

MTE



Meter Test Equipment



PTS 3.3 genX, class 0.05
Three-phase Stationary Test System

Three-phase test system PTS 3.3 genX

The PTS 3.3 genX portable test system consists of an integrated three-phase current and voltage source and a three-phase electronic reference standard of accuracy class 0.05. Characteristic features of the PTS 3.3 genX are its wide measuring range, high accuracy and high tolerance to unwanted external influences.

The PTS 3.3 genX allows the monitoring of meter installations as well as analysis of the local mains conditions.

Advantages

- Easy verification of meters under precise load conditions, using the built-in, compact, current and voltage source
- Automatic operation with predefined load points without the need of an external PC
- Large 9" (800 x 480 pixels) TFT touch screen colour display with graphical user interface
- Data transfer and communication via USB (Type B), ETHERNET or WLAN
- Built-in web server for remote display of graphical user interface and remote control of the unit (e.g. via tablet)
- Data storage on removable SD memory card
- Integrated operating manual
- Two USB (type A) connectors for connection of peripherals like mouse, keyboard

Functions

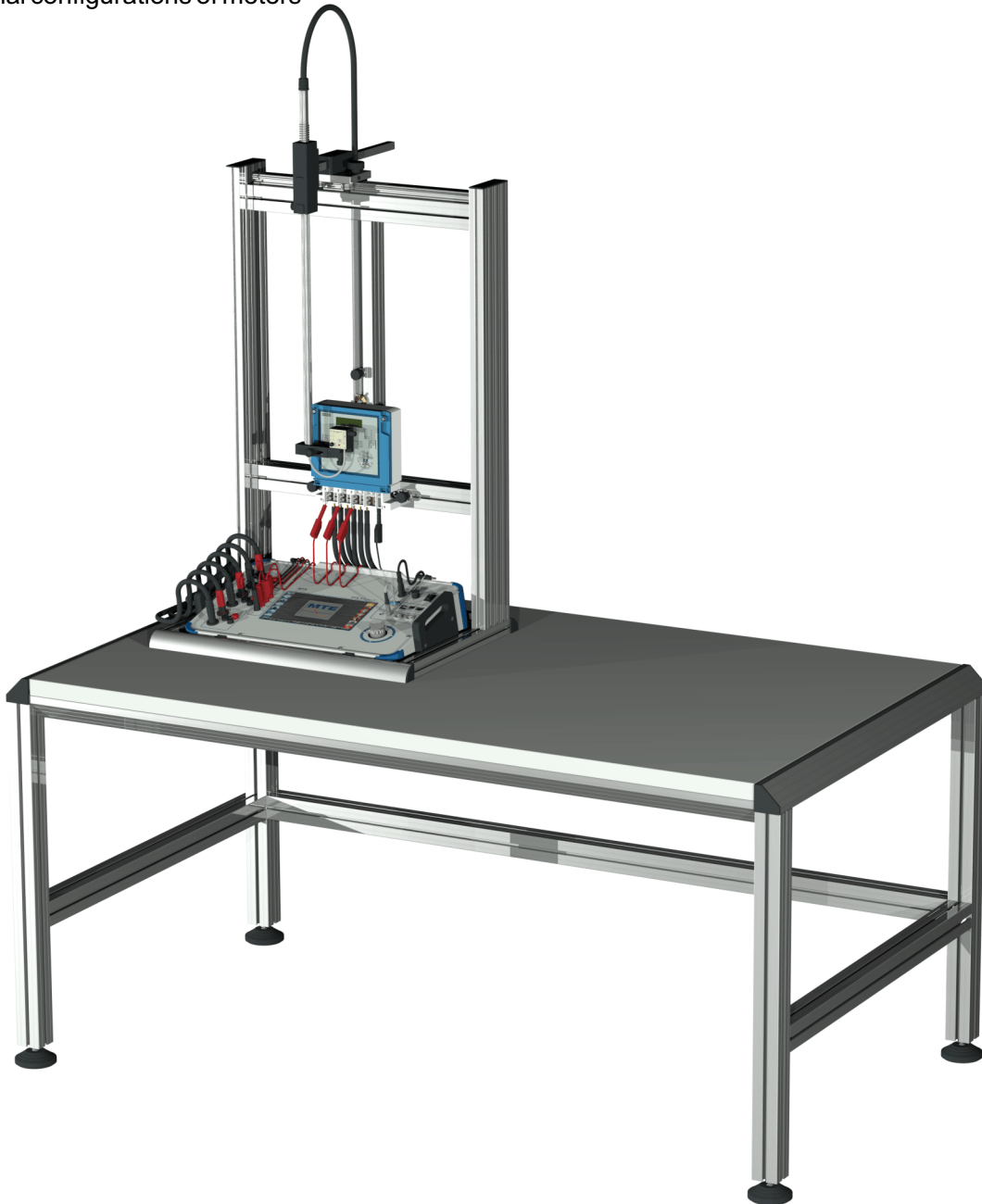
- Independent generation of single- or three-phase loading conditions for verification of meters
- Active, reactive and apparent energy measurement for three-phase, 3- or 4-wire, systems with integrated error calculator with 2 pulse inputs (1 configurable as output)
- Vector diagram, harmonics spectrum, wave form and rotary field display for analysis of the mains conditions
- Burden measurement of Current Transformer (CT) and Potential Transformer (PT)
- Ratio testing of Current Transformers (CT) and Potential Transformer (PT)



