



DC-LISN-M2-25-V2 DUAL-LINE-V-Y-Δ-LISN FOR GCPC



DC-LISN-M2-25-V2

- Frequency range 150 kHz to 30 MHz
- 150 Ω DC-LISN for photovoltaic inverters
- Switch for selecting the LISN type: V, Y, Delta
- 4 mm banana sockets
- Metal casing, ruggedly designed

Teseq introduces a new Line Impedance Stabilization Network (LISN) for conducted emissions testing of Grid Connected Power Conditioners (GCPC). The DC-LISN-M2-25-V2 is designed for measuring disturbances on DC power ports in the frequency range from 150 kHz to 30 MHz. Research results have shown that a typical artificial mains V-network as described in CISPR 16-1-2 can not be used for the assessment of unsymmetrical disturbances of a photovoltaic inverter's DC port. CDNs based on IEC / EN 61000-4-6 are typical not specified for high common-mode currents and differential-mode disturbances. Additionally, they are undefined below 150 kHz.

The DC-LISN-M2-25-V2 provides enhanced LISN performance with a common-mode impedance of 150 Ω and a differential-mode impedance of 100 Ω. Depending on the switch position, the LISN works as V, Y or Delta shape LISN. Further, the DC-LISN offers defined termination impedance in the frequency range 1 kHz to 150 kHz.

The DC-LISN-M2-25-V2 conforms to the latest requirements of the international standard working group MT GCPC: GRID CONNECTED POWER CONDITIONERS.

Technical specifications

Nominal voltage:	1000 VDC (between the lines)	
Max. operating voltage:	1500 V (VDC + VAC ripple voltage)	
Max. CM voltage ≤100 Hz:	750 VDC, 500 VAC (line to ground)	
Test voltage:	2 kV, DC, 2 sec (line to ground)	
Voltage drop:	1.5 V @ 25 A	
Nominal current (CM + DM):	25 A, 30 min	
Max. operating current (CM + DM):	32 A, 15 min	
Mains sockets EUT / AE:	4 mm, safety	
RF socket:	BNC, 50 Ω	
Frequency range:	150 kHz to 30 MHz	1 kHz to 150 kHz
Common-mode impedance:	150 Ω ±20 Ω	≥ 10 Ω (AE open)
Phase angle:	0° ± 40°	not specified
Differential-mode impedance:	100 Ω ±20 Ω	≥ 10 Ω (AE open)
Phase angle:	0° ± 40°	not specified
Voltage division factor:	20 dB ± 2 dB	> 68 dB to > 18 dB
Insertion Loss (EUT – AE, CM):	> 20 dB	decreasing with 40 dB / dec.
Insertion Loss (EUT – AE, DM):	> 40 dB	decreasing with 40 dB / dec.
LCL:	> 20 dB	> 20 dB (10 kHz to 150 kHz)
Discharge resistors:	>1.5 MΩ	

Notes: All symmetrical parameters are only valid for a symmetrical impedance of 100 Ω.
CM = Common-mode, DM = Differential-mode

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Switch for selecting the LISN type: V shape +, V shape -, Y shape (CM) and Δ shape (DM)



