scientific®
60 Years of Excellence

Programmable AC Power Supply

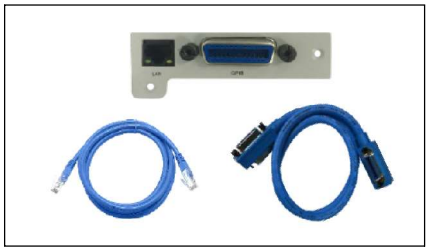
Features

- Large color touch screen with intuitive interface, easy to operate
- Features AC, DC, AC+DC output modes, AC+DC output mode for voltage DC offset simulation
- Turn on, turn off phase angle control, 0-359.9°
- Output frequency: 15-1200Hz, programmable slew rate setting
- for changing voltage and frequency
- High output current crest factor which is ideal for inrush current testing
- Built-in power meter function, can real-time measure 15 electrical
- parameters such as RMS voltage, current, power, apparent power and etc.
- This series AC source can measure up to 40 orders of the voltage or current harmonics. Support LIST/PULSE/STEP modes to simulate all kinds of power line disturbance conditions
- Triac Dimmer function for dimming/governor simulation function
- Sweep function for efficiency testing and shows voltage and frequency value at max power
- Multiple current range to make current measurement more accurate
- Front panel USB interface supports CSV format to import waveform
- OCP/OVP/OPP/OTP/reverse current protection/short circuit protection
- Programmable voltage and current limit, support CC mode
- Support up to 2 units in series, 4 units in parallel
- Support three phase power output, can simulate three phase unbalanced output
- Support external analog input control and TTL electrical level output
- Two versions to meet the cost performance and different applications

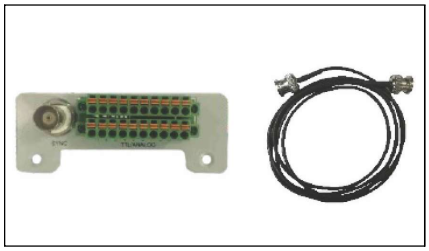
Model	Voltage	Current	Power	Rack Unit	Standard Interfaces	Optional Interfaces
ACPS600	150 V / 300 V	5.6 A / 2.8 A	600 W	2U	RS232/RS485/USB	(1) (2) (3)*
ACPS1000	150 V / 300 V	9.2 A / 4.6 A	1000 W	2U	RS232/RS485/USB	(1) (2) (3)*
ACPS1500	150 V / 300 V	13.8 A / 6.9 A	1500 W	2U	RS232/RS485/USB	(1) (2) (3)*
ACPS2000	150 V / 300 V	16 A / 8 A	2000 W	3U	RS232/RS485/USB	(4) (5) (6)#
ACPS3000	150 V / 300 V	27.6 A / 13.8 A	3000 W	4U	RS232/RS485/USB	(4) (5) (6)#
ACPS4000	150 V / 300 V	32 A / 16 A	4000 W	4U	RS232/RS485/USB	(4) (5) (6)#
ACPS5000	150 V / 300 V	46 A / 23 A	5000 W	4U	RS232/RS485/USB	(4) (5) (6)#

Optional Interfaces

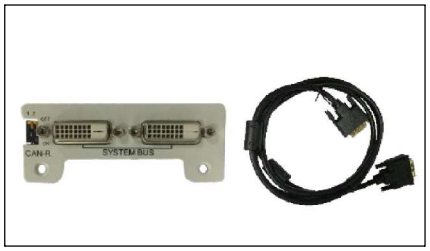
(1)* LAN & GPIB interface card & cables



(2)* Analog I/O interface card & cable

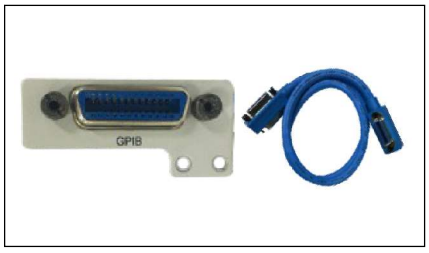


(3)* Multiphase link card & cable

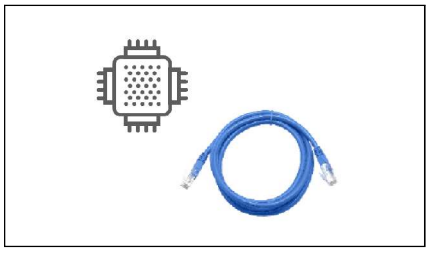


*** Note:** If the LAN & GPIB communication card is selected, it will replace RS485/RS232/USB, to be installed in the same position.
If multiphase link card is selected, it will replace Analog I/O interface card, to be installed in the same position.

