



POWER QUALITY ANALYZER KEW 6315

Simultaneous recording of **Power & Power Quality** measurements,
The perfect tool for **Energy Saving** and **Power Quality** control.



- **Simultaneous Power & Power quality measurements**

Power/ Harmonics/ Waveform/ Power quality are recorded at all CHs. (Voltage: 3ch, Current 4ch)

- **Helpful support functions**

Quick Start Guide, Wiring check and Sensor detection for easy and reliable measurement

- **Measurement with high accuracy**

Guaranteed accuracy: $\pm 0.3\%rdg$ (energy),
 $\pm 0.2\%rdg$ (voltage/ current)

Complies with the International Standard

IEC 61000-4-30 Class S and the European Standard EN 50160

- **Remote monitoring on PC and Android™ device**

Remote checking of measurement *in real-time* is possible via Bluetooth® communication. Recorded data can be saved in the supplied SD card. EN 50160 report can be generated after measurement by PC software.

- **Various Clamp Current Sensors**

Various types of clamp and flexible sensors are available: from 1000mA range up to 3000A range and Earth leakage measurements

- **Energy consumption check on site**

Trend and demand graphs for easy recognition.

- **TFT color display** with high resolution

- **IEC 61010-1 CAT IV 300V / CAT III 600V / CAT II 1000V**

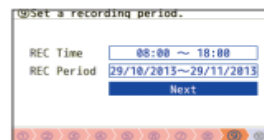
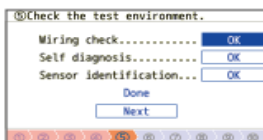
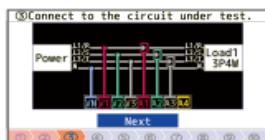
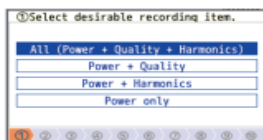
Simultaneous recording of all power and power quality with easy operation

START / STOP

Quick Start Guide

Easily and securely starts recording

One-Touch START/STOP Key for Quick Start Guide providing easy setup guides.



Guide start

Connect to the circuit

Wiring check

Select interval

Set recording time

Start recording

W/Wh Power & Energy

Instantaneous value

Item	Value	Unit
V	239.9	236.6 V
A	48.1	47.9 A
P	11.5	11.5 kW
S	11.6	11.4 kVA
PF	0.812	0.792
f	49.99	Hz
Unbalance	0.1%	
DC	0.788	4974 mV

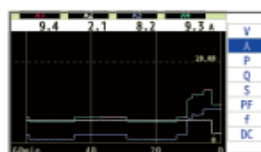
List

Item	Value	Unit
V1 INST	242.3	V
V2 INST	246.6	V
V3 INST	236.8	V
f INST	59.99	Hz
P INST	44.8	kW
S INST	44.7	kVA
Q INST	4.2	kvar
PF INST	792	

Zoom(8-split)

Item	Value	Unit
V1 INST	240.7	V
V2 INST	243.3	V
V3 INST	233.1	V
f INST	59.99	Hz

Zoom(4-split)



Trend

- Measures instantaneous / average / min / max for voltage, current, active / reactive / apparent power, $\cos\theta$ and line frequency all on one screen.
- The recording time for these parameters can be set from 1 second up to 2 hours in several steps.
- Trend of all main parameters and customized Zoom functions.
- Function to define size of capacitor banks of PF correction unit.

Integration value

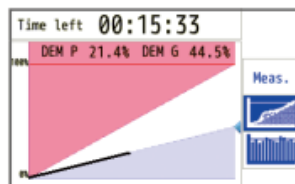
Item	Value	Unit
Elapsed time	00:00:01:17	
Active	NP+ : 85.2306	Wh
Apparent	NS+ : 85.3413	kWh
Reactive	NQ1+ : 18.7191	varh
	NQc+ : 0.0000	varh

- The display will list the active / reactive / apparent energy in total and for each phase consumed (or generated in case of co-generation like solar panels, etc).
- The elapsed time is also shown on the same display screen.

