

Complied with IEC62301 First Edition

(Measurement of standby power)

Applies to the power measurement from the micro scale to the large scale !!

- Voltage range : 150V/300V/Auto range
- Current range : 5mA/10mA/20mA/50mA/100mA/200mA/500mA/1A/2A/5A/10A/20A/Auto range

The digital power meter, KPM1000, is a measuring instrument that measures the single phase power applied to the extended range from the small consumption such as a standby power to the large scale consumption of power. Through the years, each region of the world has been putting their effort to establish the regulation related to the ecological design such as "ErP Directive" in Europe, "Energy Star" in the US, "Top Runner Method" in Japan, and those standards are widely used by commercial companies while taking advantage from other products as well as an effort to the environment issues. In the "ErP Directive Lot6", it applies to the standby power consumption (classified in the "Off-mode" and "Standby mode") of home appliances, and office equipments, and it is required to issue the declaration of conformity for the CE marking.

The KPM1000 complies to the standard of IEC62301 (Household electrical appliances - Measurement of standby power) and it is capable to measure the standby power consumption required by the "ErP Directive Lot6". The KPM1000 is a compact, light-weight, low price, and capable to operate with the optional interface (some interfaces are available in factory option). The KPM1000 comes in handy for measuring the power of equipments, and it can be used as an essential device for the test system.

High precision measurement

Basic accuracy of the Voltage, Current, Power $\pm(0.1\% \text{reading} + 0.1\% \text{range})$

Capable with the "Crest Factor 6", it can measure the precise RMS value to be smaller, and the larger waveform for the peak value

Controlled by the PC



Free download from the Web site

The dedicated application software enables you to control the KPM1000 through the PC as same as panel operation. Furthermore, the long-term data can be acquired just like a data logger.

Displays 4 items of data

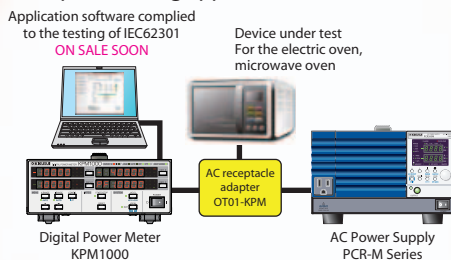
No need to switch over the measuring items, it displays four measuring items at the same time. The seven-segment displays provides an excellent visibility from the distance.

Easy operation

Enables to operate by intuition, not rely on the operation manual

Measurement of the standby power consumption

- Example of testing applied to "ErP Directive Lot6"



Easy configuration of measurement circuit

using by the optional AC receptacle cable "OT01-KPM"

*Refer to the "Recommended options" on the back side of this sheet



Equipped "RS232C" interface as standard feature

GPIB/USB (Factory option)

NEW

Digital Power Meter KPM1000

【Regarding to the limit value specified in the "ErP Directive Lot 6"】

Power consumption for the "Standby mode" and the "Off-mode" of home appliances, and the electrical and electronic equipments for office use (Commission Regulation (EC) No 1275/2008)

	The First Step	The Second Step
The date of commencement for execution to be obliged	January 7, 2010	January 7, 2013
Power consumption in "Off-mode"	Less than 1W	Less than 0.5W
Power consumption in "Standby-mode"	Less than 1W (less than 2W when the information or status displays)	Less than 0.5W (less than 1W when the information or status displays)

