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

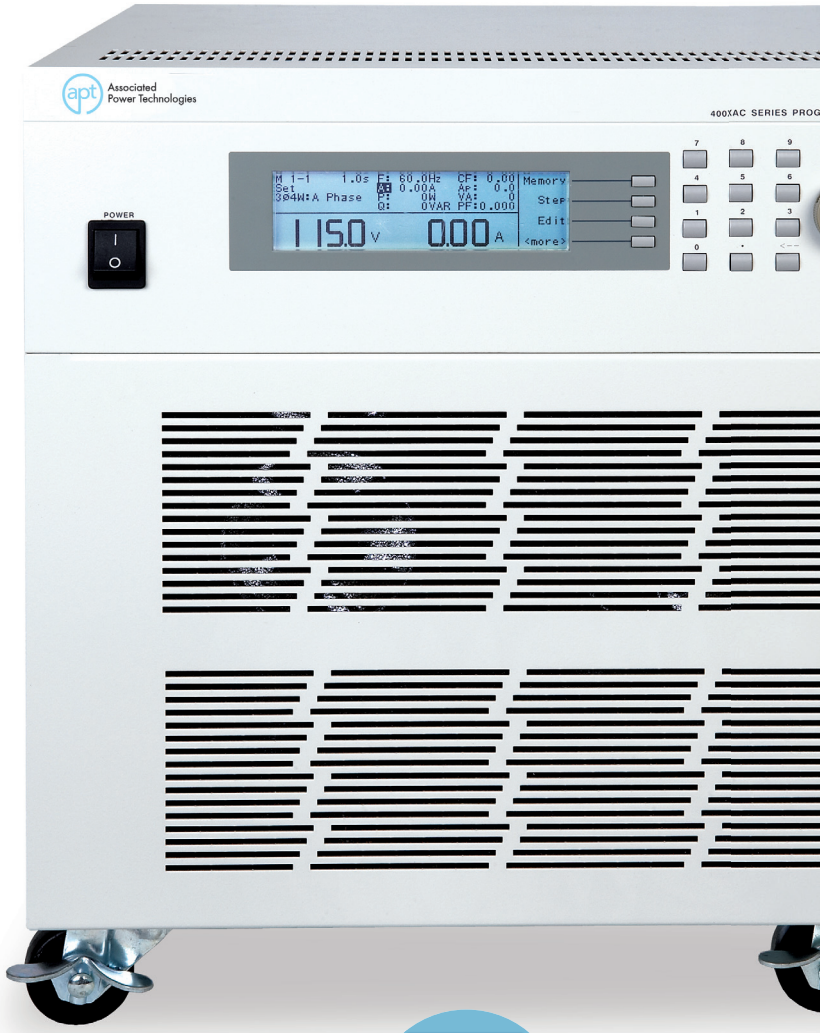
- Exclusive SmartCONFIG feature allows for push button switch of 1Ø, 3Ø, or DC output
- Single phase input power requirements
- 50 built-in memory locations with 9 test steps
- Built-in power factor correction (PFC)
- Advanced metering circuits monitor voltage, current, peak current, power, apparent 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



IVI DRIVER AVAILABLE

Start Output
PowerTRAC™ AVAILABLE

Applicable Industries

Aerospace | Appliance | Laboratory | Motor

APT Benefits

3 YEAR WARRANTY

10 DAY GUARANTEED SHIPMENT

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			
Power Rating	1Ø2W		6000 VA
	1Ø3W		Total 4000 VA (2000 VA per phase)
	3Ø4W		Total 6000 VA (2000 VA per phase)
	DC		6000 VA
Max. Current (RMS)	1Ø2W	5- 150 V	55.2 A @ ≤110 V
		5 - 300 V	27.6 A @ ≤220 V
	1Ø3W	5 - 150 V	18.4 A @ ≤110 V for per phase
		5 - 300 V	9.2 A @ ≤220 V for per phase
	3Ø4W	5 - 150 V	18.4 A @ ≤110 V for per phase
		5 - 300 V	9.2 A @ ≤220 V for per phase
Inrush Current (peak)	1Ø2W	5 - 150 V	220.8 A
		5 - 300 V	110.4 A
	1Ø3W	5 - 150 V	73.6 A for per phase
		5 - 300 V	36.8 A for per phase
	3Ø4W	5 - 150 V	73.6 A for per phase
		5 - 300 V	36.8 A for per phase
Phase			1Ø2W, 1Ø3W, 3Ø4W, provided option
THD (Total Harmonic Distortion)			<0.5% (Resistive Load) at 40.0~70.0 Hz and output voltage within the 80~140 VAC at Low Range or the 160~280 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 Regulation (Hardware)			± (1% of output +1 V) at Resistive Load, <400 µS response time
Load Regulation (Software)			± 0.2 V, <1 S response time
DC offset			≤ ± 5 mV
Poly-phase mode (3Ø4W) for per phase output setting			**460XAC**
Voltage	Range		5.0~300 VAC (phase), 8.6~520 VAC (line), 150/300 V Auto Range
	Accuracy		± (0.2% of setting + 3 counts)
Frequency	Range		40~1000 Hz Full Range Adjust
	Accuracy		± 0.03% of setting
Starting & Ending Phase Angle	Range		0~359°
	Accuracy		±1°(45~65 HZ)
Current Hi Limit	5V~150 V		0.01~18.40 A
	5V~300 V		0.01~9.20 A
	Accuracy		± (2.0% of setting + 2 counts)
OC Fold Back Response Time			<1.4 s
Ramp-Up Timer (second)	Range		0.0~999.9 s
	Accuracy		± (0.1% + 0.05 sec)
Ramp-Down Timer (second)	Range		0.0~999.9 s
	Accuracy		± (0.1% + 0.05 sec)
Delay Timer	Range		1 s~999.9 s 0.1 m~999.9 min 0.1 h~999.9 h
	Accuracy		± (0.1% + 0.1 sec)
Dwell Timer	Range		0, 1s~999.9 h (0=continuous)
	Accuracy		± (0.1% + 0.1 sec)
Poly-phase mode (3Ø4W) for per phase measurement			**460XAC**
Frequency	Range		0.0-1000 Hz
	Resolution		0.1 Hz
	Accuracy		± 0.1 Hz (501-1000 Hz Accuracy ± 0.2 Hz)
Voltage	Range		0.0-420.0 V
	Resolution		0.1 V
	Accuracy		± (0.2% of reading + 3 counts)

