

# POWER QUALITY ANALYZER KEW 6315



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: ±0.3%rdg (energy),

±0.2%rdg (voltage/current)

Complies with the International Standard IEC61000-4-30 Class S and the European Standard EN50160

- 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.

   EN50160 report can be generated after survey 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.
- IEC61010-1 CAT IV 300V, CAT II 600V, CAT II 1000V

# Easy-to-use setting to simultaneous power energy and power quality recordings



# Quick Start Guide

# **Easily and securely starts recording**

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





⊚Select a de	sirable recor	ding interval.	
1sec.	1min.	1hour	
2sec.	2sec. 2min.		
5sec.	5min.		
10sec.	10min.		
15sec.	15min.		
20sec.			
30sec.	30min.	150/180Cycle	
0 2 3 4 5 6 7 8 9 8			



**Guide start** 

Connect to the circuit

Wring check

Select interval

Set recording time

**Start recording** 

# W/Wh

### Power & Energy

#### Instantaneous value

	ī	1ch	2ch	3ch		
٧	:	239.9	246.3		٧	
	:	48.1	48.3		Α	
P	:	11.5	11.9	11.5	kW	
Q	:	1.2	1.0		kvar	
S	:	11.6	11.8	11.4	kVA	
PF	:	0.812	0.809	0.792		Inst
	:	44.8	kw f:	60.01	Hz	Avq
Q	:	4.5				Max
S	:	44.8	kVA			
PF	:	0.788	An:	4974	mΑ	Min
DC1	:		m/ DC2:	0	ωV	00:38 /Imin

V1 INST	P INST
242.3 v	44.8kW
V2 INST	S INST
246.6 v	44.7 <sub>kVA</sub>
V3 INST	Q INST
236.8 v	4.2 <sub>kva</sub>
f INST	PF INST
59.99 нz	792
7 (	0 "")



List

Zoom(8-split)

Zoom(4-split)

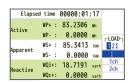




Trend

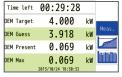
- Measures instantaneous / average / min / max for voltage, current, active / reactive / apparent power, PF (cosfi) and line frequency all on one screen.
- The recording time for these parameters can be set from 1 second up to 2 hours in several steps.
- Trend of all main parameters and customized Zoom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

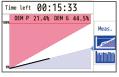
#### Integration value

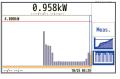


- The display will list the active / reactive / apparent energy in total and for each phase consumed (or generated in case of co-generation like solar panels, etc).
- The elapsed time is also shown on the same display screen.

#### **Demand**







Measurement

Change in specific period

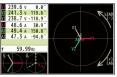
Demand change

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

# 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.

# PRINT Screen

This function "takes a color photo" of the display screen and saves it as BMP file useful for reports.



# **QUALITY** Power Quality

### **Event**

All events		Occurrence		
4				10:45:43.136
Ь		٧	2013/07/18	10:45:43.136
Ь	87.1	V	2013/07/18	10:45:35.136
	128.5	٧	2013/07/18	10:45:27.136
P				10:45:27.136
Ь	50.4	٧	2013/07/18	10:45:18.136
₽	87.1	V	2013/07/18	10:45:10.136
	128.5	٧	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) TRMS.

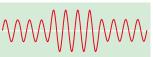
All necessary data is displayed by

#### Swell

Swell is a instantaneous voltage increase, most of the time originated by upstream power line failure or switch-

pressing one key.

ing OFF large load or switching ON large capacitor.



# POWER QUALITY ANALYZER K

### Windows software for data analysis and setting via USB port

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

- ⟨System requirements⟩
   OS: Windows® 7/8/10
   Display: XGA(Resolution 1024×768 dots) or more
   Hard-disk: Space required 1Gbyteor more
   Other: With CD-ROM drive and USB port,
- NET Framework (3.5 or more)

\*Windows®is registered trademark of Microsoft in the United States.



KEW Windows



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

\*Bluetooth is a registered trademark of the Bluetooth SIG, Inc.
Android is a registered trademark of the

**Real time and Remote** 

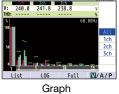
measurements.

# 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



List

- Graphic display of harmonic components up to 50th order for voltage, current and power in total and for
- List display of harmonic content, rms value and phase
- 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)

## Analogue Input Terminal

●2ch DC100mV / 1000mV, 10V. To record additional parameters (i.e. 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		
interval	Power	+Harmonics	1
1sec	13days	3days	
1min	1-year or more	3mounths	
30min	10-year or more	7-year 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.

# angle of each order.

Dip, as the opposite of a swell, is a 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.