● KPM1000 Specifications

Input	Number of input channels	1
	Measurement line	Single-phase, 2 wires
	Input terminal	Voltage input : Safety terminal, Current input : M6 terminal board
	Measured rated voltage	300Vrms (Measurement categories CAT II *1)
	Measured rated current	20Arms
	Maximum allowable input voltage	900 Vpk or 360 Vrms
	Maximum allowable input current	120 Apk or 24 Arms
	Input impedance	Voltage input : 6 MΩ ±10 %, Current input : less than 2 mΩ
	Voltage between the earth	300V
Measuring items	Voltage, Current, Active power, Apparent power, Reactive power, Power factor, Phase angle, Frequency, Accumulated current, Accumulated power, Positive direction accumulated power, Negative direction accumulated power, Accumulated time, Voltage crest factor, Current crest factor, Voltage peak, Current peak	
Display interval	100ms / 200ms / 500ms / 1s / 5s / 10s	
Number of display digits	5 digits (display A, C), 7digits (display B, D)	
Measuring range	30Hz to 500Hz / 30Hz to 10kHz (Selects from the Line filter ON/OFF)	
Voltage measurement *3	Ranges	150V/300V (Auto range available)
	Allowable crest factor	3
	Resolution	0.1V
	Basic accuracy *2 (45 Hz ≤ f ≤ 66Hz)	± (0.1 % of reading + 0.1 % of range)
Current measurement *3	Ranges	Direct input : 5m / 10m / 20m / 50m / 100m / 200m / 500m / 1/2/5/10/20 A (Auto range available)
	Allowable crest factor	6
	Resolution	0.0001mA (In "5mA" range)
		0.001mA (In "10m/20m/50mA" range)
		0.1mA (In "1/2/5 A" range)
Basic accuracy *2 (45 Hz ≤ f ≤ 66Hz)	±(0.1 % of reading + 0.1 % of range)	
Power measurement *4	Ranges *5	750m/1.5/3/6/7.5/15/30/60/75/150/300/600/750/1.5k/3k/6kW
	Resolution	0.01mW (In "750mW" range)
		0.1mW (In "1.5/3/6/7.5 W" range)
		1mW (In "15/30/60/75 W" range)
		0.01W (In "150/300/600/750 W" range)
0.1W (In "1.5k/3k/6kW" range)		
Basic accuracy *2 (45 Hz ≤ f ≤ 66Hz)	±(0.1 % of reading + 0.1 % of range)	
Frequency measurement	Displays	10.000Hz to 10.000kHz
	Applied devices for the measurement	Voltage / Current
	Accuracy	±(0.06 % of reading)
Other features	Averaging function, Accumulated time setting function, Synchronized source (voltage/current) selector, display hold function, scaling function (for CT, PT)	
Communication interface functions	RS232C (standard), GPIB/USB (factory option, select either the one or the other)	
AC input	Nominal input rating	100V to 240V, 50Hz to 60Hz
	Voltage range	90V to 250V
	Maximum power consumption	70VA
Temperature range	Range of guaranteed rating	+18 °C to +28 °C
	Operating temperature range	0 °C to +40 °C
Dimensions / weight	214(214)W × 81(115)H × 270(315)D mm / Approx.2.5kg	
Accessories	AC power cable : 1pc., Safety plug : 1set, CD-ROM : 1pc., Operation manual : 1pc.	

● Options * Factory option. Either one of options can be installed to the unit

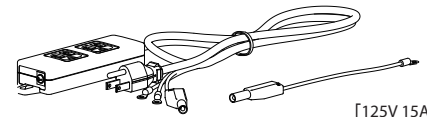
Model	Product	Notes
TL40	Test Lead	Red / Black 1pc. Each 1000V/ CAT II max 32A Length : 1 meter
TL41	Safety plug (connection by the screw)	Red / Black 1pc. Each 1000V/ CAT II max 32A
TL42	Safety plug (connection by the solder)	Red / Black 1pc. Each 1000V/ CAT II max 32A
TL43	Safety plug (connection by the clamp)	Red / Black 1pc. Each 600V/ CAT II max 10A
TL44	Alligator clip	Red / Black 1pc. Each 1000V/ CAT II max 32A
TL45	Fork terminal adapter	Red / Black 1pc. Each 1000V/ CAT II max 20A

Model	Product	Notes
OT01-KPM	AC receptacle cable	125V/15A
KRA2	Rack mount adapter (EIA)	Inch size, 2U Width
KRA100	Rack mount adapter (JIS)	Metric size, 2U Width
	GPIB Interface*	Factory option
	USB Interface*	Factory option
	Application software complied to the testing of IEC62301	Complied with IEC62301 First Edition

● Recommended options

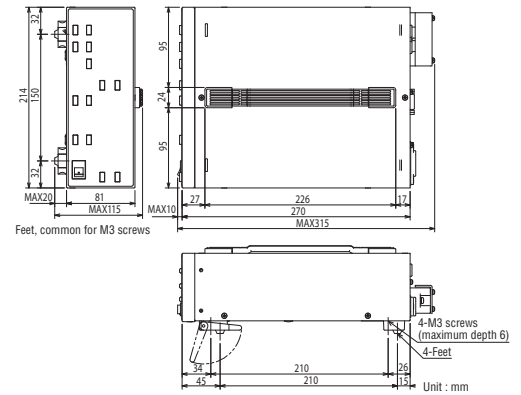
For the power consumption measurement of home appliances

Makes easier for the wiring of measuring circuit, the measurement can be performed by connecting the DUT to the receptacle.



[125V 15A]
AC receptacle cable (OT01-KPM)
Will be available soon

● Outline drawing



● Rear Panel



- *1 Applies to the measurement of device connected with the low voltage facilities, it is indicated for the primary circuit of device such as home appliances, power tools of which power cable is connected to the receptacle.
- *2 At effective input range, 6 months after calibration, temperature 23°C ±5°C, Sine wave, Power factor 1, common mode voltage 0V. The error may be occurred when the wave form is an asymmetrical sine-wave (such as half-wave rectification waveform, full-wave rectification waveform). For other frequencies, refer to the detailed specification sheet.
- *3 Effective input range is 1% to 120% of the specified range
- *4 Effective input range is 1% to 144% of the specified range
- *5 Combined with the voltage range and the current range



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