

Manual • Automated • Modular • Programmable



# **Power Redefined**

3 Phase AC Power Sources • Modular AC Power Sources • Manual AC Power Sources Programmable AC Power Sources • Power Converters • Automated AC Power Sources

# **Power Redefined**

Our Power Sources are designed and supported in the USA. We're factory direct, so you'll never have to deal with a middle man. Our highly trained sales staff focuses on every customer no matter the size of the order. From our industry-leading warranty to our return and repair policies, we have redefined how the power source industry does business. When you compare our dedicated people and extensive support programs, to our competitors, you'll be sure to choose APT.

## CHANGING the way the POWER SOURCE INDUSTRY DOES BUSINESS

When you choose APT, you're choosing a partner that will continue to assist you throughout the life of your product, no matter what the application.

# UNPARALLELED SERVICE & SUPPORT

No competitor can match our dedication to service and support. With 10 business day shipping on all modelsand 10 business day turnaround on all repairs, APT keeps your business up and running with minimal down-time.

# TRADE-IN & TRADE-UP

We are proud to have a generous and responsible trade-in program. It is our little way of saying thanks for continuing to use our instruments. Simply send us your old instrument and we'll give you a credit towards your purchase. We accept any brand, make or model towards your trade-in discount of your new APT instrument.\* \*Offer only available in North America.



#### PowerTRAC<sup>™</sup> AC Power Source Control and Data Capture Software



Our new PowerTRAC software takes the industry standard Power Source control software to the next level with data capture. Quickly export your test results to an Excel spreadsheet and improve traceability.

- Complete control from anywhere
- Real world simulation of voltage and frequency
- Visually see what your output and transients look like

**AVAILABLE AS A FREE DOWNLOAD!** 



#### **3-Year Warranty**

Your new instrument includes a standard 3-Year warranty. This guarantees your new product to be free from defects in workmanship for the appropriate warranty period. There is no cost for this warranty and no requirements for calibration or inspection.



#### **Customer Happiness Guarantee**

Our Customer Happiness Guarantee ensures we keep you completely satisfied throughout your entire purchasing experience with us. From selecting the right product for your application to support and training, we guarantee your experience will be nothing less than excellent. If for ANY reason you're not completely satisfied with your experience, you can simply return your instrument within 45 days of purchase for a full refund.



#### 10 Day Guaranteed Shipment

Every APT power source ships from our facility within 10 business days of purchase. If we ship late, we will cover ground shipping (Domestic U.S. shipments only).

## **Product Reference Chart**

			Out	tput Po	ower C	apabil	ity			Outpu	t Configur	ations
Model	500 VA	1 kVA	2 kVA	3 kVA	4 kVA	6 kVA	8 kVA	12 kVA	18 kVA	1 Phase	Split 1 Phase (2 Lines/1 Neutral)	3 Phase
105	•									•		
5005	•									•		
5010		•								•		
5020			•							•		
5040					•					•		
6010		•								•		
6020			•							•		
6040					•					•		
7004	•									•		
7008		•								•		
7016			٠							٠		
7040					•					•		
310XAC		•	x2	x3						x1	x2	x3
320XAC			٠		x2	x3				x1	x2	x3
460XAC						•				•	•	٠
8505	•									●		
8512			•							•		
8520				•						•		
8540						•				٠		

## **Product Reference Chart**

	Outp	out Capabilities o	General Features			
Model	Voltage Output Max	Frequency Output Range	Max A @ ≤110V/220V (per phase)	PC Control	CE Mark	Free GUI Available
105	300	50/60	4.6A/2.3A			
5005	300	40-450	4.6A/2.3A			
5010	300	40-450	9.2A/4.6A			
5020	300	40-450	18.4A/9.2A			
5040	300	40-450	36.8A/18.4A			
6010	300	40-500	9.2A/4.6A	•		•
6020	300	40-500	18.4A/9.2A	•		•
6040	300	40-500	36.8A/18.4A	•		•
7004	300	40-500	4.6A/2.3A	•	●	•
7008	300	40-500	9.2A/4.6A	•	•	•
7016	300	40-500	18.4A/9.2A	•	•	•
7040	300	40-500	36.8A/18.4A	•	•	•
310XAC	300/600/520*	40-1000	9.2A/4.6A	•	•	•
320XAC	300/600/520*	40-1000	18.4A/9.2A	•	●	•
460XAC	300/600/520*	40-1000	18.4A/9.2A	•	•	•
8505	310	5.0-1200	5.0A/2.5A	Progammable Mode Only	•	Progammable Mode Only
8512	310	5.0-1200	12.5A/6.25A	Progammable Mode Only	٠	Progammable Mode Only
8520	310	5.0-1200	20A/10A	Progammable Mode Only	•	Progammable Mode Only
8540	310	5.0-1200	40A/20A	Progammable Mode Only	•	Progammable Mode Only

x2 = the number of sources required to achieve an output rating. x3 = the number of sources required to achieve an output rating and 3 phase.  $300/600/520^* = 3000$  phase 10, 600V split 10, 520V 30

# 8500 Series



## Programmable AC Power Source

The APT 8500 Series is the most power dense and functionality rich source in APT history, giving you improved capability, functionality, and a reduced footprint in one series. These new models provide an output voltage of up to 310 VAC and an output frequency ranging from 5 Hz - 1,200 Hz, making it the obvious solution for all kinds of applications. Configure this power source as a simple bench top AC Power Source in Manual mode or, as an upgraded option, Programmable mode, to be used with an interface to a PC. The 8500 Series includes the following models: 8505, 8512, 8520, 8540

#### **Features**

- 14 pre-configured waveforms allow you to simulate nearly any abnormal condition on your DUT by simply selecting the waveform you would like to output.
- With expanded output voltage to 310VAC and output frequency from 5Hz to 1200Hz, the 8500 provides a single, simple solution to meet a wide variety of testing applications.
- Programmable mode option allows you to easily simulate voltage surges, voltage drops, voltage pulses, voltage sweeps, DC bias, and frequency sweeps to help make meeting the specific needs of your testing application easier than it has ever been.
- High power density with a reduced overall footprint offers you the flexibility you need to use your 8500 Series power source in either a bench top or rack mount application.
- Easily upgrade and keep your command set from your 6000, 7000, or 300XAC Series with the legacy program mode.

Associated Newsr Technologies Access revertise Revertise revertise Revertis Revertise Revertise Revertis Revertise Revertise R	$\begin{array}{c} \text{Vac} = 120.0 \ \text{F} = 60.0 \ \text{AHi} = 0.00 \ \text{O} \\ \hline \begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 $	Image: Constraint of the second se



#### **Options**

- USB/RS-232 Interface
- GPIB Interface
- Ethernet Interface





#### **Applicable Industries**



Integrator





#### Modes

INPUT	MANUAL MODE (STANDARD)	PROGRAMMABLE MODE (OPTION)
Manual Operation	•	•
PC Interface (USB/LAN standard, optional GPIB)		•
PowerTRAC Compatibility		•
Voltage, Frequency, Transient, and DC Bias Sweeps		•

#### Specifications – 8500

					•				
INPUT			8505	8512	8520	8540			
Phase				1Ø2W	I				
Voltage				$200$ - $240$ V $\pm$ 10%					
Max. Current			8A	18A	30A	30A			
Power Factor			≥0.93 at Full load		≥0.97 at Full load				
AC OUTPUT									
Power Rating		1Ø2W	500VA	1250VA	2000VA	4000VA			
Max. Current	1Ø2W	0 - 155V	5A @ 100V	12.5A @ 100V	20A @ 100V	40A @ 100V			
(RMS)	IØZW	0 - 310V	2.5A @ 200V	6.25A @ 200V	10A @ 200V	20A @ 200V			
nrush Current	1Ø2W	0 - 155V	20A	50A	80A	160A			
(peak)		0 - 310V	10A	25A	40A	80A			
Frequency				5.0 - 1200	0 Hz				
Phase				1Ø2W	/				
THD (Total Harm	nonic Dist	tortion)		≤0.3% @ 50/60Hz (Fu ≤1.1% @ 5 -1000Hz (Fu ≤1.2% @1001-1200Hz (F	III Resistive Load)				
Crest Factor				≥3					
Line Regulation			±0.1 V						
Load Regu	lation (H	ardware)	$\pm$ (1% of output +0.5V) @ Resistive Load, < 400 $\mu S$ response time						
Load Regu	ulation (S	oftware)	±0.2V, <1S response time						
DC offset			DC Offset ≤±30mV (typical)						
DC OUTPUT									
Power Rating			300W	750W	1200W	2400W			
Max. Current	0 - 210V		3.0A	7.5A	12.0A	24.0A			
	0 - 420V		1.5A	3.75A	12.0A	24.0A			
Ripple & Noise	Range	L		< 700mV					
rms)		Н		< 700mV					
Ripple & Noise (J	р-р)			< 6.0Vp-p		< 7.0Vp-p			
SETTINGS			8505	8512	8520	8540			
/oltage (AC)	Range		0 - 310V, 155/310V Auto Range						
	Resoluti	on	0.1V						
	Accuracy		±(0.2% of setting + 3 counts)       ±(0.2% of setting         6counts)       6counts						
Voltage (DC)	Range		0 - 420V, 210/420V Auto Range						
	Resoluti	on	0.1V						
	Accurac	у		±(0.2% of setting + 3counts)		±(0.2% of setting + 6counts)			
Frequency	Range			DC, 5 - 1200Hz Full	Range Adjust				
	Resoluti	on		0.1Hz at 0.0 - 999.9Hz, 1H	Hz at 1000 - 1200Hz				
	Accurac	у		±0.03% of setti	ng (≥15Hz)				
Start Angle	Range			0~359	0				
	Resoluti	on		10					

#### Specifications – 8500 Series

SETTINGS			8505	8512	8520	8540			
Current Hi Limit	0 - 155V		0.05 - 5.00A	0.05 - 12.50A	0.05 - 20.00A	0.10 - 40.00A			
OC Fold=OFF)	(0 - 310V		0.05 - 2.50A	0.05 - 6.25A	0.05 - 10.00A	0.10 - 20.00A			
OC Fold Back	Resolution		0.01 A						
(OC Fold = ON)	Accuracy		± (2.0% of setting + 4 counts)						
OC Fold Back Respo	onse Time			< 1.4	IS				
	Range		1.0 - 999.9H 1.0 - 999.9M 1.0 - 999.9s 0.1 - 999.9ms						
Time <sup>+</sup>	Resolution		0.1h 0.1Min 0.1s 0.1ms						
	Accuracy		$ \begin{array}{c} \pm (0.1\% + 0.1 \text{ Hour}) \\ \pm (0.1\% + 0.1 \text{ Minute}) \\ \pm (0.1\% + 0.1 \text{ sec}) \\ \pm (0.1\% + 0.1 \text{ ms}) \end{array} $						
Time Unit <sup>†</sup>				Hour, Minute,	Second, ms				
	Range			0.1 - 999.9s	, 0 = OFF				
Ramp Up <sup>†</sup>	Resolution			0.1	5				
Kamp op	Accuracy			$\pm$ (0.1% + 1 Cycle) at Output frequency $\leq$ 10Hz $\pm$ (0.1% + 0.1 sec) at Output frequency > 10Hz					
MEASUREMENT									
	Range		0.0~1200Hz						
Frequency	Resolution		0.1Hz / 1Hz						
	Accuracy		±0.1Hz @ 5 - 999.9Hz. ±1Hz @ 1000 - 1200Hz						
	Range		0 - 310V, 155/310V Auto Range						
Voltage (AC)	Resolution		0.1V						
<b>j</b> -(,	Accuracy		$\pm$ (0.2% of reading + 3 counts) at voltage > 5V $\pm$ (0.2% of counts) at						
	Range		0 - 420V, 210/420V Auto Range						
Voltage (DC)	Resolution								
· · · · · · · · · · · · · · · · · · ·	Accuracy		±(0.	2% of reading + 3 counts) at voltage >	5V	$\pm (0.2\% \text{ of reading} + 6)$			
			0.0 - 75.0W 0.0 - 300.0W			counts) at voltage > 5V			
	Range	L H	60 - 625W	240 - 1563W	240 - 2500W	- 0 - 5000W			
		н L	00-02377	0.1W	240-230010	0 - 200099			
Current (AC, DC)	Resolution	н				-			
,		H L	$\pm$ (1% of reading +10 counts)	1W ± (2% of reading +15 counts) a					
	Accuracy	н	at PF $\ge$ 0.3 and voltage $>$ 5V ± (1% of reading +5 counts)	± (1% of reading +10 counts)	± (1% of reading +10 counts)	± (1% of reading +20 counts)			
		L	at PF ≥ 0.3 and voltage > 5V 0.0 - 75.0W	at PF ≥ 0.3 and voltage > 5V 0.0 - 30	at PF $\ge$ 0.3 and voltage $>$ 5V	at PF $\geq$ 0.3 and voltage $>$ 5V			
	Range	Н	60 - 625W	240 - 1563W	240 - 2500W	0 - 5000W			
	Resolution	L		0.1W		-			
Power (AC, DC)		н		11	V				
	Accuracy	L	$\pm (1\% \text{ of reading } +10 \text{ counts})$ at PF $\ge 0.3$ and voltage $> 5V$	$\pm$ (2% of reading +15 counts) a	-	-			
		н	$\pm$ (1% of reading +5 counts) at PF $\ge$ 0.3 and voltage > 5V	$\pm$ (1% of reading +10 counts) at PF $\ge$ 0.3 and voltage $>$ 5V	$\pm$ (1% of reading +10 counts) at PF $\ge$ 0.3 and voltage > 5V	$\pm$ (1% of reading +20 counts) at PF $\ge$ 0.3 and voltage > 5V			
	Range			0.000 -	1.000				
Power Factor	Resolution			0.00					
	Accuracy			W/VA, Calculated and displaye	ed to three significant digits				

