

RELIABLY MINIMIZING RISK OF FAILURE

TEST INSTRUMENT FOR EVALUATION,
MAINTENANCE AND INSPECTION
OF STORAGE BATTERIES AND
UNINTERRUPTIBLE POWER SUPPLIES (UPS)



METRACELL | BT PRO
BATTERY | TESTER



Battery tester for measurement of internal resistance, voltage up to 600 V and charging as well as discharging current



RELIABLY MINIMIZING RISK OF FAILURE

USER-FRIENDLY, PROFESSIONAL MAINTENANCE OF BATTERY SYSTEMS

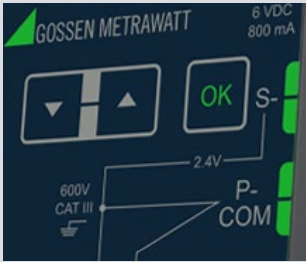
Battery systems, such as those used in uninterruptible power supplies (UPS), are essential constituents of critical applications targeted at minimizing the risk of failure and assuring smooth operation of, for example, medical facilities, or for supplying electrical power to computer centers. Due to the fact that the individual blocks are series connected, a single defective accumulator battery with excessive internal resistance increases charging voltage to neighboring batteries, thus reducing the service life of the entire string.

The METRACELL BT PRO is a universal, portable and multifunctional test instrument for the evaluation and maintenance of battery systems and uninterruptible power supplies.

HIGHLIGHTS

EASY OPERATION

Self-explanatory and reliable user prompting thanks to quick navigation via keys and a lean menu structure



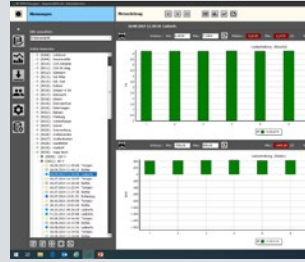
COMPACT AND CONVENIENT

Compact and impact-resistant with ABS housing and additional rubber holster Convenient carrying thanks to compact design, as well as strap and belt clip



INTUITIVE SOFTWARE

Intuitive software for display and storage of all measured values, as well as report generation



DIVERSE ACCESSORIES

User-friendly accessories such as unique Kelvin probes for 4-wire internal resistance measurement



TECHNICAL CHARACTERISTICS

RELIABLE BATTERY TESTING – SIMPLE OPERATION AND DISPLAY

Measurements

- Measurement of block voltages up to $\pm 24.5 V_{DC}$
- Measurement of total voltage up to 600 V
- Capacity tests for individual blocks and entire batteries
- Measurement of internal resistance with simultaneous measurement of electrical resistance (R_{el})¹ and electrochemical (charge-transfer) resistance (R_{ct})²
- Measurement of losses at connectors
- Automated recording of characteristic voltage and current curves
- Measurement of block temperatures

Hardware

- Connector sockets for voltage and 4-wire resistance measurement
- Bluetooth® interface for measurement data transmission and headset connection
- Infrared interface for reading in acid density values from a DMA 35 density meter from Anton Paar GmbH
- RFID scanner for battery identification
- Rubber holster with belt clip and retaining magnet
- Carrying strap

BT PRO Manager software

- Included in scope of delivery
- Evaluation and visualization of measured values
- Generation of meaningful reports
- Creation, maintenance and management of a battery database
- User administration including role and rights management
- Bidirectional data exchange with the test instrument

SCOPE OF DELIVERY / ACCESSORIES

INCLUDED IN THE PACKAGE (ARTICLE NO. B100B):

- **BATTERY TESTER**
METRACELL BT PRO
- **CARRYING CASE**
for safe storage of the test instrument and accessories
- **CHARGER AND RECHARGEABLE BATTERIES**
for continuous mobile operation
- **TEST PROBES INCLUDING ALLIGATOR CLIPS**
for voltage measurements and capacity tests
- **KELVIN PROBES**
Kelvin probes for 4-wire internal resistance measurement

OPTIONALLY AVAILABLE:

■ CURRENT CLAMP SENSORS FOR MEASURING CHARACTERISTIC CURRENT CURVES:

- CP 330 (Z202B) for measurements up to $300 A_{DC}$
- CP 1800 (Z204A) for measurements up to $1250 A_{DC}$

■ METRATHERM IR BASE TEMPERATURE SENSOR (Z680A) for ascertaining block temperature

- **ANGLED KELVIN PROBES (Z227W)**
Kelvin probes for 4-wire internal resistance measurement



TRAINING CENTER

Ongoing qualification enjoys top priority because complex measuring tasks, standards and regulations are subject to continuous change. Our instructors are experienced experts who are familiar with the requirements thanks to their own actual practice and always keep themselves up to date.

