

PRODUCT OVERVIEW

2022/2023

TEST AND MEASUREMENT
ENERGY TECHNOLOGY
WORLD CLASS
HARDWARE & SOFTWARE





PQ & ENERGY ANALYZERS

LINUX PQ3000 / 5000

Power quality monitoring in electric mains



Panel mounting version



Top-hat rail mounting version

LINUX PQ3000 / PQ5000 is a full Class A device according to the IEC 61000-4-30 Ed. 3 power quality standard. It can thus provide reliable and comparable information for regulatory agencies, negotiations with energy suppliers or internal quality control. It also supports a conformity report according to the EN 50160 voltage quality standard.

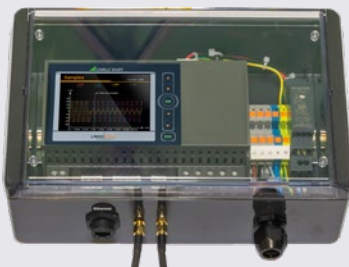
- Optional features
- Uninterrupted power supply: 5 times 3 minutes
- Relay outputs (2 channels per module)
- Analog outputs: 2 or 4 channels ± 20 mA; only 1 module
- Digital inputs: 4 channels active or passive
- IEC61850
- Highest cyber security features: RBAC, HTTPS, Client whitelist, digital firmware signature, Audit Log records
- Data export as PQDIF and CSV
- Energy consumption analysis, Class 0.5 S according to EN 62053-22/24
- Network state monitoring: 0.1 % (U,I), 0.2 % (P,Q,S)
- Ethernet: Modbus/TCP, NTP, http (parameterising via web page)
- PQEasy-Report – multilingual webserver based analyzing and reporting tool
- Modbus/RTU (PQ3000: optional)
- PQView 4 compatibel
- DranView 7 compatible

Type	Item number
LINUX PQ3000	PQ3000-
LINUX PQ5000	PQ5000-

Please ask your distributor for correct configuration

LINUX PQ5000CL

Class A Power Disturbance Analyzer per IEC 61000-4-30



Certified instrument for power quality monitoring and power analysis with up to 32 channels in the distribution substation. The respective measured current values are processed with the so-called current Link Module. The individual current links and their sensors (Rogowski) are networked in a scalable manner via coaxial lines by means of link technology using a signal loop.

- Power metering and monitoring in accordance with IEC61557-12.
- Power quality instruments in accordance with IEC62586-1.
- Metrologically certified, class A PQI in accordance with IEC61000-4-30, edition 3, as a basic instrument
- Up to 32 current inputs + 4 current inputs
- Main supply: 1 ... 10 Current Link sensors (3 or 4-wire)
- Synchronous real-time data
- Diverse connectivity options
- Quick rollout with rugged measuring technology
- Ready for smart grid applications

Type	Item number
PQ5000CL	PQ5000CL-

Please ask your distributor for correct configuration

MAVOSYS 10

Modular Power Quality Monitoring System Class A



- Modular design in various layouts with 4 slots
- Input modules for 4x voltage, 4x current and 8x digital signals
- Combinations with up to four virtual analyzers in a single housing
- Local operation and visualization with an optional 1/4 VGA touch-screen
- Ethernet 10/100 BaseT, RS 232 and RS 485 interfaces included as standard equipment
- TCP/IP, HTTP, XML and Modbus TCP/RTU communication protocols
- Optionally available 3G/ GSM / GPRS modems
- Time synchronization via optional GPS receiver
- Internal and external cross-triggering
- Compliant with all national and international standards for monitoring mains quality (EN, IEC, IEEE, NVE, CREG)
- Certification in accordance with IEC 61000-4-30, class A
- 1 GB internal flash memory
- Compatible with PQView, a PQ analysing data base software, more details at www.pqview.com

Live demo at: www.gossenmetrawatt.com

Type	Item number
MAVOSYS 10	M819

Please ask your distributor for correct configuration



POWER QUALITY ANALYZER & SOFTWARE

LINAX PQ5000-MOBILE

Portable, Programmable 3-Phase Energy and Power Disturbance Analyzer



Portable analyzers are the right choice wherever data concerning power quality, power and energy need to be simply and accurately ascertained.

LINAX PQ5000-MOBILE fulfills all requirements specified in edition 3 of the IEC 61000-4-30 measuring instrument standard for “class A instruments”, as well as IEC 61000-4-7 (measuring procedures for harmonics) and IEC 61000-4-15 (flicker meters).

The instrument detects changes in the monitored electrical circuit: voltage dips and swells, overvoltage, harmonics and flicker based on internationally recognized industry standards such as EN 50160, IEC 61000-2-2, IEC 61000-2-4 and IEC 610002-12, as well as GB/T (China) and IEEE 519.

- Dongle for Wi-Fi access point
- Statistical evaluation (power quality)
- Disturbance logging (power availability)
- Evaluation of changes / measures for improvement
- Acquisition of load profiles, short-term load peaks and meter readings
- Integrated Wi-Fi
- Simple, device-independent initial start-up and configuration via web
- Independent certification by the Swiss Federal Institute of Metrology, device type PQI-A FI2 in accordance with IEC 62586-1.
- No additional software required thanks to integrated power quality reporting function (PQEasy Report)
- DranView 7 compatible

- 5 voltage measurement cables and plug-on dolphin clips
- Mains power pack with plug set and optional from measured main network

Type	Article
LINAXPQ5000MOBILE	PQ5000MOB-

MAVOWATT 230 / 240 / 270

3-phase energy and power disturbance analyzers



Precision

- High Definition PQ & energy monitoring – 1000 Vrms, AC/DC, 512 samples/cycle
- Eight channels, 4 voltage & 4 current
- Differential voltage inputs for precise Δ system analysing
- Advanced PQ – IEC 61000-4-30 Ed.3 Class A & IEEE 1159 compliant
- Harmonics – IEC 61000-4-7, IEEE 519
- Transient capabilities – V & I – waveshape triggers. Beyond standards
- 100 cycle pre/post trigger buffer
- EN 50160 Edition 3
- Motor AnswerModule
- Motor testing & diagnosis (measurements at frequency converters)
- Calculation of inverter efficiency
- 125th harmonics

Communications

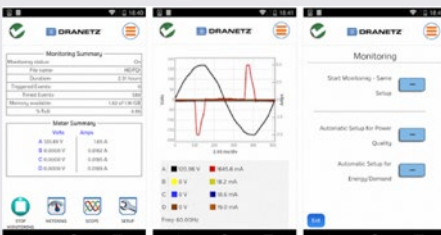
- HDPQ app for Apple & Android with real time metering and alarm dashboard
- Ethernet, USB, Bluetooth – optional
- VNC for full remote control

Safe & Rugged

- Arc flash safety
- CE approved and UL listed
- Rugged enclosure with an easy to grip, shock absorbing, non-conductive boot
- Dropped tested to power supply cable retainer
- Automatic circuit detection and feedback on proper connection of the instrument
- User Interface: 7" WVGA color touch display, automatic setups – PQ, D&E,
- Tablet-like GUI; features: icon driven, taskbar shortcuts, dashboard

Productivity

- Mini-Report – Screen snapshots, XML file. Easily uploaded and emailed!
- PQ & energy dashboard's for real time alarming
- Bigger display for more productive local analysis
- DranView 7 Software: data analysis, reporting, rescue kit, post processing



Type	Item number	Type	Item number
MAVOWATT 230	M820D*	MAVOWATT 270	M820G*
MAVOWATT 240	M820F*	MAVOWATT 270-400	M820L*

* including 30/300/3000 A Flex Package



MAVOWATT 210

Portable, low cost, power logger and PQ detector

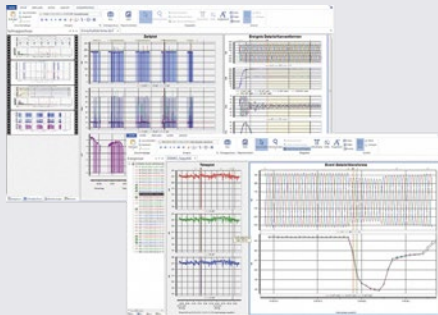


- Power/energy logger & PQ disturbance/event detector
- 3 phase, voltage channels – Direct measurements up to 600Vrms, CATIII
- 4 current channels – 0.333 Vrms current inputs. Compatible with Dranetz Flex, Hinged or any Measures: V, I, W (P), VA (S), VAR (Q), PF, Demand, Energy & much more
- PQ disturbance detector – Detect and records trends of RMS sags/dips, swells, current changes – IEC 61000-4-30 1/2 cycle methods
- Harmonic measurements & recording
- Measuring head length 40 cm
- Web browser interface for real time meters, setup and data transfer
- Perfect for load studies.
- Free, unlicensed Dran-View XP software for analysis & reporting
- 7 hr battery runtime
- Automatic wiring verification – LED's indicate wiring errors
- Ethernet, USB communications
- Modbus, Bacnet
- 3 Rogowski Current transformers 50 – 500 A
- 3 Year Warranty

