

## Moving Test – MT551

Three phase Current and Voltage Source



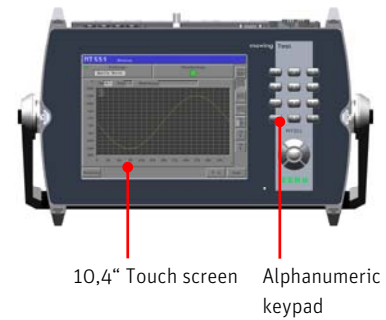
Current generation up to 120 A  
Voltage generation up to 500 V

### General

While testing of metering installations on-site you can meet the problem, that you cannot make a proper testing because of insufficient load conditions.

The three phase MT551 power source is a lightweight and portable current and voltage source based on newest technology and serves for solving this problem by simulating the required load conditions.

Operation is performed by integrated 10,4" touch screen or externally via interfaces.



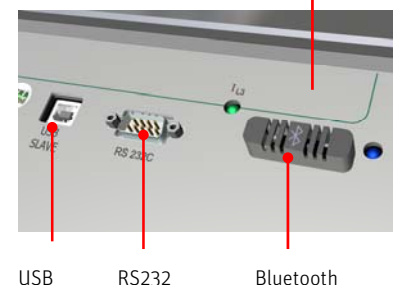
### Features

- Three phase current generation up to 120 A (AC)
- Three phase voltage generation up to 500 V
- 10,4 " colour-display
- Compact-Flash card
- Easy user-guidance via touch screen
- All test values are generated synthetically.
- The power source MT551 can be used as stand-alone unit or as enhancement of the MT3000/MT365 reference standard.
- Interfaces: Bluetooth, USB or RS232
- Powerful unit with single phase mains supply.



### Functions

- Individual load point settings
- Programmable phase shift control from 0 ... 360°
- Programmable wave form generation for voltage and current
- Generation of up to the 40<sup>th</sup> harmonic in voltage and current
- Programmable power factors
- Configuration of balanced and unbalanced load points
- Simulation of load conditions via adjustable currents, voltages and angles.
- Generation of harmonics in current and voltage up to the 40<sup>th</sup> (option)



### Data management

In addition to generating test values MT551 source also provides the measurement of these values (0,2 %). All values will be displayed and can be stored.

Load points and measured data can be stored on the CF-card. The data management software MTVis provides the ability to transfer the data between MT551 and an external PC. Measured values can be summarized and printed in a test report.

## Load Point Setting

The portable 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



## Wave Form Programming

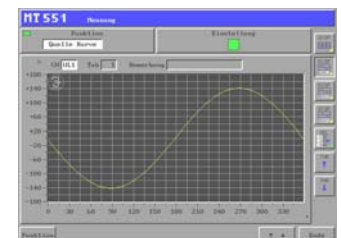
The MT551 Power Source system provides an individual programming of the waveform signals independently from each other.

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 40th 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.



## Curve Display

Two channels of the generated currents and voltages can be measured and displayed simultaneously. The curves can be stored on the CF card.



## Technical Data

### Portable Power Source MT551

#### General

Power supply	85 ... 265 V, 47 ... 63 Hz
Power consumption	max. 500 VA
Temperature range, operation	-10° ... + 50° C
Temperature range, storage	-15° ... + 65° C
Relative humidity (not condensing)	max. 95 %
Dimensions (DxWxH)	206 x 524 x 428 mm
Weight	~ 21.2 kg
Max. height above sea level	2000 m

#### Safety

IP class according to DIN EN 60529	IP40
Declaration of conformity	CE conform
Protection class according to DIN EN 61140	I
Overvoltage category voltage measurement	CAT I 600 V
Overvoltage category current measurement	CAT I 600 V

#### Source

Voltage min. max.	20 V ... 500 V
Voltage range(s)	60 V, 125 V, 250 V, 420 V
Voltage max. output power 8)	30 VA
Voltage distortion 3)	< 0.5 %
Voltage resolution	5 digits
Voltage accuracy 3)	< 0.2%
Voltage stability 9)	< 0.02 %
Voltage load dependence	< 0.02%
Voltage harmonic setting range 14) 15)	2. ... 40.
Voltage bandwidth	-3 dB @ ~ 3 KHz
Current min. max.	1 mA ... 120 A
Current range(s)	100 A, 50 A, 20 A, 10 A, 5 A, 2 A, 1 A, 0.5 A, 0.2 A, 0.1 A, 0.05 A, 0.02 A
Current max. voltage per range	0.6 V (100 A .. 20 A), 2.0 V (10 A), 4.0 V (5 A) 8.0 V (2 A .. 0.02 A)
Current max. output power 8)	60 VA
Current distortion 4)	< 0.5 %
Current setting resolution	5 digits
Current accuracy 4)	< 0.2 %
Current stability 9)	< 0.02 %
Current long term stability	< 0.02 %
Current load dependence	< 0.02 %
Current harmonic setting range 14) 15)	2. ... 40.
Current bandwidth 18)	-3 dB @ ~1.5 kHz
Frequency range	45 ... 65 Hz
Frequency accuracy	0.01 Hz
Frequency setting accuracy	0.01 Hz
Phase angle setting range	0.00 ... 359.99°
Phase angle setting resolution	0.01°
Phase angle accuracy	< 0.015°
Phase angle stability 9)	< 0.01 °

3: From 30 V ...500 V

4: From 10 mA ...120 A

8: Related of end of maximum range and end of range and ohmic load

9: Stability over 1hour (measurement with  $t_i = 10$  s)

14: Every harmonic (related to fundamental) max.40 %

15: Total of harmonics max.40 %

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Subjects to alteration.