



CAS CDND31 CALIBRATION SET FOR CDND M316-16



- Designed for IEC / EN 61000-4-31
- Designed for function tests, verification measurements and/or calibration on CDND M316-16
- Set includes adapters, baluns, LCL bridge and termination

IEC / EN 61000-4-31, with the title “Testing and measurement techniques–AC mains ports broadband conducted disturbance immunity test”, specifies the testing in the frequency range 150 kHz to 80 MHz. Teseq offers with the broadband immunity test system NSG 4031 and CDND M316-16, a specific coupling/decoupling network, and LE 4031 a complete solution for this standard requirement. The product CAS CDND31 is made for function tests, verification measurements and/or calibration on CDND M316-16. The following measurements can be performed:

- Common-mode (CM) impedance and phase angle
- Differential-mode (DM) impedance and phase angle
- Measuring of the differential mode insertion loss
- Common-mode isolation
- Differential-mode isolation measurement
- Longitudinal Conversion Loss (LCL)

Scope of delivery

Quantity	Item	Description
1	IMA 25R-open	Common-mode impedance measuring adapter 25 Ω for setting the delay time, N
1	IMA 25R	Common-mode impedance measuring adapter 25 Ω, N connector / 4 mm banana
1	A 50-BNC	Termination load 50 Ω for BNC
1	SAR MA21	Common-mode adapter, 2x 4 mm banana / 4 mm banana
1	IMA U100	Impedance measuring adapter, through, N connector / 4 mm banana
2	MB 100-20	Measuring balun for differential-mode measurements
2	Support for MB 100-20	Provides the setup position of the Measuring balun
1	Open 1mm	Adapter “open” for 1 mm
1	Short 1mm	Adapter “short” for 1 mm
1	Match 1mm	Adapter “match” for 1 mm
2	AD 1mm/4mm	Differential-mode impedance measuring adapter, 1 mm / 4 mm banana
1	Cable AD 1mm	Twisted pair cable, 10 cm, with banana plugs 1 mm
1	BMB 1000	Balanced measuring bridge (LCL bridge)
1	Support for BMB 1000	Provides the setup position of the LCL bridge
1	LCL 0 dB	Calibration load 0 dB (for calibration of the LCL bridge)
1	LCL 55 dB	Reference load 55 dB (for verification of the LCL bridge)
3	ADAPT N-J BNC-P	Adapter N connector jack / BNC connector plug
1	Storage box	Storage box

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Technical specifications of balun MB 100-20

Impedance:	50 Ω unbalanced : 100 Ω balanced
Frequency range:	100 kHz to 100 MHz
Insertion loss, typical:	0.4 dB @ 10 MHz (back to back); 0.2 dB for single unit)
Flatness, typical:	< 1 dB @ 100 kHz to 100 MHz
VSWR, typical:	50 Ω port < 1:1.25 @ 100 kHz to 30 MHz (100 MHz < 1:1.5) 100 Ω port < 1:1.25 @ 100 kHz to 100 MHz
LCL, typical:	100 Ω port >40 dB to 30 dB @ 100 kHz to 100 MHz
CMR, typical:	>75 dB to 25 dB @ 100 kHz to 100 MHz
Amplitude balance, typical:	< 0.1 dB @ 100 kHz to 30 MHz < 0.2 dB @ 30 MHz to 100 MHz
Phase balance, typical:	< 2° @ 100 kHz to 30 MHz < 4° @ 30 MHz to 100 MHz
Max. power:	20 W
Connector:	50 Ω port, BNC female 100 Ω port 1 mm female (2x 100 Ω port, 1x ground)

Mechanical specifications of balun MB 100-20

Size (W x H x D):	79 mm x 36 mm x 36 mm
Weight:	approx. 125 g

Technical specifications of LCL measuring bridge BMB 1000

Frequency range:	100 kHz to 100 MHz
Network analyzer ports	
Impedance:	50 Ω
Connectors:	BNC-type female
Balanced port	
Impedance:	100 Ω
Connectors:	1 mm banana female (a third socket used for ground)
Inherent balance:	as given in the diagram
Return loss (150 kHz to 30 MHz):	>20 dB

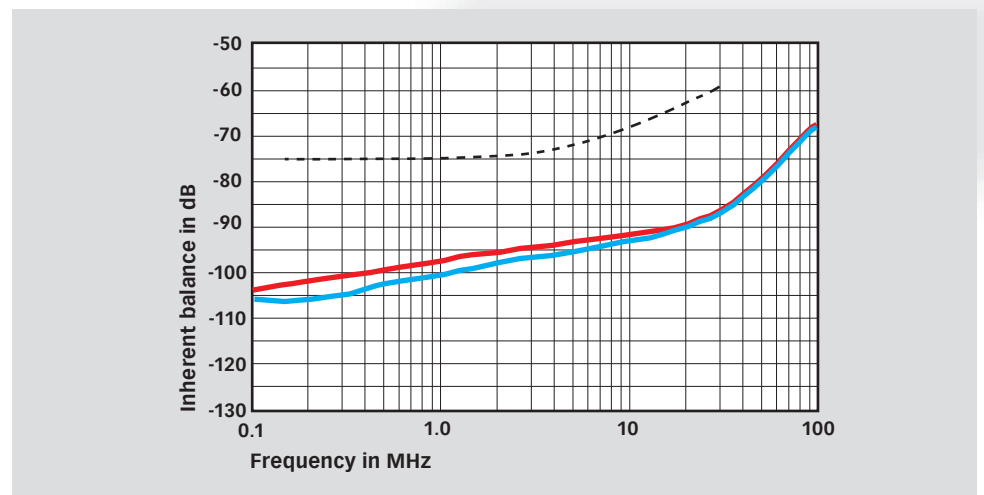
Mechanical specifications of LCL measuring bridge BMB 1000