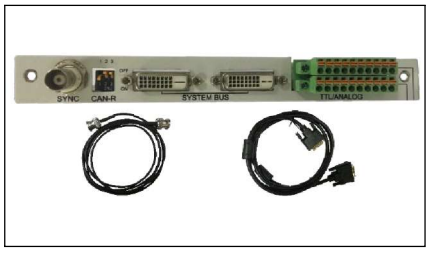
(4)# GPIB Interface Card & Cable



(5)# LAN interface card & cable



(6)# Analog I/O & Multiphase Link Card & Cables



Difference between Advanced Version and Professional Version

No.	Description	Advanced Version	Professional Version
1	Output Frequency Range	15~1000 Hz	15~1200 Hz
2	Programmable output impedance	NA	Available
3	Built-in IEC standards	IEC 61000-4-11	IEC 61000-4-11; IEC 61000-4-13; IEC 61000-4-14; IEC 61000-4-28
4	Harmonic/inter-harmonic Generation Simulation and Measurement Function	NA	Support, the harmonic components can be up to 40 orders

Dimensions & Weight

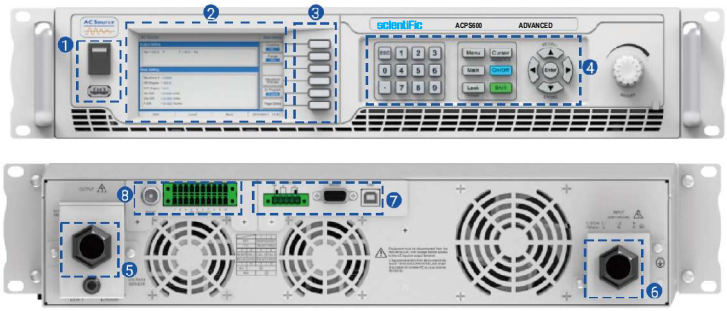
600W~1500W (2U)
423.0 x 87.0 x 520.0 mm & 15.9 kg

2000W (3U)
423.0 x 133.0 x 520.0 mm & 21.4 kg

3000W~5000W (4U)
423.0 x 177.0 x 520.0 mm & 29 kg

Panel Introduction

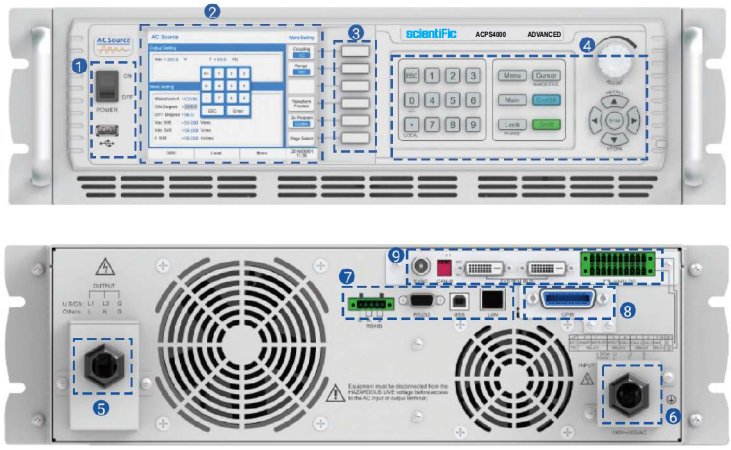
600W ~ 1500W



1 Power Switch (Up), USB Interface (Down)
2 Colour Touch Screen
3 Multi functional Keys
4 Numeric and Functional Keys
5 Output Terminal
6 AC Input Terminal
7 RS485/RS232/USB Communication Interface
(LAN & GPIB Interface Card is Optional)
8 Analog I/O Interface Card (Optional) / Multiphase Link Card (Optional)

*** Note:** If the LAN & GPIB communication card is selected, it will replace RS485/RS232/USB, to be installed in the same position.
If multiphase link card is selected, it will replace Analog I/O interface card, to be installed in the same position.

