



## 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 $\Omega$    | 10 m $\Omega$  | 0.3% + 10 m $\Omega$  | 50 $\Omega$ per wire               | 0.5 mA                 | $\leq 1$ V   |
|                       | 200 $\Omega$   | 100 m $\Omega$ | 0.3% + 100 m $\Omega$ |                                    | 0.5 mA                 |              |
|                       | 2 k $\Omega$   | 1 $\Omega$     | 0.3% + 1 $\Omega$     |                                    | 0.5 mA                 |              |
| 2 wires               | 20 $\Omega$    | 10 m $\Omega$  | 0.3% + 10 m $\Omega$  | Taring: 10 $\Omega$ for both wires | 0.5 mA                 | $\leq 1$ V   |
|                       | 200 $\Omega$   | 100 m $\Omega$ | 0.3% + 100 m $\Omega$ |                                    | 0.5 mA                 |              |
|                       | 2 k $\Omega$   | 1 $\Omega$     | 0.3% + 1 $\Omega$     |                                    | 0.5 mA                 |              |
|                       | 20 k $\Omega$  | 10 $\Omega$    | 0.3% + 10 $\Omega$    |                                    | 50 $\mu$ A             |              |
|                       | 200 k $\Omega$ | 100 $\Omega$   | 0.3% + 100 $\Omega$   |                                    | 5 $\mu$ A              |              |
|                       | 2 M $\Omega$   | 1 k $\Omega$   | 0.3% + 1 k $\Omega$   |                                    | 0.5 $\mu$ A            |              |

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

## Further features

|                         |                                                                                                                                           |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Sampling time           | 2.5 measurements / s                                                                                                                      |
| Balance settling time   | $\leq 2$ s                                                                                                                                |
| Measurement safety      | In case of overranging: 3 last digits switched off<br>In case of breakdown of a wire or mistaken connection: Display of negative polarity |
| Temperature coefficient | $\leq (0.01\% \text{ RDG} + 0.1 \text{ d})/^{\circ}\text{C}$                                                                              |

## 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)<br>Battery life: $\geq 400$ h |

## Environmental specifications

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

## Safety specifications

|                   |                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Electrical safety | <ul style="list-style-type: none"><li>- For position 0 (stop) and T (test), measurement pins are short-circuited</li><li>- Positions T (test) check the maximum current measurement (<math>\leq</math> 0.5 mA)</li><li>- In case of internal failure, current is limited to less than 5mA (for only one failure) or less than 10mA (for two simultaneous failures)</li></ul> |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Models and accessories

### Instrument:

RN5306                      Pyrotechnical ohmmeter

### Delivered in standard:

- Protection rubber case
- Pair of measuring cables