

SPECIFICATION

		PPA5500				PPA1500/PPA500						
General												
Crest Factor		20(Voltage and Current)										
Sample Rate		2.2Ms/s on all channels, No-Gap				1Ms/s on all channels, No-Gap						
Standby Power		IEC62301 Compliance										
Application Modes		PWM Motor Drive, Ballast, Inrush, Power Transformer, Standby Power				Ballast, Inrush, Standby Power						
Frequency Range												
		DC,10mHz ~ 2MHz - PPA5500-LC(10Arms), PPA5500(30Arms)				Normal	PPA1500 DC,10mHz ~ 1MHz/ PPA500 DC, 10mHz ~ 500kHz					
		DC,10mHz ~ 1MHz - PPA5500-HC(50Arms)				x10	DC,10mHz ~ 100kHz					
Voltage Input												
Internal	Range	300mVpk ~ 3000Vpk(1000Vrms) in 9 ranges (240Vrms within 300Vpk range, using 20% overrange)				Normal	1Vpk ~ 2500Vpk(1000Vrms) in 8 ranges					
						x10	100mVpk ~ 300Vpk in 8 ranges					
	Accuracy	0.02% Rdg+0.03% Rng+(0.004%×kHz)+1mV				Normal	0.05% Rdg+0.1% Rng+(0.005%×kHz)+5mV					
						x10	0.05% Rdg+0.1% Rng+(0.01%×kHz)+1mV					
External	Range	300μVpk ~ 3Vpk in 9 ranges [BNC connector 3Vpk max input]				1mVpk ~ 3Vpk in 8 ranges [BNC connector 3Vpk max input]						
	Accuracy	0.02%Rdg+0.03%Rng+(0.004%×kHz)+1μV				0.05%Rdg+0.1%Rng+(0.005%×kHz)+5μV						
Current Input												
Internal	10Arms Low Current (PPA5500-LC) 4mm safety connectors	Ranges	3mApk ~ 30Apk(10Arms) in 9 ranges			20Arms (PPA1500) Shunt 4mm Safety Connectors	Ranges	Normal	100mApk ~ 300Apk(20Arms) in 8 ranges			
		Accuracy	0.02% Rdg+0.03% Rng+(0.004%×kHz)+10μA				x10	10mApk ~ 30Apk in 8 ranges				
		30Arms Current (PPA5500) 4mm safety connectors	Ranges	30mApk ~ 300Apk(30Arms) in 9 ranges			Accuracy	Normal	0.05% Rdg+0.1% Rng+(0.005%×kHz)+500μA			
			Accuracy	0.02% Rdg+0.03% Rng+(0.004%×kHz)+100μA				x10	0.05% Rdg+0.1% Rng+(0.01%×kHz)+100μA			
	50Arms High Current (PPA5500-HC) Touch proof screw terminal	Ranges	100mApk ~ 1000Apk(50Arms) in 9 ranges			30Arms (PPA1500-HC) Shunt 4mm Safety Connectors	Ranges	Normal	300mApk ~ 1000Apk(30Arms) in 8 ranges			
		Accuracy	0.02% Rdg+0.03% Rng+(0.004%×kHz)+300μA					x10	30mApk ~ 100Apk in 8 ranges			
		External input (External shunt Current sensor)	BNC Connector (Max input 3Vpk)	Ranges	300μVpk ~ 3Vpk in 9 ranges			BNC connector (Max input 3Vpk)	Ranges	1mVpk ~ 3Vpk in 8 ranges		
				Accuracy	0.02% Rdg+0.03% Rng+(0.004%×kHz)+1μV					Accuracy	0.05% Rdg+0.1% Rng+(0.005%×kHz)+5μV	
Phase Accuracy												
		0.005deg+(0.01deg×kHz) 【PPA5500-LC(10Arms), PPA5500(30Arms)】 0.01deg+(0.02mdeg×kHz) 【PPA5500-HC(50Arms)】				Normal	0.01deg+(0.01deg×kHz)					
						x10	0.01deg+(0.02deg×kHz)					
Power Accuracy												
		[0.03%+0.03%/pf+(0.01%×kHz)/pf] Rdg+0.03%VA Rng				Normal	[0.1%+0.1%/pf+(0.01%×kHz)/pf] Rdg+0.1%VA Rng					
