

Manual • Automated • Modular


## 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, you'll be sure to choose APT.

## CHANGING the way the

 POWER SOURCEINDUSTRY

## 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.

## orifivive

We are committed to responsible manufacturing processes and environmental sustainability. Our Green Initiative is led by individuals throughout our organization who are committed to making day-to-day operations as green as possible.


## SERVICE \& SUPPORT

No competitor can match our dedication to service and support. With 10 business day shipping on all models and 3 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 ${ }^{\text {m }}$ 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 traceabilty.

- 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!


GUARANTEE


## Quick Turnarounds on Calibrations and Repairs

We offer 2 business day turnaround on all calibrations. If your instrument needs service for any reason, we guarantee to have it repaired and shipped out of our facility within 3 business days of receiving it.

## Product Reference Chart

|  | Output Power Capability |  |  |  |  |  |  |  |  | Output Configurations |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Model | $\begin{aligned} & 500 \\ & \text { VA } \end{aligned}$ | $\begin{gathered} 1 \\ \text { kVA } \end{gathered}$ | $\begin{gathered} 2 \\ \text { kVA } \end{gathered}$ | $\begin{gathered} 3 \\ \text { kVA } \end{gathered}$ | $\begin{gathered} 4 \\ \text { kVA } \end{gathered}$ | $\begin{gathered} 6 \\ \text { kVA } \end{gathered}$ | $\begin{gathered} 8 \\ \text { kVA } \end{gathered}$ | $\begin{gathered} 12 \\ \text { kVA } \end{gathered}$ | $\begin{gathered} 18 \\ \text { kVA } \end{gathered}$ | $\begin{gathered} 1 \\ \text { Phase } \end{gathered}$ | Split 1 <br> Phase <br> (2 Lines/1 <br> Neutral) | 3 <br> Phase |
| 105 | - |  |  |  |  |  |  |  |  | - |  |  |
| LS500** | $\bullet$ |  |  |  |  |  |  |  |  | $\bullet$ |  |  |
| LS1000** |  | $\bullet$ |  |  |  |  |  |  |  | $\bullet$ |  |  |
| 5005 | - |  |  |  |  |  |  |  |  | - |  |  |
| 5010 |  | $\bullet$ |  |  |  |  |  |  |  | $\bullet$ |  |  |
| 5020 |  |  | $\bullet$ |  |  |  |  |  |  | $\bullet$ |  |  |
| 5040 |  |  |  |  | $\bullet$ |  |  |  |  | $\bullet$ |  |  |
| 6005 | - |  |  |  |  |  |  |  |  | $\bullet$ |  |  |
| 6010 |  | $\bullet$ |  |  |  |  |  |  |  | $\bullet$ |  |  |
| 6020 |  |  | $\bullet$ |  |  |  |  |  |  | $\bullet$ |  |  |
| 6040 |  |  |  |  | $\bullet$ |  |  |  |  | $\bullet$ |  |  |
| 7004 | $\bullet$ |  |  |  |  |  |  |  |  | $\bullet$ |  |  |
| 7008 |  | $\bullet$ |  |  |  |  |  |  |  | $\bullet$ |  |  |
| 7016 |  |  | $\bullet$ |  |  |  |  |  |  | $\bullet$ |  |  |
| 7040 |  |  |  |  | $\bullet$ |  |  |  |  | $\bullet$ |  |  |
| 310XAC |  | $\bullet$ | x2 | x3 |  |  |  |  |  | x1 | x2 | x3 |
| $320 X A C$ |  |  | $\bullet$ |  | x2 | x3 |  |  |  | x1 | x2 | x3 |
| 340XAC |  |  |  |  | $\bullet$ |  | x2 | x3 |  | x1 | x2 | x3 |
| 360XAC |  |  |  |  |  | $\bullet$ |  | x2 | x3 | x1 | $\times 2$ | x3 |
| 430XAC |  |  |  | $\bullet$ |  |  |  |  |  | $\bullet$ | $\bullet$ | $\bullet$ |
| 460XAC |  |  |  |  |  | $\bullet$ |  |  |  | $\bullet$ | $\bullet$ | $\bullet$ |

## Product Reference Chart

|  | Output Capabilities of $\mathrm{V}, \mathrm{Hz}$ \& A |  |  | General Features |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Model | Voltage Output Max | Frequency Output Range | $\begin{gathered} \text { Max A @ } \\ \leq 110 \mathrm{~V} / 220 \mathrm{~V} \\ \text { (per phase) } \end{gathered}$ | PC <br> Control | CE <br> Mark | Free GUI Available |
| 105 | 300 | 50/60 | 4.6A/2.3A |  |  |  |
| LS500** | 300 | 40-500 | 4.2A/2.1A |  | $\bullet$ |  |
| LS1000** | 300 | 40-500 | 8.4A/4.2A |  | $\bullet$ |  |
| 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 |  |  |  |
| 6005 | 300 | 40-500 | 4.6A/2.3A | $\bullet$ |  | $\bullet$ |
| 6010 | 300 | 40-500 | 9.2A/4.6A | $\bullet$ |  | - |
| 6020 | 300 | 40-500 | 18.4A/9.2A | $\bullet$ |  | $\bullet$ |
| 6040 | 300 | 40-500 | 36.8A/18.4A | $\bullet$ |  | $\bullet$ |
| 7004 | 300 | 40-500 | 4.6A/2.3A | $\bullet$ | $\bullet$ | $\bullet$ |
| 7008 | 300 | 40-500 | 9.2A/4.6A | $\bullet$ | $\bullet$ | $\bullet$ |
| 7016 | 300 | 40-500 | 18.4A/9.2A | $\bullet$ | $\bullet$ | $\bullet$ |
| 7040 | 300 | 40-500 | 36.8A/18.4A | - | $\bullet$ | $\bullet$ |
| 310XAC | 300/600/520* | 40-1000 | 9.2A/4.6A | $\bullet$ | $\bullet$ | $\bullet$ |
| 320XAC | 300/600/520* | 40-1000 | 18.4A/9.2A | $\bullet$ | $\bullet$ | $\bullet$ |
| 340XAC | 300/600/520* | 40-1000 | 36.8A/18.4A | $\bullet$ | $\bullet$ | $\bullet$ |
| 360XAC | 300/600/520* | 40-1000 | 55.2A/27.6A | - | $\bullet$ | $\bullet$ |
| 430XAC | 300/600/520* | 40-1000 | 9.2A/4.6A | - | $\bullet$ | $\bullet$ |
| 460XAC | 300/600/520* | 40-1000 | 18.4A/9.2A | $\bullet$ | $\bullet$ | $\bullet$ |

$x 2=$ the number of sources required to achieve an output rating
$x 3=$ the number of sources required to achieve an output rating and 3 phase.
$300 / 600 / 520^{*}=300 \mathrm{~V}$ phase $10,600 \mathrm{~V}$ split $10,520 \mathrm{~V} 30$
${ }^{* *}=$ Linear power sources

## 3 Phase AC Power Sources

With a unique feature set and competitive price point，our 400XAC Series provides $3 \emptyset$ AC power in a single box．Our exclusive SmartCONFIG feature allows you to switch from $1 \varnothing$ to $3 \varnothing$ or DC output with the push of a button．This maximizes your investment while giving you the AC power that your application needs．The 400XAC Series consists of two models：the 430XAC is a $3 \mathrm{kVA} A C$ power source and the 460XAC is a 6 kVA AC power source．

## Features

－Exclusive SmartCONFIG feature allows for push button switch of $1 \varnothing, 3 \varnothing$ ，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



