MTS-1030 CONDENSED SPECIFICATIONS

Power Supply

- 120 VAC/60 Hz version: Input range 100-130 VAC at
- 50-70 Hz
- 240 VAC/50/60 Hz version: Input range 220-260 VAC at 47-70Hz
- Internal 12VDC battery pack for 7-hour operation

Frequency Measurement

Resolution: 0.001 Hz for 8.000-9.999 Hz input
0.01 Hz for 10.00-99.99 Hz input
±0.1 Hz for 100.0-500.0 Hz input

Accuracy: ±0.01 Hz (low scale), ±0.1 Hz (high scale)

Range: 8.00 - 99.99 Hz (low scale)
8.0 - 500.0 Hz (high scale)

Speed: Measurement speed is dependent on input frequency
For 60 Hz inputs:
2 readings/sec in normal mode
7.5 readings/sec in high speed mode
For 50 Hz inputs:
1.6 readings/sec in normal mode
6.3 readings/sec in high speed mode

Time Measurement

Time (Seconds) Measurement

Resolution: 0.1 milliseconds
Accuracy: ±0.5 milliseconds (0-10 seconds)
±0.01% ± 1 LSD (10-9999 seconds)
Range: 0.0 ms - 9999sec, autoranging at the end of each decade

Time (Cycles) Measurement

Resolution: 0.1 cycles (lowest scale)
Accuracy: ± 0.1 cycles (lowest scale)
Range: 0.0 - 9999 cycles, autoranging at 999.9 cycles

Phase Measurement

Resolution: 0.01 degree for readings from -9.99°to10.00°, 0.1 degree otherwise

Accuracy: ±0.5 deg down to 2V / 200 mA, reduced accuracy readings available to below 1V / 100 mA. 24 db/octave digital input filters maintain rated accuracy for signals with high harmonic content

Range: 0.0 to 360.0 degrees or ±180.0

Speed: Measurement speed is dependent on input frequency
For 60 Hz inputs:
2 readings/sec in normal mode
7.5 readings/sec in high speed mode
For 50 Hz inputs:
1.6 readings/sec in normal mode
6.3 readings/sec in high speed mode

Current Measurement

Any phase value, or phase-to-phase vector, as selected by front panel colour coded push buttons. True RMS, AC coupled via low-burden current transformers.

Accuracy: ±0.4% of reading ±0.15% of scale
Range: 0 - 2/20/200A, auto-ranging at 1.999, 19.99A
Resolution: 0.001/0.01/0.1A
Max. Input: 75 amps sustained, 125 amps for 5 seconds
Speed: 3 readings/sec, 30 readings/sec in high speed mode

Voltage Measurement

Any combination of phase-to-phase or phase-to-ground voltages, selected by front panel colour coded push buttons. True RMS, DC coupled. ABC/ACB phase rotation indicator LEDs included.

Accuracy: ±0.4% of reading ±0.15% of scale
Range: 0-20/200/2000V, autoranging at 19.99, 199.9V
Resolution: 0.01/0.1/1V
Max. input: 600 VAC sustained input
Input impedance: 2 megohms
Speed: 3 readings/sec, 30 readings/sec in high speed mode

Power Measurement

Power measurements are calculated by the internal microprocessor from the current, voltage and phase angle measurements.

Kilowatts
Resolution: up to 0.001 kWatt
Accuracy: ±0.8% at P.F. = 1
Range: -63.0 to +63.0 kW

Kilovars
Resolution: up to 0.001 kVAR
Accuracy: ±0.8% at P.F. = 0
Range: -63.0 to +63.00 kVAR

Kilovoltamperes
Resolution: up to 0.001 kVA
Accuracy: ±0.8%
Range: 0.0 - 63.00 kVA

Power Factor
Resolution: 0.001
Accuracy: ±0.004 for sinusoidal inputs
Range: -1.000 to 1.000

