the conductor / cable
- For BCI testing acc. to ISO 11452-4 and others

Current Monitoring Probes may be used whenever RF current measurements are required. The current carrying conductor can be easily positioned inside the central opening of the CDG CMP-45 by opening its foldable “door”. The probe´s output voltage can be easily measured with an RF detector. The calibration of the probe allows the conversion of the voltages measured to current over the frequency range shown in the individual transfer impedance curve supplied with each probe. There is virtually no loading applied on the circuit and thus a normal operation of the device under test (DUT) during the measurements is possible.

The CDG CMP-45 can be used for the clamp injection procedure when the common-mode impedance requirements cannot be met as described in chapter 7.4 of IEC/EN 61000-4-6 (Immunity to conducted disturbances induced by radio frequency fields). It can also be used as current monitor for BCI testing acc. to ISO 11452-4, MIL-STD-461, RTCA/DO-160 section 20 and various automotive standards.

The CDG CMP-45 current monitoring probe measures RF common mode currents (asymmetrical currents) on single conductors or conductor bundles. On lower frequencies, current saturation effects may occur, which shift the lower frequency characteristics to somewhat higher frequencies. Only the sum of currents under consideration of the sign is of importance, therefore complete conductor bundles are less critical than single conductors. To estimate the saturation effects, transducer factors are given for different low frequency currents.

- 10 kHz – 400 MHz
- Insertion impedance < 2,5 Ω
- Cable diameters up to 45 mm

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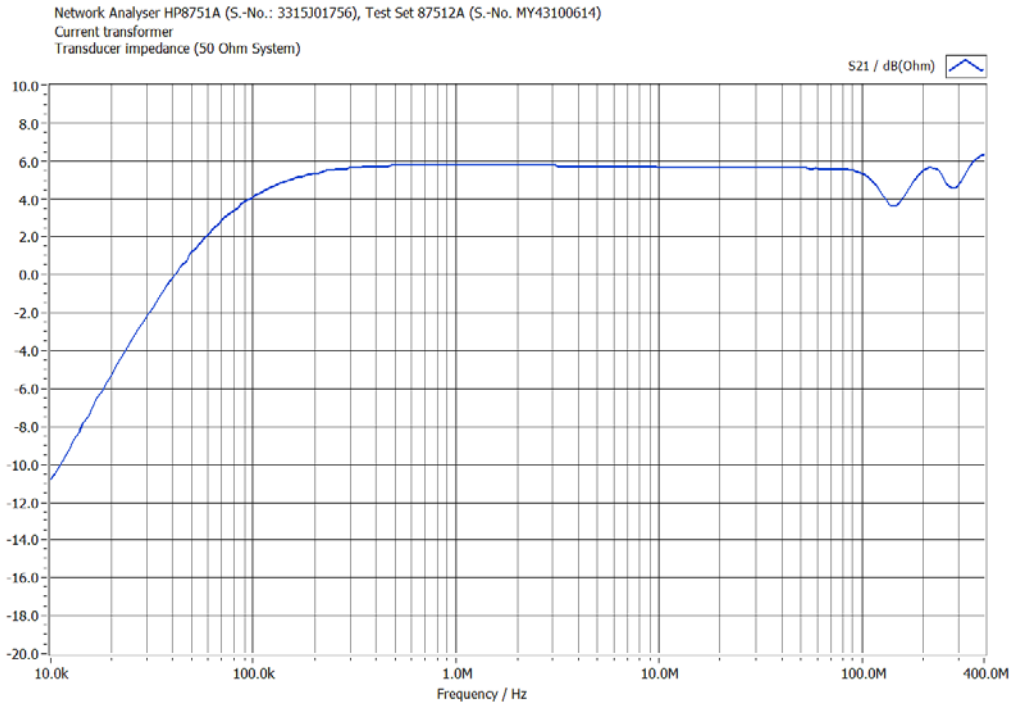
Current Monitoring probes may be used for RF current measurements with the advantage that there is no loading of the circuit, thus allowing normal operation of the DUT while the measurement is done. The CDG CMP-46 measures RF common mode currents (asymmetrical currents) of single conductors or bundles of conductors (the sum of currents considering the sign is of importance).
The current measurements are made by placing the current carrying conductor inside the central opening of the probe and measuring the output voltage by means of an RF voltmeter, which can be converted to the equivalent current value.

The CMP-46 can be used as current monitor for BCI testing (ISO 11452-4, MIL-STD 461, DO-160 and others as well as acc. to IEC / EN 61000-4-6 chapter 7.4.

