



INNO Instrument

Redefining Possibilities

Product Portfolio



SPAW8000
Power Analysis Wavescorder



SPAW7000
Power Analysis Wavescorder



SPA6000
High Precision Power Analyzer



SPA4000
Portable Power Analyzer



SPA3200
Digital Power Meter



SPA3100
Digital Power Meter



SPA3000
Digital Power Meter



SPA2000
Digital Power Meter



SPA1000
Digital Power Meter



SBT60/300
Battery Tester



SCTX/SCTH
Current Sensor



Product Portfolio

Product	No. of Model	Benchtop			Portable	
Power Analyzer	4	SPAW8000 (8CH)	SPAW7000 (7CH)	SPA6000 (4CH)	SPA4000 (4CH)	
		0.01%, 1500V, 10MS/s 18bit	0.01%, 1500V, 2MS/s 16bit	0.01%, 1500V, 2MS/s 16bit	0.01%, 1500V, 2MS/s 16bit	
						
Product	No. of Model	3-Channel			Single-Channel	
Power Meter	5	SPA3200	SPA3100	SPA3000	SPA2000	SPA1000
		1500V, 50A, Touchscreen	1000V, 5A, Touchscreen	1000V, 20A	1000V, 50A	1000V, 20A
						

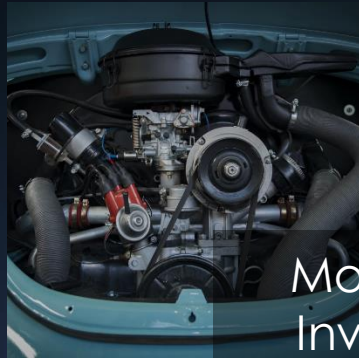
Power Module Flexibility

Model		Module	Description
SPA8000 (8ch Benchtop)		05A12VA/P (TBC)	5A, 1500V, 0.01%+0.02%, CT Power, 10MS/s, 18bit
		50A12VA/P (TBC)	50A, 1500V 0.01%+0.02%, CT Power, 10MS/s, 18bit
	SPA7000 (7ch Benchtop) SPA6000 (4ch Benchtop) SPA4000 (4ch Portable)	05A12/P	5A, 1000V, 0.01%+0.02%, CT Power, 2MS/s, 16bit
		40A13/P	40A, 1000V 0.01%+0.03%, CT Power, 2MS/s, 16bit
		05A35/P	5A, 1000V, 0.03%+0.05%, CT Power, 2MS/s, 16bit
		50A35/P	50A, 1000V, 0.03%+0.05%, CT Power, 2MS/s, 16bit
		05A12V/P	5A, 1500V, 0.01%+0.02%, CT Power, 2MS/s, 16bit
		40A13V/P	40A, 1500V 0.01%+0.03%, CT Power, 2MS/s, 16bit
		05A35V/P	5A, 1500V, 0.03%+0.05%, CT Power, 2MS/s, 16bit
		50A35V/P	50A, 1500V, 0.03%+0.05%, CT Power, 2MS/s, 16bit

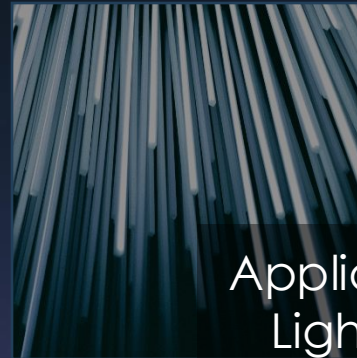
Serving Diverse Markets



Battery



Motor &
Inverter



Appliance &
Lightning



Industrial
Manufacturing



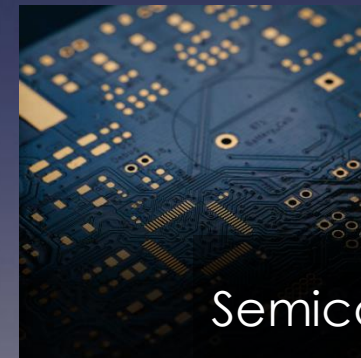
Transportation



Testing &
Certification



University &
R&D Institute



Semiconductor



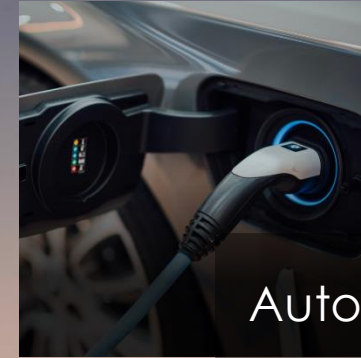
Consumer
Electronics



Renewable
Energy



Energy
Storage



Automotive

SPAW7000

Power Analysis Wavecorder



SPA W7000 Power Analysis Wavecorder



Specifications

- Measurement accuracy: $\pm(0.01\% \text{ of reading} + 0.02\% \text{ of range})$
- Sampling rate: 2MS/s
- 7 Power channels + 2 Motor channels (8 power modules available)
- Voltage/current measurement range up to 1500V/50A
- Bandwidth: DC, 0.1Hz-5MHz
- Harmonic analysis up to 500th order

Features

- Real-time data storage, playback analysis, and processing (Wavecorder)
- 7-channel simultaneous harmonic measurement
- Instantaneous power measurement (waveform operation)
- High and low voltage ride-through function
- IEC Harmonics and flicker
- Current sensor power output with a power module
- 12.1-inch LCD Touch Screen
- Plug-and-play module: Multiple input ranges and accuracies
- Mass storage: 512GB(expandable to 1TB)
- USB Type B, Ethernet, RS-232, GP-IB, D/A output interfaces
- INNO Viewer software