Type	Item number
MAVOWATT 210	M840B

POWER QUALITY MONITORING SOFTWARE

DranView 7

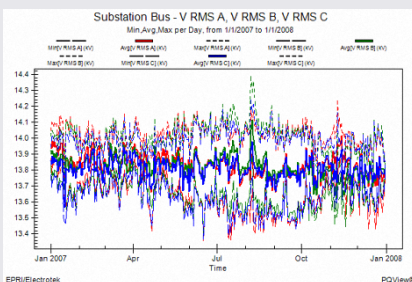


- Quick visualization and analysing of power quality and energy monitoring data
- Easier and simpler to use trough new ribbon bar, similar to any modern Microsoft program
- Scrollable chart axes, view trends, waveforms, magnitude and DFT
- True 64 bit program, fast handling of large data files
- Event filtering and sorting; drag and drop charts and axes
- Routine statistical tables, PQ supply reports, spectrum graphs for harmonics, time plots for hundreds of parameters
- Reads data in PQDIF, COMTRADE, csv and txt format
- Report writing modules with integrated text editor, snapshots/bookmarks
- Reporting according international standards IEC, EN, G5/4, NVE, GOST and other standards
- Multi-site capabilities with events filtering and time synchronization, mathematical comparisons
- Rescue Kit (adjust time stamps, flip current probes, change scaling factors, change connection type)
- Mathematical functions (calculate trends and harmonics from waveform data; separate harmonic scaling for U,I and P; add your formulas; analyse harmonic spectra)
- 10 days full demo version and video presentation available at: www.gossenmetrawatt.com

Type	Item number
DranView 7 Professional	Z818Z
DranView 7 Enterprise	Z818X

PQView

PQView Is a Multi-Component-Software System Developed for Building and Analysing Databases of Power, Power Quality And Energy Measurements



- Data integration and management of big databases
- Import /export IEEE PQDIF and COMTRADE files
- Integrate data from more than 50 different systems
- Define and schedule automatic reports in compliance with local regulations and standards, e.g. EN50160
- Share data via web browsers on an Intranet/Internet using PQWeb®
- Reduce time to classify fault types
- Reduce time to locate faults
- Reduce time to restore power

Type	Item number
PQ VIEW	PQ VIEW



INSTALLATION TESTER

PROFITEST INTRO



The PROFITEST INTRO is capable of executing all measurements for testing the effectiveness of safety measures in electrical systems as required by IEC 60364-6 (DIN VDE 0100-600) and other country-specific standards.

Working Efficiently Around the World

- Intuitive operation; measuring functions can be selected directly via the rotary switch
- Background illumination
- Help functions with wiring diagrams
- International prompting (12 languages)

Technical Characteristics

- Low-resistance measurement for protective and equipotential bonding conductors with automatic polarity reversal

- Highly accurate measurement of internal system and fault loop impedance without tripping the RCD
- RCD test with continuously rising ramp, time to trip, tripping current
- Insulation measurement with rising ramp
- Varistor response test with rising ramp and variable test current
- Earthing resistance measurement
- Voltage drop measurement
- Voltage measurement for UN 120, 230 and 400 V, phase sequence
- Structurable memory for approx. 50,000 objects
- ETC (Electrical Testing Center) and GMST software
- Connection of an RFID reader or barcode scanner
- PRO-JUMPER for easy measurement cable compensation

Type	Item number
PROFITEST INTRO	M520T

PROFITEST MASTER



Test Instrument for IEC 60364-6 / EN 50110-1



A broad-range measuring device allows for use of the test instrument in all alternating and 3-phase electrical systems with voltages from 65 to 500 V and frequencies of 15.4 to 420 Hz.

- Loop and line impedance measurement
- Measurement of insulation resistance using nominal voltage, with variable or rising test voltage
- Low-resistance measurement
- Earth resistance measurement with all methods
- Standing-surface insulation measurement
- Structurable memory
- Testing of residual current devices (RCCBs)

- Testing of special RCDs like SRCDs, PRCDs (Schukomat, Sidos etc.), types G/R, AC, A and B
- Testing of RCCBs in IT systems
- Testing of insulation monitoring devices (IMDs)
- Testing of residual current monitoring devices (RCMs)
- Intelligent ramp
- Automatic test sequence
- Leakage current measurement with PRO-AB adapter
- Testing of determining residual voltage / detecting mains fluctuations

Type	Item number
PROFITEST MTECH+ IQ	M535B
PROFITEST MPRO IQ	M535C
PROFITEST MXTRA IQ	M535D

PROFITEST PRIME PROFITEST PRIME AC



Standards Compliant and Safe “CE Tester”, Machine- and Electric Systems Tester: DIN EN 60204-1 / VDE 0113-1; IEC 60364-6 / DIN VDE 0100-600; EN 50110-1 / DIN VDE 0105-100, DIN EN 61439-1 / VDE 0660-600-1; DIN EN 62446 / VDE 0126-23; DIN EN 61851-1 / VDE 0122-1



PROFITEST PRIME is the first all-in-one test instrument in 690 V AC and 800 V DC networks for electrical systems, machines, switchgear, industrial equipment, wind power turbines, power generators and e-mobility. Optional PROFITEST PRIME versions are available with AC or DC high voltage test.

- Measurement of fault loop resistance without tripping RCD Types A and B
- Residual voltage measurement

- Insulation measurement with rising ramp
- Protective conductors measurement with 200 mA or 25A
- Measurement of leakage and differential current
- Testing of RCD Types A, AC, F, B, B+, EV, MI and G/R, as well as SRCDs and PRCDs
- Testing of residual current monitoring devices (RCMs)

Type	Item number
PROFITEST PRIME	M506A
PROFITEST PRIME AC	M506C



List of Features	INTRO	MXTRA IQ	MTECH IQ	MPRO IQ	PRIME	PRIME AC
U Measurement of Voltage UL-N / UL-PE / UN-PE / f	•	•	•	•	•	•
Measurement in 690V Systems					•	•
Measurement to test Phase Rotation	•	•	•	•	•	•
R LO 200 mA Measurement of equipotential bonding with automatic polarity reversal	•	•	•	•	•	•
R LO 25 A Measurement of equipotential bonding with automatic polarity reversal					•	•
R ISO Measurement of Insulation Resistance with variable or rising test voltage (ramp)	•	•	•	•	•	•
Testing of RCDs						
UB measurement without tripping the RCD	•	•	•	•	•	•
I Δ N Tripping time measurement	•	•	•	•	•	•
I F Tripping Current Measurement	•	•	•	•	•	•
Selective, SRCDs, PRCDs, types A, AC, F, G/R, A-EV, F-EV	•	•	•	•	•	•
Type F Audio		•	•		•	•
AC/DC sensitive RCDs – type B, B+, B-MI, B+-MI	•	•	•		•	•
Type RCD-DD, RCMB		•	•		•	•
AC Loop impedance ZL-PE / ZL-N	•	•	•	•	•	•
Fuse table for systems without RCDs	•	•	•		•	•
Loop Measurement without tripping RCD type A	•	•	•		•	•
Loop Measurement without tripping RCD type B					•	•
With 15 mA test current, without tripping the RCD	•	•	•	•	•	•
DC Loop impedance DC+-DC-, DC+--PE, DC---PE					•	•
RE Earth resistance						
I-U measuring method, mains operation (2/3-wire measuring method via measuring adapter: 2-wire / 2-wire + probe)	•	•	•	•		
Earth resistance RE (battery operation), 3 or 4-wire measuring method via adapter		•		•		
Soil resistivity rE (battery operation) 4-wire measuring method via adapter		•		•		
Selective earth resistance RE (mains operation) with 2-pole adapter, probe, earth electrode and current clamp sensor (3-wire measuring method)	•	•	•	•		
Selective earth resistance RE (battery operation) with probe, earth electrode and current clamp sensor (4-wire measuring method via adapter and current clamp sensor)		•		•		
Earth loop resistance RELOOP (battery operation) 2 clamps (current clamp sensor direct and current clamp transformer via adapter)		•		•		
High-voltage test						
HV AC Testing for Dielectric Strength 2.5 kV / 200 mA						•
With test voltage AC constant						•
Breakdown voltage measurement with ramp function						•
Defect location with pulse control mode						•
Additional Features						
IL Leakage current (clamp measurement)		•	•	•	•	•
Ures Residual voltage test AC		•			•	•
Ures Residual voltage test DC					•	•
Meter start-up	•	•	•	•	•	•
ZST Standing-surface insulation		•	•	•		
Earth leakage resistance RE (INS)		•				
ΔU Voltage Drop Measurement	•	•	•	•	•	•
Leakage current with adapter		•				
Intelligent ramp		•			•	•
Insulation Monitoring Devices (IMDs) AC Systems		•			•	•
Insulation Monitoring Devices (IMDs) DC Systems					•	•
Residual current monitoring devices (RCM)		•			•	•
Documentation of Fault Simulations at PRCDs with the Profitest PRCD Adapter		•			•	•
Creating Test Sequences		•	•	•	•	•
Individual measured value memory and creation of a memory structure	•	•	•	•	•	•
Help function with connection diagrams	•	•	•	•	•	•
Selectable user interface language	•	•	•	•	•	•
Push-print function (storage or transmission)		•	•	•	•	•
RS232 Interface for RFID- / Barcode-Reader	•	•	•	•	•	•
Bluetooth Interface®		•	•		•	•
USB Interface for Data transmission	•	•	•	•	•	•
Measuring category: 600 V CAT III / 300 V CAT IV	•	•	•	•	•	•
DAkkS calibration certificate		•	•	•	•	•



E-MOBILITY CHARGING STATION TESTING AND DIAGNOSTICS

PROFITEST H+E XTRA / XTRA C

Testing and Diagnosis of DC Charging Infrastructures



The test instrument is connected to the charging station, in order to document the communication between the charging station and the test instrument. If the charging process doesn't start, the source of error can be quickly pinpointed.