Aerospace


Appliance


Laboratory


DRIVER AVAILABLE

| INPUT |  |  | 430×AC | 460XAC |
| :---: | :---: | :---: | :---: | :---: |
| Phase |  |  | $1 \varnothing$ | $1 \varnothing$ or $3 \varnothing$ |
| Voltage |  |  | 200-240 VAC | $1 \varnothing: 200 \sim 240 \mathrm{VAC} \pm 10 \%$ 3Ø3W: 200~240 VAC $\pm 10 \%$ $3 \emptyset 4 \mathrm{~W}$ : $346 \sim 416 \mathrm{VAC} \pm 10 \%$ |
| Frequency |  |  | 47-63 Hz |  |
| AC OUTPUT |  |  |  |  |
| Power Rating | 1ø2W |  | 3000 VA | 6000 VA |
|  | 1ø3W |  | Total 2000 VA (1000 VA per phase) | Total 4000 VA (2000 VA per phase) |
|  | 3Ø4W |  | Total 3000 VA (1000 VA per phase) | Total 6000 VA (2000 VA per phase) |
|  | DC |  | 3000 VA | 6000 VA |
| Max. Current (RMS) | 1Ø2W | 5-150 V | 27.6 A @ $\leq 110 \mathrm{~V}$ | 55.2 A @ $\leq 110 \mathrm{~V}$ |
|  |  | $5-300 \mathrm{~V}$ | 13.8 A @ $\leq 220 \mathrm{~V}$ | 27.6 A @ $\leq 220 \mathrm{~V}$ |
|  | 1Ø3W | 5-150 V | $9.2 \mathrm{~A} @ \leq 110 \mathrm{~V}$ for per phase | $18.4 \mathrm{~A} @ \leq 110 \mathrm{~V}$ for per phase |
|  |  | 5-300 V | 4.6 A @ $\leq 220 \mathrm{~V}$ for per phase | 9.2 A @ $\leq 220 \mathrm{~V}$ for per phase |
|  | 3 34W | 5-150 V | $9.2 \mathrm{~A} @ \leq 110 \mathrm{~V}$ for per phase | $18.4 \mathrm{~A} @ \leq 110 \mathrm{~V}$ for per phase |
|  |  | 5-300 V | 4.6 A @ $\leq 220 \mathrm{~V}$ for per phase | 9.2 A @ $\leq 220 \mathrm{~V}$ for per phase |
| Inrush Current (peak) | 1Ø2W | 5-150 V | 110.4 A | 220.8 A |
|  |  | 5-300 V | 55.2 A | 110.4 A |
|  | 1Ø3W | $5-150 \mathrm{~V}$ | 36.8 A for per phase | 73.6 A for per phase |
|  |  | 5-300 V | 18.4 A for per phase | 36.8 A for per phase |
|  | $3 \varnothing 4 \mathrm{~W}$ | 5-150 V | 36.8 A for per phase | 73.6 A for per phase |
|  |  | 5-300 V | 18.4 A for per phase | 36.8 A for per phase |
| Phase |  |  | $1 \varnothing 2 \mathrm{~W}, 1 \varnothing 3 \mathrm{~W}, 3 \varnothing 4 \mathrm{~W}$, provided option |  |
| THD (Total Harmonic Distortion) |  |  | $<0.5 \%$ (Resistive Load) at $40.0 \sim 70.0 \mathrm{~Hz}$ and output voltage within the 80~140 VAC at Low Range or the 160~280 VAC at High Range. <br> oad) at $70.1 \sim 1000 \mathrm{~Hz}$ and output voltage within the $80 \sim 140$ VAC at Low Range or the $160 \sim 280$ VAC at High Range. |  |
| Crest Factor |  |  | $\geq 3$ |  |
| Line Regulation |  |  | $\pm 0.1 \mathrm{~V}$ |  |
| Load Regulation (Hardware) |  |  | $\pm(1 \%$ of output $+1 \mathrm{~V})$ at Resistive Load, $<400 \mu \mathrm{~S}$ response time |  |
| Load Regulation (Software) |  |  | $\pm 0.2 \mathrm{~V},<1 \mathrm{~S}$ response time |  |
| DC offset |  |  | $\leq \pm 5 \mathrm{mV}$ |  |
| Poly-phase mode (364W) for per phase output setting |  |  | 430XAC | 460XAC |
| Voltage | Range |  | 5.0~300 VAC (phase), 8.6~520 VAC (line), 150/300 V Auto Range |  |
|  | Accuracy |  | $\pm(0.2 \%$ of setting + 3 counts) |  |
| Frequency | Range |  | $40 \sim 1000 \mathrm{~Hz}$ Full Range Adjust |  |
|  | Accuracy |  | $\pm 0.03 \%$ of setting |  |
|  <br> Ending <br> Phase Angle | Range |  | 0~359 ${ }^{\circ}$ |  |
|  | Accuracy |  | $\pm 1^{\circ}(45 \sim 65 \mathrm{HZ})$ |  |
| Current Hi Limit | $5 \mathrm{~V} \sim 150 \mathrm{~V}$ |  | 0.01~9.20 A | 0.01~18.40 A |
|  | 5V $\sim 300 \mathrm{~V}$ |  | $0.01 \sim 4.60 \mathrm{~A}$ | $0.01 \sim 9.20 \mathrm{~A}$ |
|  | Accuracy |  | $\pm$ (2.0\% of setting +2 counts) |  |
| OC Fold Back Response Time |  |  | $<1.4 \mathrm{~s}$ |  |
| Ramp-Up <br> Timer (second) | Range |  | $0.0 \sim 999.9 \mathrm{~s}$ |  |
|  | Accuracy |  | $\pm(0.1 \%+0.05 \mathrm{sec})$ |  |
| Ramp-Down Timer (second) | Range |  | $0.0 \sim 999.9 \mathrm{~s}$ |  |
|  | Accuracy |  | $\pm(0.1 \%+0.05 \mathrm{sec})$ |  |
| Delay Timer | Range |  | $\begin{gathered} 1 \mathrm{~s} \sim 999.9 \mathrm{~s} \\ 0.1 \mathrm{~m} \sim 999.9 \mathrm{~min} \\ 0.1 \mathrm{~h} \sim 999.9 \mathrm{~h} \end{gathered}$ |  |
|  | Accuracy |  | $\pm$ (0.1\% + 0.1 sec ) |  |
| Dwell Timer | Range |  | $0,1 \mathrm{~s} 999.9 \mathrm{~h}$ (0=continuous) |  |
|  | Accuracy |  | $\pm(0.1 \%+0.1 \mathrm{sec})$ |  |
| Poly-phase mode (304W) for per phase measurement |  |  | 430XAC | 460XAC |
| Frequency | Range |  | $0.0-1000 \mathrm{~Hz}$ |  |
|  | Resolution |  | 0.1 Hz |  |
|  | Accuracy |  | $\pm 0.1 \mathrm{~Hz}(501-1000 \mathrm{~Hz}$ Accuracy $\pm 0.2 \mathrm{~Hz}$ ) |  |
| Voltage | Range |  | $0.0-420.0 \mathrm{~V}$ |  |
|  | Resolution |  | 0.1 V |  |
|  | Accuracy |  | $\pm$ (0.2\% of reading + 3 counts) |  |

## Specifications - 400XAC Series

Poly-phase mode (3Ø4W) for
per phase measurement


| Range | L |
| :--- | :---: |
|  | H |
| Accuracy |  |

## Current (RMS)

|  |  |  |
| :--- | :--- | :--- |
|  |  |  |
| Current (peak) |  | H |
|  | Accuracy |  |
|  |  |  |
|  | Range |  |
|  |  | L |
|  | Accuracy |  |

H

## Power



I measurement

| Frequency | Range |  |
| :---: | :---: | :---: |
|  | Accuracy |  |
| Voltage | Range |  |
|  | Calculated Formula |  |
| Current (RMS) | Range | L |
|  |  | H |
|  | Calculated Formula | L |
|  |  | H |
| Power | Range | L |
|  |  | H |
|  | Accuracy | L |
|  |  | H |
| Power Factor | Range |  |
|  | Resolution |  |
|  | Accuracy |  |
| Power <br> Apparent (VA) | Range | L |
|  |  | H |
|  | Calculated Formula | L |
|  |  | H |
| Power <br> Reactive (Q) | Range | L |
|  |  | H |
|  | Accuracy | L |
|  |  | H |

Single-phase mode (1ø2W)
Setting
Voltage

## 430XAC

460XAC

| Voltage | Range |
| :--- | :--- |
|  | Resolution |
|  | Accuracy |

## Specifications - 400XAC Series

Single-phase mode (1б2W)

Setting

| Frequency | Range |
| :--- | :--- |
|  | Resolution |
|  | Accuracy |
|  <br> Ending Phase <br> Angle | Range |
|  | Resolution |
| Current <br> Limit | Accuracy |
|  | $5 \mathrm{~V} \sim 150 \mathrm{~V}$ |
|  | 5V $\sim 300 \mathrm{~V}$ |
|  | Accuracy |

OC Fold Back Response Time
Single-phase mode (102W)
measurement

| Frequency | Range |
| :--- | :--- |
|  | Accuracy |
| Current (RMS) | Range |
|  | Range |
|  | Accuracy |
| Current (peak) | Range |
| Power | Accuracy |
| Power Factor | Range |
| Power | Accuracy |
| Powaracy |  |
| Apparent | Range |
|  | Accuracy |
| Power | Range |
| Reactive (Q) | Accuracy |
| Crest Factor | Range |
|  | Accuracy |

Poly-phase mode (103W) for
per phase output setting

\section*{| Voltage | Range |
| :--- | :--- |
|  | Accuracy |
| Frequency | Range |
|  | Accuracy |
| $\begin{array}{l}\text { Starting \& } \\ \text { Ending Phase } \\ \text { Angle }\end{array}$ | Range |
| Current RI Limit | $5 \mathrm{~V} \sim 150 \mathrm{~V}$ |
|  | $5 \mathrm{~V} \sim 300 \mathrm{~V}$ |
|  | Accuracy |}

## OC Fold Back Response Time

Poly-phase mode (103W) for per phase measurement

| Frequency | Range |  |
| :--- | :--- | :--- |
|  | Accuracy |  |
| Voltage | Range |  |
|  | Rccuracy |  |
|  | Range | L |
|  |  | H |
| Current (RMS) |  | L |
|  | Accuracy |  |

430XAC
460XAC
40~1000 Hz Full Range Adjust
0.1 Hz at $40.0 \sim 99.9 \mathrm{~Hz}, 1 \mathrm{~Hz}$ at $100 \sim 1000 \mathrm{~Hz}$
$\pm 0.03 \%$ of setting