SPAW7000 Power Analysis Wavecorder

Specifications and parameters of modules

Input Module	Range	Bandwidth	Sampling Rate	Power Accuracy $\pm(\% \text{ reading} + \% \text{ range})$
05A12	Voltage: 15~1000V Current: 2mA~5A	DC, 01.Hz~5MHz	2MS/s	0.01+0.02
40A13	Voltage: 15~1000V Current: 100mA~40A	DC, 01.Hz~5MHz	2MS/s	0.01+0.03
05A35	Voltage: 1.5~1000V Current: 10mA~5A	DC, 01.Hz~5MHz	2MS/s	0.03+0.05
50A35	Voltage: 1.5~1000V Current: 1~50A	DC, 01.Hz~5MHz	2MS/s	0.03+0.05
05A12V	Voltage: 1.5~1500V Current: 2mA~5A	DC, 01.Hz~5MHz	2MS/s	0.01+0.02
40A13V	Voltage: 1.5~1500V Current: 100mA~40A	DC, 01.Hz~5MHz	2MS/s	0.01+0.03
05A35V	Voltage: 3~1500V Current: 10mA~5A	DC, 01.Hz~5MHz	2MS/s	0.03+0.05
50A35V	Voltage: 3~1500V Current: 1~50A	DC, 01.Hz~5MHz	2MS/s	0.03+0.05



SPA W7000 Power Analysis Wavecorder

Product selection

Name	Model	Description
Host	SPA W7000	Host
Functional module options	/HF	IEC harmonics, flicker
	/WA	Waveform operation; X-Y display
	/MS	1024GB SSD hard disk
	/WR	Raw data retention
Input module	05A12	5A, 1000V, 0.01%+0.02%
	40A13	40A, 1000V, 0.01%+0.03%
	05A35	5A, 1000V, 0.03%+0.05%
	50A35	50A, 1000V, 0.03%+0.05%
	05A12V	5A, 1500V, 0.01%+0.02%
	40A13V	40A, 1500V, 0.01%+0.03%
	05A35V	5A, 1500V, 0.03%+0.05%
	50A35V	50A, 1500V, 0.03%+0.05%
	MA2	Board card for motor function options
Module options	/P	Power output with sensor
Rack mounting options	PRM7001	Select when the instrument is installed to a standard rack



SPA6000

Power Analyzer



SPA6000 Power Analyzer

Specifications

- Measurement accuracy: $\pm(0.01\% \text{ of reading} + 0.02\% \text{ of range})$
- Sampling rate: 2MS/s
- 4 Power channels + 2 Motor channels (8 power modules available)
- Voltage/current measurement range up to 1500V/50A
- Bandwidth: DC, 0.1Hz-5MHz
- Harmonic analysis up to 500th order

Features

- 4-channel simultaneous harmonic measurement
- Instantaneous power measurement (waveform operation)
- High and low voltage ride-through function
- IEC Harmonics and flicker
- Current sensor power output with a power module
- 12.1-inch LCD Touch Screen
- Plug-and-play module: Multiple input ranges and accuracies
- Mass storage: 512GB(expandable to 1TB)
- USB Type B, Ethernet, RS-232, GP-IB, D/A output interfaces
- INNO PA Viewer software



SPA4000

Portable Power Analyzer



SPA4000 Portable Power Analyzer

Specifications

- Measurement accuracy: $\pm(0.01\%$ of reading + 0.02% of range)
- Sampling rate: 2MS/s
- 4 Power channels + 2 Motor channels (8 power modules available)
- Voltage/current measurement range up to 1500V/50A
- Bandwidth: DC, 0.1Hz-500kHz
- Harmonic analysis up to 500th order

Features

- Portable power analyzer designed for field technicians
- Instantaneous power measurement (waveform operation)
- IEC Harmonics and flicker
- Current sensor power output with a power module
- Supporting current clamp-based power supply, built-in lithium-ion battery for DC supply, with a 3-hour battery life.
- Cloud Communications with GPS, 4G, 5G, and WIFI for remote control and data transmission.
- 10.1-inch LCD Touch Screen
- Mass storage: 512GB(expandable to 1TB)
- USB Type B, Ethernet, RS-232, GP-IB, D/A output interfaces



SPA3200

Digital Power Meter



SPA3200 Digital Power Meter

Specifications

- Measurement accuracy: $\pm(0.1\% \text{ of reading} + 0.05\% \text{ of range})$
- Sampling rate: 100kS/s
- 3 Power channels
- Voltage/current measurement range up to 1500V/50A
- Bandwidth: DC, 0.5Hz-100kHz
- Harmonic analysis up to 50th order

Features

- Simultaneous measurement of all AC/DC parameters with integral and harmonic measurements
- External current sensor power output
- Peak hold / comparator / multiple computation functions
- 4GB internal storage
- 5.6-inch LCD Touch Screen
- USB Type B, Ethernet, RS-232 or GP-IB, D/A output interfaces
- INNO PM Viewer software



SPA3200 Digital Power Meter



Product selection

Name	Model	Description
Host	SPA3200	Host
Functional module options	/HA	Harmonic measurement
	/IG	GP-IB (or RS-232 interface, either-or)
	/DA12	D/A output
	/EX	External sensor 2.5V-10V (or /EX2, either-or)
Input module	50A1010	50A, 1500V(DC), 0.01%+0.05%
Rack mounting options	PRM3001	Select when the instrument is installed to a standard rack
	PRM3002	Select (two sets) when the instrument is installed to a standard rack



SPA3100

Digital Power Meter



SPA3100 Digital Power Meter

Specifications

- Measurement accuracy: $\pm(0.1\% \text{ of reading} + 0.05\% \text{ of range})$
- Sampling rate: 100kS/s
- 3 Power channels
- Voltage/current measurement range up to 1000V/5A
- Bandwidth: DC, 0.5Hz-100kHz
- Harmonic analysis up to 50th order

Features

- Simultaneous measurement of all AC/DC parameters with integral and harmonic measurements
- External current sensor power output
- Peak hold / comparator / multiple computation functions
- 4GB internal storage
- 5.6-inch LCD Touch Screen
- USB Type B, Ethernet, RS-232 or GP-IB, D/A output interfaces
- INNO PM Viewer software



SPA3100 Digital Power Meter



Product selection

Name	Model	Description
Host	SPA3100	Host
Functional module options	/HA	Harmonic measurement
	/IG	GP-IB (or RS-232 interface, either-or)
	/DA12	D/A output
	/EX	External sensor 50mV-10V
Input module	50A1010	5A, 1000V, 0.1%+0.05%
Rack mounting options	PRM3001	Select when the instrument is installed to a standard rack
	PRM3002	Select (two sets) when the instrument is installed to a standard rack