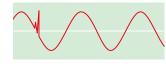
#### Transients/Over Voltage (Impulse)

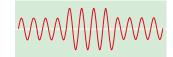
Transient is a very fast and momentary voltage increase that can seriously damage devices connected to a power line. It may be caused by electrical switching events such as instable contacts of relays, tripping of breakers but also by lightening. KEW 6315 can catch Transients from 2.4 us.

#### 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.





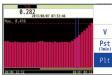


### Flicker

#### Designed to meet IEC61000-4-15

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..





Trend graph

Displays Pst (1min) on a trend graph.

### **Optional**

#### Load current clamp sensors

#### **MODEL 8127 MODEL 8128 MODEL 8126**



















Leakage &Load current clamp



38146/8147/8148 can measure up to 10A









Load current flexible clamp sensors

### Can you close your distribution board door during surveys?

The KEW6315 facilitates safe testing by being extremely compact and with two clever option extras: a magnetic case(9132) for attaching it to the sides of metal enclosures and a power supply adaptor(8312) which takes the power for the instrument from the supply being measured.



### **Set Model**

#### KEW 6315-01 MODEL 8125 (500A) × 3 (Carrying case 9125)

KEW 6315-03 KEW 8130 (1000A) × 3 (Carrying case 9135)

### KEW 6315-05

KEW 8133 (3000A) × 3 (Carrying case 9135)





		a 1		
Sr	peci	rica	tıo	ns

_					
	iring connections	1P2W, 1P3W, 3P3W, 3P4W			
	easurements and arameters	Voltage, Current, Frequency, Active power, Reactive power, Apparent power, Active energy, Reactive energy, Apparent energy, Power factor (cos6), Neutral current, Demand, Harmonics, Quality (Swell/Dip/Interruption, Transients/Over voltage, Inrush current, Unbalance rate), Capacitance calculation for PF correction unit, Flicker			
Vc	oltage (RMS)				
	Range	600.0/1000V			
	Accuracy	0.08% of nominal voltage (sine wave, 40 - 70Hz)			
	Allowable input	1 - 120% of each range (rms). 200% of each range (peak)			
	Display range	0.15 - 130% of each range			
	Crest factor	3 or less			
	Sampling speed of Voltage transient	24µs			
Сι	urrent (RMS)				
	Range	8128 8127 8126 8125 8124/8130 8146/8147/8148 8133	(50A type) (100A type) (200A type) (500A type) (1000A type) (10A type) (3000A type)	500mA/50.00A/AUTO 10.00/100.0A/AUTO 20.00/200.0A/AUTO 50.00/500.0A/AUTO 100.0/1000A/AUTO 1000mA/10.00A/AUTO 300.0/3000A/AUTO	
	Accuracy	±0.2%rdg±0.2%f.s.+accuracy of clamp sensor (sine wave, 40 - 70Hz)			
	Allowable input	1 - 110% of each range (rms). 200% of each range (peak)			
	Display range	0.15 - 130% of each range			
	Crest factor	3 or less			
Ac	ctive power				
	Accuracy	±0.3%rdg±0.2%f.s. (power factor 1, sine		np sensor	
	Influence of power factor	±1.0%rdg (reading at power factor 0.5 against power factor 1)			

Frequency meter range	40 - 70Hz		
Power source (AC Line)	AC100 - 240V/50 - 60Hz/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)		
PC communicationinterface	USB Ver2.0, Bluetooth Ver2.1+EDR Class2		
Display	320×240(RGB)Pixel, 3.5inch color TFT display		
Display update period	1 sec		
Temperature and humidity range	23±5°C, less than 85% RH (without condensation)		
Operating temperature and humidity range	0 - 45°C. leaa than 85% RH (without condensation)		
Storage temperature and humidity range	-20 - 60°C. less than 85% RH(without condensation)		
Applicable Standards	IEC 61010-1 CAT № 300V, CAT III 600V, CAT II 1000V Pollution degree 2 IEC 61010-2-030, IEC 61010-031, IEC 61326, EN50160 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		
Included accessories	7141B (Voltage test lead), 7170 (Power cord), 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 6315-05), Input terminal plate×E, KEW Windows for KEW6315 (software), Quick manual, Alkaline size AA battery (LR6)×6		
Optional accessories	8124, 8125, 8126, 8127, 8128 (Load current clamp sensor), 8130, 8133 (Flexible clamp sensor), 8146, 8147, 8148 (Leakage and Load current clamp sensor), 8312 (Power supply adapter), 9132 (Magnetic carrying case)		



Please read the "Safety Warnings" in the instruction manual supplied with the instrument thoroughly and completely Safety Warnings: If the Institution of the Completely Safety Warnings and Completely Safety Warnings and Completely Safety Warnings and Completely Safety Warnings. to operate the instrument on a correct power supply and voltage rating marked on each instrument.

For inquires or orders:



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