

Elgar XWave

30 kVA–480 kVA

High Power AC Source / Frequency Converter

132-528 VAC

- Flexible Modular Power Architecture
- High Current Capability
- 150% Inrush Current Loading
- Standard 1000 Hz max frequency operation
- Low Total Harmonic Distortion (THD)
- Custom Voltage Outputs



150-4000 A

	208	240	460
		480	

The XWave establishes a new standard of performance and value for AC power systems from 30kVA to 480kVA. Using advanced MOSFET based, switch mode power conversion technology, the XWave delivers high power density, efficiency and modular flexibility, all at a budget pleasing price. The XWave is ideally suited for many common AC power source applications including:

- Product design and acceptance testing to world-wide AC mains voltage and frequency standards
- Simulation of high frequency AC bus parameters for marine and aircraft equipment
- High power AC mains power conditioning for sensitive equipment
- Replacement of noisy and inefficient motor-generator (MG) sets

Standard models with single or three phase outputs, in a variety of single or dual output ranges, are offered. Consult with AMETEK Programmable Power sales for custom output requirements.

Features and Benefits

30 to 480 kVA Power Rating

The XWave series is a modular design utilizing 10kW power modules to provide incremental output levels from 30kVA to 480 kVA. Up to 120kVA can be provided in a single cabinet. Multiple cabinet systems are configured for outputs from 120kVA to 480kVA.

Modular Construction

The XWave modular architecture, utilizing interchangeable components, facilitates low cost and quick repairs should the XWave require service, which may be accomplished on-site.

In addition, should requirements change in the future, depending on the specifics, this architecture facilitates field upgrades, further protecting your XWave investment.

Automated Or Manual Control

All models are available with control of voltage and frequency through the front panel or through analog control.

Precision Performance

The XWave features excellent THD performance while providing the power density and efficiency benefits of advanced switch mode power conversion technology. More power with lower noise in less space.

The XWave provides up to 150% of rated output current for up to 7 seconds to handle loads with heavy in-rush currents.

In addition, the XWave provides a line drop compensation feature to overcome distribution losses.

Soft Start

This feature protects AC input service from disturbances while enhancing reliability.

PFC & Low Input Current Distortion

Zig-Zag multi phase input rectification minimizes input line disturbances and provides a typical power factor of 0.8.

Wide Frequency Range Output

The XWave has a standard frequency operating range of 45 to 1000 Hz. This permits simulation of existing and emerging power bus standards in the aircraft and marine markets. A no cost option is available limiting the top frequency to 500 Hz.

Consult with AMETEK Programmable Power sales for custom output frequency requirements.