† Available on in programmable mode option

#### Specifications – 8500 Series

MEASUREMENT			8505	8512	8520	8540			
	Range	L	0.0 - 75.0VA		0.0 - 300.0VA				
Power Apparent	hange	Н	60 - 625VA	240 - 1563VA	240 - 2500VA	0 - 5000VA			
(VA) <sup>†</sup>	Resolution	L		0.1VA					
(())	nesolution	Н		1VA					
	Calculated F	ormula		V×A, Calculate	d value				
	Range		0.0 - 20.0Apk	0.0 - 50.0Apk	0.0 - 80.0Apk	0.0 -160.0Apk			
Peak Current	Resolution			0.1A					
Measurement <sup>+</sup>	Accuracy			$\pm$ (0.5% of reading + 8 counts)		± (0.5% of reading +12 counts)			
		L	0.0 - 75.0VAR	0.0 - 300.0	VAR	-			
	Range	н	60 - 625VAR	240 - 1563VAR	240 - 2500VAR	0 - 5000VAR			
Reactive Power		L		0.01A					
Measurement <sup>+</sup>	Resolution	н		0.01A					
	Calculated F	ormula		🔨 (VA)2 - (W	/)2				
с <b>г</b>	Range			0.00 - 10.	00				
Crest Factor Measurement <sup>†</sup>	Resolution		0.01						
measurement	Calculated F	ormula	Ap / A						
Software OCP			$\leq$ 110% of full rated current (102% < Io $\leq$ 110%), >5 second output shut down						
			>110% of full rated current, <1.5 second output shut down <1 second						
Output Short Shut Do	own speed		<1 second <110% of full rated current (102% < Po <110%), >5 second output shut down						
Software OPP			>110% of full rated current, <1.5 second output shut down						
Software OVP			Over voltage 105% of full rated voltage						
		н	When measurement voltage exceeds setting voltage 10V						
Software VSENSE OV	Р	L	When measurement voltage exceeds setting voltage 5V						
		н	When measurement voltage is lower than setting voltage 10V						
Software VSENSE LVP	•	L	L When measurement voltage is lower than setting voltage 5V						
Hardware OTP			Temperature over 108oC on power component of the PFC and DDC						
naidwaleOfF			Temperature over 100oC on heatsink of the power amplifier						
Software RCP			When reverse newer over 50% of full rated newer						
(Reverse Current Prot	ection)		When reverse power over 5% of full rated power						
Hardware FAN FAIL			When fan fails and fan is blocked						
DIMENSION									
	W		430	430	430	430			
Dimension by Model	(mm) H		88	88	88	176			
	D		500	500	500	500			
Weight			15KG / 33LBS	15KG /33LBS	15KG /33LBS	28KG / 61.7LBS			
Storage Environment			-40° to 75°C						
Storage Environment	t								

† Available on in programmable mode option

#### 

## **460XAC** 3 Phase AC Power Sources

With a unique feature set and competitive price point, our 400XAC Series provides 3Ø AC power in a single box. Our exclusive SmartCONFIG feature allows you to switch from 1Ø to 3Ø or DC output with the push of a button. This maximizes your investment while giving you the AC power that your application needs. The 460XAC is a 6 kVA AC power source.

#### **Features**

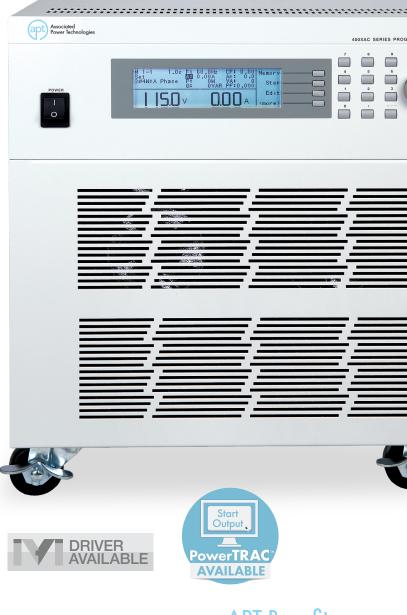
- Exclusive SmartCONFIG feature allows for push button switch of 1Ø, 3Ø, or DC output
- Single phase input power requirements
- 50 built-in memory locations with 9 test steps
- Built-in power factor correction (PFC)
- Advanced metering circuits monitor voltage, current, peak current, power, apparent power, reactive power, power factor, and crest factor
- External voltage sensing for accurate metering
- Transient feature simulates voltage variations, brownouts, and transient voltage conditions
- Programmable starting and ending angle of the output sine wave
- Rack mount handle kit included

#### Standard

USB/RS-232 Interface

#### Options

- GPIB Interface
- Ethernet Interface



## Applicable Industries





Appliance









#### online **aptsources.com**

INPUT			460XAC					
Phase			1Ø or 3Ø					
Voltage			1Ø : 200~240 VAC ± 10% 3Ø3W : 200~240 VAC ± 10% 3Ø4W : 346~416 VAC ± 10%					
Frequency			47 - 63 Hz					
AC OUTPUT								
	10	ð2W	6000 VA					
Power Rating	16	Ø3W	Total 4000 VA (2000 VA per phase)					
Towernating	30	ð4W	Total 6000 VA (2000 VA per phase)					
	1	C	6000 VA					
	1Ø2W	5- 150 V	55.2 A @ ≤110 V					
		5 - 300 V	27.6 A @ ≤220 V					
Max. Current	1Ø3W	5 - 150 V	18.4 A @ ≤110 V for per phase					
(RMS)		5 - 300 V	9.2 A @ ≤220 V for per phase					
	3Ø4W	5 - 150 V	$18.4 \text{ A} @ \leq 110 \text{ V}$ for per phase					
		5-300 V	9.2 A @ ≤220 V for per phase					
	1Ø2W	5 - 150 V	220.8 A					
Inrush Current		5 - 300 V 5 - 150 V	110.4 A 72.6 A for por phace					
(peak)	1Ø3W	5 - 150 V 5 - 300 V	73.6 A for per phase 36.8 A for per phase					
(реак)		5 - 150 V	73.6 A for per phase					
	3Ø4W	5 - 300 V	36.8 A for per phase					
Phase		5 500 V	102W, 103W, 304W, provided option					
Thase			<0.5% (Resistive Load) at 40.0~70.0 Hz and output voltage within the 80~140 VAC					
THD (Total Harm	ionic Dist	tortion)	<1% (Resistive Load) at 70.1~1000 Hz and output voltage within the 80~140 VAC at High Range. <1% (Resistive Load) at 70.1~1000 Hz and output voltage within the 80~140 VAC at Low Range or the 160~280 VAC at High Range.					
Crest Factor			≥3					
Line Regulation			±0.1 V					
Load Regulat	ion (Haro	dware)	$\pm$ (1% of output +1 V) at Resistive Load, <400 $\mu S$ response time					
Load Regulat	tion (Soft	ware)	$\pm$ 0.2 V, <1 S response time					
DC offset			≤±5mV					
Poly-phase mo for per phase of			460XAC					
Voltage	Range		5.0~300 VAC (phase), 8.6~520 VAC (line), 150/300 V Auto Range					
	Accurac	y	± (0.2% of setting + 3 counts)					
Frequency	Range Accurac		40~1000 Hz Full Range Adjust					
Starting &	Range	y	± 0.03% of setting 0~359°					
Ending Phase Angle	Accurac	y	±1°(45~65 HZ)					
	5V~150	V	0.01~18.40 A					
Current Hi	Current Hi							
	5V~300	V	0.01~9.20 A					
Limit	5V~300 Accurac		0.01~9.20 A ± (2.0% of setting + 2 counts)					
	Accurac	у						
Limit	Accurac	у	± (2.0% of setting + 2 counts)					
Limit OC Fold Back Res	Accurac sponse T	y ime	± (2.0% of setting + 2 counts) <1.4 s					
Limit OC Fold Back Res Ramp-Up Timer (second) Ramp-Down	Accuracy sponse T Range	y ime	± (2.0% of setting + 2 counts) <1.4 s 0.0~999.9 s					
Limit OC Fold Back Res Ramp-Up Timer (second)	Accurac sponse T Range Accurac	y ime y	± (2.0% of setting + 2 counts) <1.4 s 0.0~999.9 s ± (0.1% + 0.05 sec)					
Limit OC Fold Back Res Ramp-Up Timer (second) Ramp-Down	Accurac sponse T Range Accurac Range	y ime y	± (2.0% of setting + 2 counts) <1.4 s 0.0~999.9 s ± (0.1% + 0.05 sec) 0.0~999.9 s					
Limit OC Fold Back Res Ramp-Up Timer (second) Ramp-Down Timer (second)	Accuracy sponse T Range Accuracy Range Accuracy	y ime y y	± (2.0% of setting + 2 counts) <1.4 s 0.0~999.9 s ± (0.1% + 0.05 sec) 0.0~999.9 s ± (0.1% + 0.05 sec) 1 s~999.9 s 0.1 m~999.9 min					
Limit OC Fold Back Res Ramp-Up Timer (second) Ramp-Down Timer (second)	Accuracy sponse T Range Accuracy Range Accuracy Range	y ime y y	$\begin{array}{c} \pm (2.0\% \text{ of setting + 2 counts}) \\ <1.4 \text{ s} \\ 0.0~999.9 \text{ s} \\ \pm (0.1\% + 0.05 \text{ sec}) \\ 0.0~999.9 \text{ s} \\ \pm (0.1\% + 0.05 \text{ sec}) \\ 1 \text{ s} \sim 999.9 \text{ s} \\ 0.1 \text{ m} \sim 999.9 \text{ s} \\ 0.1 \text{ m} \sim 999.9 \text{ h} \\ \end{array}$					
Limit OC Fold Back Res Ramp-Up Timer (second) Ramp-Down Timer (second) Delay Timer	Accuracy sponse T Range Accuracy Range Accuracy Range Accuracy	y ime y y y y y y y y y y y y y y y y y y y	$\begin{array}{c} \pm (2.0\% \mbox{ of setting + 2 counts}) \\ <1.4 \ s \\ \hline1.4 \ s \\ \hline0.0 \sim 999.9 \ s \\ \pm (0.1\% + 0.05 \ sec) \\ \hline0.0 \sim 999.9 \ s \\ \pm (0.1\% + 0.05 \ sec) \\ \hline1 \ s \sim 999.9 \ s \\ \hline0.1 \ m \sim 999.9 \ min \\ \hline0.1 \ m \sim 999.9 \ min \\ \hline0.1 \ m \sim 999.9 \ h \\ \hline1 \ s (0.1\% + 0.1 \ sec) \\ \end{array}$					
Limit OC Fold Back Res Ramp-Up Timer (second) Ramp-Down Timer (second) Delay Timer	Accurace sponse T Range Accurace Range Accurace Range Accurace Range Accurace Code (300	y ime y y y y y y y y y y y	$\begin{tabular}{lllllllllllllllllllllllllllllllllll$					
Limit OC Fold Back Res Ramp-Up Timer (second) Ramp-Down Timer (second) Delay Timer Dwell Timer Poly-phase mo	Accurace sponse T Range Accurace Range Accurace Range Accurace Range Accurace Code (300	y ime y y y y y y y y y y y	$\begin{array}{c} \pm (2.0\% \ of setting + 2 \ counts) \\ <1.4 \ s \\ 0.0~999.9 \ s \\ \pm (0.1\% + 0.05 \ sec) \\ 0.0~999.9 \ s \\ (0.1\% + 0.05 \ sec) \\ \hline (0.1\% + 0.05 \ sec) \\ 1 \ s~999.9 \ s \\ 0.1 \ m~999.9 \ nin \\ 0.1 \ h~999.9 \ h \\ \hline (0.1\% + 0.1 \ sec) \\ \hline (0.1\% + 0.1 \ sec) \\ \hline (0.1\% + 0.1 \ sec) \\ \end{array}$					
Limit OC Fold Back Res Ramp-Up Timer (second) Ramp-Down Timer (second) Delay Timer Dwell Timer Poly-phase me per phase me	Accurace sponse T Range Accurace Range Accurace Range Accurace Range Accurace Range	y ime view of the second secon	± (2.0% of setting + 2 counts) <1.4 s 0.0~999.9 s ± (0.1% + 0.05 sec) 0.0~999.9 s ± (0.1% + 0.05 sec) 1 s~999.9 s 0.1 m~999.9 min 0.1 m~999.9 min 0.1 h~999.9 h (0.1 h~999.9 h ± (0.1% + 0.1 sec) 0, 1s~999.9 h (0=continuous) ± (0.1% + 0.1 sec) 460XAC					
Limit OC Fold Back Res Ramp-Up Timer (second) Ramp-Down Timer (second) Delay Timer Dwell Timer Poly-phase me per phase me	Accurace sponse T Range Accurace Range Accurace Range Accurace Range Accurace Range Accurace Range	y	± (2.0% of setting + 2 counts) <1.4 s (1.4 s 0.0~999.9 s ± (0.1% + 0.05 sec) 0.0~999.9 s ± (0.1% + 0.05 sec) 1 s~999.9 s 0.1 m~999.9 min 0.1 m~999.9 min 0.1 h~999.9 h (0.1 m<999.9 h (					
Limit OC Fold Back Res Ramp-Up Timer (second) Ramp-Down Timer (second) Delay Timer Dwell Timer Poly-phase me per phase me	Accurace sponse T Range Accurace Range Accurace Range Accurace Range Accurace Range Range Resoluti	y	± (2.0% of setting + 2 counts) <1.4 s 0.0~999.9 s ± (0.1% + 0.05 sec) 0.0~999.9 s ± (0.1% + 0.05 sec) 1 s~999.9 s 0.1 m~999.9 min 0.1 m~999.9 min 0.1 m~999.9 h  ± (0.1% + 0.1 sec) 0.1 scole (0.1% + 0.1 sec) 460XAC 0.0 -1000 Hz 0.1 Hz					
Limit OC Fold Back Res Ramp-Up Timer (second) Ramp-Down Timer (second) Delay Timer Delay Timer Dwell Timer Poly-phase mea Frequency	Accurace sponse T Range Accurace Range Accurace Range Accurace Range Accurace Range Resoluti Accurace	y ime ime important states of the states of	± (2.0% of setting + 2 counts) <1.4 s (0.0~999.9 s) ± (0.1% + 0.05 sec) (0.0~999.9 s) (0.1% + 0.05 sec) 1 s~999.9 s) (0.1 m~999.9 min) (0.1 m~999.9 min) (0.1 h~999.9 h) (0.1 h~999.9 h) (0.1 (0.1% + 0.1 sec) (0.1% + 0.1 sec) 460XAC (0.0~1000 Hz) (0.1 Hz (0.1 Hz (501-1000 Hz Accuracy ± 0.2 Hz)					