						x10	[0.1%+0.1%/pf+(0.02%×kHz)/pf] Rdg+0.1%VA Rng					
40-400Hz		[0.03%+0.03%/pf+(0.01%×kHz)/pf] Rdg+0.02%VA Rng				40-400Hz	As above with range error reduced from +0.1%V,A,VA Rng to +0.05%V,A,VA Rng					
CMRR - Common Mode Rejection Ratio												
		250V @ 50Hz - Typical 1mA (150dB)										
		100V @ 100kHz - Typical 3mA (130dB)										
Measurement Parameters												
		W ,VA ,Var ,pf ,V & A - rms ,rectified mean ,AC ,DC ,Peak ,Surge ,Crest Factor ,Form Factor ,Star to Delta Voltage										
		Frequency (Hz), Phase (deg), Fundamentals, Impedance										
		Harmonics, THD, TIF, THF, TRD, TDD										
		Integrated Values, Datalog, Sum and Neutral values										
Datalog - Up to 4 user selectable measurement functions (30 with optional PC software)												
Datalog Window		No-Gap analysis, Minimum window 10ms										
Memory		10M records into flash RAM (Non-Volatile)				RAM up to 16,000 records						
Communication Ports												
RS232		Baud rate up to 38.4kbps,RTS/CTS flow control										
LAN(Option L)		10/100 Base-T Ethernet auto sensing										
GPB(Option G)		IEEE488.2 Compatible				—						
USB		USB 2.0 and 1.1 compatible										
USB		USB memory port										
Analogue Output		Bipolar ±10V(BNC)				—						
Speed Input		Analogue bipolar±10V or Pulse count(BNC)				—						
Torque		Bipolar ±10V(BNC)				—						
Sync		4 ~ 6 Phase measurement (Master/Slave)				—						
Extension		4 ~ 6 Phase (Master/Slave) + Auxiliary				Auxiliary Port						
Standard Accessories												
Leads		Power, RS232, USB										
Connection Cables		36A 1.5m long 4mm stackable terminals 1x red, 1x yellow and 2x black per phase (1x red, 1x black with HC version)				20A (Std version) or 30A (HC version) 1.5m long 4mm stackable terminals 1x red, 1x yellow and 2x black per phase						
Connection Clips		4mm terminated aligator clips - 1x red, 1x yellow and 2x black per phase (1x red and 1x black per phase with PPA5500-HC version)										
CD-ROM		CommView2 (RS232/USB/LAN), Command line, Script based communication software										
Instruction Manual		User manual, Communications manual										
Other Documents		Calibration certificate, Quick start guide										
General												
Display		320×240 dot full colour TFT, White LED Backlit				480×272 dot full colour TFT, White LED Backlit						
Dimensions		130H×400W×315D mm excluding feet				92H×215W×312D mm excluding feet						
Weight		5.4kg(1 Phase), 6kg(3 Phase)				3.3kg(1 Phase), 4kg(3 Phase)						
Safety Isolation		1000Vrms or DC(CATII), 600Vrms or DC(CATIII)										
Power supply		90 ~ 265Vrms. 50 ~ 60Hz. 40VAmx										

