FAST AND EASY MEASUREMENTS WITH THE BODE 100

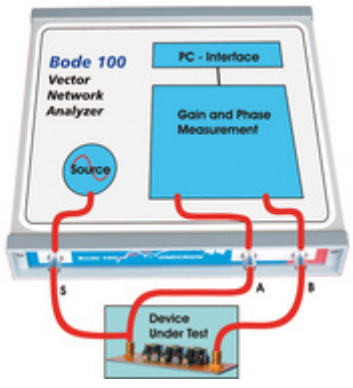
With the multifunctional **Bode 100** you get an exact picture of your electronic circuits and components in a frequency range from 1 Hz to 40 MHz. The **Bode 100** is not only a state of the art **Vector Network Analyzer**, it also works as

- Frequency Response Analyzer
- Impedance Meter
- Gain Phase Meter
- Sine Wave Generator

Accurate and compact with an unbeatable price-performance ratio, it is the best choice for industrial applications as well as research and educational labs.

Easily analyze:

- Complex gain
- Complex impedance and admittance
- Reflection coefficient and return loss
- Ultrasonic and piezo electric systems
- Stability of control circuits such as DC/DC converters in power supplies
- Swept S-parameters of electronic circuits
- Group delay characteristics of your DUT
- Frequency dependent impedance of high Q-circuits like oscillating crystals
- Influence of termination on amplifiers or filters
- Reflection and adaptation of antennas



The VNA **Bode 100** is the perfect tool for application fields like production, research and development, educational institutions as well as service and maintenance.

Find out more at **Application Notes & Know How**.

MEASURING TO GO

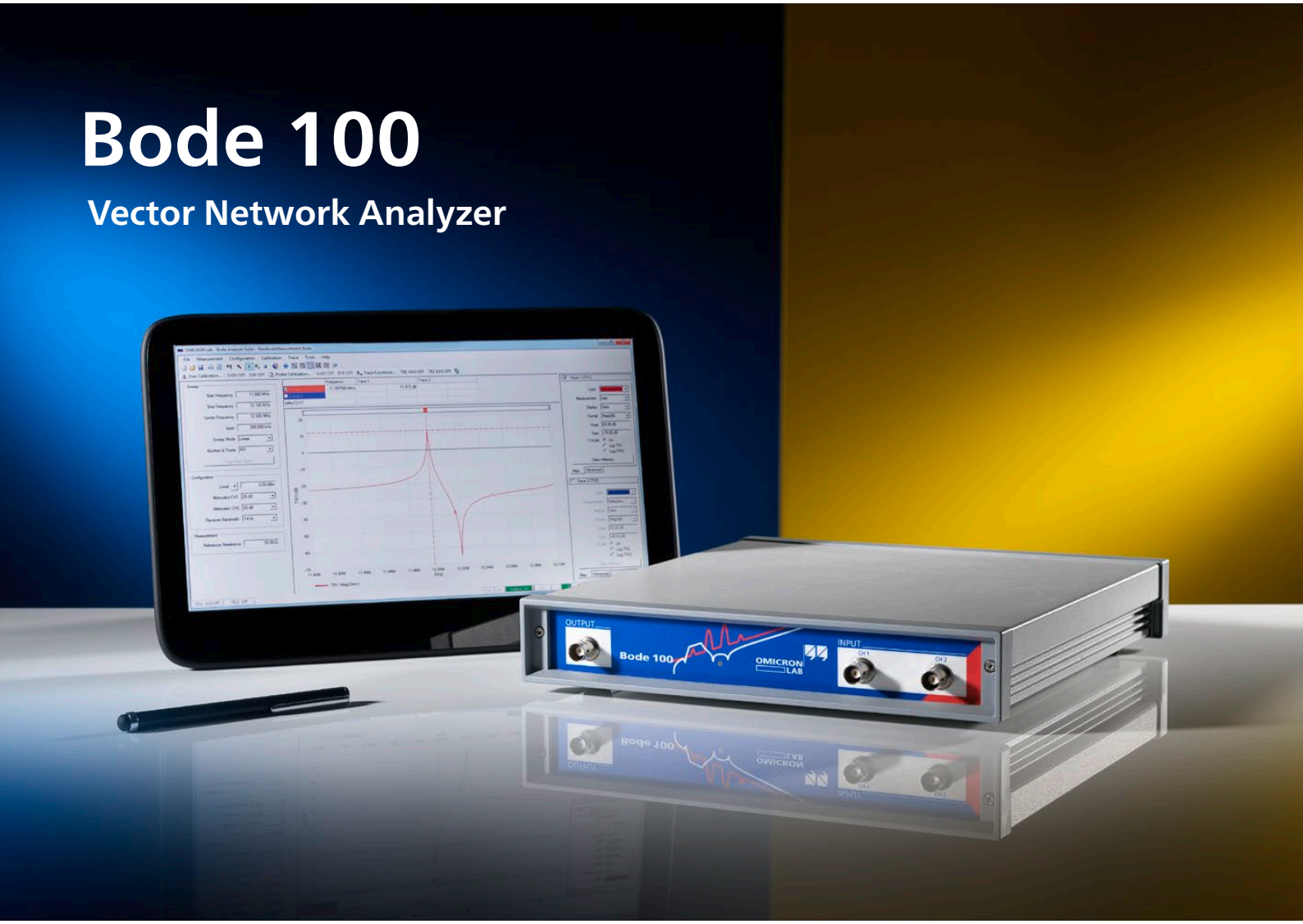
The lightweight and portable hardware design combined with the Bode Analyzer Suite for Windows guarantee a very easy and user friendly handling of the **Bode 100**. Moreover, an **OLE automation interface** allows integrating the **Bode 100** in any automated system.