Poly-phase me		for	460XAC
	Range	L	0.005 A~2.400 A
		Н	2.00 A~26.00 A
	Accuracy		± (1% of reading +5 counts) at 40.0-500 Hz
Comment (DMC)		L	± (1% of reading +5 counts) at 501-1000 Hz,
Current (RMS)			CF <1.5 and Current (peak) ≤7.2 A
			± (1% of reading +5 counts) at 40.0-500 Hz
		н	$\pm$ (1% of reading +5 counts) at 501-1000 Hz, CF < 1.5 and Current (peak) $\leq$ 55.2 A
	Range		0.0 A~76.0 A
			± (1% of reading + 5 counts) at 40.0-70.0 Hz
Current (peak)	Accuracy		$\pm$ (1.5% of reading + 10 counts) at 70.1 - 500 Hz
	Accuracy		$\pm$ (1.5% of reading + 10 counts) at 501 - 1000 Hz and CF <1.5
	Range	L	0.0 W~240.0 W
		Н	200 W~2600 W
Power	Accuracy	L	$\pm$ (2% of reading +15 counts) at 40.0-500 Hz and PF $\geq$ 0.2
i owei			$\pm$ (2% of reading +30 counts) at 501-1000 Hz and PF $\geq$ 0.5
		н	$\pm$ (2% of reading +5 counts) at 40.0-500 Hz and PF $\geq$ 0.2
			$\pm$ (2% of reading +15 counts) at 501-1000 Hz and PF $\geq 0.5$
Power Factor	Range		0 - 1.000
	Accuracy		W / VA, Calculated and displayed to three significant digits
Power	Range	L	0.0 VA~240.0 VA
Apparent (VA)	-	Н	200 VA~2600 VA
	Accuracy		V×A, Calculated value
Power	Range	L	0.0 VAR ~ ± 240.0 VAR
Reactive (Q)		Н	0 VAR ~ ± 2600 VAR
	Accuracy		$\sqrt{(VA)^2 - (W)^2}$ , Calculated value
Crest Factor	Range		0-10.00
	Accuracy		Ap / A, Calculated and displayed to two significant digits
Poly-phase m		for	
Σ measureme	nt		460XAC
Frequency	Range		0.0-1000.0 Hz
	Accuracy		± 0.1 Hz (501-1000 Hz Accuracy ±0.2 Hz)
Voltage	Range		± 0.1 Hz (501-1000 Hz Accuracy ±0.2 Hz)
voltage			
	Calculated Fo	ormula	$(A+B+C)/\sqrt{3}$ , Calculated and displayed to one significant digits
Current (RMS)		L	0.005A~2.400A
-	Calculated Fo		0.005A~2.400A 2.00A~26.00A
	Calculated For Range Calculated	L	0.005A~2.400A 2.00A~26.00A
-	Calculated Fo	L H L H	0.005A~2.400A 2.00A~26.00A $\frac{\sum VA}{\sum V} / \sqrt{3}$
	Calculated For Range Calculated	L H L	0.005A~2.400A 2.00A~26.00A
Current (RMS)	Calculated For Range Calculated Formula	L H L H	$ \begin{array}{c} 0.005A \sim 2.400A \\ 2.00A \sim 26.00A \\ \frac{\sum VA}{\sum V} / \sqrt{3} \end{array} $
Current (RMS)	Calculated For Range Calculated Formula	L H L H	$0.005A \sim 2.400A$ 2.00A \cdot
Current (RMS) Power	Calculated For Range Calculated Formula Range Accuracy	L H L H L H	$0.005A~2.400A$ $2.00A~26.00A$ $\frac{\sum VA}{\sum V} / \sqrt{3}$ $0.0W~720.0W$ $600W~7800W$ A Power + B Power + C Power, Calculated value
Current (RMS) Power	Calculated For Range Calculated Formula Range Accuracy Range	L H L H L H	0.005A~2.400A 2.00A~26.00A
Current (RMS)	Calculated For Range Calculated Formula Range Accuracy	L H L H L H	$0.005A~2.400A$ $2.00A~26.00A$ $\frac{\sum VA}{\sum V} / \sqrt{3}$ $0.0W~720.0W$ $600W~7800W$ A Power + B Power + C Power, Calculated value
Current (RMS) Power Power Factor	Calculated For Range Calculated Formula Range Accuracy Range Resolution Accuracy	L H L H L L H	$0.005A-2.400A$ $2.00A-26.00A$ $\frac{\sum VA}{\sum V} / \sqrt{3}$ $0.0W-720.0W$ $600W-7800W$ $A Power + B Power + C Power, Calculated value$ $0 - 1.000$ $0.001$ $\frac{\sum P}{\sum VA}$ Calculated and displayed to three significant digits
Current (RMS) Power Power Factor Power	Calculated For Range Calculated Formula Range Accuracy Range Resolution	L H L H L H	$0.005A~2.400A$ $2.00A~26.00A$ $\frac{\sum VA}{\sum V} / \sqrt{3}$ $0.0W~720.0W$ $600W~7800W$ $A Power + B Power + C Power, Calculated value$ $0 - 1.000$ $0.001$ $\frac{\sum^{P}}{\sum^{VA}} Calculated and displayed to three significant digits$ $0.0VA~720.0VA$
Current (RMS) Power Power Factor Power	Calculated For Range Calculated Formula Range Accuracy Range Resolution Accuracy Range	L H L H L H H H	$0.005A-2.400A$ $2.00A-26.00A$ $\frac{\sum VA}{\sum V} / \sqrt{3}$ $0.0W-720.0W$ $600W-7800W$ $A Power + B Power + C Power, Calculated value$ $0 - 1.000$ $0.001$ $\frac{\sum P}{\sum VA}$ Calculated and displayed to three significant digits
Current (RMS) Power Power Factor Power	Calculated For Range Calculated Formula Range Accuracy Range Resolution Accuracy	L H L H L H	$0.005A~2.400A$ $2.00A~26.00A$ $\frac{\sum VA}{\sum V} / \sqrt{3}$ $0.0W~720.0W$ $600W~7800W$ $A Power + B Power + C Power, Calculated value$ $0 - 1.000$ $0.001$ $\frac{\sum^{P}}{\sum^{VA}} Calculated and displayed to three significant digits$ $0.0VA~720.0VA$
Current (RMS) Power Power Factor Power Apparent (VA)	Calculated For Range Calculated Formula Range Accuracy Range Resolution Accuracy Range Calculated Formula	L H L H L H H L H H	$0.005A-2.400A$ $2.00A-26.00A$ $\frac{\sum VA}{\sum V} / \sqrt{3}$ $0.0W-720.0W$ $600W-7800W$ $A Power + B Power + C Power, Calculated value$ $0 - 1.000$ $0.001$ $\frac{\sum^{P}}{\sum^{VA}}$ Calculated and displayed to three significant digits $0.0VA-720.0VA$ $600VA-720.0VA$ $400VA-720.0VA$ $\sqrt{(\sum^{W})^{2} + (\sum^{Q})^{2}}$
Current (RMS) Power Power Factor Power Apparent (VA) Power	Calculated For Range Calculated Formula Range Accuracy Range Resolution Accuracy Range Calculated	L H L H H L H H L H L L	$\frac{0.005A-2.400A}{2.00A-26.00A}$ $\frac{\sum \frac{VA}{\sum V} / \sqrt{3}}{\sqrt{3}}$ $0.0W-720.0W$ $600W-7800W$ $A Power + B Power + C Power, Calculated value$ $0 - 1.000$ $0.001$ $\frac{\sum^{P}}{\sum^{VA}}$ Calculated and displayed to three significant digits $0.0VA-720.0VA$ $600VA-720.0VA$ $\sqrt{(\sum^{W})^{2} + (\sum^{Q})^{2}}$ $0.0VAR-720.0VAR$
Current (RMS) Power Power Factor	Calculated For Range Calculated Formula Range Accuracy Range Resolution Accuracy Range Calculated Formula	L H L H L H H H H H	$\frac{0.005A-2.400A}{2.00A-26.00A}$ $\frac{\sum \frac{VA}{\sum V} / \sqrt{3}}{\sqrt{3}}$ 0.0W-720.0W 600W-7800W A Power + B Power + C Power, Calculated value $0 - 1.000$ 0.001 $\frac{\sum^{P}}{\sum^{VA}}$ Calculated and displayed to three significant digits $\frac{\sum^{P}}{\sum^{VA}}$ 0.0VA-720.0VA 600VA-7800VA $\sqrt{(\sum^{W})^{2} + (\sum^{Q})^{2}}$ 0.0VAR-7800VA
Current (RMS) Power Power Factor Power Apparent (VA) Power	Calculated For Range Calculated Formula Range Accuracy Range Resolution Accuracy Range Calculated Formula Range	L H L H L H L H L H L H H L H	$\frac{0.005A-2.400A}{2.00A-26.00A}$ $\frac{\sum \frac{VA}{\sum V} / \sqrt{3}}{\sqrt{3}}$ $0.0W-720.0W$ $600W-7800W$ $A Power + B Power + C Power, Calculated value$ $0 - 1.000$ $0.001$ $\frac{\sum^{P}}{\sum^{VA}}$ Calculated and displayed to three significant digits $0.0VA-720.0VA$ $600VA-720.0VA$ $\sqrt{(\sum^{W})^{2} + (\sum^{Q})^{2}}$ $0.0VAR-720.0VAR$
Current (RMS) Power Power Factor Power Apparent (VA) Power Reactive (Q) Single-phase	Calculated Formula Range Calculated Formula Range Accuracy Range Resolution Accuracy Range Calculated Formula Range Calculated Formula	L H L H H L H H L H L H H L H H	$\frac{0.005A-2.400A}{2.00A-26.00A}$ $\frac{\sum \frac{VA}{\sum V} / \sqrt{3}}{\sqrt{3}}$ 0.0W-720.0W 600W-7800W A Power + B Power + C Power, Calculated value $0 - 1.000$ 0.001 $\frac{\sum^{P}}{\sum^{VA}}$ Calculated and displayed to three significant digits $\frac{\sum^{P}}{\sum^{VA}}$ 0.0VA-720.0VA 600VA-7800VA $\sqrt{(\sum^{W})^{2} + (\sum^{Q})^{2}}$ 0.0VAR-7800VA
Current (RMS) Power Power Factor Power Apparent (VA) Power Reactive (Q) Single-phase Setting	Calculated For Range Calculated Formula Range Accuracy Range Resolution Accuracy Range Calculated Formula Range Calculated Formula Range Calculated Formula	L H L H H L H H L H L H H L H H	$\frac{0.005A-2.400A}{2.00A-26.00A}$ $\frac{\sum VA}{\sum V} / \sqrt{3}^{-1}$ $0.0W-720.0W$ $600W-720.0W$ $600W-7800W$ A Power + B Power + C Power, Calculated value $0 - 1.000$ $0.001$ $\frac{\sum V}{\sum VA}$ Calculated and displayed to three significant digits $\frac{\sum VA}{0.0VA-720.0VA}$ $600VA-7800VA$ $\sqrt{(\sum VV)^{2} + (\sum Q)^{2}}$ $0.0VAR-720.0VAR$ $600VAR-7800VAR$ $A VAR + B VAR + C VAR, Calculated value$ $460XAC$
Current (RMS) Power Power Factor Power Apparent (VA) Power Reactive (Q) Single-phase Setting	Calculated Formula         Range         Calculated         Formula         Range         Accuracy         Range         Resolution         Accuracy         Range         Calculated         Formula         Range         Range         Accuracy         Range         Calculated         Formula         Range         Accuracy         Range         Accuracy         Range         Accuracy         Range         Range         Range         Range         Range	L H L H H L H H L H L H H L H H	$\frac{0.005A-2.400A}{2.00A-26.00A}$ $\frac{\sum VA}{\sum V} / \sqrt{3}$ $0.0W-720.0W$ $600W-720.0W$ $600W-7800W$ A Power + B Power + C Power, Calculated value $0 - 1.000$ $0.001$ $\frac{\sum V}{\sum VA}$ Calculated and displayed to three significant digits $\frac{\sum VA}{0.0VA-720.0VA}$ $600VA-720.0VA$ $\sqrt{(\sum W)^{2} + (\sum O)^{2}}$ $0.0VAR-720.0VAR$ $600VAR-7800VAR$ $A VAR + B VAR + C VAR, Calculated value$ $\frac{460XAC}{5.0-300 VAC, 150/300 V Auto Range}$
Current (RMS) Power Power Factor Power Apparent (VA) Power Reactive (Q)	Calculated For Range Calculated Formula Range Accuracy Range Resolution Accuracy Range Calculated Formula Range Calculated Formula Range Calculated Formula	L H L H H L H H L H L H H L H H	$\frac{0.005A-24.00A}{2.00A-26.00A}$ $\frac{\sum VA}{\sum V} / \sqrt{3}$ $0.0W-720.0W$ $600W-720.0W$ $600W-7800W$ A Power + B Power + C Power, Calculated value $0 - 1.000$ $0.001$ $\frac{\sum V}{\sum VA}$ Calculated and displayed to three significant digits $\frac{\sum VA}{0.0VA-720.0VA}$ $600VA-7800VA$ $\sqrt{(\sum V)^{2} + (\sum Q)^{2}}$ $0.0VAR-720.0VAR$ $600VAR-7800VAR$ $A VAR + B VAR + C VAR, Calculated value$ $460XAC$