SPA3000

Digital Power Meter



SPA3000 Digital Power Meter

Specifications

- Measurement accuracy: $\pm(0.1\% \text{ of reading} + 0.05\% \text{ of range})$
- Sampling rate: 100kS/s
- 3 Power channels
- Voltage/current measurement range up to 1000V/20A
- Bandwidth: DC, 0.5Hz-100kHz
- Harmonic analysis up to 50th order

Features

- Simultaneous measurement of all AC/DC parameters with integral and harmonic measurements
- External current sensor power output
- Peak hold / comparator / multiple computation functions
- 4GB internal storage
- USB Type B, Ethernet, RS-232 or GP-IB, D/A output interfaces
- INNO PM Viewer software



SPA3000 Digital Power Meter



Product selection

Name	Model	Description
Host	SPA3000	Host
Functional module options	/HA	Harmonic measurement
	/IG	GP-IB (or RS-232 interface, either-or)
	/DA12	D/A output
	/EX	External sensor 50mV~10V
Input module	20A1010	20A, 1000V, 0.1%+0.05%
Rack mounting options	PRM3001	Select when the instrument is installed to a standard rack
	PRM3002	Select (two sets) when the instrument is installed to a standard rack



SPA2000

Digital Power Meter



SPA2000 Digital Power Meter

Specifications

- Measurement accuracy: $\pm(0.1\% \text{ of reading} + 0.05\% \text{ of range})$
- Sampling rate: 100kS/s
- 1 Power channels
- Voltage/current measurement range of up to 1000V/50A
- Bandwidth: DC, 0.5Hz-100kHz
- Harmonic analysis up to 100th order

Features

- Simultaneous measurement of all AC/DC parameters with integral and harmonic measurements
- External current sensor power output
- 4GB internal storage
- Fast display function with a data update rate of up to 50ms
- USB Type B, Ethernet, RS-232 or GP-IB, D/A output interfaces
- INNO PM Viewer software



SPA2000 Digital Power Meter



Product selection

Name	Model	Description
Host	SPA2000	Host
Functional module options	/HA	Harmonic measurement
	/IG	GP-IB (or RS-232 interface, either-or)
	/DA4	D/A output
	/EX	External sensor 50mV~10V
Input module	50A105	50A, 1000V, 0.1%+0.05%
Rack mounting options	PRM1001	Select when the instrument is installed to a standard rack
	PRM1002	Select (two sets) when the instrument is installed to a standard rack



SPA1000

Digital Power Meter



SPA1000 Digital Power Meter



Product selection

Name	Model	Description
Host	SPA2000	Host
Functional module options	/HA	Harmonic measurement
	/IG	GP-IB (or RS-232 interface, either-or)
	/DA4	D/A output
	/EX	External sensor 50mV~10V
Input module	20A105	20A, 1000V, 0.1%+0.05%
Rack mounting options	PRM1001	Select when the instrument is installed to a standard rack
	PRM1002	Select (two sets) when the instrument is installed to a standard rack



SBT300/60

Battery Tester



SBT300/60 Battery Tester

Specifications

- Measurement accuracy:
Voltage $\pm 0.01\%$ of reading ± 3 digits
Resistance $\pm 0.4\%$ of reading ± 5 digits
- Measurement resolution:
Voltage up to $10\mu\text{V}$
Resistance up to $0.1\mu\Omega$
- Measuring current frequency: $1\text{kHz} \pm 0.2\text{Hz}$
- AC 4-terminal testing method
- Voltage measurement up to 300V (SBT300), 60V (SBT60)
- Wide resistance range: $3\text{m}\Omega \sim 3000\Omega$

Features

- 10ms response time + 20ms sampling time
- RS-232C/LAN communication interface
- Support SCPI communication protocol
- Built-in comparator function
- Analog output function
- Calibration function



SBT300/60 Battery Tester

Impedance measurement

Range	3m Ω	30m Ω	300m Ω
Maximum display value	3.1000m Ω	31.000m Ω	310.00m Ω
Resolution	0.1 $\mu\Omega$	1 $\mu\Omega$	10 $\mu\Omega$
Measuring current * ¹	100mA	100mA	10mA
Measuring current frequency	1kHz $\pm$ 0.2Hz	1kHz $\pm$ 0.2Hz	1kHz $\pm$ 0.2Hz
Accuracy * ²	$\pm$ 0.4%rdg. $\pm$ 10dgt.	$\pm$ 0.4%rdg. $\pm$ 5dgt.	$\pm$ 0.4%rdg. $\pm$ 5dgt.
Temperature coefficient	(0.05%rdg. $\pm$ 1dgt.)/ $^{\circ}$ C	(0.05%rdg. $\pm$ 0.5dgt.)/ $^{\circ}$ C	(0.05%rdg. $\pm$ 0.5dgt.)/ $^{\circ}$ C
Open port voltage	25V peak	25V peak	25V peak

*¹: Error in measuring current is within $\pm$ 10%

*²: Plus $\pm$ 2dgt. for FAST, and plus $\pm$ 2dgt. for MEDIUM

Plus $\pm$ 10dgt. for FAST, and plus $\pm$ 5 dgt. for MEDIUM (range of 3m Ω)