Stationary single position test system PTS 3.3 genX-1

The stationary system type PTS 3.3 genX-1 allows the automatic testing of a single meter, without the need of an additional personal computer and has the following characteristics:

- Test system PTS 3.3 genX-1 consists of a three-phase reference standard, a three-phase voltage and current source plus a single position meter suspension rack
- The suspension rack provides a fast and easy mounting of the meter
- Scanning head support SHC x.x with scanning head SH 2003 or SH 11 for scanning the marks of mechanical rotating disc meters or the detection of light emitting diodes (LED's) of electronic meters. The scanning head is adjustable in all three axis (left to right, up and down, in and out), as required to align with all normal configurations of meters

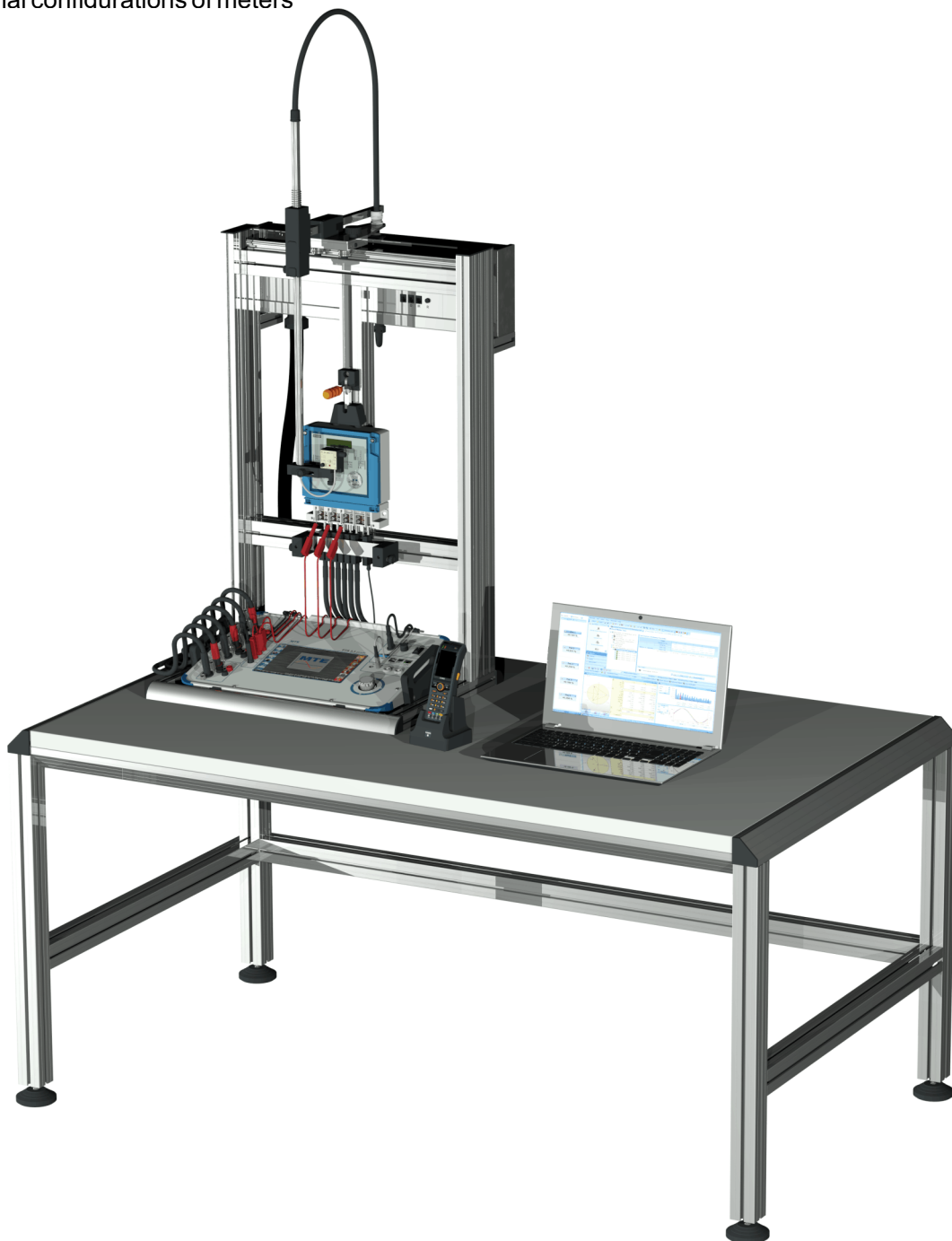


- The PTS 3.3 genX is supplied with an integrated software, allowing automatic measuring runs with (programmable) predefined load points to be carried out
- Optional quick connection devices according to IEC- or ANSI-standard, which allow fast suspension and connection of meters

Stationary single position test system PTS 3.3 *genX-2*

The stationary system type PTS 3.3 *genX-2* allows the testing of a single, complex, multifunction meter fully automatically and has the following characteristics:

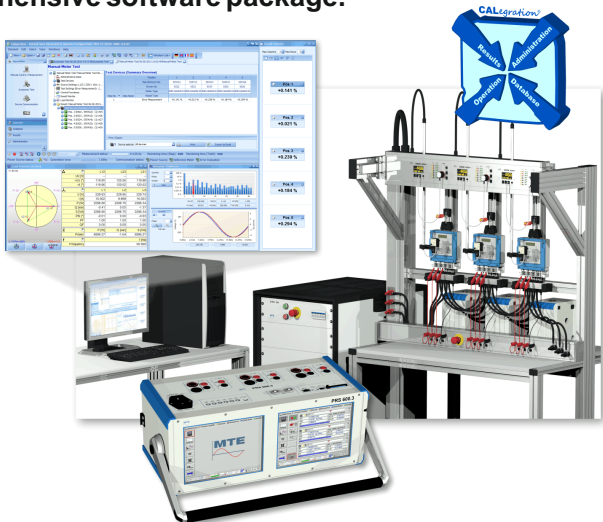
- Test system PTS 3.3 *genX-2* consists of a three-phase reference standard, a three-phase voltage and current source plus a single position meter suspension rack
- The suspension rack provides a fast and easy mounting of the meter
- Scanning head support SHC x.x with scanning head SH 2003 or SH 11 for scanning the marks of mechanical rotating disc meters or the detection of light emitting diodes (LED's) of electronic meters. The scanning head is adjustable in all three axis (left to right, up and down, in and out), as required to align with all normal configurations of meters



- Modular evaluation system SMM 400 for meter error display, inputs for the testing of output contacts or pulses plus a serial interface for meter communication and programming
- Software package CALegration[®] provides a PC controlled fully automatic measuring test system
- Optional quick connection devices according to IEC- or ANSI-standard, which allow fast suspension and connection of meters

CALegration® is an all-in-one software package designed to control the latest MTE test equipment product line, including the recording and evaluation of meter and measurement data.