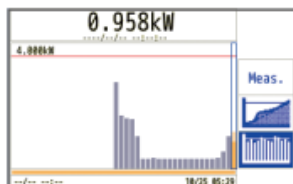
Demand

Item	Value	Unit
Time left	00:29:28	
DEM Target	4.000	kW
DEM Guess	3.918	kW
DEM Present	0.069	kW
DEM Max	0.069	kW

Measurement



Change in specific period



Demand change

- To support demand control, present energy usage and estimated value are displayed on a graph while recording max demand value and the occurred time.

PRINT SCREEN

Print Screen

- This function takes a color photo of the display screen and saves it as BMP file. Useful for report creation.



QUALITY

Power Quality

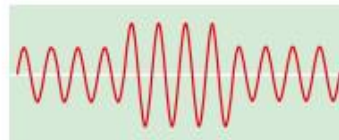
Event

All events	Occurrence
101.0 V	2013/07/18 10:45:43.136
50.4 V	2013/07/18 10:45:43.136
87.1 V	2013/07/18 10:45:35.136
128.5 V	2013/07/18 10:45:27.136
-217.1 V	2013/07/18 10:45:27.136
50.4 V	2013/07/18 10:45:18.136
87.1 V	2013/07/18 10:45:18.136
128.5 V	2013/07/18 10:45:02.136

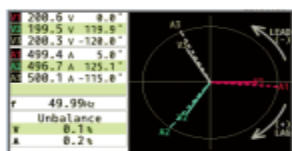
Measures voltage swells / dips / interruptions / transients and inrush currents that may indicate a weak power distribution system. Such phenomena may damage or reset devices. KEW 6315 can catch swells / dips / interruptions and inrush currents based on half cycle (10 ms @ 50Hz or 8.3ms @ 60Hz) True RMS. All necessary data is displayed by pressing one key.

Swell

Swell is an instantaneous voltage increase, most of the time originated by upstream power line failure or switching OFF large load or switching ON large capacitor.



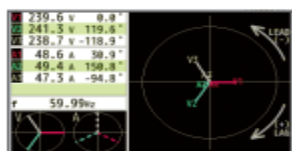
Vector and Wiring check



Vector



Wiring check



Ideal vector

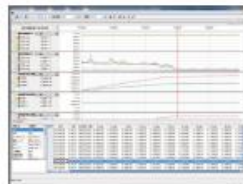
- Can display voltage and current by vector per CH and also unbalance ratio.
- Wiring check function confirms connection and displays ideal vector (at the lower left corner) according to the selected wiring system, and shows connection errors.

POWER QUALITY ANALYZER KEW 6315

Software "KEW Windows for KEW 6315" for data analysis and setting via USB port

- Automatic creation of graph and list from recorded data.
- Centralized management of setting and recorded data acquired from multiple devices.
- Data can be expressed in crude oil and CO₂ equivalent values in the report.

Please download the software from our website.
 *Windows® is a trademark or registered trademark of Microsoft Corporation.



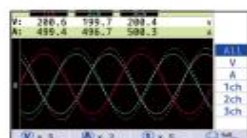
Real-time and remote measurements



- Measurements can be graphically displayed on Android™ devices or PC in real-time via Bluetooth® communication.



Waveform



- Displays voltage and current on each Ch by waveform.
- Scales of voltage/current axis and time axis are selectable, and also full-scale function for automatic scaling is available.



Harmonics Analysis



Graph

Order	V	A	W	PF
1	100.0	100.0	100.0	N
2	16.2	10.5	3.6	N
3	54.7	29.9	49.8	N
4	9.2	3.7	2.4	N
5	11.2	6.5	3.7	N
6	2.3	4.7	0.6	N
7	6.0	1.5	0.9	N
8	0.4	1.5	0.9	N
9	7.9	4.5	4.8	N
10	1.0	0.5	1.0	N

List

- Graphic display of harmonic components up to 50th order for voltage, current and power in total and for each phase.
- List display of harmonic content, RMS value and phase angle of each order.
- Can analyze harmonic currents that may contribute to damage capacitor banks for PF correction, overheating transformers / neutral conductors / cables, unwanted tripping of breakers.