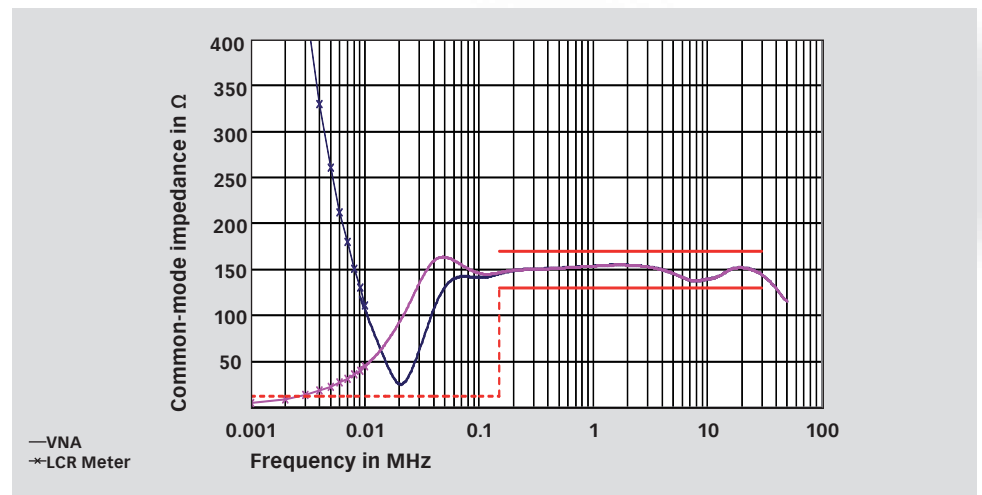
DC-LISN-M2-25-V2, EUT side



DC-LISN-M2-25-V2, AE side

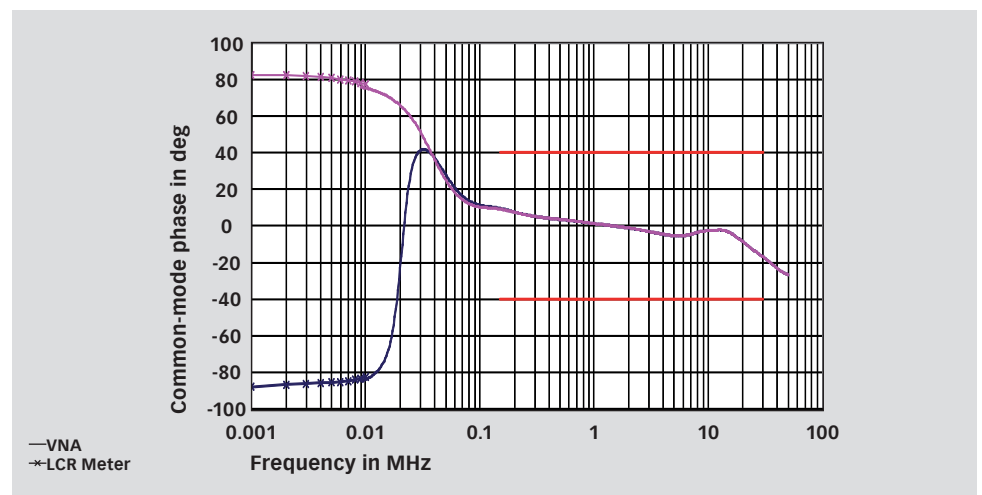
Typical common-mode impedance for +, -, CM and DM