The Bode 100 system includes

- Bode 100 User Manual (English)
- Wide range power supply (with international plug adapters)
- USB cable
- 4 x BNC cable 50 Ohm (m-m)
- 1 x BNC T adapter (f-f-f)
- 1 x BNC straight adapter (f-f)
- 1x BNC 50 Ohm load (m)
- 1 x BNC short circuit (m)
- Test objects: quartz filter and
- IF filter on a PCB

For more details, check out **Technical Data** and
Software & Automation or download our **Bode 100 brochure**.

Technical Data



Visit www.omicron-lab.com for more information.
Contact support@omicron-lab.com for technical support.

Technical data subject to change without notice.

1. Signal Source

Waveform	Sinusoidal signal
Frequency range	1 Hz to 40 MHz
Signal level	-27 dBm to 13 dBm 0.01 V_{RMS} to 1 V_{RMS} (at 50 Ω load)
Accuracy of the source level (23°C ± 5°C)	± 0.3 dB (1 Hz to 1 MHz) ± 0.6 dB (1 MHz to 40 MHz)
Frequency response of the source level (1Hz to 40MHz)	± 0.3 dB (referred to 100 kHz)
Frequency accuracy (23°C ± 5°C)	± 15 ppm (< 1 year after calibration) ± 25 ppm (< 3 years after calibration)
Source impedance:	50 Ω
Return loss (1Hz to 40MHz)	> 28 dB (VSWR < 1.09)
Spurious signals	< -55 dBc (typical)
Harmonics	< -55 dBc (typical)
Connector	BNC

2. Inputs: CH1, CH2

Input impedance (high)	1 MΩ ± 2% (by design) 40 to 55 pF
Input impedance (low)	50 Ω
Return loss for low input impedance (1Hz to 40MHz)	> 25 dB (VSWR < 1.12)
Receiver bandwidth	1 Hz, 3 Hz, 10 Hz, 30 Hz, 100 Hz, 300 Hz, 1 kHz, 3 kHz
Noise floor (gain measurement) Conditions: Receiver bandwidth = 10 Hz, select internal reference, P_{SOURCE} = 13 dBm, 50 Ω load at CH2, 20 dB attenuators for CH1 and CH2	1 Hz to 5 kHz: -100 dB (typical) 5 kHz to 50 kHz: -110 dB (typical) 50 kHz to 20 MHz: -115 dB (typical) 20 MHz to 40 MHz: -110 dB (typical)
Input attenuator	0 dB, 10 dB, 20 dB, 30 dB, 40 dB
Input sensitivity	100 mV_{RMS} full scale (for 0 dB input attenuator)
Dynamic range	> 100 dB (at 10 Hz receiver bandwidth)
Gain error	< 0.1 dB (calibrated)
Phase error	< 0.5° (calibrated)
Connectors	BNC

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3. USB Interface

Connector	Type B

4. PC Requirements

Minimum configuration	Pentium 1 GHz, 512 MB RAM, CD-ROM drive
Recommended configuration	Pentium 2.5 GHz, 1 GB RAM, CD-ROM drive
Interface	USB 1.1 or 2.0
Supported operating systems	Windows XP SP3 (32 bit) Windows Vista (32 bit) Windows Vista (64 bit) Windows 7 (32 bit) Windows 7 (64 bit) Windows 8 (32 bit) Windows 8 (64 bit)

5. Power Requirements

AC power adapter

Input voltage/frequency	100…240 V / 47…63 Hz

DC power supply

Input voltage/output power	+10… 24 V / 10 W
Supply current	at 12 V: 450 mA (typical) at 18 V: 300 mA (typical) at 24 V: 230 mA (typical)
Low supply voltage shut-down	8.25 V (typical)
Inrush current for a low impedance source at 12V	15 A for 300 µs (typical)
Inrush current for a low impedance source at 24V	30 A for 300 µs (typical)
Inner connector	+10…24 V
Outer connector	Ground
Inner diameter	2.5 mm
Outer diameter	5.0 mm

Technical data subject to change without notice.

6. Environmental Requirements

Temperature	Storage Operating For specifications	–35…+60 °C / –31…+140 °F +5…+40 °C / +41…+104 °F 23 °C ± 5 °C / 73 °F ± 18 °F
Relative humidity	Storage Operating	20…90 %, non-condensing 20…80 %, non-condensing

7. General

Dimensions (w × h × d)	26 x 5 x 26.5 cm 10.25 x 2 x 10.5 inch
Weight - Bode 100	< 2 kg/4.4 lb
Weight - Accessories	< 0.5 kg/1.1 lb

8. Absolute Maximum Ratings

DC supply voltage	+28 V
DC supply reverse voltage (device doesn't work)	-28 V
Maximum AC input signals at CH1 or CH2 (high impedance)	50 V_{RMS} up to 1 MHz 30 V_{RMS} 1 MHz to 2 MHz 15 V_{RMS} 2 MHz to 5 MHz 10 V_{RMS} 5 MHz to 10 MHz 7 V_{RMS} 10 MHz to 40 MHz
Maximum DC input signal at CH1 or CH2 (high impedance)	50 V
Maximum input power at CH1 or CH2 (low impedance)	1 W (= 7 V_{RMS})
Maximum possible return power at the source connector	0.5 W

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