

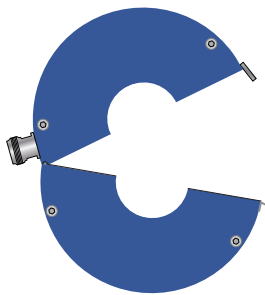
Features

- Frequency Range: 9 kHz to 400 MHz
- Accommodates cable bundle diameters up to two inches (52 mm)
- Suitable for Compliance-Level Conducted Disturbance (Current) Measurements and as Current Monitor for BCIP Testing
- Individual Calibration Included
- Three-Year Warranty

Description

The **CLCE-452 V2** RF Current Probe is part of Com-Power's extensive line of radio frequency conducted emission/immunity test equipment and calibration accessories.

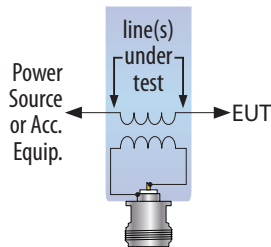
The **CLCE-452 V2** was designed to accommodate thick cable bundles up to two inches in diameter. It incorporates a split-core ferrite into its rugged, circular enclosure. The probe enclosure is hinged, allowing the probe to be opened on one side in order to easily place the wire, cable(s) or cable bundle(s) to be tested into the probe aperture. This makes the **CLCE-452 V2** much more convenient to use than other non-split-core probes.



The current is measured inductively by clamping the probe around the line(s) to be tested.

Essentially, a current probe is a toroidal transformer, with the line(s) under test acting as the primary, and the probe itself acting as the secondary.

The probe's output voltage is measured across the 50Ω input impedance of the measuring instrument. This voltage is then converted to a current quantity by applying the transfer impedance factor of the probe.



$$\begin{array}{lcl} \text{Measured} & & \text{Transfer} \\ \text{Voltage Value} & - & \text{Impedance Factor} \\ \text{(in dB}\mu\text{V)} & & \text{(in dB}\Omega\text{)} \\ & = & \\ & & \text{Current} \\ & & \text{Value} \\ & & \text{(in dB}\mu\text{A)} \end{array}$$



Application

In general, RF current probes are employed for the measurement of RF current flow on a wire, cable, or cable bundle.

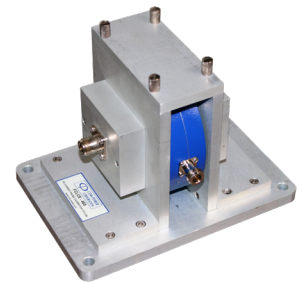
Applications include compliance measurements of disturbance currents per CISPR 15, CISPR 25 and CISPR 32, as well as RF current monitoring during conducted immunity/susceptibility tests per IEC 61000-4-6, MIL-STD-461 and RTCA DO-160, where Bulk Current Injection Probes (BCIP) are used.

The **CLCE-452 V2** can also be extremely useful for engineering applications such as diagnostics and troubleshooting.

Calibration Fixture

Current probes are calibrated using a calibration fixture with a coaxial-type arrangement.

The **CLCE-452 V2** is designed to be used with the Com-Power **FCLCE-452** Calibration Fixture (sold separately). The fixture is required for insertion loss/transfer impedance calibration, as well as CS114 test level calibration according to MIL-STD-461G.



Calibration

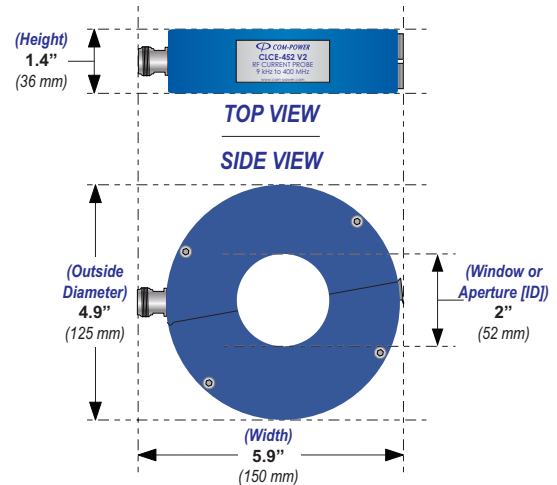
As is the case with nearly all Com-Power products, each unit receives individual NIST traceable calibration, and the data is provided along with a certificate of calibration. ISO 17025 accredited calibration is available for an additional charge.

Specifications

All values are typical, unless specified.
All specifications are subject to change without notice.

Model	CLCE-452 V2
Frequency Range	9 kHz to 400 MHz
Window or Aperture (ID)	2" (52 mm)
Outside Diameter	4.9" (125 mm)
Height	1.4" (36 mm)
Width	5.9" (150 mm)
Weight	1.5 lbs. (0.68 kg)
Connector Connector	Type-N (female)
Insertion Loss	36 dB (nominal, see graph below)
Transfer impedance	0.8Ω (nominal, see graph below)
	-2 dBΩ (nominal, see graph below)
Insertion Impedance	<1 ohm
Maximum Primary Current	100 Amperes AC (50/60 Hz)
	60 Amperes AC (400 Hz)
	200 Amperes DC
	2 Amperes (RF)
	2000 Amperes (8/20 μs pulse)
Related Accessories Available from Com-Power	FCLCE-452 Calibration Fixture SPA-932TG Spectrum Analyzer

CLCE-452 V2 Dimensions



Typical Transfer Impedance/Insertion Loss Factors

