

# Technical Data Sheet

## Bode 100 Revision 2

### Vector Network Analyzer



**dataTec**

Ihr Ansprechpartner /  
Your Partner:

**dataTec AG**

E-Mail: [info@datatec.eu](mailto:info@datatec.eu)

[datatec.eu](http://datatec.eu)

Mess- und Prüftechnik. Die Experten.

V 1.6

© 2017...2026 by OMICRON Lab

Visit [www.omicron-lab.com](http://www.omicron-lab.com) for more information.

Contact [support@omicron-lab.com](mailto:support@omicron-lab.com) for technical support.

Technical data subject to change without notice.



## 1. Signal Source (OUTPUT)

|                                            |                                                                                           |
|--------------------------------------------|-------------------------------------------------------------------------------------------|
| Waveform                                   | Sinusoidal                                                                                |
| Frequency range                            | 1 Hz to 50 MHz                                                                            |
| Signal level range                         | -30 dBm to 13 dBm<br>14 mVrms to 2 Vrms (no load)<br>7 mVrms to 1 Vrms (50 $\Omega$ load) |
| Source level accuracy                      | $\pm 0.3$ dB (1 Hz to 1 MHz)<br>$\pm 0.6$ dB (1 MHz to 50 MHz)                            |
| Source level frequency response (flatness) | $\pm 0.3$ dB (typical, referring to 10 MHz)                                               |
| Frequency accuracy after adjustment        | $\pm 2$ ppm $\pm 0.5 \cdot$ step size                                                     |
| Frequency step size / resolution           | 6.05 mHz (1 Hz to 100 Hz)<br>36.32 mHz (100 Hz to 50 MHz)                                 |
| Frequency stability                        | $\pm 2$ ppm (< 1 year after adjustment)<br>$\pm 4$ ppm (< 3 years after adjustment)       |
| Source impedance                           | 50 $\Omega$                                                                               |
| Return loss                                | > 30 dB, > 35 dB typical                                                                  |
| Spurious signals & harmonics               | < - 25 dBc at full output power (typical)                                                 |
| Maximum reverse signal / power             | 0.5 W = 5 Vrms ( $\leq 3.3$ Vdc recommended)                                              |
| Connector type                             | BNC                                                                                       |

## 2. Inputs (CH1, CH2)

|                                                   |                                                                                                                                                                                      |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency range                                   | 1 Hz to 50 MHz                                                                                                                                                                       |
| Input impedance (software switchable)             | High: 1 M $\Omega$ (ac-coupled)<br>Low: 50 $\Omega$ (dc-coupled)                                                                                                                     |
| 1 M $\Omega$ input impedance                      | 1 M $\Omega$ $\pm$ 0.5 % (ac-coupled)                                                                                                                                                |
| Input capacitance                                 | 40...55 pF                                                                                                                                                                           |
| 50 $\Omega$ input impedance return loss           | > 28 dB, > 35 dB typical (dc to 50 MHz)                                                                                                                                              |
| Receiver bandwidth (RBW) software selectable      | 1 Hz, 3 Hz, 10 Hz, 30 Hz, 100 Hz, 300 Hz,<br>1 kHz, 3 kHz, 5 kHz                                                                                                                     |
| Input attenuators (software selectable)           | 0 dB, 10 dB, 20 dB, 30 dB, 40 dB                                                                                                                                                     |
| Full-scale ac input signal                        | 100 mVrms @ 0 dB input attenuator<br>316 mVrms @ 10 dB input attenuator<br>1 Vrms @ 20 dB input attenuator<br>3.16 Vrms @ 30 dB input attenuator<br>10 Vrms @ 40 dB input attenuator |
| Input channel sensitivity (typical)               | < 1 $\mu$ Vrms (@ 0 dB attenuator, 10 Hz RBW)                                                                                                                                        |
| Maximum dc voltage (1 M $\Omega$ input impedance) | 50 V                                                                                                                                                                                 |
| Maximum dc voltage (50 $\Omega$ input impedance)  | 7 V                                                                                                                                                                                  |
| Input channel dynamic range (typical)             | > 100 dB (@ 10 Hz RBW)                                                                                                                                                               |
| Connector type                                    | BNC                                                                                                                                                                                  |

