



APPLICATION TRAINER MI 3399 Electrical Safety & Quality Application Trainer

The MI 3399 Electrical Safety & Quality Application Trainer is a 3D simulator of real situation's safety and quality issues with many adjustable risks and errors. The model is designed as stand alone unit for demonstrations, trainings and educational purposes. The MI 3399 Electrical Safety and Quality Application Trainer ensures absolute safety which makes it suitable for schools and training centers.

The MI 3399 Electrical Safety & Quality Application Trainer set enables several main training modules and courses:

- LV Electrical Installation Safety Trainer Module
- TN / TT / IT Earthing Systems Trainer Module
- Lightning Protection Trainer, Surge Protection Trainer Module
- Special Installations and Locations Safety Trainer Module
- Vehicles and Mobile Units Safety Trainer Module

Additionally there are several optional modules available:

- Power and Voltage Quality Trainer Module
- Appliances and Machines Safety Trainer Module
- Photovoltaic Systems Trainer Module
- LAN & Telecommunication Installations Quality Trainer Module

Modules are supported with Handbooks, Posters, Charts, Presentations, Exercises, Catalogues of Knowledge and Catalogues of Exam plus Approved Certificate optionally when separate training module is localized.

Applications:

- Education, trainings and seminars with theoretical and practical exercising and testing for upgrading knowledge of professional's competence.
- Education and practical training of electrical contractors about safety procedures, measuring methods and knowledge.
- Demonstration on how to use different measurement instruments and testers.

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Product
News
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Measuring
instruments
and testers



ELECTRICAL INSTALLATION SAFETY

MI 3152 EurotestXC

MI 3152 EurotestXC is an instrument from the new generation of Metrel's multifunctional measuring instruments. The already well known functions like complete installation safety testing according to IEC/EN 61557 and AUTO SEQUENCE testing of TN, TT and IT earthing systems are managed by a completely new user interface based on large colour touch screen display. A wide range of functions is included: from on-line voltage monitoring, phase sequence testing, earth resistance measurement, illuminance measurement and TRMS current measure-



ment up to RCD tests, line and loop impedance tests, earth resistance measurements as well as ISFL measurements and the IMD tests.

MEASURING FUNCTIONS:

- Insulation resistance with DC voltage from 50 V to 1000 V;
- Continuity of PE conductors with 200 mA DC test current with polarity change;
- Continuity of PE conductors with 7 mA test current without RCD tripping;
- Line/Loop impedance;
- Loop impedance with Trip Lock RCD function;

- TRMS voltage and frequency;
- Phase sequence;
- Power and harmonics;
- RCD testing (general and selective, type AC, A, F, B, B+);
- Earth resistance (3-wire and 2-clamps method);
- Specific earth resistance with Ro-adaptor (option);
- TRMS leakage and load currents (option);
- First fault leakage current (ISFL);
- Testing of Insulation Monitoring Devices (IMDs);
- Illumination (option).

KEY FEATURES:

- Predefined mini AUTOSEQUENCES:
 - Auto TT (U, Zln, Zs, Uc);
 - Auto TN/RCD (U, Zln, Zs, Rpe);
 - Auto TN (U, Zln, Zlpe, Rpe);
 - Auto IT (U, Zln, Isc, Isfl, IMD).
- Built-in help screens for referencing on site.
- Built-in fuse tables for automatic evaluation of the line / loop impedance result.
- Monitoring of all 3 voltages in real-time.
- Automatic polarity reversal on continuity test.
- Automated RCD testing procedure.
- Built-in charger and rechargeable batteries as standard accessory.
- BT communication with PC, Android tablets and smart phones via built-in BT.
- PC SW MES (Metrel Electrical Safety) Manager for creation of test structures and uploading, downloading of test results and report creation.
- EuroLink Android APP, data management tool (option).

PORTABLE APPLIANCE TESTING

MI 3394 CE MultiTesterXA

The MI 3394 CE MultiTesterXA is a portable instrument intended for electrical safety testing and CE certification of electrical appliances, machines and switchboards during the production. The instrument features in strong data management facility enabling the user to create custom autotests with predefined limits for pass/fail evaluation, to import predefined structure including test sequences or complete projects from PC software, plus strong memory organizer. The PC software MES-Manager enables the upload of automated test sequences, projects, downloading of test results to the PC, automatic data storage into a file, printing of test reports. Due to selected test functions, durable construction and accompanying PC SW package CE MultiTesterXA is the perfect instrument for electrical safety testing in the most demanding environments like laboratories, automated production lines or specialized workshops.



MEASURING FUNCTIONS:

- High Voltage, programmed (AC/DC);
- High Voltage burn-out test;
- Continuity tests;
- Insulation resistance measurement;
- Substitute leakage current;
- Differential leakage current;
- Touch leakage current;
- PE-leakage current;
- Discharge time;
- Functional test (power P/S/Q, voltage, current, cos, frequency, ThdU, ThdI, PF).