2000W ~ 5000W



1 Power Switch (Up), USB Interface (Down)
2 Colour Touch Screen
3 Multi functional Keys
4 Numeric and Functional Keys
5 Output Terminal
6 AC Input Terminal
7 RS485/RS232/USB/LAN Communication Interface
8 GPIB Interface Card is Optional
9 Analog I/O & Multiphase link card (Optional)

Technical Specifications			ACPS600	ACPS1000	ACPS1500
Input					
Voltage			90~265 VAC	90~265 VAC	100~265 VAC
Frequency			47~63 Hz		
Phase			1 Phase 2 Wire + Ground		
Max. Current			10 A	15 A	19 A
Power factor at 220 VAC input Full Load			≥ 0.91 Active PFC	≥ 0.95 Active PFC	≥ 0.97 Active PFC
Efficiency			> 82% (Peak) > 80% at 220 VAC, 50 Hz input/ 230 VAC, 50 Hz output, Full load	> 86% (Peak) > 84% at 220 VAC, 50 Hz input/ 230 VAC, 50 Hz output, Full load	> 87% (Peak) > 86% at 220 VAC, 50 Hz input/ 230 VAC, 50 Hz output, Full load
Output					
AC Power			600 VA	1000 VA	1500 VA
Max Current (R.M.S.)	0~150 V (L)		5.6 A	9.2 A	13.8 A
	0~300 V (H)		2.8 A	4.6 A	6.9 A
Max Current (Peak)	0~150 V (L)		32.4 A	55.2 A	82.8 A
	0~300 V (H)		16.2 A	27.6 A	41.4 A
Phase			1 Phase		
Total Harmonic Distortion (THD) (Resistive Load)			< 0.5% at 15.0~70.0 Hz and output voltage within 80~140 VAC at Low Range or 160~280 VAC at High Range. < 1% at 70.1~500 Hz and output voltage within 80~140 VAC at Low Range or 160~280 VAC at High Range. < 1% (Resistive Load) at 501~1000 Hz and output voltage within 100~140 VAC at Low Range or 160~280 VAC at High Range. < 2% at 1001 to1200 Hz and output voltage within 100~140 VAC at Low Range or 160~280 VAC at High Range. Note: 1001~1200 Hz only available in Professional Version Models (Optional).		
Crest Fact			< 6		
Load Regulation			± 0.1% F.S. @ 15~70 Hz (Resistive Load)		
			± 0.5% F.S. @ Other Freq. (Resistive Load)		
Line Regulation			± 0.1 V		
Rise / Fall Time (DC)			< 250 μs		
Voltage (AC)	Range		0~300 VAC, 150 V/ 300 V/ Auto		
	Resolution		0.1 V		
	Accuracy		0.2 % of setting + 0.2% F.S.		
Phase Angle (Starting / Ending)	Range		0~359.9˚		
	Resolution		0.1˚		
	Accuracy		± 1˚@ 45~65 Hz		
Voltage (DC)	Range		0~424 VDC		
	Resolution		0.1 V		
	Accuracy		0.2 % of setting + 0.2% F.S.		
	Max. Power		600 W	1000 W	1500 W
	Max. Current Range	Low	3.96 A	6.5 A	9.76 A
		High	1.89 A	3.3 A	4.88 A
	Ripple & Noise (R.M.S.)		L < 700 mVrms @ Bandwidth 20 Hz~1 MHz H < 1100 mVrms @ Bandwidth 20 Hz~1 MHz		
	Ripple & Noise (Peak)		< 4000 mVp-p @ Bandwidth 20 Hz~1 MHz		