— AE open, — AE short, - - - Limit AE open < 150 kHz — Limit



Typical common-mode phase for +, -, CM and DM

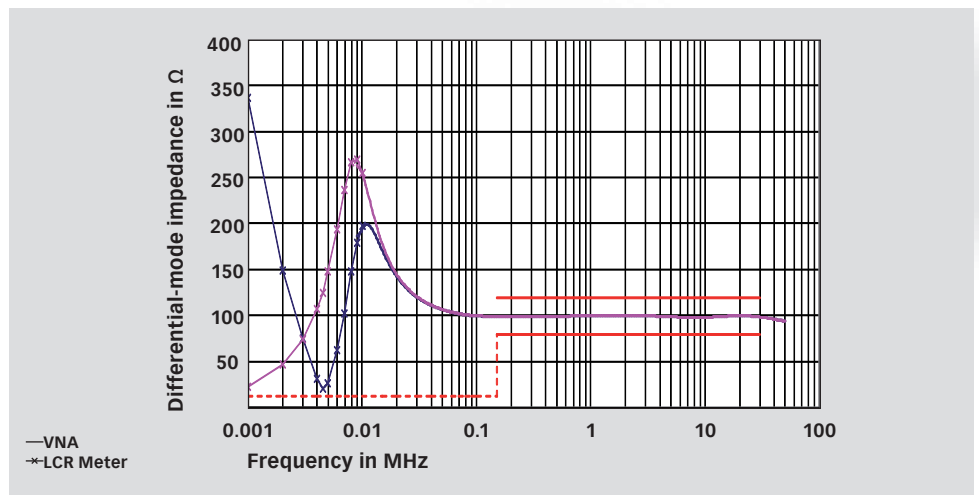
— AE open, — AE short, — Limit



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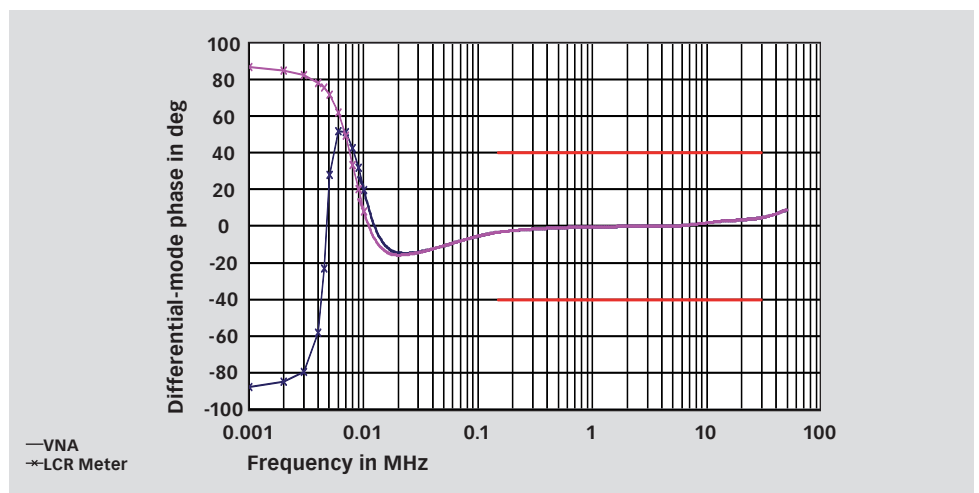
Typical differential-mode impedance for +, -, CM and DM

