COM-POWER CORPORATION

Line Impedance Stabilization Network
LIN-120A

Features

- Frequency Range: 150 kHz to 30 MHz
- Integral Transient Limiter/10 dB Attenuator with ON/OFF (bypass) Switch
- Fully Compliant with CISPR 16-1-2/ANSI C63.4
- Dual-Conductor Network with Universal Power Receptacle to accept any EUT Plug
- 20 Amps Current Handling Capability

Description

The LIN-120A Line Impedance Stabilization Network (LISN) is in full compliance with both CISPR 16-1-2 and ANSI C63.4. It provides the necessary measurement platform for performing power line conducted emissions compliance testing as required by most worldwide standards for commercial products. The LIN-120A performs each of the following functions during the measurement:

- *provides a defined, stable impedance across the measurement frequency range;*
- *isolates the EUT and measurement circuit from the power source, thereby minimizing its influence on the measurements; and,*
- *couples the disturbance voltages to the coaxial measurement port (either directly, or through a transient limiter w/10 dB attenuation, depending on switch position), for connection to the measuring instrument.*

This LISN uses air-core inductors to prevent saturation and permeability variation. Its mounting plate is left unpainted in order to facilitate connection to earth ground in its installation, which is essential due to high leakage current.

Versatility

The LIN-120A is a dual-conductor network capable of handling currents up to 20 Amps$_{(AC)}$ per line. The EUT power port is fitted with a universal, multi-configuration receptacle, which accomodates almost any EUT plug without the need for adapters. The power input port is fitted with a standard IEC C20 receptacle.

As shown in the diagrams on the right, the LIN-120A can be installed into any type of power system, including DC, single-phase, dual-phase and even three-phase systems.

Transient Protection

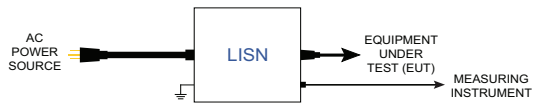
The LIN-120A is equipped with a built-in transient limiter to protect the RF input of your measuring instrument from potentially damaging voltage transients. The transient limiter also reduces the possibility of overload by incorporating two 5 dB attenuation/impedance matching pads, in addition to its low-pass and high-pass filters which further attenuate out-of-band emissions. When the Transient Limiter ON/OFF switch is on the "OFF" position, the transient limiter circuit, including the 10 dB of attenuation and band-pass filters are bypassed.

Calibration

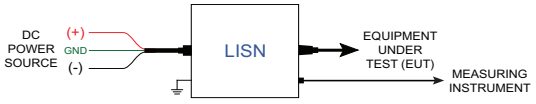
All Com-Power LISNs are individually calibrated in compliance with the relevant requirements of CISPR 16-1-2 and ANSI C63.4. Impedance, Phase, Isolation, and Insertion Loss data is supplied with each unit, along with the certificate of calibration. Recognized ISO 17025 accredited calibration is also available upon request.

Typical Connection Diagrams

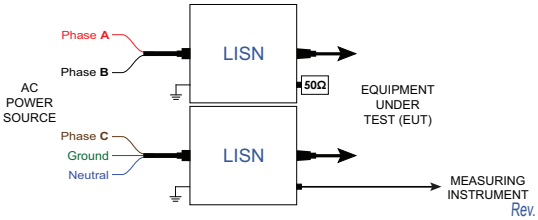
Single-phase power system connections:



DC power system connections:



Three-phase power system connections with (2) LI-220A LISNs:



Com-Power Corporation 19121 El Toro Road, Silverado, California 92676 (949) 459-9600 www.com-power.com