Technical Specifications			ACPS600	ACPS1000	ACPS1500
Current CC Fold Mode	Resolution		0.01 A		
	Accuracy		0.5% of setting + 1.0% F.S.		
	Response Time		< 1400 ms		
Frequency	Range		15~1000 Hz Adj (Advanced Version), 15~1200 Hz Adj (Professional Version (Optional))		
	Resolution		0.1 Hz (15.0~99.9 Hz), 1 Hz (100~1000 Hz), 5 Hz (1001~1200 Hz)		
	Accuracy		0.03% of setting		
Programmable Output Impedance			0Ω+0mH~1Ω+1mH (Professional Version only (Optional))		
Harmonic & Inter-harmonics Simulation			2400 Hz (Professional Version only (Optional))		
Measurement					
Voltage	Range		AC 0~300 VAC DC 0~424 VDC		
	Resolution		0.1 V		
	Accuracy		0.2% of setting + 0.2% F.S.		
Frequency	Range		15~1200 Hz		
	Resolution		0.1 Hz (15.0~99.9 Hz), 1 Hz (100~1000 Hz), 5 Hz (1001~1200 Hz)		
	Accuracy		0.1% of setting		
Current (R.M.S.)	Range	High	0.15 A~5.6 A	0.15 A~9.2 A	0.15 A~13.8 A
		Low	0.1 A~3 A	0.1 A~3 A	0.1 A~3 A
	Resolution		0.01 A		
	Accuracy		0.4% + 1.0% F.S.		
Current (Peak)	Range		0~32.4 A	0~55.2 A	0~82.8 A
	Resolution		0.01 A		
	Accuracy		H : 0.4% + 1.0% F.S. L : 0.4% + 1.5% F.S.		
Power	Range		0~600 W	0~1000 W	0~1500 W
	Resolution		0.1 W		
	Accuracy		0.4% of setting + 1.0% F.S. at PF> 0.2, Voltage> 5V		
Power Apparent (VA)	Range		0~612 VA	0~1020 VA	0~1530 VA
	Resolution		0.1 VA		
	Accuracy		Voltage * Irms, Calculated Value		
Power Resistance (VAR)	Range		0~612 VAR	0~1020 VAR	0~1530 VAR
	Resolution		0.1 VAR		
	Accuracy		$\sqrt{(VA)^2 - (W)^2}$, Calculated value		
Power Factor (PF)	Range		0.00~1.00		
	Resolution		0.01		
	Accuracy		W/VA, Calculated Value		
Harmonic	Range[4]		2~40 orders		
Extra Function					
Remote Sense	Range		5 V (rms), Max Total power less than rated power		
Slew Rate	Range		AC Voltage 0.001~1200.000 V/ms and Disable		
			DC Voltage 0.001~1000.000 V/ms and Disable		
			Frequency 0.001~1600.000 Hz/ms and Disable		