USB Terminal

Digital Output Terminal

- Open Collector Output (1ch)

Analog Input Terminal

- 2ch DC100mV / 1000mV, 10V. To record additional parameters (e.g. Lux, Temperature, Humidity, etc.)

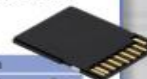
SD card Interface

- SD cards up to 2GB can be used

Possible recording time
 When the 2GB of SD is used:

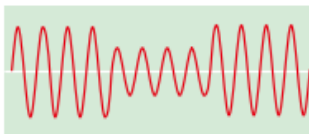
Interval	REC item	
	Power	+Harmonics
1sec.	13days	3days
1min.	1year or more	3months
30min.	10year or more	7year or more

Data of power quality events are not considered to estimate the possible recording time. The max possible time will be shortened by recording such events.



● Dip

Dip, as the opposite of a swell, is an instantaneous voltage decrease, most of the time caused by switching ON large load e.g. motors or by downstream power line failure.



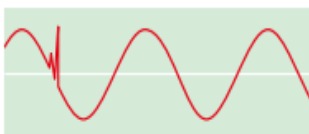
● Interruption

Interruption is a power line cut-off from any source of supply. It can be caused by a fault in a power line, which causes switch gear to open.



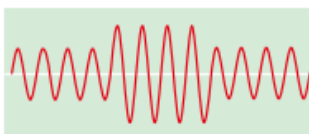
● Transients/Over Voltage (Impulse)

Transient is a very fast and momentary voltage increase that can seriously damage devices connected to a power line. It may be caused by electrical switching events such as unstable contacts of relays, tripping of breakers but also by lightning. KEW 6315 can catch Transients from 24 μs.



● Inrush Current

Inrush current is a surge current that happens when motors, large or low impedance loads are switched ON. Then the current will stabilize as soon as the load has reached normal working conditions.



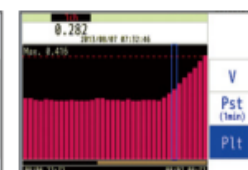
Flicker

Designed to meet IEC 61000-4-15

Flicker is a phenomenon giving an impression of unsteadiness of visual sensation induced by periodic voltage changes caused by fluctuating loads when using: arc furnace, spot welder, crane, excavator, etc.

Pst Calc. ...			V
V	230.0	230.4	230.5
Pst1	0.804	1.028	1.017
Pst	0.804	1.026	1.022
Mxk	0.804	1.035	1.034
Pst	0.804	1.027	1.025
Mxk	0.804	1.028	1.028
f	59.99 Hz		

List



Trend graph

- Displays Pst (1min.) on a trend graph.

Optional Accessories

Load current clamp sensors

MODEL 8128 MODEL 8127 MODEL 8126 MODEL 8125 MODEL 8124



Leakage & Load current clamp sensors

KEW 8146 KEW 8147 KEW 8148



※8146/8147/8148 can measure up to 10A

Power supply adapter

MODEL 8312



Carrying case with magnet

MODEL 9132



Load current flexible clamp sensors

KEW 8135 KEW 8130 KEW 8133



Before connecting with the sensors KEW 8133 or KEW 8135, confirm that the internal firmware version is later than the one listed in the table below.

MODEL	Firmware version
KEW 8133	V1.50 or later
KEW 8135	V3.00 or later

The latest firmware is available on our website.

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Distribution board door can be closed during measurement?

