KUSAM-MECO®

An ISO 9001:2015 Company

MULTIFUNCTION POWER & HARMONICS ANALYZER

MODEL - KM 2300

NEWLY LAUNCHED

CLASS A

- Standard Accessories

✷Display : 5.6'TFTLCD,640x480, Adjustable

FEATURES :

- Waveform real-time display(4 voltages/4 currents)
- Half cycle RMS measurement (voltage and current)
- Intuitive operation
- Variety of optional current clamps
- Measure DC component
- Measurement of harmonics can be up to 100 times.
- Transient capture
- Vector, Trend, Bar Graph and events table display
- Active power, reactive power, apparent power and energy, shift power factor and true power factor.
- Three-phase unbalance (voltage and current).
- Flicker
- Inrush current
- Detect according to EN50160 or grid with user-defined limit.
- Detection and record of Dips & Swells, Voltage Rapid Change, Interruption.
- Detect according to EN50160 or grid with user-defined limit.
- Data storage and screenshots (can be replayed or output to a PC)
- Through the LAN interface PC can keep real-time remote communication with the Analyzer, operate the Analyzer and download measurement data.
- Built-in 32G memory card.
- WIFI communication is supported.

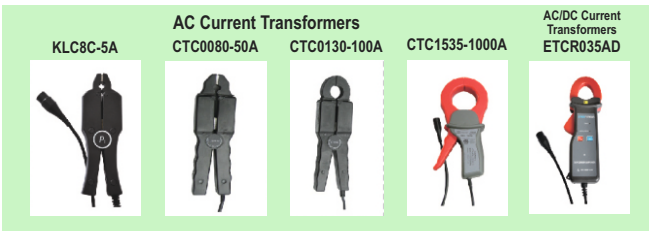
✷ACCESSORIES :

- Voltage Test Leads x 5, Alligator Clips x 5, Power Adaptor, Power cord, Hang Strap, Software CD with User Manual & Carrying Case.

✷OPTIONAL ACCESSORIES :

- **AC Current Transformer**
  KLC8C (5A); CTC0080 (50A); CTC0130 (100A);CTC1535 (1000A)
- **AC Rogowski Coil**
  SY-1500A (1500A); PY-3000A (3000A); SY-6000A (6000A)
- **AC/DC Current Transformer**
  ETCR035AD (1000A)

- Optional Accessories :



Note: All Specification are Subject to change without prior notice.

ELECTRICAL SPECIFICATIONS : KM 2300

5.1 Frequency Measurement

Nominal frequency	Measurement range	Resolution	Accuracy
50Hz	42.50~57.50 Hz	0.01Hz	±0.01Hz
60Hz	51.00~69.00 Hz	0.01Hz	±0.01Hz
400Hz	320~480Hz	0.01Hz	±0.01Hz

Note: measured on Reference Voltage Input **L1/A**

5.2 Voltage Input

Numbers of input	4 (3 phase + neutral)
Max continuous input voltage	1000Vrms
Range of nominal voltage	Selectable, 1V to 1000V according to IEC61000-4-30
Max pulse peak voltage	6kV
Input impedance	4MΩ

5.3 Current Input

Numbers of input	4 (3 phase+ neutral)
Type	Clamp Current Sensor with mV output
Max input voltage	10V
Input range	According to current clamps
Input impedance	100kΩ

5.4 Sampling System

Resolution	8 channels 16 bits AD
Sampling rate	163.84kS/sTyp. (Nominal frequency,) 8 channels sample synchronously
RMS sampling	4096points for10/12cycles(according tdEC 61000-4-30)
PLL sync	4096 points for10/12cycles(according tdEC61000-4-7)

5.5 Measuring Modes and Parameters

Measurement mode	Measured parameters
Oscilloscope	Vrms、Arms、Vcursor、Acursor、Hz
Voltage/Current/Frequency	Vrms、Vpk、Arms、Apk、CF、Hz
Dips&Swells	Vrms1/2, Arms1/2, capture up to 1000 events Include Date, Time, duration, magnitude and phase mark, and Threshold is settable.

5.6 Measurement Range, Resolution, Accuracy

Voltage/Current/Frequency	Measurement range	Resolution	Accuracy
Vrms (AC+DC)	1~120Vrms 120~400Vrms 400~1000Vrms	0.001Vrms 0.01Vrms 0.1Vrms	±0.1% of nominal voltage
Vpk	1~1400Vpk	0.01Vpk	±0.5% of nominal voltage
V(CF)	1.0~>2.8	0.01	±5%
Arms (current clamps error not include) 10mV/A 1mV/A 65mV/1000A(AC)	0~150A 1~2000A 10~6000A	0.01A 0.01A 0.01A	±0.1%±0.1A ±0.1%±0.1A ±0.1%±0.2A
A (CF)	1~10	0.01	±5%
Frequency 50Hz nominal Frequency 60Hz nominal Frequency 400Hz nominal	42.5~57.5 51~69 320~480	0.01Hz 0.01Hz 0.01Hz	±0.01Hz ±0.01Hz ±0.01Hz

Dips&Swells	Measurement range	Resolution	Accuracy
Vrms1/2	0~200% nominal voltage	0.01Vrms	±0.2%
Arms1/2	According to current clamps	0.01A	±1%
Threshold value	Threshold is settable according to nominal voltage percentage Detectable events type: Dips, Swells, Interruption, Voltage Rapid Change.		
Duration	hour-minute-second-microsecond	0.5 cycle	1 period

