

## Features

- Frequency Range: 9 kHz to 30 MHz
- Current Ratings of 16, 32, 63 and 100 Amps
- Fully Compliant with CISPR 16-1-2 (CE) and ANSI C63.4 (FCC)
- Remote Switching of Line Under Test
- Four-conductor, 50 $\Omega$ , 50/250  $\mu$ H +5 $\Omega$  Networks for 3 $\phi$  Delta & Wye Power Configurations
- Three-Year Warranty



## Description

The LI-3P-2x Series consists of four separate models of four-conductor, 50 $\Omega$ , 50/250  $\mu$ H +5 $\Omega$  Line Impedance Stabilization Networks (LISNs); also known as Artificial Mains V-Networks (V-AMNs). The primary differences between the four models are their respective current ratings:

<b>LI-3P-216</b>	<b>16 Amps</b> (per line, continuous)
<b>LI-3P-232</b>	<b>32 Amps</b> (per line, continuous)
<b>LI-3P-263</b>	<b>63 Amps</b> (per line, continuous)
<b>LI-3P-2100</b>	<b>100 Amps</b> (per line, continuous)

These LISNs provide the necessary measurement platform for performing power line conducted emissions compliance testing per most worldwide commercial EMI/EMC requirements, such as FCC (U.S.), CE (Europe), AS/NZS (Australia/New Zealand), VCCI (Japan), Industry Canada, etc. The LISNs perform the following functions:

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

The LISNs use air-core inductors to prevent saturation and permeability variation. The mounting plates are left unpainted in order to facilitate connection to earth ground in their installation, which is essential due to high leakage currents.

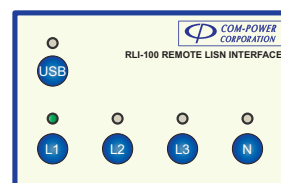
The side panels for each LISN are louvered for cooling purposes. The **LI-3P-263** and **LI-3P-2100** also include two internal cooling fans operated by a switch on the rear panel.

### The following items are included with each LISN:

- ✓ *Mating Socket Connector* (for power input cable)
- ✓ *Mating Plug Connector* (for EUT power cable)
- ✓ **RLI-100 Remote LISN Interface Unit**
- ✓ *Fiber Optic Cable* (30 meters)
- ✓ *(2) AC Power Adapters* (6 VDC, 500 mA, unregulated)
- ✓ *AC Power Adapter* (15 VDC, 500 mA, unregulated) (**LI-3P-263** and **LI-3P-2100** models only)

## Remote or Local Operation

Remote switching of the line under test (L1, L2, L3, N) is performed using the **RLI-100 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 mechanical, four-position switch located on the front panel of the LISNs.



Using either switching method, the lines which are not selected are internally terminated into 50 ohms, while the selected line is terminated by the 50 ohm input impedance of the measuring instrument.

## Transient Protection

The Com-Power **LIT-930A Transient Limiter** is a recommended accessory for protection of the RF input of your measuring instrument from potentially damaging, instantaneous 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 filter sections which further attenuate any out-of-band emissions.



## Calibration

Each LISN is 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.

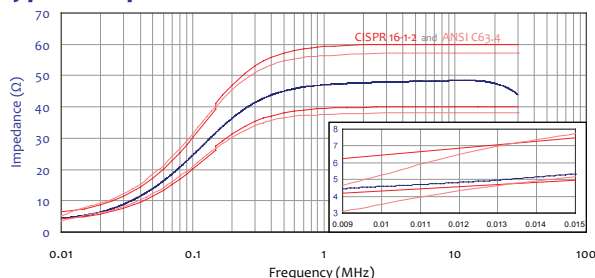
### Specifications

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

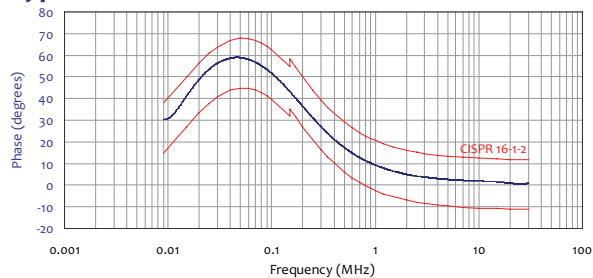
		LI-3P-216	LI-3P-232	LI-3P-263	LI-3P-2100
GENERAL					
Product Description	Line Impedance Stabilization Network (LISN)				
Application	Power Line Conducted Emissions (Disturbance Voltages) Tests				
Standards	CISPR 16-1-2 (CE), ANSI C63.4 (FCC)				
Type	50Ω, 50/250 μH +5Ω, (4) Conductor Network				
Frequency Range	9 kHz to 30 MHz				
Insertion Loss - 9 kHz to 150 kHz	<6.5 to <0.7 dB (decreasing linearly with the logarithm of frequency)				
Insertion Loss - 150 kHz to 30 MHz	<0.7 dB				
Isolation - 9 kHz to 50 kHz	>0 to >40 dB (increasing linearly with the logarithm of frequency)				
Isolation - 50 kHz to 30 MHz	>40 dB				
INPUT POWER RATINGS FOR EQUIPMENT UNDER TEST (EUT)					
Current (maximum continuous, per line)	16 Amperes	32 Amperes	63 Amperes	100 Amperes	
AC Voltage (maximum)	500 Volts <sub>rms</sub> (line to line), 288 Volts <sub>rms</sub> (line to ground)				
DC Voltage (maximum)	705 Volts DC				
ELECTRICAL					
Remote Interface Power Inputs	6 Volts DC (unregulated), 500 mA (LISN and RLI-100 Remote LISN Interface)				
Cooling Fans Power Input	Not Applicable			15 Volts DC (unregulated), 500 mA	
INPUT/OUTPUT CONNECTORS					
Power Input Port Plug (affixed to LISN chassis)	Schneider Electric P/N: 83862	Schneider Electric P/N: 83874	Schneider Electric P/N: 81886	Schneider Electric P/N: 81898	
Power Input Socket (for power input cable)	Schneider Electric P/N: PKF16M745	Schneider Electric P/N: PKF32M745	Schneider Electric P/N: 81486	Schneider Electric P/N: 81498	
Power Output Port Socket (affixed to LISN chassis)	Schneider Electric P/N: PKF16F745	Schneider Electric P/N: PKF32F745	Schneider Electric P/N: 81286	Schneider Electric P/N: 81298	
Power Output Port Plug (for EUT power cable)	Schneider Electric P/N: PKE16M745	Schneider Electric P/N: PKE32M745	Schneider Electric P/N: 81386	Schneider Electric P/N: 81398	
RF Measurement Port	50Ω - N-Type (female)				
Fiber Optic Ports	Avago Duplex Latching POF Jack (LISN and RLI-100 Remote LISN Interface)				
Remote Interface Power Input Ports	5.5/2.5 mm Power Jack (LISN and RLI-100 Remote LISN Interface)				
Cooling Fans Power Input Port	Not Applicable			5.5/2.1 mm Power Jack	