The PROFITEST H+E XTRA C is an EV diagnostics tester for CCS, CHAdeMo and AC per DIN EN 61851-1/22/23/24, ISO 15118-1, IEC 60364-6, EN 50110-1

Function Tests: Independent test instrument checks communication between the vehicle and the charging point, and simulates the charging process with DC source and load.

Electric safety tests: The integrated measurement inputs are intended for the connection of an installation tester for checking the effectiveness of protective measures.

Test/analysis standards:

- CHAdeMO versions 0.9.1, 1.0.0., 1.0.1, 1.1
- DC-CCS per DIN SPEC 70121 or ISO 15118-1
- AC per EN 61851-1

- Electric vehicle simulation during communication for drawing EVSE charging current
- Electric vehicle simulation at DC load circuit, adapted to communication
- Read-out of measured values for direct voltage and direct current
- Read-out of communication progress
- Test sequence for detecting insulation faults
- Read-out of test results (past/failed) depending on charging variant

Type	Item number
PROFITEST H+E XTRA	M525N
PROFITEST H+E XTRA C	M525M

PROFITEST H+E BASE

Communication and Charging State Tester for Electric Charging Stations



The test instrument is connected to the charging station, in order to document the communication between the charging station and the test instrument. If the charging process doesn't start, the source of error can be quickly pinpointed.

- Diagnosis for:
 - Vehicle states
 - Cable condition
 - Error states
 - PWM signal evaluation
 - Phases and phase sequence
 - Battery level

- Error simulations:
 - Short-circuiting of the diode in the vehicle's circuit
 - Short-circuit between CP and PE
 - Testing of the RCD by tripping and measuring breaking time

Type	Item number
PROFITEST H+E BASE	M525A

PROFITEST E-MOBILITY

Adapter for Inspecting Single and 3-Phase, Mode 2 and 3 Charging Cables



PROFITEST EMOBILITY is an adapter for standard compliant testing of single and 3-phase, mode 2 and 3 charging cables by simulating faults.

- Testing of charging cables per DIN VDE 0701-0702 and manufacturer specifications using a guided test sequence with a recommended test instrument
- Testing of mode 2, mode 3 and TESLA charging cables
- Testing of connector cables with country-specific plug (type 1 plug etc.)
- Function test, i.e. tripping test by simulating the following faults:
 - Interruption, reversed wires and PE to phase
- Measurement of protective conductor current with current clamp transformer as accessory

- Measurement of protective conductor and insulation resistance per DIN VDE 0701-0702 with a recommended test instrument
- Tripping test with nominal residual current and measurement of time to trip with a recommended test instrument
- Simulation of vehicle state per EN 61851-1/ VDE 0122-1
- Testing of resistance coding for vehicle inlets and vehicle connectors per EN 61851-1/VDE 0122-1
- Evaluation and documentation of the individual test steps with a recommended test instrument

Type	Item number
PROFITEST E-MOBILITY	M513R



E-MOBILITY CHARGING STATION TESTING AND DIAGNOSTICS

METRALINE PRO-TYP EM I/II/III

Single and 3-Phase Test Adapters for Testing Electric Charging Stations with the PROFITEST MTECH+ and the MXTRA



METRALINE PRO TYP EM I Adapter



METRALINE PRO TYP EM II Adapter



METRALINE PRO TYP EM III Adapter

Single and 3-phase test adapter with type 2 plug for testing the effectiveness of protective measures at electric charging stations with the PROFITEST MTECH+ / MXTRA, simulation of fictitiously connected electric vehicles and current-carrying capacity of cord sets per IEC 61851-1

- Vehicle simulation (CP): vehicle states
- A through E are selected with a rotary switch.
- Cable simulation (PP): the various codings for charging cables with 13, 20, 32 and 63 A, as well as "no cable connected", can be simulated with the help of a rotary switch.
- Fault simulation: simulation of a short-circuit between CP and PE by means of a rotary switch
- Indication of phase voltages via LEDs: depending on the charging station, either one or three phases can be active.
- Testing of electric charging stations with permanently attached charging cable by means of an extended CP test pin
- CP socket for evaluating the PWM signal

Applications:

Standard-compliant tests can be conducted at electric charging stations in accordance with IEC 61851 with the help of the PRO-Typ II in combination with the PROFITEST MTECH+ and MXTRA test instruments.

The test adapter triggers the charging process by simulating an electric vehicle. Only by means of simulation is the charging station's outlet energized so that it can be tested with the PROFITEST MTECH+ and MXTRA test instruments.

The range of applications includes R&D and service.

Scope of delivery:

- 1 METRALINE PRO-TYP EM I, II or III test adapter
- 1 set of operating instructions

Optional:

- F2010 universal carrying pouch with flexible compartments

Designation	Type	Article
METRALINE PRO TYP EM I	Single and 3-phase test adapter with type 2 plug	Z525F
METRALINE PRO TYP EM II	Single and 3-phase test adapter with type 2 plug – same as PRO-TYP EM I with additional earthing contact socket	Z525G
METRALINE PRO TYP EM III	Single and 3-phase test adapter with type 2 plug – same as PRO-TYP EM II with additional interchangeable test plug (optional: type 1, Chinese plug)	Z525H
F2010	Universal pouch	Z700G

EARTH RESISTANCE TESTER

GEOHM C

Earth Resistance Tester



- Earth resistance measurement in 5 ranges up to 50 kΩ
- Selective earth resistance measurement
- Soil resistivity measurement
- Voltage current measurement (TRMS) via clamp meter (optional Geohm 5)
- Voltage measurement from 10 to 250 V
- Frequency measurement from 45 to 200 Hz
- Battery monitoring and self-test; integrated memory with IrDA interface
- Extremely rugged housing
- Three or four-pole measuring method
- 1- or 2 clamp measurement (Geohm 5)

Type	Item number
GEOHM C GB	M590D



GEOHM5

Earth Tester for All Known Measuring Methods



- This battery powered measuring instrument can also be used to ascertain or measure soil resistivity and ohmic resistance in accordance with the current-volt- age measuring method. Easy, concise operation with only 4 keys.
- Features:
- Measurement of:
- Earth resistance
- Selective earth resistance
- Soil resistivity
- Current (TRMS) via clamp meter (optional)
- Conventional 3 and 4-pole measurement
- Selective single-clamp measurement (optional)
- 2-clamp measurement (optional)
- Battery operation is possible (optional)
- No balancing required
- Continuous monitoring of interference voltage and auxiliary earth electrode resistance with indication when allowable limit values are exceeded
- Data storage for 250 measurements (1000 measured values)
- Data interface for transmission to a PC

Type	Item number
GEOHM 5-SET	M591B

GEOHM PRO / XTRA

High-Precision Earth Testers and Low-Resistance Measuring Instruments



GEOHM ERP-1 ADAPTER for earth resistance measurement at utility poles

- RS and RH resistance measurements via auxiliary electrodes
- 3 and 4-wire earth resistance measurement
- 3-wire earth resistance measurement with current clamps
- Measurement of interference voltages
- Measurement of interference frequencies
- Measurement even where interference voltages occur in systems with 16%, 50 and 60, as well as 400 Hz (with automatic and manual selection of the right measurement signal frequency)
- Low-resistance of the PE conductor with 200 mA (per IEC 60364-6-61)
- Measuring voltage selection (25 or 50 V)
- Entry of distances between the electrodes in meters (m) and feet (ft.) for measurement of soil resistivity
- RTC real-time clock
- Data transmission to the PC (USB)
- Geohm XTRA with GPS

Type	Item number
GEOHM PRO	M592A
GEOHM XTRA	M592B
GEOHM ERP-1 Adapter	Z592S

METRACLIP EARTH

Earth Clamp Meter



The earth clamp meter can be used to test the resistance of any conductive system which demonstrates loop characteristics.

- Earth electrodes
- Clamp measuring functions:
 - Earth loop resistance: 0.01 ... 1500 Ω
 - Loop inductance: 10 ... 500 μH
 - Leakage current: 0.2 mA ... 40 A AC
 - Touch voltage: 0.1 ... 75 V
- Clamp generator and meter in a single device
- Large OLED display
- Measured value memory for resistance and leakage current, each with date and time
- Compact and user-friendly: one-hand operation
- Easy to open clamp with spring force compensate
- Extremely safe thanks to 600 V CAT IV



Type	Item number
METRACLIP EARTH	M312N



INSULATION TESTER DIGITAL & ANALOG

METRISO PRIME+, METRISO PRIME 10



Insulation Measuring Instrument, from 50 to 10.000 Volt

Digital high-voltage insulation measuring instrument with test voltages of up to 5000 V D

Voltage Measurement to 1000 V

Testing for absence of voltage at the device under test in systems of up to 1 kV can be performed with the voltage measuring range.

Discharging Capacitive Devices Under Test Capacitive devices under test such as cables and coils, which may be charged with test voltage, are discharged by the measuring instrument. The falling voltage value can be observed at the display.

Measurements per EN 61557

Nominal current amounts to 1 mA at a test voltage of 100, 250, 500 or 1000 V.

Highly Insulated Measurement Cables

The highly insulated measurement cables are permanently connected for safety reasons in order to avoid danger resulting from an inadvertently disconnected cable.

Polarization Index – PI

Polarization index testing is recommended for electrical machines. This procedure involves expanded testing of insulation resistance. DC measuring voltage from the METRISO PRIME+ is applied to the insulation for a duration of 10 minutes. Charged material within the insulation is aligned due to the application of measuring voltage over a long period of time, resulting in polarization. The polarization index indicates whether or not the charged material contained in the insulation can still be moved, thus allowing for polarization.