0~359 ${ }^{\circ}$
$1^{\circ}$

|  | $\pm 1^{\circ}(45 \sim 65 \mathrm{HZ})$ |  |  |
| :---: | :---: | :---: | :---: |
| $0.01 \sim 27.60 \mathrm{~A}$ |  |  | $0.01 \sim 55.20 \mathrm{~A}$ |
| $0.01 \sim 13.80 \mathrm{~A}$ |  |  | $0.01 \sim 27.60 \mathrm{~A}$ |
|  | $\pm(2.0 \%$ of setting + 2 counts $)$ |  |  |
|  | $<1.4 \mathrm{~s}$ |  |  |

430XAC
460XAC
$0.0 \sim 1000 \mathrm{~Hz}$
$\pm 0.1 \mathrm{~Hz}(501 \sim 1000 \mathrm{~Hz}$ Accuracy $\pm 0.2 \mathrm{~Hz})$
$0.0 \sim 420.0 \mathrm{~V}$
$\pm(0.2 \%$ of reading +3 counts $)$
$0.05 \mathrm{~A} \sim 39.00 \mathrm{~A}$
$\pm(1 \%$ of reading +5 counts) at $40.0 \sim 500 \mathrm{~Hz}$

### 0.05 A~78.00

$\pm(1 \%$ of reading +5 counts) at $501 \sim 1000 \mathrm{~Hz}, \pm(1 \%$ of reading +5 counts $)$ at $501 \sim 1000 \mathrm{~Hz}$, CF $<1.5$ and Current (peak) $\leq 82.8 \mathrm{~A}$

$$
\mathrm{CF}<1.5 \text { and Current (peak) } \leq 165.6 \mathrm{~A}
$$

0.0 A~114.0 A
0.0 A~228.0 A
$\pm$ (1\% of reading +5 counts) at $40.0 \sim 70.0 \mathrm{~Hz}$
$\pm$ ( $1.5 \%$ of reading +10 counts) at $70.1 \sim 500 \mathrm{~Hz}$
$\pm(1.5 \%$ of reading +10 counts $)$ at $501 \sim 1000 \mathrm{~Hz}$ and $\mathrm{CF}<1.5$
0 W~3900 W
0 W~7800 W
$\pm$ ( $2 \%$ of reading +5 counts) at $40.0 \sim 500 \mathrm{~Hz}$ and $\mathrm{PF} \geq 0.2$
$\pm$ ( $2 \%$ of reading +15 counts) at $501 \sim 1000 \mathrm{~Hz}$ and PF $\geq 0.5$
0-1.000
W / VA, Calculated and displayed to three significant digits
0 VA~3900 VA
0 VA~7800 VA

VAR~7800 VAR
0 VAR~3900 VAR
V $\times \mathrm{A}$, Calculated value

| $\mathrm{V} \times \mathrm{A}$, Calculated value |  |
| :---: | :---: |
|  |  |
| $\sqrt{(\mathrm{VA})^{2}-(\mathrm{W})^{2}}$, Calculated value |  |
| 0 VAR~7800 VAR |  |

Ap / A, Calculated and displayed to two significant digits
430XAC 460 XAC

$\pm 0.1 \mathrm{~Hz}(501-1000 \mathrm{~Hz}$ Accuracy $\pm 0.2 \mathrm{~Hz})$ $0.0-420.0 \mathrm{~V}$
$\pm$ ( $0.2 \%$ of reading +3 counts)
$0.005 \mathrm{~A} \sim 1.200 \mathrm{~A}$
$0.005 \mathrm{~A} \sim 2.400 \mathrm{~A}$
1.00 A~13.00 A
$\pm(1 \%$ of reading +5 counts) at $40.0-500 \mathrm{~Hz}$
$\pm$ ( $1 \%$ of reading +5 counts) at $501-1000 \mathrm{~Hz}$,
CF $<1.5$ and Current (peak) $\leq 3.6 \mathrm{~A}$
$\pm(1 \%$ of reading +5 counts $)$ at $40.0-500 \mathrm{~Hz}$
$\pm$ ( $1 \%$ of reading +5 counts) at $501-1000 \mathrm{~Hz}$,
CF <1.5 and Current (peak) $\leq 27.6 \mathrm{~A}$

## Specifications - 400XAC Series



| DC MEASUREMENT |  | 430XAC | 460XAC |
| :---: | :---: | :---: | :---: |
| Voltage | Range | 0.0-420.0 V |  |
|  | Accuracy | $\pm$ ( $0.2 \%$ of setting +5 counts) |  |
| Current | Range | 0.05 A~19.50 A | $0.05 \mathrm{~A} \sim 39.00 \mathrm{~A}$ |
|  | Accuracy | $\pm$ ( $1 \%$ of reading +5 counts) |  |
| Power | Range | $0 \mathrm{~W} \sim 3900 \mathrm{~W}$ | $0 \mathrm{~W} \sim 7800 \mathrm{~W}$ |
|  | Accuracy | $\pm$ ( $2 \%$ of reading +5 counts) |  |
| PROTECTION |  |  |  |
| Software OCP |  | Over Current 110\% of full rated current $>1$ second |  |
| Output Short Shut Down Speed |  | $<1$ second |  |
| Software OPP |  | When over Power $105 \sim 110 \%$ of full power $>5$ second. <br> When over Power $>110 \%$ of full power $<1$ second. |  |
| Software OTP |  | Temperature over 95 degree $C$ on the power amp and PFC heatsink | Temperature over 120 degree C and PFC heatsin |
| Software OVP | L | When output frequency $<100 \mathrm{~Hz}$, maximum voltage deviation +5 V <br> When output frequency $101-500 \mathrm{~Hz}$, maximum voltage deviation +15 V <br> When output frequency $501-1000 \mathrm{~Hz}$, maximum voltage deviation +20 V |  |
|  | H | When output frequency $<100 \mathrm{~Hz}$, maximum voltage deviation +10 V When output frequency $101-500 \mathrm{~Hz}$, maximum voltage deviation +30 V When output frequency $501-1000 \mathrm{~Hz}$, maximum voltage deviation +40 V |  |
| Software LVP | L | When output frequency $<100 \mathrm{~Hz}$, maximum voltage deviation $-5 \mathrm{~V}>0.5$ second When output frequency $101-500 \mathrm{~Hz}$, maximum voltage deviation $-15 \mathrm{~V}>0.5$ second When output frequency $501-1000 \mathrm{~Hz}$, maximum voltage deviation $-20 \mathrm{~V}>0.5$ second |  |
|  | H | When output frequency $<100 \mathrm{~Hz}$, maximum voltage deviation $-10 \mathrm{~V}>0.5$ second When output frequency $101-500 \mathrm{~Hz}$, maximum voltage deviation $-30 \mathrm{~V}>0.5$ second When output frequency $501-1000 \mathrm{~Hz}$, maximum voltage deviation $-40 \mathrm{~V}>0.5$ second |  |
| Reverse Current Protection (RCP) |  | Over 75W |  |
| GENERAL |  |  |  |
| Transient (only for $40 \sim 70 \mathrm{~Hz}$ ) |  | Trans-Volt 0.0-300.0 V Resolution 0.1 V <br> Trans-Site $0^{\circ} \sim 359^{\circ}$ Resolution $1^{\circ}$ <br> Trans-Time $0.5-999.9 \mathrm{mS}$ Resolution 0.1 mS Trans-Cycle 0-9999, 0-Constant |  |
| Operation Key Feature |  | Soft key, Numeric key, Rotary Knob |  |
| Remote Input Signal |  | Test, Reset, Interlock, Recall program memory 1 through 7 |  |
| Remote Output Signal |  | Pass, Fail, Test-in Process |  |
| Key Lock |  | 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 Setting |  | Range: 0-9;0 OFF, 1 is softest volume, 9 is loudest volume. |  |
| Graphic Display |  | $240 \times 64$ dot resolution Monographic LCD/Contrast 9 Levels 1-9 |  |
| PFC |  | PF $\geq 0.97$ at Full load |  |
| Efficiency |  | $\geq 78 \%$ (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, Response time <1400ms |  |
| Safety Agency |  | CE Listed |  |
| Dimensions ( $\mathrm{W} \times \mathrm{H} \times \mathrm{D}$ ) |  | $430 \times 400.5 \times 500 \mathrm{~mm}$ |  |
|  |  | $16.93 \times 15.77 \times 19.69$ in |  |
| Net Weight |  | $105.8 \mathrm{lbs}(48 \mathrm{~kg}$ ) | $125.6 \mathrm{lbs}(57 \mathrm{~kg}$ ) |
| Operation Environment |  | 0-40 $/ 20-80 \% \mathrm{RH}$ |  |

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 1 V then 2 counts $=2 \mathrm{~V}$.

## 300XAC Series ct

## 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 $1 \varnothing$ stand-alone operation or linked together for up to 16.2 kVA of AC power in $1 \varnothing$ or up to 18 kVA of AC power in $3 \varnothing$ output configurations.