Technical Specifications		ACPS600	ACPS1000	ACPS1500
Transient Generator (only for 15~70 Hz)	Range	Trans Start : 0.0~66.5 ms @ 15 Hz, Resolution : 0.1 ms		
		Trans-Volt : -212 V~+ 212 V(L), -424 V~+ 424 V (H), Resolution : 0.1 V		
		Trans Staff 0.0~66.5ms @ 15 Hz, Resolution 0.1ms.		
		Trans count 0~9999 Constant		
Calibration		Firmware based calibration through the digital interface or front panel		
Test Function		Yes		
Parallel Output for 1 Phase		Yes, 4 Units Max (Option : Multiphase Link Card)		
Series Output for 1 Phase		Yes, 2 Units Max (Option : Multiphase Link Card)		
Link Output for 3 Phase		Yes, (Option : Multiphase Link Card)		
General				
Graphic Display		4.3” Colour touch LCD		
Operation Key Feature		Soft key, Numeric Key, Rotary Knob, USB port for transfer and upgrading firmware		
Rack Mount Handles		Available		
Cooling		Temperature Control Fan		
Protection Circuits		OCP, OVP, OPP, OTP, RCP, PRI_UVP, PRI_OVP, PRI_OTP, PRI_OCP, USB_OCP		
Interface	Standard	USB, RS-485, RS232		
	Optional	LAN & GPIB, Analog I/O, Multi-phase Link Card		
Remote Control Input/Output Signal Characteristics (Option)				
Remote Input Signal		Signal input for external trigger for execution of programmed value		
		Signal : ON/OFF, RESET, KEEP OFF, Recall programme memory 1 through 7		
Remote Output Singal		Signal output indicating that a test mode is present		
		Signal Pass Fail, TEST IN PROCESS		
External Signal Waveform Input		Signal input for output voltage waveform programming by external analog reference via BNC type Between the sync signal and the output wave will be 0.5ms time difference		
Regulatory Compliance				
EMC		CE marked for EMC Directive 2014/30/EU/EN61326-1: 2013 Class A for emissions and immunity standard as required for EU CE Mark FCC Verification of conformity for CFR 47 Part 15 of the FCC Rules.		
Safety		CE marked for LVD Directive 2014/35/EU/EN61010-1 third editing as required for EU CE Mark.		
CE Mark		Installation over voltage category II, Pollution Degree 2 : Class II equipment, Indoor use only		
Isolation Voltage		3000 VAC, input to output : 1500 VAC, input to chassis		
RoHS		Meet to EU Directive 2011/65/EU for restriction of hazardous substance in Electrical and Electronic Equipment		
General Specifications				
Operating Temperature		0˚C~40˚C		
Storage Temperature		- 40˚C~85˚C		
Fan Noise		73 dBA Max		
Altitude		2000 m		
Relative Humidity		5%~95% non condensing		
Temperature Codfficnet		100 ppm/˚C at Voltage 300 ppm/˚C at Current 100 ppm/˚C at frequency		
Dimensions (W X H X D)		423.0 X 87.0 X 520.0 mm		
Weight		15.9 kg		

Technical Specifications		ACPS2000	ACPS3000	ACPS4000	ACPS5000
Input					
Voltage		190~265 VAC			
Frequency		47~63 Hz			
Phase		1 Phase, 2 Wire + Ground			
Max. Current		14 A	20 A	25 A	30 A
Power factor at 220 VAC input Full Load		≥ 0.99, Active PFC	≥ 0.98, Active PFC	≥ 0.99, Active PFC	≥ 0.99, Active PFC
Efficiency		> 87% (Peak) > 86% at 220 VAC, 50 Hz input 230 VAC, 50 Hz output, Full load	> 86% (Peak) > 85% at 220 VAC, 50 Hz input 230 VAC, 50 Hz output, Full load	> 87% (Peak) > 86% at 220 VAC, 50 Hz input 230 VAC, 50 Hz output, Full load	> 87% (Peak) > 86% at 220 VAC, 50 Hz input 230 VAC, 50 Hz output, Full load
Output					
AC Power		2000 VA	3000 VA	4000 VA	5000 VA
Max Current (R.M.S.)	0~150 V (L)	16 A	27.6 A	32 A	46 A
	0~300 V (H)	8 A	13.8 A	16 A	23 A
Max Current (Peak)	0~150 V (L)	80 A	165.6 A	160 A	184 A
	0~300 V (H)	40 A	82.8 A	80 A	92 A
Phase		1 Phase			
Total Harmonic Distortion (THD) (Resistive Load)		< 0.5% at 15.0~70.0 Hz and output voltage within 80~140 VAC at Low Range or 160~280 VAC at High Range. < 1% at 70.1~500 Hz and output voltage within 80~140 VAC at Low Range or 160~280 VAC at High Range. < 1% at 501~1000 Hz and output voltage within 100~140 VAC at Low Range or 160~280 VAC at High Range. < 2% at 1001 to1200 Hz and output voltage within 100~140 VAC at Low Range or 160~280 VAC at High Range. Note: 1001~1200 Hz only available~Professional Version Models.			
Crest Factor (CF)		≤ 5	≤ 6	≤ 5	≤ 4
Load Regulation		± 0.1% F.S. @ 15~70 Hz (Resistive Load)			
		± 0.5% F.S. @ Other Freq. (Resistive Load)			
Line Regulation		± 0.1 V			
Rise / Fall Time (DC)		< 180 μs			
Voltage (AC)	Range	0~300 VAC, 150 V/ 300 V/ Auto			
	Resolution	0.1 V			
	Accuracy	0.2 % of setting + 0.2% F.S.			
Phase Angle (Starting / Ending)	Range	0~359.9°			
	Resolution	0.1°			
	Accuracy	± 1°@ 45~65 Hz			
Voltage (DC)	Range	0~424 VDC			
	Resolution	0.1 V			
	Accuracy	0.2 % of setting + 0.2% F.S.			
	Max. Power	2000 W	3000 W	4000 W	5000 W
	Max. Current (L/H Range)	L 11.3 A	L 19.6 A	L 22.6 A	L 32.6 A
		H 5.65 A	H 9.8 A	H 11.3 A	H 16.3 A
	Ripple & Noise (R.M.S.)	L < 700 mVrms @ Bandwidth 20 Hz~1 MHz H < 1100 mVrms @ Bandwidth 20 Hz~1 MHz			
	Ripple & Noise (Peak)	< 4000 mVp-p @ Bandwidth 20 Hz~1 MHz			
Current CC Fold Mode	Resolution	0.01 A			
	Accuracy	0.5% of setting + 1.0% F.S.			
	Response Time	< 1400 ms			

