

ZERA

MT3606

Moving Test - MT3606

Single-Phase Portable Test System Class 0.1



Keep ahead with Modular Design

The Modular Concept

The MT3000 series is based on a real modular design concept to provide the greatest possible flexibility for a comprehensive testing of metering installations in the field.

The stable casing made of aluminium frames looks appealing and support the functionality of the system. A coloured 10,4" TFT display visualize the high quality of the system.

The MT3606 system is distinguished itself by its excellent menu guided operation via the built in soft-keys and the coloured 10.4" TFT-display.

Because of the real modular design concept the system comprises of various interchangeable modules to configure the system individually according to customer requirements. A system upgrade by adding various modules with new functionality can be easily done at any time without opening the calibration seal.

The protection of designs has been registered under approval No. 20111830.0.



Features

- A consistently modular design allows a system upgrade at any time.
- Excellent user-guidance
- Many configuration possibilities by adding various modules
- Unique long-term and temperature stability of the measuring module
- Extendable Compact-Flash-Memory for measurement results and customer data
- Windows based data management software MTVis for evaluation of the test results
- No additional error for reactive measurement
- Automatic meter testing without external PC
- Just one plug for voltage and current wiring
- Operation without mains connection possible

Basic Functions

The MT3606 is a single-phase testing system consist of a reference meter with built-in power source designed for the following applications:

- Testing of energy meters for accuracy classes 1 and 2 in 2-wire circuits
- Power and energy measurement for active, reactive and apparent
- 4 quadrant measurement
- Frequency-, phase angle- and power factor measurement
- Vector diagram display
- Waveform display
- Free programmable load point settings for voltage and current generation
- Programmable phase shift control from 0 ... 360°
- Programmable frequency
- Energy dosage
- Free-programmable flag setting to save time during starting and no-load tests
- Manual and automatic operation without external PC

Data Management

For later download on a PC the operator can store all measuring values on a Compact-Flash-Memory-Card. The data management software MTVis provides the ability to transfer the data between PC and MT3606 on a bi-directional way.

For data representation, the operator can print all results in a test report.

Easy Connection

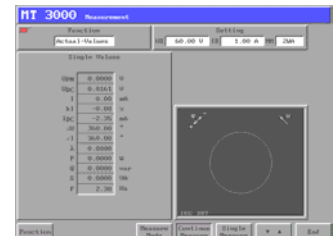
Just one plug-in connection for the complete measuring circuit minimizes the probability of wiring errors.



Actual Values Measurement

All instantaneous values are displayed simultaneously.

- RMS values of voltage and current
- Phase angle between voltage and current
- Active, reactive and apparent power
- Test frequency
- Power factor



Vector Display

The coloured vector diagram display for voltage and current makes it very easy to detect wiring faults in voltage and current circuits.

All measured values can be stored in the Compact-Flash-Memory according to the customer information data.



Error Measurement

By entering of all relevant parameter like meter constant and the number of pulses the system can perform the error measurement on electricity meters. The system is able to determine the percentage error including all statistical values to store it according to the customer information data. In order to inform the operator about the status of the measurement a graph bar will indicate continuously the measured energy as well as the detected metrology pulses from the unit under test.



Automatic Operation

By using predefined test routines the MT3606 system will lead through the automatic meter testing without any external PC.



Load Point Settings

The test system provides an individual load point programming to simulate the load and to dosage the energy.

- The voltage and current generation facility can be programmed independently from each other.
- Power factor programming between voltage and current circuit
- Phase angle programming between the voltage and current phases from 0 to 360°
- All values are shown numeric and graphic in a vector diagram.
- Energy dosage



Further Options

- Meter reading via IR-Flag probe and Current loop interface (Module MT3504 and TK117 required)
- Pulse output testing on an energy meter (Module MT3504 required)
- Testing of tm/te contact outputs (Module MT3504 required)

Technical Data

MT3606 Single-Phase Portable Test System		Accuracy Class 0.1
General		
Power supply	85 ... 132 VAC / 170 ... 265 VAC, 47... 63 Hz	
Power consumption	max. 350 VA	
Temperature range	0° ... 45° C	
Rel. Humidity, not condensing	max. 95 %	
Overvoltage category	CATI (300 Veff, 1 kVeff)	
Dimensions (HxWxD)	321 x 448 x 310mm	
Weight	approx. 13 kg	
Reference Meter		
Accuracy class rating according to PTB for measuring of power and energy. ^{1 2 3 4} <i>Independent of the measuring mode.</i>	0.1	
Voltage measurement accuracy ^{1 2 3 4}	< 0.05 %	
Voltage measurement temperature drift	< 15 x 10 ⁻⁶ /K	
Voltage measurement long term stability	< 100 x 10 ⁻⁶ /year	
Current measurement accuracy ³	< 0.1% (50 mA ... 60 A) < 0.5% (10 mA ... 50 mA)	
Current measurement temperature drift	< 15 x 10 ⁻⁶ /K	
Current measurement long term stability	< 100 x 10 ⁻⁶ /year	
Power/energy measurement error ^{1 2 3 4}	< 0.1% (50 mA ... 60 A) < 0.5% (10 mA ... 50mA)	
Angle measurement error ^{2 3 4}	< 0.1°	
Frequency measurement error	± 0,01 Hz	
Source		
Voltage circuit output	40 V ... 300 V	
Voltage circuit maximum output power	30 VA	
Voltage circuit harmonic distortion	< 0.5 %	
Current circuit output	10 mA ... 60 A	
Current circuit maximum output power	90 VA	
Current circuit harmonic distortion	< 0.5 %	

Status: 31st March 2010

¹ related to the reading value with optimal range setting

² in the range of 40 V ... 300 V and 50 mA ... 60 A

³ independent of the measuring mode

⁴ with basic frequency in the range of 40 ... 70 Hz