MODELS

PPA5500 Series

Phases	Model	Specification
1 Ph	PPA5510-LC	DC, 10mHz ~ 2MHz 3mA _{pk} ~ 30A _{pk} (10Arms)
2 Ph	PPA5520-LC	
3 Ph	PPA5530-LC	
4 Ph	PPA5540-LC	
5 Ph	PPA5550-LC	
6 Ph	PPA5560-LC	



PPA5500 3 Phase model

Phases	Model	Specification
1 Ph	PPA5510	DC, 10mHz ~ 2MHz 30mA _{pk} ~ 300A _{pk} (30Arms)
2 Ph	PPA5520	
3 Ph	PPA5530	
4 Ph	PPA5540	
5 Ph	PPA5550	
6 Ph	PPA5560	



PPA5500 units in Master/Slave mode, synchronised for 4-6 Phase measurements

Phases	Model	Specification
1 Ph	PPA5510-HC	DC, 10mHz ~ 1MHz 100mA _{pk} ~ 1000A _{pk} (50Arms)
2 Ph	PPA5520-HC	
3 Ph	PPA5530-HC	
4 Ph	PPA5540-HC	
5 Ph	PPA5550-HC	
6 Ph	PPA5560-HC	



Touchproof 50A screw connectors used on PPA5500-HC and PPA2600-HC versions

PPA1500/PPA500 Series

Phases	Model	Specification
1 Ph	PPA1510/510*	DC, 10mHz ~ 1MHz 100mA _{pk} ~ 300A _{pk} (20Arms)
2 Ph	PPA1520/520*	
3 Ph	PPA1530/530*	
1 Ph	PPA1510/510-HC*	DC, 10mHz ~ 1MHz 300mA _{pk} ~ 1000A _{pk} (30Arms)
2 Ph	PPA1520/520-HC*	
3 Ph	PPA1530/530-HC*	



PPA1500 3 Phase model

*PPA500 DC, 10mHz ~ 500kHz

Accessories

Leads and Interfacing	
Type	Specification
36A Connection lead set	1.5 Meter - 36A lead set with 4mm stackable safety terminals 1x Red, 1x Yellow and 2x Black per phase plus alligator clips
36A 4mm to spade (option)	1.5 Meter - 36A lead set with 4mm to spade for HC terminals
RS232 cable	RS232 9pin serial Cable
USB cable	USB 2 Meter A male to B male
USB to 9-pin RS232 (Option)	USB ~ 9-pin RS232 Serial Converter
Master-Slave cable (Option)	Leads for connecting 2x PPA5500 in master/slave mode

Connection and extension port accessories (Optional)	
Type	Specification
Breakout box	Simple analyzer connection between source and DUT
PCIS	10Arms 300A _{pk} rated Phase Controlled Inrush Switch

Rack Mount Kit (Optional)	
Type	Specification
Rack Mount brackets	PPA26/5500 19in rack mount brackets (model specific)
Rack Mount panel	PPA2500 19in rack facia panel

Interface (Optional)	
Type	Specification
PPA-LAN interface	Option L - LAN Interface
PPA-GPIB interface	Option G - GPIB(IEEE488)Interface - PPA25/26 and 55 series

Carry cases (Optional)	
Type	Specification
Soft carrying case	Black nylon with shoulder strap
Hard flight case	Hard case with moulded lining suitable for shipping

PC Software (Optional)	
Type	Specification
PPA Dual Data Logger	PC control and data acquisition of 1 to 6 phases with selectable Real Time data, Graphing, Datalog and versatile export options
PPAcomm	Basic PC Control, Data storage, Print features
PPA Standby Power	Standby power measurements and reporting to IEC62301
PPAsoft PC software	LabView based software, PC Control, Data storage and Print

Documents (Standard)	
Type	Specification
Calibration/Test & Inspection certificate	PPA Certificate of calibration
Spare set of manuals	User manual Comms manual

PRODUCT COMPARISON

	PPA1500/PPA500	PPA2500/PPA2600	PPA5500
Basic Accuracy			
V, A rdg error	0.05%	0.04%	0.02%
Power rdg error	0.10%	0.05%	0.03%
Phase			
Internal	1 ~ 3		
Master/Slave operation	—	4 ~ 6	
Voltage Input			
Max input voltage	2500Vpk	3000Vpk	
No. of ranges	8	8	9
Direct Current Input			
10Arms model	—	○	○
20Arms model	○	—	—
30Arms model	○	○	○
50Arms model	—	only PPA2600	○
No. of ranges	8	8	9

	PPA1500/PPA500	PPA2500/PPA2600	PPA5500
Frequency Band			
20A & 30A Shunt	DC ~ 1MHz/500kHz	—	—
10A & 30A Shunt	—	DC ~ 2MHz	DC ~ 2MHz
50A Shunt	—	DC ~ 1MHz	DC ~ 1MHz
Features			
USB Memory port	○	—	○
Real time clock	○	—	○
19in Rack mount option	—	only PPA2600	○
Other features			
Speed-Harmonics/sec	300	300	1,800
Non-volatile memory	192kB	192kB	1GB
Internal data logging	4	4	16(4 X 4)
Torque and speed Input	—	○	○
Dimensions - Excl. Feet H x W x D (mm)	92 x 215 x 312	125 x 355 x 250 125 x 430 x 250	130 x 400 x 315
Weight	3.3 - 4kg	5 - 6kg	5.4 - 6kg