Process of the second secon	Single-phase Setting	mode (1Ø	2W)	460XAC										
Product Jone 300 Jier 340-9916, Jier 100-1000/2           Stating Procession 300 Jier 340-9916, Jier 100-1000/2           Angle Jest Jest Jest Jest Jest Jest Jest Jes	Frequency	Range		40~1000 Hz Full Range Adjust										
Range Surger														
Sanding Part Part of the second sec														
Find plane biology of the second s	Starting &													
Angle Current in a constraint of the second sec	Ending Phase		<u>ן</u>											
Product Sector Secto	Angle		•											
Generation 10%Control 0.01-200 AControl 0.01-200 AContr														
Impairs a constant of	Current Hi													
Octool dock versions time     C + La + C       Prequency main were service of the service of	Limit													
Single pubsisment (1 SV V)4600ACPrequency Renge weight of the sign	OC Fold Back Ba		10											
measurement     4400x4C       Frequency Accurse/Landow     Image     0.00-0001/Landow       Accurse/Landow     0.00-0001/La		•		۲۰.۱ ×										
Accuracy         ± 01 Hz (001 -000 Hz Accuracy ±0.2 Hz)           Voltage         Accuracy         ± (0.2 Hz Accuracy ±0.2 Hz)           Accuracy         ± (0.2 Hz Accuracy ±0.2 Hz)         ± (0.2 Hz Accuracy ±0.2 Hz)           Accuracy         ± (0.2 Hz Accuracy ±0.2 Hz)         ± (0.2 Hz Accuracy ±0.2 Hz)           Accuracy         ± (1.2 Hz Accuracy ±0.2 Hz)         ± (1.2 Hz Accuracy ±0.2 Hz)           Accuracy         ± (1.2 Hz Accuracy ±0.2 Hz)         ± (1.2 Hz Accuracy ±0.2 Hz)           Current (peck)         Ange         ± (1.2 Hz Accuracy ±0.2 Hz)           Accuracy         ± (1.2 Hz Accuracy ±0.2 Hz)         ± (1.2 Hz Accuracy ±0.2 Hz)           Power         Accuracy         W / VA, Calculated and displayed to three significant digits           Power         Accuracy         W / VA, Calculated and displayed to three significant digits           Power         Accuracy         W / VA, Calculated and displayed to three significant digits           Power         Accuracy         4 (0.4 Vz)         4 (0.4 Vz)           Power         Accuracy         4 (0.4 Vz)         4 (0.4 Vz)				460XAC										
Vortage       Amage       0.000.0 V         Accurate (RMS)       Amage       0.05-An FacO         Accurate (RMS)       Accurate (RMS)       0.05 A-FacO         Accurate (RMS)       Accurate (RMS)       0.05 A-FacO         Accurate (RMS)       Accurate (RMS)       0.05 A-FacO         Accurate (RMS)       Accurate (RMS)       Solution (RMS)         Power       Accurate (RMS)       Solution (RMS)       Solution (RMS)         Accurate (RMS)       Accurate (RMS)       Solution (RMS)       Solution (RMS)         Power       Accurate (RMS)       Solution (RMS)       Solution (RMS)       Solution (RMS)         Power       Accurate (RMS)       Solution (RMS)       Solution (RMS)       Solution (RMS)         Power       Accurate (RMS)       Solution (RMS)       Solution (RMS)       Solution (RMS)         Power       Accurate (RMS)       Solution (RMS)       Solution (RMS)	Frequency	Range		0.0~1000 Hz										
Accuracy         Image         Image <thimage< th="">         Image         Image</thimage<>		Accuracy		± 0.1 Hz (501~1000 Hz Accuracy ±0.2 Hz)										
Current (PBM)     Parage     Units     Units       Accurate (PBM)     Accurate (PBM)     C - 13 and Cournet (PBM) at 00-500 Vr. C - 13 and Cournet (PBM) at 00-500 Vr. C - 13 and Cournet (PBM) at 00.500 Vr. C - 100 Vr. C -	Voltage	Range		0.0~420.0 V										
Accuracy         If 1% of reading +5 county at 400-500 Hz ±1% for reading +5 county at 400-500 Hz CF -13 and Carmed pasks 165.6 A           Current (pask)         Range         0.0.4-228.0 A           Power         Range         0.0.4-228.0 A           Range         0.0.4-228.0 A           Range         0.0.4-280.0 W           Power         Range         0.0.3.200 W           Rower         Range         0.0.3.200 W           Range         0.0.00 N         Range         0.0.00 N           Power         Range         0.0.00 N         Range           Reactive (0)         Range         0.0.00 N         0.0.00 N           Reactive (0)         Range         0.0.00 N         Calculated and displayed to two significant digits           Power         Range         C         0.0.00 N/C         Calculated and displayed to two significant digits           Power         Range         C         0.0.00 N/C         Calculated and displayed to two significant digits		Accuracy		$\pm$ (0.2% of reading + 3 counts)										
Answer         Answer         Answer           Current (peak)         Accuraty is 00 - 000 A - 28.0 A           Accuraty is 00 - 000 A - 28.0 A         1 (15% of reading + 5 counts) at 0.0 - 20.0 H           Accuraty is 00 - 000 A - 28.0 A         1 (15% of reading + 5 counts) at 0.0 - 20.0 H           Accuraty is 00 - 20.0 H and F = 0.2         1 (15% of reading + 10 counts) at 20 - 10.0 H           Accuraty is 00 - 20.0 H and F = 0.2         2 (100 H and F = 0.2)           Power Accuraty is 00 - 10.0 H and F = 0.2         2 (100 H and F = 0.2)           Accuraty is 00 - 10.0 H and F = 0.2         2 (100 H and F = 0.2)           Power Accuraty is 00 - 10.0 H and F = 0.2         2 (100 H and F = 0.2)           Power Accuraty is 00 - 10.0 H and F = 0.2         2 (100 H and F = 0.2)           Power Accuraty is 00 - 10.0 H and F = 0.2         2 (100 H and F = 0.2)           Power Accuraty is 00 - 10.0 H and F = 0.2         2 (100 H and F = 0.2)           Power Accuraty is 00 - 10.0 H and Accuraty H and Accuration H and Accuration H = 0.2         2 (100 H and F = 0.2)           Power Accuraty is 00 - 10.0 H and Accuration H = 0.2         2 (100 H and F = 0.2)           Power Accuraty is 00 - 10.0 H And Accurated and displayed to three significant digits         2 (100 H and F = 0.2)           Power Accuraty is 00 - 10.0 H And Accurated and Accurated and Accurated and Accurated and Accurated Accurated Accurated Acucuated Accurated Accurated Acucated Accurated Acucated	Current (RMS)	Range		0.05 A~78.00										
Current (peak) e1:05.0 A         Current (peak) e1:05.0 A           Current (peak) e1:05.0 A         Q.Q.A.228.0 A           Accurs/ + U         School (peak) e1:05.0 B           Power (Pack)         Accurs/ + U           Accurs/ + U         Accurs/ + U           Accurs/ + U         Accurs/ + U           Power (Pack)         Accurs/ + U           Accurs/ + U         Accurs/ + U <td></td> <td>Accuracy</td> <td></td> <td>± (1% of reading +5 counts) at 40.0~500 Hz</td>		Accuracy		± (1% of reading +5 counts) at 40.0~500 Hz										
Current (peak)         Range / U         0.0A-238.0A           Accuracy / U         1(% of reading + 5 count); #4.00-70.01 k; m (2+1.5)           Power         Accuracy / U         0.077800 W           Accuracy / U         1(% of reading + 5 count); #4.00-70.00 k; and (F=1.5)           Power         Accuracy / U         1(% of reading + 5 count); #4.00-70.00 k; and (F=1.5)           Power         Range / U         1(% of reading + 5 count); #4.00-70.00 k; and (F=1.5)           Power         Range / U         0.000 k; and (F=1.5)           Accuracy / U         (% count); #4.00-70.00 k; and (F=1.5)           Power         Range / U         0.000 k; and (F=1.5)           Accuracy / U         (% count); #4.00-70.00 k; and (F=1.5)           Power         Range / U         0.00 k-780.00 k;           Reacture / O         0.00 k-780.00 k;         0.00 k-780.00 k;           Reacture / C         COUNCA-780.00 k;         COUNCA-780.00 k;           Power         Range / U         COUNCA-780.00 k;           Reacture / C         COUNCA-780.00 k;         COUNCA-780.00 k;<														
Accuracy         1 (% of reading + 5 curit) at 400-900 Hz           Power         0W-7800 W           Accuracy         0W-7800 W           Accuracy         1/2% of reading + 5 curit) at 400-900 Hz and CF-15           Power Accuracy         1/2% of reading + 5 curit) at 400-900 Hz and CF-15           Accuracy         1/2% of reading + 5 curit) at 400-900 Hz and CF-15           Power Accuracy         0.00           Accuracy         0.000           Accuracy         0.000 Hz and CF-15           Power Accuracy         0.000 Hz and CF-15           Poly phase model (0.5W) for preside have to use significant digits           Poly phase model (0.5W) for preside have to use significant digits           Accuracy         5.0-300 VAC (fines) (10-000 Hz (hing), 150/300 V Auto Range           Accuracy         1.0000 Hz (hing), 150/300 V Auto Range           Accuracy         1.0000 Hz (hing), 150/	Current (peak)	Range		0.0 A~228.0 A										
Nove         Range         Image: Instance (1,5%) of reading +10 count) at 70.1-90.0Hz and CF-1.5           Power         Range: Image:				± (1% of reading + 5 counts) at 40.0~70.0 Hz										
Power         Rage         Image: Procession of the control of Add D=000 Hz and PF 20.2 ± (2% of reading +3 counts) at 40.0=000 Hz and PF 20.2 ± (2% of reading +3 counts) at 40.0=000 Hz and PF 20.2 ± (2% of reading +1 counts) at 40.0=000 Hz and PF 20.2 ± (2% of reading +1 counts) at 40.0=000 Hz and PF 20.2 ± (2% of reading +1 counts) at 40.0=000 Hz and PF 20.2 * (2% of reading +1 counts) at 40.0=000 Hz and PF 20.2 * (2% of reading +1 counts) at 40.0=000 Hz and PF 20.2 * (2% of reading +1 counts) at 40.0=000 Hz and PF 20.2 * (2% of reading +1 counts) at 40.0=000 Hz and PF 20.2 * (2% of reading +1 counts) at 40.0=000 Hz and PF 20.2 * (2% of reading +1 counts) At 40.0=000 Hz and PF 20.2 * (2% of reading +1 counts) At 40.0=000 Hz and PF 20.2 * (2% of reading +1 counts) At 40.0=000 Hz and PF 20.2 * (2% of reading +1 counts) At 40.0=000 Hz and PF 20.2 * (2% of reading +1 counts) At 40.0=000 Hz and PF 20.2 * (2% of reading +1 counts) At 40.0=000 Hz and PF 20.2 * (2% of reading +1 counts) At 2000 Hz and PF 20.2 * (2% of reading +1 counts) At 2000 Hz and PF 20.2 * (2% of reading +1 counts) At 2000 Hz and PF 20.2 * (2% of reading +1 counts) At 2000 Hz and PF 20.2 * (2% of reading +1 counts) At 2000 Hz and PF 20.2 * (2% of reading +1 counts) At 2000 Hz and PF 20.2 * (2% of reading +1 counts) At 2000 Hz and PF 20.2 * (2% of reading +1 counts) At 2000 Hz and PF 20.2 * (2% of reading +1 counts) At 2000 Hz and PF 20.2 * (2% of reading +1 counts) At 2000 Hz and PF 20.2 * (2% of reading +1 counts) At 20.2 * (2% of reading +1 co				± (1.5% of reading + 10 counts) at 70.1~500 Hz										
Acturacy         ± (2% of reading +5 counts) at 0.0–500 Hz and PF ±0.2 ± 12% of reading +15 counts) at 0.0–500 Hz and PF ±0.2 ± 12% of reading +15 counts) at 0.0–500 Hz and PF ±0.2 ± 12% of reading +15 counts) at 0.0–500 Hz and PF ±0.2 ± 12% of reading +15 counts) at 0.0–500 Hz and PF ±0.2 ± 12% of reading +15 counts) at 0.0–500 Hz and PF ±0.2 ± 12% of reading +15 counts) at 0.0–500 Hz and PF ±0.2 ± 12% of reading +15 counts) at 0.0–500 Hz and PF ±0.2 ± 12% of reading +15 counts) at 0.0–500 Hz and PF ±0.2 Hz and PF ± 10 Hz Hz +10				± (1.5% of reading + 10 counts) at 501~1000 Hz and CF<1.5										
Power Factor         Range         Image: Ima	Power	Range		0 W~7800 W										
Accuracy         W/V, Calculated and displayed to three significant digits           Power Apprent         Racturacy         Range         O/V-A Calculated value           Reactive (Control of the control of t		Accuracy												
Power Apparent         Range         Vextor         OVA-7800 VA           Reactive (u)         Accuracy         Constrained and an antipation of the second and antipation of the second antipation of th	Power Factor	Range		0 - 1.000										
Apparent         Accuracy         Weta         Calculated value           Power Reactive (0)         Accuracy >>         0 VAR-7800 VAR           Reactive (0)         Accuracy >>         0 VAR-7800 VAR           Reactive (0)         Accuracy >>         0 VAR-7800 VAR           Rearting (0)         Range >>         0 - 10.00           Accuracy >>         App A Calculated and displayed to two significant digits           Poly-phase mode (103W) for per phase obtow Use (103W) for per phase obtow Use (103W) for per phase obtow Use (102% of setting + 3 counts)           Poly-phase mode (103W) for per phase obtow Use (102% of setting + 3 counts)           Frequency         Range ->         460XAC           Range Accuracy >>         40.2% of setting + 3 counts)         Accuracy >>           Frequency         Range Accuracy +>         4.02% of setting + 3 counts)           Accuracy >>         Accuracy +>         4.02% of setting + 3 counts)           Accuracy +>         Accuracy +>         4.03% of setting + 3 counts)           Accuracy +>         Accuracy +>         4.000 += A40 A           Current RUIming Accuracy +>         5.0-300 VAC (Iphase) +>         4.000 += A40 A           Current RUIming Accuracy +>         Y->         4.000 +A20 A           Acuracy +>         Acuracy +>         4.000 +A200 A      <		Accuracy		W / VA, Calculated and displayed to three significant digits										
Notice       Notice       Notice         Ready       Range       0 VAR-2800 VAR         Ready       Accuracy       Accuracy       Accuracy         Poly-phase outputs test in provide and displayed to two significant digits       Accuracy       Accuracy       Accuracy         Poly-phase outputs test in provide and displayed to two significant digits       Accuracy       Acuracy <t< td=""><td></td><td>Range</td><td></td><td>0 VA~7800 VA</td></t<>		Range		0 VA~7800 VA										
Reactive (Q)         Accuracy         (√(A) <sup>2+</sup> (W) <sup>2</sup> , Calculated value           Crest Factor         Range          Ap / A Calculated and displayed to two significant digits           Poly-phase model (1/3) W) for per phase or U statting         Ap / A Calculated and displayed to two significant digits           Poly-phase model (1/3) W) for per phase or U statting         Af (A) (C) (C) (C) (C) (C) (C) (C) (C) (C) (C	Apparent	Accuracy		Accuracy		V×A, Calculated value								
Renge         Note of the second		Range		Range		0 VAR~7800 VAR								
Accuracy         Ap / A Calculated and displayed to two significant digits           Poly-phase mode (1933W) for per phase output is setting per phase output is setting         Ascuracy         Asource (1930W) Auto Range           Voltage         Range Accuracy         Common Comm	Reactive (Q)	Accuracy		Accuracy		Accuracy		Accuracy		Accuracy		Accuracy		$\sqrt{(VA)^2 - (W)^2}$ , Calculated value
Poly-phase mode (1003W) for per phase output setting     460XAC       Range     5.0-300 VAC (phase), 10.0-600 VAC (line), 150/300 V Auto Range       Accuracy     ± (0.2% of setting + 3 counts)       Frequency     Accuracy     ± (0.2% of setting + 3 counts)       Starting & Ending Phase Angle     Range     40-1000 Hz Full Range Adjust       Accuracy     ± 0.03% of setting       Starting & Ending Phase Angle     Sv-150V     0.359°       Sv-150V     0.01~1840 A       Current RL imit     Sv-300V     0.01~1840 A       Sv-150V     0.01~1840 A       Current RL imit     Sv-300V     6 of setting + 2 counts)       OC Fold Back Report         Poly-phase modulation         Poly-phase modulation         Poly-phase modulation         Poly-phase modulation         Poly-phase modulation         Range          Range          Poly-phase modulation          Poly-phase modulation          Poly-phase modulation          Poly-phase modulation          Poly-phase modulation	Crest Factor	Range		Range		Range		Range		Range		0 - 10.00		
per phase output setting         400000 40000 4000 Auto Range           Yoldage         Aange J         Science         Sci		Accuracy		Ap / A, Calculated and displayed to two significant digits										
Notage         Range         S.0-300 VAC (phase), 10.0-600 VAC (line), 150/300 V Auto Range           Accuracy         4				460XAC										
Range         Image         Image <th< td=""><td></td><td></td><td></td><td>5.0~300 VAC (phase), 10.0~600 VAC (line), 150/300 V Auto Range</td></th<>				5.0~300 VAC (phase), 10.0~600 VAC (line), 150/300 V Auto Range										
Accuracy       Accuracy       Image of the term of t	5													
Accuracy $4$ Accuracy $\pm$ $4$ Accuracy $\pm$ Starting & Ending Phase       Range $A$ Accuracy $\pm$ $4$ Accuracy $\pm$ Angle $A$ Accuracy $\pm$ $4$ Curacy $\pm$ $4$ Curacy $\pm$ Current RI Limit $5^{V-150}$ $V$ $0.01 - 18.40$ A $0.01 - 9.20$ A         Current RI Limit $5^{V-150}$ $V$ $0.01 - 9.20$ A $0.01 - 9.20$ A         Accuracy $V$ $0.01 - 9.20$ A $0.01 - 9.20$ A $0.01 - 9.20$ A         Accuracy $V$ $0.01 - 9.20$ A $0.01 - 9.20$ A $0.01 - 9.20$ A         OC Fold Back Resonance $V$ $0.01 - 9.20$ A $0.01 - 9.20$ A $0.01 - 9.20$ A         Poly phase mode (10/3W)       for per phase mode (10/2W)       for per phase mode (10/2W) <thr< td=""><td>Frequency</td><td>Range</td><td></td><td>40~1000 Hz Full Range Adjust</td></thr<>	Frequency	Range		40~1000 Hz Full Range Adjust										
	. ,	Accuracy		± 0.03% of setting										
	Starting &													
SV-300//acvectory $0.01-9.20 A$ Acuracy $1.02 + 3.00 $	Ending Phase	-		± 1°(45~65 HZ)										
		5V~150V		0.01~18.40 A										
OC Fold Back Response Time       <1.4 s	Current RI Limit	5V~300V		0.01~9.20 A										
OC Fold Back Response Time       <1.4 s														
Poly-phase measurement         Poly-phase measurement         Poly-phase measurement         Frequency       Range       0.0-1000 Hz         Accuracy       0.0-1000 Hz         Notage       Range       Colspan="2">Colspan="2"         Colspan="2">Colspan="2"       Colspan="2"       Colspan="2"       Colspan="2"        Colspan="2"        Colspan="2"        Colspan="2" <th col<="" td=""><td>OC Fold Back Re</td><td colspan="2"></td><td></td></th>	<td>OC Fold Back Re</td> <td colspan="2"></td> <td></td>	OC Fold Back Re												
Hore Add to the formation of the formatical data of the formation of the formatio	Poly-phase m	ode (1Ø3\	W) for											
Frequency $Accuracy$ $4ccuracy$ $120$ </td <td>per phase mea</td> <td colspan="2">per phase measurement</td> <td></td>	per phase mea	per phase measurement												
Accuracy $\Delta$ Accuracy $\Delta$ Curacy </td <td>Frequency</td> <td colspan="2">ency</td> <td></td>	Frequency	ency												
Voltage         Accuracy         ± (0.2% of reading + 3 counts)           Kange         L         0.005 A~2.400 A           H         2.00 A~26.00 A           Kange         L           L         L           L         2.00 A~26.00 A           L         L           L	•													
Accuracy         L         0.005 A~2.400 A           Range         L         0.005 A~2.600 A           Image         Image         0.005 A~2.600 A         0.005 A~2.600 A         0.005 A~2.600 A<	Voltage													
Range     H     2.00 A~26.00 A       Current (RMS)     L     L       Accuracy     L     ± (1% of reading +5 counts) at 40.0-500 Hz       ± (1% of reading +5 counts) at 501-1000 Hz, CF <1.5 and Current (peak) <7.2 A       ± (1% of reading +5 counts) at 40.0-500 Hz	-	Accuracy												
Current (RMS)       H       2.00 A~26.00 A         Accuracy       L       ± (1% of reading +5 counts) at 40.0-500 Hz         ± (1% of reading +5 counts) at 501-1000 Hz, CF <1.5 and Current (peak) <7.2 A		Range												
Current (RMS)       L       L       ± (1% of reading +5 counts) at 501-1000 Hz, CF <1.5 and Current (peak) ≤7.2 A			Н											
Accuracy $\pm$ (1% of reading +5 counts) at 501-1000 Hz, $CF < 1.5$ and Current (peak) $\leq 7.2$ A $\pm$ (1% of reading +5 counts) at 40.0-500 Hz														
Accuracy ± (1% of reading +5 counts) at 40.0-500 Hz	Current (RMS)		L	± (1% of reading +5 counts) at 501-1000 Hz, CF <1 5 and Current (neak) <7 2 A										
		Accuracy												
$CF < 1.5$ and $Current (peak) \le 55.2$ A			Н											
				$CF < 1.5$ and Current (peak) $\leq$ 55.2 A										

