

Transformer Winding Resistance Meters & Load Tap Changer Analyzer

QLTCA-10

HIGHEST ACCURACY & LOWEST COST



QLTCA-10

High accurate of highly inductive power transformers.

Test Voltage: 60 V dc max.

Test Current: 1A, 5A or 10A.

Demagnetize transformer after test.

Equivalent resistance value at any temperature.

AC Current sensor.

Computer-control via RS-232C, USB, or Bluetooth interface.

amperis

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The QLTC-10 is Amperis' transformer winding resistance meter and load tap changer contact analyzer. The QLTC-10 is designed to accurately measure the winding resistance of highly inductive power transformers. The unit's triple resistance-reading input channels can measure three winding resistances simultaneously. Two-wire (Kelvin) connections provide high accuracy and require no lead compensation. A special feature of this device is its ability to measure and graph the resistance trace of a transformer LTC or voltage regulator contact during operation. One resistance input channel is dedicated to this feature.

The QLTC-10 provides stable resistance readings of very large transformers by utilizing a 60 Vdc power supply capable of outputting at test current up to 10 Amperes.

Transformer Load Tap Changer Control

Transformer tap positions can be changed remotely using the unit's built-in transformer load tap changer. This remote-controlled tap changer feature eliminates the need to manually

Resistance Reading Features

Three resistance-reading channels can measure resistance from 1 micro-ohm to 500 ohms, and the test current is programmable (1A, 5A, 10A). The QLTC-10 can also be used to measure EHV circuit-breaker contact resistance, motor winding resistance or any low resistance. If the transformer winding temperature is entered, the QLTC-10 can calculate the equivalent resistance value of the winding material (aluminum or copper) at any standard reference temperature. Also, a special test mode can run a test for up to 45 minutes while saving resistance readings at one-minute intervals.

USB Flash Drive and Computer Interface

A built-in USB Flash drive interface provides a convenient method for transferring test records to or from a USB Flash drive. Test records can also be transferred directly to a PC via the RS-232C or USB interface ports. If using a USB Flash drive, test records stored in the QLTC-10's internal memory can be transferred to the drive, and then the supplied PC software can be used to view the test records stored on the drive. Up to 999 test records can be stored on a USB Flash drive.

AC Motor Current Monitoring

One AC current monitoring channel is dedicated to monitoring the LTC voltage regulator motor current during operation. The motor current is also printed on the resistance graph and can help detect LTC voltage regulator motor problems. An AC clamp-on current sensor is provided with the QLTC-10.

Built-in Safety Features

At the end of each test, the QLTC-10 automatically dissipates the stored energy in the transformer. This discharge circuit will continue to work even if the supply voltage is lost.

User Interface

The QLTC-10 features a back-lit LCD screen (128 x 64 pixels) that is viewable in both bright sunlight and low-light levels. A rugged, alphanumeric, membrane keypad is used to control the unit.

Dynamic Resistance Test Features

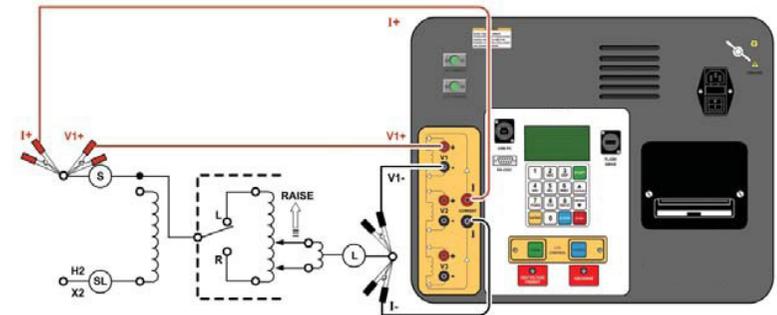
One resistance reading channel is dedicated to dynamic resistance testing. This test can monitor the LTC voltage regulator contact resistance during operation. A resistance graph, plotting resistance over time, can be printed on the built-in thermal printer and is very useful for detecting LTC voltage regulator contact problems.

Built-in Thermal Printer

The built-in 4.5-inch wide thermal printer can print the breaker contact analysis results in both tabular and graphic formats.