——园

300XAC SERIES PROGRAMmABLE AC POWER SOURCE $3 . \square \mathrm{ODOD}_{\mathrm{A}}$ Esi: $\square$


NI LabVIEW
DRIVER AVAILABLE
Powerildac AVAILABLE

## Applicable



Aerospace


Laboratory


Options

| - Grounded Neutral | - Ethernet Interface |
| :--- | :--- |
| . GPIB Interface | - Linking Card |
| .7 Remote Memories |  |

## Features

- Modular design allows operator to connect up to 3 instruments together for $1 \varnothing$ or $3 \varnothing$ applications requiring up to 18 kVA of AC power

Configure 2 sources for $1 \varnothing / 2 \mathrm{~W}$ 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

APT Benefits


## 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.


## Advantages

## 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.

## Master/Slave Relationship

The master/slave 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 $1 \varnothing$ to $3 \varnothing$ output
- No need to have separate sources for $1 \varnothing$ to $3 \varnothing$ applications
- Greater mobility of the AC power sources
- Ability to generate $3 \varnothing$ power if only $1 \varnothing$ is available
- Allows for future expansion if power requirements change

Specifications - 300XAC Series

| INPUT |  |  | 310XAC | 320XAC | 340XAC | 360XAC |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Phase |  |  | $1 \varnothing$ |  |  | $1 \varnothing$ or $3 \varnothing$ |
| Voltage |  |  | 100-240 VAC $\pm 10 \%$ |  | 200-240 VAC $\pm 10 \%$ | $1 \varnothing: 200-240 \mathrm{VAC} \pm 10 \%$ 3Ø3W: 200-240 VAC $\pm 10 \%$ 3Ø4W: 346-416 VAC $\pm 10 \%$ |
| Frequency |  |  | $47-63 \mathrm{~Hz}$ |  |  |  |
| OUTPUT |  |  |  |  |  |  |
| Voltage |  |  | 5-300 V |  |  |  |
| Max Power |  |  | 1 kVA | 2 kVA | 4 kVA | 6 kVA |
| Max Current 1 $\varnothing$ | 0-150 V |  | $9.2 \mathrm{~A} @ \leq 110 \mathrm{~V}$ | 18.4 A @ $\leq 110 \mathrm{~V}$ | 36.8 A @ $\leq 110 \mathrm{~V}$ | 55.2 A @ $\leq 110 \mathrm{~V}$ |
|  | 0-300 V |  | $4.6 \mathrm{~A} @ \leq 220 \mathrm{~V}$ | $9.2 \mathrm{~A} @ \leq 220 \mathrm{~V}$ | 18.4 A @ $\leq 220 \mathrm{~V}$ | $27.6 \mathrm{~A} @ \leq 220 \mathrm{~V}$ |
| Phase |  |  | $1 \varnothing$ (Parallel/Poly-Phase Linking for 103W or 3Ø4W) |  |  |  |
| Frequency |  |  | $40.0-1000 \mathrm{~Hz}$ |  |  |  |
| THD |  |  | <1\% (Resistive Load) |  |  |  |
| Crest Factor |  |  | Inrush CF $\geq 3$ at 110 V, Continuous Current CF $\geq 3$ at 110 V |  |  |  |
| Line Regulation |  |  | $\pm 0.1 \mathrm{~V}$ |  |  |  |
| Load Regulation |  |  | $\pm 0.5 \mathrm{~V}$ |  |  |  |
| DC OUTPUT VOLTACE |  |  |  |  |  |  |
| Voltage |  |  | $5-420 \mathrm{~V}$ |  |  |  |
| Max Power |  |  | 1000 W | 2000 W | 4000 W | 6000 W |
| Max Current 1ø | 0-210 V |  | 4.8 A | 9.6 A | 19.2 A | 28.8 A |
|  | 0-420 V |  | 2.4 A | 4.8 A | 9.6 A | 14.4 A |
| Ripple \& Noise (Peak to Peak) |  |  | $<3.0 \mathrm{~V}$ |  | <4.0 V |  |
| MEASUREMENT |  |  |  |  |  |  |
| Voltage | Range |  | 0.0-400.0 V |  |  |  |
|  | Accuracy |  | $\pm$ ( $1 \%$ of reading +2 counts) $>5 \mathrm{~V}$ |  | $\pm$ ( $1 \%$ of reading +5 counts) $>5 \mathrm{~V}$ |  |
| Frequency | Range |  | $0.0-1000 \mathrm{~Hz}$ |  |  |  |
|  | Accuracy |  | $0.0-500 \mathrm{~Hz} \pm 0.1 \mathrm{~Hz}, 501-1000 \mathrm{~Hz} \pm 0.2 \mathrm{~Hz}$ |  |  |  |
| Current (RMS) | Range |  | $0.005 \mathrm{~A}-13.00 \mathrm{~A}$ | $0.005 \mathrm{~A}-26.00 \mathrm{~A}$ | $0.05 \mathrm{~A}-52.00 \mathrm{~A}$ | 0.05 A - 78.00 A |
|  | Accuracy |  | $\pm$ ( $1 \%$ of reading +5 counts) |  | $\pm(1 \%$ of reading +5 counts) @ $40-100 \mathrm{~Hz}, \pm$ ( $1 \%$ of reading +5 counts) <br> @ $101-500 \mathrm{~Hz}>0.1 \mathrm{~A}, \pm$ ( $1 \%$ of reading +5 counts) @ $501-1000 \mathrm{~Hz}>0.2 \mathrm{~A}$ |  |
| Current Peak | Range |  | 0.0 A-38.0 A | 0.0A-76.0 A | 0.0 A-152 A | 0.0A-228A |
|  | Accuracy |  | $\pm$ ( $1 \%$ of reading +5 counts) |  |  |  |
| Power | Range |  | 0.0 W-1300 W | $0.0 \mathrm{~W}-2600 \mathrm{~W}$ | 0.0W-5200 W | 0.0 W-7800 W |
|  | Accuracy | L | $\pm(2 \%$ of reading +15 counts) at $\mathrm{PF} \geq 0.2$ |  | $\pm$ ( $2 \%$ of reading +5 counts) at PF $\geq 0.2$ |  |
|  |  | H | $\pm$ ( $2 \%$ of reading +5 counts) at PF $\geq 0.2$ |  |  |  |
| Power Apparent (VA) | Range |  | $0.0 \mathrm{VA}-1300 \mathrm{VA}$ | 0.0 VA - 2600 VA | $0.0 \mathrm{VA}-5200 \mathrm{VA}$ | 0.0 VA - 7800 VA |
|  | Calculated F |  | $\mathrm{V} \times \mathrm{A}$, Calculated value |  |  |  |
| Power Reactive (Q) | Range |  | 0.0 VAR-1300 VAR | 0.0 VAR-2600 VAR | 0.0 VAR-5200 VAR | 0.0 VAR-7800 VAR |
|  | Calculated Formula |  | $\sqrt{(\text { VA })^{2}-(\mathrm{W})^{2}}$, Calculated value |  |  |  |
| Power Factor | Range |  | 0.000-1.000 |  |  |  |
|  | Calculated Formula |  | W/VA, Calculated and displayed to three significant digits |  |  |  |
| Crest Factor | Range |  | 0.0-10.0 |  |  |  |
|  | Accuracy |  | A peak / Arms, Calculated and displayed to two significant digits |  |  |  |
| OPTIONS |  |  |  |  |  |  |
| Grounded Neutral Option 2 |  |  | All Models |  |  |  |
| GPIB Interface Option 3 |  |  | All Models |  |  |  |
| 7 Remote Memory Option 4 |  |  | All Models |  |  |  |
| Ethernet Interface Option 6 |  |  | All Models |  |  |  |
| Linking Card Option 8 |  |  | All Models |  |  |  |
| cENERAL |  |  |  |  |  |  |
| Operation Environment |  |  | 0-40 ${ }^{\circ} \mathrm{C} / 20-80 \% \mathrm{RH}$ |  |  |  |
| Dimensions ( $\mathrm{W} \times \mathrm{H} \times \mathrm{D}$ ) |  |  | $16.92 \times 5.26 \times 20.87 \mathrm{in}$ | $16.92 \times 5.26 \times 20.87$ in | $16.92 \times 10.51 \times 19.69$ in | $16.92 \times 15.77 \times 19.69$ in |
|  |  |  | $430 \times 133.5 \times 530 \mathrm{~mm}$ | $430 \times 133.5 \times 530 \mathrm{~mm}$ | $430 \times 267 \times 500 \mathrm{~mm}$ | $430 \times 400.5 \times 500 \mathrm{~mm}$ |
| Net Weight |  |  | $47.16 \mathrm{lbs}(21 \mathrm{~kg}$ ) | 49 lbs (22 kg) | $82 \mathrm{lbs}(37 \mathrm{~kg}$ ) | $117 \mathrm{lbs}(53 \mathrm{~kg}$ ) |