KEW 6315 facilitates safe testing thanks to its extreme compact design and with two attractive optional accessories: a carrying case with magnet (9132) for attaching it to the sides of metal enclosures and a power supply adapter (8312) which takes the power for the instrument from the supply being measured

Specification

Wiring connections	1P2W, 1P3W, 3P3W, 3P4W
Measurements and parameters	Voltage, Current, Frequency, Active power, Reactive power, Apparent power, Active energy, Reactive energy, Apparent energy, Power factor (cosθ), Neutral current, Demand, Harmonics, Quality (Swell/Dip/Interruption, Transients/Over voltage, Inrush current, Unbalance rate), Capacitance calculation for PF correction unit, Flicker
Voltage (RMS)	
Range	600.0/1000V
Accuracy	600.0V Range : (sine wave 40 to 70Hz) 10% to 150% against 100V or more of nominal V : Nominal V±0.5% Out of above range : ±0.2%rdg±0.2%f.s. 1000V Range : ±0.2%rdg±0.2%f.s.(sine wave 40 to 70Hz)
Allowable input	1 to 120% of each range (rms). 200% of each range (peak)
Display range	0.15 to 130% of each range
Crest factor	3 or less
Sampling speed of Voltage transient	24μs

Current (RMS)	
Range	8128 (50A type) 5000mA/50.00A/AUTO 8127 (100A type) 10.00/100.0A/AUTO 8126 (200A type) 20.00/200.0A/AUTO 8125 (500A type) 50.00/500.0A/AUTO 8124 (1000A type) 100.0/1000A/AUTO 8146/8147/8148 (10A type) 1000mA/10.00A/AUTO 8130 (1000A type) 100.0/1000A/AUTO 8133 (3000A type) 300.0/3000A/AUTO 8135 (50A type) 5000mA/50.00A/AUTO
Accuracy	±0.2%rdg±0.2%f.s.+accuracy of clamp sensor (sine wave, 40 to 70Hz)
Allowable input	1 to 110% of each range (rms). 200% of each range (peak)
Display range	0.15 to 130% of each range
Crest factor	3 or less

Active power	
Accuracy	±0.3%rdg±0.2%f.s. + accuracy of clamp sensor (power factor 1, sine wave, 40 to 70Hz)
Influence of power factor	±1.0%rdg (reading at power factor 0.5 against power factor 1)
Frequency meter range	40 to 70Hz
Power source (AC Line)	100 to 240V / 45 to 65Hz / 7VA max
Power source (DC battery)	Alkaline size AA battery LR6 or Ni-MH (HR15-51)×6 Battery life approx. 3 h (LR6, Backlight OFF)
Internal memory	FLASH memory (4MB)
PC card interface	SD card (2GB)
Communication interface	USB, Bluetooth®5.0 ¹
Display	320×240(RGB)Pixel, 3.5inch color TFT display
Display update period	1 sec.
Temperature and humidity range	23±5°C, relative humidity 85% or less(no condensation)
Operating temperature and humidity range	0 to 45°C, relative humidity 85% or less(no condensation)
Storage temperature and humidity range	-20 to 60°C, relative humidity 85% or less(no condensation)
Applicable standards	IEC 61010-1 CAT IV 300V / CAT III 600V / CAT II 1000V Pollution degree 2 IEC 61010-2-030, IEC 61010-031, IEC 61326, EN 50160 IEC 61000-4-30 Class S, IEC 61000-4-15, IEC 61000-4-7
Dimension / Weight	175 (L) × 120 (W) × 68 (D) mm / Approx. 900g
Accessories	7141B (Voltage test lead set), 7170(Power cord(EU)) or 7240(Power cord(UK)) 7219 (USB cable),8326-02(SD card [2GB]), 9125 (Carrying case for KEW 6315, KEW 6315-01) 9135 (Carrying case for KEW 6315-03, KEW 6315-04, KEW 6315-05), Input terminal plate×6, Quick manual, Batteries
Optional accessories	8124, 8125, 8126, 8127, 8128 (Load current clamp sensor), 8130, 8133, 8135(Flexible clamp sensor), 8146, 8147, 8148(Leakage and Load current clamp sensor), 8312 (Power supply adapter), 9132 (Carrying case with magnet)

¹ Some countries regulate the compliance with their Radio Law of the products equipped with Bluetooth®.

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