— AE open, — AE short, - - - Limit AE open < 150 kHz — Limit



Typical differential-mode phase for +, -, CM and DM

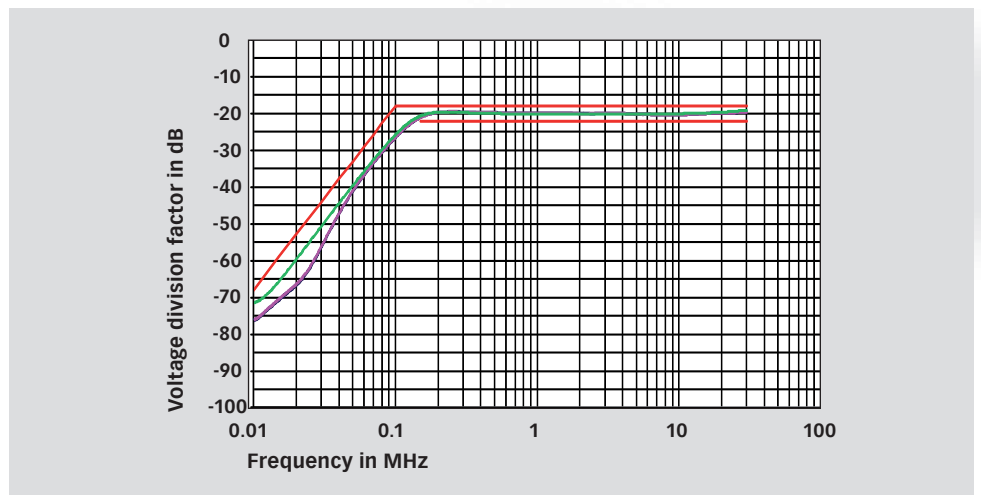
— AE open, — AE short, — Limit



DC-LISN-M2-25-V2 DUAL-LINE-V-Y- Δ -LISN FOR GCPC

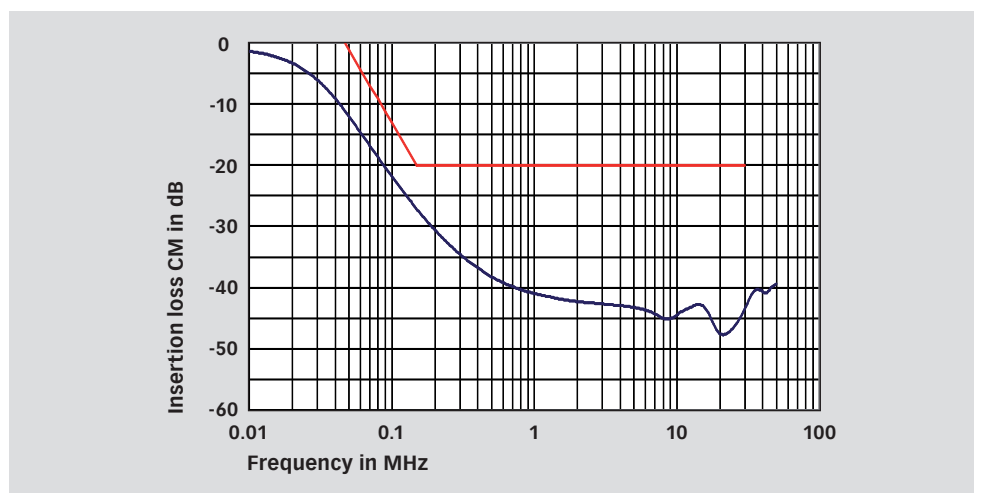
Typical voltage division factor (EUT - RF port)

— + Port, — - Port, — CM, — DM, — Limit



Typical insertion loss (common-mode, EUT - AE)