# Specifications - 300XAC Series 

| Linking Parallel Output 102W |  |  | 310XAC | 320XAC | 340XAC | 360XAC |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Linked Unit |  |  | 2-3 Units, 1ø2W (L1-N) |  |  |  |
| Voltage | Phase |  | 5-300 V |  |  |  |
| Power <br> Max | \# Units | 2 | 1.8 kVA | 3.6 kVA | 7.2 kVA | 10.8 kVA |
|  |  | 3 | 2.7 kVA | 5.4 kVA | 10.8 K 10.8 kVAA A | 16.2 kVA |
| Max Current | 0-150 V | L(2) | 14.72 A @ $20 \mathrm{~V}-110 \mathrm{~V}$ | 29.44 A @ 20 V-110 V | 58.88 A @ 20V-110 V | 88.32 A @ 20V-110V |
|  |  | L(3) | 22.08 A @ 20V-110 V | 44.16 A @ 20V-110 V | 88.32 A @ 20V-110 V | 132.48 A @ 20 V -110 V |
| Line (RMS) | $0-300 \mathrm{~V}$ | H(2) | 7.36 A @ 20V-220 V | 14.72 A @ 20V-220V | 29.44 A @ 20V-220V | 44.16 A @ 20 V-220 V |
|  |  | H(3) | 11.04 A @ 20V-220V | 22.08 A @ 20V-220 V | 44.16 A @ 20V-220V | 66.24 A @ 20 V-220 V |
| Linking Polyphase Output 103W |  |  | $310 \times A C$ | $320 \times$ AC | $340 \times$ AC | 360XAC |
| Linked Units |  |  | 2 Units @ 180, 1Ø3W (L1-L2-N) |  |  |  |
| Voltage | Phase |  | 10-600 V |  |  |  |
|  | Line |  | $5-300 \mathrm{~V}$ |  |  |  |
| Power | Max |  | 2 kVA | 4 kVA | 8 kVA | 12 kVA |
| Max Current Phase | 0-300 V | L(1) | $9.2 \mathrm{~A} @ \leq 110 \mathrm{~V}$ | 18.4 A @ $\leq 110 \mathrm{~V}$ | 36.8 A @ $\leq 110 \mathrm{~V}$ | 55.2 A @ $\leq 110 \mathrm{~V}$ |
|  | 0-600 V | H(1) | $4.6 \mathrm{~A} @ \leq 220 \mathrm{~V}$ | $9.2 \mathrm{~A} @ \leq 220 \mathrm{~V}$ | 18.4 A @ $\leq 220 \mathrm{~V}$ | 27.6 A @ $\leq 220 \mathrm{~V}$ |
| Max Current Line | 0-300 V | L(2) | $9.2 \mathrm{~A} @ \leq 220 \mathrm{~V}$ | 18.4 A @ $\leq 220 \mathrm{~V}$ | 36.8 A @ 5220 V | 55.2 A @ $\leq 220 \mathrm{~V}$ |
|  | 0-600 V | H(2) | $4.6 \mathrm{~A} @ \leq 440 \mathrm{~V}$ | $9.2 \mathrm{~A} @ \leq 440 \mathrm{~V}$ | 18.4 A @ $\leq 440$ V | 27.6 A @ $\leq 440$ V |
| Linking Polyphase Output 304W |  |  | 310XAC | $320 \times$ AC | 340XAC | 360XAC |
| Linked Units |  |  | 3 Units @ 1200, 3ø4W (L1-L2-L3-N) |  |  |  |
| Voltage | Phase |  | 5-300 V |  |  |  |
|  | Line |  | 5-520 V |  |  |  |
| Power | Max |  | 3 kVA | 6 kVA | 12 kVA | 18 kVA |
| Max Current Phase | 0-150 V | L(1) | $9.2 \mathrm{~A} @ \leq 110 \mathrm{~V}$ | 18.4 A @ $\leq 110 \mathrm{~V}$ | 36.8 A @ $\leq 110 \mathrm{~V}$ | 55.2 A @ $\leq 110 \mathrm{~V}$ |
|  | 0-300 V | H(1) | $4.6 \mathrm{~A} @ \leq 220 \mathrm{~V}$ | $9.2 \mathrm{~A} @ \leq 220 \mathrm{~V}$ | 18.4 A @ $\leq 220 \mathrm{~V}$ | 27.6 A @ $\leq 220 \mathrm{~V}$ |
| Max Current Line | 0-150 V | L(3) | 9.2 A @ $\leq 190.5 \mathrm{~V}$ | 18.4 A @ 5190.5 V | 36.8 A @ 5190.5 V | 55.2 A @ 5190.5 V |
|  | 0-300 V | H(3) | $4.6 \mathrm{~A} @ \leq 381 \mathrm{~V}$ | $9.2 \mathrm{~A} @ \leq 381 \mathrm{~V}$ | 18.4 A @ $\leq 381 \mathrm{~V}$ | 27.6 A @ $\leq 381 \mathrm{~V}$ |
| Max Current Phase Delta | 0-260 V | L(3) | 5.31 A @ $\leq 190.5 \mathrm{~V}$ | 10.62 A @ $\leq 190.5 \mathrm{~V}$ | 21.24 A @ $\leq 190.5 \mathrm{~V}$ | 31.87 A @ $\leq 190.5 \mathrm{~V}$ |
|  | 0-520 V | H(3) | 2.65 A @ $\leq 381 \mathrm{~V}$ | 5.31 A @ $\leq 381 \mathrm{~V}$ | 10.62 A @ $\leq 381$ V | 15.93 A @ $\leq 381 \mathrm{~V}$ |
| Linking Parallel DC Output 1\%2W |  |  | 310XAC | $320 \times$ AC | 340XAC | 360XAC |
| Linked Units |  |  | 2-3 Units, 1ø2W (L1-N) |  |  |  |
| Voltage Power | Line |  | 5-420 V |  |  |  |
| Power <br> Max | \# Units | 2 | 1.8 kVA | 3.6 kVA | 7.2 kVA | 10.8 kVA |
|  |  | 3 | 2.7 kVA | 5.4 kVA | 10.8 kVA | 16.2 kVA |
| Max Current | 0-210V | L(2) | 7.68 A @ 50V-210V | 15.36 A @ 50V-210V | 30.72 A @ 50V-210 V | 46.08 A @ 50V-210 V |
|  |  | L(3) | $11.52 \mathrm{~A} @ 50 \mathrm{~V}-210 \mathrm{~V}$ | $23.04 \mathrm{~A} @ 50 \mathrm{~V}-210 \mathrm{~V}$ | 46.08 A @ 50V-210V | 69.12 A @ 50 V - 210V |
| Line | 0-420V | H(2) | $3.84 \mathrm{~A} @ 50 \mathrm{~V}-420 \mathrm{~V}$ | 7.68 A @ 50V-420V | 15.36 A @ 50V-420V | 23.04 A @ 50V-420 V |
|  |  | H(3) | 5.76 A @ 50 V-420 V | 11.52 A @ $50 \mathrm{~V}-420 \mathrm{~V}$ | $23.04 \mathrm{~A} @ 50 \mathrm{~V}-420 \mathrm{~V}$ | $34.56 \mathrm{~A} @ 50 \mathrm{~V}-420 \mathrm{~V}$ |