Harmonic	Measurement range	Resolution	Accuracy
Harmonicorder(400Hz)	1~12		
Interharmonicorder (400Hz)	No		
Harmonicorder(50/60Hz)	1~100		
InterharmonicOrder(50/60Hz)	0~99		
Harmonic voltage%f	0.0~100.0%	0.01%	±0.1%±n×0.1%
Harmonicvoltage%r	0.0~100.0%	0.01%	±0.1%±n×04%
Harmonic current%f	0.0~100.0%	0.01%	±0.1%±n×0.1%
Harmonic current %r	0.0~100.0%	0.01%	±0.1%±n×04%
THD	0.0~100.0%	0.01%	±2.5%
Frequency	0~6000Hz	0.01Hz	0.1Hz
Phase	-180°~180°	0.1°	±n×0.1°
Absolute voltage	0~1000V	0.01V	±1% reading (harmonics >1% nominal value) ±0.05 % reading (harmonics <1% nominal value)
Absolute current	0~6000A	0.01A	±1% reading (harmonics >3% nominal value) ±0.05 % reading (harmonics <3% nominal value)

Power and energy	Measurement range	Resolution	Accuracy
P, S, Q1,	Max6000MW	0.01kW	±1%±10counts
PF	0~1	0.01	±0.1%
cosΦ	0~1	0.01	±0.1%
kWh, kVAh , kvarh	Depends on clamp scaling and V nominal		±1%±10counts

Flicker(50/60Hz)	Measurement range	Resolution	Accuracy
Pst(10 minutes) Plt (2 hours)	0.00~20.00	0.01	±5%

Unbalance	Measurement range	Resolution	Accuracy
Voltage unbalance	0.0~20.0%	0.1%	±0.1%
Current unbalance	0.0~20.0%	0.1%	±1%
Voltage phase	-360°~ 0°	0.1°	±0.1°
Current phase	-360°~ 0°	0.1°	±0.5°

Voltage transients	Measurement range	Resolution	Accuracy
Vpk	±6000Vpk	0.01V	±15%
Vrms	10~1000Vrms	0.01V	±2.5%
Minimum test time	6.5μs		
Sampling rate	163.84kS/s		

Inrush current	Measurement range	Resolution	Accuracy
Arms	According to current clamps	0.01A	±1%±5 counts
Inrushduration time	1~32 min settable	10ms	±20ms

5.7 Wiring Combinations

1P+NEUTRAL	Single phase with neutral
1P Split Phase	Split phase
1P IT NO NEUTRAL	Single phase system with two phase voltages without neutral
3P WYE	3-phase-4 wire system Y type
3P DELTA	3-phase-3 wire system delta (Delta)
3P IT	3-phase Y type without neutral
3P HIGH LEG	4-wire 3-phase delta system(Delta) with center tapped high leg
3P OPEN LEG	Open-delta(Delta)3-wire system with two transformer windings
2-ELEMENT	3-phase-3wire system without current sensor on phaseL2/B (2Watt meter method)
2.5-ELEMENT	3-phase 4wire system without voltage sensor on phase L2/B

ELECTRICAL SPECIFICATIONS : KM 2300

GeneralCharacteristics

Interface	
USB Host interface	Copy saved file to PC from a U disk, then anaLyze it With upper computer software.
LAN interface	For remote control of the Analyzer and measurement Data transmission.

Memory	
Flash memory	1G
Micro SD	Standard 32G

Case	
Drip and dust proof	IP53 degree.The IP rating refers to nen Operation of the Product And Does not voltages in wet environments.

Standard	
Measurement method	IEC61000-4-30 A class
Measurement performance	IEC61000-4-30 A class
Power quality monitoring	EN50160
Flicker	IEC61000-4-15
Harmonic	IEC61000-4-7
Power measurement method	IEEE1459

Environment	
Working temperature	0°C~ 45°C
Storage temperature	-10°C~45°C
Humidity	90% relativehumidity

Safety	
Complied with	IEC610101 Safety Degree600V CAT IV 1000V CAT III Pollution Degree2
Maximum voltage at voltage input	600V CAT IV 1000V CAT III
Maximum voltage at current input	10V

Mechanical	
Dimension	270mm × 190mm×66mm
Weight	2 kg

Power	
Adapter input	AC 100~240V 50/60Hz
Adapter output	DC 12V 2A
Battery	Lithium battery:7.4V 5200mAh
Battery operating time	>8 hours(screen brightness is in level 3)
Battery charge time	6 hours

5.9 The specification of optional current clamps

Model	Range	Turns ratio	Accuracy	Sizemm
KLC8C-5A	AC:5A	10mV/A	0.2%	Φ8
CTC0080	AC:50A	10 mV/A	0.2%	Φ8
CTC0130	AC:100A	1 mV/A	0.2%	Φ13
CTC1535	AC:1000A	1 mV/A	1.0%	Φ52
ETCR035AD	AC/DC: 1000A	1 mV/A	3.0%	30x35
SY-1500A	AC:1500A	100mV/1000A	0.5%+(1% position error)	Φ110
PY-3000A	AC:3000A	65 mV/1000A	1.0%+(2% position error)	Φ160
SY-6000A	AC:6000A	65mV/1000A	1.0%+(2% position error)	Φ250

Note: All Specification are Subject to change without prior notice.

KUSAM-MECO®
An ISO 9001:2015 Company

G-17, Bharat Industrial Estate, T. J. Road, Sewree (W), Mumbai - 400 015. INDIA.
Sales Direct : 022 - 27754546, 24156638 **Tel.:** 022 -27750662/0292/24124540/24181649
Email : sales@kusam-meco.co.in; kusam_meco@vsnl.net **Web:**www.kusamelectrical.com