Poly-phase m per phase me			460XAC
	Range		0.0 A~76.0 A
Current (peak)	Accuracy		± (1% of reading + 5 counts) at 40.0-70.0 Hz ± (1.5% of reading + 10 counts) at 70.1-500 Hz ± (1.5% of reading + 10 counts) at 501-1000 Hz and CF <1.5
	_ L		0.0 W~240.0 W
	Range H		200 W~2600 W
Power	Accuracy	L	$\pm$ (2% of reading +15 counts) at 40.0-500 Hz and PF ≥0.2 $\pm$ (2% of reading +30 counts) at 501-1000 Hz and PF ≥0.5
		Н	$\pm$ (2% of reading +5 counts) at 40.0-500 Hz and PF ≥0.2 $\pm$ (2% of reading +15 counts) at 501-1000 Hz and PF ≥0.5
Power Factor	Range		0 - 1.000
	Accuracy		W / VA, Calculated and displayed to three significant digits
Dowor	Range	L	0.0 VA~240.0 VA
Power Apparent (VA)	nunge	Н	200 VA~2600 VA
	Accuracy		VxA, Calculated value
_	Danga	L	0.0 VAR~240.0 VAR
Power Reactive (Q)	Range	н	0 VAR~2600 VAR
neactive (Q)	Accuracy		$\sqrt{(VA)^2 - (W)^2}$ , Calculated value
Crest Factor	Range		0-10.00
	Accuracy		Ap / A, Calculated and displayed to two significant digits
Poly-phase m L1-L2 measure	ode (1Ø3W ement	/) for	460XAC
Frequency	Range		0.0-1000.0 Hz
	Accuracy		± 0.1 Hz (501-1000 Hz Accuracy ± 0.2 Hz)
Voltage	Range		0.0-840.0V
	Accuracy		L1 Voltage + L2 Voltage, Calculated and displayed to one significant digits
Current (RMS)	Range	L	0.005A~2.400A
current (nins)	nunge	Н	2.00~26.00A
	Calculated Formula		
		Н	$-\frac{\Sigma^{VA}}{\Sigma^{V}}$
Power	Range	L	0.0W~480.0W
	5	н	400W~5200W
	Accuracy	L H	L1 Power + L2 Power, Calculated value
Power Factor	Range		0 - 1.000
	Calculated F	ormula	(L1 P + L2 P) / (L1 VA + L2 VA), Calculated and displayed to three significant digits
Power	Range	L	0.0W~480.0VA
Apparent (VA)		Н	±400W~5200VA
	Calculated	L	
	Formula	Н	$\sqrt{(\sum^W)^2 + (\sum^Q)^2}$ Calculated value
Power	Danga		0.0VAR ~ ± 480.0VAR
Reactive (Q)	Range	L	
	<u></u>	Н	± 400VAR ~ ± 5200VAR
	Calculated Formula	L H	L1 VAR + L2 VAR, Calculated value
DC OUTPUT			
Max. Power			6000 W
Max. Current	0-21	0 V	28.8 A
	0-42	0 V	14.4 A
Ripple and Nois	e (RMS)		Range: 5-210 V <700 mV
			Range: 5-420 V <1100 mV
Ripple and Noise (p-p)			<4.0 Vp-p
<b>DC SETTINGS</b>			
Voltage	Range		5-210 V / 5-420 V Selectable
	Accuracy		$\pm (0.2\% \text{ of setting + 3 counts})$
	5 V-210 V		0.10 - 28.80 A
Current Hi	5 V-420 V		0.10 - 22.00 A
Limit	Accuracy		± (2.0% of setting + 2 counts)
OC Fold Back Re	sponse Time	e	<1.4 s