Technical Specifications			ACPS2000	ACPS3000	ACPS4000	ACPS5000
Frequency	Range		15~1000 Hz Adj (Advanced Version), 15~1200 Hz Adj (Professional Version (Optional))			
	Resolution		0.1 Hz (15.0~99.9 Hz), 1 Hz (100~1000 Hz), 5 Hz (1001~1200 Hz)			
	Accuracy		0.03% of setting			
Programmable Output Impedance			0Ω+0mH ~1Ω+1mH (Professional Version only (Optional))			
Harmonic & Inter-harmonics Simulation			2400 Hz (Professional Version only (Optional))			
Measurement						
Voltage	Range		AC 0~300 VAC DC 0~424 VDC			
	Resolution		0.1 V			
	Accuracy		0.2% of setting + 0.2% F.S.			
Frequency	Range		15~1200 Hz			
	Resolution		0.1 Hz (15.0~99.9 Hz), 1 Hz (100~1000 Hz), 5 Hz (1001~1200 Hz)			
	Accuracy		0.1% of setting			
Current (R.M.S.)	Range	High	0.15 A~20 A	0.3 A~27.6 A	0.3 A~32 A	0.3 A~46 A
		Medium	-	0.2 A~20 A	0.2 A~20 A	0.2 A~20 A
		Low	0.1 A~5 A	0.1 A~5 A	0.1 A~5 A	0.1 A~5 A
		mA	0.02 A~1.5 A	0.02 A~1.5 A	0.02 A~1.5 A	0.02 A~1.5 A
	Resolution		0.01 A			
	Accuracy	H/M	0.4% + 1.0% F.S.	0.4% + 0.6% F.S.		
		L/mA	0.4% +1.0% F.S.	0.4% + 1.0% F.S.		
Current (Peak)	Range		0~81.5 A	0~168.6 A	0.05~163 A	0.05~188 A
	Resolution		0.01 A			
	Accuracy	H/M	0.4% + 1.0% F.S.			
		L/mA	0.4% + 1.5% F.S.			
Power	Range		0~2040 W	0~3060 W	0~4080 W	0~5100 W
	Resolution		0.1 W			
	Accuracy		0.4% of setting + 1.0% F.S. at PF> 0.2, Voltage> 5 V			
Power Apparent (VA)	Range		0~2040 VA	0~3060 VA	0~4080 VA	0~5100 VA
	Resolution		0.1 VA			
	Accuracy		Voltage * Irms, Calculated Value			
Power Resistance (VAR)	Range		0~2040 VAR	0~3060 VAR	0~4080 VAR	0~5100 VAR
	Resolution		0.1 VAR			
	Accuracy		$\sqrt{(VA)^2 - (W)^2}$, Calculated value			
Power Factor (PF)	Range		0.00~1.00			
	Resolution		0.01			
	Accuracy		W / VA, Calculated Value			
Harmonic	Range[4]		2~40 orders			
Extra Function						
Remote Sense	Range		5 V(rms), Max. Total power less than rated power			
Slew Rate	Range		AC Voltage 0.001~1200.000 V/ms and Disable			
			DC Voltage 0.001~1000.000 V/ms and Disable			
			Frequency 0.001~1600.000 Hz/ms and Disable			
Transient Generator (only for 15~70 Hz)	Range		Trans Start : 0.0~66.5 ms @ 15 Hz, Resolution: 0.1 ms			
			Trans-Volt : -212 V~+ 212 V(L), -424 V~+ 424 V (H), Resolution : 0.1 V			
			Trans time : 0.0~66.5ms @ 15 Hz, Resolution 0.1ms.			
			Trans count 0~9999, Constant			

