

# TDR900

PERFORMS TIMING  
FUNCTIONS FOR UP TO 4  
BREAKS PER PHASE WITH  
MOTION MEASUREMENTS  
FOR ANY CIRCUIT BREAKER

## CIRCUIT BREAKER TEST SYSTEM

The TDR900 is a state-of-the-art Circuit Breaker Test System engineered to test all types of circuit breakers. The TDR900 provides efficient and accurate performance measurements for circuit breakers. It allows simple to complex testing of circuit breakers using a single, rugged, field-portable instrument. TDR900 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).



T-Doble Software (included with the TDR900) allows simple configurable display of results and user configurable reports

## FEATURES

- Test circuit breakers with up to 4 breaks per phase, 3 motion channels, 3 auxiliary contact channels, and 3 analog channels
- Rugged and Reliable — the TDR900 is a single box solution, providing the accuracy of a laboratory instrument with durability for field use
- Complete Test Reports — provided in MS Excel™, MS Word™, and PDF formats
- User-friendly PC interface — T-Doble Software features an intuitive control panel for quick, efficient and simple testing of circuit breakers
- Measure additional parameters in the mechanism cabinet using Doble or 3rd party transducers

## BENEFITS

- Use Doble's patented digital rotary and linear transducers to provide early diagnosis of mechanical problems
- Easily detect main contact and resistor contact timing errors
- 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
- Control with a Doble Universal Controller (DUC), tablet or PC

### MAIN CONTACT AND RESISTOR SWITCH TIMING

|                               |                              |
|-------------------------------|------------------------------|
| Number of Phases:             | 3                            |
| Breaks Per Phase:             | 4                            |
| OCB Configuration:            | 3 Contacts                   |
| EHV Configuration:            | [3, 6, 9, 12] Contacts       |
| Resolution:                   | 100 $\mu$ s                  |
| Resistor Detection Range:     | 10 $\Omega$ to 10 k $\Omega$ |
| Voltage Isolation to Chassis: | 1.0 kV                       |

### TRIP/CLOSE INITIATION CONTROL

|                               |             |
|-------------------------------|-------------|
| Maximum Input Current:        | $\pm$ 25 A  |
| Maximum Input Voltage:        | $\pm$ 300 V |
| Voltage Isolation to Chassis: | 1.0 kV      |

### MOTION CHANNELS

|                               |            |
|-------------------------------|------------|
| Number of Channels:           | 3          |
| Connector:                    | 15-pin "D" |
| Voltage Isolation to Chassis: | 1.0 kV     |

### ANALOG MEASUREMENT CHANNELS (3A)

|                                  |   |
|----------------------------------|---|
| Maximum Input Voltage:           | $\pm$ 300 V   |
| Input Impedance:                 | 1 M $\Omega$  |
| Analog Accuracy:                 | $\pm$ 1% or reading<br>$\pm$ 1.5% full scale offset |
| Voltage of Isolation to Chassis: | 1.0 kV  |

### AUXILIARY CONTACT CHANNELS (3X)

|                               |                             |
|-------------------------------|-----------------------------|
| Sense Mode:                   | Voltage Sense/Contact Sense |
| Maximum Input Voltage:        | $\pm$ 300 V                 |
| Open Circuit Voltage:         | 29 V $\pm$ 10%              |
| Close Circuit Current:        | 28 mA $\pm$ 10%             |
| Voltage Isolation to Chassis: | 1.0 kV                      |

### DIGITAL LINEAR/ROTARY MOTION TRANSDUCER

|                         | Linear   | Rotary                                      |
|-------------------------|--|---|
| Range:                  | 0.0 to 40.0"<br>0.0 to 1000.0 mm   | 0.0 to 2880.0°                              |
| Accuracy:               | +/- 0.1% of the value<br>+/- 0.1" max error  | +/- 0.1% of the value<br>+/- 0.1" max error |
| Measurement Resolution: | 0.00125"<br>0.03 mm  | 0.09°                                       |
| Velocity:               | 50 ft/s<br>15 m/s  | 120 rev/s max                               |
| Acceleration:           | 1200 g for 50 ms max   | 30x10 <sup>6</sup> /s <sup>2</sup> max      |
| General Recordings:     | 25 seconds (all channels at max resolution)<br>Up to 30 min (reduced resolution)           |   |
| Communication:          | USB or Ethernet  |   |
| Safety:                 | Safety Ground<br>Safety Switch (local and remote)<br>Audible Indication (test in progress) |   |

### PHYSICAL SPECIFICATIONS

|               |   |
|---------------|---|
| Dimensions:   | 24.0 X 15.5 X 8.5 in<br>60.9 X 39.4 X 21.6 cm     |
| Weight:       | 22 lbs / 10 kg                                    |
| Power Supply: | 100-240 V, 50/60 Hz                               |
| Temperature:  | 0° to 50° C operating,<br>-25° to + 70° C storage |
| Humidity:     | Up to 95% relative humidity non-condensing        |



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Specifications are subject to change without notice.  
Doble is ISO certified.  
Doble is an ESCO Technologies Company.  
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