

LISN

LINE IMPEDANCE STABILISATION NETWORKS

A complete range for commercial, automotive and military applications.

- From single line up to 4 line.
- 16Amps to 100Amps
- CISPR16, CISPR25, Def Stan, Mil Spec, automotive and specialist types supplied
- All LISNs fully compliant with the relevant standard and issued with all calibration data.



When measuring EMC emissions conducted from the Equipment-under-test (EUT) most standards specify a LISN (or artificial mains V-network) to couple the RF from the cable and to provide a repeatable impedance at the measured frequencies. All Laplace LISNs fully comply with the relevant standards and feature a rigorous, individual calibration with hardcopy of results issued by a UK test laboratory.

Photograph shows a CISPR16, single phase, 16 amp LISN. (LISN16A1P).

Comprehensive The Laplace range of LISNs cover an exceptionally wide scope, covering a wide range of standards and applications from commercial to military and satellite.

Compliance All Laplace LISNs are fully compliant with the appropriate standard and are shipped complete with test lab report and all data.

Protection All standard CISPR16 LISNs are internally fitted with transient limiters and include a separate pre-amplifier to recover the insertion loss of the limiter.

Convenience Commercial 16A LISNs are fitted with standard mains outlets. Country-specific types can be specified at time of ordering. Single pole jack sockets are normally also included so that individual conductors can be connected.



LISNs Line Impedance Stabilisation Networks

General

Laplace LISNs can be split into five groups:

- CISPR16, Commercial, up to 16 Amps.
- CISPR16, Commercial, 32 up to 100 Amps.* Single phase and 3 phase.
- CISPR25, Automotive, up to 100 Amps.¹
- Military requirements, UK and US standards.¹ DefStan59-41 and MilSpec461
- Special types, eg for space satellite testing.²

Note: ¹ See separate data sheet
² Contact Laplace for specific requirements

Common specifications

RF output: 50ohm BNC socket for each line.
 EUT line connections: Single pole shrouded sockets, 4mm up to 32A, 6mm for 63A and above. *Additionally, for 16A types, domestic mains outlet fitted. Specify UK, US, Schuko (Euro) or As/NZ type when ordering.*
 Termination impedance: Internal for CISPR16 types.
 Ground bond: Stud terminal on front panel.
 Artificial hand: All CISPR16 LISNs fitted (220pF || 510R)
 Operating temperature: -5°C to +40 °C
 Transient protection level: 150dBuV
 Earth leakage current: 80mA typ. At 50Hz.

Note that the 16A version has separate RF networks in parallel, each with BNC RF output, to allow analysis of common mode and differential mode noise. (See EA-300)

Overview of standard range

Model	Standard	Current rating	Lines	Transient limiter fitted	Size	Frequency range
LISN16A1P	CISPR16	16	L, N	yes	A	150KHz—30MHz
LISN-A-16A1P	CISPR16	16	L, N	yes	A*	9KHz—30MHz
LISN32A1P	CISPR16	32	L, N	yes	B	150KHz—30MHz
LISN63A1P	CISPR16	63	L, N	yes	B	150KHz—30MHz
LISN100A1P	CISPR16	100	L, N	yes	B	150KHz—30MHz
LISN32A3P	CISPR16	32	L1,L2,L3,N	yes	C	150KHz—30MHz
LISN63A3P	CISPR16	63	L1,L2,L3,N	yes	C	150KHz—30MHz
LISN100A3P	CISPR16	100	L1,L2,L3,N	yes	C	150KHz—30MHz
LISNC25/25A2P	CISPR25	25A	2	no	A	100KHz—108MHz
LISNC25/100A	CISPR25	100A	1	no	D	100KHz—108MHz
LISN59-41/100A	DefStan59-41	100A	1	no	D	20Hz—400MHz
LISN461E/100A	Mil 461E	100A	1	no	E	10KHz—10MHz

Specification for CISPR16 LISNs - up to 32 amps.

	LISN16A1P LISN-A-16A-P*	LISN32A1P	LISN32A3P
Cont. amps (per line)	16 amps	32 amps	32 amps
Input connection	2m flying lead	4mm sockets	4mm sockets
Output connectors	Mains socket + 4mm sockets	4mm sockets	4mm sockets
Power frequency	DC to 400Hz		
RF out selection	Separate BNCs	Selector switch	
Max voltage Ref. to ground	275v rms	275v rms	275v rms
Insertion loss, Pre-amp bypassed	30dB	30dB	30dB
Network	220pF 510R		
Impedance	To CISPR16, figure 7b, ±20%		
Construction	Alloy case with base flanges	Modular instrument case	
Pre-amp gain	30dB, ±1.5dB	30dB, ±1.5dB	
Pre-amp location	External	Internal	
Frequency range	150KHz—30MHz (*9KHz—30MHz)		
Noise figure	Better than 5dB		
Max signal level.	+80dBuV		
Saturated signal level	+120dBuV		
Power	12v dc from included mains power supply.		

Mechanical data (Sizes in mm)

Case	A	A*	B	C	D	E
Width	180	180	530	535	180	200
Length	300	450	422	522	500	600
Height	80	80	310 (6u)	445 (9u)	100	185

Available from

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