Features:

- Extensive measuring range: 0.4 MΩ ... 1 TΩ
- Variable test voltage, or in fixed steps: 100 V, 250 V, 500 V, 1 kV, 1.5 kV, 2 kV, 2.5 kV, 5 kV
- Polarization index and absorption ratio
- Voltage measurement to 1000 V
- Frequency measurement: 15 Hz ... 1 kHz
- Capacitance measurement: 0.1 ... 5 μF
- Measurement of electrical discharge
- Guard terminal for the elimination of surface current
- Supply power from mains, battery pack or external 12 V power supply
- Backlit dot matrix display
- Digital display of measured values and limit values
- Timer function: 1 s ... 100 min.
- Measuring category: 600 V CAT III, 300 V CAT IV
- DAkkS calibration certificate

Scope of Delivery:

- Basic unit with permanently connected measurement cables and test probes
- Alligator clips (5 kV version)

Type	Article	Description
METRISO PRIME	M555T	5000 V analog
METRISO PRIME+	M5000 A02	5000 V digital
METRISO PRIME 10	M555A	10000 V digital

ISOCALIBRATOR 1

Test Adapter



Test Adapter for Insulation Measuring Instruments and Ohmmeters

Adapter for rapid, efficient testing of the accuracy of measuring instruments for insulation resistance and low-value resistance.

Insulation measuring instruments with nominal voltages of up to 1000 V can be tested with the ISO CALIBRATOR 1.

Features:

- Test range: 100 kΩ to 100 MΩ.
- Protection: housing: IP 50 / sockets: IP 20
- Usable with following instruments:
- METRISO series, PROFITEST MASTER series

Type	Article
ISO Calibrator 1	M662A



PHOTOVOLTAIC PERFORMANCE AND INSTALLATION TESTER

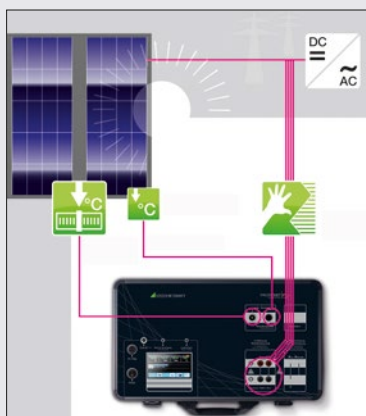
PROFITEST PV / PV 1500

Peak Power Measuring Instrument and Characteristic Curve Tracer for Photovoltaic Systems



Features:

- Testing in compliance with EN 62446
- 20 A DC, 1500 V DC
- Highest precision thanks to operation with calibrated reference cell and fast measurement of characteristic IU curves at the capacitive load at PV modules and strings
- Automatic conversion of measurement result to STC Values
- Patented calculation process for evaluating PV generators without knowledge of the manufacturer's specifications.
- Patented calculation process for determining the generator's internal series resistance based solely on a measured characteristic I-U curve.
- Separate measurement of temperatures at the irradiation sensor and the back of the module for increased measuring accuracy.
- High level of intrinsic safety thanks to included load disconnecter (1500 V/20 A DC) for all-pole disconnection of the measuring instrument from the PV generator
- Calibrated irradiation sensor per IEC/EN 60904-2 with integrated Pt1000 temperature sensor
- Integrated customer database with bidirectional data exchange
- Software for graphic visualization, evaluation and report generation with integrated module database



Type	Item number
PROFITEST PV	M360A
PROFITEST PV 1500	M360F

PROFITEST PV SUN MEMO / SUN-SOR

Test Instrument for Testing PV Modules and Strings per DIN EN 62446 (VDE 0126-23)



Features:

- Voltage measurement: 0 ... 1,000 V DC
- Current measurement (direct): 0 ... 20 A DC
- Insulation resistance measurement
 - Measuring range: 0 ... 20 MW
 - Test voltages: 250 V / 500 V / 1,000 V DC
- Ground fault measurement: 0 ... 1,000 V DC
- Testing for protective conductor continuity: 0 ... 10 W / > 200 mA / with automatic polarity reversal
- Polarity test
- Backlit LCD panel
- Compact and rugged for service calls under harsh conditions

Additionally for PROFITEST PVSUN MEMO:

- Bidirectional interface
- Internal memory for the storage of 10.240 data records
- Free software tool



Type	Item number
PROFITEST PVSUN	M360C
PROFITEST PVSUN MEMO	M360D
PROFITEST SUN-SOR	Z360N



PORTABLE APPLIANCE AND WELDING MACHINE TESTER

SECUTEST ST SERIES



IZYTRON .IQ

Please ask your distributor for correct configuration

Universal Test Instrument for Testing Electrical Devices, Medical Devices and Welding Units – with Test Sequences per EN50678 / EN50699 (DIN VDE 0701-0702), IEC 62353 and IEC 60974-4

- 9 Preconfigured test sequences
- Create your own Test sequences
- Easy operation
- Data managements & storage concept
- Automatic connection detection
- Clear display
- Rugged housing
- Multiple measurement
- Universal interface
- User-friendly
- HTML report
- PUSH-PRINT function *
- Object relocation *
- 2-Tree structure *
- Including IZYTRONIQ software

SECUTEST ST PRO

Same as SECUTEST ST BASE plus:

- KS17-ONE cable set
- DB+ Z853R function expansion

SECUTEST ST PRO BT Comfort

Same as SECUTEST ST PRO plus:

- Bluetooth
- DB Comfort Z853S function expansion

Standard Model	Article
SECUTEST ST BASE	M707A
SECUTEST ST PRO	M707B
SECUTEST ST PRO BT Comfort	M707C

METRALINE PAT



Device Tester for Testing per Directive 2009/104/EC

The METRALINE PAT is being introduced as a modern test instrument with intuitive operation. The instrument is used for testing portable operating equipment, as well as testing in accordance with DGUV regulation 3 (previously: BGV A3) and DIN VDE 0701-0702.

The METRALINE PAT test instrument is supplied with 230 V AC mains power. The measurements are saved in the METRALINE PAT data memory in a menu-driven manner. They can be transferred to a PC and IZYTRONIQ as well. The measuring functions, the measured values and the user guidance are displayed on the integrated screen, providing for convenient operation.

Features

- Mains polarity reversal with load monitoring
- 2-pole measurement (low-resistance, insulation, equivalent leakage current, voltage)
- Optional guided operation via Test Master app for Android with SQLITE3 database
- Green/red LED display as pass/fail indicator

Advantages compared to METRATERESTER5+

- One test socket only => semi-automatic, no re-plugging due to relay-control
- USB
- Bluetooth and ELEQINOQ App to transfer measurement data to IZYTRONIQ

Type	Item number
METRALINE PAT	n.n.

IZYTRONIQ



Protolling Database and Test Instrument Management Software

IZYTRONIQ – New powerfull protocolling data base software for most of our test and measurement instruments. It makes the entire testing sequence process simpler and more flexible. Even complex tasks with numerous measuring points and different test sequences can be processed quickly, professionally and reliably.

Here are some highlights from different IZYTRONIQ variants:

- Test management of installations, portable appliances, machines and medical devices
- Generation of tree structures for all kind of objects under test
- Test sequence management and sequence editor

- Import of memory structure, catalogs, sequences and measurements from test instruments
- Export of memory structure, catalogs and sequences to test instruments
- Flexible protocol templates
- Analysis and trend development of similar tests of an object
- Manual input of measured values
- Comprehensive statistics with percentage failure rate as PDF printout

For a detailed description please visit www.izytron.com



THREE-PHASE ADAPTER IN COMBINATION WITH TEST EQUIPMENT

	Adapter							
	AT3-III-E	AT3-IIIS	AT3-IIIS 32	AT16-DI	AT32-DI	VL2E	Z745A	
Measuring Method	These adapters switch mains voltage through to the DUT – the function test is evaluated manually by the inspector (pass/ fail).							
Function test						–	–	
Single-phase consumers	■	–	–	–	–	■	■	
Single-phase extension cords	■	–	–	–	–	■	■	
3-phase extension cords	■	–	–	–	–	■	–	
Protective conductor resistance	■	■	■	■	■	■	■	
Insulation resistance	■	■	■	■	■	■	■	
Protective conductor current, equivalent leakage current	■	■	■	■	■	■	■	
Protective conductor current, differential current	■	■	■	■	■	–	–	
Protective conductor current, direct	■	■	■	■	■	–	–	
Touch current	■	■	■	■	■	–	–	
Test instrument								
SECUTEST BASE (10), ST BASE	direct only	direct only	direct only	■	■	■	■	
SECUTEST PRO / PRO BT COMFORT (IQ) / ST PRO / ST PRO BT COMFORT	■	■	■	■	■	■	■	
SECUTEST SII+ / SIII+ / S2N+ (10)	■	■	■	–	–	■	■	
SECULIFE ST	■	■	■	60601 only	60601 only	■	■	
SECULIFE ST BASE (BASE25) / PRO (IQ)	■	■	■	■	■	■	■	
METRATESTER 5+	–	–	–	–	–	■	■	
METRALINE PAT	–	–	–	–	–	■	■	
MINITEST PRO / MASTER	–	–	–	–	–	■	■	

NEW STANDARDS FOR ELECTRICAL SAFETY TESTING

EN 50678

General procedure for verifying the effectiveness of the protective measures of electrical equipment after repair

EN 50699

Periodic inspection for electrical equipment

Both standards apply to equipment that is connected via a plug or that is permanently connected to final circuits with a rated voltage of more than 25 V AC and 60 V DC up to 1000 V AC and 1500 V DC and currents up to 63 A.





