

Power Quality Analyzer



Selection Guide

Model	SA2100	SA2200	
Standard compliance	IEC61000-4-30 Class S	IEC61000-4-30 Class A	
Measurement Items	Voltage/Current	●	●
	Frequency	● (50Hz,60Hz,400Hz)	● 50Hz,60Hz,400Hz
	Dips /swell	●	●
	Harmonics	● 1-50th (50/60Hz)	● 1-100th (50/60Hz)
	Power / Energy	●	●
	Unbalance	●	●
	Monitor	●	●
	Inrush	●	●
	Flicker	●	●
	Transients	● 20kS/s	● 163.84kS/s
	Logger	●	●
	Wave Recording	○	●
Input Characteristics	Channel (Voltage/Current)	4/4	
	Voltage Range	1-1000Vrms, 6000V transient voltage	
	Current Range	depends on supplied current clamp	
PC Software Analysis	○	●	
Storage	Micro SD card (build-in)	8GB	32GB
Battery	Capacity/Life	NI-MH, 3800mAh/>7h	Lithium ion, 5200mAh/>8h
Time Synchronization	GPS/Beidou	○	● (option)
Communication	Interface	USB Host, LAN	USB Host, LAN, WIFI
	WIFI App	○	● (option)
General Characteristic	Screen	5.6" TFT LCD /320*240	5.6" TFT LCD /640*480
	Dimension/Weight	262×173×66 mm/1.6kg	270 × 190×66mm/2.0kg
	Wire Combinations	1Ø+NEUTRAL,1Ø SPLIT PHASE,1Ø IT NO NEUTRAL,3Ø WYE,3Ø DELTA, 3Ø IT, 3Ø HIGH LEG, 3Ø OPEN LEG, 2-ELEMENT, 2 1/2-ELEMENT	
	Electrical Safety	IEC61010-1 ,Safety Degree: 600V CAT IV 1000V CAT III	



Isolated Interface to ensure safe operation



Standard compliance: IEC61000-4-30 Class S

SA2100

Specification

Measurement

	Measurement Range	Resolution	Accuracy
Voltage/Current/Frequency			
Vrms(AC+DC)	1 ~ 1000Vrms	0.1Vrms	±0.5% of nominal voltage
Vpk	1 ~ 1400Vpk	0.1Vpk	±0.5% of nominal voltage
V(Crest Factor)	1.0 ~ >2.8	0.01	±5%
Arms (AC)	10mV/A	0~100A	±0.5%±0.2A
	1mV/A	1~1000A	±0.5%±0.2A
	50mV(65mV)/1000A	15~5000A	±1%±2A
A(Crest Factor)	1 ~ 10	0.01	±5%
Frequency	42.5~57.5 (50Hz nominal)	0.01Hz	±0.01Hz
	51~69 (60Hz nominal)	0.01Hz	±0.01Hz
	385~414 (400Hz nominal)	0.01Hz	±0.1Hz
Dips & Swells			
Vrms1/2	0 ~ 200% of nominal voltage	0.1Vrms	±1%
Arms1/2	1 ~ 3000A	1A	±1% ±2A
Duration	hour-minute-second-microsecond	0.5 cycle	1 cycle
Harmonic (IEC61000-4-7)			
Harmonic Number	1 ~ 50		
Harmonic Voltage %f	0.0 ~ 100.0%	0.1%	±0.1% ± nx0.1%
Harmonic Current %f	0.0 ~ 100.0%	0.1%	±0.1% ± nx0.1%
THD	0.0 ~ 100.0%	0.1%	±2.5%
Phase	-360° ~ 0°	1°	± nx1.5°
Power and Energy			
Active Power/Apparent Power/Reactive Power	1.0 ~ 20.00MW	0.1kW	±1.5±10 digits
KWh	0.00kWh ~ 200GWh	10Wh	±1.5±10 digits
Power Factor	0 ~ 1	0.01	±0.03
Flicker (IEC61000-4-15)			
Pst(1min),Pst,Plt,PF5	0.00 ~ 20.00	0.01	±5%
Unbalance			
Voltage	0.0 ~ 5.0%	0.1%	±0.5%
Current	0.0 ~ 20.0%	0.1%	±1%
Voltage Phase	-360° ~ 0°	1°	±2 digits
Current Phase	-360° ~ 0°	1°	±5 digits
Voltage Transient			
Vpk	±6000Vpk	1V	±15%
Vrms	10 ~ 1000Vrms	1V	±2.5%
Min. Test Time	50us		
Inrush Current			
Arms	0~3000Arms	0.1	±1% ± 5 digits
Inrush Duration	6s ~ 32min selectable	10ms	±20ms
Logger			
Recording	user-defined parameters for 4 phases at the same time		
Memory	Data stored in Micro SD card, 8GB		
Duration Time	2 hrs to 1 year, depends on the recording items and time interval		
Interval	1s to 60 minutes		
Monitor			
Support EN50160 in default or user-defined standard			



