

DC Bias Current Test System

6355/6356+6243

6355/6356+6223

Features

- Frequency response 100Hz-500kHz (Option 6356)
- DC Bias Current Max.320A (Option 6243)
- DCR Measurement function
- Long-term consecutive maximum power output
- Provide an inductance verification magnetic saturation current test.
- Support meter mode and list mode



CE RS-232 Handler

Applications

Components: High current power inductor, common mode choke, mini molding choke, high power components of EV charging connector

Electric Vehicles: Electric supercharger system

Accessories / Fixtures

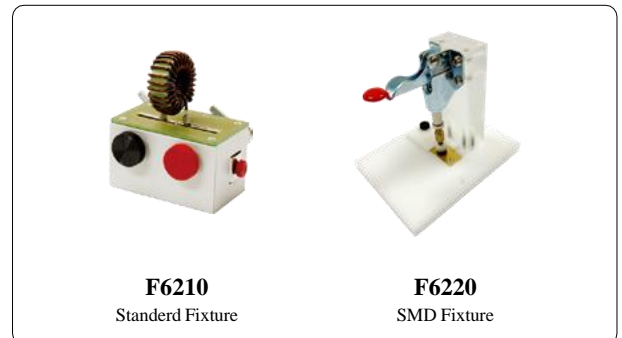
Standard

- Power Cord
- Ethernet cable
- F6210 DIP (6243/ 6223)
- Black/Red thermoplastic sleeve

Optional

- PC Link software
- F6220 SMD
- F6240 SMD
- 6223 connect plate (short/long)
- 6243 connect plate (short/long)
- BNC+BNC cable

DC Bias Fixture



Standard fixture F6210 for measuring inductance, optional fixture F6220/ F6240 for measuring SMD inductance.

Key Features



In order to ensure that magnetic components operate within a safe range during practical operation and to avoid magnetic saturation, which can have adverse effects on component performance and circuitry, inductor manufacturers generally set the magnetic saturation current value within a range of 20% to 30% decrease in inductance.

This ensures the use of magnetic components within their normal operating range while avoiding excessive magnetic saturation that could lead to performance degradation or component damage.

Key Features

A DC bias current test is conducted to verify the saturation characteristics of magnetic materials in components like inductors or choke coils. This test involves applying a DC current to the component while measuring its inductance. By gradually increasing the DC bias current, the point of significant decrease or saturation in inductance is identified. This helps confirm the saturation behavior of the magnetic material used in the component.



DC Bias Current Max.320A

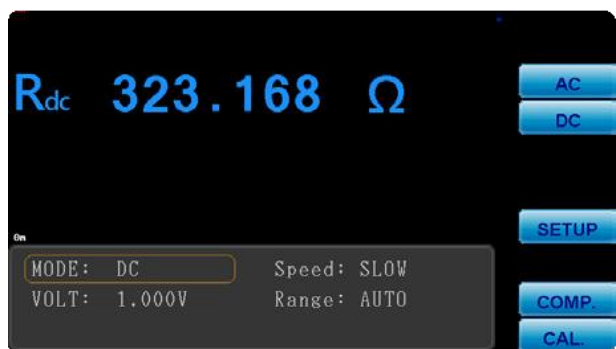
By using the system, important parameters of the inductor can be measured: Ls (inductance) and Q (quality factor).

When a 30mA DC bias current is applied, the inductance value decreases from 11uH to 8uH.



List Mode-up to 8 steps

In multi-step mode, the instrument allows you to set measurement conditions and parameters all at once, displaying multiple sets of measurement results simultaneously.



DCR measurement functionality is supported

DC resistance (DCR) is an important parameter for magnetic components like inductors. It indicates the resistance the inductor offers to direct current flow. DCR is primarily influenced by the conductor material and coil structure of the inductor. Measuring DCR provides valuable information about energy consumption, power loss, circuit efficiency, and power dissipation in a DC circuit. It helps assess the inductor's response to changes in DC current and contributes to evaluating circuit stability.

Specifications

DC Bias	6223		6243	
LCR+DC Bias Frequency	100Hz~200kHz (6355)	100Hz~500kHz (6356)	100Hz~200kHz (6355)	100Hz~500kHz (6356)
DC Bias Current Max	120A		320A	
Output Current	20A		40A	
Accuracy	0.000A-1.000A 1%+5mA 1.001A-5.000A 2% 5.001A-20.000A 3%			
Power Consumption	320W Max.		640W Max.	
Constant Power Output	●		●	
DC Resistance	●		●	
Current Switch	●		●	
LCR Meter / Impedance Analyzer	6355		6356	
Frequency	10Hz~200kHz		10Hz~500kHz	
Frequency Resolution	5 digits of setting			
Frequency Output Accuracy	±0.01%			
Basic Accuracy	±0.05%			
AC Drive Level	10mV~2Vrms (1m Vrms Resolution)			
DC Drive Level	10mV~2V (1mV Resolution)			
Output Impedance	100Ω (fixed)			
Measurement Parameters and Ranges	Z , R, X		0.001mΩ~999.99GΩ	
	Y , G, B		0.1nS~99.999S	
	Cs Cp		0.01pF~9.9999F	
	Ls Lp		0.1nH~99.999kH	
	D		0.00001~9.9999	
	Q		0.1~9999.9	
	DCR		0.001mΩ~99.999MΩ	
	θ		-180° ~+180°	
AC/DC Test Time	5mS			

General

Trigger Test	Auto, Manual, RS-232, GPIB, Handler, LAN
Built-in Storage	128 sets
Interface	RS-232, GPIB, Handler, LAN, USB
Power Supply	Voltage 88~132Vac or 195~264Vac (switchable) Frequency 47~63Hz
Power Consumption	300VA (6223), 600VA (6243)
Display	7.0"TFT, 800*480 color screen
Environment	Temperature 10~40°C, Humidity 20~90%RH
Dimension (W*H*D)	358x148x343 mm(6355/ 6356), 337x145x525mm(6223), 435x145x644mm(6243)
Weight	3Kg(6355/6356), 15Kg (6223), 20Kg (6243)

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