

RN 5306

Onsite pyrotechnical safety ohmmeter

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Description

RN 5306 portable rugged safety ohmmeter is dedicated to the control of electro-pyrotechnical devices. It provides all necessary safety conditions for such measurements where user safety is at stake.

Several ranges are available, from 10 mΩ (resolution) to 2 MΩ using 4-wire or 2-wire configuration with automatic range adjustment.

Key-features that guarantee safe use in pyrotechnical environment:

- Less than 1 V at terminals in open circuit
- In case of internal fault, current is always limited to less than 5 mA when a single fault occurs, and less than 10 mA when two fault occur simultaneously.
- Before measurement, the maximum current is kept below 0.5 mA

IP 65, robust, light and with a high level of autonomy (400 hours), RN 5306 is perfect for field measurements.

Yearly calibration is highly recommended in order to control the safety functions of your equipment.

Specifications

Ohmmeter function

Measurement principle	Range	Resolution	Accuracy (1)	Acceptable line resistance	Max. measuring current	Max. voltage
4 wires	20 Ω	10 mΩ	0.3% + 10 mΩ	50 Ω per wire	0.5 mA	≤ 1 V
	200 Ω	100 mΩ	0.3% + 100 mΩ		0.5 mA	
	2 kΩ	1 Ω	0.3% + 1 Ω		0.5 mA	
2 wires	20 Ω	10 mΩ	0.3% + 10 mΩ	Taring: 10 Ω for both wires	0.5 mA	≤ 1 V
	200 Ω	100 mΩ	0.3% + 100 mΩ		0.5 mA	
	2 kΩ	1 Ω	0.3% + 1 Ω		0.5 mA	
	20 kΩ	10 Ω	0.3% + 10 Ω		50 µA	
	200 kΩ	100 Ω	0.3% + 100 Ω		5 µA	
	2 MΩ	1 kΩ	0.3% + 1 kΩ		0.5 µA	

(1) ± (% reading + number of digits) at 23°C ±1°C for one year

Further features

Sampling time	2.5 measurements / s
Balance settling time	≤ 2 s
Measurement safety	In case of overranging: 3 last digits switched off In case of breakdown of a wire or mistaken connection: Display of negative polarity
Temperature coefficient	≤ (0.01% RDG + 0.1 d)/°C

General specifications

Size	196 x 87 x 41 mm
Weight	380 g
Display	LCD display, 2,000 points, 3 ½ digits, 13 mm high
Battery	Type: 9 V standard (6 LF 22) Battery life: ≥ 400 h

Environmental specifications

Reference range	23°C ±1°C (45 to 75% w/o condensing)
Operating reference range	5 to 55°C (RH ≤ 95% at 40°C)
Limit operating range	-10°C to +55°C (RH ≤ 95% at 40°C)
Storage temperature limits	-30°C to +60°C
IP protection	IP65

Safety specifications

Electrical safety	- For position 0 (stop) and T (test), measurement pins are short-circuited - Positions T (test) check the maximum current measurement (≤ 0.5 mA) - In case of internal failure, current is limited to less than 5mA (for only one failure) or less than 10mA (for two simultaneous failures)

Models and accessories

Instrument:

RN5306 Pyrotechnical ohmmeter

Delivered in standard:

- Protection rubber case
- Pair of measuring cables