Technical Specifications		ACPS2000	ACPS3000	ACPS4000	ACPS5000
Calibration		Firmware based calibration through the digital interface or front panel			
Test Function		Yes			
Parallel Output for 1 Phase		Yes, 4 Units Max (Option : Remote I/O & Multiphase Link Card)			
Series Output for 1 Phase		Yes, 2 Units Max (Option : Remote I/O & Multiphase Link Card)			
Link Output for 3 Phase		Yes, (Option : Remote I/O & Multiphase Link Card)			
General					
Graphic Display		5.6” Colour touch LCD			
Operation Key Feature		Soft key, Numeric Key, Rotary Knob, USB port for transfer and upgrading firmware			
Rack Mount Handles		Yes			
Fan		Temperature Controlled Fan			
Protection Circuits		OCP, OVP, OPP, OTP, RCP, PRI_UVP, PRI_OVP, PRI_OTP, PRI_OCP, USB_OCP			
Interface	Standard	USB, RS-485, RS232			
	Optional	LAN, GPIB, Analog I/O & Multiphase Link Card			
Remote Control Input/Output Signal Characteristics (Option)					
Remote Input Signal		Signal input for external trigger for execution of programmed value			
		Signal : ON/OFF, RESET, KEEP OFF, Recall programme memory 1 through 7			
Remote Output Singal		Signal output indicating that a test mode is present			
		Signal : Pass Fail, TEST IN PROCESS			
External Signal Waveform Input		Signal input for output voltage waveform programming by external analog reference via BNC type Between the sync signal and the output wave will be 0.5ms time difference			
Regulatory Compliance					
EMC		CE marked for EMC Directive 2014/30/EU/EN61326-1 : 2013 Class A for emissions and immunity standard as required for EU/CE Mark FCC Verification of conformity for CFR 47 Part 15 of the FCC Rules			
Safety		CE marked for LVD Directive 2014/35/EU/EN61010-1 third education as required for EU CE Mark			
CE Mark		Installation Over voltage Category II, Pollution Degree 2, Class II equipment, indoor use only.			
Isolation Voltage		3000VAC, input to output, 1500VAC, input to chassis			
RoHS		Meet to EU Directive 2011/EU for restriction of hazardous substances in Electrical and Electronic Equipment			
General Specifications					
Operating Temperature		0˚C~40˚C			
Storage Temperatur		-40˚C~85˚C			
Fan Noise		73 dBA Max			
Altitude		2000 m			
Relative Humidity		5%~95% non condensing			
Temperature Codfficnet		100 ppm/˚C at Voltage, 300 ppm/˚C at Current, 100 ppm/˚C at Frequency			
Dimensions (W x H x D)		423.0 x 133.0 x 520.0 mm	423.0 x 177.0 x 520.0 mm		
Package Dimensions (W x H x D)		643.0 x 278.5 x 802.0 mm	643.0 x 323.0 x 802.0 mm		
Weight	Unit	21.4 Kg	29.0 Kg		
	Gross	24.4 Kg	32.0 Kg		

Subject to change

Note : Professional Version features are not available in master slave mode.

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