Specifications – 460XAC

Poly-phase mode (3Ø4W) for per phase measurement			460XAC
Current (RMS)	Range	L	0.005 A~2.400 A
		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
		H	± (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) ≤55.2 A
Current (peak)	Range		0.0 A~76.0 A
	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
Power	Range	L	0.0 W~240.0 W
		H	200 W~2600 W
	Accuracy	L	± (2% of reading +15 counts) at 40.0-500 Hz and PF ≥0.2 ± (2% of reading +30 counts) at 501-1000 Hz and PF ≥0.5
		H	± (2% of reading +5 counts) at 40.0-500 Hz and PF ≥0.2 ± (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
Power Apparent (VA)	Range	L	0.0 VA~240.0 VA
		H	200 VA~2600 VA
	Accuracy		V×A, Calculated value
Power Reactive (Q)	Range	L	0.0 VAR ~ ± 240.0 VAR
		H	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 mode (3Ø4W) for Σ measurement			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)
	Calculated Formula		(A+B+C)/√3, Calculated and displayed to one significant digits
Current (RMS)	Range	L	0.005A~2.400A
		H	2.00A~26.00A
	Calculated Formula	L	$\frac{\sum VA}{\sum V} / \sqrt{3}$
		H	
Power	Range	L	0.0W~720.0W
		H	600W~7800W
	Accuracy	L	A Power + B Power + C Power, Calculated value
		H	
Power Factor	Range		0 - 1.000
	Resolution		0.001
	Accuracy		$\frac{\sum P}{\sum VA}$ Calculated and displayed to three significant digits
Power Apparent (VA)	Range	L	0.0VA~720.0VA
		H	600VA~7800VA
	Calculated Formula	L	$\sqrt{(\sum W)^2 + (\sum Q)^2}$
		H	
Power Reactive (Q)	Range	L	0.0VAR~720.0VAR
		H	600VAR~7800VAR
	Accuracy	L	A VAR + B VAR + C VAR, Calculated value
		H	

Single-phase mode (1Ø2W) Setting		460XAC
Voltage	Range	5.0~300 VAC, 150/300 V Auto Range
	Resolution	0.1 V
	Accuracy	± (0.2% of setting + 3 counts)

Single-phase mode (1Ø2W) Setting			460XAC
Frequency	Range		40~1000 Hz Full Range Adjust
	Resolution		0.1 Hz at 40.0~99.9 Hz , 1 Hz at 100~1000 Hz
	Accuracy		± 0.03% of setting
Starting & Ending Phase Angle	Range		0~359°
	Resolution		1°
	Accuracy		± 1°(45~65 HZ)
Current Hi Limit	5V~150V		0.01~55.20 A
	5V~300V		0.01~27.60 A
	Accuracy		± (2.0% of setting + 2 counts)
OC Fold Back Response Time			< 1.4 s
Single-phase mode (1Ø2W) measurement			**460XAC**
Frequency	Range		0.0~1000 Hz
	Accuracy		± 0.1 Hz (501~1000 Hz Accuracy ±0.2 Hz)
Voltage	Range		0.0~420.0 V
	Accuracy		± (0.2% of reading + 3 counts)
Current (RMS)	Range		0.05 A~78.00
	Accuracy		± (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) ≤165.6 A
Current (peak)	Range		0.0 A~228.0 A
	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
Power	Range		0 W~7800 W
	Accuracy		± (2% of reading +5 counts) at 40.0~500 Hz and PF ≥0.2 ± (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
Power Apparent	Range		0 VA~7800 VA
	Accuracy		V×A, Calculated value
Power Reactive (Q)	Range		0 VAR~7800 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 mode (1Ø3W) for per phase output setting			**460XAC**
Voltage	Range		5.0~300 VAC (phase), 10.0~600 VAC (line), 150/300 V Auto Range
	Accuracy		± (0.2% of setting + 3 counts)
Frequency	Range		40~1000 Hz Full Range Adjust
	Accuracy		± 0.03% of setting
Starting & Ending Phase Angle	Range		0~359°
	Accuracy		± 1°(45~65 HZ)
Current RI Limit	5V~150V		0.01~18.40 A
	5V~300V		0.01~9.20 A
	Accuracy		± (2.0% of setting + 2 counts)
OC Fold Back Response Time			<1.4 s
Poly-phase mode (1Ø3W) for per phase measurement			**460XAC**
Frequency	Range		0.0-1000 Hz
	Accuracy		± 0.1 Hz (501-1000 Hz Accuracy ±0.2 Hz)
Voltage	Range		0.0-420.0 V
	Accuracy		± (0.2% of reading + 3 counts)
Current (RMS)	Range	L	0.005 A~2.400 A
		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
		H	± (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) ≤55.2 A

