

PDRM-1A

Ohmmeters



Readings from 1 $\mu\Omega$ to 200 Ω with category-leading accuracy

PDRM-1A

1 A digital micro-ohmmeter

amperis

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Measuring very low resistances by the four-point Kelvin method, in the field and in the laboratory.

Product description



Field measurement: light enough for gloved hands, no support needed

Fully automatic micro-ohmmeter

The PDRM-1A is a fully automatic digital micro-ohmmeter: it selects its own range and injects up to 1 A DC to read resistances from $1\ \mu\Omega$ to $200\ \Omega$, with an accuracy of 0.1% of reading ± 2 counts and a resolution of $1\ \mu\Omega$ over $4\frac{3}{4}$ digits. The rugged, sealed and light unit — 0.86 kg — suits both site work and bench testing.

Four points, zero contact uncertainty

Two conductors inject the current at the ends of the joint while another two read the voltage drop directly across the section under test, so the resistance of the contacts stays out of the measurement. The microprocessor cancels offset and parasitic voltages, and the heavily filtered inputs keep the reading stable even in the presence of strong magnetic fields.

Main features

- Three test currents — 1 A, 100 mA and 5 mA — automatically adjusted.
- Standard and differential operating modes, comparing against a stored reference.
- 128×64 pixel LCD display with two-level backlight.
- Low current injection for applications with small measuring contacts.
- Six rechargeable NiMH AA batteries: over 4000 measurements at 1 A.
- Automatic shutdown after 2 minutes; the backlight switches off after 30 seconds.



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Applications and accessories



Dual Kelvin-type hand probes with spring-loaded tips



19 mm dolphin-type Kelvin clamps

Applications

- Checking earth connections and power busbars with the relative measurement mode.
- Verification of welded joints made with high current and of mechanical connections.
- Testing circuit-breaker contacts and power fuses.
- Quality control of castings and electrodes.
- Non-destructive verification of exothermic welds in substations.

Example: inspecting earthing grids

The earth connections used for de-energised work are the main safety guarantee for field crews. With the relative mode, the PDRM-1A stores the reading from a reference connection and compares every new measurement with it, showing the deviation — a fast way to decide whether each point of the grid is acceptable.

Accessories

- Dual hand probes with replaceable spring-loaded tips (122 cm; heavy-duty version up to 3 m).
- 35 mm booster-type and 19 mm dolphin-type Kelvin clamps.
- Dedicated probe for exothermic welds; cable-elbow accessory.
- $9.5\ \mu\Omega$ reference resistance to validate the unit before work.
- Nylon pouch, $46 \times 35 \times 18$ cm rigid case and custom-length cables.



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PDRM-1A – MEASUREMENT DATA

Measurement range	1 $\mu\Omega$ to 200 Ω , with automatic range selection
Test currents	1 A, 100 mA and 5 mA DC, automatically adjusted
Resolution	1 $\mu\Omega$; 4 $\frac{3}{4}$ digits
Accuracy	0.1% of reading $\pm$ 2 counts
Measurement method	Four-point Kelvin
Operating modes	Standard and differential (comparison with a stored reference)
Signal processing	Offset and parasitic voltage suppression; inputs filtered against magnetic fields
Autonomy	Over 4000 measurements at 1 A; over 10,000 at the other currents



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PDRM-1A – TECHNICAL SPECIFICATIONS

Display	128 × 64 pixel LCD, 60 × 41 mm
Backlight	Two levels (100% and 50%); switches off after 30 seconds
Power supply	Six rechargeable NiMH AA batteries
Power management	Automatic shutdown after 2 minutes of inactivity
Operating temperature	-20 to +50°C
Storage temperature	-40 to +50°C
Humidity	0 to 95%, non-condensing
Enclosure	Sealed and shock-resistant
Dimensions	203 × 114 × 51 mm
Weight	0.86 kg
Kit	Micro-ohmmeter, Kelvin clamps, AA batteries, manual and calibration certificate



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