Manuals+ — User Manuals Simplified.

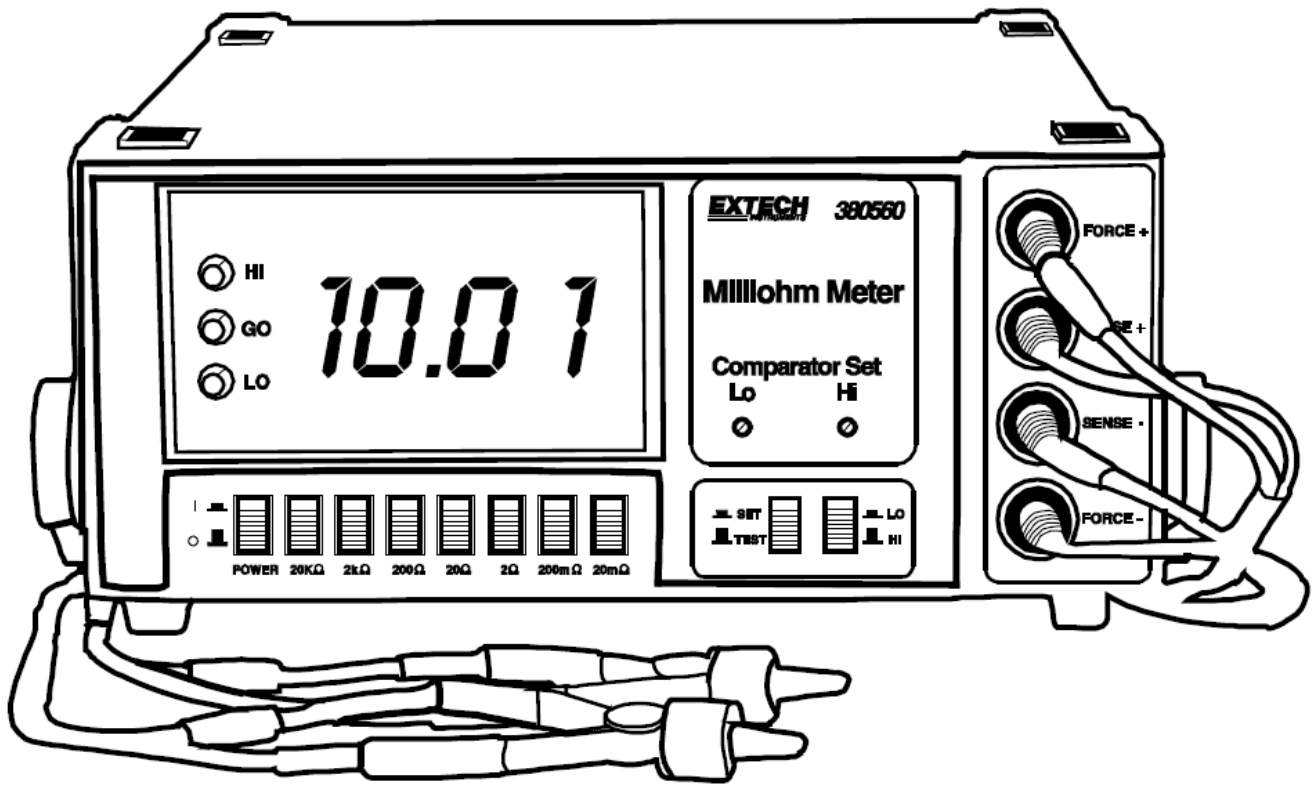# EXTECH 380560 High Resolution Benchtop MilliOhm Meter User Manual

Contents

EXTECH®

**EXTECH 380560 High Resolution Benchtop MilliOhm Meter**

Introduction

Congratulations on your purchase of the Extech 380560 (117V) or 380562 (220V) High Resolution MilliOhm Meter. This device offers seven resistance ranges with resolution as low as 0.01mΩ. The 4-wire Kelvin clip connection ensures optimum accuracy. The built-in comparator feature offers HI-LO-GO testing. Typical applications include transformer, motor coil, and PC Board resistance measurements. Careful use of this meter will provide years of reliable service.