COM-POWER CORPORATION

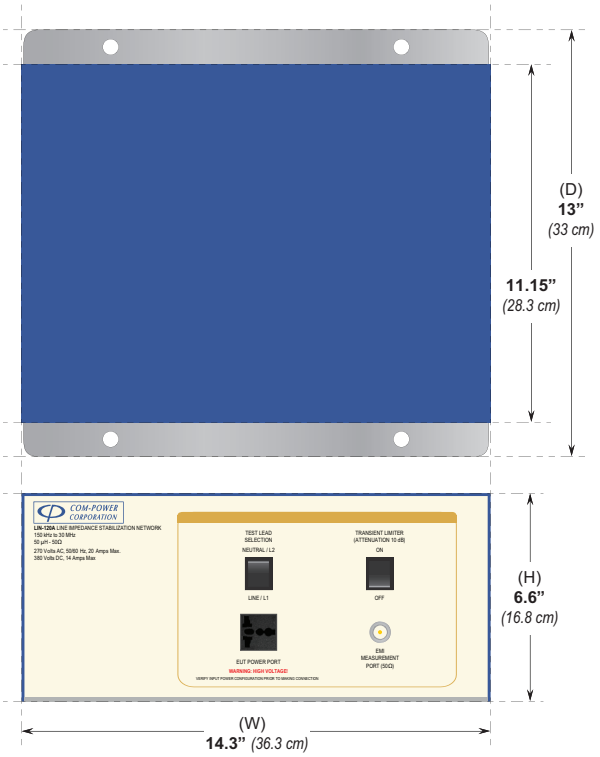
Line Impedance Stabilization Network
LIN-120A

Specifications

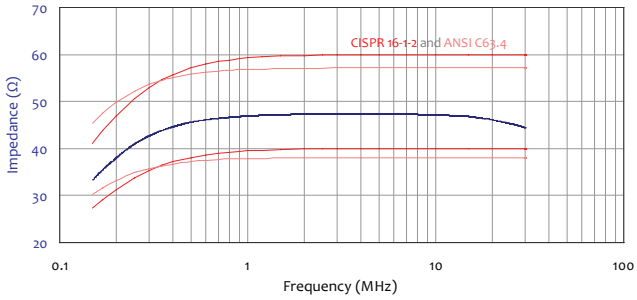
All values are typical, unless specified.
All specifications are subject to change without notice.

GENERAL	
Product Description	**Line Impedance Stabilization Network (LISN)**
Application	**Power Line Conducted Emissions Tests**
Standards	**CISPR 16-1-2, ANSI C63.4**
Type	**50Ω / 50 µH** (CISPR), **50 µH** (ANSI)
Frequency Range	**150 kHz to 30 MHz**
Insertion Loss	**< 1 dB**
Isolation	**>40 dB**
ELECTRICAL	
Voltage Rating	**270 Volts$_{AC\ (rms)}$, 380 Volts$_{DC}$** (Line to Ground)
Current Rating	**20 Amps$_{AC\ (rms)}$, 14 Amps$_{DC}$**
INPUT/OUTPUT CONNECTORS	
EUT Power Input Port	**IEC C20 Receptacle**
EUT Power Output Port	**Universal Multi-Configuration AC Receptacle**
RF Measurement Port	**50Ω - N-Type** (female)
MECHANICAL	
Dimensions (H)x(W)x(D)	**6.6" x 14.3" x 13"** (16.8 x 36.3 x 33 cm)
Weight	**10 lbs** (4.5 kg)
ENVIRONMENTAL	
Operating Temperature	**40°F to 104°F** (5°C to 40°C)

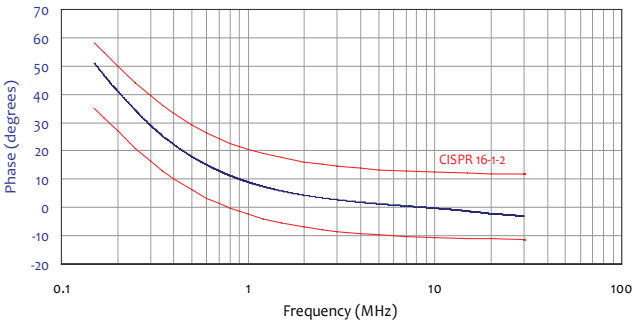
Product Dimensions



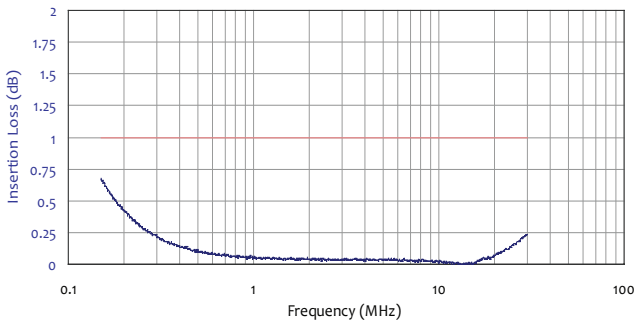
Typical Impedance Data



Typical Phase Data



Typical Insertion Loss



Typical Isolation Data