SBT300/60 Battery Tester

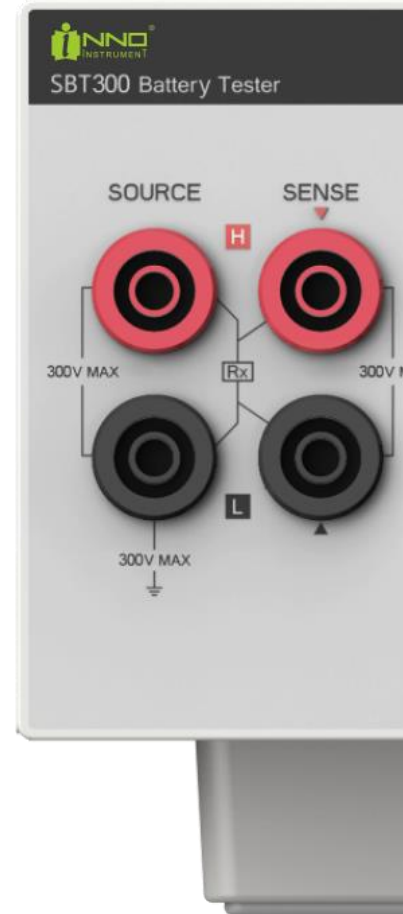
Impedance measurement

Range	3Ω	30Ω	300Ω	3000Ω
Maximum display value	3.1000mΩ	31.000mΩ	310.00mΩ	3100.0mΩ
Resolution	100μΩ	1mΩ	10mΩ	100mΩ
Measuring current * ¹	1mA	100μA	10μA	10μA
Measuring current frequency	1kHz±0.2Hz	1kHz±0.2Hz	1kHz±0.2Hz	1kHz±0.2Hz
Accuracy * ²	±0.4%rdg. ±5dgt.	±0.4%rdg. ±5dgt.	±0.4%rdg. ±5dgt.	±0.4%rdg. ±5dgt.
Temperature coefficient	(0.05%rdg. ±0.5dgt.)/°C	(0.05%rdg. ±0.5dgt.)/°C	(0.05%rdg. ±0.5dgt.)/°C	(0.05%rdg. ±0.5dgt.)/°C
Open port voltage	25V peak	25V peak	10V peak	10V peak

*¹: Error in measuring current is within ± 10%

*²: Plus ± 2dgt. for FAST, and plus ± 2dgt. for MEDIUM

Plus ± 10dgt. for FAST, and plus ±5 dgt. for MEDIUM (range of 3mΩ)



SBT300/60 Battery Tester



Voltage measurement

Range	6V	60V	300V (SBT300 only)
Maximum display value	±6.00000V	±60.0000V	±300.000V
Resolution	10µV	100µV	1mV
Accuracy	±0.1%rdg. ±3dgt.	±0.1%rdg. ±3dgt.	±0.1%rdg. ±3dgt.
Temperature coefficient* ³	(±0.001%rdg. ±0.3dgt.)/°C	(±0.001%rdg. ±0.3dgt.)/°C	(±0.001%rdg. ±0.3dgt.)/°C

*³: Plus ± 2dgt. for FAST, and plus ± 2dgt. for MEDIUM



SCTX/SCTH Series



SCTX/SCTH series

Specifications

- Highest accuracy: $\pm(0.008\% \text{ of reading} + 10\mu\text{A})$
- Excellent linearity: $<5\text{ppm}$
- Measuring current frequency: $1\text{kHz} \pm 0.2\text{Hz}$
- Extremely low temperature coefficient: 0.1ppm/K
- AC 4-terminal testing method
- 60A, 200A, 600A, 1000A

Features

- Extremely small output noise
- Ultra-high stability and accuracy
- Saturation detection and self-recovery function
- Strong immunity from interference
- No startup preheating time



SCTX/SCTH series

SCTX series current sensor

Module	SCTX60	SCTX200	SCTX600	SCTX1000
DC	0~60A	0~200A	0~600A	0~1000A
AC	60Apeak	200Apeak	600Apeak	1000Apeak
Accuracy	$\pm(0.01\% \text{ of rdg} + 10\mu\text{A})$	$\pm(0.008\% \text{ of rdg} + 10\mu\text{A})$	$\pm(0.008\% \text{ of rdg} + 10\mu\text{A})$	$\pm(0.008\% \text{ of rdg} + 10\mu\text{A})$
Measuring band width	DC-800KHz	DC-500KHz	DC-300KHz	DC-300KHz
Transformation ration K_N	1:600	1:1000	1:1500	1:2000
Measuring resistance R_m	0~25 Ω	0~25 Ω	0~12 Ω	0~3 Ω
Hole diameter	$\Phi 28 \text{ mm}$	$\Phi 28 \text{ mm}$	$\Phi 30.9 \text{ mm}$	$\Phi 30.9 \text{ mm}$
Interface	DB9	DB9	DB9	DB9
Power supply	$\pm 12\text{V} \sim \pm 15\text{V}$	$\pm 12\text{V} \sim \pm 15\text{V}$	$\pm 15\text{V} \sim \pm 24\text{V}$	$\pm 15\text{V} \sim \pm 24\text{V}$



SCTX/SCTH series

SCTH series current sensor

Module	SCTH60	SCTH200	SCTH600	SCTH1000
DC	0~60A	0~200A	0~600A	0~1000A
AC	60Apeak	200Apeak	600Apeak	1000Apeak
Accuracy	$\pm(0.05\% \text{ of rdg} + 15\mu\text{A})$	$\pm(0.05\% \text{ of rdg} + 15\mu\text{A})$	$\pm(0.05\% \text{ of rdg} + 15\mu\text{A})$	$\pm(0.05\% \text{ of rdg} + 15\mu\text{A})$
Measuring band width	DC-800KHz	DC-500KHz	DC-300KHz	DC-300KHz
Transformation ration K_N	1:600	1:1000	1:1500	1:2000
Measuring resistance R_m	0~25 Ω	0~25 Ω	0~12 Ω	0~3 Ω
Hole diameter	$\Phi 28 \text{ mm}$	$\Phi 28 \text{ mm}$	$\Phi 30.9 \text{ mm}$	$\Phi 30.9 \text{ mm}$
Interface	DB9	DB9	DB9	DB9
Power supply	$\pm 12\text{V} \sim \pm 15\text{V}$	$\pm 12\text{V} \sim \pm 15\text{V}$	$\pm 15\text{V} \sim \pm 24\text{V}$	$\pm 15\text{V} \sim \pm 24\text{V}$



