

Features

- Frequency Range: 10 kHz to 10 MHz
- Current Rating: 100 Amperes
- Fully Compliant with MIL-STD-461D/E/F/G
- Remote Switching of Line Under Test
- Four-conductor, 50Ω, 50μH, Three-Phase LISN
- Appropriate for Delta or Wye Power Configurations
- Three-Year Standard Warranty

Description

The **LI-3P-4100 V2.0** is a four-conductor, 50Ω, 50 μH Line Impedance Stabilization Network (LISN) designed to provide a measurement platform for performing CE102 power-line conducted emission compliance tests as per MIL-STD 461.

An LISN performs each of the following functions during the measurement:

- Provides a defined, stable power line impedance across its frequency range for the Equipment Under Test (EUT)
- Isolates the EUT and Measurement circuit from the power source, thereby minimizing its influence on the measurements
- Couples the disturbance voltages to the coaxial measurement port, which connects to the measuring instrument.

The **LI-3P-4100 V2.0** uses air-core inductors to prevent saturation and permeability variation. The mounting plate is left unpainted to facilitate connection to earth ground in its installation, which is essential due to high leakage currents.

The following items are included with the LI-3P-4100:

- (5) Plug Socket Connectors for Power Input Cable
- (5) Plug Pin Connectors for EUT Power Cable
- **RLI V2.0** Remote LISN Interface
- Fiber Optic Cable (10 meters)
- (2) AC Power Adapters (6 VDC, 500 mA, unregulated)
- AC Power Adapters (15 VDC, 500 mA, unregulated)

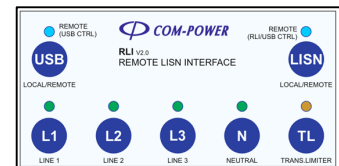
Optional Accessories:

- **LIA-COAX-E** Coaxial Adapter with Plug Pins for LISN EUT Port
- **LIA-COAX-M** Coaxial Adapter with Plug Sockets for LISN Mains Port



Remote or Local Operation

Remote switching of the Line Under Test (L1, L2, L3, N) is performed using the RLI v2.0 Remote LISN Interface, which controls the LISN via fiber optic connection. In addition to the Remote method, the Line under test can also be selected using the push-buttons on the front panel. Using either switching method, the lines that are not selected are internally terminated into 50Ω, while the selected line is terminated by the 50Ω input impedance of the measuring instrument.



Transient Protection

The built-in Transient Limiter protects the RF input of your measuring instrument from potentially damaging, instantaneous voltage transients. The transient limiter also reduces the possibility of overload by incorporating low-pass and high-pass filters to reduce out-of-band emissions.

Calibration

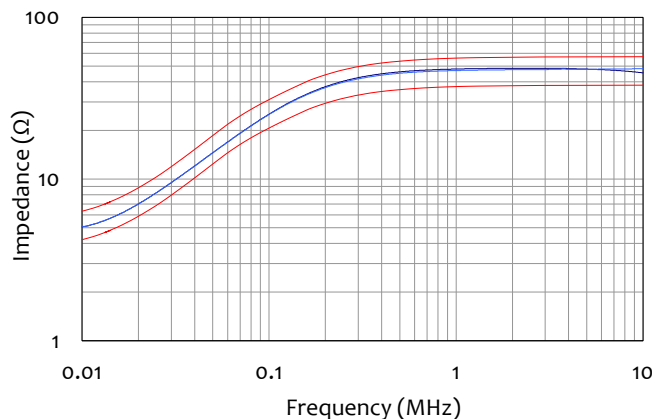
LI-3P-4100 is individually calibrated in compliance with the relevant requirements of MIL-STD-461. Impedance and Insertion Loss data are supplied with each unit, along with the certificate of calibration. Recognized ISO 17025 accredited calibration is also available upon request.

Specifications

All Values are typical, unless specified.
All Specification are Subject to change without notice.

GENERAL	
Product Description	Three-Phase Line Impedance Stabilization Network (LISN)
Application	Power Line Conducted Emissions Tests
Standards	MIL-STD-461D/E/F/G
LISN Type	50Ω, 50 μH, Four-Conductor Network
Frequency Range	10 kHz to 10 MHz
Insertion Loss	<26 to <21 dB (10 kHz to 150 kHz) <21 dB (150 kHz to 10 MHz)
INPUT POWER RATINGS FOR EQUIPMENT UNDER TEST (EUT)	
Maximum Current	100 Amperes per phase (continuous)
AC Voltage (maximum)	865 Volts rms (line to line), 500 Volts rms (line to ground); 50/60Hz 270 Volts rms (line to ground); 400Hz, 135 Volts rms (line to ground); 800Hz
DC Voltage (maximum)	600 Volts DC
ELECTRICAL	
Remote Interface Power Inputs	6 Volts DC (unregulated), 500 mA (LISN Front Panel and RLI-v2.0 Remote LISN Interface)
Cooling Fans Power Input	15 Volts DC (unregulated), 500 mA (LISN Rear Panel)
INPUT/OUTPUT CONNECTORS	
Power Input Port Plug (affixed to LISN chassis)	100A Receptacle Pins: CONN-RP100GR [Red], CONN-RP100GY [Yellow], CONN-RP100GBL [Blue], CONN-RP100GB [Black], CONN-RP100GG [Green]
Power Input Socket (for power input cable)	100A Plug Sockets: CONN-PS100GR [Red], CONN-PS100GY [Yellow], CONN-PS100GBL [Blue], CONN-PS100GB [Black], CONN-PS100GG [Green]
Power Output Port Socket (affixed to LISN chassis)	100A Receptable Sockets: CONN-RS100GR [Red], CONN-RS100GY [Yellow], CONN-RS100GBL [Blue], CONN-RS100GB [Black], CONN-RS100GG [Green]
Power Output Port Plug (for EUT power cable)	100A Plug Pins: CONN-PP100GR [Red], CONN-PP100GY [Yellow], CONN-PP100GBL [Blue], CONN-PP100GB [Black], CONN-PP100GG [Green]
RF Measurement Port	50Ω -N-Type (female)
Fiber Optic Ports	Avago Duplex Latching POF Jack (LISN and RLI-v2.0 Remote LISN Interface)
Remote Interface Power Input Ports	5.5/2.1 mm Power Jack (LISN front panel and RLI-v2.0 Remote LISN Interface)
Cooling Fans Power Input Port	5.5/2.1 mm Power Jack (LISN Rear Panel)
Optional Accessories	LIA-COAX-E Coaxial Adapter with Plug Pins for LISN EUT Port LIA-COAX-M Coaxial Adapter with Plug Sockets for LISN Mains Port
ENVIRONMENTAL	
Cooling	Louvered Side Panels, Forced Air by (2) user-controlled, internal fans
MECHANICAL	
LISN Dimensions (H) x (W) x (D)	17.36" x 17.79" x 20.78" [441 x 452 x 528 mm]
LISN Weight	70.9 lbs. [32.15 kg]
Shipping Dimensions (H) x (W) x (D)	27.8" x 24.25" x 29.62" [706 x 616 x 752 mm]
Shipping Weight	136.9 lbs. [62.1 kg]

Typical Impedance Data



Typical Insertion Loss Data

