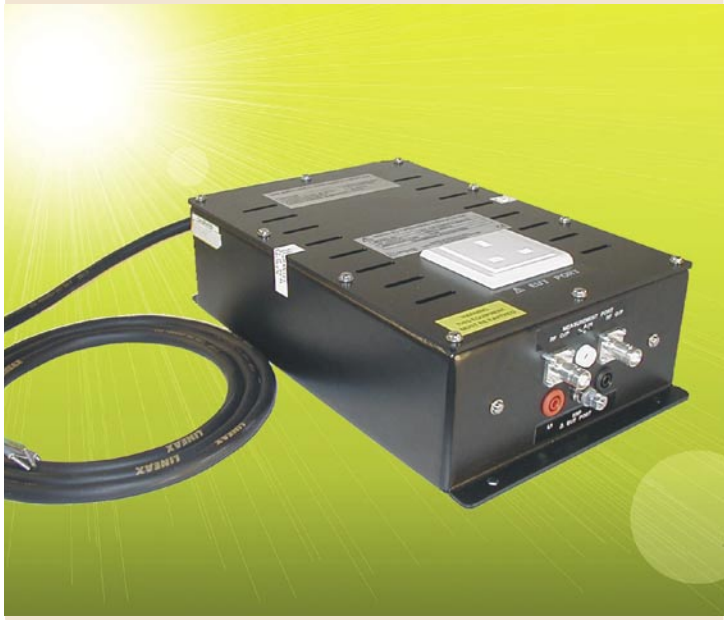
# LISN LINE IMPEDANCE STABILISATION NETWORKS



## A complete range for commercial, automotive and military applications

- **From single line, up to 4 line**
- **16 Amps to 100 Amps**
- **CISPR16, CISPR25, Def Stan, Mil Spec and specialist types supplied**
- **All LISNs supplied 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 hard copy of results issued by a UK test laboratory.

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

**COMPREHENSIVE** The Laplace range of LISNs covers 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.

**LAPLACE INSTRUMENTS LIMITED**

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## General

Laplace LISNs can be split into five groups:

- CISPR16, Commercial, up to 32 Amps.
- CISPR16, Commercial, 63 up to 100 Amps.*
- CISPR25, Automotive, up to 100 Amps.*
- Military requirements, UK and US standards.*
- Special types, eg for space satellite testing.**

Note: * See separate data sheet
** Contact Laplace for specific requirements

### Specification for CISPR16 LISNs – up to 32 amps

| | LISN16A1P | LISN32A1P | LISN32A3P |
|---|---|---|---|
| Cont. amps (per ph) | 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 | DC to 400Hz | DC to 400Hz |
| RF out selection | Separate BNCs | Selector switch | Selector switch |
| Max voltage Ref. to ground | 275v rms | 275v rms | 275v rms |
| Insertion loss, Pre-amp bypassed | 30dB | 30dB | 30dB |
| Network | 50Ω II 50µH | 50Ω II 50µH | 50Ω II 50µH |
| Impedance | To CISPR16, figure 7b, ±20% | To CISPR16, figure 7b, ±20% | To CISPR16, figure 7b, ±20% |
| Construction | Alloy case with base flanges | Modular instrument case | Modular instrument case |
| Pre-amp gain | 30dB, ±1.5dB | 30dB, ±1.5dB | 30dB, ±1.5dB |
| Pre-amp location | External | Internal | Internal |
| Frequency range | 9KHz – 30MHz | 9KHz – 30MHz | 9KHz – 30MHz |
| Noise figure | Better than 5dB | Better than 5dB | Better than 5dB |
| Max signal level | +80dBuV | +80dBuV | +80dBuV |
| Saturated signal level | +120dBuV | +120dBuV | +120dBuV |
| Power | 12v dc from included mains power supply | 12v dc from included mains power supply | 12v dc from included mains power supply |

### Common Specification

| | |
|---|---|
| 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 type, 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 II 510Ω) |
| Operating temperature: | -5°C to +40 °C |
| Transient protection level: | 150dBuV |
| Earth leakage current: | 80mA typical at 50Hz |

### Mechanical data – Sizes in mm

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

### Overview of standard range

| Model | Standard | Current rating | Phases | Transient limiter fitted | Size | Frequency range |
|---|---|---|---|---|---|---|
| LISN16A1P | CISPR16 | 16 | L, N | YES | A | 150KHz – 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 |
| LISNC25/25A1P | CISPR25 | 25A | 1 | NO | A | 100KHz – 108MHz |
| LISNC25/25A2P | CISPR25 | 25A | 2 | NO | A | 100KHz – 108MHz |
| LISNC25/100A | CISPR25 | 100A | 1 | NO | D | 100KHz – 108MHz |
| LISN59-41/32A2P | DefStan59-41 | 32A | 2 | NO | A | 20Hz – 400MHz |
| LISN59-41/100A | Defstan59-41 | 100A | 1 | NO | D | 20Hz – 400MHz |
| LISN461E/10A2P | Mil 461E | 10A | 2 | NO | E | 10KHz – 10MHz |
| LISN461E/100A | Mil 461E | 100A | 1 | NO | E | 10KHz - 10MHz |

Available from:


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