DC MEASURE	MENT	460XAC				
Voltage	Range	0.0-420.0 V				
	Accuracy	$\pm$ (0.2% of setting + 5 counts)				
Current	Range	0.05 A~39.00 A				
	Accuracy	± (1% of reading +5 counts)				
Power	Range	0 W~7800 W				
	Accuracy	± (2% of reading +5 counts)				
PROTECTION						
Software OCP		Over Current 110% of full rated current >1 second				
Output Short Sh	nut Down Speed	<1 second				
Software OPP	•	When over Power 105 ~ 110% of full power >5 second.				
		When over Power >110% of full power <1 second.				
Software OTP		Temperature over 120 degree C on the power amp and PFC heatsink				
Software OVP		When output frequency < 100Hz, maximum voltage deviation + 5V				
	L	When output frequency 101-500Hz, maximum voltage deviation + 15V				
		When output frequency 501-1000Hz, maximum voltage deviation + 20V				
		When output frequency < 100Hz, maximum voltage deviation + 10V				
	н	When output frequency 101-500Hz, maximum voltage deviation + 30V				
		When output frequency 501-1000Hz, maximum voltage deviation + 40V				
Software LVP		When output frequency < 100Hz, maximum voltage deviation -5V > 0.5 second				
	L	When output frequency 101-500Hz, maximum voltage deviation -15V > 0.5 second				
		When output frequency 501-1000Hz, maximum voltage deviation -20V > 0.5 second				
		When output frequency < 100Hz, maximum voltage deviation -10V > 0.5 second				
	н	When output frequency 101-500Hz, maximum voltage deviation -30V > 0.5 second				
		When output frequency 501-1000Hz, maximum voltage deviation -40V > 0.5 second				
<b>Reverse Current</b>	Protection (RCP)	Over 75W				
GENERAL						
Transient (only f	or 40~70 Hz)	Trans-Volt 0.0-300.0 V Resolution 0.1 V				
	,	Trans-Site 0°~359° Resolution 1°				
		Trans-Time 0.5-999.9 mS Resolution 0.1 mS				
		Trans-Cycle 0-9999, 0-Constant				
Operation Key F	eature	Soft key, Numeric key, Rotary Knob				
Remote Input Si		Test, Reset, Interlock, Recall program memory 1 through 7				
Remote Output	-	Pass, Fail , Test-in Process				
Key Lock	5	Yes, Password Driven				
Memory		50 memories, 9 steps/memory				
Ext Trigger		START / END / BOTH / OFF in the Program mode, Output Signal 5 V, BNC type				
Alarm Volume S	ettina	Range: 0-9; 0 = OFF, 1 is softest volume, 9 is loudest volume.				
Graphic Display		240 x 64 dot resolution Monographic LCD/Contrast 9 Levels 1-9				
PFC		PF ≥0.97 at Full load				
Efficiency		≥78% (at Full load)				
Auto Loop cycle		0 = Continuous, OFF, 2~9999				
Over Current Fold Back		On/Off, Setting On when output current over setting Hi-A value it will fold back output voltage to keep constant output current is setting Hi-A value,				
Safatu Area		Response time <1400ms				
Safety Agency		CE Listed				
Dimensions (W)	XHXD)	430 x 400.5 x 500 mm				
		16.93 x 15.77 x 19.69 in				
Net Weight		125.6 lbs (57 kg)				
Operation Envir	onment	0-40°/20-80% RH				

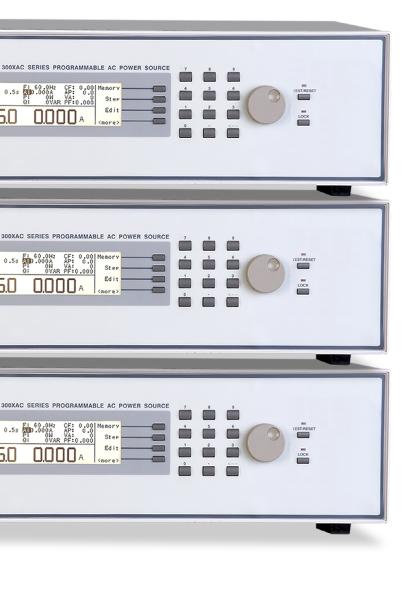
Specifications subject to change

Why We Use Counts APT publishes some specifications using "counts" which allows us to provide a better indication of the tester's capabilities across measurement ranges. A count refers to the lowest resolution of the display for a given measurement range. For example, if the resolution for voltage is 1V then 2 counts = 2V.

# **300XAC Series** (E @ CTELLS

#### Modular AC Power Sources

Our 300XAC Series modular AC power sources incorporate the latest in modular technology, making them ideal for the most demanding applications. These versatile AC power sources can be configured for 1Ø stand-alone operation or linked together for up to 5.4 kVa of AC power in 1Ø or up to 6 kVA of AC power in 3Ø output configurations.



#### **Features**

- Modular design allows operator to connect up to 3 instruments together for 1Ø or 3Ø applications requiring up to 18kVA of AC power
- Configure 2 sources for 1Ø/2W output voltages up to 600VAC
- 50 built-in memory locations with 9 test steps
- Standard DC output capability
- Transient feature simulates voltage variations, brownouts, and transient voltage conditions
- Constant current output with over current fold back feature
- Rack mount handle kit included

#### Standard

USB/RS-232 Interface

#### Options

- Grounded Neutral
- GPIB Interface
- Ethernet Interface
- Linking Card
- 7 Remote Memories

owerTRAC AVAILABLE





Applicable





Appliance







System Integrator

## The Modular AC Source Advantage

#### What is a modular AC power source?

We use the term modular to define the capability of our 300XAC Series to be interconnected. The interconnection among up to three individual 300XAC Series Power Sources, allows for higher power outputs and different power configurations than an individual instrument could allow for Parallel or Polyphase modes.

#### What is Parallel mode?

Parallel mode allows the operator to increase the output current of the system by a factor of 2 or 3 depending on the number of sources that are interconnected.

#### What is Polyphase mode?

Polyphase mode allows the operator to increase the total power output of the system as well as change the output power configuration of the system.



#### SmartDETECT

This exclusive feature automatically determines how many power sources are linked together. After the check is completed the 300XAC Series will automatically change the programming output function based on the number of linked sources.

#### SmartCONFIG Feature

This exclusive feature allows the operator to easily change the output of the linked sources to Parallel or Polyphase mode with the push of a button.

#### Main/Secondary Relationship

The main/secondary relationship between linked 300XAC instruments synchronizes the firmware of each power source so the output and phase angle separation is regulated. It also gives the operator the capability to program parameters for all linked sources from the front panel of the master instrument.

#### **Exclusive Linking Card (option 08)**

With the Linking Card option installed, up to three 300XAC instruments can be interconnected for Parallel or Polyphase output.

#### Benefits

- Easy to change from 1Ø to 3Ø output
- No need to have separate sources for 1Ø to 3Ø applications
- Allows for future expansion if power requirements change
- Greater mobility of the AC power sources
- Ability to generate 3Ø power if only 1Ø is available

## Make Linking Your 300XAC A Breeze.

Download our Linking Guide at aptsources.com/300XAC



INPUT			310XAC	320XAC		
Phase	e		10			
Voltage			100 - 240 VAC ±1	100 - 240 VAC ±10%		
Frequency			47 - 63 Hz			
OUTPUT						
Voltage			5 - 300 V			
Max Power			1 kVA	2 kVA		
Max Current 1Ø	0 - 150 V		9.2 A @ ≤110 V	18.4 A @ ≤110 V		
	0 - 300 V		4.6 A @ ≤220 V	9.2 A @ ≤220 V		
Phase			1Ø (Parallel/Poly-Phase Linking for 1Ø3W or 3Ø4W)			
Frequency			40.0 - 1000 Hz			
THD			<1% (Resistive Lo	ad)		
Crest Factor			Inrush CF ≥3 at 110 V, Continuous C	Current CF ≥3 at 110 V		
Line Regulation			±0.1 V			
Load Regulation			± 0.5 V			
DC OUTPUT VOL	TAGE					
Voltage			5 - 420 V			
Max Power			1000 W	2000 W		
Max Current 1Ø	0 - 210 V		4.8 A	9.6 A		
	0 - 420 V		2.4 A	4.8 A		
Ripple & Noise (Pea	k to Peak)		<3.0 V			
MEASUREMENT						
\/_l+	Range		0.0 - 400.0 V			
Voltage	Accuracy		± (1% of reading + 2 co	unts) >5 V		
	Range		0.0 - 1000 Hz			
Frequency	Accuracy		0.0 - 500 Hz ± 0.1 Hz, 501 - 10	0.0 - 500 Hz ± 0.1 Hz, 501 - 1000 Hz ± 0.2 Hz		
	Range		0.005 A - 13.00 A	0.005 A - 26.00 A		
Current (RMS)	Accuracy		± (1% of reading + 5 counts)			
	Range		0.0 A - 38.0 A 0.0 A - 76.0 A			
Current Peak	Accuracy			± (1% of reading + 5 counts)		
	Range		0.0 W - 1300 W	0.0 W - 2600 W		
Power	nange		± (2% of reading + 15 counts) at PF ≥0.2			
rowei	Accuracy	L				
		Н	± (2% of reading + 5 coun			
Power Apparent (VA)	Range		0.0 VA - 1300 VA	0.0 VA - 2600 VA		
Apparent (VA)	Calculated For	mula	V×A, Calculated v	alue		
Power	Range		0.0 VAR - 1300 VAR	0.0 VAR - 2600 VAR		
Reactive (Q)	Calculated For	mula	$\sqrt{(VA)^2-(W)^2}$ , Calculated value			
	Range		0.000 - 1.000			
Power Factor	Calculated For	mula	W/VA, Calculated and displayed to three significant digits			
	Range		0.0 - 10.0			
Crest Factor	Accuracy			0.0 - 10.0 A peak / Arms, Calculated and displayed to two significant digits		
OPTIONS	Accuracy			A peak / Arris, Calculated and displayed to two significant digits		
	<b>C</b>	2				
Grounded Neutral	Option		All Models			
GPIB Interface			All Models			
7 Remote Memory Option 4			All Models			
Ethernet Interface Option 6			All Models			
Linking Card Option 8		18	All Models			
GENERAL						
Operation Environr	nent		0 - 40°C / 20 - 80%	6 RH		
Dimensions (W×H	x D)		16.92 x 5.26 x 20.87 in	16.92 x 5.26 x 20.87 in		
			430 x 133.5 x 530 mm	430 x 133.5 x 530 mm		
Net Weight			47.16 lbs (21 kg)	49 lbs (22 kg)		