BATTERY TESTER

Metracell BT PRO



Portable Test Instrument for Evaluating Storage Batteries

The METRACELL BT PRO is a portable, multifunctional test instrument for the evaluation and maintenance of battery systems and uninterruptible power supplies (UPSs), for example in computer centers, hospitals and power plants.

Voltage, as well as electrical and electrochemical resistance of battery blocks can be determined with the METRACELL. Discharge tests are possible by acquiring discharge current and the voltage curve at the block and battery levels. The instrument stores up to 30,000 data records which can be managed with the included battery management software.

Features:

- Simple, intuitive menu prompting
- Compact design and impact-resistant ABS housing with additional rubber holster
- Acoustic feedback
- Integrated Bluetooth® and infrared interface
- Operating time: approx. 10 hours
- Kelvin probes for 4-wire measurement (suppresses influence on the resistance measurement results due to cable and contact resistance)
- PC-aided measurement data management, evaluation and backup with BTPRO Manager software

- Measurement of block voltage up to ± 24.5 V DC
- Measurement of overall voltage up to 600 V DC and 300 V AC
- Capacity tests for individual blocks and entire batteries
- Measurement of inner resistance with simultaneous measurement of electrical resistance (Rel) 1 and electrochemical (charge-transfer) resistance (Rct) 2
- Automatic recording of voltage and current (option)
- Measurement of block temperatures (option)
- Optional ascertainment of acid densities
- Battery identification by means of RFID tag reader
- Storage of up to 300,000 data records

Scope of delivery:

- 1 test instrument
- 4 type AA batteries, 1.2 V
- 1 power pack
- 1 rubber holster
- 1 carrying strap
- 1 carrying case
- 2 alligator clips (KY95-3)
- 1 set of multimeter test probes (KS29)
- 1 set of Kelvin probes for 4-wire measurement
- 1 BT PRO Manager (battery tester management software)
- 1 test report / factory calibration certificate
- 1 set of condensed operating instructions

Measured Quantity	Description
Block voltage	Up to ± 24 V DC
Overall voltage	± 600 V DC
AC voltage	± 300 V AC
Resistance	Up to 1000 m Ω
Current	Via CP330 / 1800 current clamp sensor
Temperature	Via METRATHERM IR BASE / Z680A temperature sensor
Acid density	Via DMA35 sensor from Anton Paar

Type	Article
METRACELL BT PRO	B100B
CP1800	Z204A
CP300	Z202B
METRATHERM	Z680A
Spring-loaded contact pins	Z227F
Angled Kelvin Probes	Z227W



PROGRAMMABLE ELECTRONIC LOADS

SPL SERIES

Single-Channel, Programmable Electronic Loads



Series SPL devices (single-channel programmable load) are programmable electronic loads

- 4 operating modes: CC, CV, CR and CP
- Adjustable current edges: 0.1 mA ..4 A per μ s
- 3 transient functions
- The load can be activated as of an adjustable voltage level
- Short-circuit and battery discharging functions
- Sense terminal + trigger input
- Memory for 7 sequences with up to 50 steps each (at least 10 μ s per step)

- Low load voltage: < 0.6 V at max. current
- Load input on/off switching function
- Multifunctional, illuminated LCD panel
- Extensive safety functions: OV, OC, OP, OT, RV
- PC control via RS 232, IEEE 488 or USB (Opt.)
- SCPI command set
- OPTIONAL ACCESSORIES:
 - IEEE 488 interface (K890A)
 - USB port (K891A)
 - 19" installation set (Z990A)
 - Factory calibration certificate

Type	Article	Power	Voltage	Current	Resistance	Dimensions (WxHxD in mm)		Weight (approx. in kg)
		P _{Set} [W]	U _{Set} [V]	I _{Set} [A]	R _{Set} [Ω]	Benchtop Instruments	19" Rack	
SPL 250-30	K852A	0.001 ... 250.00	0.001 ... 80.000	0.0001 ... 30.000	0.0200 ... 2000	226 x 110 x 414	½19" x 2 HU x 350 + 45 mm	5.8
SPL 400-40	K853A	0.001 ... 400.00	0.001 ... 80.000	0.0001 ... 40.000	0.0200 ... 2000			
SPL 200-20	K854A	0.001 ... 200.00	0.001 ... 200.00	0.0001 ... 20.000	0.0666 ... 6660			
SPL 350-30	K855A	0.001 ... 350.00	0.001 ... 200.00	0.0001 ... 30.000	0.0666 ... 6660			

SSL SERIES

Single-Channel, Programmable Electronic System Loads



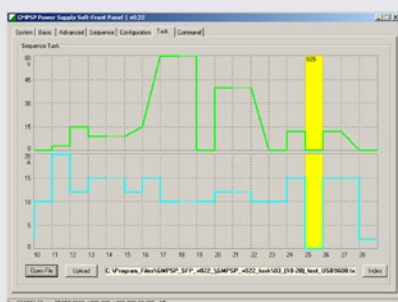
Series SSL devices (single-channel system load) are programmable electronic loads with a maximum sink power of 150 or 300 W.

- 3 operating modes: CC, CR, CP
- Setting selected by means of rotary switch and keypad
- PC control via optional interface adapter
- High resolution measurement of U, I and P
- Multifunctional, illuminated LCD panel
- Memory for 10 setting values with time regulated sequence control (at least 1 second per step)

- Extensive safety functions: OV, OC, OP, OT, RV
- Load on/off switching function
- Scope of Delivery:**
 - Benchtop instrument
 - Mains power cable with earthing contact plug
 - Operating instructions on CD-ROM
- Optional Accessories:**
 - Interface adapter for USB (K910B)
 - Interface adapter for RS 232 (K910A)
 - Factory calibration certificate

Type	Article	Power	Voltage	Current	Resistance	Dimensions (WxHxD in mm)		Weight (approx. in kg)
		P _{Set} [W]	U _{Set} [V]	I _{Set} [A]	R _{Set} [Ω]	Benchtop Instruments	19" Rack	
32 EL 150 R30	K850A	0.1 ... 150.0	0.001 ... 360.0	0.001 ... 30.00	0.01 ... 500	215 x 100 x 280	½19" x 2 HU x 243 + 45 mm	5.0
32 EL 300 R30	K851A	0.1 ... 300.0	0.001 ... 360.0	0.001 ... 30.00	0.01 ... 500			

Soft front-panel PC user interface for SYSKON Konstanters



All SYSKON Konstanters can be controlled with the software. Sequences can be programmed and displayed at the connected PC-System. Active sequences can be read from the konstanters

- FEATURES:**
- Free download
 - Storage of Voltage, Current, Time, Function
 - For USB, serial and IEEE port
 - For Windows XP, 7, 8.1 and 10



PROGRAMMABLE POWER SUPPLIES

LABKON P SERIES

Single-Channel, Computer Controlled Laboratory Power Supplies



- CV and CC operating modes, automatic switching
- Several groups of parameters (device settings) can be saved and retrieved.
- Floating power output / no grounding
- Output can be switched on and off
- Supports SCPI (standard commands for programmable instruments)
- Protective functions, amongst others overvoltage protection
- Auto-sensing mode
- Benchtop instrument, also suitable for mounting to a 19" rack
- RS 232 port, optional GPIB and USB
- Calibration (adjustment) function

OPTIONAL ACCESSORIES:

- IEEE 488 interface (K890A)
- USB port (K891A)
- 19" installation set (Z990A)
- Factory calibration certificate

Type	Article	Power	Voltage	Current	Dimensions (WxHxD in mm) Benchtop Instruments	Weight (approx. in kg)	
		P _{nom} [W]	U _{Set} [V]	I _{Set} [A]			
500 W	LABKON P500 20/25	K147A	500	0 ... 20	0 ... 25	226 x 110 x 414 with rubber protector	5.5
	LABKON P500 35/14.5	K148A	500	0 ... 35	0 ... 14.5		
	LABKON P500 80/6.5	K149A	500	0 ... 80	0 ... 6.5		
	LABKON P500 120/4.2	K150A	500	0 ... 120	0 ... 4.2		
800 W	LABKON P800 20/40	K157A	800	0 ... 20	0 ... 40	213 x 104 x 391 without rubber protector	5.5
	LABKON P800 35/22.5	K158A	800	0 ... 35	0 ... 22.5		
	LABKON P800 80/10	K159A	800	0 ... 80	0 ... 10		
	LABKON P800 120/6.5	K160A	800	0 ... 120	0 ... 6.5		

SYSKON P SERIES

Features of Syskon Power Supplies



- Fast rise time (< 2 ms) and fall time (70 ms in no-load condition)
- Precise setting (0,05 %, 5 digit display)
- Low ripple voltage and current
- Auto ranging V/I line 2.4 : 1
- Protections: overvoltage – overcurrent – overtemperature
- Connection of 2 or more power supplies in master-slave mode
- Up to 1700 test sequences and 15 device configurations can be programmed or imported
- Interfaces RS232, GPIB, USB, analogue
- Models ranging from 500 W to 4500 W

Type	Item number	Type	Item number
SYSKON P500	K346A	SYSKON P3000	K363A
SYSKON P800	K347A	SYSKON P4500	K364A
SYSKON P1500	K353A	IEEE 488 Interface	K384A

