DC Bias Current Sources

3265B 1 MHz 3265BQ 3 MHz

Auxiliary Units for 3255B and 3260B series Analyzers

- Enhances usability of Wayne Kerr Analyzers
  - 3255B Inductance Analyzers series
  - 3260B Precision Magnetics Analyzer
- A single DC Bias Unit can deliver between 25 mA and 25 A DC bias current in 25 mA steps
- Available in 1 MHz and 3 MHz versions
- 250 A at 1 MHz measurement frequency
- 50 A at 3 MHz measurement frequency
- DC Bias Fixtures available which allow accurate and safe testing of conventionally leaded and surface mount inductors
- Adds additional functionality
- Up to 10 V Compliance Voltage across the Device Under Test

Component tests to 250 A DC bias

To evaluate components at currents up to 250 A the 3265B DC Bias Units are used with either the Wayne Kerr 3255B series of Inductance Analyzers or the 3260B Precision Magnetics Analyzer. When one 3265B DC Bias Unit is connected to an analyzer up to 25 A of DC bias current can be set in steps of 25 mA. Additional DC Bias Units can be added. With ten units connected in parallel it is possible to set DC bias currents up to a maximum of 250 A DC.

The instruments have a number of safety and protection features including a safety interlock system to protect the user against back EMFs. They are also fully protected against over temperature, excess voltage drop and sense lead failure.

3265B with 3260B analyzer

Test Fixtures

Details of the Wayne Kerr DC Bias Test Fixtures may be found at www.waynekerrtest.com. Stable component fixtures ensure high accuracy and repeatable measurements. Enclosed fixtures with safety interlocks minimise any risk to operators.
The 1036 Fixture is rated at 250 A and is suitable for conventional components. The 10362 Fixture is suitable for bottom contact surface mount inductors.

Wayne Kerr Electronics

Technical specifications

Compliance Voltage

Maximum compliance voltage:
Measurement frequency ≤ 12 kHz
AC Drive Level must be ≤ 100 mV rms when DC voltage across DUT is 10 V max
Measurement frequency > 12 kHz
AC Drive Level must be ≤ 1 V rms when DC voltage across DUT is 10 V max

Parameters measured

In Impedance Mode: L, Q, Z, θ, R, C, D.
Not applicable to Rdc or transformer measurements

3265B Measurement Frequency Range

3255BL: 20 Hz to 200 kHz
3255B: 20 Hz to 500 kHz
3255BQ: 20 Hz to 1 MHz
3260B: 20 Hz to 1 MHz

3265BQ Measurement Frequency Range

3260B: 20 Hz to 3 MHz

Basic Accuracy

±1%. Varies with measurement speed, frequency and impedance

Measurement Terminals

2-terminal measurements using M8 studs
4-terminal measurements using Kelvin Clips connected to analyzer and heavy current cables from M8 studs
Measurement terminals internally protected by 1.6 A fuses against inductor back-EMF or accidental disconnection of inductor.

Control Connections

9-way cable between rear panels of analyzer and 3265 unit controls the application of DC Bias Current and monitors the status of the instruments. Status data includes excessive voltage drop and over-temperature.

3265 Units in Parallel

Ten 3265B units may be connected in parallel to give 250 A DC bias current with measurements up to 1 MHz.
Two 3265BQ units may be connected in parallel to give 50 A DC bias current with measurements up to 3 MHz.

Interlock

Bias Safety Interlock socket on rear panel of analyzer provides door lock and closed control lines.

Environmental conditions

This equipment is intended for indoor use only in a non-explosive and non-corrosive atmosphere

Temperature range

Storage -40 °C to 70 °C
Operating 0 °C to 40 °C (20 A maximum)
Full Accuracy 15 °C to 30 °C (25 A maximum)

Relative humidity

Up to 80% non-condensing

Altitude

Up to 2000 m

Installation category

II in accordance with IEC664

Safety

Complies with the requirements of EN61010-1

EMC

Complies with EN61326 for emissions and immunity

AC Input Power

Input voltage: 90 to 255 VAC
Input frequency: 47 to 63 Hz
Input current: 9 A rms maximum
Power factor: >0.9
Unit powers up automatically when connected to a powered analyzer. Isolating switch provided.

Dimensions

Height 190 mm (7½″) Depth 525 mm (20½″)
Width 440 mm (17⅜″) Weight 14.5 kg (32 lb)

Cooling

Fan cooled. Intake front, exhaust rear. Fan filter accessible on front panel. Over temperature trip.

Order codes

Description	Order code
3265B 1 MHz 25 A DC Bias Unit	**1J3265B**
3265BQ 3 MHz 25 A DC Bias Unit	**1J3265BQ**
All units supplied with:- User manual 4 x BNC to BNC link cables 9-way control cable	 AC power cable Spare fuses

Accessories

Description	Order code
Kelvin Clips (Fine Jaw)	1EVA40100
Kelvin Clips (Large Jaw)	1EVA40180
High Current Bus Bar Set	4-324-6009-PAIR
250 A Fixture (Conventional)	1J1036
250 A Fixture (Surface Mount)	1J10362
250 A Fixture (Conventional)	1J1015
250 A Fixture (Surface Mount)	1J1016