Linking Parallel Output 1Ø2W			310XAC	320XAC	
Linked Unit			2 - 3 Units, 1Ø2W (L1 - N)		
Voltage	Phase		5 - 300 V		
Power	# Units	#Upits	1.8 kVA	3.6 kVA	
Max	# 011123	3	2.7 kVA	5.4 kVA	
Max Current	0 - 150 V	L(2)	14.72 A @ 20 V -110 V	29.44 A @ 20 V -110 V	
		L(3)	22.08 A @ 20 V - 110 V	44.16 A @ 20 V - 110 V	
Line (RMS)	0 - 300 V	H(2)	7.36 A @ 20 V - 220 V	14.72 A @ 20 V - 220 V	
		H(3)	11.04 A @ 20 V - 220 V	22.08 A @ 20 V - 220 V	
Linking	Polyphase (	Output 1Ø3W	310XAC	320XAC	
Linked Units			2 Units @ 180°,	1Ø3W (L1-L2 - N)	
Voltage	Phase		10 -	600 V	
	Line		5 -	300 V	
Power	Max		2 kVA	4 kVA	
Max Current Phase	0 - 300 V	L(1)	9.2 A @ ≤110 V	18.4 A @ ≤110 V	
	0 - 600 V	H(1)	4.6 A @ ≤220 V	9.2 A @ ≤220 V	
Max Current Line	0 - 300 V	L(2)	9.2 A @ ≤220 V	18.4 A @ ≤220 V	
	0 - 600 V	H(2)	4.6 A @ ≤440 V	9.2 A @ ≤440 V	
Linking Polyphase Output 3Ø4W			310XAC	320XAC	
Linked Units			3 Units @ 120°, 3Ø4W (L1-L2-L3 - N)		
Voltage	Phase		5 - 300 V		
	Line		5 - 520 V		
Power	Max		3 kVA	6 kVA	
Max Current Phase	0 - 150 V	L(1)	9.2 A @ ≤110 V	18.4 A @ ≤110 V	
	0 - 300 V	H(1)	4.6 A @ ≤220 V	9.2 A @ ≤220 V	
Max Current Line	0 - 150 V	L(3)	9.2 A @ ≤190.5 V	18.4 A @ ≤190.5 V	
	0 - 300 V	H(3)	4.6 A @ ≤381 V	9.2 A @ ≤381 V	
Max Current Phase Delta	0 - 260 V	L(3)	5.31 A @ ≤190.5 V	10.62 A @ ≤190.5 V	
	0 - 520 V	H(3)	2.65 A @ ≤381 V	5.31 A @ ≤381 V	
	Parallel DC	Output 1Ø2W	310XAC	320XAC	
Linked Units				1Ø2W (L1 - N )	
Voltage Power	Line			420 V	
Power Max	# Units	2	1.8 kVA	3.6 kVA	
		3	2.7 kVA	5.4 kVA	
Max Current	0 - 210 V	L(2)	7.68 A @ 50 V - 210 V	15.36 A @ 50 V - 210 V	
Line		L(3)	11.52 A @ 50 V - 210 V	23.04 A @ 50 V - 210 V	
	0 - 420 V	H(2)	3.84 A @ 50 V - 420 V	7.68 A @ 50 V - 420 V	
		H(3)	5.76 A @ 50 V - 420 V	11.52 A @ 50 V - 420 V	

Measurement (To Linking Parallel 1			310XAC 320XAC		
Voltage	Range		0.0 - 400.0 V		
	Accuracy		± (1% of reading + 2 counts) >5 V		
Frequency	Range		0.0 - 1000.0 Hz		
	Accuracy	L	± 0.1 Hz @ 0.0 - 500 Hz		
	-	Н	± 0.2 Hz @ 501 - 1000 Hz		
Current (RMS)	Range	2	0.00 A - 26.00 A	0.00 A - 52.00 A	
		3	0.00 A - 39.00 A	0.00 A - 78.00 A	
	Accuracy	L		15 counts) x # of Linked Units Hz & Current is >1.0 A	
		Н		15 counts) x # of Linked Units Hz & Current is >5.00 A	
Power (W)	Range	2	0 W - 2600 W	0 W - 5200 W	
		3	0 W - 3900 W	0 W - 7800 W	
	Accuracy			d Units) at PF ≥0.2, 40 - 500 Hz, and Current >5.0 A I Units) at PF ≥0.3, 501 - 1000 Hz, and Current >5.0 A	
Power Apparent	Range	2	0 W - 2600 VA	0 W - 5200 VA	
(VA)		3	0 W - 3900 VA	0 W - 7800 VA	
	Accuracy		V x A, C	alculated Value	
Power Reactive (Q)	Range	2	0 W - 2600 VA	0 W - 5200 VA	
		3	0 W - 3900 VA	0 W - 7800 VA	
	Accuracy		$\sqrt{(VA)^2}$ - (W) <sup>2</sup> , Calculated Value		
Power Factor	Range		0 - 1.000		
	Accuracy		W / VA, Calculated and displayed to three significant digits		
Measurement (Total) Linking Polyphase 1Ø3W			310XAC	320XAC	
Voltage	Range	2	L1 Voltage + L2 Voltage		
	Accuracy		Summation of linked sources, Calculated and displayed to one significant digit		
Frequency	Range		0.0 - 1000.0 Hz		
	Accuracy	L	± 0.1 Hz @ 0.0 - 500 Hz		
		н	± 0.2 Hz @ 501 - 1000 Hz		
Current (RMS)	Range	2	(L1 Curren	nt + L2 Current)/2	
	Accuracy ± (1% of reading + 5 counts) at 40 - 70 Hz ± (1% of reading + 5 counts) at 70.1 - 500 Hz, and output current (RMS) >0.200 A ± (1% of reading + 5 counts) at 501 - 1000 Hz, and output current (RMS) >0.300 A		- 500 Hz, and output current (RMS) >0.200 A		
Power (W)	Range 2		L1 Power + L2 Power		
	Accuracy 2		L1 Power + L2 F	Power, Calculated Value	
Power Apparent	Range	2	L1 VA + L2 VA		
(VA)	Accuracy	2	L1 VA + L2 VA, Calculated Value		
Power Reactive (Q)	Range	2	L1 V	/AR + L2 VAR	
Tower Reactive (Q)	Accuracy	2	L1 VAR + L2 V	/AR, Calculated Value	
Power Factor	· ·		0 - 1.000		
Power Factor	Range			0 - 1.000	

Measurement (Total) Linking Polyphase 3Ø4W			310XAC	320XAC		
Voltage Range			(A+B+C)/3			
	Accuracy		(A+B+C)/3, Calculated and displayed to one significant digit			
Frequency	Range		0.0 - 1000.0 Hz			
	Accuracy L		± 0.1 Hz @ 0.0 - 500 Hz			
		Н	± 0.2 Hz @ 501 - 1000 Hz			
Current (RMS)	Range		(,	A+B+C)/3		
	Accuracy		$\pm$ (1% of reading + 5 counts) at 40 - 70 Hz $\pm$ (1% of reading + 5 counts) at 70.1 - 500 Hz, and output current (RMS) >0.200 A $\pm$ (1% of reading + 5 counts) at 501 - 1000 Hz, and output current (RMS) >0.300 A			
Power (W)	Range		A Power +	B Power + C Power		
	Accuracy		Calculated Value			
Power Apparent	Range		A VA + B VA + C VA			
(VA)	Accuracy		Calculated Value			
Power Reactive (Q)	Range		A VAR + B VAR + C VAR			
	Accuracy		Calculated Value			
Power Factor	Range		0 - 1.000			
	Accuracy		Sum P / Sum VA, Calculated and displayed to three significant digits			
Measurement (To Linking Parallel D			310XAC	320XAC		
Voltage	Range		0.0 - 420.0 V			
	Accuracy		± (1% of reading + 2 counts) >5 V			
Current (RMS)	Range	2	0.05 A - 26.00 A	0.05 A - 52.00 A		
		3	0.05 A - 39.00 A	0.05 A - 78.00 A		
	Accuracy		± (1% of reading + 5 counts) x # of Linked Units, Current >1.00 A			
Power (W)	Range	2	0 W - 2600 W	0 W - 25200 W		
		3	0 W - 3900 W	0 W - 7800 W		
	Accuracy		± (2% of reading + 5 counts) x # of Linked Units			

Specifications subject to change

#### Why We Use Counts

APT publishes some specifications using "counts" which allows us to provide a better indication of the tester's capabilities across measurement ranges. A count refers to the lowest resolution of the display for a given measurement range. For example, if the resolution for voltage is 1V then 2 counts = 2V.

Key L = Low Limit Range H = High Limit Range

L (2) = Low Limit Range 2 Units Linked L (3) = Low Limit Range 3 Units Linked

H (2) = High Limit Range 2 Units Linked H (3) = High Limit Range 3 Units Linked 2 = 2 Units Linked 3 = 3 Units Linked

# 7000 Series (E @ CEES

#### Automated AC Power Sources

Our 7000 Series automated AC power sources are ideal for advanced applications at a competitive price. Switch-mode technology and a direct coupled output make these sources lightweight and efficient for use on the bench-top or in a rack mount system. The graphic LCD display provides metering data on the front panel and the easy-to-use local interface allows operators to get tests up and running quickly.

#### Features

- 50 built-in memory locations with 9 test steps
- Surge/Drop features simulate voltage variations, brownouts and transient voltage conditions
- Programmable starting and ending angle of the output sine wave
- Metering circuits monitor voltage, current, peak current, power, apparent power, reactive power, power factor, and crest factor
- Constant current output with over current fold back feature
- Front panel lockout via password protection
- Rack mount handle kit included



#### Options

Grounded Neutral

7 Remote Memories

- GPIB Interface
- Ethernet Interface





#### Applicable



#### **APT Benefits**



#### Specifications – 7000 Series

INPUT	IPUT		7004	7008	7016	7040	
Phase	Phase		1Ø				
Voltage		115/230 VAC ± 10% 230 VAC ± 10%			AC ± 10%		
Frequency			47 – 500 Hz				
OUTPUT							
Voltage			0 -	300 V	5 -	300 V	
Max Power			400 VA* 800 VA*		1600 VA* 4000 VA		
Max Current 1Ø	0 - 150 V		4.6 A @ ≤110 V	9.2 A @ ≤110 V	18.4 A @ ≤110 V	36.8 A @ ≤110 V	
	0 - 300 V		2.3 A @ ≤220 V	4.6 A @ ≤220 V	9.2 A @ ≤220 V	18.4 A @ ≤220 V	
Phase			1Ø				
Frequency				40.0 -	500 Hz		
THD				< 1% (Resi	istive Load)		
Crest Factor				2	≥3		
Line Regulation				±C	).1 V		
Load Regulation				± (0.5% of output + 0	).5 V) at Resistive Load		
MEASUREMENT							
	Range			0.0 - 4	100.0 V		
Voltage	Accuracy				± (1% of readin	ig + 5 counts) >5V	
-	Range		0.0 - 500 Hz				
Frequency	Accuracy		± 0.1 Hz				
Comment (DMC)	Range		0.005 A - 6.50 A	0.005 A - 13.00 A	0.05 A - 26.00 A	0.05 A - 52.00 A	
Current (RMS)	Accuracy			± (1% of readi	ing + 5 counts)		
Current Peak	Range		0.0 A - 19.0 A	0.0 A - 38.0 A	0.0 A - 76.0 A	0.0 A - 152.0 A	
Current Peak	Accuracy		± (1% of reading + 5 counts)				
	Range		0.0 W - 650 W	0.0 W - 1300 W	0.0 W - 2600 W	0.0 W - 5200 W	
Power	Accuracy	L	± (2% of reading +	15 counts) at PF >0.2	± (2% of reading + 30 counts) at PF >0.2	± (2% of reading + 5 counts) at PF	
		Н	$\pm$ (2% of reading -	- 5 counts) at PF >0.2	± (2% of reading + 10 counts) at PF >0.2	≥0.2 Voltage >5 V Current >0.05 A	
Power Factor	Range				- 1.000		
	Accuracy		W/VA, Calculated and displayed to three significant digits				
GENERAL							
Rackmount Handle	es			Star	ndard		
USB/RS-232 Interfa	ice		Standard				
Lockout			Key lockout or password protection				
Front Output		Universal Receptacle	Universal Receptacle	Universal Receptacle	-		
Efficiency			≥80% (at Full Load)				
Operation Environment				0-40°C/2	20 - 80% RH		
Dimensions (W x H	I x D)		16.92 x 3.50 x 15.75 in	16.92 x 3.50 x 15.75 in	16.92 x 3.50 x 19.69 in	16.92 x 8.74 x 19.69 in	
			430 x 89 x 400 mm	430 x 89 x 400 mm	430 x 89 x 500 mm	430 x 222 x 500 mm	
Net Weight			36.4 lbs (16.5 kg)	40 lbs (18.2 kg)	66 lbs (30 kg)	143.3 lbs (65 kg)	

Specifications subject to change

\*Output Power and Power Factor Considerations The reactive output power specification of models 7004, 7008, and 7016 change depending on the power factor of the load. While the 7004, 7008, and 7016 are specified as 400 VA, 800 VA, and 1.6 kVA units respectively, they can actually output up to 25% more reactive power based on the power factor of the load, thus keeping the real power under the specified limit. The reactive power is at its peak when the power factor = 0.8. See chart below for more information:

#### Why We Use Counts

APT publishes some specifications using "counts" which allows us to provide a better indication of the tester's capabilities across measurement ranges. A count refers to the lowest resolution of the display for a given measurement range. For example, if the resolution for voltage is 1V then 2 counts = 2V.