Dimension (LxWxH):	87 mm x 29 mm x 27 mm
Weight:	approx. 95 g

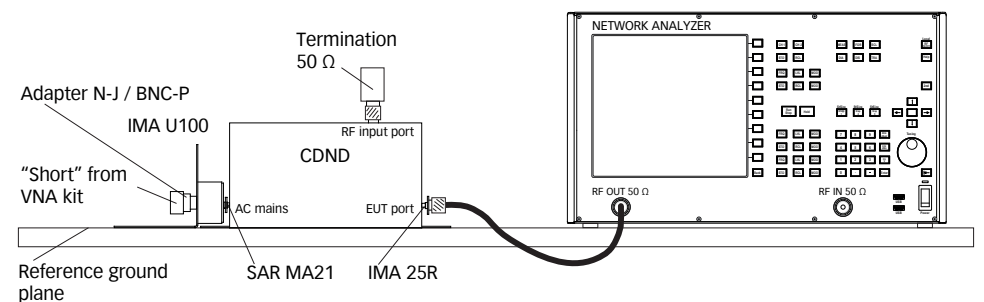
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Inherent balance of LCL measuring bridge BMB 1000

--- LCL requirements of CISPR 22 ed 6 / CISPR 32 for Cat.6, — typical value for BMB 1000 connected with 100 Ω termination, — typical value for BMB 1000 connected with PI circuit of CISPR 16-1-2 picture E.3a

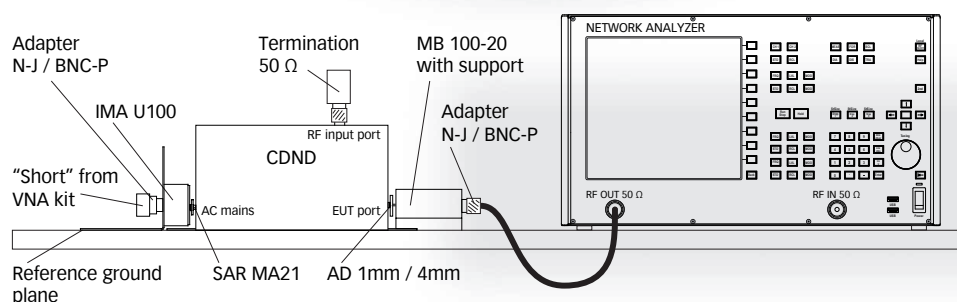


Example setup for CM impedance measurements with AC mains shorted

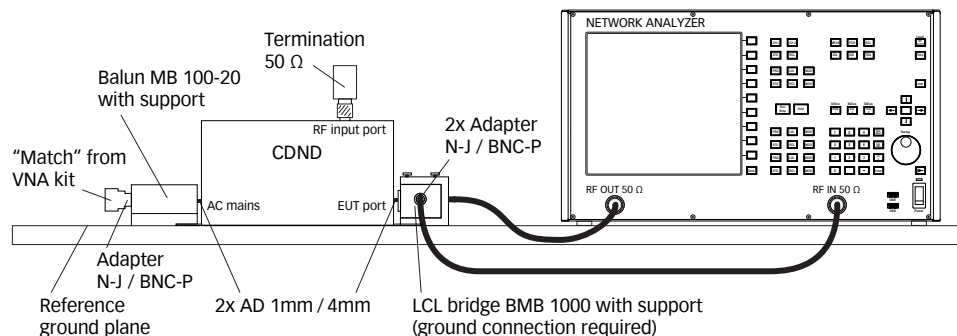


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Example setup for DM impedance measurements with AC mains shorted



Example setup for measuring the LCL



Mechanical specifications and environmental conditions

Size (W x H x D):	350 mm x 130 mm x 280 mm
Weight:	approx. 2 kg
Classification:	Indoor use only
Operating temperature:	+5 °C to +30 °C
Relative humidity:	up to 80 %

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Model No. and options

Part number	Description
257802	CAS CDND31 Calibration kit for CDND M316-16, incl. 2x MB 100-20 (Balun 50 Ω/100 Ω), BMB 1000 (Balanced Measuring Bridge) and adapters, delivered in storage case, traceable calibration included