

# Power Systems & Controls

## Series IMG - Industrial Motor Generator

Power conditioning systems from Power Systems & Controls are the perfect solution for industrial and commercial power users who cannot justify - or even use - a full UPS system in their respective applications. Research shows that most power quality problems are the result of sags or power losses of a very short duration. Statistics indicate that each month, a typical user faces a 90% probability that their facility will experience a sag that will go below 80% of nominal. As for the threat of outages, the statistics are heavily weighed toward interruptions of 2 seconds or less.

These problems lead to interruption of the manufacturing process, which in turn can lead to diminished productivity, wasted materials, and in some cases, costly clean-up of process lines and equipment. Using rotary motor-generator technology, PS&C systems deliver quality power and

avoid the problems where:

- The characteristics of the load play havoc on static UPS systems.
- Your outage history doesn't warrant full UPS protection.
- Space on the factory floor is limited.
- A controlled environment battery room is not feasible.
- Resources are not available for extensive maintenance programs for batteries and HVAC.

The greatest benefit of PS&C power conditioning systems is the flexibility of the complete product offering. Systems can be customized to meet the application requirements of the user - from ride-through capability to frequency tolerance - and come in either horizontal or vertical configuration, depending on system size.

## Series IMG-RT (RIDE-THRU)



The Series IMG-RT integrates state-of-the-art controls, a single-shaft motor-generator and a mechanical flywheel into a power conditioning system that can deliver up to 5 seconds of ride-through during an interruption of power. The typical induction-synchronous MG system delivers this ride-through with a maximum frequency drop at full load of no more than 57Hz on a 60 Hz system. For sensitive applications where tighter tolerances are required, the Series SMG is available. Series IMG-RT systems are sized and customized to meet a wide range of customer driven application criteria. Systems are available in size ranges up to 2000 kVA for low voltage applications up to 600V. For medium voltage applications, please consult the factory.

## Series IMG

The Series IMG provides total electrical isolation from voltage variations and electrical disturbances on your normal utility such as electrical transients, brown outs and single phase input conditions. The rugged industrial MG can be designed to tolerate a 40% drop from normal input voltage for 30 seconds without affecting the load. While designed primarily for power conditioning, systems do provide ride-through from 5.5 to 8.0 cycles, depending on the size and type of system. Series IMG systems are available in either vertical or horizontal layouts. Systems are available up to 2000 kVA for low voltage applications up to 600V. For medium voltage applications, please consult the factory.



## System Specifications

\*Note: System performance shown is typical and is dependent upon M-G sizing, options desired, and loading of the system. Specific performance levels can be achieved through custom modifications and sizing of components.

<b>SYSTEM TYPE</b>		
<b>Features</b>	<b>Series IMG</b>	<b>Series IMG-RT</b>
➤ System Size	Up to 2000 kVA	Up to 2000 kVA
<b>Input</b>		
➤ Voltage	600, 480, 240, 208 @ 60 Hz 415, 380 @ 50 Hz	600, 480, 240, 208 @ 60 Hz 415, 380 @ 50 Hz
<b>Voltage Tolerance</b>		
➤ Continuous	+ 10% to 15% of nominal; others available consult factory	+ 10% to 15% of nominal; others available consult factory
➤ Transients	1500 Volts for 10ms	1500 Volts for 10ms
➤ Starting Inrush	3 x nominal input amps	3 x nominal input amps
<b>Output</b>		
➤ Voltage	600, 480, 240, 208 @ 60 Hz 415, 380 @ 50 Hz	600, 480, 240, 208 @ 60 Hz 415, 380 @ 50 Hz
<b>Voltage Regulation</b>		
➤ Steady State	.5% of nominal output	.5% of nominal output
➤ 25% Unbalanced	3%	3%
➤ Recovery Time	0.5 Seconds	0.5 Seconds
➤ Voltage Adjust	+/- 10%	+/- 10%
➤ Frequency	60Hz Standard (50Hz Optional)	60Hz Standard (50Hz Optional)
➤ Power Factor	0.8 Lagging	0.8 Lagging
<b>Harmonics</b>		
➤ THD Total	3% RMS	3% RMS
➤ Single	2% RMS	2% RMS
<b>Phase Separation</b>		
➤ Balanced Load	120° +/- 1°	120° +/- 1°
➤ 25% Unbalanced	120° +/- 3°	120° +/- 3°
<b>Overload Capacity</b>		
➤ Ride-Thru	90 millisec	Up to 5 seconds
➤ 100%	Continuous	Continuous
➤ 110%	2 Hours	2 Hours
➤ 125%	10 Minutes	10 Minutes
➤ 150%	1 Minutes	1 Minutes
<b>ENVIRONMENT</b>		
➤ Temperature	32° -104° F (0° - 40° C)	32° -104° F (0° - 40° C)
➤ MG	32° -121° F (0° - 50° C)	32° -121° F (0° - 50° C)
➤ Console	32° -104° F (0° - 40° C)	32° -104° F (0° - 40° C)
➤ Altitude	0 to 1000 meters (0 to 3300 ft)	0 to 1000 meters (0 to 3300 ft)
➤ Humidity	0 to 95% non-condensing	0 to 95% non-condensing
➤ Noise Level	75 dBa at 1.5 meters (5 ft)	Typical 75 dBa – Size Dependent

Power Systems & Controls reserves the right to improve, enhance and modify the features and specifications of its products and services without prior notification.

**POWER SYSTEMS**  
**& CONTROLS**  
**THE POWER IS ON!**

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