

TDR9100



TOGETHER WE POWER THE WORLD®

CIRCUIT BREAKER TEST SYSTEM

The TDR9100 is the essential test set for your circuit breaker testing - providing Main Contact timing, Motion, Resistance and Capacitance measurements with the flexibility to double or triple your useable channels.

The TDR9100 is a state-of-the-art Circuit Breaker Test System engineered to test all types of circuit breakers with efficient and accurate performance measurements. Use this inclusive, rugged and field-portable instrument for simple and complex testing of circuit breakers.

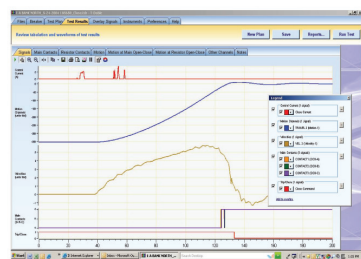
TDR9100 Benefits:

- Test set features up to 4 breaks per phase, 3 motion channels and 6 event channels
- Testing Flexibility - The test set can be ganged as a set of 2 or 3 units effectively doubling or tripling your usable channels and main contacts for up to 12 breaks per phase.
- Supports 20kHz sampling rate and expanded analog measurement ranges
- Rugged and Reliable - The TDR9100 is a single box solution, providing the accuracy of a laboratory instrument with durability for field use.
- Complete Test Reports - provided in MS Excel™ format
- User-friendly software interface - The new T-Doble Software features an intuitive control panel for quick, efficient and simple testing of circuit breakers.
- High Accuracy Motion Recording - A patented digital rotary and linear transducer provide early diagnosis of mechanical problems.
- Includes Pre-insertion resistor and Capacitance measurement capability
- Detects main contact and resistor contact timing errors
- Supports Doble Current Probe and other analog transducers
- Immune to Interference - The accuracy of test results is unaffected by the severe conditions of electrostatic and electromagnetic interference that are normally present in harsh substation environments.
- Controlled by user supplied PC

TDR9100 Features:

TDR9100 controls circuit breaker trip and close commands and supports the following operations:

- Trip (O)
- Close (C)
- Reclose (O-0.3s-C)
- Tripfree (CO)
- O-CO
- O-0.3s-CO
- First Trip (O)
- Slow Close (C)



The TDR9100 comes with T-Doble Software for improved data management capability.

- Intuitive and clear: easy-to-use test plans and test results
- Data can be plotted, overlaid, analyzed and printed
- Will import all TRX and T-Doble test result data and test plans



TDR9100 Optional Accessories:

- O.C.B. & EHV Contact Cable Sets
- Analog/Auxiliary Cable Kit - T9940
- Double Current Probe (20 A / 200 A Ranges)
- 10' or 60' Instrument Ganging Cable
- Full line of Motion Transducers & Adapters
- Mechanical Adapter Clamp Set
- External USB Printer – Model P1
- Safety Switch Bypass Flag

TDR9100 Technical Specifications:

Main/Resistor Contact Timing

OCB Configuration:	3 Contacts
EHV Configuration:	12 Contacts - up to 36 with ganged units
Resolution:	50 μ s / at max sample rate
Maximum Sample Rate	20 kHz
Resistor Detection Range:	10 Ω to 10 k Ω
Resistor (Insertion) Value Range:	10 to 7000 Ω
Measurement Accuracy:	
Resistor Value:	\pm 10%
Capacitor Value:	\pm 10%
Capacitance Detection Range:	75 to 10,000 pF
Voltage Isolation to Chassis:	1.0 kV
Trip/Close Initiation Control	
Maximum Input Current:	\pm 100 A
Maximum Input Voltage:	\pm 300 V
Voltage Isolation to Chassis:	1.0 kV

Motion Channels

Number of Channels:	3 - up to 9 with ganged units
Connector:	15-pin "D"
Voltage Isolation to Chassis:	1.0 kV

Event Channels

Dual function, Analog or Auxiliary, user programmable	
Number of Channels:	6 - up to 18 with ganged units

Analog Measurement Channels

Maximum Input Voltage:	\pm 300 V
Input Impedance:	1 M Ω
Resolution:	12 Bit
Number of Ranges:	Ten - 0.2 to 300 V
Analog Accuracy:	\pm 1% of reading, \pm 1.5% full scale offset
Voltage Isolation to Chassis:	1.0 kV

Auxiliary Contact Channels

Sense Mode:	Voltage Sense/Contact Sense
Maximum Input Voltage:	\pm 300 V
Open Circuit Voltage:	30 V \pm 10%
Close Circuit Current:	28 mA \pm 10%
Voltage Isolation to Chassis:	1.0 kV

Digital Linear/Rotary Motion Transducer

	<u>Linear</u>	<u>Rotary</u>
Range:	0.0 to 40.0" 0.0 to 1000.0 mm	0.0 to 2880.0°
Accuracy:	+/- 0.1% of the value +/- 0.1" max error	+/- 0.1% of the value +/- 0.1° max error
Measurement Resolution:	0.00125" 0.03 mm	0.09°
Velocity:	50 ft/s 15 m/s	120 rev/s max
Acceleration:	1200 g for 50 μ s max	30x10 ⁶ /s ² max

General

Recordings:	25 seconds (all channels at max resolution) Up to 87 minutes (reduced resolution)
Communication:	USB or Ethernet
Safety:	Safety Ground Remote Safety Switch Audible Indication (test in progress)
Pending Certifications:	CE, C-Tick, CSA Compliant

Physical Specifications:

Dimensions:	24.0 X 15.5 X 8.5 in, 60.9 X 39.4 X 21.6 cm
Weight:	24 lbs / 11 kg
Power Supply:	100 – 240 V, 50/60 Hz
Temperature:	0° to 50° C operating, -25° to + 70° C storage
Humidity:	Up to 95% relative humidity non-condensing

*Specifications are subject to change without notice
For more information, email TDRinfo@doble.com.*

Doble is ISO Certified
Doble is an ESCO Technologies Company

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