Power Analyzer Lines



Power Analyzer Lines

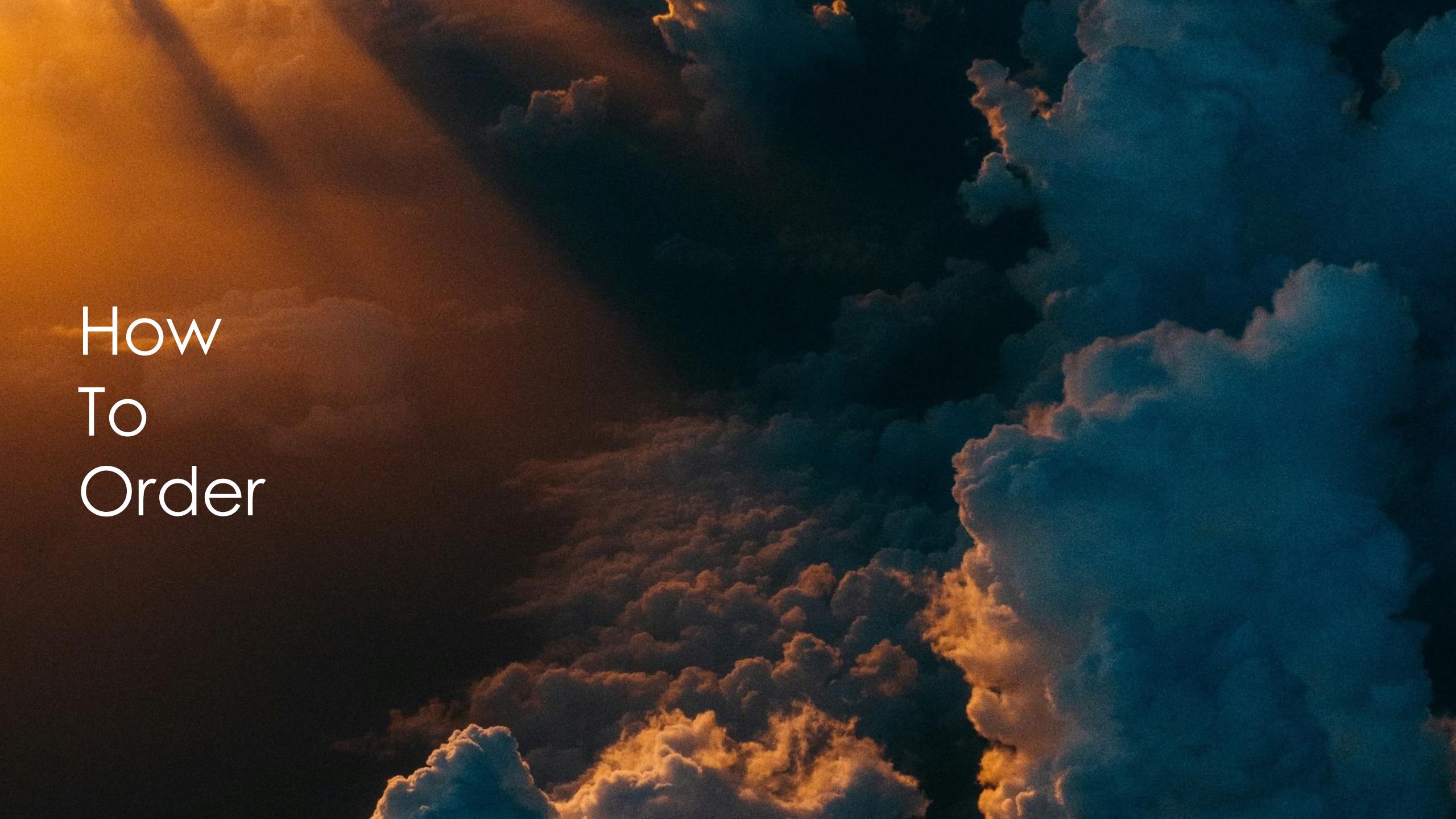
Company	No. of Model	Benchtop			Portable
INNO Instrument	4	SPAW8000 (8CH)	SPAW7000 (7CH)	SPA6000 (4CH)	SPA4000 (4CH)
		0.01%, 1500V, 10MS/s	0.01%, 1500V, 2MS/s	0.01%, 1500V, 2MS/s	0.01%, 1500V, 2MS/s
					
Yokogawa	2		WT5000 (7CH)	WT1800E (6CH)	
			0.01%, 1000V, 10MS/s	0.05%, 1000V, 2MS/s	
					
Hioki	3		PW8001 (8CH)	PW6001 (6CH)	PW3390 (4CH)
			0.01%, 1500V, 15MS/s	0.02%, 1500V, 5MS/s	0.04%, 1500V, 500KS/s
					

Power Meter Lines



Power Meter Lines

Company	No. of Model	3-Channel			Single-Channel	
INNO Instrument	5	SPA3200	SPA3100	SPA3000	SPA2000	SPA1000
		1500V, 50A, Touchscreen	1000V, 5A, Touchscreen	1000V, 20A	1000V, 50A	1000V, 20A
						
Yokogawa	4	WT500		WT333E (3CH) WT332E (2CH)	WT310EH	WT310E
		1000V, 40A		600V, 20A	600V, 40A	600V, 20A
						
Hioki	3	PW3337(3CH) PW3336 (2CH)			PW3335	PW3334 (AC/DC) PW3333 (AC)
		1000V, 65A			1000V, 30A	300V, 30A
						



How To Order

How to Order



1. Main Frame

Name	Model	Description
Host	SPAW7000	Host
Functional module options	/HF	IEC harmonics, flicker
	/WA	Waveform operation; X-Y display
	/MS	1024GB SSD hard disk
	/WR	Raw data retention
Input module	05A12	5A, 1000V, 0.01%+0.02%
	40A13	40A, 1000V, 0.01%+0.03%
	05A35	5A, 1000V, 0.03%+0.05%
	50A35	50A, 1000V, 0.03%+0.05%
	05A12V	5A, 1500V, 0.01%+0.02%
	40A13V	40A, 1500V, 0.01%+0.03%
	05A35V	5A, 1500V, 0.03%+0.05%
	50A35V	50A, 1500V, 0.03%+0.05%
Module options	MA2	Board card for motor function options
	/P	Power output with sensor
Rack mounting options	PRM7001	Select when the instrument is installed to a standard rack

