COM-POWER CORPORATION

RF Current Probe
CLCE-1032

Features

Frequency Range: 9 kHz to 1000 MHz

Suitable for CISPR, Mil-Std 461 & DO-160

Individual calibration

Three-year warranty

Description

The CLCE-1032 RF Current Probe is part of Com-Power's extensive line of radio frequency conducted emission/ immunity test equipment and calibration accessories.

The CLCE-1032 is suitable for complaince measurements required by CISPR 22, CISPR 32, DO-160, Mil Std 461 etc, as well as for applied current monitoring during conducted immunity tests.

It's design incorporates a split-core ferrite in a rugged, circular hinged enclosure; thereby allowing the probe to be opened on one side in order to easily place the wire, cable(s) or cable bundle(s) to be tested into the probe window, making the CLCE-1032 much more convenient to use than other non-split core probes.

The CLCE-1032 is designed to be used in conjunction with a spectrum analyzer or EMI receiver or any 50Ω impedance measurement equipment, which measure magnitude quantities in terms of true rms voltage.

The Transfer Impedance conversion factor, defined as the ratio of secondary voltage to the primary current, is usually expressed in terms of dB over 1Ω, It is used to convert the voltage quantity into a current quantity, expressed in terms of dB over 1 uA.

*transfer **impedance** conversion:* **[dBuV] - [dBΩ] = [dBuA]**

The conversion factor may also be derived from the Transfer Admittance value, expressed in terms of dB over 1 S.

*transfer **admittance** conversion:* **[dBuV] + [dB(S)] = [dBuA]**

Application

In general, RF current probes are employed to monitor, or measure, the asymmetrical disturbance RF currents on a wire, cable or cable bundle without making direct conductive contact with the source conductor. The current is measured inductively by clamping the probe around the conductor(s) to be tested. No actual contact is made with the conductor(s), and the insulation is left in place. Essentially, a current probe is a torroidal transformer where the conductor(s) act as a single turn primary, and the probe as a multiple turn secondary.

Current Probe Calibration Fixture

Current probes are calibrated through the use of a calibration fixture which provides a 50Ω coaxial-type transmission line arrangement. The fixture allows the probe to be clamped around the center conductor, while the outer conductor encapsulates the probe on four sides, so that the transmission line characteristics are not compromised. See calibration fixture picture on the following page.

FCLCE-1032 Calibration Fixture (optional) is specifically designed to provide a nominal 50Ω transmission line for the CLCE-1032. The fixture is required for calibration of the Transfer impedance, insertion loss & VSWR parameters.

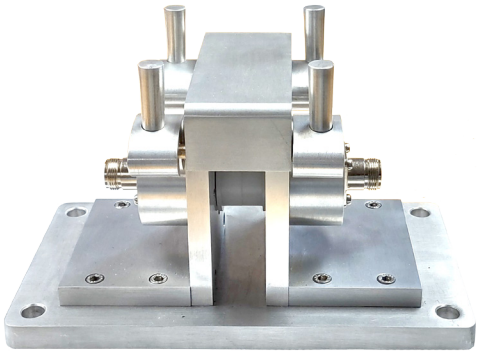
Calibration

Individual NIST traceable calibration is performed on each unit, and the data is provided along with certificate of calibration.

ISO 17025 accredited calibration is available for an additional charge.

Specifications

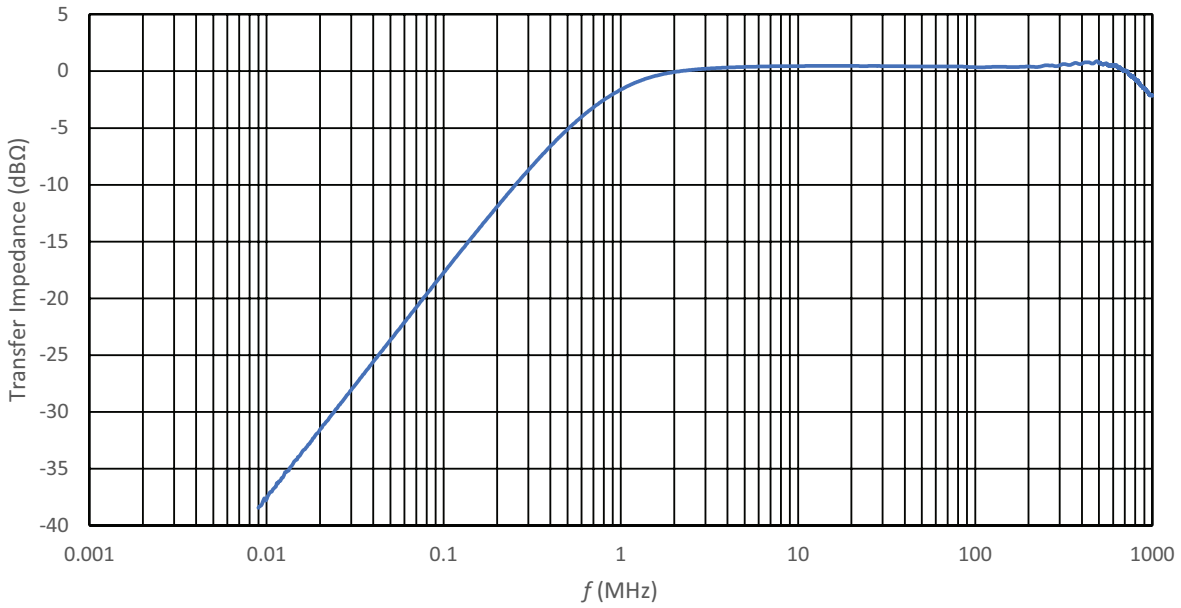
Frequency Range	9 kHz to 1000 MHz
Window (Aperture) Diameter	1.26" (32 mm)
Outside Diameter	3.11" (79 mm)
Height	0.76" (19.3 mm)
Weight	0.275 lbs. (0.125 kg)
Connector Connector	Type-N (Female)
Transfer impedance ($Z_t\Omega$)	1Ω
Transfer impedance (dBΩ)	-40 to 2 dBΩ (typical)*
Max Primary Current (DC-60 Hz)	150 Amps
Max Primary Current (400 Hz)	135 Amps
Max Primary Current (RF)	2 Amps
Pulse (8/20 µs)	500 Amps
Related Accessories Available from Com-Power	FCLCE-1032 Calibration Fixture SPA-815TGE Spectrum Analyzer



FCLCE-1032 Calibration Fixture

All values are typical values unless otherwise specified.
Specifications are subject to change without notice.

Typical Transfer Impedance Data



» * *Probe calibrated with 50Ω load impedance.*