We can provide you with:

- Training at GMC-I's training center
- On-site training at your location
- Individualized training concepts customized to meet your needs
- Webinars on selected topics



PRODUCT SUPPORT

Our product support department makes numerous support services available, regardless of whether you need to solve a problem with a product, require on-site technical support, want help with one of our software products or are seeking technical advice regarding standards or measuring applications.

We can provide you with:

- Telephone and e-mail support for technical questions and problems
- Consultation concerning applicable standards and products
- Software support
- Extensive FAQs



CALIBRATION CENTER

Calibration as a standard feature is an essential QA factor for professional test equipment monitoring. Our calibration center is accredited per DIN EN ISO / IEC 17025 as a DAkkS calibration lab under registration no. D-K-20313-01-01.

Our services:

- DAkkS calibration
- Factory calibration
- Test equipment monitoring
- Verification of energy meters at our state-approved test laboratory

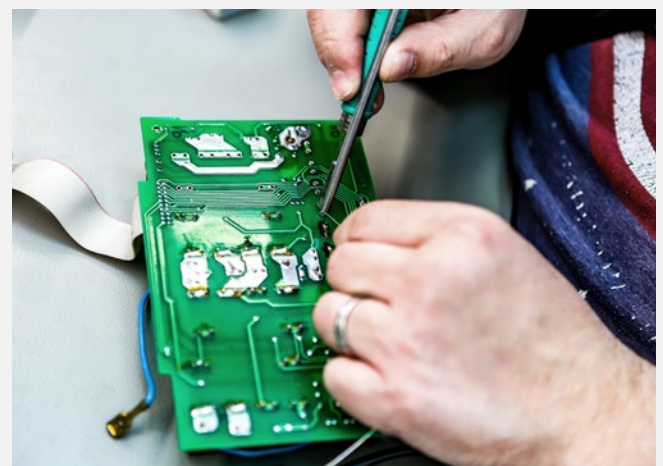


SERVICE CENTER

In order to assure that your measuring and test instruments are always ready for use, the employees at our GMC-I Service Center complete any necessary repairs quickly, reliably and economically.

Our services:

- Repair services executed by qualified personnel
- Rental instrument service
- Replacement parts for a long service life
- Update service for reliable measuring and testing in the future as well



INTUITIVE



- Simple and reliable user prompting thanks to quick navigation via keys and a lean menu structure
- Illuminated plain text display and high-contrast display of measurement results
- Acoustic indication of measurement results with auto-save
- Indication of limit value violations

SAFE



- Compact and impact-resistant thanks to ABS housing with additional rubber holster
- Can be attached to one's own belt or the included neck strap for extremely convenient carrying
- Reliable storage of all measurement data in the instrument and the test software
- Acoustic feedback for viewing freedom

TECHNICALLY DIVERSE



- Measurement of electrical resistance (R_{ei})¹ and electrochemical (charge-transfer) resistance (R_{ct})²
- Early diagnosis of possible damage to storage batteries
- Highly accurate acquisition of internal resistances thanks to unique Kelvin probes
- Voltage measurement laid out for the acquisition of individual and overall voltages up to 600 V DC (CAT III)
- Capacity tests at block level and overall battery level
- Battery identification by means of RFID tag reader

FLEXIBLE



- Large internal memory (storage of 300,000 data records)
- Inclusion of all relevant parameters such as voltage, resistance, current, temperature and acid density
- Intuitive software for display and storage of all measured values, as well as report generation
- Wireless measurement data transmission and connection of accessories (integrated Bluetooth® and infrared interfaces)
- Battery operation for approximately 10 hours

¹ Electrical resistance R_{ei} :



Electrical resistance is a measure of strictly electrical losses. These losses occur at, for example, plate straps, plate grids and electrolytes. The battery delivers rapidly changing currents via this resistance, for example for switched-mode DC/DC converters. Together with R_{ct} , this yields the RDC value (direct current resistance) of a battery.

² Charge-transfer resistance R_{ct} :

Charge-transfer resistance characterizes the ability of a block to accumulate and release a charge. This makes it possible to identify battery blocks which are operating at a loss (due to electrochemical damage) during trickle charging. Together with R_{ei} , this yields the RDC value (direct current resistance) of a battery.



GMC INSTRUMENTS

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