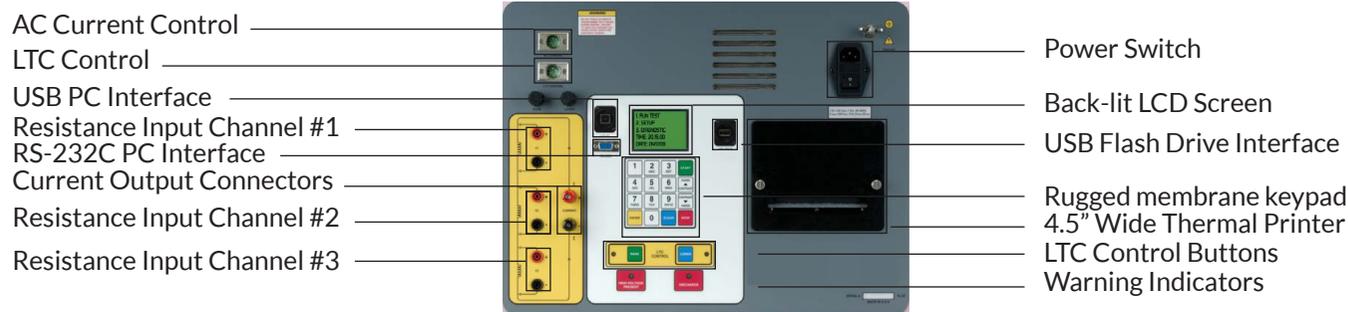
Internal Test Record Storage

The QLTC-10 can store 128 static test records (48 tests per record) and 11 dynamic resistance test records in Flash EEPROM. Test records can be recalled locally or transferred to a PC via the available interfaces (RS-232C port, USB port, USB Flash drive port).



QLTC-10 Connections

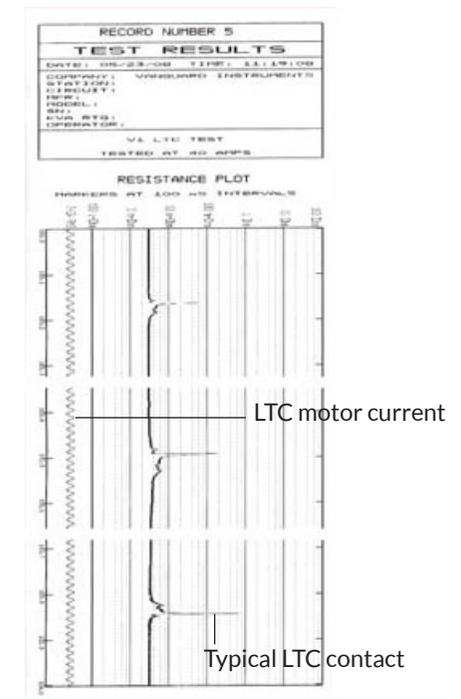
QLTCA-10 Controls



QLTCA-10 Specifications

Type	Load tap changer analyzer
Physical specifications	21"W x 17"H x 9" D (53 cm x 43 cm x 24 cm); Weight: 33 lbs (15.4 kg)
Operating voltage	100 - 240 Vac, 50/60 Hz
Resistance reading range	1 micro-ohm - 500 ohms
Accuracy	1 - 19,999 micro-ohms: $\pm 0.5\%$ reading, ± 1 count; 20 - 999 milli-ohms: $\pm 1\%$ reading, ± 1 count; 1 - 500 ohms: $\pm 1.5\%$ reading, ± 1 count
Test current	1 ampere, 5 amperes, 10 amperes
Test voltage	60 Vdc max
Resistance channels	Three static resistance reading channels, One dynamic resistance channel
Ac current input	Clamp-on current sensor, 1 - 20 Amperes
Display	Back-lit LCD Screen (128 x 64 pixels); viewable in bright sunlight and low-light levels
Printer	Built-in 4.5-inch wide thermal printer
Internal data storage	Stores up to 128 static resistance test records (48 tests per record) and 11 dynamic resistance test records
External data storage	One USB Flash drive interface port; stores up to 999 test records on a USB Flash drive (not included)
Computer interface	One RS-232C port, one USB port
Load tap changer contact	Designed to meet IEC 61010 (1995), UL 61010-a, and CAS-C22.2 standards
Safety	Designed to meet UL 61010A-1 and CAN/CSA C22.2 No. 1010.1-92 standards
Environment	Operating: -10°C to $+50^{\circ}\text{C}$ ($+15^{\circ}\text{F}$ to $+122^{\circ}\text{F}$); Storage: -30°C to $+70^{\circ}\text{C}$ (-22°F to $+158^{\circ}\text{F}$)
Humidity	90% RH @ 40°C (104°F) non-condensing
Altitude	2,000 m (6,562 ft) to full safety specifications
Cables	One 50-foot current cable set, three 50-foot resistance cable sets, ground cable, USB cable, RS-232C cable, LTC cable, power cord, cable bag
Optional accessories	Transportation case
Warranty	1 year on parts and labor

QLTCA-10 Printer Report



NOTE: the above specifications are valid at nominal voltage and ambient temperature of $+25^{\circ}\text{C}$ ($+77^{\circ}\text{F}$). Specifications are subject to change without notice