MTS-122 Meter Test System

Phase: 3
Accuracy class: 0.05 or 0.1
AC voltage output: 0-1000V
AC current output: 0-36A
DC voltage output: 0-1100V
DC current output:0-30A

This rugged Meter Test System is composed of high accurate (class 0.05% or 0.1%) standard reference meter and power source (up to 36A). This system is particularly designed for modular structure for calibration and test of analog meter, digital meter, RTU, electrical transducer, energy meter and so on.
It is operated under high functionality with user friendly interface.

Main function:

Feature

- Integration of high accurate reference meter and reliable power source
- Eligible to calibrate indicating meter, electrical transducer, energy meter, RTU and etc.
- Accuracy: U, I, P, kWh: ±0.05%; Q, kvarh : ±0.1%
- U, I, P stability: 0.01%RG/3min; Distortion of AC Voltage and AC Current: ≤ 0.2%
- Measurement Scope:
  AC Voltage: 300mV~1000V (Single phase), 57.7V~660V (3 phase)
  AC Current: 2mA~30A (Single phase), 0.2A~30A (3 Phase)
  DC Voltage: 75mV~750V; DC Current: 100μA~30A
- Export 2nd-63rd harmonics, and measure & analyze the harmonics
- With relay output and pulse output, MTS-122 remotely controls tests of indication and information response time
- Modular design with 8” color TFT screen and user-friendly interface, easy to operate
- Automatic Calibration System can be customized according to customer's requirements
- Exchange the testing settings and testing records thru USB
- Remotely updating online, easily achieve software updating
- With connectors of RS-232, RS-485, I/O, Ethernet, USB and WiFi, convenient for PC operation, firmware update and remote diagnosis.
- Self-protection, alarming and displaying overload location for equipment output overload, Voltage short-circuit, Current open-circuit
- Self-diagnosis for amplifier failure and internal module communication failure
- Test energy meters with the accuracy of Class 0.2 and below (Class 0.05 equipment)

Order Info

MTS includes 2 models with different accuracy classes:
MTS-122C, Accuracy Class: 0.05
MTS-122B , Accuracy Class: 0.1

Technical Specification

AC large Voltage output:
Range: (L1) 30V, 100V, 300V, 660V, 1000V
(L2 &L3) 30V, 100V, 300V, 660V
Adjusting range: (0~120) %RG, RG refers to range, similarly hereafter; L1 1000V: (0~100) %RG
Adjusting degree: 0.01%RG, 0.1%RG, 1%RG, and 10% RG
Stability: 0.01%/2min (Class 0.05), 0.02%/2min (Class 0.1)
Distortion: ≤0.2% (Non capacitive load)
Max output load: 30V and upper gears; 20VA each phase
Measurement accuracy: 0.05%RG (Class 0.05); 0.1%RG (Class 0.1)

AC small Voltage output:
Range: L1: 75mV, 300mV, 750mV, 3V, 7.5V
Adjusting range: (0~120) %RG, RG refers to range
Adjusting range: 0.01%RG, 0.1%RG, 1%RG, and 10% RG for option

Technical Specification

Stability: 0.02%/2min
Distortion: ≤0.2% (Non capacitive load)
Max output load: ≥25mA
Measurement accuracy: 0.1%RG

AC Current output:
Range: (L1) 2mA, 2mA,10mA, 50mA, 200mA, 500mA, 2A, 5A, 10A, 30A
(L2 & L3) 200mA, 500mA, 2A, 5A, 10A, 30A
Adjusting range: (0~120) %RG, RG refers to range, similarly hereafter
Adjusting degree: 0.01%RG, 0.1%RG, 1%RG, and 10% RG for option
Stability: 0.01%/2min (Class 0.05), 0.02%/2min (Class 0.1)
Distortion: ≤0.2% (Non capacitive load)
Max output load: 20VA (30A gear); 50mA and below gear: ≥15V
Measurement accuracy: 200mA and above gears: 0.05%RG, 0.1%RG
50mA and below gears: 0.1%RG

Power output
Power output stability: 0.01%/2min (Class 0.05), 0.02%/2min (Class 0.1)
Active/reactive power measurement accuracy: 0.05%RG

Phase output
Output adjusting range: 0°~360°
Output adjusting degree: 10°, 1°, 0.1°, 0.01° for option
Resolution: 0.01°
Measurement accuracy: 0.05°

Power factor output:
Adjusting range: -1 ~ 0 ~ +1
Measuring resolution: 0.0001
Measurement accuracy: 0.0005

Frequency output
Adjusting range: 40Hz ~70Hz
Output adjusting degree: 1Hz, 0.1Hz, 0.01Hz, 0.001Hz for option
Resolution: 0.001Hz
Accuracy: 0.002 Hz

Harmonic setting
Harmonic times: 2^{nd} ~63^{rd}
Harmonic content: 0~40%
Harmonic phase: 0°~359.99°
Harmonic set error: 2^{nd} ~31^{st} times: ≤±0.1%,
32^{nd} ~63^{rd} times: ≤±0.2%

DC Voltage output
Range: 100mV, 300 mV, 1V, 5V, 20V, 100V, 300V, 1000V
Adjusting range: (0~120) %RG; 1000V: (0~100) %RG
Adjusting degree: 0.01%RG, 0.1%RG, 1%RG, and 10% RG
Stability: 0.01%/2min (Class 0.05), 0.02%/2min (Class 0.1)
Output load: ≥50mA
Measurement accuracy: 0.05%RG (Class 0.05); 0.1%RG (Class 0.1)
Ripple content: no more than 1%

DC Current output
Range: 100μA, 300μA, 1mA, 3mA, 10mA, 30mA, 100mA, 300mA, 1A, 5A, 10A, 25A, 30A
Adjusting range: (0~120) %RG
Adjusting degree: 0.01%RG, 0.1%RG, 1%RG, and 10% RG
Stability: 0.01%/2min (Class 0.05), 0.02%/2min (Class 0.1)
Output load: 25A: 25VA; 5~10A: 2V; 1A and lower gear ≥30V
Measurement accuracy: 0.05%RG (Class 0.05); 0.1%RG (Class 0.1)
Ripple content: no more than 1%

Technical Specification

DC input Voltage measurement

Range:	±10V;
Measuring range:	(0-150) %RG
Basic error limit:	0.02%RG
Ripple measuring error:	(5%RD + 0.1%), RD refer to ripple measured value
Resolution:	0.001%RG

DC input Current measurement

Range:	±20mA
Measuring range:	(0-150) %RG
Basic error limit:	±0.02%RG
Ripple measuring error:	± (5%RD + 0.1%), RD refer to ripple measured value
Resolution:	0.001%RG

Energy error measurement:

Active energy basic error limit:

0.05%RD (Voltage 15V~660V, Current 0.05A~36A, PF≥0.5)

0.1%RD (Voltage 15V~660V, Current 0.02A~0.05A, PF=1)

Reactive energy basic error limit:

0.1%RD (Voltage 15V~660V, Current 0.05A~36A, PF≥0.5)

0.2%RD (Voltage 15V~660V, Current 0.02A~0.05A, PF=1)

Other parameters:

Power supply:	90-265VAC/DC
Power frequency:	50Hz~60Hz
Power consumption:	50VA~1000VA
Working environment:	20℃~30℃，Humidity: RH≤85%
Storage environment:	-20℃~50℃
Size:	600(L)× 440 (W)× 176(H)mm
Weight:	30kg