# VO2705 Battery Internal Resistance Tester

## VO2705

### Battery Internal Resistance Tester

A handheld instrument controlled by a 32-bit ARM processor, measuring battery internal resistance and DC voltage. AC resistance testing for lithium, lead-acid and button batteries, plus online UPS measurement. Supports four-terminal testing, sorting and remote data acquisition.



## VO2705 • Technical specifications

| Item | Specification |
|---|---|
| Resistance range | 0.001 mΩ-3.3 Ω |
| DC voltage range | 0.0001-60.000 V |
| Resistance resolution | 0.001 mΩ |
| Basic resistance accuracy | 0.5% |
| Basic voltage accuracy | 0.05% |
| Display | 3.5-inch true-color LCD |
| Processor | High-performance 32-bit ARM microprocessor |
| Test frequency | 1 kHz |
| Display counts | Resistance 3300; voltage 60000 |
| Ranges | Four ranges; automatic, manual or nominal-value test |
| Test rate | 1 measurement/s |
| Measurement method | Four-terminal measurement; high- and low-current modes |
| Display content | Simultaneous measurement value and GD/NG sorting result |
| Remote control | USB-RS232C; SCPI-compatible; ASCII transmission; up to 115200 bps |

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## VO2705 • Correction, sorting and system functions

• Correction: short-circuit zeroing across all ranges.

• Comparator: built-in sorting data for GD/NG decisions. Absolute ±TOL, percentage TOL and direct upper/lower-limit sequential comparisons.

• Buzzer: selectable OFF, GD or NG.

• System: keypad lock, Chinese/English selection, date/time, administrator/user accounts, administrator password, backlight and automatic power-off timer.

• Applications: AC resistance measurement for lithium, lead-acid and button batteries, plus online UPS measurement; remote control, data acquisition and analysis.

## VO2705 • Four-terminal measurement principle




Four-terminal principle: separate current and voltage sensing; follow instrument terminal labels.

# VO2702S Battery Internal Resistance Tester

## VO2702S

### Battery Internal Resistance Tester

Portable battery inspection instrument with a color resistive touchscreen and keys. Measures cell voltage and resistance online, with record review, storage, export, analysis and battery test reports.



## VO2702S • Technical specifications

| Item | Specification |
|---|---|
| Resistance range | 0.000-199.999 mΩ |
| DC voltage range | 0.000-25 V |
| Minimum resistance resolution | 0.001 mΩ |
| Resistance accuracy | ±(0.5%rdg + 6dgt) |
| Voltage accuracy | ±(0.2%rdg + 6dgt) |
| Display | 5-inch color touchscreen |
| Minimum voltage resolution | 1 mV |
| Supply | 12 V rechargeable lithium battery |
| Standby time | 8 hours |
| Memory / storage | 64 Mbit Flash + 8G SD card (source notation) |
| Internal record capacity | 999 groups, 500 battery-cell records per group |
| Dimensions | 220 × 170 × 52 mm |
| Mass | 1.1 kg |

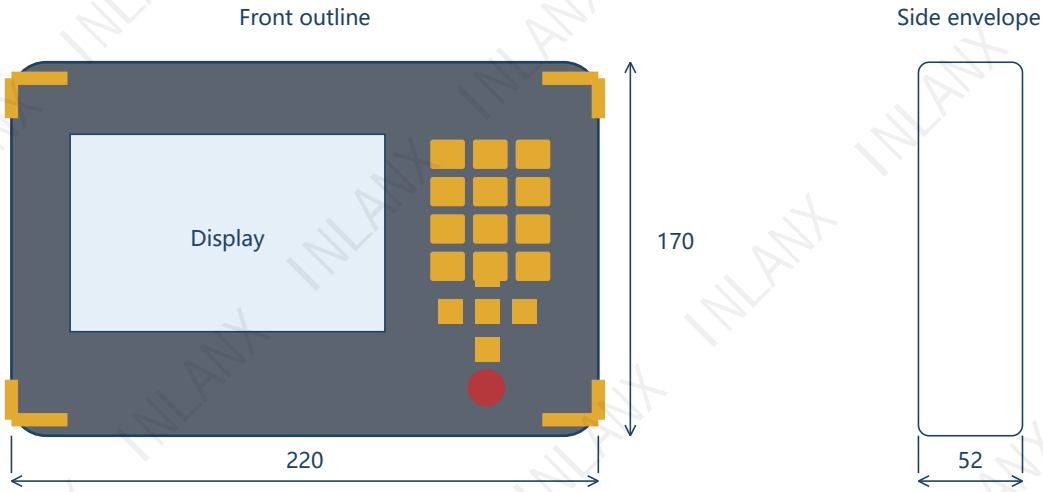
Resistance upper limit follows the manual (199.999 mΩ); brochure lists 99.999 mΩ. Confirm the version when ordering.