Technical specifications:

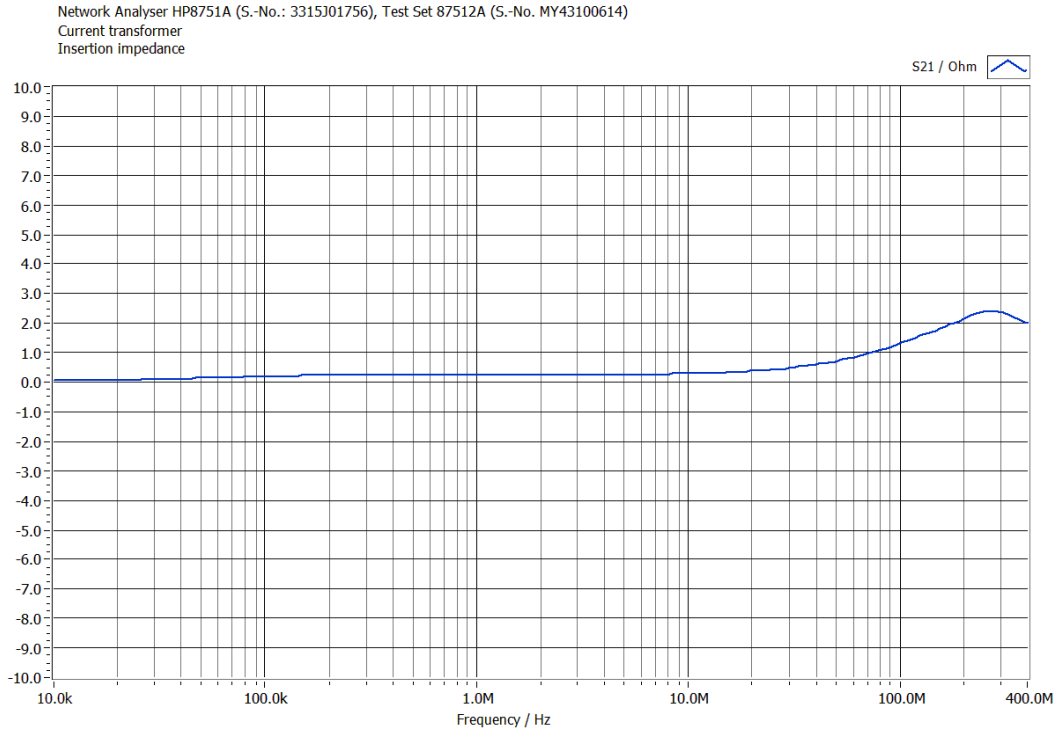
Frequency Range:	10 kHz – 400 MHz
Insertion Impedance:	< 2,5 Ω
Max. signal current:	1A
Signal output:	BNC socket
External diameter	116mm
Internal diameter	45mm
Thickness	30 mm
Weigh	approx. 0,6 kg

Typical transducer impedance



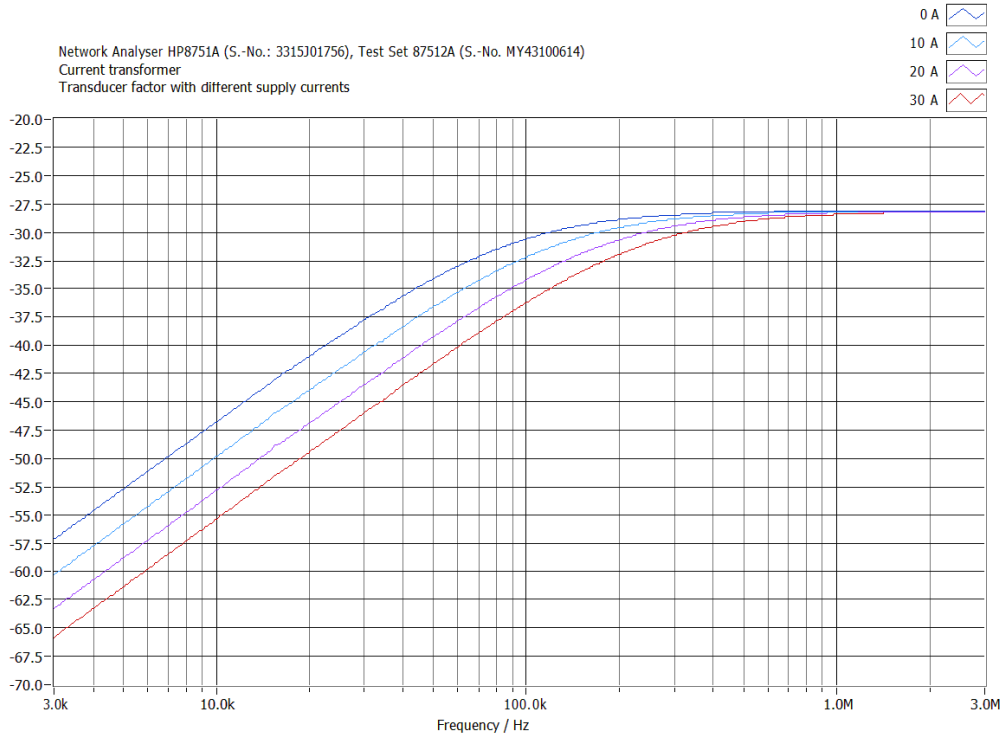
Current (dBµA) = Voltage (dBµV) / Receiver Impedance (dBΩ)

Typical insertion impedance



Transducer factor with different supply currents

(to estimate the saturation effects at different currents with low frequencies)



Accessories:

CDG A CMP-45 Calibration set for the CDG CMP-45