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MARSENERGO
INSTRUMENTS FOR POWER INDUSTRY

Making energy visible

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MTS-MONO-ME-3.12

Portable Test System

Accuracy class 0.05 **Phases: 3**

Generation and measurement

AC current: 1 mA ... 12 A
AC voltage: 1 V ... 270 V
Harmonics: up to 50
Interharmonics: up to 50.5
DC current and DC voltage:
±20 mA and ±10 V

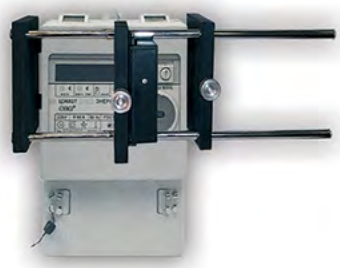
ME-Sevice software (controls MTS-MONO in automatic mode)

PC with ME-Service SW installed is included in standard supply.

+

MTS-MONO (combines 3 instruments in one unit)

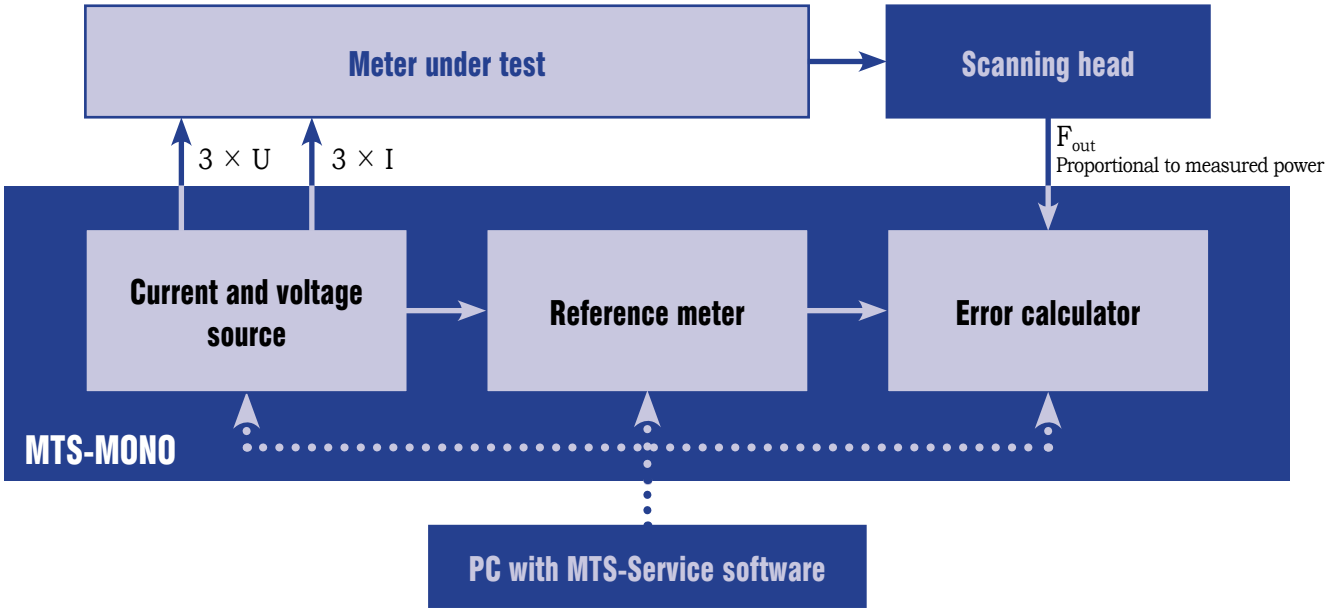
The MTS-MONO test system is designed for accuracy testing of:



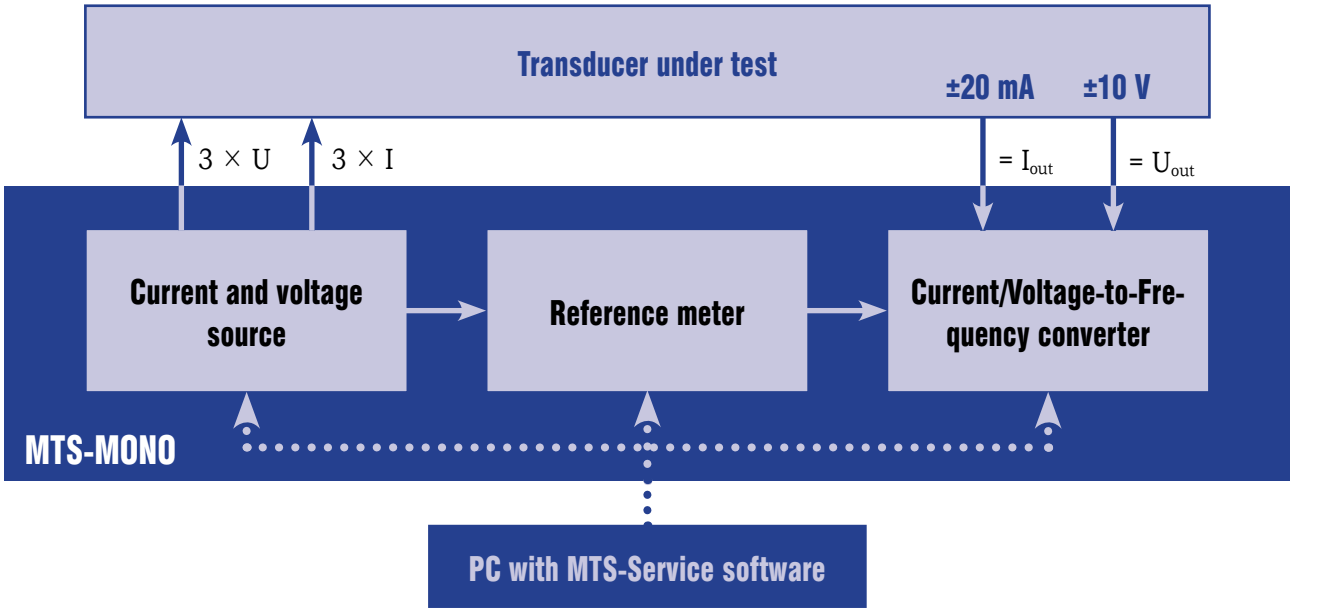
Smart energy meters
of accuracy class 0.2S
with power quality
measurement function

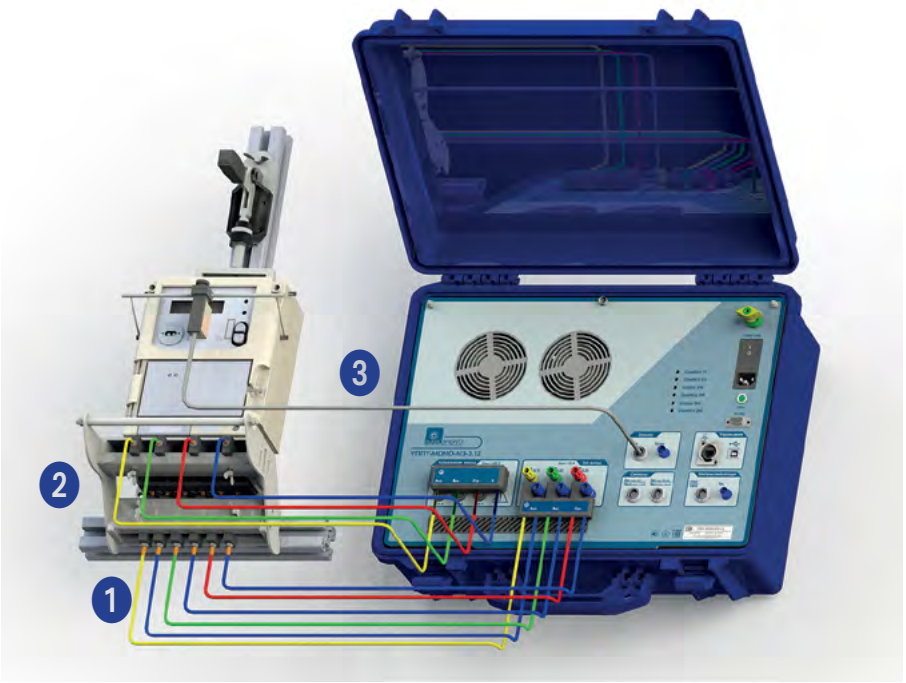
Measuring transducers
with unified DC current and
voltage signals

Configuration for testing energy meters



Configuration for testing measuring transducers





Benefits

Preparation and connection time for meter testing is minimized.