KEY FEATURES:

- Data management: the instrument features in unique user friendly data management facility and state of the art memory organizer.
- Multiple test terminals: different test terminals enabling the user to choose from performing single tests or autosequences from single test socket.
- Auto testing: autosequences can be composed via instruments intuitive sequence organizer.
- MicroSD: support for microSD memory card (8-GB supplied with the instrument) up to 32GB.
- Colour display: 3.4" colour LCD display with touch screen.
- Hi-pot: high voltage AC (5kV at 500VA) and DC (6kV) test.
- Continuity: 4 - wire continuity test with selectable test current (0.2 A, 4 A, 10A, 25A) enabling precise measurements.
- Communication: 4 - RS232, USB, Ethernet and Bluetooth communication ports enabling downloading, uploading and remote control over instrument.
- Multi-system testing: the instrument can be used on TT, TN, IT and 115 V supply systems.

HIGH VOLTAGE INSULATION / CONTINUITY / EARTH

MI 3290 Earth Analyzer

MI 3290 Earth Analyzer is a portable, battery or mains powered test instrument with excellent IP protection (IP 54 open case), intended for measurement of earth resistance, specific earth resistance and earth potential of various energetic and non-energetic objects. The user can choose between different methods from classic 3 wire earth resistance measurement up one or four clamp method for measurement of pylons. He has a choice of measurement methods with different frequency methods: single frequency or frequency sweep from 40 Hz to 5 kHz, HF method with 25 kHz and pulse method simulating the lightning strike. High electrical noise immunity make this instrument best suited for industrial environment. Instrument is available in multiple sets which are a combination different accessories and functionality which is selectable with Rfid key card.



MEASURING FUNCTIONS:

- Earth Resistance 2,3,4 -wire;
- Selective Earth Resist. (1 x clamp);
- Earth Resistance (2 x iron clamps);
- Specific Earth Resist. (Wenner and Schlumberger method);
- Earth Potential;
- HF-Earth Resistance (25 kHz, acc. to IEEE_Std 81);
- Earth Resistance of mono pylons with 10 m flex clamp;
- Earth Resistance of multileg pylons with up to four 5 m flex clamps;
- Current measurement (Iron, flex clamps);
- Low Ohm measurement 200 mA (EN 51667-4);
- Impulse Earth measurement 10/350 μ s;
- PC SW for measurement pre and post processing;
- Table view and graphical view, storing and printing.

KEY FEATURES:

- Possibility of performing all types of earth measurements with a single instrument.
- Analysis of earth impedance as a function of the frequency due to a wide measurement frequency band (DC, 40 Hz - 5 kHz).
- Earth measurements on pylons with protective earth cable connected.
- Measurement on mono towers and 4-leg tower.
- A wide variety of measuring clamps: from iron clamps to flex clamps with 10 m length.
- HF-Earth resistance measurement (acc. to IEEE Std 81).
- Sweep mode Z(f) on screen.
- 3.4" colour LCD display with touch screen.
- Floating Mains (universal 90 ... 260 V AC) or battery powered.
- High degree of protection: IP 65 case closed, IP 54 case open.
- Checkbox (10 Ω test resistor) and other self-check methods.
- DC resistance measurements (2 or 4 wire).
- Impulse impedance measurement for simulating the lightning strike.
- Support for single and complex measurements.

POWER QUALITY ANALYSIS

MI 2892 PowerMaster

The NEW MI 2892 PowerMaster is a hand-held three phase power quality analyser with a large easy-to-read graphical colour display enabling the user to detect harmonics, phasors and waveforms anomalies in the installation simply by connecting the device. The instrument is designed for a long term recording as well as for troubleshooting power quality problems in three-phase and single-phase power distribution systems. The handy Quick Set buttons makes the instrument more user friendly and are allowing faster data overview for troubleshooting. Advanced PC SW package PowerView3 enables detailed analysis of recorded data, direct reading from the microSD memory card, analysis of long term records and automatic creation of professional test report.



MEASURING FUNCTIONS:

- Voltage and Current: TRMS, peak, crest factor (4-channel);
- Power (active, reactive, apparent);
- Power measurements fully compliant with IEEE 1459 (active, non active, fundamental, harmonic, load unbalance);
- Unbalance, flicker measurement;
- Harmonic and interharmonic analysis up to 50th harmonics, THD measurement;
- Energy (active, reactive, generated, consumed);
- Capturing and recording of power supply events (shutdowns, interruptions, swells, dips);
- Inrush currents monitoring and recording;
- Waveform/inrush displaying, snapshot and recording;
- Transients recording;
- Power quality analysis according to EN 50160;
- Recording up to 7 adjustable alarms;
- Temperature measurement;
- Power factor cos ϕ .