Meter Description

1. LED Display

2. HI/LO/GO Status Indicators

3. Power and Range pushbuttons

4. Kelvin clip leads

5. SET/TEST and HI/LO pushbuttons

6. Comparator adjustment screws

7. Kelvin clip lead input terminals

Note: The power cable input and audible alert button are on the rear of the instrument.
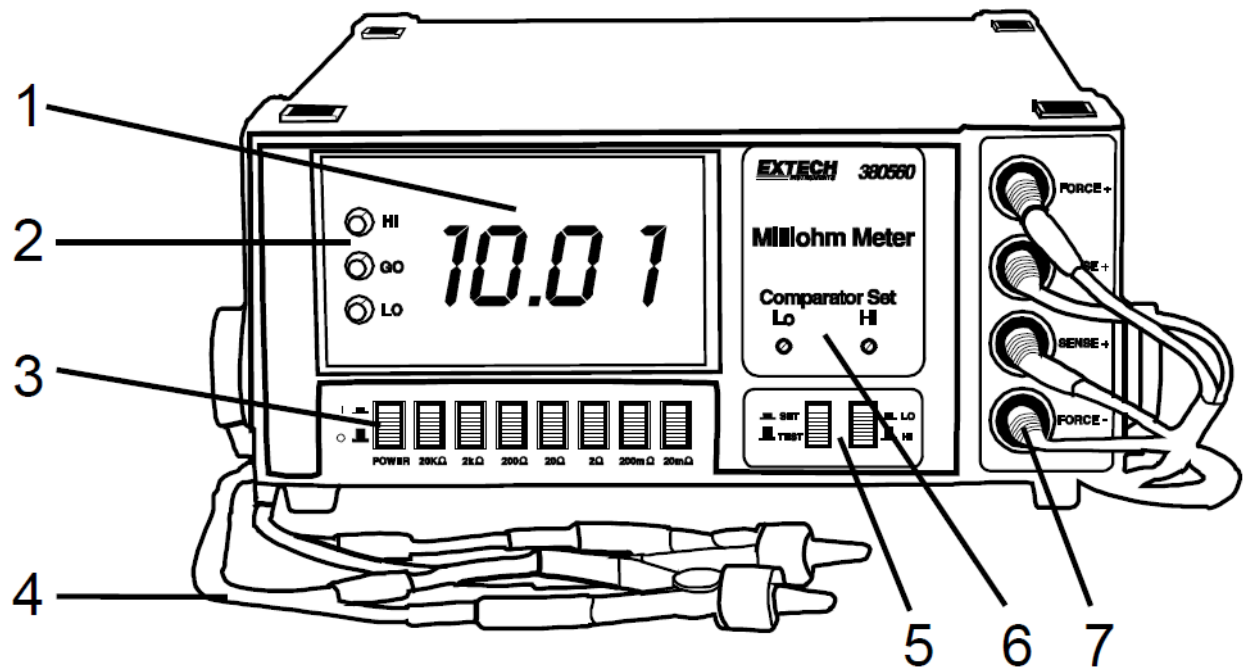
Measurement Precautions

- Ensure that the meter is connected to the correct power source (110V for model 380560 or 220V for model 380562).
- Do not apply voltage to the meter input terminals. Meter damage may result.

Measurement Procedure

1. Connect the Kelvin test leads to the meter.
2. Press the POWER pushbutton to turn power on.
3. Position the SET/TEST pushbutton to the TEST position.
4. To check the meter zero, clip the test leads together as shown at right.
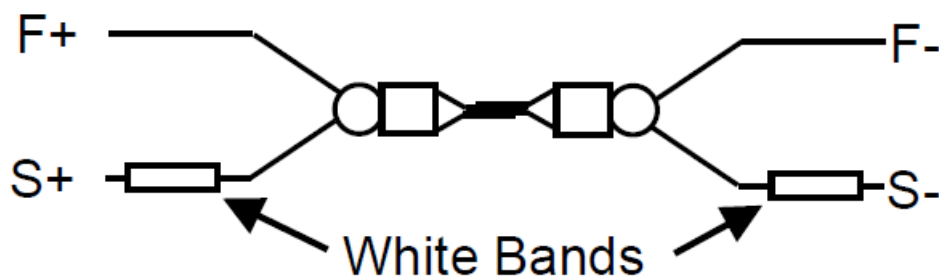
5. Select the desired measuring range using the labeled black pushbuttons. When the resistance of the device is unknown, start with the highest range and work downward.
6. Clip the leads onto the device under test as shown below.
7. Observe the reading on the LED display.

Comparator Operation (HI-LO-GO)
The meter is equipped with a Comparator function allowing the user to sort resistance measurements against programmable HIGH and LOW limits. To program the comparator:
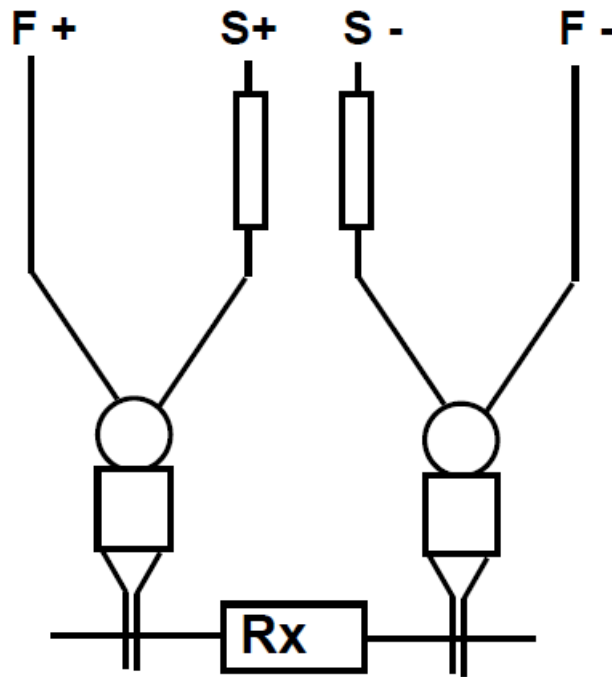
1. Position the SET/TEST pushbutton to SET.
2. Position the LO/HI pushbutton to LO.
3. Adjust the LO comparator screw to the desired low limit (shown on the LED display).
4. Position the LO/HI pushbutton to HI.
5. Adjust the HI comparator screw to the desired high limit.
6. Position the SET/TEST pushbutton to TEST.
7. Set the rear buzzer switch ON or OFF. When ON, the meter will sound an audible tone for each GO measurement.