CALegration® bundles the functionalities and advantages in one brand new and comprehensive software package.



Covering all requirements of the modern meter testing environment CALegration® also provides the flexibility to easily incorporate future meter testing requirements.

Tests can be carried out for simple or highly complex meters (smart meters) in accordance with the customers requirements and national / international test and calibration regulations (e.g. PTB, IEC, BS, ANSI).

Advantages of CALegration®

- **Reduced complexity** due to an all-in-one software for the entire MTE product portfolio
- **User-friendly operations** and clearly arranged user interface making the system easy understandable, also to operators with limited computer knowledge
- **SQL based database** with stable access, organized backups, extended database size and server installation support
- **Full database interchange** between portable devices and CALegration® with control of portable functions by external PC
- **Flexible access** to database and **fast storage and interchange** of new testing data packages
- **Fully-automatic test sequences** for meter testing with clearly laid out database structure

- **Manual control module** for testing various individual functions such as meter test, recording of load values, detection of installation errors and many more
- Prepared for **power quality testing** and analysis functions according to IEC 62586 and IEC 61000-4-30 for specific MTE devices
- Transparent evaluation and presentation of results, **statistics and schematic diagrams** of all relevant values in an individual created protocol
- **Modular system** allows the integration of customer specified applications
- Suitable for use with **various hardware combinations**
- **Data export** in standard format (e.g. MS Excel)
- Operator interface available in **several languages** and in different **color profiles**

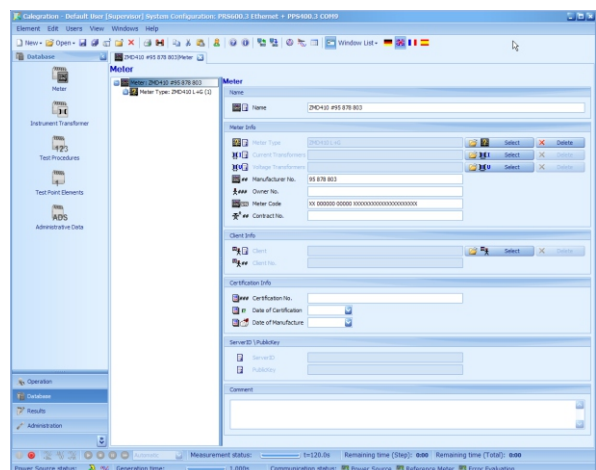
CALegration® combines the various functional modules required in modern stationary and portable test devices, with a common and consistent user interface.

The modular system allows control of various hardware units with a common software platform.

Automatic meter testing

Automatic meter tests are executed in three steps:

1. The user defines the meter and meter type, the test point elements and the test procedures
2. The test is executed and the results are stored in the database
3. The results can be presented in a simple test results form, or be post-processed for the presentation in form of a report

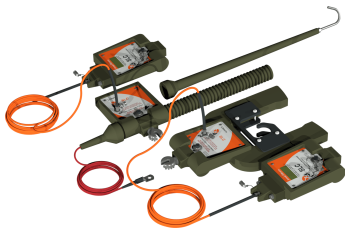


Extended functionalities

Clamp-on current transformers to the portable test system PTS 3.3 genX

The PTS 3.3 genX allows to use several clamp-on CTs in the range of 120 A up to 3000 A or sensors for voltage and current measurements on high voltage potential.

The clamp-on CTs and high voltage sensors are “clamped” around conductors to perform non-contact / intrusive measurements without interrupting the circuit under test.



AmpLiteWire and VoltLiteWire sensors for voltage and current measurements on high voltage potential up to 40 KV and currents up to 2000 A.