Elgar XWAVE : Product Specifications

Output			
Configuration	120/208 VAC, 3 phase, 5 wire WYE. Output is fully isolated from chassis and ground; neutral may be grounded. (Other output configurations available, see chart)		
Voltage Range	Output 1: 0 to 132 VAC L-N / 0 to 228 VAC L-L adjustment is via 10 turn pot and a 10% trim for phases B & C (other output configurations available, see chart).		
Line Regulation	±0.1% for ±10% input voltage change		
Load Regulation	Frequency	Full Load	
For Output 1	50/60 Hz	0.5%	
	< 400 Hz	2.0%	
	< 1000 Hz	8.0%	
For Output 2	50/60 Hz	4.0%	
	< 400 Hz	8.0%	
	< 1000 Hz	20.0%	
Output Frequency	Switch selectable, fixed frequencies of 50 Hz, 60 Hz, 400 Hz and 800 Hz, (variable 45-1000 Hz). High frequency up to 2 kHz via optional external signal input.		
Frequency Accuracy	±0.1%		
Output Power	30-480 kVA, full performance, 0.8 lead or lag. Performance degrades slightly for more extreme power factor but is unconditionally stable into any load P.F.		
Overload Current	Up to 150% of rated output current for 7 seconds, at which time the output will be gated off and require a manual restart		
Repetitive Peak Current	2.9:1, Peak Current to RMS Current		
Output Voltage Distortion	Frequency	Up to 30 kHz	Up to 1 MHz
For Output 1:	50/60 Hz	0.5%	1.5%
	< 400 Hz	1.0%	2.0%
	< 1000 Hz	1.5%	2.5%
For Output 2:	50/60 Hz	0.5%	1.5%
	< 400 Hz	1.5%	2.5%
	< 1000 Hz	2.0%	3.0%
Response Time	Corrects for 100% load change in < 150 µs		
Load Imbalance	Maintains performance with 100% load imbalance		
Input			
Input Voltage	A multi-tapped input transformer allows a system to be quickly connected for any of the popular 3 phase AC Services.		
Voltage tolerance	For all ranges, ± 10%: 208 VAC 3 Phase Wye*, 240 VAC 3 Phase Delta, 460 VAC 3 Phase Delta, 480 VAC 3 Phase Wye**		
Frequency	47 to 63 Hz (400 Hz inputs available as option)		
Power Factor	Input PF 0.8 typical at 50% to 100% of full rated output		
Input Current Distortion	Less than 5% THD		
Input Service Requirements	125% of system rating		
Efficiency	85% at full load. Idle losses less than 1.5 kW on a 30 kVA system		
Monitors And Controls			
Output Voltmeter (true RMS)	3 1/2 digit meter with 6 position selector switch. Selects each phase to phase and phase to neutral. Accuracy = 2% of full scale		
Output Current Meter (true RMS)	3 1/2 digit meter with 3 position phase select switch. Accuracy = 3% of full scale		
Output Frequency Meter	Digital meter with decimal point. Accuracy = ±0.1% of full scale		
Amplitude Control	Master control varies all phases; a balance adjust is provided for B & C phases, each having a 10% range.		
Oscillator Mode Select	Rotary switch, selects 50 Hz, 60 Hz, 400Hz, 800 Hz, variable frequency and program output.		
Variable Frequency Control	High resolution 10 turn pot, varies frequency from 45 to 1,000 Hz		
Environmental			
Temperature Range	0 to 45 degrees centigrade		
Humidity	0 to 95% non-condensing		
Audible Noise	at 3 meters at full load, < 60 dBA at half load, < 50 dBA		
*Not available on 120 kVA and above		**380, 400 & 416 Wye (standard)	

Elgar XWave : Product Specifications

30 kVA–480 kVA

XWave Standard Models								
Model	Power (kVA)	Phases	Output 1 AC Voltage	Max Current Arms per phase	Output 2 AC Voltage	Max Current Arms per phase	Size (WxHxD)	Weight (lbs) (kg)
XWA030-03031-01x01	30	1	0-132 VAC	250	NA	NA	22" x 50" x 41.6" 56 x 127 X 106 cm	600 273
XWA030-03031-02x01	30	1	0-132 VAC	250	0-264 VAC	125		855 389
XWA030-03031-03x01	30	1	0-132 VAC	250	0-305 VAC	108		855 389
XWA030-03033-01x01	30	3	120/208 WYE 0-132 L-N	83	NA	NA		600 273
XWA030-03033-02x01	30	3	120/208 WYE 0-132 L-N	83	240/416 WYE 0-264 L-N	41.7		855 389
XWA030-03033-03x01	30	3	120/208 WYE 0-132 L-N	83	277/480 WYE 0-305 L-N	36		855 389
XWA060-06063-01x01	60	3	120/208 WYE 0-132 L-N	166	NA	NA	27" x 82" x 43.6" 67 x 208 x 105 cm	900 409
XWA060-06063-02x01	60	3	120/208 WYE 0-132 L-N	166	240/416 WYE 0-264 L-N	83		1350 614
XWA060-06063-03x01	60	3	120/208 WYE 0-132 L-N	166	277/480 WYE 0-305 L-N	72		1350 614
XWA090-12093-01x01	90	3	120/208 WYE 0-132 L-N	250	NA	NA	27" x 82" x 43.6" 68 x 208 x 105 cm	1300 591
XWA120-12123-01x01	120	3	120/208 WYE 0-132 L-N	333	NA	NA	27" x 82" x 43.6" 68 x 208 x 105 cm	1600 727
XWA240-24243-01x01	240	3	120/208 WYE 0-132 L-N	667	NA	NA	54" x 82" x 43.6" 137 x 208 x 105 cm	4000 1818
XWA360-36363-01x01	360	3	120/208 WYE 0-132 L-N	1000	NA	NA	81" x 82" x 43.6" 206 x 208 x 105 cm	5500 2500
XWA480-48483-01x01	480	3	120/208 WYE 0-132 L-N	1333	NA	NA	108" x 82" x 43.6" 274 x 208 x 105 cm	7000 3182

