

# 190 Series III

## ScopeMeter™ Test Tool

Models 190-062, -102, -104, -202, -204,  
-502, -504, MDA-550-III

### *Safety Information*



**3-Year Limited Warranty.**  
See the Users Manual for the full warranty.

Go to [www.fluke.com](http://www.fluke.com) to register your Product, read the User Manual, and find more information.

A **Warning** identifies conditions and procedures that are dangerous to the user. A **Caution** identifies conditions and procedures that can cause damage to the Product or the equipment under test.

#### **Warning**

**To prevent possible electrical shock, fire, or personal injury:**

- **Read all safety information before you use the Product.**
- **Carefully read all instructions.**
- **Do not alter the Product and use only as specified, or the protection supplied by the Product can be compromised.**
- **Comply with local and national safety codes. Use personal protective equipment (approved rubber gloves, face protection, and flame-resistant clothes) to prevent shock and arc blast injury where hazardous live conductors are exposed.**



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- **Examine the case before you use the Product. Look for cracks or missing plastic. Carefully look at the insulation around the terminals.**
- **Replace the mains power cord if the insulation is damaged or if the insulation shows signs of wear.**
- **Use suitable measurement category (CAT), voltage, and amperage rated accessories (probes, test leads, and adapters) for all measurements.**
- **Do not use test leads if they are damaged. Examine the test leads for damaged insulation and measure a known voltage.**
- **Do not use the Product if it is altered or damaged.**
- **The battery door must be closed and locked before you operate the Product.**
- **Do not work alone.**
- **Use this Product indoors only.**
- **Do not use the Product around explosive gas, vapor, or in damp or wet environments.**
- **All protection caps need to be attached or the ingress protection derates to IP40.**
- **Keep the seal on the battery door and protection caps clean.**
- **Do not exceed the Measurement Category (CAT) rating of the lowest rated individual component of a Product, probe, or accessory.**
- **Keep fingers behind the finger guards on the probes.**
- **Do not touch voltages >30 V ac rms, 42 V ac peak, or 60 V dc.**
- **Do not use a current measurement as an indication that a circuit is safe to touch. A voltage measurement is necessary to know if a circuit is hazardous.**
- **Do not apply more than the rated voltage, between the terminals or between each terminal and earth ground.**
- **Measure a known voltage first to make sure that the Product operates correctly.**
- **Use only the Fluke power supply, Model BC190 (Power Adapter).**
- **For the BC190 Power Adapter only use line cords that comply with the local safety regulations.**
- **Remove the input signals before you clean the product.**
- **Use only specified replacement parts.**
- **Have an approved technician repair the Product.**
- **Repair the Product before use if the battery leaks. Battery leakage may create a shock hazard or damage the Product.**
- **Do not short the battery terminals together.**

- Do not disassemble or crush battery cells and battery packs.
- Do not put battery cells and battery packs near heat or fire. Do not put in sunlight.
- Remove all probes, test leads, and accessories before the battery door is opened.
- Disconnect the battery charger and move the Product or battery to a cool, non-flammable location if the rechargeable battery becomes hot (>50 °C) during the charge period.

## Safety Specifications

Maximum voltage between any Terminal and Earth Ground ..... 1000 V

### Temperature

|                           |                                                     |
|---------------------------|-----------------------------------------------------|
| Operating                 |                                                     |
| Battery discharging ..... | 0 °C to 40 °C (32 °F to 104 °F)                     |
| Battery charging .....    | 0 °C to 40 °C (32 °F to 104 °F)                     |
|                           | battery management is temperature sensor controlled |
| Storage.....              | -20 °C to 60 °C (-4 °F to 140 °F)                   |

### Operating Humidity

|                     |                                   |
|---------------------|-----------------------------------|
| Noncondensing ..... | 0 °C to 10 °C (32 °F to 50 °F)    |
| 95 % (±5 %).....    | 10 °C to 30 °C (50 °F to 86 °F)   |
| 75 % (±5 %).....    | 30 °C to 40 °C (86 °F to 104 °F)  |
| 45 % (±5 %).....    | 40 °C to 50 °C (104 °F to 122 °F) |

### Altitude

|                                                     |                                            |
|-----------------------------------------------------|--------------------------------------------|
| Operating up to 2000 m (6 600 ft)                   |                                            |
| All terminals to earth .....                        | CAT IV 600 V, CAT III 1000 V               |
| BNC input shield to center pin .....                | CAT IV 300 V                               |
| Operating above 2000 m and up to 4000 m (13 000 ft) |                                            |
| All terminals to earth .....                        | CAT IV 300 V, CAT III 600 V, CAT II 1000 V |
| BNC input shield to center pin .....                | CATIV 150 V, CATIII 300 V                  |
| Storage.....                                        | 12 000 m (40 000 ft)                       |