Specifications – 460XAC

Poly-phase mode (1Ø3W) for per phase measurement			460XAC
Current (peak)	Range		0.0 A~76.0 A
	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
Power	Range	L	0.0 W~240.0 W
		H	200 W~2600 W
	Accuracy	L	± (2% of reading +15 counts) at 40.0-500 Hz and PF ≥0.2 ± (2% of reading +30 counts) at 501-1000 Hz and PF ≥0.5
		H	± (2% of reading +5 counts) at 40.0-500 Hz and PF ≥0.2 ± (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
Power Apparent (VA)	Range	L	0.0 VA~240.0 VA
		H	200 VA~2600 VA
	Accuracy		VxA, Calculated value
Power Reactive (Q)	Range	L	0.0 VAR~240.0 VAR
		H	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 mode (1Ø3W) for L1-L2 measurement			**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
		H	2.00~26.00A
	Calculated Formula	L	$\frac{\sum VA}{\sum V}$
		H	
Power	Range	L	0.0W~480.0W
		H	400W~5200W
	Accuracy	L	L1 Power + L2 Power, Calculated value
		H	
Power Factor	Range		0 - 1.000
	Calculated Formula		(L1 P + L2 P) / (L1 VA + L2 VA), Calculated and displayed to three significant digits
Power Apparent (VA)	Range	L	0.0W~480.0VA
		H	± 400W~5200VA
	Calculated Formula	L	$\sqrt{(\sum W)^2 + (\sum Q)^2}$ Calculated value
		H	
Power Reactive (Q)	Range	L	0.0VAR ~ ± 480.0VAR
		H	± 400VAR ~ ± 5200VAR
	Calculated Formula	L	L1 VAR + L2 VAR, Calculated value
		H	
DC OUTPUT			
Max. Power			6000 W
Max. Current	0-210 V		28.8 A
	0-420 V		14.4 A
Ripple and Noise (RMS)			Range: 5-210 V <700 mV Range: 5-420 V <1100 mV
Ripple and Noise (p-p)			<4.0 Vp-p
DC SETTINGS			
Voltage	Range		5-210 V / 5-420 V Selectable
	Accuracy		± (0.2% of setting + 3 counts)
Current Hi Limit	5 V-210 V		0.10 - 28.80 A
	5 V-420 V		0.10 - 14.40 A
	Accuracy		± (2.0% of setting + 2 counts)
OC Fold Back Response Time			<1.4 s

DC MEASUREMENT		460XAC
Voltage	Range	0.0-420.0 V
	Accuracy	± (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 Shut 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	L	When output frequency < 100Hz, maximum voltage deviation + 5V When output frequency 101-500Hz, maximum voltage deviation + 15V When output frequency 501-1000Hz, maximum voltage deviation + 20V
	H	When output frequency < 100Hz, maximum voltage deviation + 10V When output frequency 101-500Hz, maximum voltage deviation + 30V When output frequency 501-1000Hz, maximum voltage deviation + 40V
Software LVP	L	When output frequency < 100Hz, maximum voltage deviation -5V > 0.5 second When output frequency 101-500Hz, maximum voltage deviation -15V > 0.5 second When output frequency 501-1000Hz, maximum voltage deviation -20V > 0.5 second
	H	When output frequency < 100Hz, maximum voltage deviation -10V > 0.5 second When output frequency 101-500Hz, maximum voltage deviation -30V > 0.5 second When output frequency 501-1000Hz, maximum voltage deviation -40V > 0.5 second
Reverse Current Protection (RCP)		Over 75W
GENERAL		
Transient (only for 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 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 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, Response time <1400ms
Safety Agency		CE Listed
Dimensions (W x H x D)		430 x 400.5 x 500 mm
		16.93 x 15.77 x 19.69 in
Net Weight		125.6 lbs (57 kg)
Operation Environment		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.