SSP32N Power Supplies

Features



- Fast rise time (< 1 ms) and fall time
- Precise setting (0,15 %, 4 digit display)
- Low ripple voltage and current
- Auto ranging V/I line
- Protections: overvoltage – overcurrent – overtemperature
- Connection of 2 or more power supplies in master-slave mode
- Up to 24 test sequences and 10 device configurations can be programmed
- Interfaces RS232, GPIB, Analogue
- Models with 120 W, 240 W & 320 W ranging from 20 V to 80 V

Applications:

- Power simulation (UID characteristic) of defined and precise voltage- and current signals in R&D
- Quality tests in main production
- Quality control of endurance, stability and precision of electronic goods
- Designed to cover most test pulses of the automotive industry

Type	Article	Item Number
SSP 120 W	32 N 20 RU 10 P	K320A
	32 N 40 RU 6 P	K321A
	32 N 80 RU 3 P	K322A

Type	Article	Item Number
SSP 240 W	32 N 20 RU 20 P	K330A
	32 N 40 RU 12 P	K331A
	32 N 80 RU 6 P	K332A

Type	Article	Item Number
SSP 320 W	32 N 32 RU 18 P	K334A
IEEE488 Interface for SSP 32N		K380A



PROFESSIONAL DIGITAL MULTIMETERS

METRAHIT AM, PM, S Series

Multimeter Functions Overview (All multimeters measure voltage, frequency, continuity and diode test)

Further Multimeter functions	Advanced				Professional			Basic			S-Series															
	METRAHIT AM BASE	METRAHIT AM PRO	METRAHIT AM TECH	METRAHIT AM XTRA	METRAHIT PM TECH	METRAHIT PM XTRA	METRAHIT PM PRIME	METRAHIT 2	METRAHIT WORLD	METRAmax 12	METRALINE EXM25	METRAHIT 27EX	METRAHIT EU PRO	METRAHIT ENERGY	METRAHIT OUTDOOR	METRAHIT 27M	METRAHIT 27I	METRAHIT ISO	METRAHIT H+E CAR	METRAHIT COIL	METRAport 40S	METRAHIT T-COM+	METRAHIT ISO AERO	METRAHIT 27AS	SECULIFE HIT AM	METRAHIT IM XTRA/E-DRIVE
Voltage level (dB)	-	-	-	-	■	■	■	-	-	-	-	■	■	-	-	-	-	-	-	-	-	■	-	-	-	-
Current - directly	-	■	■	■	■	■	■	■	■	■	■	-	■	■	■	-	-	■	-	■	■	■	■	■	-	■
Capacity measurement	-	-	■	■	■	■	■	-	■	■	-	-	-	■	■	-	-	■	-	■	■	■	■	■	-	■
Temperature measurement Pt 100/1000	-	-	-	■	■	■	■	-	-	-	-	-	-	■	■	■	■	■	■	■	■	■	■	■	■	■
Temperature measurement TC	■	■	■	■	■	■	■	■	■	■	-	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
DATA / MIN / MAX storage	■	■	■	■	■	■	■	■	■	■	-	-	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Memory (measurement value)	-	-	-	■	-	■	■	-	-	-	-	-	■	■	■	■	■	■	■	■	■	-	■	■	■	■
Interface	-	-	-	■	■	■	■	-	■	-	-	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Software METRAwin10 - optional	-	-	-	■	■	■	■	-	■	-	-	■	■	■	■	■	■	■	■	■	■	■	■	■	■	2)
Power supply jack	-	-	-	■	-	■	■	-	-	-	-	-	-	■	■	■	■	■	■	■	■	-	■	■	■	3)
Special functions											1)	4)				4)										
4-wire milliohm measurement	-	-	-	-	-	-	-	-	-	-	-	■	-	-	-	■	-	■	-	-	-	-	-	-	■	
Duty cycle	-	-	-	■	-	■	■	-	■	-	-	-	-	■	■	-	-	-	-	■	■	-	-	-	-	■
Cable length measurement	-	-	-	-	-	-	-	-	-	-	-	-	-	■	-	-	-	-	-	-	-	■	-	-	-	
Cable symmetry testing	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	■	-	-	-	
Loop resistance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	■	-	-	-	
Insulation resistance measurement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	■	■	■	■	■	-	■	■	■	■	
Power and energy measurement	-	-	-	-	-	-	-	-	-	-	-	-	-	■	-	-	-	-	-	-	-	-	-	-	-	
Power quality (PQ)	-	-	-	-	-	-	-	-	-	-	-	-	-	■	-	-	-	-	-	-	-	-	-	-	-	
according to ATEX standard (EX)	-	-	-	-	-	-	-	-	-	-	■	■	-	-	-	-	-	-	-	-	-	-	-	-	-	

1) 27EX: no measurement of voltage, frequency, continuity and diode testing 2) IZYTRONIQ Business Starter Licence included 3) optional Power Supply Module 4) 1 kV surge test

MEASUREMENTS IN POTENTIALLY EXPLOSIVE ATMOSPHERES

METRALINE EXM25

Intrinsically Safe Multimeter



Thanks to their intrinsically safe design and rugged antistatic housing with protection class IP54, the instruments are particularly suited for use in mining and chemical/petrochemical industries.

CE CAT IV IP54

- Measurement of voltage, resistance, current and frequency
- Approved in accordance with ATEX directive 94/9 EG for intrinsically safe and not intrinsically safe electric circuits up to 1000 V

- II 2G Ex ib IIC T4/T6 petrochemical industry)
- I M2 Ex ib I (coal mines)
- Highest degree of safety due to encapsulated protective resistors in DATA HOLD test probes CAT IV, 1000 V
- Direct current measurements 1 mA ...2 A
- Intrinsically save energy units, rechargeable NiMH battery or lithium battery
- Illuminated display
- Self-test and battery level indicator

Type	Item number
METRALINE EXM25A	M210A

METRAHIT 27EX

Milliohmmeter for Use in Potentially Explosive Atmospheres



Intrinsically Safe Milliohmmeter ATEX (27EX)

- Special ATEX certified version for measuring in potentially explosive atmospheres, especially in Avionic field for measurement at aircraft surfaces (lightning protection, „leakage test“ (Wicktest))

- Intrinsically safe acc. to IEC 50020 und 50014
- Each device with ATEX certificate by INERIS 05ATEX0040 II 2 G EEx ia IIA T4

Type	Item number
METRAHIT 27EX	M227F



MULTIFUNCTIONAL PROCESS CALIBRATORS AND MULTIMETER

METRACAL MC / METRAHIT CAL



Calibration and Measurement: Efficient and Time-Saving Thanks to Simulation

- Universal calibrator, simulator and multimeter mA / mV ... V / °C (Pt100/1000, Ni100/1000, thermocouples: J, L, T, U, K, E, S, R, B, N) / 30 ... 2000 Ω
- Dual mode V/A simultaneous calibration and measurement (U / I)
- Measuring and encoding in absolute terms and as percentage (scaled)
- Memory for measurement results: 16 Mbit
- Frequency and pulse run generators: 1 Hz to 2 kHz
- Ramp and staircase functions
- METRAWin 90-2 interface and calibration software
- Transmitter simulator (sink: 0... 24 mA)
- DAKS calibration certificate included
- Rugged, EMC compliant design
- Precision multimeter (V, A, Ω, F, Hz, °C / F) 30.000 (60.000) digits and triple display
- TRMS AC measurement to 1 kHz

Type	Item number
METRAHIT CAL	M224A
METRACAL MC	M245A

METRAWin 10 / 90-2

PC-Software for Protocols and Data Handling

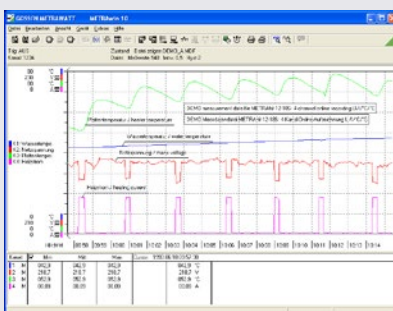


- Measured values are queried from the multimeters by METRAWin 10, are managed at PC and can be displayed as Yt or XY graphs (up to 6 channels), or in tabular form (up to 10 channels)
- Measurement data can be easily imported to other Windows applications with the clipboard function at PC (e.g. Word or Excel)
- The SW runs under Windows 2000, XP, Vista, 7, 8, 10

Type	Item number
METRAWIN 10 Software	GTZ3240000R0001
METRAWIN 90-2 Kalibriersoftware	Z211A

METRAHIT ENERGY

Energy High End DMM for Power, Power Quality and Energy Measurement



- Digital hand-held multimeter with TRMS measurement including: V AC TRMS, V AC+DC TRMS with a bandwidth of 100 kHz, V DC, dB, Hz (V), Hz (A), Ω, μF, V, °C/°F (TC/RTD)
- Power measurement (W, VAr, VA, PF): active, reactive and apparent power with extreme values, power factor
- Energy measurement (Wh, VArh, Vah) active, reactive and apparent energy, mean power value with adjustable observation period and maximum value
- Mains quality analysis: recording of overvoltage and undervoltage, dips, swells, voltage peaks and transients in 0, 50 and 60 Hz systems
- Harmonic analysis: RMS values and distortion components up to the 15th harmonic at 16.7, 50, 60 and 400 Hz
- Special measuring functions: crest factor (CF), conductivity (nS), low resistance RSL, duty cycle %, cable length km
- Resolution of 60.000 digits
- Triple display, display illumination can be activated under difficult ambient lighting conditions
- 1 kHz / -3 dB switchable low-pass filter
- Direct current measurement from 10 nA to 10 A, 16 A intermittently, current measurement with current transformer clamp or sensors, transformation ratio is configurable for the display
- Large data memory for up to 300.000 measured values
- Instrument is completely remote controllable without activating the rotary switch or changing current sockets
- Compatible with METRAWin 10