Specifications - 300XAC Series

| Measurement (Total) Linking Parallel 102W |  |  | 310XAC | 320XAC | 340XAC | 360XAC |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Voltage | Range |  | 0.0-400.0 V |  |  |  |
|  | Accuracy |  | \pm ( $1 \%$ of reading +2 counts $)>5 \mathrm{~V}$ |  | $\pm$ ( $1 \%$ of reading +5 counts) $>5 \mathrm{~V}$ |  |
| Frequency | Range |  | $0.0-1000.0 \mathrm{~Hz}$ |  |  |  |
|  | Accuracy | L | $\pm 0.1 \mathrm{~Hz} @ 0.0-500 \mathrm{~Hz}$ |  |  |  |
|  |  | H | $\pm 0.2 \mathrm{~Hz} @ 501-1000 \mathrm{~Hz}$ |  |  |  |
| Current (RMS) | Range | 2 | 0.00 A-26.00 A | $0.00 \mathrm{~A}-52.00 \mathrm{~A}$ | 0.00 A-104.0 A | 0.00 A-156.0 A |
|  |  | 3 | 0.00 A-39.00 A | 0.00 A-78.00 A | 0.00 A-156.0 A | 0.00 A-234.0 A |
|  | Accuracy | L | $\pm(1.5 \%$ of reading +15 counts) $x$ \# of Linked Units <br> @ $40.0-70.0 \mathrm{~Hz} \&$ Current is $>1.0 \mathrm{~A}$ |  | $\pm$ (1.5\% of reading +15 counts) $x$ Link Units @ 40.0-70.0 Hz and Current (RMS) $>2.00 \mathrm{~A}, \pm(1.5 \%$ of reading +15 counts) $x$ Link Units @ 70.1-1000 Hz, and Current (RMS) $>10.00 \mathrm{~A}$ | $\pm$ ( $1.5 \%$ of reading +15 counts) x Link Units @ 40.0-70.0 Hz and Current (RMS) >3.00 A, <br> $\pm$ ( $1.5 \%$ of reading +15 counts) x Link Units @ 70.1-1000 Hz, and Current (RMS) > $>15.00 \mathrm{~A}$ |
|  |  | H | $\pm$ ( $1.5 \%$ of reading +15 counts) $x$ \# of Linked Units @ 70.1-1000 Hz \& Current is >5.00 A |  |  |  |
| Power (W) | Range | 2 | OW-2600 W | 0 W-5200 W | OW-10400 W | OW-15600 W |
|  |  | 3 | OW-3900 W | 0 W-7800 W | O W-15600 W | OW-23400 W |
|  | Accuracy |  | $\begin{aligned} & \pm(2 \% \text { of reading }+10 \text { counts) } x \text { (\# of Linked Units) at PF } \geq 0.2,40-500 \mathrm{~Hz} \text {, and Current }>5.0 \mathrm{~A} \\ & \pm(2 \% \text { of reading }+10 \text { counts) } \times(\# \text { of Linked Units) at PF } \geq 0.3,501-1000 \mathrm{~Hz} \text {, and Current }>5.0 \mathrm{~A} \end{aligned}$ |  |  |  |
| Power Apparent (VA) | Range | 2 | $0 \mathrm{~W}-2600 \mathrm{VA}$ | 0 W-5200 VA | $0 \mathrm{~W}-10400 \mathrm{VA}$ | 0 W - 15600 VA |
|  |  | 3 | 0 W - 3900 VA | O W-7800 VA | 0 W - 15600 VA | O W-23400 VA |
|  | Accuracy |  | $\mathrm{V} \times \mathrm{A}$, Calculated Value |  |  |  |
| Power Reactive (Q) | Range | 2 | $0 \mathrm{~W}-2600 \mathrm{VA}$ | 0 W-5200 VA | 0 W -10400 VA | 0 W - 15600 VA |
|  |  | 3 | 0 W - 3900 VA | 0 W-7800 VA | 0 W - 15600 VA | 0 W-23400 VA |
|  | Accuracy |  | $\sqrt{(\mathrm{VA})^{2}-(\mathrm{W})^{2}}$, Calculated Value |  |  |  |
| Power Factor | Range |  | 0-1.000 |  |  |  |
|  | Accuracy |  | W / VA, Calculated and displayed to three significant digits |  |  |  |
| Measurement (Total) Linking Polyphase 163W |  |  | 310XAC | 320XAC | 340XAC | 360XAC |
| Voltage | Range $\quad 2$ |  | L1 Voltage + L2 Voltage |  |  |  |
|  | Accuracy |  | Summation of linked sources, Calculated and displayed to one significant digit |  |  |  |
| Frequency | Range |  | $0.0-1000.0 \mathrm{~Hz}$ |  |  |  |
|  | Accuracy | L | $\pm 0.1 \mathrm{~Hz} @ 0.0-500 \mathrm{~Hz}$ |  |  |  |
|  |  | H | $\pm 0.2 \mathrm{~Hz} @ 501-1000 \mathrm{~Hz}$ |  |  |  |
| Current (RMS) | Range 2 <br> Accuracy  |  | (L1 Current + L2 Current)/2 |  |  |  |
|  | Accuracy |  | $\begin{aligned} & \quad \pm(1 \% \text { of reading }+5 \text { counts }) \text { at } 40-70 \mathrm{~Hz} \\ & \pm(1 \% \text { of reading }+5 \text { counts }) \text { at } 70.1-500 \mathrm{~Hz} \text {, and output current }(\mathrm{RMS})>0.200 \mathrm{~A} \\ & \pm(1 \% \text { of reading }+5 \text { counts }) \text { at } 501-1000 \mathrm{~Hz} \text {, and output current }(\mathrm{RMS})>0.300 \mathrm{~A} \end{aligned}$ |  |  |  |
| Power (W) | Range | 2 | L1 Power + L2 Power |  |  |  |
|  | Accuracy | 2 | L1 Power + L2 Power, Calculated Value |  |  |  |
| Power Apparent (VA) | Range | 2 | $\mathrm{L} 1 \mathrm{VA}+\mathrm{L} 2 \mathrm{VA}$ |  |  |  |
|  | Accuracy | 2 | L1 VA + L2 VA, Calculated Value |  |  |  |
| Power Reactive (Q) | Range <br> Accuracy | 2 | L1 VAR + L2 VAR |  |  |  |
|  |  | 2 | L1 VAR + L2 VAR, Calculated Value |  |  |  |
| Power Factor | Range |  | $0-1.000$ |  |  |  |
|  | Accuracy |  | (L1 P + L2 P) / (L1 VA + L2 VA), Calculated and displayed to three significant digits |  |  |  |

## Specifications - 300XAC Series

| Measurement (Total) Linking Polyphase 3Ø4V |  |  | 310XAC | 320XAC | 340XAC | 360XAC |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Voltage | Range |  | $(\mathrm{A}+\mathrm{B}+\mathrm{C}) / 3$ |  |  |  |
|  | Accuracy |  | $(\mathrm{A}+\mathrm{B}+\mathrm{C}) / 3$, Calculated and displayed to one significant digit |  |  |  |
| Frequency | Range |  | $0.0-1000.0 \mathrm{~Hz}$ |  |  |  |
|  | Accuracy | L | $\pm 0.1 \mathrm{~Hz} @ 0.0-500 \mathrm{~Hz}$ |  |  |  |
|  |  | H | $\pm 0.2 \mathrm{~Hz}$ @ 501-1000 Hz |  |  |  |
| Current (RMS) | Range |  | $(\mathrm{A}+\mathrm{B}+\mathrm{C}) / 3$ |  |  |  |
|  | Accuracy |  | $\begin{aligned} & \quad \pm(1 \% \text { of reading }+5 \text { counts }) \text { at } 40-70 \mathrm{~Hz} \\ & \pm(1 \% \text { of reading }+5 \text { counts }) \text { at } 70.1-500 \mathrm{~Hz} \text {, and output current }(\mathrm{RMS})>0.200 \mathrm{~A} \\ & \pm(1 \% \text { of reading }+5 \text { counts }) \text { at } 501-1000 \mathrm{~Hz} \text {, and output current }(\mathrm{RMS})>0.300 \mathrm{~A} \end{aligned}$ |  |  |  |
| Power (W) | Range |  | A Power +B Power + C Power |  |  |  |
|  | Accuracy |  | Calculated Value |  |  |  |
| Power Apparent (VA) | Range |  | $A V A+B V A+C V A$ |  |  |  |
|  | Accuracy |  | Calculated Value |  |  |  |
| Power Reactive (Q) | Range |  | A VAR + B VAR + CVAR |  |  |  |
|  | Accuracy |  | Calculated Value |  |  |  |
| Power Factor | Range |  | 0-1.000 |  |  |  |
|  | Accuracy |  | Sum P / Sum VA, Calculated and displayed to three significant digits |  |  |  |
| Measurement (Total) Linking Parallel DC |  |  | 310XAC | 320XAC | 340XAC | 360XAC |
| Voltage | Range |  | 0.0-420.0 V |  |  |  |
|  | Accuracy |  | $\pm$ ( $1 \%$ of reading +2 counts) $>5 \mathrm{~V}$ |  | $\pm(1 \%$ of reading +5 counts) $>5 \mathrm{~V}$ |  |
| Current (RMS) | Range | 2 | 0.05 A - 26.00 A | $0.05 \mathrm{~A}-52.00 \mathrm{~A}$ | $0.05 \mathrm{~A}-104.00 \mathrm{~A}$ | $0.05 \mathrm{~A}-156.00 \mathrm{~A}$ |
|  |  | 3 | 0.05 A - 39.00 A | 0.05 A - 78.00 A | 0.05 A - 156.00 A | $0.05 \mathrm{~A}-234.00 \mathrm{~A}$ |
|  | Accuracy |  | $\pm$ ( $1 \%$ of reading +5 counts) $x$ \# of Linked Units, Current $>1.00 \mathrm{~A}$ |  | $\pm$ ( $1 \%$ of reading +5 counts) x \# of Linked Units, Current $>2.00 \mathrm{~A}$ | $\pm$ ( $1 \%$ of reading +5 counts) $x \#$ of Linked Units, Current >3.00 A |
| Power (W) | Range | 2 | OW-2600 W | 0 W-25200 W | O W-10400 W | OW-15600 W |
|  |  | 3 | 0 W-3900 W | 0 W-7800 W | 0 W-15600 W | 0 W-23400 W |
|  | Accuracy |  | $\pm$ ( $2 \%$ 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 1 V then 2 counts $=2 \mathrm{~V}$.