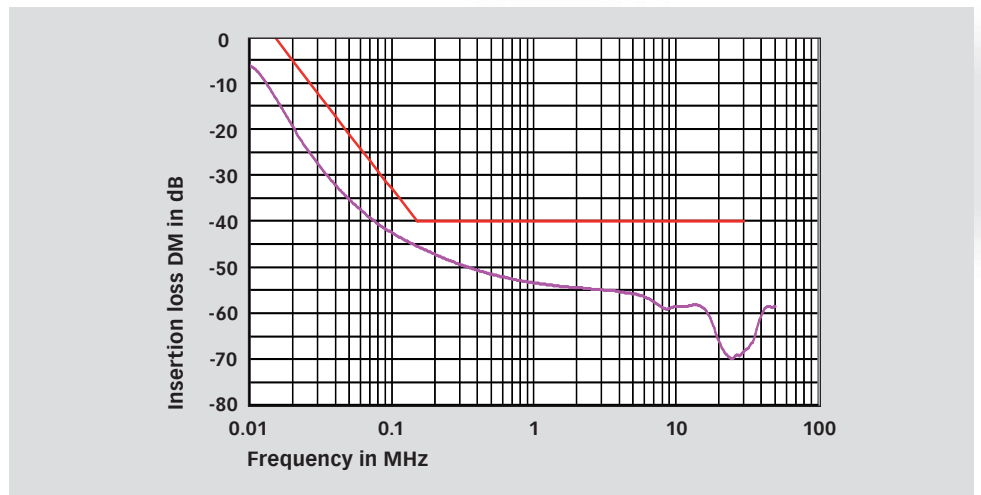
— + Port, — - Port, — CM, — DM, — Limit



DC-LISN-M2-25-V2 DUAL-LINE-V-Y- Δ -LISN FOR GCPC

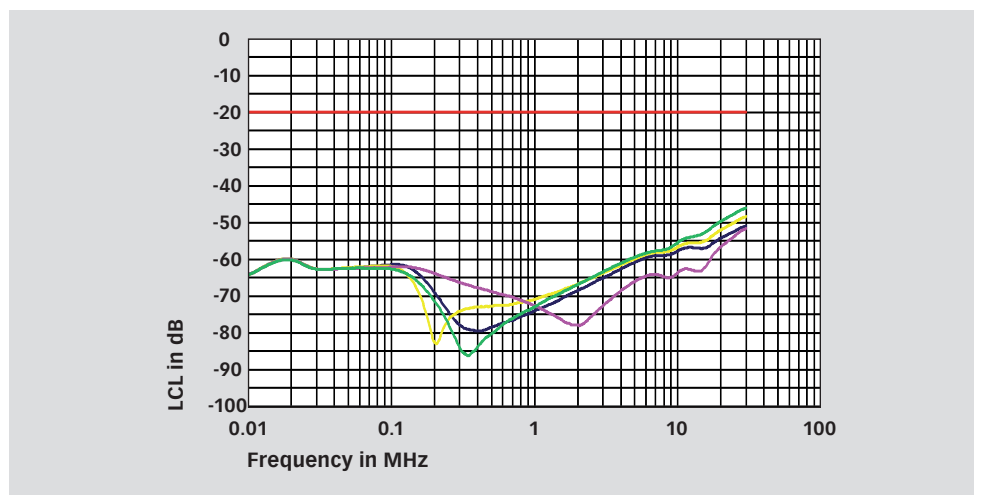
Typical insertion loss (differential-mode, EUT - AE)

— + Port, — - Port, — CM, — DM, — Limit



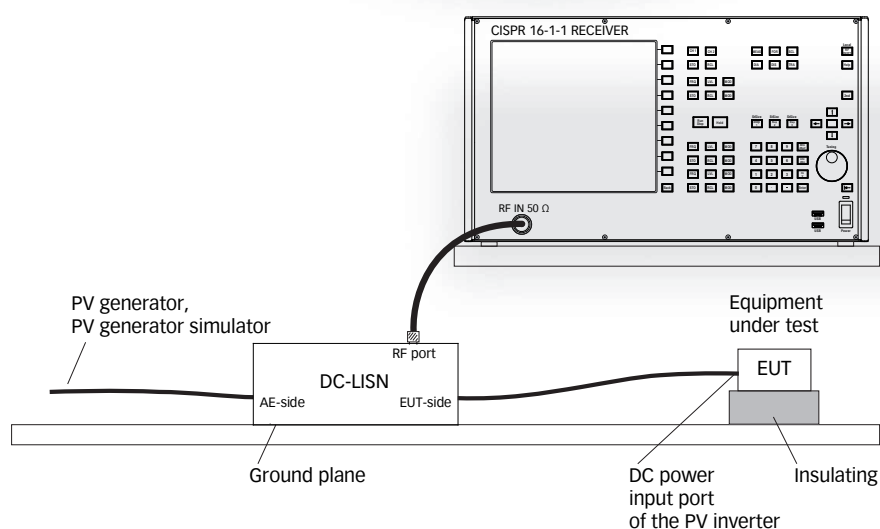
Typical longitudinal conversion loss (EUT)

— + Port, — - Port, — CM, — DM, — Limit



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Measuring setup



Mechanical specifications

Size (L x H x D):	470 mm x 160 mm x 160 mm
Weight:	approx. 10.5 kg

Environmental conditions

Classification:	Indoor use only
Operating temperature:	+5°C to +40°C
Relative humidity:	up to 80%

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Model No. and options

Part number	Description
243710	DC-LISN-M2-25-V2 Dual-Line-V-Y-Δ-LISN for GCPC , 25 A, 1 kV
97-243710	DC-LISN-TC Traceable calibration (ISO17025), order only with DC-LISN

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