Standard compliance: IEC61000-4-30 Class A







SA2200

Specification

Measurement




	Measurement Range	Resolution	Accuracy
Voltage/Current/Frequency			
Vrms(AC+DC)	1 ~ 120Vrms 120Vrms~400Vrms 400~1000Vrms	0.001Vrms 0.01Vrms 0.1Vrms	±0.1% of nominal voltage
Vpk V(Crest Factor)	1 ~ 1400Vpk 1.0 ~ >2.8	0.01Vpk 0.01	±0.5% of nominal voltage ±5%
Arms (AC)	10mV/A 1mV/A 65mV/1000A	0~150A 1~2000A 10~6000A	±0.1%±0.1A ±0.1%±0.1A ±0.1%±0.2A
A(Crest Factor)	1 ~ 10	0.01	±5%
Frequency	42.5~57.5 (50Hz nominal) 51~69 (60Hz nominal) 320~480 (400Hz nominal)	0.01Hz 0.01Hz 0.01Hz	±0.01Hz ±0.01Hz ±0.01Hz
Dips & Swells			
Vrms1/2 Arms1/2	0 ~ 200% of nominal voltage depends on current clamps	0.01Vrms 0.01A	±0.2% ±1%
Harmonic (IEC61000-4-7)			
Harmonic Number	1 ~ 100(50/60Hz) (IEC61000-4-7) 1~12(400Hz)		
Harmonic Voltage %f Harmonic Current %f	0.0 ~ 100.0% 0.0 ~ 100.0%	0.01% 0.01%	±0.1% ± nx0.1% ±0.1% ± nx0.1%
THD	0.0 ~ 100.0%	0.01%	±2.5%
Phase	-180° ~ 180 0°	0.1°	± nx0.1°
Power and Energy			
P, S, Q1 PF & cosΦ kWh, kVAh, kvarh	Max. 6000MW 0 ~ 1 depends on nominal voltage and current clamps	0.1kW 0.01	±1%±10 digits ±0.01 ±1%±10 digits
Flicker (IEC61000-4-15)			
Pst(10min)/Plt (2 hrs)	0.00 ~ 20.00	0.01	±5%
Unbalance			
Voltage Current Voltage Phase Current Phase	0.0 ~ 20.0% 0.0 ~ 20.0% -360° ~ 0° -360° ~ 0°	0.1% 0.1% 0.1° 0.1°	±0.1% ±1% ±0.1° ±0.5°
Voltage Transient			
Vpk Vrms Min. Test Time	±6000Vpk 10 ~ 1000Vrms 6.5us	0.01V 0.01V	±15% ±2.5%
Inrush Current			
Arms Inrush Duration	depends on current clamps 1 ~ 32min selectable	0.01 10ms	±1% ± 5digits ±20ms
Logger			
Recording Memory Duration Time Interval	user-defined parameters for 4 phases at the same time Data stored in Micro SD card, 32GB 2 hrs to 1 year, depends on the recording items and time interval 1s to 60 minutes		
Monitor			
Support EN50160 in default or user-defined standard			

Accessories

Voltage Test Leads		(2m) × 5 pcs	Soft Carry Bag		1 pcs
Alligator Clips		5 pcs	CD (Software, Manuals)		1 pcs
Power Cord Power Adapter		1 pcs	Sticker of input port (SA2200)		1 pcs

CT Clamps

Clamp Mode	KLC8C-5A	CTC0080	CTC0130	CTC1535	ETCR035AD
Appearance					
Measurement Range	0-5A	0-50A	1~100A	1~1000A	0.0-1000A (AC/DC)
Output Voltage Ratio	10mV/A	10mV/A	1mV/A	1mV/A	1mV/A
Accuracy	0.2%	0.2%	0.2%	1%	±3%
Frequency Characteristic	45Hz~55Hz	50Hz~400Hz	50Hz~400Hz	40Hz~100kHz	AC: 45Hz~400Hz
Clamp Radius (mm)	8	8	13	52	30×35
Dimension (mm)	158×43×24	171×46×27	174×52×27	111×216×45	122×70×33
Cable Length (cm)	200	200	200	200	150
Power	○	○	○	○	9V Dry cell 6LR61

Flexible Probes Mode	SY-1500A	PY-3000A	PY-5000A (SA2100)	SY-6000A (SA2200)
Appearance				
Measurement Range	1~1500A	15~3000A	20~5000A	20~6000A
Output Voltage Ratio	100mV/1000A @ 50Hz	65mV/1000A @50Hz	50mV/1000A @ 50Hz	65mV/1000A @ 50Hz
Accuracy	±0.5% + Position Error	±1% + Position Error		±1% + Position Error
Maximum Allowable Input	100KA	100KA		100KA
Phase Error	<±1°	<±1°		<±1°
Noise	<2mVrms (10Hz~10KHz)	<2mVrms (10Hz~10KHz)		<2mVrms (10Hz~10KHz)
Frequency Characteristic	10Hz~10KHz (-3dB)	10Hz~10KHz (-3dB)		10Hz~10KHz (-3dB)
Weight	110g	130g		150g
Length	200cm	200cm		200cm
CT Perimeter	35cm	50cm		80cm
Measurement Position Error	±1%	±2%		±2%