### 3. General

|                                                                                                    |                                                                                                                    |
|----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Noise floor (S21 measurement)<br>RBW = 10 Hz, P <sub>SOURCE</sub> = 16 dBm<br>Attenuator CH2: 0 dB | 1 Hz to 10 kHz: - 115 dB (typical)<br>10 kHz to 10 MHz: - 125 dB (typical)<br>10 MHz to 50 MHz: - 105 dB (typical) |
| Gain error (User-Range calibrated)                                                                 | < 0.1 dB                                                                                                           |
| Phase error (User-Range calibrated)                                                                | < 0.5°                                                                                                             |
| Warm-up time (3τ)                                                                                  | 62 min*                                                                                                            |
| USB connector                                                                                      | Type B                                                                                                             |

\*...specifications are valid after device has warmed up and reached a stable temperature

|                                     |                                          |
|-------------------------------------|------------------------------------------|
| Dimensions (width × height × depth) | 26 x 5 x 27 cm<br>10.25 x 2 x 10.65 inch |
| Weight                              | 1.9 kg / 4.2 lb                          |

### 4. Environmental

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

## 5. PC Requirements for Bode Analyzer Suite 3.52

|                     |                                                         |
|---------------------|---------------------------------------------------------|
| Processor           | Intel Core-i Dual-Core (or similar)                     |
| Memory (RAM)        | 2 GB, 4 GB recommended                                  |
| Graphics resolution | Super VGA (1024 x 768)<br>higher resolution recommended |
| Graphics card       | DirectX 11 with Direct2D support                        |
| USB interface       | USB 2.0 or higher                                       |
| Operating system    | Windows 11                                              |

## 6. Power Requirements

### Wide-range mains power adapter

|                                          |                                    |
|------------------------------------------|------------------------------------|
| Line input voltage / frequency / current | 100...240 V / 47...63 Hz / < 0.5 A |
| Output voltage / current / power         | 18 Vdc / 1 A / 18 W                |

### Bode 100

|                             |                                                                              |
|-----------------------------|------------------------------------------------------------------------------|
| Power demand                | < 10 W                                                                       |
| Supply voltage range        | + 9 Vdc to +24 Vdc                                                           |
| Coaxial power socket        | Inner diameter 2.5 mm<br>Outer diameter 5.5 mm<br>Inner conductor...positive |
| Low supply voltage shutdown | 8.25 Vdc (typical)                                                           |

## 7. Absolute Maximum Ratings (device will be destroyed)

|                                                                          |                                                                                                                                           |
|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum supply voltage                                                   | +28 Vdc                                                                                                                                   |
| Maximum supply reverse voltage                                           | -28 Vdc                                                                                                                                   |
| Maximum input signal at CH1 or CH2<br>(low impedance, 50 $\Omega$ )      | 1 W (= 7 Vrms)                                                                                                                            |
| Maximum ac input signal at CH1 or CH2<br>(high impedance, 1 M $\Omega$ ) | 50 Vrms (1 Hz to 1 MHz)<br>30 Vrms (1 MHz to 2 MHz)<br>15 Vrms (2 MHz to 5 MHz)<br>10 Vrms (5 MHz to 10 MHz)<br>7 Vrms (10 MHz to 40 MHz) |
| Maximum dc input signal at CH1 or CH2<br>(high impedance, 1 M $\Omega$ ) | - 50 V...+ 50 V                                                                                                                           |
| Maximum return power at the OUTPUT<br>connector                          | 0.5 W (= 5 Vrms)                                                                                                                          |



Mess- und Prüftechnik. Die Experten.

**Ihr Ansprechpartner /  
Your Partner:**

**dataTec AG**  
E-Mail: [info@datatec.eu](mailto:info@datatec.eu)  
[datatec.eu](http://datatec.eu)

V 1.6

© 2017...2026 by OMICRON Lab

Visit [www.omicron-lab.com](http://www.omicron-lab.com) for more information.

Contact [support@omicron-lab.com](mailto:support@omicron-lab.com) for technical support.

Technical data subject to change without notice.