Type	Item number
METRAHIT ENERGY	M249A
METRAHIT ENERGY DC POWER SET	M249D



PROFESSIONAL DIGITAL MULTIMETERS

METRAHIT IM XTRA /
METRAHIT IM E-DRIVE



All-in-One: Multimeter and Milliohmmeter, Insulation Measuring Instrument, Coil Tester, Data Logger (new)



Product Highlights

- Milliohm measurement using 4-wire connection (Kelvin measurement) with 200 mA or 1 A
- Insulation tester with test voltage from 50 to 1000 V
- Interturn short-circuit surge test with 1 kV by means of Coil Adapter XTRA for electrical machines
- Milliohm measurement using 4-wire connection (Kelvin measurement) with 200 mA or 1 A
- Rlow installation testing per EN 61557-4 / VDE 0413-4
- Bonding test and equipotential bonding measurement, e.g. on aircraft outer skins (lightning protection, Wick test)

Special Features – All-in-one Instrument:

- Multimeter, insulation tester and milliohmmeter
- 4-wire milliohm measurement with 200 mA or 1 A with a handheld device in the field
- Handheld instrument with 1 kV surge test for field applications
- TRMS multimeter with 100 kHz bandwidth
- Interfaces: Bluetooth, WIFI or USB
- Including DAKS calibration certificate

Applications:

Maintenance, service and diagnostics at electric machines, drive units and generators, for example in automotive, avionics, energy and automation applications.

COIL ADAPTER XTRA

In combination with the optional COIL ADAPTER XTRA, the METRAHIT IM XTRA and the METRAHIT IM E-DRIVE make it possible to test coils in electric motors and generators for inter-turn short-circuits. The Z270M adapter is universally suitable for many electric machines with various power ratings.

For motors in accordance with DIN standards, this corresponds to power ratings of roughly 160 VA to 80 MVA.

COIL ADAPTER Features:

- Simultaneous connection to 3 coils
- Rotary switch for coil selection
- Polarity reversal via the rotary switch
- 2 inductance ranges: 10 micro H ... 50 mH / 5 mH ... 5 H
- Combined connector plug

Type	Item number
METRAHIT IM XTRA BT (including IZYTRONIQ Software)	M273S
METRAHIT IM E-DRIVE BT (including IZYTRONIQ Software)	M274S
COIL Adapter XTRA	Z270M

METRAHIT ISO & METRAHIT COIL



The METRAHIT ISO and METRAHIT COIL multimeters are rugged portable measuring instruments suitable for servicing household appliances, electrical machinery (e.g. forklifts) and systems (e.g. photovoltaic). The field instruments are equipped with an internal, mains-independent power supply. Insulation resistance measurement with interference voltage detection, test voltages: 50/100/250/500/1000 V

METRAHIT ISO

Insulation Tester, TRMS Multimeter and intelligent Data Logger

METRAHIT COIL

Like METRAHIT ISO plus Electric Motor Tester, TRMS multimeter and intelligent data logger insulation test and interturn short-circuit test in combination with the COIL test adapter suited for the most common electrical machines of different performance classes.

Features:

- Insulation resistance measurement up to 3.1 GΩ with interference voltage detection, test voltages: 50/100/250/500/1000 V

- Multimeter with various functions (V_{DC} , $V_{AC/DC}$, V_{AC} , Ω , F, $^{\circ}F/^{\circ}C$, I_{DC} , $I_{AC/DC}$, I_{AC} , continuity/diode testing, Hz)
- Switchable low-pass filter, 1 kHz/-3 dB in the V AC range
- Direct current measurement, 100 nA to 10 A and with clamps and adjustable clip-factor
- Precision temperature indicator, $^{\circ}C$ or $^{\circ}F$, PT 100/1000 or K Type thermocouples
- Diode measurement and continuity testing, duty cycle measurement (COIL only)
- Acoustic signals for: continuity testing, dangerous contact voltages, exceeded overload limits
- Min - Max. Data Hold with automated storage
- Data memory and internal clock, internal/external power supply
- Bidirectional IR interface for exchanging data with PC

Type	Item number
METRAHIT ISO	M246B
METRAHIT COIL	M246C
COIL Adapter 50 mH	Z270F



PROFESSIONAL DIGITAL MULTIMETERS

METRAHIT PM PRIME / PRIME BT



Handheld Digital Multimeter with TRMS Measurement with 100 kHz Bandwidth including amongst others Measuring Functions: V AC TRMS, V AC+DC TRMS, V DC, A AC TRMS, A AC+DC TRMS, A DC dB, Hz(V), Hz(A), Ω , V, °C / °F (TC/RTD)

- High resolution of 310,000 digits, triple display, display illumination can be activated under difficult ambient lighting conditions
- Measurement data memory for up to 300,000 measured values
- 1 kHz / 3 dB low pass filter switchable in the alternating voltage measuring ranges
- Instrument can be remote controlled via Bluetooth interface (device variant M248B only)

- 1 mA to 10 A direct current measurements, 10 A short-term current measurements with current transformers or sensors
- Temperature measurements with Pt100/PT 1.000
- Broad range capacitance measurements
- Internet fully remote controllable via Bluetooth IR interface (PM PRIME BT only)
- Connector jack for external power supply

Freeware for Metrahit PM PRIME BT:

METRALOG Android app for smartphones and tablet PCs for remote control, as well as measured value recording, analysis and display for METRAHIT PM PRIME BT

Type	Item number
METRAHIT PM PRIME	M248A
METRAHIT PM PRIME BT	M248B



ANDROID APP ON
Google play

Download on the
App Store

METRALINE DM 41, 61, 62



The METRALINE DMM digital multimeters were developed for the measurement of voltage and current, AC and DC, resistance, temperature, frequency, duty cycle, capacitance, continuity and diodes; features according to the table below. They are equipped with state-of-the-art technology and assure precision measurement results. The extremely compact and ergonomic design provides for maximized ease of use and safety.

USP: Input Automatic Blocking Sockets (ABS)

Type	METRALINE DM 41	METRALINE DM 61	METRALINE DM 62
Display Digits	3999 digits	6600 digits	6600 digits
Basic Accuracy	0.50 %	0.40 %	0.40 %
Display / Backlight	Single / ✓	Dual + Bargraph / ✓	Dual + Bargraph / ✓
Rubber Holster	✓	✓	✓
V DC	100 μ V ... 600 V	100 μ V ... 1000 V	100 μ V ... 1000 V
V AC	100 μ V ... 600 V	100 μ V ... 1000 V	100 μ V ... 1000 V
A AC	10 μ A ... 10 A	10 μ A ... 660 mA	10 μ A ... 10 A
A DC	10 μ A ... 10 A	10 μ A ... 660 mA	10 μ A ... 10 A
Clip Factor / Current Range	-	1:1000 / 600 A _{AC}	-
TRMS Range	-	-	2 kHz
Resistance Range	100 m Ω ... 40 M Ω	100 m Ω ... 66 M Ω	100 m Ω ... 66 M Ω
Continuity Test / Diode Test	✓	✓	✓
Capacity Range	1 pF ... 200 μ F	-	1 pF ... 40 mF
Frequency Range	0.001 Hz ... 500 kHz	-	0.01 Hz ... 10 MHz
Temperature Range	-50 °C ... +1300 °C (TC K)	-50 °C ... +1300 °C (TC K)	-50 °C ... +1300 °C (TC K)
Duty Cycle	✓	-	✓
Min/Max/Data Hold	✓	✓	✓
Peak Hold	-	✓	✓
Measurement Category	CAT III 600 V	CAT III 600 V	CAT III 600 V
Automatic Blocking Sockets ABS	✓	✓	✓
Power Supply	Battery	Battery	Battery
Weight	480 g (incl. battery)	480 g (incl. battery)	480 g (incl. battery)
Dimensions	79 x 174 x 38 mm	79 x 174 x 38 mm	79 x 174 x 38 mm
Protection Class	IP52	IP52	IP52
Warranty	3 years	3 years	3 years
Item number	M192A	M194A	M197A



CLAMP METERS

Metraclip Clampmeter Series



- Load current measurements in electr. distribution systems
- Load current measurements at electr. consumers
- Measurement of leakage currents
- Measurement of process signal currents 4-20 mA
- Automotive, e-cars, fork-lifts
- PV systems, UPS, galvanics, avionics
- Electrical drives / frequency converters
- Motor starting currents, inrush currents
- Power measurements in DC and AC systems
- Idle power measurement and validation at welding equipment

Please ask your distributor for correct solution

VOLTAGE TESTERS

METRAVOLT 1500

Voltage and Continuity Tester, Ohmmeter with Phase and Phase Sequence Testing, RCD Test



- Voltage tester: Nominal voltage range
- 0 ... 1000 V AC / 1500 V DC at frequencies of up to 2 kHz
- Frequency range: 16.7 Hz ... 10 kHz < 500 V
- 16.7 Hz ... 2 kHz > 500 V
- Display range
- 0.03 V ... 1500 V DC
- 0.15 V ... 1200 V AC
- Resistance and continuity tester: 0.00 ... 999 kΩ, green LED for continuity
- buzzer <1.00 kΩ for 5 seconds
- Phase tester: With "POL" displays and LED
- Phase sequence tester: Yellow LEDs for counterclockwise and clockwise rotation
- Illuminated display Red display illumination for dangerous voltage of greater than 50 V AC / 120 V DC
- Electrode length adjustment: 4 mm / 16 mm
- Measuring point illumination
- Load connection: 40 mA for 10 seconds
- RCD quick test up to 30 mA at 230 V
- Testing for interference voltage
- Meter start-up test

Type	Item number
METRAVOLT 1500	M630P

DUSPOL analog 1000 / expert 1000 / digital 1000

The New Generation of Voltage Testers / Voltage Measuring Instruments



- Voltage measurement from 1 to 1000 V AC / 1200 V DC
- TRMS voltage measurement
- Resistance measurement
- Diode and acoustic continuity testing
- Frequency measurement
- Contactless broken wire detector
- Power LED for measurement point illumination
- Rugged IP65 housing with powerful cable strain relief
- Measuring category: CAT IV 600 V / CAT III 1000 V

Type	Item number
DUSPOL analog 1000	M611D
DUSPOL expert 1000	M611E
DUSPOL digital 1000	M611F



MEASURING AND TEST TECHNOLOGY FOR MAINTENANCE AND REPAIRS

METRAFUSE FD PRO

Fuse Finder



The METRAFUSE FD PRO has been developed for quick identification of fuses and circuit breakers used to protect electrical circuits.

