



BT-100 Circuit Breaker Tester

FOR RECORDING, MEASURING, AND COMPARING BREAKER CHARACTERISTICS



CIRCUIT BREAKER TESTER

AMETEK BT-100 portable circuit breaker tester is a new diagnostic tool for determining the health of a breaker while it is still in service. It's quick set-up and test will reduce your maintenance expense while providing better reliability. It will capture the important 'first trip' operation which indicates how the breaker would have performed if called into action.



This is a simple, low cost solution for recording, measuring and comparing breaker characteristics while the breaker is in service or before you perform a time consuming comprehensive off line test. The trip and close coil signatures are recorded and compared with previous waveforms and signals to detect any degradation in the drive unit before an actual miss operation or failure occurs.

MEASUREMENTS

- Trip and Close Coil Current—Coil current profiles are compared to previous signatures or known standards to determine condition of drive unit.
- Phase/load Current (Main Contact Timing)—Provides exact operating times to help detect contact bounce or mal-operations.
- Battery Voltage—Records the tripping battery voltage to determine possible battery problems or wiring issues.
- Auxiliary Contact Inputs—Logs the A/B control contacts and the trip and close initiation signals.
- Transducer Input—Analog input used for air/oil/gas pressure, vibration, contact travel or other parameters.

FEATURES AND BENEFITS

- Economical Solution—Non-invasive testing with quick connect current clamps and probes. Set-up, test, and analysis takes less than thirty minutes, saving time and money.
- Lightweight, Compact Unit—Low profile design uses PC for data recording and analysis. Easy to transport and set up.
- High Speed USB Interface—Uses plug and play simplicity with high speed data transfer. Our 2.5 Kv isolation provides safe connections to any PC.
- Self Powered—Innovative design is powered from the PC's communication interface.
- Excellent tool for RCM (Reliability Centered Maintenance) Program—Save money by scheduling maintenance only when you need it.



Experience the Power™

SPECIFICATIONS

INPUTS

- Trip and Close Coil Current**
- 5A and 30A DC ranges through Hall Effect clamp CT
- Phase/load Current (main contact timing)**
- 1A and 5A AC ranges through clamp CT
- Battery Voltage**
- 75 and 300 VDC ranges
- Auxiliary Contacts (A/B)**
- Dry contact
 - 24-250 VDC wetting voltage
- Analog Input**
- 0-1 VDC and 0-10 VDC for external transducer/sensor
- Accuracy**
- Better than 0.5%

RECORDING

- Recording Resolution**
- 14 Bits
- Sample Rate**
- Up to 10 kHz
- Recording Time**
- Up to 60 sec

MEASUREMENTS AND DETECTION

- Trip/Close Coil Current Profile**
- Coil operating times, 'sticky' mechanisms, coil damage, friction, loose connections
- Auxiliary Contacts**
- Operating times, incorrect closure sequences
- Phase Current**
- Main contact operating time
- Battery Voltage**
- Bad cells in battery, battery charger abnormalities, poor wiring
- Analog Inputs**
- Low/high pressure, temperature, vibration; mechanism travel

COMMUNICATIONS

- USB**
- 1Mbytes/sec

POWER SUPPLY

- Input Voltage**
- 5 VDC self powered from USB
- Power**
- 750 mW

WITHSTAND CAPABILITY

- Isolation**
- Channel to chassis: 2.5Kv for 1 minute

Impulse Withstand

- 5 kV, 1.2/50 us, 0.5 Joule (battery and auxiliary contacts)

Surge Withstand

- 2.5 kV, 1 MHz damped sine wave (battery and auxiliary contacts)

ENVIRONMENTAL

- Operating Temperature**
- 23 to 131°F (-5 to 55°C)
- Storage Temperature**
- -4 to 140°F (-20 to 60°C)
- Relative Humidity**
- 0-95% non-condensing

ENCLOSURE

- Size**
- 8" x 7" x 2.7" (203 x 178 x 70mm)
- Weight**
- 2 lbs (910 g)

ORDERING

- BT-100-K**
- Complete kit includes: all inputs, cables, clamps, carrying case, and software
- BT-100-B**
- Base kit includes: coil current and battery voltage inputs, cables, clamps, carrying case, and software

BT-100 BREAKER TEST



AMETEK®