2. Select Module Types and Quantity

3. All the functional options provided by standard

Industry Case Study



Industrial Manufacturing: Freq. Converter R&D Test



Cycle analysis and measurement	Capable of calculating the voltage, current, power, and other parameters of the AC input signal in each cycle, measuring data for up to 3,000 cycles, and displaying the measured values in the order of cycles.
Data analysis change	Evaluate the synchronous efficiency of frequency converter electrical power and motor mechanical power with a power analyzer
Evaluation of electric Drive system efficiency	The trend reflects alterations in voltage, current, and power, presenting clear and visible data for more convenient analysis
Frequency converter Waveform analysis	Transient measurement of waveform and fault diagnosis of long-term operation

Industrial Manufacturing: Industrial Robot Data Analysis



Focusing on industrial robot testing, it has advantages over traditional power analyzer in terms of data — it can not only measure the power consumption of all motors and controllers in various working states throughout the entire process, but also can measure instantaneous power and variation trend, and store data for analysis. It is very suitable for performance evaluation and test of industrial robots.



Simultaneous analysis of different PLL sources

7 Power Channels

Different PLL sources can be selected for different measurement channels, which is convenient for simultaneous measurement of multi-channel signals and contrastive analysis of harmonics of input and output signals

Built-in 512G SSD

512G SSD

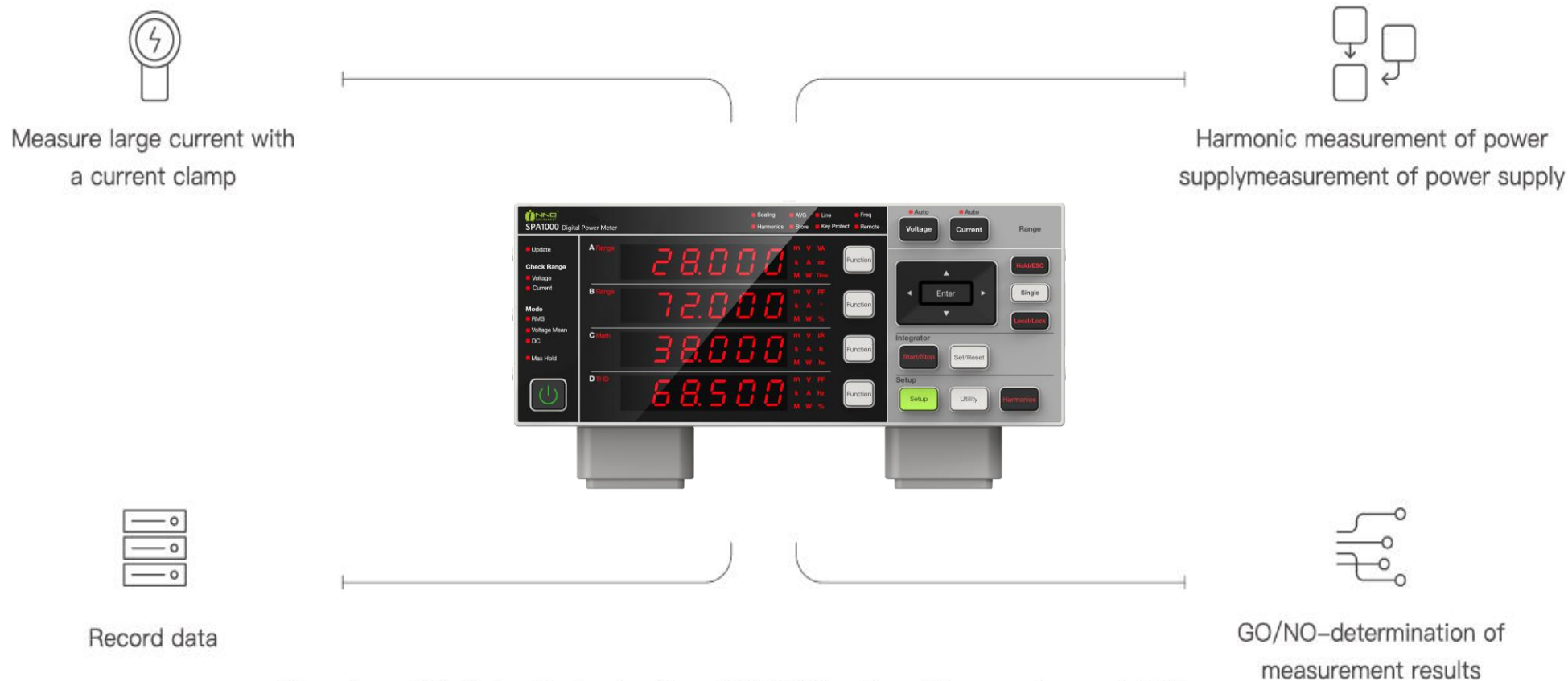
High-speed memory device, which can read and write data quickly and is suitable for storing and analyzing mass data, improving test efficiency

High speed sampling rate

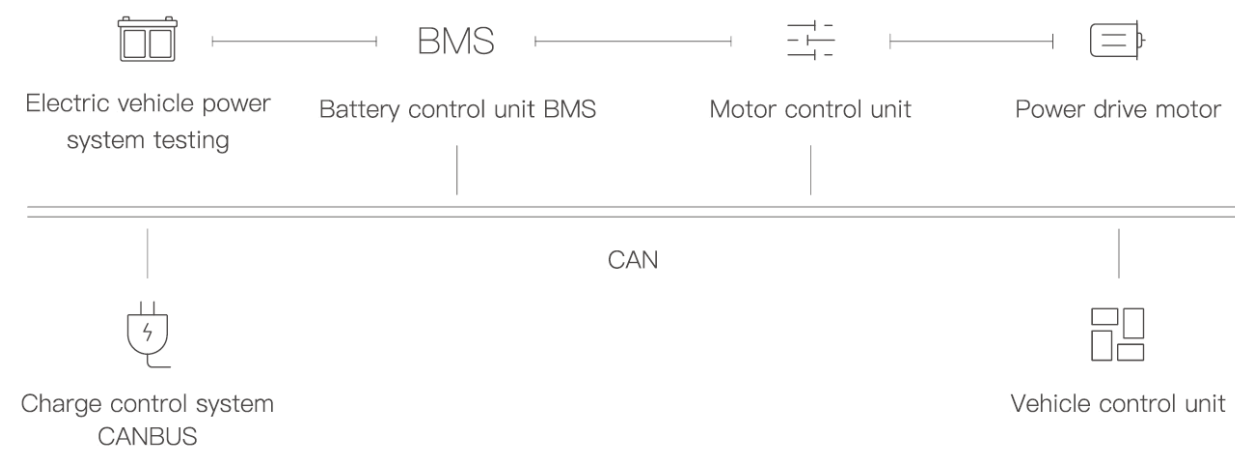
2 MS/s

With waveform operation function, it can measure instantaneous power, With original data storage function, it stores sampled data at a sampling rate of 2MS/s, which is convenient for playback and analysis

