400XAC

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 400XAC Series consists of two models: the 430XAC is a 3 kVA AC power source and 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.

Applicable Industries

Aerospace

Appliance

Laboratory

Motor

EEC Benefits

5 YEAR WARRANTY

1 DAY GUARANTEED SHIPMENT

Standard

USB/RS-232 Interface

Options

GPIB Interface

Ethernet Interface

Start Output PowerTRAC AVAILABLE

IVI DRIVER AVAILABLE

Specifications – 400XAC

INPUT			430XAC	460XAC
Phase			1Ø	1Ø or 3Ø
Voltage			200 - 240 VAC	1Ø : 200~240 VAC ± 10% 3Ø3W : 200~240 VAC ± 10% 3Ø4W : 346~416 VAC ± 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 @ ≤110 V	55.2 A @ ≤110 V
		5 - 300 V	13.8 A @ ≤220 V	27.6 A @ ≤220 V
	1Ø3W	5 - 150 V	9.2 A @ ≤110 V for per phase	18.4 A @ ≤110 V for per phase
		5 - 300 V	4.6 A @ ≤220 V for per phase	9.2 A @ ≤220 V for per phase
	3Ø4W	5 - 150 V	9.2 A @ ≤110 V for per phase	18.4 A @ ≤110 V for per phase
		5 - 300 V	4.6 A @ ≤220 V for per phase	9.2 A @ ≤220 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 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
	3Ø4W	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			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			**430XAC**	**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		0.01~9.20 A	0.01~18.40 A
	5V~300 V		0.01~4.60 A	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			**430XAC**	**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 – 400XAC

Poly-phase mode (3Ø4W) for per phase measurement			430XAC	460XAC
Current (RMS)	Range	L	0.005 A~1.200 A	0.005 A~2.400 A
		H	1.00 A~13.00 A	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) ≤3.6 A	± (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) ≤27.6 A	± (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~38.0 A	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~120.0 W	0.0 W~240.0 W
		H	100 W~1300 W	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~120.0 VA	0.0 VA~240.0 VA
		H	100 VA~1300 VA	200 VA~2600 VA
	Accuracy		V×A, Calculated value	
Power Reactive (Q)	Range	L	0.0 VAR ~ ± 120.0 VAR	0.0 VAR ~ ± 240.0 VAR
		H	0 VAR ~ ± 1300 VAR	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			**430XAC**	**460XAC**
Frequency	Range		0.0-1000.0 Hz	
	Accuracy		± 0.1 Hz (501-1000 Hz Accuracy ±0.2 Hz)	
Voltage	Range		0.0-727.5 V	
	Calculated Formula		(A+B+C)/√3, Calculated and displayed to one significant digits	
Current (RMS)	Range	L	0.005A~1.200A	0.005A~2.400A
		H	1.00A~13.00A	2.00A~26.00A
	Calculated Formula	L	$\frac{\sum VA}{\sum V} / \sqrt{3}$	
		H		
Power	Range	L	0.0W~360.0W	0.0W~720.0W
		H	300W~3900W	600W~7800W
	Accuracy	L	$\frac{\sum P}{\sum VA}$ A Power + B Power + C Power, Calculated value	
		H		
Power Factor	Range		0 - 1.000	
	Resolution		0.001	
	Accuracy		Calculated and displayed to three significant digits	
Power Apparent (VA)	Range	L	0.0VA~360.0VA	0.0VA~720.0VA
		H	300VA~3900VA	600VA~7800VA
	Calculated Formula	L	$\sqrt{(\sum W)^2 + (\sum Q)^2}$	
		H		
Power Reactive (Q)	Range	L	0.0VAR~360.0VAR	0.0VAR~720.0VAR
		H	300VAR~3900VAR	600VAR~7800VAR
	Accuracy	L	A VAR + B VAR + C VAR, Calculated value	
		H		
Single-phase mode (1Ø2W) Setting			**430XAC**	**460XAC**
Voltage	Range		5.0~300 VAC, 150/300 V Auto Range	
	Resolution		0.1 V	
	Accuracy		± (0.2% of setting + 3 counts)	

Specifications – 400XAC

Single-phase mode (1Ø2W) Setting			430XAC	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		0.01~27.60 A	0.01~55.20 A
	5V~300V		0.01~13.80 A	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			**430XAC**	**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~39.00 A	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) ≤82.8 A	± (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~114.0 A	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~3900 W	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~3900 VA	0 VA~7800 VA
	Accuracy		V×A, Calculated value	
Power Reactive (Q)	Range		0 VAR~3900 VAR	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			**430XAC**	**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		0.01~9.20 A	0.01~18.40 A
	5V~300V		0.01~4.60 A	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			**430XAC**	**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~1.200 A	0.005 A~2.400 A
		H	1.00 A~13.00 A	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) ≤3.6 A	± (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 + 5counts) at 40.0-500 Hz ± (1% of reading +5 counts) at 501-1000 Hz, CF <1.5 and Current (peak) ≤27.6 A	± (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 – 400XAC

Poly-phase mode (1Ø3W) for per phase measurement			430XAC	460XAC
Current (peak)	Range		0.0 A~38.0 A	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~120.0 W	0.0 W~240.0 W
		H	100 W~1300 W	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~120.0 VA	0.0 VA~240.0 VA
		H	100 VA~1300 VA	200 VA~2600 VA
	Accuracy		VxA, Calculated value	
Power Reactive (Q)	Range	L	0.0 VAR~120.0 VAR	0.0 VAR~240.0 VAR
		H	0 VAR~1300 VAR	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			430XAC	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~1.200A	0.005A~2.400A
		H	1.00A~13.00A	2.00~26.00A
	Calculated Formula	L	$\frac{\sum VA}{\sum V}$	
		H		
Power	Range	L	0.0W~240.0W	0.0W~480.0W
		H	200W~2600W	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~240.0VA	0.0W~480.0VA
		H	200W~2600VA	± 400W~5200VA
	Calculated Formula	L	$\sqrt{(\sum W)^2 + (\sum Q)^2}$ Calculated value	
		H		
Power Reactive (Q)	Range	L	0.0VAR ~ ± 240.0VAR	0.0VAR ~ ± 480.0VAR
		H	± 200VAR ~ ± 2600VAR	± 400VAR ~ ± 5200VAR
	Calculated Formula	L	L1 VAR + L2 VAR, Calculated value	
		H		

DC OUTPUT			
Max. Power		3000 W	6000 W
Max. Current	0-210 V	14.4 A	28.8 A
	0-420 V	7.2 A	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	14.40 A	0.10 - 28.80 A
	5 V-420 V	7.20 A	0.10 - 14.40 A
	Accuracy	± (2.0% of setting + 2 counts)	
OC Fold Back Response Time		<1.4 s	

Specifications – 400XAC

DC MEASUREMENT		430XAC	460XAC
Voltage	Range	0.0-420.0 V	
	Accuracy	± (0.2% of setting + 5 counts)	
Current	Range	0.05 A~19.50 A	0.05 A~39.00 A
	Accuracy	± (1% of reading +5 counts)	
Power	Range	0 W~3900 W	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 95 degree C on the power amp and PFC heatsink	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		105.8 lbs (48 kg)	125.6 lbs (57 kg)
Operation Environment		0-40°/20-80% RH	

Specifications subject to change

Why We Use Counts
EEC publishes some specifications using "counts" which allows us to provide a better indication of the power source'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.