## VO2702S • Features

- Dual operation: color touchscreen and keys to suit different users.
- Real-time testing: online cell-voltage and resistance measurements, data storage/processing and fault alarms to assess individual cells.
- Data management: view, store, delete and export records, with internal/external storage, continuation and retest.
- Comparative analysis: voltage, resistance and capacity bar charts with good/fair/poor classifications. Capacity analysis depends on configured reference parameters.
- Oscilloscope function (optional): real-time maximum, minimum and mean voltage, plus voltage ripple.
- PC software: data management, printing, analysis, report statistics and automatic test reports.
- Protection: enhanced overvoltage protection and self-resetting overcurrent protection.
- Portable testing: high-capacity lithium battery supply and automatic test mode.

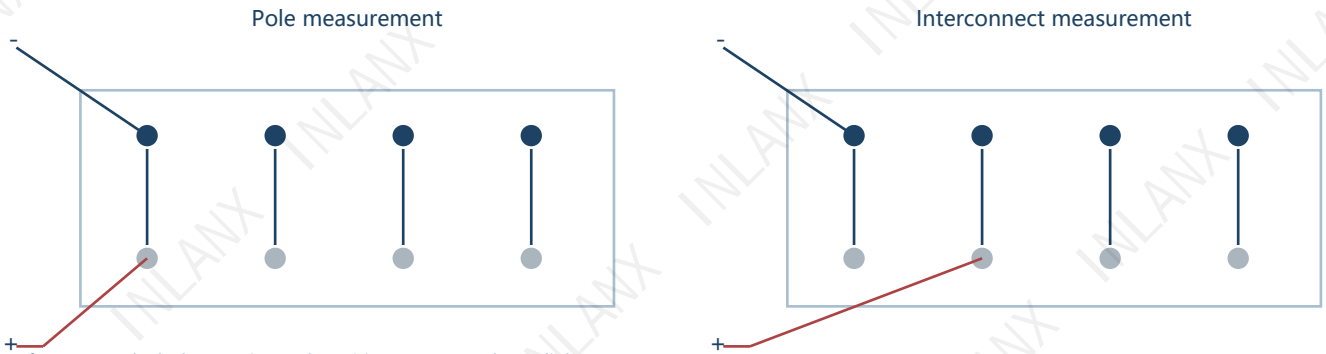
# VO2702S Battery Internal Resistance Tester

## VO2702S • Overall dimensions




Unit: mm. Outline redrawn using manual dimensions; not an installation drawing.

## VO2702S • Pole and interconnect measurement




Redrawn from manual. Black: negative; red: positive. Contact poles or links, not screw caps.

## VO2702S • Operating notes

• Battery voltage must not exceed 25 V. Intended for battery internal-resistance testing, not non-battery voltage measurement.

• For automatic testing of 12 V batteries, disconnect the red clip before the black clip; connect black first, then red.

• Contact battery poles or interconnects, not screw caps, to avoid measurement error. Test probes are optional.

• Configure battery maker, nominal voltage, capacity and reference resistance; prefer the battery manufacturer reference value.