Each time a measurement is taken, the appropriate Comparator status LED will light. If the measurement is lower than the LO setting, the LO LED will light. If the measurement is higher than the HI setting, the HI LED will light. If the reading is between the HI and LO settings, the green GO LED will light. If the rear beeper pushbutton is set ON, an audible tone will sound each time a GO reading is detected.

Measurement Principles

The DC test current flows through the resistance from the FORCE+ (F+) terminal to the FORCE- (F-) terminal. The S+ and S- (SENSE) terminals measure the DC voltage drop across the device under test only, thus eliminating the lead and contact resistances. The meter displays the resistance based on the test current and the measured voltage; refer to the equation below:
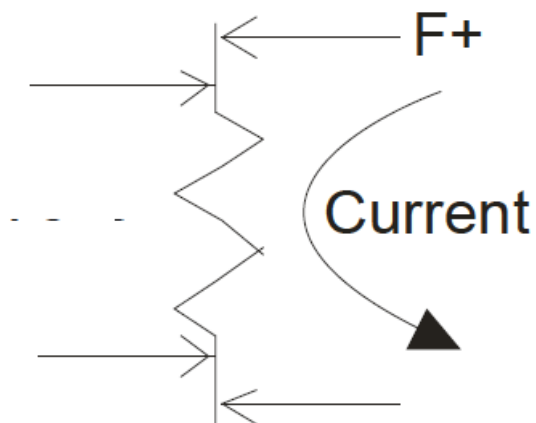
$Rx = Vx / Is$

Where:
Vx is the voltage drop across the device under test;
Is is the test current;
Rx is the resistance of the device under test.

F+

Current

Specifications

General Specifications

Circuit	Custom one-chip LSI microprocessor circuit
Display	20 mm (0.8″) 2000 Count LED Display
Connection type	4-Terminal Kelvin
Measurement ranges	Seven ranges (see listing below)
Test voltage	5V DC
Comparator	Built-in HI/LO/GO testing with audible beeper
Measurement speed	Resistance 1 second, comparator mode 0.5 seconds
Zero adjust	Automatic (no adjustment necessary)
Over-range indication	Display reads "1____" when the reading is out of range
Operating Temperature	0°C to 50°C (32°F to 122°F)
Operating Humidity	Max. 80% RH
Power Supply	110V (380560) or 220V (380562) ±15%, 50/60Hz
Weight	2.2kg (4.85 lbs)
Dimensions	280 x 210 x 90mm (11 x 8.3 x 3.5″)
Replacement Kelvin leads	380465

Range Specifications

Range	Resolution	Test Current	Accuracy (%rdg)	Test Voltage
20 mW	0.01mW	1A	± (0.2% + 6 digits)	2.7V DC
200 mW	0.1mW	1A	± (0.2% + 4 digits)	3.3V DC
2 W	.001W	0.1A		3.5V DC
20 W	.01W	10mA		4.1V DC
200 W	0.1 W	1mA		4.5V DC
2K W	.001kW	0.1mA		
20K W	.01kW	10uA		

Note: Specifications based on RF Field Strength <3V/m and frequency <30MHz

International Symbols

---	DC Voltage DC Current	⚠	Refer to explanation in owners manual
∿	AC Voltage AC Current	⚡	Dangerous voltage risk of electrical shock
⏚	Ground	▣	Double Insulation

Two-year Warranty

FLIR Systems Inc.warrants this Extech brand instrument to be free of defects in parts and workmanship for two years from date of shipment (a six-month limited warranty applies to sensors and cables). To view the full warranty text please visit: **http://www.extech.com/support/warranties**

Calibration and Repair Services
FLIR Systems Inc.offers calibration and repair services for the Extech brand products we sell. We offer NIST traceable calibration for most of our products. Contact us for information on calibration and repair availability, refer to the contact information below. Annual calibrations should be performed to verify meter performance and accuracy. Product specifications are subject to change without notice. Please visit our website for the most up-to-date product information: **www.extech.com**

Contact Customer Support

Customer Support Telephone List: **https://support.flir.com/contact**
Calibration, Repair, and Returns: **repair@extech.com**
Technical Support: **https://support.flir.com**

Documents / Resources

EXTECH 380560 High Resolution Benchtop MilliOhm Meter [pdf] User Manual
380560, 380562, 380560 High Resolution Benchtop MilliOhm Meter, High Resolution Benchtop MilliOhm Meter, Resolution Benchtop MilliOhm Meter, Benchtop MilliOhm Meter, MilliOhm Meter, Meter

References

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