### Battery

|                 |                                   |
|-----------------|-----------------------------------|
| BP290.....      | Li-ion, 10.8 V, 2500 mAh, 27 Wh   |
| BP291.....      | Li-ion, 10.8 V, 5000 mAh, 54 Wh   |
| RRC2040.....    | Li-ion, 10.8 V, 3350 mAh, 36.2 Wh |
| RRC2040-2 ..... | Li-ion, 10.8 V, 6900 mAh, 74.5 Wh |

Battery Charger ..... BC190/830

|                              |                            |
|------------------------------|----------------------------|
| Mains Voltage.....           | 100 V ac to 240 V ac ±10 % |
| Frequency .....              | 50 Hz to 60 Hz ±10 %       |
| Output Power .....           | 15 W (840 mA)              |
| Max. Voltage to Ground ..... | 600 V CAT IV, IEC 61010-1  |

**Safety**

|                   |                                 |
|-------------------|---------------------------------|
| General.....      | IEC 61010-1: Pollution Degree 2 |
| Measurement ..... | IEC 61010-2-030                 |
| Scope (BNC) ..... | CAT IV 300 V                    |
| Meter (4 mm)..... | CAT IV 600 V, CAT III 1000 V    |

**Electromagnetic Compatibility (EMC)**

|                    |                                                       |
|--------------------|-------------------------------------------------------|
| International..... | IEC 61326-1: Industrial<br>CISPR 11: Group 1, Class A |
|--------------------|-------------------------------------------------------|

*Group 1: Equipment has intentionally generated and/or uses conductively-coupled radio frequency energy that is necessary for the internal function of the equipment itself.*

*Class A: Equipment is suitable for use in all establishments other than domestic and those directly connected to a low voltage power supply network which supplies buildings used for domestic purposes. There may be potential difficulties in ensuring electromagnetic compatibility in other environments, due to conducted and radiated disturbances.*

*Caution: This equipment is not intended for use in residential environments and may not provide adequate protection to radio reception in such environments.*

*Emissions that exceed the levels required by CISPR 11 can occur when the equipment is connected to a test object.*

|                  |                                                                             |
|------------------|-----------------------------------------------------------------------------|
| Korea (KCC)..... | Class A Equipment (Industrial<br>Broadcasting & Communication<br>Equipment) |
|------------------|-----------------------------------------------------------------------------|

*Class A: Equipment meets requirements for industrial electromagnetic wave equipment and the seller or user should take notice of it. This equipment is intended for use in business environments and not to be used in homes.*

|                 |                      |
|-----------------|----------------------|
| USA (FCC) ..... | 47 CFR 15 subpart C. |
|-----------------|----------------------|

## Symbols

| Symbol                                                                                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              | WARNING. RISK OF DANGER.                                                                                                                                                                                                                                                                                                                                                                                                             |
|              | WARNING. HAZARDOUS VOLTAGE. Risk of electric shock.                                                                                                                                                                                                                                                                                                                                                                                  |
|              | Consult user documentation.                                                                                                                                                                                                                                                                                                                                                                                                          |
|              | Double Insulated                                                                                                                                                                                                                                                                                                                                                                                                                     |
|              | Earth                                                                                                                                                                                                                                                                                                                                                                                                                                |
|              | Live Voltage                                                                                                                                                                                                                                                                                                                                                                                                                         |
|              | DC (Direct Current)                                                                                                                                                                                                                                                                                                                                                                                                                  |
|              | Both direct and alternating current                                                                                                                                                                                                                                                                                                                                                                                                  |
|              | Conforms to European Union directives.                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>CAT III</b>                                                                                | Measurement Category III is applicable to test and measuring circuits connected to the distribution part of the building's low-voltage MAINS installation.                                                                                                                                                                                                                                                                           |
| <b>CAT IV</b>                                                                                 | Measurement Category IV is applicable to test and measuring circuits connected at the source of the building's low-voltage MAINS installation.                                                                                                                                                                                                                                                                                       |
| <br>Li-ion | This product contains a Lithium-ion battery. Do not mix with the solid waste stream. Spent batteries should be disposed of by a qualified recycler or hazardous materials handler per local regulations. Contact your authorized Fluke Service Center for recycling information.                                                                                                                                                     |
|            | This product complies with the WEEE Directive marking requirements. The affixed label indicates that you must not discard this electrical/electronic product in domestic household waste. Product Category: With reference to the equipment types in the WEEE Directive Annex I, this product is classed as category 9 "Monitoring and Control Instrumentation" product. Do not dispose of this product as unsorted municipal waste. |