Key
L = Low Limit Range
L (2) = Low Limit Range 2 Units Linked
$H(2)=$ High Limit Range 2 Units Linked
$2=2$ Units Linked
$\mathrm{H}=$ High Limit Range L (3) = Low Limit Range 3 Units Linked H (3) = High Limit Range 3 Units Linked 3 = 3 Units Linked

## 7000 Series cєөде

## 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 | $\cdot 7$ Remote Memories |
| :--- | :--- |
| . GPIB Interface | $\cdot$ Ethernet Interface |



APT Benefits


Aerospace


Appliance



Lighting


Medical


| INPUT |  |  | 7004 | 7008 | 7016 | 7040 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Phase |  |  | $1 \varnothing$ |  |  |  |
| Voltage |  |  | 115/230 VAC $\pm 10 \%$ |  | $230 \mathrm{VAC} \pm 10 \%$ |  |
| Frequency |  |  | $47-500 \mathrm{~Hz}$ |  |  |  |
| OUTPUT |  |  |  |  |  |  |
| Voltage |  |  | 0-300 V |  | 5-300 V |  |
| Max Power |  |  | 400 VA* | 800 VA* | 1600 VA* | 4000 VA |
| Max Current $1 \varnothing$ | 0-150 V |  | 4.6 A @ $\leq 110$ V | 9.2 A @ $\leq 110 \mathrm{~V}$ | 18.4 A @ $\leq 110 \mathrm{~V}$ | 36.8 A @ 1110 V |
|  | 0-300 V |  | $2.3 \mathrm{~A} @ \leq 220 \mathrm{~V}$ | $4.6 \mathrm{~A} @ \leq 220 \mathrm{~V}$ | $9.2 \mathrm{~A} @ \leq 220 \mathrm{~V}$ | 18.4 A @ 5220 V |
| Phase |  |  | $1 \varnothing$ |  |  |  |
| Frequency |  |  | $40.0-500 \mathrm{~Hz}$ |  |  |  |
| THD |  |  | < 1\% (Resistive Load) |  |  |  |
| Crest Factor |  |  | $\geq 3$ |  |  |  |
| Line Regulation |  |  | $\pm 0.1 \mathrm{~V}$ |  |  |  |
| Load Regulation |  |  | $\pm(0.5 \%$ of output $+0.5 \mathrm{~V})$ at Resistive Load |  |  |  |
| MEASUREMENT |  |  |  |  |  |  |
| Voltage | Range |  | 0.0-400.0 V |  |  |  |
|  | Accuracy |  | $\pm$ (1\% of reading +2 counts) |  | $\pm(1 \%$ of reading +5 counts) $>5 \mathrm{~V}$ |  |
| Frequency | Range |  | $0.0-500 \mathrm{~Hz}$ |  |  |  |
|  | Accuracy |  | $\pm 0.1 \mathrm{~Hz}$ |  |  |  |
| Current (RMS) | Range |  | 0.005 A - 6.50 A | $0.005 \mathrm{~A}-13.00 \mathrm{~A}$ | 0.05 A - 26.00 A | 0.05 A - 52.00 A |
|  | Accuracy |  | $\pm$ ( $1 \%$ of reading +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 |
|  | Accuracy |  | $\pm$ ( $1 \%$ of reading +5 counts) |  |  |  |
| Power | Range |  | 0.0 W-650 W | $0.0 \mathrm{~W}-1300 \mathrm{~W}$ | $0.0 \mathrm{~W}-2600 \mathrm{~W}$ | 0.0 W-5200 W |
|  | Accuracy | L | $\pm(2 \%$ of reading +15 counts) at PF $>0.2$ |  | $\pm$ ( $2 \%$ of reading +30 counts) at PF $>0.2$ | $\pm$ ( $2 \%$ of reading +5 counts) at PF $\geq 0.2$ Voltage $>5 \mathrm{~V}$ Current $>0.05 \mathrm{~A}$ |
|  |  | H | $\pm(2 \%$ of reading +5 counts $)$ at $\mathrm{PF}>0.2$ |  | $\begin{gathered} \pm(2 \% \text { of reading }+10 \text { counts }) \text { at } \\ \text { PF }>0.2 \end{gathered}$ |  |
| Power Factor | Range |  | 0.000-1.000 |  |  |  |
|  | Accuracy |  | W/VA, Calculated and displayed to three significant digits |  |  |  |
| CENERAL |  |  |  |  |  |  |
| Rackmount Handles |  |  | Standard |  |  |  |
| USB/RS-232 Interface |  |  | Standard |  |  |  |
| Lockout |  |  | Key lockout or password protection |  |  |  |
| Front Output |  |  | Universal Receptacle | Universal Receptacle | Universal Receptacle | - |
| Efficiency |  |  | $\geq 80 \%$ (at Full Load) |  |  |  |
| Operation Environment |  |  | 0-40 ${ }^{\circ} \mathrm{C} / 20-80 \% \mathrm{RH}$ |  |  |  |
| Dimensions ( $\mathrm{W} \times \mathrm{H} \times \mathrm{D}$ ) |  |  | $16.92 \times 3.50 \times 15.75$ in | $16.92 \times 3.50 \times 15.75$ in | $16.92 \times 3.50 \times 19.69$ in | $16.92 \times 8.74 \times 19.69$ in |
|  |  |  | $430 \times 89 \times 400 \mathrm{~mm}$ | $430 \times 89 \times 400 \mathrm{~mm}$ | $430 \times 89 \times 500 \mathrm{~mm}$ | $430 \times 222 \times 500 \mathrm{~mm}$ |
| Net Weight |  |  | 36.4 lbs ( 16.5 kg ) | 40 lbs (18.2 kg) | $66 \mathrm{lbs}(30 \mathrm{~kg}$ ) | 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 $400 \mathrm{VA}, 800 \mathrm{VA}$, 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 1 V then 2 counts $=2 \mathrm{~V}$.

|  | 7004 | 7008 | 7016 |
| :---: | :---: | :---: | :---: |
| Output Power at $p f \leq 0.8$ | $500 \mathrm{VA} @ \leq 400 \mathrm{~W}$ | $1000 \mathrm{VA} @ \leq 800 \mathrm{~W}$ | $2000 \mathrm{VA} @ \leq 1600 \mathrm{~W}$ |
| Output Power at pf $>0.8$ | $400 \mathrm{VA} @ \leq 400 \mathrm{~W}$ | $800 \mathrm{VA} @ \leq 800 \mathrm{~W}$ | $1600 \mathrm{VA} @ \leq 1600 \mathrm{~W}$ |

## 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 ${ }^{\text {TM }}$ 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.


NI LabVIEW
DRIVER AVAILABLE

## 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 $\pm 10 \%$ | $\cdot 7$ Remote Memories |
| :--- | :--- |
| Grounded Neutral | . Ethernet Interface |
| GPIB Interface | . DC Output |

- DC Output

| INPUT |  |  | 6005 | 6010 | 6020 | 6040 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Phase |  |  | $1 \varnothing$ |  |  |  |
| Voltage |  |  | 115/230 VAC $\pm 10 \%$ |  | 208 VAC $\pm 10 \%$ |  |
| Frequency |  |  | $47-500 \mathrm{~Hz}$ |  |  |  |
| OUTPUT |  |  |  |  |  |  |
| Voltage |  |  | 0-300 V |  | 5-300 V |  |
| Max Power |  |  | 500 VA | 1 kVA | 2 kVA | 4 kVA |
| Max Current $1 \varnothing$ | 0-150 V |  | 4.6 A @ $\leq 110 \mathrm{~V}$ | 9.2 A @ $\leq 110 \mathrm{~V}$ | 18.4 A @ $\leq 110 \mathrm{~V}$ | 36.8 A @ $\leq 110 \mathrm{~V}$ |
|  | 0-300V |  | $2.3 \mathrm{~A} @ \leq 220 \mathrm{~V}$ | $4.6 \mathrm{~A} @ \leq 220 \mathrm{~V}$ | $9.2 \mathrm{~A} @ \leq 220 \mathrm{~V}$ | 18.4 A @ $\leq 220 \mathrm{~V}$ |
| Phase |  |  | $1 \varnothing$ |  |  |  |
| Frequency |  |  | $47-500 \mathrm{~Hz}$ |  |  |  |
| THD |  |  | <1\% (Resistive Load) |  |  |  |
| Crest Factor |  |  | $\geq 3$ |  |  |  |
| Line Regulation |  |  | $\pm 0.1 \mathrm{~V}$ |  |  |  |
| Load Regulation |  |  | $\pm(0.5 \%$ of output $+0.5 \mathrm{~V})$ at Resistive Load |  |  |  |
| MEASUREMENT |  |  |  |  |  |  |
| Voltage | Range |  | 0.0-400.0 V |  |  |  |
|  | Accuracy |  | $\pm$ (1\% of reading +2 counts) |  | $\pm$ ( $1 \%$ of reading +5 counts) $>5 \mathrm{~V}$ |  |
| Frequency | Range |  | $0.0-500 \mathrm{~Hz}$ |  |  |  |
|  | Accuracy |  | $\pm 0.1 \mathrm{~Hz}$ |  |  |  |
| Current (RMS) | Range |  | 0.005 A - 6.50 A | $0.005 \mathrm{~A}-13.00 \mathrm{~A}$ | 0.05 A - 26.00 A | 0.05 A - 52.00 A |
|  | Accuracy |  | $\pm$ ( $1 \%$ of reading +5 counts) |  |  |  |
| Current Peak | Range |  | 0.0 A-19.0 A | 0.0A-38.0 A | 0.0 A-76.0 A | 0.0 A-152.0 A |
|  | Accuracy |  | $\pm$ ( $1 \%$ of reading +5 counts) |  |  |  |
| Power | Range |  | 0.0W-650 W | $0.0 \mathrm{~W}-1300 \mathrm{~W}$ | 0.0 W-2600 W | 0.0W-5200 W |
|  | Accuracy | L | $\pm$ ( $2 \%$ of reading +15 counts) | $\pm$ ( $2 \%$ of reading +30 counts) | $\pm$ ( $2 \%$ of reading +5 counts ) |  |
|  |  | H | $\pm$ ( $2 \%$ of reading +5 counts) | $\pm$ ( $2 \%$ of reading + 10 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 Interface |  |  | Standard |  |  |  |
| Lockout |  |  | Key lockout or password protection |  |  |  |
| Efficiency |  |  | $\geq 80 \%$ (at Full Load) |  |  |  |
| Operation Environment |  |  | 0-40 ${ }^{\circ} \mathrm{C} / 20-80 \% \mathrm{RH}$ |  |  |  |
| Dimensions ( $\mathrm{W} \times \mathrm{H} \times \mathrm{D}$ ) |  |  | $16.92 \times 3.50 \times 15.75$ in | $16.92 \times 3.50 \times 15.75$ in | $16.92 \times 3.50 \times 19.69$ in | $16.92 \times 8.74 \times 19.69$ in |
|  |  |  | $430 \times 89 \times 400 \mathrm{~mm}$ | $430 \times 89 \times 400 \mathrm{~mm}$ | $430 \times 89 \times 500 \mathrm{~mm}$ | $430 \times 222 \times 500 \mathrm{~mm}$ |
| Net Weight |  |  | 36.4 lbs ( 16.5 kg ) | $40 \mathrm{lbs}(18.2 \mathrm{~kg})$ | $66 \mathrm{lbs}(30 \mathrm{~kg}$ ) | $143.3 \mathrm{lbs}(65 \mathrm{~kg}$ ) |
| DC OUTPUT VOLTAGE |  |  |  |  |  |  |
| Voltage |  |  | 0-400 V |  |  |  |
| Max Power |  |  | 250 W | 500 W | 1000 W | 2000 W |
| Max Current | 0-200 V |  | 2.3 A | 4.6 A | 9.2 A | 18.4 A |
|  | $0-400 \mathrm{~V}$ |  | 1.5 A | 2.3 A | 4.6 A | 9.2 A |
| Ripple \& Noise (RMS) |  |  | $0-200 \mathrm{~V}<250 \mathrm{mV}$ \& $0-400 \mathrm{~V}<400 \mathrm{mV}$ |  | 0-200V $<350 \mathrm{mV}$ \& $0-400 \mathrm{~V}<400 \mathrm{mV}$ |  |

