

User's Guide

**High Resolution Benchtop**

**Models 380560 and 380560**



## Warranty

EXTECH INSTRUMENTS CORPORATION warrants this instrument to be free of defects in parts and workmanship for one year from date of shipment (a six month limited warranty applies on sensors and cables). If it should become necessary to return the instrument for service during or beyond the warranty period, contact the Customer Service Department at (781) 890-7440 ext. 210 for authorization or visit our website at [www.extech.com](http://www.extech.com) (click on 'Contact Extech' and go to 'Service Department' to request an RA number). A Return Authorization (RA) number must be issued before any product is returned to Extech. The sender is responsible for shipping charges, freight, insurance and proper packaging to prevent damage in transit. This warranty does not apply to defects resulting from action of the user such as misuse, improper wiring, operation outside of specification, improper maintenance or repair, or unauthorized modification. Extech specifically disclaims any implied warranties or merchantability or fitness for a specific purpose and will not be liable for any direct, indirect, incidental or consequential damages. Extech's total liability is limited to repair or replacement of the product. The warranty set forth above is inclusive and no other warranty, whether written or oral, is expressed or implied.

## Specifications

### General Specifications







Circuit	Custom one-chip LSI microprocessor circuit
Display	0.8" (20 mm) 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
Zero adjust	Automatic (no adjustment necessary)
Over-range indication	Display reads "1 _____" when the reading is out of range
Operating Temperature	32°F to 122°F (0°C to 50°C)
Operating Humidity	Max. 80% RH
Power Supply	110V (380560) or 220V (380562) ±15%, 50/60Hz
Weight	4.85 lbs (2.2kg)
Dimensions	11 x 8.3 x 3.5" (280 x 210 x 90mm)

### Range Specifications

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

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

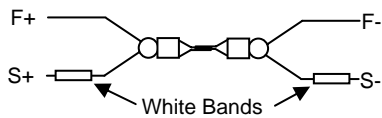
### International Symbols

	DC Voltage DC Current		Refer to explanation in owners manual
	AC Voltage AC Current		Dangerous voltage risk of electrical shock
	Ground		Double Insulation

## ***Meter Description***

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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



## 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 test current flows through the resistance from the **FORCE+ (F+)** terminal to the **FORCE- (F-)** terminal. The **S+** and **S- (SENSE)** terminals measure the 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:

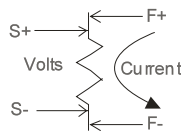
$$R_x = V_x / I_s$$

Where:

**V<sub>x</sub>** is the voltage drop across the device under test;

**I<sub>s</sub>** is the test current;

**R<sub>x</sub>** is the resistance of the device under test.



## Calibration and Repair Services

**Extech offers complete repair and calibration services** for all of the products we sell. For periodic calibration, NIST certification on most products or repair of any Extech product, call customer service for details on services available. Extech recommends that calibration be performed on an annual basis to ensure calibration integrity.



### Support Hotline (781) 890-7440

Tech support: Ext. 200; Email: [support@extech.com](mailto:support@extech.com)

Repair>Returns: Ext. 210; Email: [repair@extech.com](mailto:repair@extech.com)

Website: [www.extech.com](http://www.extech.com)

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