COM-POWER CORPORATION

Bulk Current Injection Probe
CLCI-400

Features

- Frequency Range: 10 kHz to 400 MHz
- Complies with MIL-STD-461 and RTCA DO-160 Requirements
- Current Injection & Monitoring Capabilities
- Three-Year Warranty



Description

The **CLCI-400** Bulk Current Injection Probe is designed for performing conducted susceptibility tests according to RTCA DO-160, Section 20; as well as MIL-STD-461 (CS114, CS115 and CS116).

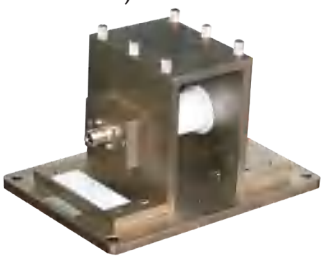
Its efficient operation over its wide frequency range of 10 kHz to 400 MHz enables it to easily achieve the test levels for even the most stringent respective category/curve in each of the above standards with less than 60 watts forward power delivered to the probe input.

Refer to the graphs on the following page for typical forward power levels required for each of the specific test levels given within the respective standards.

The **CLCI-400** incorporates split-core ferrites 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 window. This makes the **CLCI-400** much more convenient to use than other non-split core probes.

Calibration Fixture

Current probes are calibrated through the use of a calibration fixture with a coaxial-type arrangement. The fixture allows the probe to be clamped around the center conductor, while the outer conductor encapsulates the probe on four sides, which maintains the transmission line.



The **CLCI-400** is designed to be used with the Com-Power **FCLC-400** Calibration Fixture (sold separately), which is required in order to perform test level calibration of the probe.

The **FCLC-400** is compliant with the Insertion Loss and VSWR requirements mandated by MIL-STD-461 and RTCA-DO-160.

Application

In general, RF current probes are employed either to measure RF current flow on a wire, cable or cable bundle; or to do the opposite, inject RF energy onto a wire, cable, or cable bundle. The current is measured (or injected) inductively by clamping the probe around the line(s) to be tested.

Essentially, a current probe is a torroidal transformer. When used to inject current, the probe acts as the primary, and the line(s) under test act as the secondary. When used as a measuring device, the roles are, of course, reversed.

While the **CLCI-400** is designed to be used as an injection probe, it may also be used as a current monitoring probe; with some sacrifice in sensitivity compared most current monitoring probes.

When used for monitoring, the probe's output voltage is measured across the 50Ω input impedance of the measuring instrument, which can then be converted to a current quantity using the transfer impedance factor of the probe:

Measured Voltage Value (in ***dBμV***)	−	Transfer Impedance Factor (in ***dBΩ***)	=	Current Value (in ***dBμA***)

Calibration

As is the case with nearly all Com-Power products, 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.

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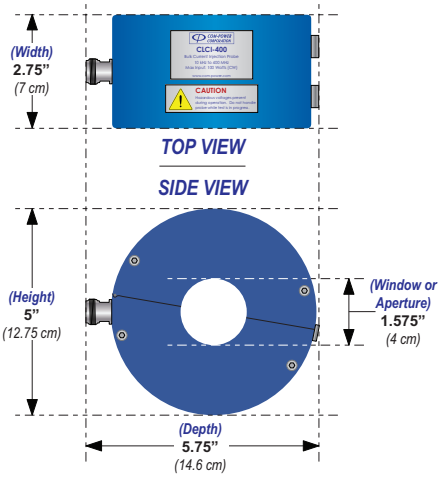
Bulk Current Injection Probe
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Specifications

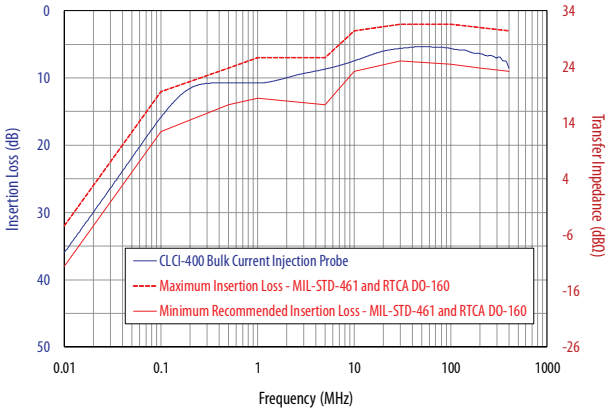
All values are typical, unless specified.
All specifications are subject to change without notice.

Product	**Bulk Current Injection Probe**
Frequency Range	**10 kHz to 400 MHz**
Window Diameter	**1.575"** *(40 mm)*
Outside Diameter	**5.75"** *(146 mm)*
Width	**2.75"** *(70 mm)*
Weight	**4.5 lbs** *(2.04 kg)*
Input Connector	**Type-N** *(female)*
Maximum Input Power	**100 Watts** *(continuous)*
Maximum Core Temperature	**284° F** *(140° C)*
Accessories Available from Com-Power	**FCLC-400** Calibration Fixture **Term-50-100W** Power Termination **ACS-series** Power Amplifiers

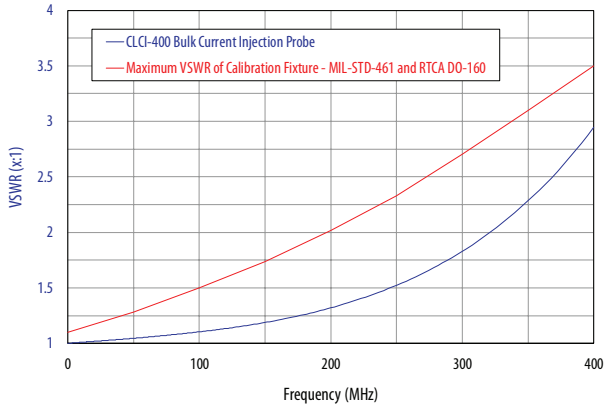
CLCI-400 Dimensions



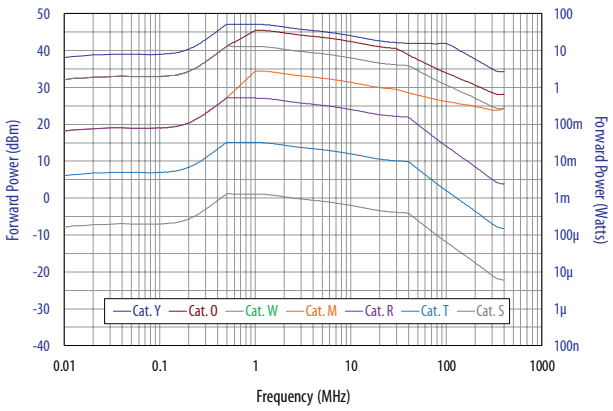
Typical Insertion Loss/Transfer Impedance



Typical VSWR



Typical Forward Power Levels for RTCA DO-160 - Section 20



Typical Forward Power Levels for MIL-STD-461 - CS114

