



Baker D15R, D65R

The effective solution for motor and winding testing



The D15R, D65R brings you the latest innovations in the testing of electrical insulation systems. These testers feature the proven accuracy and reliability of over 40 years of experience.

Specifically designed for shop or field performance, these digital instruments provides a cost effective solution for motor testing. The D15R and D65R represents Baker Instrument Company's on-going commitment to quality in the design of high performance test equipment.

The D15R and D65R were designed to diagnose faults in large electrical windings with lower impedance and higher capacitance. With the D15R, D65R winding tester, you can perform Resistance, High Potential and Surge tests, as well as digitize and store data for future use.

The Resistance test verifies the existence of dead shorts within the turn-to-turn coils, shows any imbalances between phases due to turn count differences and locates poor wire connections or contacts.

DC High Potential testing detects faults in groundwall/earth ground and also provides a complete Polarization Index test. The groundwall/earth insulation system consists of the wires insulation, slot liner insulation, wedges, varnish and sometimes phase paper.

Surge testing detects faults in both inter-turn winding and phase-to-phase insulation

systems. Using advanced analog to digital conversion hardware, the tester captures the surge waveform, remembers it, displays it indefinitely and sends it to a printer. This surge waveform storage capability can be applied to other motors besides simple induction motors. The tester can be used to test all rotating fields of a synchronous motor by storing the waveform from a surge test on one coil, comparing that waveform to one from every other coil.

Test results from up to 10 motors can be stored, retrieved, printed and upload to desktop MTA software for further analysis. Each of these 10 motor records has its own memory location and can store up to three surge wave patterns plus DC high potential





test voltage and current. The D15R/65R can collect field data, then transfer it to a computer running MTA for Windows (Motor Test Acquisition) software for further analysis. MTA provides database capabilities, waveform comparison, report generation, print-outs among other functions.

The D65R has additional functionality for testing of armatures. The lower impedance of series wound armatures (traction motors, transit and lift truck armatures) make accurate surge testing difficult. To achieve sufficient voltage differences between adjacent bars, standard surge testers use

excessive voltage which may harm windings.

The D65R allows for safe testing of these coils using higher current. When testing these coils, a specific voltage is applied on adjacent commutator bars, reducing the need for excessively high voltage. Inter-bar voltages can be varied from 50 to 900 V on large, cross connected equalized armatures. This bar-to-bar testing is the preferred method of testing DC armatures used by manufacturers and rebuilders.

Additional features

- QRR reliability high voltage design
- Zero start interlock for tester high voltage output
- Bright, sharp 5 inch display
- Leads energized safety warning indicator
- High potential over-current safety warning indicator
- Input source open ground operator safety disable and warning indicator
- Test lead insulated to 40 kV rating
- Dedicated test leads for resistance testing
- Armature bar-to-bar test and fixture (D65R only)
- Printer and PC interface

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	D15R	D65R
Surge test		
Maximum output voltage	15,000 V	15,000V
Maximum output current	800 A peak	800 A peak
Maximum pulse energy	11.3 J	11.3 J
Minimum test inductance	25 µH	25 µH
Discharge capacitance	0.1 µF	0.1 µF
DC high potential test		
Maximum output voltage	15,000 V	15,000V
Maximum output current	1,000 mA	1,000 mA
Overcurrent trip	1/10/100/1,000 mA	1/10/100/1,000 mA
Current resolution (per division)	0.1/1/10/100 mA	0.01/1/10/100 mA
Resistance Test	0.0008 to 216 Ω	0.0008 to 216 Ω
Bar-to-Bar Test (D65R only)		
Maximum voltage		1,900 V (no load)
Maximum current		5,000 A
Maximum stored energy		11.3 J
Maximum test inductance		20 µH
Minimum test inductance		0.1 µH
Physical characteristics		
Weight	52 lbs	59 lbs
Dimensions	22x9x24 in.	22x9x24 in.
Power requirements (both units)	110/220 V single phase 1,000 W, 50/60 Hz	
Option		
FS-12 Footswitch for push to test hands free operation.		
Motor Test Management Analysis software (MTA)		
Compatible printer		