UCT 120.3 active error compensated clamp-on CTs for measurements in the range 0.1 A... 120 A.



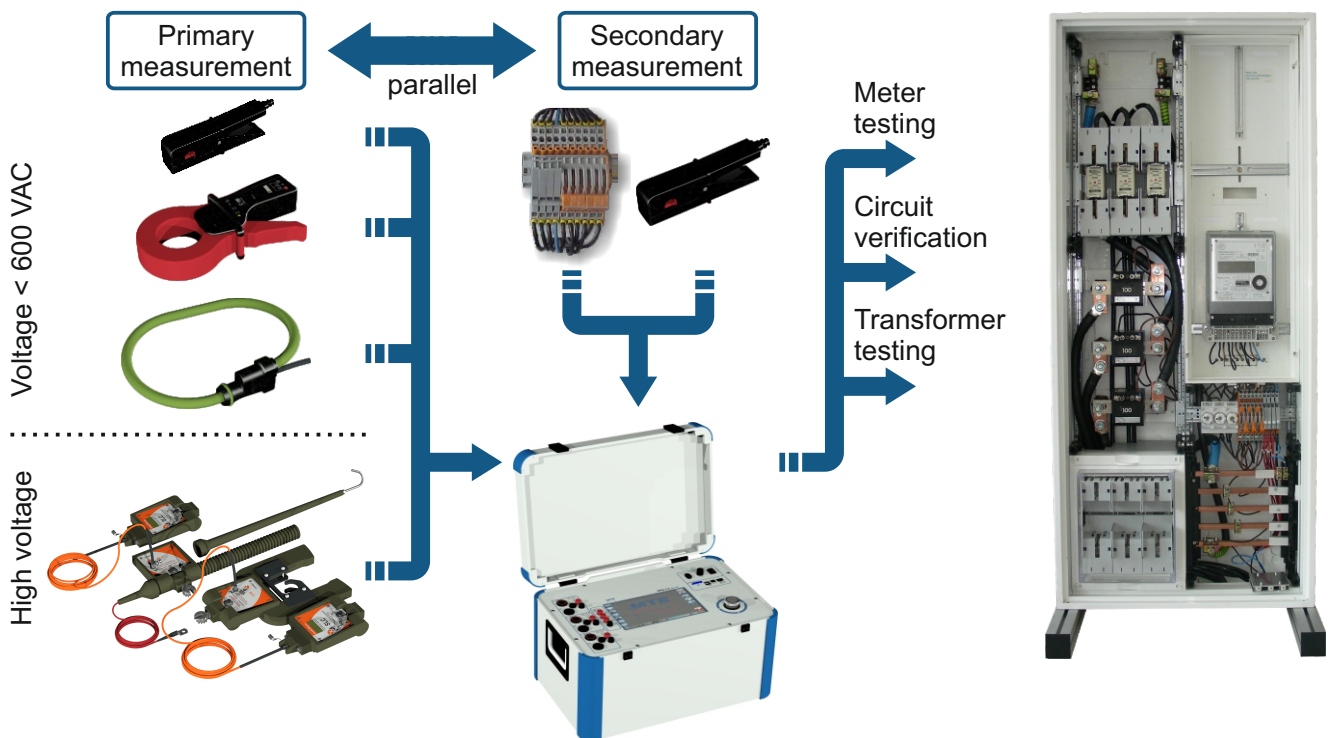
UCT 1000.3 clamp-on CTs for measurements in the range of 1 A up to 1000 A.

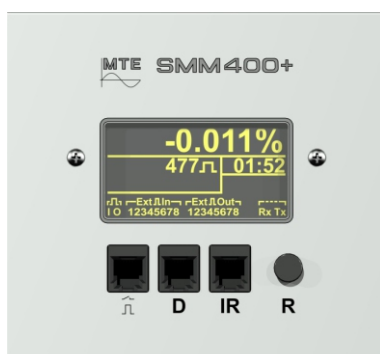


UCT LEM.3 flexible current probes FLEX 3000 for currents up to 30 / 300 / 3000 A.