External Trigger

- Floating three terminal inputs for START and STOP triggers
- Change of state detection for contact or AC/DC voltage
- (30-300V).
- Contact inputs protected to 300V AC/DC
- Input impedance 60 kOhm minimum
- Selectable audio tone for continuity indication of stop trigger
- START trigger operation starts timer, increases update
- frequency of V, I, phase, and frequency readings
- STOP trigger stops timer, freezes all measurement reading

MTS-1030 CONDENSED SPECIFICATIONS

RS-232C Serial Communications Port

Connector: Standard 25-pin female DB-25, DCE configuration
Data Format: 8 bits, no parity, 1 start bit, 1 stop bit
Speed: Standard rates from 110 to 9600 baud

- Facilitates communication with printers, terminals, computers, and other RS-232C devices
- Permits automated output and recording of all measurements
- Permits control of all meter functions for fully automated or semi-automated testing

Physical Characteristics

- Aluminum case and frame
- Moulded ABS plastic front/rear covers
- Integrated carry handle/tilt stand
- Large rear feet allow vertical operation
- Size: 14" W x 6" H x 10.5" D (35.56 cm W x 15.36 cm H x 26.88 cm D)
- Weight: 22.2 lbs/10.1 kg including battery

Options

Option 01* Cordura carry case
Padded case with shoulder strap and pockets for leads and manuals.

Option 02 Snap-on lead case
Attractive, Cordura case snaps onto the top of the meter to carry leads, cords and accessories.

Option 03 Impedance measurement
Direct display of impedance, based on $Z=V\div I$, $Z=V\div 2I$, or $Z=V\div\sqrt{3}I$ Replaces kVAR, kVA and P.F. display.

Option 06 IEEE-488 interface.

Option 08 W, VAR, VA display
Replaces kW, kVAR, kVA display with W, VAR, VA readings. Only display resolution is improved, not accuracy.

Option 09 Ratio measurement
Replaces kVAR display with Channel 1/Channel 2 ratio measurement. This allows measurement of impedance (V/I), admittance (I/V), voltage ratio (V/V) and current ratio (I/I). The V/V and I/I measurements are useful for measuring turns ratio and gain.

Option 10* Synchrocheck
Provides an extra high speed phase measurement mode for checking phase angle when testing synchrocheck and synchronizing relays. The maximum reading speed is one reading per cycle, for 20 - 60 Hz inputs.

Option 14* Slip frequency measurement
Measures the difference in frequency between the Channel 1 & 2 inputs with up to 0.001Hz resolution. Useful for synchrocheck relay applications.

Options continued

Option 15 Wh measurement
Replaces kVA display with Wh measurement for testing watthour meters.

Option 17 Signal processing
Adds three measurement capabilities;

1) Low pass filter for Channel 1, inserts 5th order low pass filter in signal path to attenuate signals above 60 Hz at 30 db/octave. Eliminates all higher order harmonics from signal.
2) Average response AC measurement on Channel A. Useful alternative to True RMS response, for such tests as second harmonic restraint and current transformer excitation.
3) Peak hold and peak responding measurement for Channels 1 and 2. Captures and holds positive or negative peak signal with 1 millisecond response time. Can be calibrated for peak value or RMS equivalent. Extremely fast response useful for transient tests such as inrush measurement.

Option 18* Extended low level phase measurement
Extends 0.5 degree measurement accuracy for phase angle down to 4.5% of scale (0.9V or 0.09A minimum).

Option 20 Hard-shell shipping case.

Option 21 10V Triggers
Reduced trigger voltage threshold to 10V (Standard is 30V).

Option 22 0-20amp input
Replaces high current input capability with 20A for improved accuracy of current measurement down to 20mA.

Option 23 240V, 50Hz Input.

Option 24 Extra Manual.

Option 25 1 Year Extended Warranty
Additional year for a total of 2 years.

**** These options are included at no cost on all new meters***