ZERA

MT3000 Series

Moving Test - MT3000

Three-Phase Power Source

Keep ahead with Modular Design

ZERA

MT3000 Series

The Modular Concept

The MT3000 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 does support the functionality of the system. The 10,4" TFT display is visualizing the high quality of the system.
The MT3000 system does distinguish oneself 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 MT3000 system comprises of various interchangeable modules to configure the system individually according to customer requirements. A system upgrade by combining 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

reddot design award
winner 2004

Features

- The MT3000 is a powerful three-phase voltage and current source.
- The consistently modular design allows a system upgrade at any time.
- Excellent user-guidance
- Many configuration possibilities by adding various modules
- All test values are generated absolutely synthetically.
- The power source can be used as stand-alone unit or as enhancement of the MT3000 Reference Standard.
- Powerful unit with single phase mains supply
- Current generation up to 120 A by using an optionally Current Booster Module

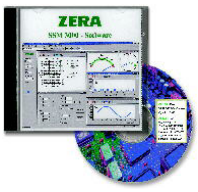
Functions

The MT3000 Power Source provides the following functionality:

- Free programmable load point setting for voltage and current generation
- Programmable phase shift control from 0 … 360°
- Programmable wave form generation for voltage and current
- Generation of up to the 20th harmonic in voltage and current
- Programmable Frequency
- Programmable balance and unbalance load
- Energy dosage
- MT3000 Reference Standard control

External Control via PC

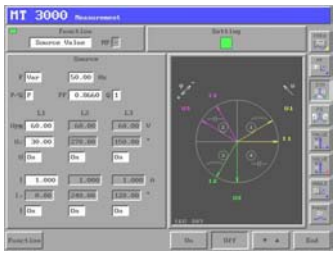
For system control via Windows based software SSM3000 the operator can set all parameters for the load point programming on an external PC.



Load Point Setting

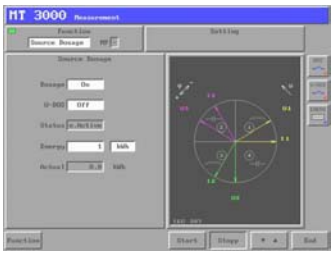
The portable power source provides an individual load point programming to simulate the load.

- Voltage and current generation facilities 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°.
- Test frequency setting from synthetic or synchronized to the mains.
- All values are shown numeric and graphic in a vector diagram.
- The generated values are stabilized by analogue control.



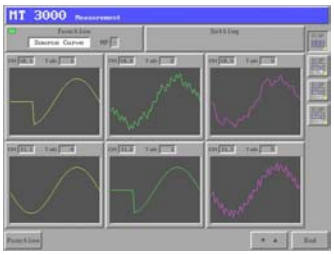
Energy Dosage

The source dosage menu serves for a defined energy programming. The operator can control the energy dosage manually by pressing the push buttons at the soft-key terminal.



Waveform Programming

The MT3000 Power Source system provides an individual programming of the waveform signals independently from each other.
All programmed wave forms can be stored internally for further processing. With the harmonic generation tool it is possible to program a customized harmonic spectrum in voltage and current up to the 20th THD. Also a programmable phase shift control is possible. All defined wave forms can be displayed as single curve or as overview of various wave forms.



Options

- Rigid mobile transportation case
- Quick connecting cable set for voltage and current
- Windows control software SSM3000 for external control
- Extension of the current generation facility up to 120 A with an output power of 150 VA per phase *(Booster module MT3602 required)*

Technical Data

MT3000 Power Source System	MT3000 12 A	MT3000 120 A
General		
Power supply	85 … 132 VAC / 170 … 265 VAC, 47… 63 Hz	85 … 132 VAC / 170 … 265 VAC, 47… 63 Hz
Power consumption	max. 500 VA	max. 1200 VA
Temperature range	0° … 45° C	0° … 45° C
Rel. Humidity, not condensing	max. 95 %	max. 95 %
Max. dimensions (HxWxD)	321 x 448 x 310 mm (Source)	321 x 448 x 310 mm (Source) 321 x 448 x 310 mm (Booster)
Weight	approx. 16 kg	approx. 16 kg + 25 kg
Source		
Fundamental frequency	15 … 70 Hz	15 … 70 Hz (U ; I ≤ 12 A) 40 ... 70 HZ (I > 12 A)
Bandwidth	DC ... 1000 Hz	DC … 1000 Hz (U ; I ≤ 12 A) 40 ... 70 Hz (I > 12 A)
Voltage circuit output	40 V … 300 V	40 V … 300 V
Voltage circuit maximum output power [4]	30 VA	30 VA
Voltage circuit accuracy [1]	< 0.5 %	< 0.5 %
Voltage circuit stability [2 3]	< 0.1 %	< 0.1 %
Voltage circuit harmonic distortion	< 0.5 %	< 0.5 %
Current circuit output	4 mA … 12 A	4 mA … 120 A
Current circuit maximum output power [5]	30 VA	150 VA
Current circuit accuracy [1 2]	< 2 %	< 4 %
Current circuit harmonic distortion	< 0.5 % (100 mA … 12 A)	< 0.5 % (100 mA … < 12 A) < 1.5 % (12 A … 120 A)
Current circuit stability [2 3]	< 0.1 %	< 0.2 %

[1] the specified accuracy is valid in case that the source is not controlled by a reference system
[2] in the range of 20 mA …12 A (120 A)
[3] U no load, I short circuit over 1 h
[4] at maximum voltage and ohmic load
[5] at maximum current and ohmic load

Status: 29th July 2008

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