The METRAFUSE FD PRO consists of a receiver and an emitter. The emitter is integrated into the electrical circuit under test which supplies it with electrical power, where it generates a modified high-frequency signal for injection into the live conductor. The emitter's signal is captured by the receiver. An emitter signal is generated as soon as a fuse or a circuit breaker is detected. The change of state is indicated optically by means of an LED, as well as acoustically.

Scope of Delivery:

- 1 METRAFUSE FD PRO emitter
- 1 METRAFUSE FD PRO receiver
- 1 block battery, 9 V
- 1 power supply cable for the emitter
- 1 set of test probes, short-circuit proof, including alligator clip

Type	Item number
METRAFUSE FD PRO	M660C

METRACABLE TDR PRO

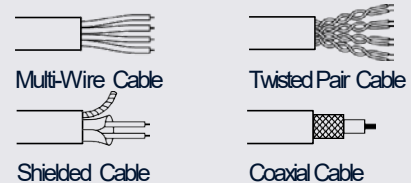
Time Domain Reflectometer



The METRACABLE TDR PRO is a handy, compact time domain reflectometer for pinpointing faults in all types of cables without service, for example twisted-pair, coaxial and power cables. It has a 30 cm minimum resolution and a range of up to 14 km. Adjustable impedance and the editable velocity factor fulfill all requirements for a successful test setup. The tester features easy, intuitive operation.

Supported Cable Types:

A broad range of various cable types can be tested and any fault locations can be determined with the help of the TDR method. The METRACABLE is capable of examining cables with lengths of up to 14 kilometers such as the following:



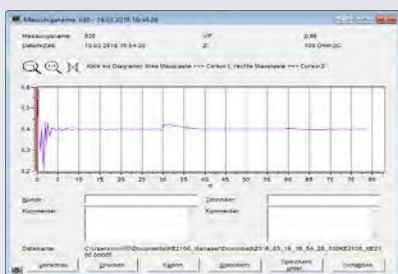
Software:

Measurement results stored to the instrument can be queried and evaluated after clicking Cable Measurement in the menu. Measurements which have been downloaded and saved to the PC can also be evaluated at a later point in time without establishing a connection to the instrument.

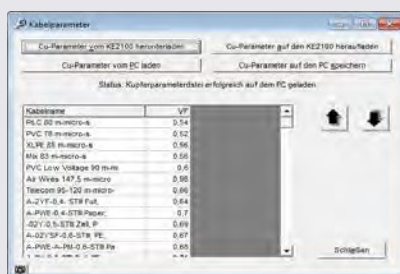
Cable databases stored at the instrument can be viewed and managed after clicking Cable Parameters in the menu.

- Easy operation
- AUTO test for immediate use
- High measuring resolution / cable lengths up to 14 km
- Menu language: English or German
- Shows distance to the fault in meters or feet
- Symmetrical search signal
- Freeze function for precise fault evaluation
- Measurement curve as reference in the background

Type	Item number
METRACABLE TDR PRO	M281A



Power Measurement



Cable Database



PERMANENT MEASUREMENT SYSTEM

SMARTCONTROL

Multifunctional Data Logger for a Wide Variety of Media



SMARTCONTROL unites logging of energy and consumption data for a wide variety of media with peak load optimization, control functions and error message management. And thus it's not only possible to monitor consumption, it can be influenced as well. Valuable resources can be used more efficiently, energy costs can be lastingly reduced and opportunities provided by modern energy management can be fully exploited.

- Acquisition of energy and consumption data, temperatures, switching statuses and process quantities
- Error message management, continuous comparison of characteristic values and indication of errors via switching output, e-mail or SMS
- Peak load management in combination with switching outputs
- Timer programs and switching of relays after the occurrence of predefined events
- Calculation of mean values and integrals, as well as heat and cold quantities
- Versatile data collector

Type	Item number
SMARTCONTROL	U300A

ENERGY METERS

ENERGYMID Energy Meters

Professional Energy Meter for 2, 3 and 4-Wire Systems with 5 (80) A Direct Connection or 1 (6) A Transformer Connection

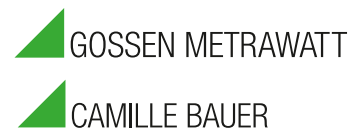


- **Measurement Values:** Active energy (kWh), reactive energy (kVAh), Star voltage (V), Delta voltage (V), current per phase (A), nominal cond. current (A), active power (kW), reactive energy (kVAh), apparent power (kVA), power factor (cos phi), frequency (Hz), RMS distortion (THD)
- Accuracy class B for industrial, commercial and highly demanding household use
- 4 quadrant measurement (import and export)

- Universal adjustable pulse output (2-fold)
- Indicates installation errors: direction of phase rotation, phase failure, reversed transformer polarity, overload
- Communication via integrated interfaces: LON, M-Bus, Modbus RTU (Modbus TCP, BACnet in preparation)
- 4 tariffs (hardware-controlled as standard feature), plus 4 additional tariffs (software controlled)

Type	Item number
EM2281 energy meter for 2 wire system, 230 V, direct 5 (80) A 1	U2281
Direct connection, 5 (80) A, class B, MID for 4-wire systems, 3 x 230 / 400 V	U2289
EM2381 energy meter for 2-wire system, 230 V, transformer 1 (6) A (incl. 5 (6) A Transformer connection, 5 (6) A and 1 (6) A, Class B, MID for 3-wire systems, 3 x 230 / 400 V, programmable CT / VT	U2381
Transformer connection, 5 (6) A and 1 (6) A, Class B, MID for 3-wire systems, 3 x 230 / 400 V, programmable CT / VT	U2387
Transformer connection, 5 (6) A and 1 (6) A, Class B, MID for 4-wire systems, 3 x 230 / 400 V, programmable CT / VT	U2389

GMC INSTRUMENTS



THE GMC GROUP IS PRESENT ALL OVER THE WORLD WITH SUBSIDIARIES AND SALES PARTNERS.

ELECTROMEDICIONES KAINOS S.A.

Poligon Industrial Est · Energía, 56
E-08940 Cornellá de Llobregat · Barcelona
TEL +34 934 742 333 · FAX +34 934 743 470
www.kainos.es · kainos@kainos.es

GMC-INSTRUMENTS ITALIA S.R.L.

Via Romagna, 4
I-20046 Biassono (MI)
TEL +39 039 2480 51 · FAX +39 039 2480 588
www.gmc-instruments.it · info@gmc-i.it

GMC-INSTRUMENTS NEDERLAND B.V.

Daggeldersweg 18
NL-3449 JD Woerden
TEL +31 348 42 11 55 · FAX +31 348 42 25 28
www.gmc-instruments.nl · info@gmc-instruments.nl

CAMILLE BAUER METRAWATT AG

Aargauerstrasse 7
CH-5610 Wohlen AG
TEL +41 44 308 80 80 · FAX +41 44 308 80 88
www.gmc-instruments.ch · salesch@camillebauer.com

GMC-INSTRUMENTS FRANCE SARL

3 rue René Cassin
F-91349 Massy Cedex
TEL +33 1 6920 8949 · FAX +33 1 6920 5492
www.gmc-instruments.fr · info@gmc-instruments.fr

GMC-MĚŘICÍ TECHNIKA S.R.O.

Függerova 1a
CZ-67801 Blansko
TEL +420 516 482 611/-617 · FAX +420 516 410 907
www.gmc-cz · gmc@gmc.cz

GMC-INSTRUMENTS AUSTRIA GMBH

Richard-Strauss-Str. 10 / 2
A-1230 Wien
TEL +43 1 890 2287 · FAX +43 1 890 2287 99
www.gmc-instruments.co.at · office@gmc-instruments.co.at

GMC-INSTRUMENTS (TIANJIN) CO., LTD.

Rm.710 · Jin Ji Ye BLD. No.2 · Sheng Gu Zhong Rd.
P.C.: 100022 · Chao Yang District
TEL +86 10 84798255 · FAX +86 10 84799133
www.gmci-china.cn · info@gmci-china.cn

YOUR SALES PARTNER



Gossen Metrawatt GmbH

Südwestpark 15 ■ 90449 Nürnberg ■ Germany
Phone +49 911 8602-0 ■ Fax +49 911 8602-125

www.gossenmetrawatt.com ■ export@gossenmetrawatt.com

www.gmc-instruments.ru

www.gmc-instruments.ro