

LINE IMPEDANCE STABILIZATION NETWORKS



APPLICATION

When measuring conducted radio interference voltages from active power lines to ground, it is essential to know the line impedance so that repeatable tests can be made by more than one laboratory. Artificial line impedances are specified in MIL-STD-462, V.D.E., C.I.S.P.R., C22.4, NACSEM 5100, ANSI C63.2 and other EMI specifications.

The characteristic impedance of the five microhenry and 50 microhenry LISNs brackets the mean value of power line impedance which has been measured by independent researchers. These two inductance values in parallel with the 50 ohms of the EMI meter fall between the minimum and maximum line impedance values which have been measured. The mean value would be represented by a twenty microhenry inductor in parallel with 100 ohms.

DESCRIPTION

The Solar Electronics LISNs use a series inductor between the test sample and the power source to provide the impedance-versus-frequency

characteristic. A coaxial connector with d.c. isolation is provided for connection to the associated frequency selective EMI meter. The power source end of the inductor is bypassed to ground.

Due to the large current-carrying capability of some LISNs, it is not always practical to use a switch for changing inductance values. Instead, some models are equipped with a high current pin plug-and-jack combination for quickly connecting and disconnecting a network and substituting another. This nylon insulated pin plug and jack arrangement is a safety feature, well isolated from inadvertent short circuits, providing protection to operating personnel.

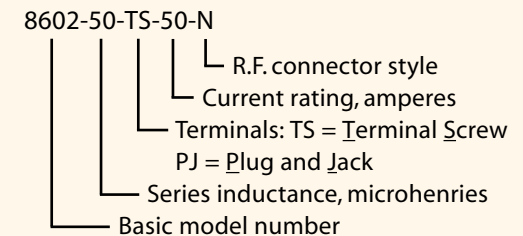
Current ratings up to 200 amperes are available in 50 μ H styles and 500 amperes in 5 μ H styles. See the chart on the following page.

When measurements are made in a shielded room, the LISNs intended for F.C.C. applications will also serve for V.D.E. tests. When operating on an unfiltered power line, the V.D.E. specifications require a filter consisting of 250 microhenry inductor and a capacitor. This filter is included in the 24 ampere LISN, **Type 9348-50-R-24-BNC**, and the 50 ampere LISN, **Type 8602-50-TS-50-N**.

EMI specifications require one LISN in each ungrounded power lead. Even though the neutral is considered "ground," if it is not connected to

chassis **inside** the unit under test, the lead must be tested with an LISN. Therefore, use two LISNs in d.c. or single phase a.c. applications, three LISNs for delta-connected three phase circuits, and four LISNs for 'Y' connected three phase circuits.

Explanation of Type Numbers



SOLAR ELECTRONICS COMPANY

Innovative EMI Solutions Since 1960

e-mail: sales@solar-emc.com

www.solar-emc.com

A division of A.T. Parker, Inc.

(800) 952-5302

(818) 755-1700

FAX (818) 755-0078

LINE IMPEDANCE STABILIZATION NETWORKS

Type Number	Current Amps	Inductance μ H	Line/Ground Voltage		Case Size*	Circuit	Frequency Range
			50-60 Hz	400 Hz			
6330-100-PJ-50-N	50	100	270	130	#3	Single	10 KHz- 4 MHz
6330-100-TS-50-N	50	100	270	130	#3	Single	10 KHz- 4 MHz
6330-250-PJ-50-N	50	250	270	130	#3	Single	8 KHz- 4 MHz
6330-250-TS-50-N	50	250	270	130	#3	Single	8 KHz- 4 MHz
6330-600-PJ-50-N	50	600	270	130	#3	Single	7.5 KHz- 5 MHz
6330-600-TS-50-N	50	600	270	130	#3	Single	7.5 KHz- 5 MHz
6338-5-PJ-50-N	50	5	270	130	#1	Single	150 KHz- 65 MHz
6338-5-TS-50-N	50	5	270	130	#1	Single	150 KHz- 65 MHz
6338-57-PJ-50-N	50	57	270	130	#2	Single	14 KHz- 4 MHz
6338-57-TS-50-N	50	57	270	130	#2	Single	14 KHz- 4 MHz
6516-5-TS-10-BNC	10	5	270	130	#5	Single	150 KHz- 65 MHz
6516-57-TS-10-BNC	10	57	270	130	#6	Single	14 KHz- 4 MHz
7225-1	10	650	270	130	#1	Single	10 KHz-400 MHz (useable up to 1 GHz)
7333-5-PJ-50-N	50	5	500	240	#1	Single	150 KHz- 65 MHz
7333-5-TS-50-N	50	5	500	240	#1	Single	150 KHz- 65 MHz
7333-57-PJ-50-N	50	57	500	240	#2	Single	14 KHz- 4 MHz
7333-57-TS-50-N	50	57	500	240	#2	Single	14 KHz- 4 MHz
8012-50-R-24-BNC	24	50	135	N/A	#1	Dual	10 KHz- 50 MHz
8028-50-TS-24-BNC	24	50	270	130	#1	Single	10 KHz- 50 MHz
8116-50-PJ-100-N	100	50	270	130	#3‡	Single	10 KHz- 30 MHz
8116-50-TS-100-N	100	50	270	130	#3‡	Single	10 KHz- 50 MHz
8116-100-PJ-100-N	100	100	270	130	#3‡	Single	10 KHz- 4 MHz
8116-100-TS-100-N	100	100	270	130	#3‡	Single	10 KHz- 4 MHz
8116-250-PJ-100-N	100	250	270	130	#3‡	Single	8 KHz- 4 MHz
8116-250-TS-100-N	100	250	270	130	#3‡	Single	8 KHz- 4 MHz
8309-5-PJ-100-N	100	5	500	240	#3	Single	150 KHz- 65 MHz
8309-5-TS-100-N	100	5	500	240	#3	Single	150 KHz- 65 MHz
8328-50-PJ-50-N	50	50	270	130	#3	Single	10 KHz- 50 MHz, 0.1 μ f coupling capacitor
8328-50-TS-50-N	50	50	270	130	#3	Single	10 KHz- 50 MHz, 0.1 μ f coupling capacitor
*Case Sizes (w x h x l)						#3:	10.06" x 9.0" x 13.12" (25.72 cm x 22.86 cm x 33.34 cm)
Add 3" (7.62 cm) for Base Plate						#4:	7.53" x 7.63" x 18.97" (19 cm x 19.43 cm x 48.26 cm)
‡ With 50 or 60 Hz Ventilating Fan; add 7.09" (18.00 cm)						#5:	3.12" x 1.75" x 3.87" (7.94 cm x 4.44 cm x 9.84 cm)
#1: 4.5" x 4.5" x 9.25" (11.43 cm x 11.43 cm x 23.5 cm)						#6:	2.75" x 2.45" x 5.7" (6.98 cm x 6.22 cm x 14.48 cm)
#2: 7.0" x 7.0" x 8.25" (17.78 cm x 17.78 cm x 21.13 cm)						#7:	13.06" x 7.0" x 10.06" (33.20 cm x 17.78 cm x 25.55 cm)

