Auto-Ohm 10
low resistance micro-ohmmeter
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Product Overview
The Vanguard Auto-Ohm 10 is a 10-ampere battery powered micro-ohmmeter designed for low-resistance-measuring applications such as the measurement of resistance in circuit breaker contacts, bushing contact joints, and welding joints. The unit is powered by four 3400mAh, 3.7Vdc Li-Ion rechargeable batteries. With these high capacity batteries, up to 2,900 tests per charge (10A/2 second duration) can be performed in the field. The Auto-Ohm 10 features a built-in charger that can charge the batteries when the unit is not in use.

The Auto-Ohm 10 features a rotary knob that is used to select either the “Contact Resistance” or “Transformer Resistance” test mode. The unit’s back-lit LCD screen (128 x 64 pixels) is viewable in both direct sunlight and low light level. Resistance readings are displayed on the LCD screen in micro-ohms, milliohms, or ohms.

Contact Resistance Mode
The “Contact Resistance” mode can measure resistance values from 1 micro-ohm to 5,000 Ohms. The user can select from 6 different test currents: 1mA, 10mA, 100mA, 1A, 5A, 10A. The user can also choose from 6 test times: 1 sec, 2 sec, 3 sec, 5 sec, 10 sec, 60 sec. Up to three tests can be pre-configured with any combination of these parameters and executed with a single push of the control switch.

Transformer Resistance Mode
In “Transformer Resistance” test mode, the Auto-Ohm 10 can measure the winding resistance of transformers, electric motors, and generators. The Auto-Ohm 10 can measure the winding resistance of a 3-phase 500KVA/12,000V transformer within 1 minute. At the end of a winding resistance test, the Auto-Ohm 10 automatically dissipates the stored energy in the transformer.

Cables and Accessories
The Auto-Ohm 10 is furnished with a 15 ft (4.57m) cable set with alligator clamps. The test current and voltage sense cables are isolated on the alligator clamps. With this feature, only a single connection is needed to the device under test. Optional Kelvin probe type cables and C-Clamp cables are also available.

ordering information

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9131-UC</td>
<td>Auto-Ohm 10 unit and test cables</td>
</tr>
<tr>
<td>9131-SC</td>
<td>Auto-Ohm 10 shipping case</td>
</tr>
<tr>
<td>8000-0231</td>
<td>Test cable with alligator clamps (10A rated)</td>
</tr>
<tr>
<td>8000-0233</td>
<td>10A pistol grip probe (optional)</td>
</tr>
<tr>
<td>8000-0225</td>
<td>10A rated hand probe (optional)</td>
</tr>
<tr>
<td>8000-0226</td>
<td>5A rated hand probe (optional)</td>
</tr>
</tbody>
</table>

outstanding features

- High capacity Li-Ion batteries (perform up to 2,900 tests per charge (@ 10A/2 sec)
- Built-in charger and line-power for continuous operation
- Transformer winding resistance test mode
- Contact resistance test mode
- Protected to 600V
- Lightweight (7.8 lbs. / 3.54 Kg)
Auto-Ohm 10 Features

**Physical specifications**
- **Dimensions:** 14”W x 8”H x 12” D (36 cm x 19.4 cm x 30.4 cm)
- **Weight:** 7.8 lbs. (3.54 Kg)

**Resistance reading range and accuracy**

<table>
<thead>
<tr>
<th>Test Current</th>
<th>Display Min</th>
<th>Display Max</th>
<th>Display Resolution</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>10A</td>
<td>0.099 Ω</td>
<td>0.3 μΩ</td>
<td>±0.2% ±0.2 μΩ</td>
<td></td>
</tr>
<tr>
<td>5A</td>
<td>0.099 μΩ</td>
<td>0.3 μΩ</td>
<td>±0.2% ±0.4 μΩ</td>
<td></td>
</tr>
<tr>
<td>1A</td>
<td>0.0099 μΩ</td>
<td>10 μΩ</td>
<td>±0.2% ±20 μΩ</td>
<td></td>
</tr>
</tbody>
</table>

**Input power**
- 100 ~ 240 Vac, 50/60 Hz

**Batteries**
- Rechargeable Li-Ion, 3.7Vdc, 3400 mAh, protected (Qty=4)
- Charge time: 4 hours

**Temperature**
- **Operating:** -10°C to +50°C (+15°F to +122°F)
- **Storage:** -30°C to +70°C (-22°F to +158°F)

**Cables**
- 15 ft (4.57 m) cable set with alligator clamps, power cable

**Options**
- 30 ft (914 m) cable set, 10 ft (3m) hand probe (5A), 10 ft (3m) hand probe (10A), pistol grip probe (10A), shipping case

**Safety**
- Designed to meet IEC 61010 (1995), UL 61010-a, and CSA-C22.2 standards

**NOTE:**
- The above specifications are valid at nominal voltage and ambient temperature of +25°C (+77°F). Specifications are subject to change without notice.

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Auto-Ohm 10 technical specifications

![Auto-Ohm 10 Features](image)

Optional 5A Rated Hand Probe [10’/3.0m] (P/N 8000-0226)

Optional 10A Rated Hand Probe [10’/3.0m] (P/N 8000-0225)
Instruments designed and developed by the hearts and minds of utility electricians around the world.

Founded in 1991 and located in Ontario, California, USA, Vanguard Instruments™ offers a wide range of diagnostic test equipment that accurately and efficiently measures the health of critical substation equipment, such as transformers, circuit breakers, and protective relays.

Our first product was a computerized, extra high voltage (EHV) circuit breaker analyzer, which became the forerunner of an entire line of EHV circuit breaker test equipment. Over the years, our portfolio has grown tremendously to include microcomputer-based precision micro-ohmmeters; single- and three-phase transformer winding turns-ratio testers; transformer winding-resistance meters; mega-ohm resistance meters; and a variety of other application-specific products.

Our instruments are rugged, reliable, accurate, and user friendly. They eliminate tedious and time-consuming operations, while providing fast, complex test-result calculations. Using our equipment helps reduce errors and eliminates the need to memorize long sequences of procedural steps.

In 2017, Vanguard Instruments became a part of Doble Engineering Company, an energy industry leader in hardware, software, and services that diagnose and monitor the health of critical assets.