-- specifications continued on next page --

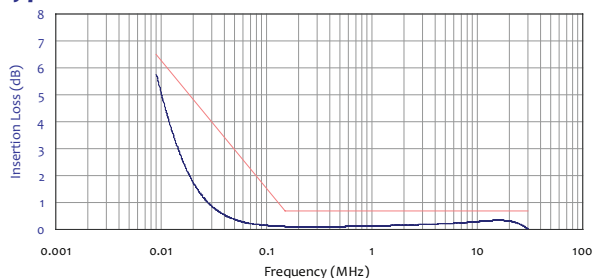
### Typical Impedance Data



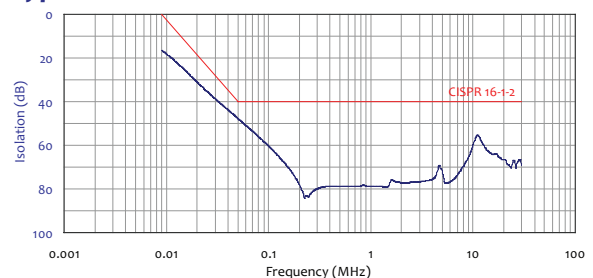
### Typical Phase Data



### Typical Insertion Loss



### Typical Isolation Data



### Specifications (continued)

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	LI-3P-216	LI-3P-232	LI-3P-263	LI-3P-2100
<b>DIMENSIONS &amp; WEIGHT</b>				
Figure 1 - Dimension <b>A</b>	27" (68.5 cm)	28.6" (72.7 cm)	40.5" (102.9 cm)	45.3" (115 cm)
Figure 1 - Dimension <b>B</b>	21.9" (55.5 cm)	23.5" (59.7 cm)	26.7" (67.7 cm)	27.5" (69.8 cm)
Figure 1 - Dimension <b>C</b>	18.4" (46.8 cm)	19.7" (50 cm)	22.7" (57.6 cm)	22.7" (57.6 cm)
Figure 1 - Dimension <b>D</b>	16.4" (41.6 cm)	17.6" (44.8 cm)	20.6" (52.2 cm)	20.6" (52.2 cm)
Figure 1 - Dimension <b>E</b>	12.2" (31.1 cm)	14.2" (36 cm)	17.3" (44 cm)	17.3" (44 cm)
Figure 1 - Dimension <b>F</b>	13.8" (35 cm)	14.3" (36.2 cm)	17.1" (43.4 cm)	17.1" (43.4 cm)
Figure 1 - Dimension <b>G</b>	6.1" (15.5 cm)	6.8" (17.3 cm)	10.4" (26.5 cm)	12.8" (32.5 cm)
Figure 1 - Dimension <b>H</b>	3.8" (9.6 cm)	4.1" (10.4 cm)	4.3" (11 cm)	5.2" (13.1 cm)
Figure 1 - Dimension <b>I</b>	5.6" (14.2 cm)	6.3" (16 cm)	10.4" (26.5 cm)	12.8" (32.5 cm)
Figure 1 - Dimension <b>J</b>	3.5" (8.9 cm)	4" (10.2 cm)	4.3" (11 cm)	5.2" (13.1 cm)
Weight (including input/output connectors)	45.9 lbs. (20.8 kg)	59.1 lbs. (26.8 kg)	89.2 lbs. (40.5 kg)	121.4 lbs. (55.1 kg)
<b>ENVIRONMENTAL</b>				
Operating Temperature	40°F to 104°F (5°C to 40°C)			
Cooling	<ul style="list-style-type: none"> <li>Louvered Side Panels</li> <li>(no forced air)</li> </ul>			
	<ul style="list-style-type: none"> <li>Louvered Side Panels</li> <li>Forced Air by (2) user-controlled, internal fans with (2) 4.5" circular intake openings on rear panel (each opening protected by a circular metal finger guard)</li> <li>(2) 4" square air outlets located on the top cover (each opening protected by metallic mesh)</li> </ul>			

### Figure 1 - Product Dimensions