Testing of CTs, PTs in operating state

The portable test system PTS3.3genX features wide-ranging alternatives for the testing of instrument transformers during normal measuring equipment operations, i.e. without any shutdowns or safety disconnections.





Error evaluation system

The modular evaluation system **SMM 400 performs error calculation**, testing of emitting contacts and communication to tariff device units to the meter under test.

Four different versions covering customer's requirements are available.



Scanning heads

The SH 2003 and SH 11 photoelectric scanning heads are suitable for use with both LED impulses from static / electronic meters and also for detecting the marks on mechanical rotating disc meters plus simulated pulses on LCD displays (SH 11). The choice of operation mode with mechanical or electronic meters is made by a simple selection switch.

With the integrated teach function of the scanning head SH 11, the optimal set-up is automatically learned. The teach function can be activated by the rotary switch or an external control signal.



Scanning head carriages SHC 1.2 and SHC 2.2

The SHC range of scanning head carriages has been designed for use with the SH 2003 and SH 11 model scanning heads. The range is user friendly and offers a high degree of flexibility.



Hand held terminal

The HT 2010 cordless hand held terminal with an integrated bar code reader is designed for recording meter specific data at meter test systems.

The following MTE leaflets are available:

Overviews:	Company Portrait / Portable Test Equipment / Stationary Meter Test Systems Automatic Test Systems / Transformer Monitoring / E-Mobility Testing
Comparator:	K2008
Portable Reference Standards:	PRS 600.3 / CALPORT 300
Portable Working Standards:	PWS 3.3 <i>genX</i> / PWS 2.3 <i>genX</i>
Portable Standards:	CheckMeter 2.3 <i>genX</i>
Portable Test Systems:	PTS 400.3 PLUS / PTS 3.3 <i>genX</i> / PTS 2.3 <i>genX</i> CheckSystem 2.3 / CheckSystem 2.1 / CheckSystem 2.1 S
Portable Power Sources:	PPS 400.3 / PPS 3.3 <i>genX</i> / CheckSource 2.3
Software:	CALegration®

MTE Meter Test Equipment

MTE Meter Test Equipment AG

Landis + Gyr-Strasse 1
P.O. Box 7550
CH-6302 Zug, Switzerland
Phone: +41 41 508 39 39
Internet: www.mte.ch
e-mail: info@mte.ch

EMH Energie-Messtechnik GmbH

Vor dem Hassel 2
D-21438 Brackel, Germany
Phone: +49 4185 58 57 0
Fax: +49 4185 58 57 68
Internet: www.emh.eu
e-mail: info@emh.de

MTE India Private Ltd.

Commercial Unit - 118 & 119, First Floor
Plot No. 10, Aggarwal City Square, District Centre,
Mangalam Place, Rohini Sector-3, Delhi 110085, India
Phone: +91 11 40218105
E-Mail: info@mteindia.in

EMH Energie-Messtechnik (Beijing) Co. Ltd.

Section 305, Building 2, Ke-Ji-Yuan
Nr.1 Shangdi-Si-Jie, Shangdi-Information-Industry-Base
Haidian District
Beijing 100 085, P.R. China
Phone: +86 10 629 81 227
Mobile: +86 139 0 103 6875
Fax: +86 10 629 88 689
e-mail: guo@emh.com.cn

MTE Meter Test Equipment (UK) Ltd


4 Oval View
Woodley Stockport
Cheshire SK6 1JW, United Kingdom
Phone: +44 161 406 9604
Fax: +44 161 406 9605
e-mail: info@mte.uk.net

MTE Meter Test Equipment Inc.

4949 S Syracuse, Suite 550
Denver, CO - 80237, USA
Phone: +1 888 888 8888
e-mail: info@mteus.com



MTE Meter Test Equipment AG

 Landis + Gyr-Strasse 1 • P.O. Box 7550 • 6302 Zug • Switzerland
Phone +41-41 508 39 39 • Internet www.mte.ch

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Subject to alterations