Industrial Manufacturing: Production Line Testing

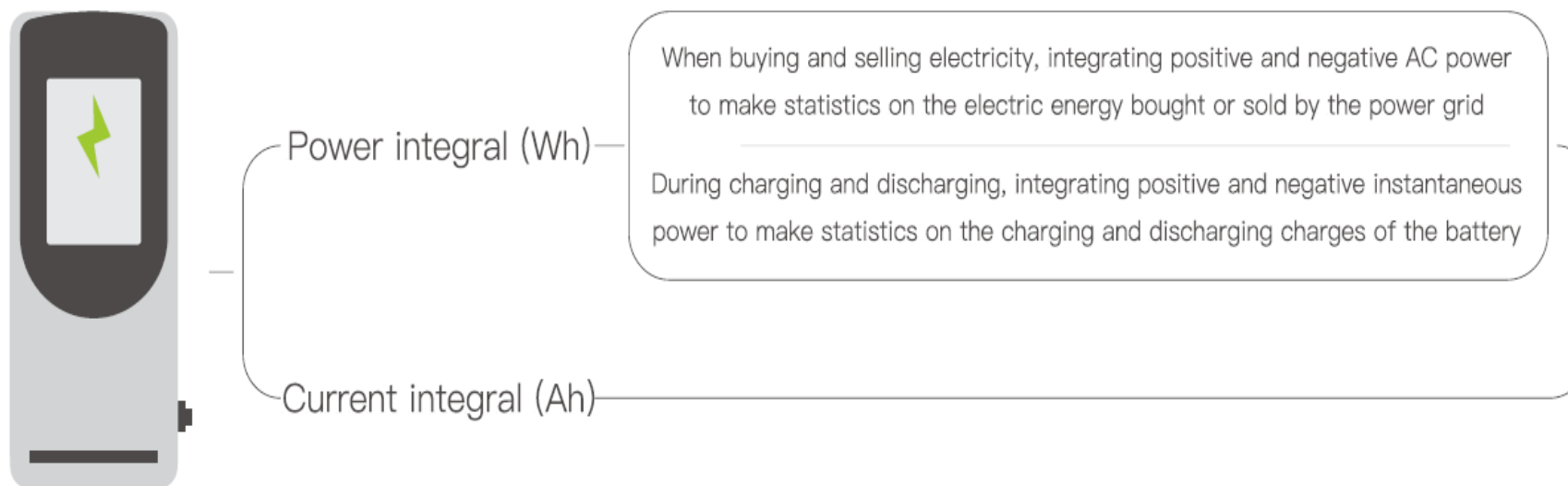


Automotive: EV Power System Testing



Motor performance test	Multi-motor synchronous test, and analysis of transient characteristics such as motor efficiency, torque fluctuation and step response
Motor driver tes	Analysis of static performance parameters such as power and efficiency of motor controller; mixed measurement of multiple input and output signals, and dynamic control response evaluation
OBC and AC/DC-DC test	Calibration of voltage, current, power, efficiency and harmonic parameters, and overall performance evaluation of on-board power supply

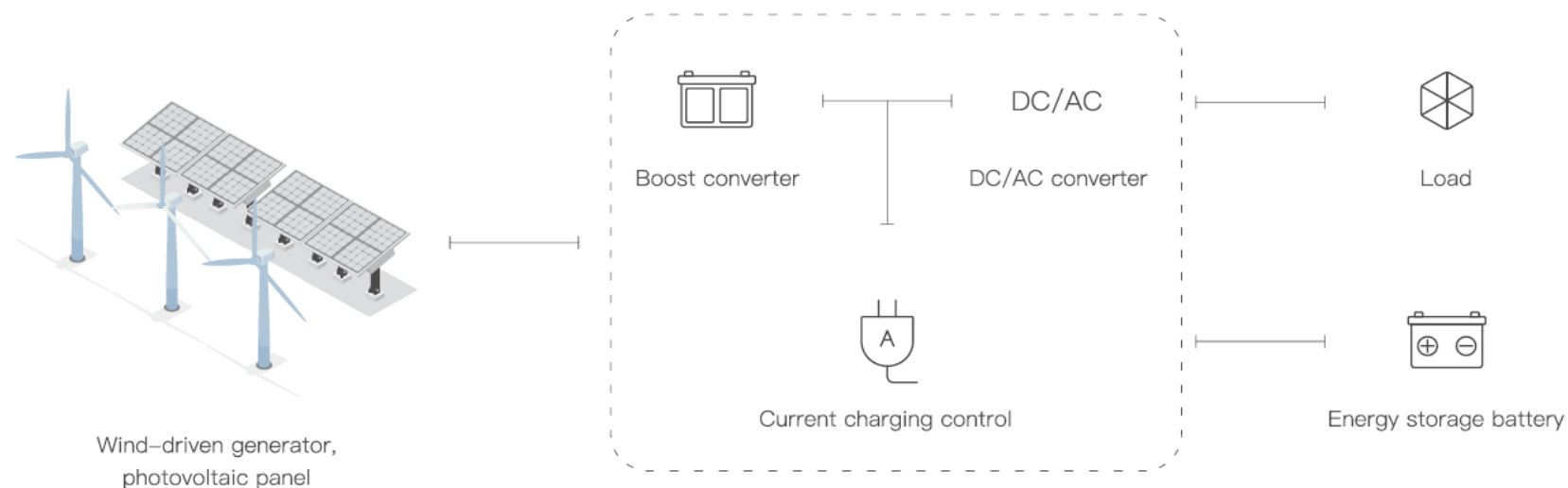
Automotive: EV Charging Station Testing



Integral function of SPA series

The extensive application of charging piles is one of the signs of the rapid development of new energy industry. At present, the State has strict requirements for such products, including basic parameters such as input harmonics and standby power consumption. In order to ensure accurate billing, it is required to measure the charging current and charging power accurately, so it is necessary to use testing products with high accuracy and good stability.