Specifications subject to change

[^0]
## 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 easy-to-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 $\pm 10 \%$
Grounded Neutral


## APT Benefits



Medical

| INPUT |  | 5005 | 5010 | 5020 | 5040 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Phase |  | $1 \varnothing$ |  |  |  |
| Voltage |  | 115/230 VAC $\pm 10 \%$ |  | $208 \mathrm{VAC} \pm 10 \%$ |  |
| Frequency |  | 47-500 Hz |  |  |  |
| OUTPUT |  |  |  |  |  |
| Voltage |  | 0-300 V |  | $5-300 \mathrm{~V}$ |  |
| Max Power |  | 500 VA | 1 kVA | 2 kVA | 4 kVA |
| Max Current $1 \varnothing$ | 0-150 V | 4.6 A @ $\leq 110 \mathrm{~V}$ | $9.2 \mathrm{~A} @ \leq 110 \mathrm{~V}$ | 18.4 A @ $\leq 110 \mathrm{~V}$ | 36.8 A @ $\leq 110 \mathrm{~V}$ |
|  | 0-300 V | $2.3 \mathrm{~A} @ \leq 220 \mathrm{~V}$ | $4.6 \mathrm{~A} @ \leq 220 \mathrm{~V}$ | $9.2 \mathrm{~A} @ \leq 220 \mathrm{~V}$ | 18.4 A @ $\leq 220 \mathrm{~V}$ |
| Phase |  | $1 \varnothing$ |  |  |  |
| Frequency |  | $40.0-450 \mathrm{~Hz}$ |  |  |  |
| THD |  | <1\% (Resistive Load) |  |  |  |
| Crest Factor |  | $\geq 3$ |  |  |  |
| Line Regulation |  | $\pm 0.1 \mathrm{~V}$ |  |  |  |
| Load Regulation |  | $\pm(0.5 \%$ of output $+0.5 \mathrm{~V})$ at Resistive Load |  |  |  |
| MEASUREMENT |  |  |  |  |  |
| Voltage | Range | 0.0-400.0 V |  |  |  |
|  | Accuracy | $\pm$ (1\% of reading +2 counts) |  | $\pm$ ( $1 \%$ of reading +5 counts) $>5 \mathrm{~V}$ |  |
| Frequency | Range | $0.0-500 \mathrm{~Hz}$ |  |  |  |
|  | Accuracy | $\pm 0.1 \mathrm{~Hz}$ |  |  |  |
| Current (RMS) | Range | $0.00 \mathrm{~A}-6.50 \mathrm{~A}$ | 0.00 A-13.00 A | 0.00 A-26.00 A | 0.05 A - 52.00 A |
|  | Accuracy | $\pm$ (1\% of reading +5 counts) |  |  |  |
| Power | Range | 0.0 W-650 W | $0.0 \mathrm{~W}-1300 \mathrm{~W}$ | $0.0 \mathrm{~W}-2600 \mathrm{~W}$ | 0.0 W-5200 W |
|  | Accuracy | $\pm$ ( $2 \%$ of reading + 10 counts) at PF $\geq 0.2$ |  |  |  |
| Power Factor | Range | 0.000-1.000 |  |  |  |
|  | Accuracy | W/VA, Calculated and displayed to three significant digits |  |  |  |
| CENERAL |  |  |  |  |  |
| Lockout |  | Key lockout |  |  |  |
| Inrush Current |  | 4 times the max rated current |  |  |  |
| Enhanced Over Load Protection |  | 4 times of rating current, Over Current 110\% can be held for 1000ms w/o shutdown of output |  |  |  |
| Over Current Foldback |  | Constant Current Mode (Voltage output varies to maintain current output based on load) |  |  |  |
| Memories |  | 3 Programmable Memory Locations |  |  |  |
| Front Output |  | Universal Receptacle |  |  |  |
| Rear Output |  | - | - | Universal Receptacle | Terminal Block |
| Displays |  | 4 LED Displays |  |  |  |
| Operation Key Feature |  | Up/Down Arrow Keys |  |  |  |
| Voltage Limits |  | Programmable High \& Low Limits |  |  |  |
| Frequency Limits |  | Programmable High \& Low Limits |  |  |  |
| Power Up Settings |  | Specify Output Power Condition on Power Up (On, Off, Last) |  |  |  |
| Protection Circuits |  | Over Current, Over Voltage, Over Power, Over Temperature |  |  |  |
| Efficiency |  | $\geq 80 \%$ (at Full Load) |  |  |  |
| Operation Environment |  | $0-40^{\circ} \mathrm{C} / 20-80 \% \mathrm{RH}$ |  |  |  |
| Dimensions ( $\mathrm{W} \times \mathrm{H} \times \mathrm{D}$ ) |  | $16.92 \times 3.50 \times 11.81$ in | $16.92 \times 3.50 \times 15.75$ in | $16.92 \times 3.50 \times 19.69$ in | $16.92 \times 8.74 \times 19.69$ in |
|  |  | $430 \times 89 \times 300 \mathrm{~mm}$ | $430 \times 89 \times 400 \mathrm{~mm}$ | $430 \times 89 \times 500 \mathrm{~mm}$ | $430 \times 222 \times 500 \mathrm{~mm}$ |
| Net Weight |  | 36.4 lbs ( 16.5 kg ) | 40 lbs ( 18.2 kg ) | $66 \mathrm{lbs}(30 \mathrm{~kg}$ ) | $143.3 \mathrm{lbs}(65 \mathrm{~kg}$ ) |

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 1 V then 2 counts $=2 \mathrm{~V}$.

## LS Series C © (4)

## Linear AC Power Sources

Our LS Series linear AC power sources provide clean, regulated power at competitive prices. Linear technology reduces total harmonic distortion (THD) across the instrument's output frequency range and improves performance for high crest factor loads. Four LED displays monitor voltage, current, frequency, power, and power factor while the easy-to-use local push-button interface allows operators to quickly set and change test parameters with ease. Built-in safety features protect the instrument, the operator, and the DUT ensuring a safe work environment.

## Features

- 3 built-in memory locations
- 50/60 Hz quick selection keys
- Metering circuits monitor voltage, current, frequency and power
- Constant current output with over current fold back feature
- Front panel lockout
- Programmable high and low limits for voltage, current and frequency
- Low range metering into milliwatts for power (optional)
- Push-button interface for easy setup
- Test/Reset key quickly disables output voltage
- Front panel calibration


## Options



- Grounded Neutral
- 7 Remote Memories

Low Range .1mA/.01W Resolution

## Applicable



Aerospace


Laboratory


Lighting


Medical

## APT Benefits




[^1]
## Variplus®

## Power Converter

The VariPLUS ${ }^{\circledR}$ 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 $50 / 60 \mathrm{~Hz}$ 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 $50 / 60 \mathrm{~Hz}$ 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



## 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 1 V then 2 counts $=2 \mathrm{~V}$.

## THROUGHOUT THE



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[^0]:    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 1 V then 2 counts $=2 \mathrm{~V}$.

[^1]:    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 1 V then 2 counts $=2 \mathrm{~V}$.

