INSTRUCTION MANUAL

POWER LINE IMPEDANCE

STABLIZATION

NETWORK (LISN)

MODEL PLISN-25/2

5 kHz – 1 GHz

INSTRUCTION MANUAL

POWERLINE IMPEDANCE STABLIZATION NETWORK (PLISN)

ELECTRO-METRICS

MODEL PLISN-25/2

SERIAL NO: N/A

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WARRANTY

This Model PLISN-25/2; Power Line Impedance Stablization Network is warranted for a period of 12 months (USA only) from date of shipment against defective materials and workmanship. This warranty is limited to the repair of or replacement of defective parts and is void if unauthorized repair or modification is attempted. Repairs for damage due to misuse or abnormal operating conditions will be performed at the factory and will be billed at our commercial hourly rates. Our estimate will be provided before the work is started.

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PLISN-25/2 ACCESSORIES

The following accessories are standard with the PLISN-25/2 POWER LINE IMPEDANCE STABILIZATION NETWORK.

a. Four (4) 50-ohm Terminations, (P4665051).

b. One (1) PS25GGN Superior Plug Socket.

c. One (1) PS25GR Superior Plug Socket.

d. One (1) PS25GB Superior Plug Socket.

DESCRIPTION AND USE ELECTRO-METRICS MODEL PLISN-25/2 POWER LINE IMPEDANCE STABILIZATION NETWORK

1.0 Introduction

The Model PLISN-25/2 Power Line Impedance Stabilization Network (PLISN) is a two channel low pass filter network designed to isolate an electrically operated device from an external power source. The PLISN-25/2 is used when high frequency conducted measurements are made in accordance with certain national and international standards.

The High Frequency (2 MHz-1 GHz) section of this device is nominally designed for a 25 ampere maximum load capacity with a maximum voltage drop of 2.5%.

The Low Frequency (5 kHz-20 MHz) section is nominally rated at 15 A (10% voltage drop) although the section will handle 25 A with a voltage drop of 18-20%. Overload protection is provided by a two-pole 25 A circuit breaker, located on the rear panel.

The allowable AC line frequency is DC-62 Hz. The maximum line to ground voltage is set at 220 VAC and the maximum line to line voltage at 440 VAC.

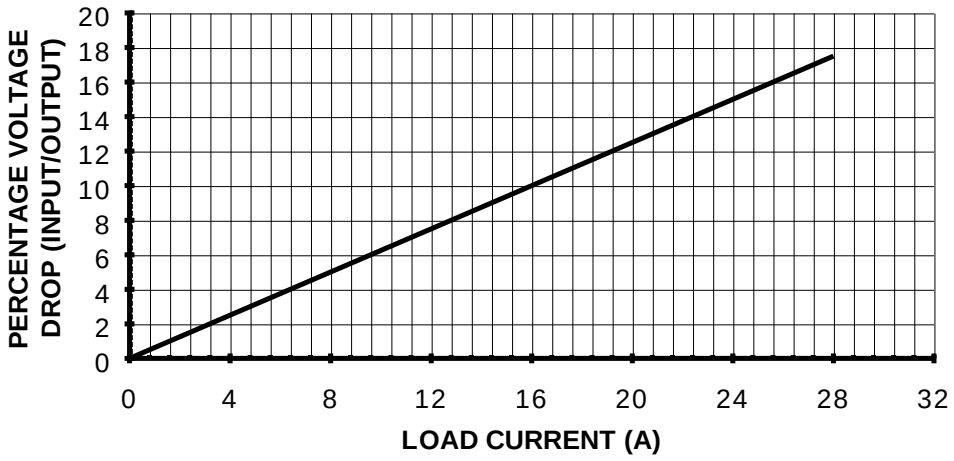
2.0 Specifications

2.1 Electrical

Frequency Range:	5 kHz-1 GHz, divided into 2 sections: LF: 5 kHz-20 MHz. HF: 2 MHz-1 GHz.
Power Source Frequency:	DC to 62 Hz.
Maximum AC Input:	Line to Line: 440 VAC Line to Ground: 220 VAC
VSWR:	LF: 1.2:1, typical. HF: 1.6:1, typical.
Input Impedance:	50 ohms nominal.
Current:	15 A (refer to Figure 1)*.

***NOTE:** At the rated current load of 15 A, the voltage drop due to the Inductive Reactance becomes significant. Refer to Figure 1 for the output voltage derating curve. It may be necessary to raise the input voltage to compensate for the output voltage drop across the inductors.

FIGURE 1 OUTPUT VOLTAGE DERATING CURVE



2.2 Mechanical

Height:	190 mm (7.5")
Length:	500 mm (19.7")
Width:	520 mm (20.2")
Weight:	27 kg (60 lbs)

3.0 Operating Instructions

Line side of the PLISN should be connected to the power source using the three plug sockets provided. Attach these plugs to the pin receptacles located on the rear panel. The ground connector located on the rear panel should be connected to a safety ground. Load side of the PLISN should be connected through the NEMA-5-20R connector for the channel being used.

WARNING

SAFETY GROUND SHOULD BE CONNECTED FIRST AND DISCONNECTED LAST ON INPUT POWER SIDE OF THE PLISN.

NOTE

A BRASS RF GROUND STUD IS PROVIDED ON BOTH THE FRONT AND REAR PANELS FOR CONNECTING TO A SHIELDED ENCLOSURE OR GROUND PLANE.

If a ground contact to the instrument under test is made to the power supply ground, it may be made through the ground terminal (socket receptacle or ground stud) on the front panel. No radio frequency isolation is provided in this line and the connection is made directly to the chassis of the PLISN.

Two BNC type coaxial connectors are provided for each line, one for high frequency and the other for low frequency. The BNC type coaxial connector of the line under test should be connected to the interference analyzer, field intensity meter, or spectrum analyzer input. All other BNC connectors must be terminated with a 50-ohm RF termination.

It is advisable to connect the input and output terminals to their proper power lines and loads before connecting the line under test to the measurement instrumentation, otherwise it is possible to damage the input circuitry (attenuators, mixers, etc) of the test instrumentation due to power surges. In addition, when the power is to be disconnected, remove the measurement instrumentation at the coaxial receptacle before removing the power source.

FIGURE 2

SCHEMATIC DIAGRAM PLISN-25/2

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FIGURE 3

LOW FRQUENCY SECTION

(5 kHz-20 MHz)

INSERTION LOSS CHART

LINES 1 & 2

PAGE 5A

FIGURE 4

HIGH FRQUENCY SECTION

(2 MHz-1 GHz)

INSERTION LOSS CHART

LINES 1 & 2

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