There are just 3 communication links to be made:

1. Current (with interface plug-in modules)
2. Voltage (with interface plug-in modules)
3. Pulse signal (with a scanning head)

and one action to be done: you need to run the ME-Service program for performing automatic testing and report generation.

Meter information is entered into the database in advance.

Accessories

Quick Meter Connection device with plug-in Current and Voltage connectors

that provides proper connection of current and voltage between the meter and MTS-MONO together with load imitation.

Termo-Hygrometer

as a source of temperature and humidity data to be added to the test report

Scanning Head SH

for scanning meter pulses proportional to measured power/energy

Time Correction Module TCM-02C with a built-in GPS/GLONASS receiver

that synchronizes a PC's real time clock with Coordinated Universal time (UTC)

Optical Probe

that provides communication between the meter and PC to programmatically correct the meter's internal clock

Versions:

- **MTS-MONO-ME-3.12** (3 phases, 12 A, 270 V)
- **MTS-MONO-ME-3.100** (3 phases, 120 A, 480 V)
- **MTS-MONO-ME-1.100** (1 phase, 120 A, 270 V)

Technical data for integrated reference meter (accuracy class 0.05)

Parameter	Range	Measurement error
Voltage Ranges U_{nom} = 60, 120, 240 V	6...270 V	% of reference ±0.02 % + Δ
Current Ranges I_{nom} = 0.1, 1, 10 A	1 mA...12 A	% of reference ±0.02 % + Δ
Frequency	40...70 Hz	Absolute ±0.03 Hz
Phase angle	–180°...+180°	Absolute ±0.01°
Power factor	–0.1...+0.1	Absolute ±0.02
Active power	$0.01U_{nom}$...$1.5U_{nom}$ $0.1I_{nom}$...$1.5I_{nom}$	% of reference ±0.05 % + Δ

Δ – *additional error*

Technical data for integrated Current and Voltage Source

Parameter	Output setting range	In increments of	Value
Voltage Ranges U_{nom} = 60/220 V Distortion Max output power per phase	20...270 V	0.1 V	 ≤1 % 30 VA
Current Ranges I_{nom} = 1, 10 A Distortion Max output power per phase	1 mA...12 A	1 mA	 ≤1 % 60 VA
Frequency	45...70 Hz	0.01 Hz	
Phase angle	–180°...+180°	±0.01°	
Harmonic composition			
Harmonics Interharmonics	2...50 0.5...50.5		

Technical data for integrated Error Calculator and Volt/mA calibrator (accuracy class 0.02)

Parameter	Range	Measurement error
Input DC signal		% of reference
Voltage	–15...+15 V 0...15 V	±0.02 %
Current	–7.5...+7.5 mA 0...30 mA	±0.02 %
Output DC signal		% of reference
Voltage	–10.5...+10.5 V	±0.002
Current	–24...+24 mA	±0.05

Operating conditions

Ambient temperature	10 to 35 °C
Relative humidity	80 % at 20 °C
Atmospheric pressure	84 to 106.7 kPa

General

Parameter	Value
Mains supply	230^{+23}_{-35} V 47...63 Hz
Power consumption from mains	400 VA, or less
Overall dimensions (length × width × height)	480 × 380 × 200 mm, or less
Weight	16 kg, or less

Pulse input/output

Parameter	Input	Output
Pulse level	5...15 V	5 V
Frequency (max)	36 kHz	18 kHz
Pulse duration	>14 µs	10 ± 2 µs
Constant	1...999 999 999 pls/(kW · h)	$C = 144 \cdot 10^8/(I_{nom} \cdot U_{nom})$ pls/(W · h)

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