Renewable: Wind/Photovoltaic Energy Storage System



As new energy power generation becomes more and more popular, the quality problems of electric energy are increasingly prominent. By using a power analyzer, the quality problems of electric energy such as harmonics and low voltage in new energy power generation can be effectively monitored and evaluated, and the efficiency and loss of each part can be measured. SPA series can provide up to 7 power measurement units, which can measure and analyze the voltage, current, efficiency and harmonics of each node. With integral function, it can evaluate and analyze the electricity buying and selling of the system or the charging and discharging of the battery.

Power grid simulation test	SPSA power supply can provide simulation of power supply conditions such as harmonic synthesis and line simulation
Quality of electric energy	Conduct electric energy analysis on harmonics and three-phase equilibrium, etc., and conduct low voltage ride through measurement

3C Electronics: Low-power Device Testing



Mobile devices such as mobile phones

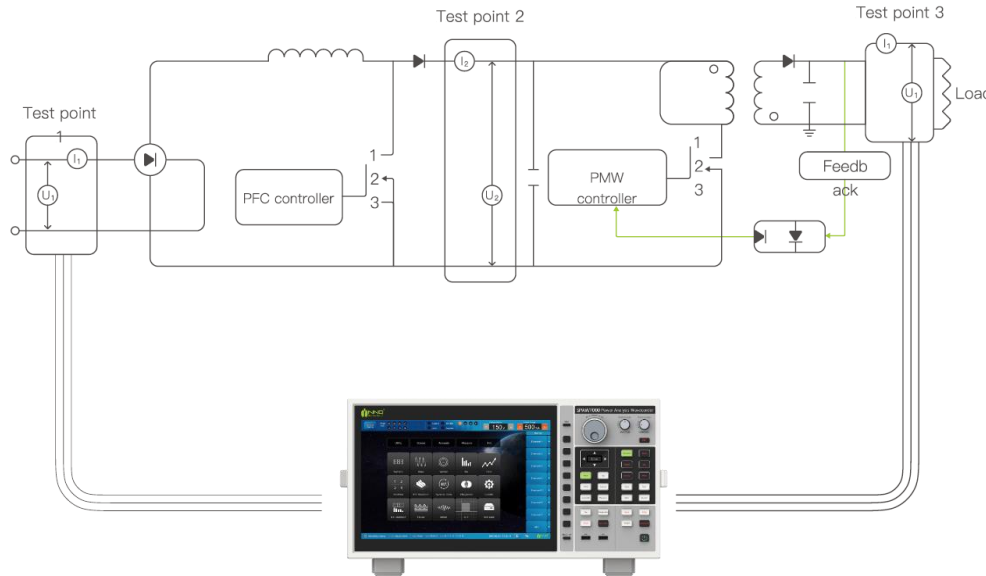
As more and more attention is paid to energy efficiency, reducing the loss of consumer electronic products has also become a major breakthrough point in improving domestic energy efficiency. SPA1000 performs high-efficiency measurement and can measure parameters such as voltage, current, power, frequency, power factor and harmonic distortion simultaneously. At the same time, the current input range of a module ranges from mA level to tens of A, which can complete energy consumption measurement of the entire working range from standby to normal working state.

High-accuracy measurement of DC voltage, current and power

Wide range from small current to large current

High sampling rate

Power Supply: Power Supply Testing



If the power supply is not fully tested, it may cause the system to operate in a borderline state. Once the system is deployed in place and operates in different environments, borderline design may lead to multiple system failures. In a system that has not been fully tested and analyzed, its components will change slightly over time, and system failures will occur as time passes. In order to conduct a comprehensive evaluation, it is necessary to adopt a high-accuracy and high-stability power analyzer.

Harmonic analysis

Capable of performing harmonic analysis and measurement on all 7 power channels simultaneously, and selecting different PLL sources, significantly improving the efficiency of harmonic measurement, with the number of harmonics measured up to 500 times

Current phase compensation

Capable of performing phase compensation of current with a resolution of 0.01° to improve the measurement accuracy of power, with good matching degree for power supply testing

Super-strong data display

Multiple types of display can be achieved, including numerical value, waveform, bar chart, trend, vector, etc., and various information such as numerical value, waveform, bar chart and trend can be displayed simultaneously in one interface

IEC Harmonics and Voltage Fluctuation & Flicker



The instrument complies with IEC61000-4-7 standard and can measure and display current harmonic values, including inter-harmonics. It can also measure, analyze and judge voltage fluctuation and flicker according to relevant IEC standard.

IEC harmonic function

Voltage fluctuation and flicker

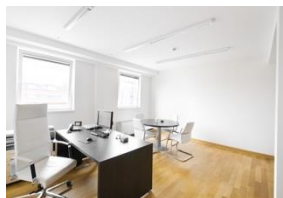
Easy setup and convenient operation

Global Access to INNO Instrument

Korea HQ



China Branch



India Branch



EU Branch



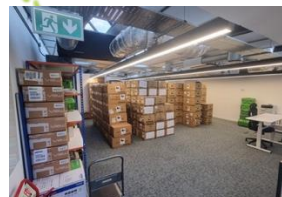
US Branch



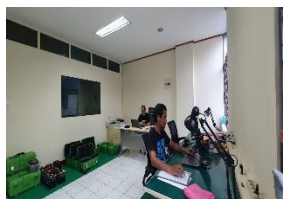
Malaysia Branch



UK Branch



Indonesia Branch



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