KEY FEATURES:

- 4-voltage channels with wide measurement range: 0 ... 1000 Vrms (CAT III/1000 V);
- 4-current channels with support for automatic clamp recognition and "on instrument" range selection;
- Automatic Smart Clamp detection and Smart Clamp range selection;
- Sampling frequency on transients recording > 50 kHz;
- Compliance with power quality standard IEC 61000-4-30 Class A;
- Complete power quality analysis according to EN 50160 including signalling and interharmonics;
- Support for microSD memory card (8-GB supplied with the instrument) up to 32GB;
- Color-coded input terminals and terminal labels to suit your application region;
- Intuitive main menu and large icons that makes the equipment very easy to navigate and configure;
- Powerful PC SW PowerView3 enables downloading, view, analysis of recorded data and professional report creation;
- Flexible clamps (without additional power supply) are included in the standard set;
- Remote communication via Ethernet (GPS clock synchronization - optional).

DIGITAL MULTIMETERS/ CURRENT CLAMPS/ VOLTAGE TESTERS

MD 9272 Leakage Clamp TRMS Meter with Power Function

MD 9272 is a unique earth leakage clamp meter. It not just has the ability to accurately read the TRMS AC leakage current of a system, it can also detect losses in the system and suggest possible reasons for the loss. The voltage (AC/DC), frequency, power, harmonic, power factor (PF), total harmonic distortion (THD) and crest factor measurements make this instrument suitable for any electrician and engineer.



MEASURING FUNCTIONS:

- TRMS AC, DC voltage measurement;
- TRMS AC current measurement;
- Frequency measurement;
- Power parameters measurement.

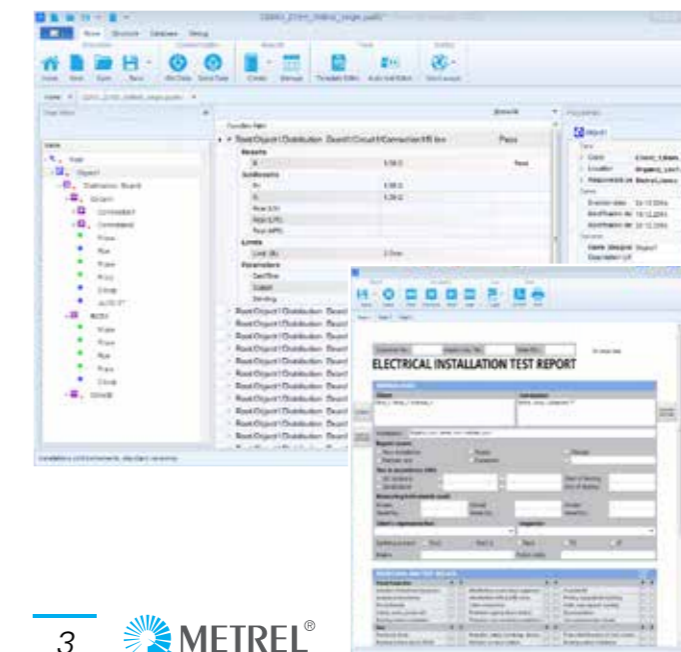
KEY FEATURES:

- TRMS: accurate measurements on sinusoidal and non-sinusoidal signals.
- Jaw size: 28 mm.
- Shielded Jaw: shielded jaw allows the clamp meter to be used in the noisiest environments.
- Accurate: readings of AC current with an accuracy of 0.8 % and a base resolution of 0.01 mA and voltage with an accuracy of 0.5 % and a base resolution of 0.01 V.
- Power: measures various power parameters (active, reactive, apparent power, THD, PF, phase displacement).
- Intelligent loss analysis: complex algorithms detect loss and allow determining possible reasons for current loss.
- Harmonics: measures current or voltage harmonic components and a percentage value of a harmonic up to the 19th.
- THD and PF: dual display allows readings to be displayed along with Total Harmonic Distortion (THD) or Power Factor (PF).
- Peak value: the peak value of the waveform or crest factor can be displayed.
- MAX/MIN/HOLD mode: displays maximum, minimum or average measured value.

METREL ELECTRICAL SAFETY MANAGER

A common application for management of the new generation of Metrel's instruments

From now on the wide palette of Metrel's electrical safety testers, portable appliance testers, machine testers and industrial safety testers can be managed by one common application – the Metrel Electrical Safety Manager. This application has a unified user interface with the new generation of Metrel's instruments – same view same meaning. It enables the pretreatment for the measurements, viewing and editing of the measurement results and generation of professional reports.



Depending on the instrument model or type the user can create AUTOSEQUENCES, custom tests or single tests. They can be integrated into the custom created test structures and then uploaded into the measurement instrument.

The downloaded measurement results can be viewed, analysed, edited and finally a professional report can be created and printed. These professional reports are predefined templates according to national standards and regulatory organisations where the user enters all the needed protocol data while the measurement results are automatically inserted into the predefined forms.

This application is fully compatible with the new generation of Metrel's multifunction testers, starting with CE MultitesterXA and EurotestXC. With limited functionality some of the predecessor models like EurotestXE or EurotestCombo are also supported.

KEY FEATURES:

- Common platform for wide range of Metrel's instruments.
- Multilevel test structure editor.
- Measurement editor.
- AUTOSEQUENCE editor.
- Report creator.
- Multilingual reports according to local regulations.
- Export of test results.