	7004	7008	7016
Output Power at pf ≤ 0.8	500 VA @ ≤400 W	1000 VA @ ≤800 W	2000 VA @ ≤1600 W
Output Power at pf > 0.8	400 VA @ ≤400 W	800 VA @ ≤800 W	1600 VA @ ≤1600 W

# 6000 Series

#### Automated AC Power Sources

Our 6000 Series of automated AC power sources are ideal for applications where PC control is ideal to capture metering and testing results from the source. We provide LabVIEW drivers and PowerTRAC<sup>™</sup> software free of charge, to assist you in getting your power source up and running in no time. Our simple to use front panel interface is ideal for customers that are not interested in using a PC and need the flexibility to operate the source at a moments notice for quick testing.







#### **Features**

- 50 built-in memory locations with 9 test steps
- DC output capability (optional)
- Surge/Drop features simulate voltage variations, brownouts and transient voltage conditions
- Programmable starting and ending angle of the output sine wave
- Metering circuits monitor voltage, current, peak current, power, apparent power, reactive power, power factor, and crest factor
- Constant current output with over current fold back feature
- Front panel lockout via password protection
- Rack mount handle kit included

#### Standard

USB/RS-232 Interface

#### **Options**

- 230 VAC ± 10%
- Grounded Neutral
- GPIB Interface
- 7 Remote Memories
- Ethernet Interface
- DC Output

#### Applicable





Appliance







#### **APT Benefits**



online aptsources.com

#### Specifications - 6000 Series

INPUT		6010	6020	6040	
Phase		1Ø			
Voltage		115/230 VAC ± 10% 208 VAC ± 10%			
Frequency		47 – 500 Hz			
OUTPUT					
Voltage		0 - 300 V	5 - 3	00 V	
Max Power		1 kVA	2 kVA	4 kVA	
Max Current 1Ø	0 - 150 V	9.2 A @ ≤110 V	18.4 A @ ≤110 V	36.8 A @ ≤110 V	
	0 - 300 V	4.6 A @ ≤220 V	9.2 A @ ≤220 V	18.4 A @ ≤220 V	
Phase		10			
Frequency			47 - 500 Hz		
THD			<1% (Resistive Load)		
Crest Factor			≥3		
Line Regulation			± 0.1 V		
Load Regulation			$\pm$ (0.5% of output + 0.5 V) at Resistive Load		
MEASUREMENT					
Voltage	Range		0.0 - 400.0 V		
	Accuracy	± (1% of reading + 2 counts)		+ 5 counts) >5 V	
Frequency	Range		0.0 - 500 Hz		
. ,	Accuracy	± 0.1 Hz			
Current (RMS)	Range	0.005 A - 13.00 A	0.05 A - 26.00 A	0.05 A - 52.00 A	
	Accuracy		± (1% of reading + 5 counts)		
Current Peak	Range	0.0 A - 38.0 A	- 38.0 A 0.0 A - 76.0 A 0.0 A - 152.0 A		
	Accuracy		± (1% of reading + 5 counts)		
Power	Range	0.0 W - 1300 W	0.0 W - 2600 W	0.0 W - 5200 W	
	Accuracy L	± (2% of reading + 30 counts)			
	Н	± (2% of reading + 10 counts)	$\pm$ (2% of reading + 5 counts )		
Power Factor	Range	0.000 - 1.000			
	Accuracy	W/VA, Calculated and displayed to three significant digits			
GENERAL					
Rack Mount Kit		Standard			
USB/RS-232 Interfa	ace	Standard			
Lockout		Key lockout or password protection			
Efficiency		≥80% (at Full Load)			
Operation Environ	ment		0 - 40°C / 20 - 80% RH		
Dimensions (W x H	H x D)	16.92 x 3.50 x 15.75 in	16.92 x 3.50 x 19.69 in	16.92 x 8.74 x 19.69 in	
		430 x 89 x 400 mm	430 x 89 x 500 mm	430 x 222 x 500 mm	
Net Weight		40 lbs (18.2 kg)	66 lbs (30 kg)	143.3 lbs (65 kg)	
DC OUTPUT VO	LTAGE				
Voltage			0-400 V		
Max Power		500 W	1000 W	2000 W	
Max Current	0 - 200 V	4.6 A	9.2 A	18.4 A	
	0 - 400 V	2.3 A	4.6 A	9.2 A	
Ripple & Noise (RMS)		0 - 200 V <250 mV & 0 - 400 V <400 mV	0 - 200 V <350 mV &	& 0 - 400 V <400 mV	

Specifications subject to change

Why We Use Counts APT publishes some specifications using "counts" which allows us to provide a better indication of the tester's capabilities across measurement ranges. A count refers to the lowest resolution of the display for a given measurement range. For example, if the resolution for voltage is 1V then 2 counts = 2V.

# 5000 Series

## Manual AC Power Sources

Our 5000 Series manual AC power sources are lightweight and efficient while providing a robust feature set. Ideal for benchtop applications, they feature four LED displays that monitor voltage, current, frequency, power, and power factor. The easyto-use local push-button interface allows you to quickly set-up and change parameters with ease while built-in safety features protect the instrument, the operator, and the DUT ensuring a safe work environment.

#### **Features**

- 3 built-in memory locations to store and quickly recall test parameters
- LED displays monitor voltage, current, frequency, and power / power factor
- Independent, adjustable high and low limits for voltage, current, and frequency
- Power Up feature configures the output relay for quick and efficient testing
- Constant current output with over current fold back feature
- Front panel lockout



#### **Options**

- 230 VAC ± 10%
- Grounded Neutral

#### Applicable





Laboratory







#### Medical

#### **APT Benefits**



#### Specifications – 5000 Series

INPUT		5005 5010 5020		5040		
Phase			1Ø			
Voltage		115/230 VAC ± 10% 208 VAC ± 10%				
Frequency		47 - 500 Hz				
OUTPUT						
Voltage		0-	300 V	5 -	300 V	
Max Power		500 VA 1 kVA		2 kVA	4 kVA	
Max Current 1Ø	0 - 150 V	4.6 A @ ≤110 V	9.2 A @ ≤110 V	18.4 A @ ≤110 V	36.8 A @ ≤110 V	
	0 - 300 V	2.3 A @ ≤220 V	4.6 A @ ≤220 V	9.2 A @ ≤220 V	18.4 A @ ≤220 V	
Phase			10			
Frequency			40.0 - 4	450 Hz		
THD			<1% (Resis	tive Load)		
Crest Factor			2	3		
Line Regulation			±0	.1 V		
Load Regulation			± (0.5% of output + 0	.5 V) at Resistive Load		
MEASUREMENT						
Voltage	Range		0.0 - 4	00.0 V		
	Accuracy	± (1% of read	ling + 2 counts)	± (1% of readir	ng + 5 counts) >5V	
Frequency	Range		0.0 - 5	00 Hz		
	Accuracy		±0.	1 Hz		
Current (RMS)	Range	0.00 A - 6.50 A	0.00 A - 13.00 A	0.00 A - 26.00 A	0.05 A - 52.00 A	
	Accuracy		± (1% of readi	ng + 5 counts)		
Power	Range	0.0 W - 650 W	0.0 W - 1300 W	0.0 W - 2600 W	0.0 W - 5200 W	
	Accuracy	$\pm$ (2% of reading + 10 counts) at PF $\ge$ 0.2				
Power Factor	Range	0.000 - 1.000				
Accuracy			W/VA, Calculated and display	ved to three significant digits		
GENERAL						
Lockout			Key lo	ckout		
Inrush Current		4 times the max rated current				
Enhanced Over Loa	d Protection	4 times of rating current, Over Current 110% can be held for 1000ms w/o shutdown of output				
Over Current Foldb	ack	Constant Current Mode (Voltage output varies to maintain current output based on load)				
Memories		3 Programmable Memory Locations				
Front Output				Receptacle		
Rear Output		-	-	Universal Receptacle	Terminal Block	
Displays		4 LED Displays				
Operation Key Feat	ure	Up/Down Arrow Keys				
Voltage Limits		Programmable High & Low Limits				
Frequency Limits Power Up Sottings		Programmable High & Low Limits Specify Output Power Condition on Power Up (On, Off, Last)				
Power Up Settings Protection Circuits		Over Current, Over Voltage, Over Power, Over Temperature				
Efficiency		≥80% (at Full Load)				
Operation Environment			0-40°C/2			
Dimensions (W x H		16.92 x 3.50 x 11.81 in	16.92 x 3.50 x 15.75 in	16.92 x 3.50 x 19.69 in	16.92 x 8.74 x 19.69 in	
	,	430 x 89 x 300 mm	430 x 89 x 400 mm	430 x 89 x 500 mm	430 x 222 x 500 mm	
NotWeinht						
Net Weight		36.4 lbs (16.5 kg)	40 lbs (18.2 kg)	66 lbs (30 kg)	143.3 lbs (65 kg)	

Specifications subject to change

Why We Use Counts APT publishes some specifications using "counts" which allows us to provide a better indication of the tester's capabilities across measurement ranges. A count refers to the lowest resolution of the display for a given measurement range. For example, if the resolution for voltage is 1V then 2 counts = 2V.

# VariPLUS®

#### Power Converter

The VariPLUS<sup>®</sup> is a power converter specifically designed for testing in the production line or laboratory environment. The VariPLUS out performs the traditional variable transformer on multiple levels that include metering, automatic voltage, and frequency adjustments to the load. Easily produce variable output voltages between 0-300 VAC with selectable frequency at 50/60 Hz to satisfy your product testing requirements. Simple adjustments are made through dedicated keys and a rotary knob. The universal receptacle provides multi-national connections while providing operator protection.





#### **Features**

- Isolated output ensures the power provided to the DUT is free from distortion, voltage spikes, and other transients
- Push-button interface for 50/60 Hz output
- SmartVOLT feature allows the operator to configure the instrument to power up at 0 volts or the previously used voltage before the instrument was turned off
- Metering circuits monitor voltage, current, frequency, and power
- Output/Reset key maximizes operator safety by enabling and disabling the output with a simple push-button
- Power Up feature configures the output relay for quick and efficient testing
- Front panel lockout

#### Options

Grounded Neutral

#### Applicable





Lighting





Test & Measurement

#### **APT Benefits**



#### Specifications – VariPLUS

INPUT		105	
Phase		1Ø	
Voltage		115/230 VAC Selectable ± 10% Variation	
Frequency		47 – 63 Hz	
OUTPUT			
Voltage		0 - 300 VAC	
Max Power		500 VA	
Max Current (RMS)		2.3 A @ <220 V, 4.6 A @ <110 V	
Phase		1Ø2W	
Frequency		50, 60 Hz Selectable	
THD		<1% (Resistive Load)	
Crest Factor		≥3	
Line Regulation		± 0.1 V	
Load Regulation		± (0.5% of output + 0.5 V) at Resistive Load	
Response Time		<400 µsec	
MEASUREMENT			
Voltage	Range	0.0 - 400.0 V	
	Accuracy	± (1% of reading + 2 counts)	
Frequency	Range	50, 60 Hz Selectable	
	Accuracy	$\pm0.1\%$ Hz of setting $\pm.03\%$	
Current (RMS)	Range	0.0 – 6.50 A	
	Accuracy	± (1% of reading + 5 counts)	
Power	Range	0 - 650 W	
	Accuracy	$\pm$ (2% of reading + 10 counts) at PF $\geq$ 0.2	
GENERAL			
Inrush Current		4 times the current rating	
Enhanced Over Loa	d Capacity	4 times of rating current, Over Current 110% can hold for 1000 ms w/o Protection	
<b>Operation Key Feat</b>	ure	Frequency, Display, System, Lock, Output	
Digital Encoder		Adjusts output voltage and system parameter values	
Fan		Temp. Control Two Fan Speed	
Front Output		Universal Receptacle	
Rear Output		-	
Displays		LED	
Efficiency		≥ 80% (at full load)	
Protection Circuits		Over Current, Over Voltage, Over PP, Over Temperature	
Calibration		Front Panel Calibration	
Dimensions (W x H	x D)	14 x 5.25 x 12 in	
		355 x 133 x 300 mm	
Net Weight		28 lbs (13 kg)	

Specifications subject to change

Why We Use Counts APT publishes some specifications using "counts" which allows us to provide a better indication of the tester's capabilities across measurement ranges. A count refers to the lowest resolution of the display for a given measurement range. For example, if the resolution for voltage is 1V then 2 counts = 2V.

# WE HAVE SALES OFFICES THROUGHOUT THE WORDOW

To find your nearest representative contact us at +1-847-367-4378 or international@aptsources.com



AC Power Sources for All Applications To order or for more information please contact us toll-free **+1-877-322-7693** or online **aptsources.com** 

