AMETEK®
PROGRAMMABLE POWER

Frequently Asked Questions
Sorensen SGI and SGA Series

SUMMARY OF QUESTIONS

QUESTIONS AND ANSWERS

A1. How do I choose a circuit breaker or wire size for connecting the AC input power to my SGA / SGI power supply?

For 5 kW - 15 kW output SGA / SGI models a general recommendation of 100 Amp circuit breaker or fuse is suggested. For 20 kW - 30 kW output SGA / SGI models a 200 Amp circuit breaker or fuse is suggested. If you are unfamiliar with electrical high power AC connections, local or national electrical codes, contact your Facilities Manager or Electrician in your area for assistance.

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A2. Can I power-up my SGA / SGI using single-phase AC input power?

No. SGA / SGI power supplies require 3-phase AC input power to power up. See Operation manual electrical characteristics and installation section for more details.

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A3. Can I change the AC input power voltage required for my SGA / SGI?

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No. SGA / SGI power supplies' AC input power is dedicated by design and is not economical to change once a unit is built. SGA / SGI power supplies are based on modular power design. Each power module in a supply has its own separate AC input section and all associated components are dedicated to a specific AC input voltage. The input filter and other component boards are input AC voltage dependant as well. See Operation manual for more details.

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A4. What is the connection orientation or phase rotation of my input AC line phases and where do I connect neutral?

SGA / SGI power supplies do not require a specific phase rotation for input AC lines. Neutral is not required or used and should never be connected. See Operation manual electrical characteristics and installation section for more details.

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A5. What is the slew rate of my SGA / SGI?

SGA / SGI power supplies have a slew rate of 100 ms typical. Slew rate is defined as the time it takes the output to change from 5-95% of full scale. SFA slew rate is 250A/ms rise, 200A/ms fall at full load (minimum) 400A/ms typical.

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A6. When I have the SGA / SGI front panel switch off, the top of the unit gets warm. Is this a problem?

No. This is NOT an indication of a problem. The front panel switch on SGA / SGI power supplies is a soft enable/disable shutdown and not a circuit breaker. If you use only the front panel switch to turn of the power supply, portions of the internal circuitry remain live. The heat that you notice is generated by this live power feeding the soft-start circuit in the SGA / SGI, which was designed to limit the inrush current at power up. Removing external power from the SGA / SGI supply via an external contactor or circuit breaker will eliminate this heating effect.

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A7. I want to parallel multiple SGA / SGI power supplies, but did not receive any parallel cables, should this have been shipped with the units I purchased?

Parallel cables are not part of the standard model ship kit. Parallel cables, part number 890-453-03, are sold separately as accessories. Please contact Ametek Programmable Power Sales for a quote and/or order details.

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A8. When using RS232/GPIB or Ethernet option, does my SGA / SGI send an identification string at start-up or connection?

No. SGA / SGI series power supplies do not send any communications unless it is requested by a query.

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A9. Can I send a query via RS232/GPIB or Ethernet option while using front panel local control?

Yes. SGA / SGI series power supplies allow queries to be sent without putting the unit into remote control.

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A10. Why does the output of my unit shutdown when I remove the J1 mating connector?

The J1 mating connector has several methods to enable and disable the output of the power supply. SGA / SGI series power supplies ship with J1 pins 5 and 6 jumpered together to enable the output. If this jumper is removed and no other enable method is chosen, or if the J1 mating connector is removed altogether, the output will be disabled. See Operation manual, Analog Control Connector for more details.

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A11. Must I connect remote sensing to operate my SGA / SGI product line?

No. Remote sensing is not required for operation, but it is recommended and needed to achieve specified load regulation. See Operation manual Remote Sensing for more details.

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A12. What maintenance is required for my SGA / SGI?

SGA / SGI series power supplies' suggested maintenance is annual inspection and cleaning as required. Annual calibration verification is also recommended and calibration as required. See Operation manual Maintenance section for more details.

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A13. What is the default IP address of my SGA / SGI power supply with Ethernet option?

SGA / SGI series power supplies with Ethernet option factory default values are: socket = 9221, IP address = 192.168.0.200 (Static IP), and delimiter = line feed <LF>. See SGA / SGI programming manual for more details.

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A14. I forgot my Administrator account User ID and Password. What are the factory default values?

SGA / SGI series power supplies with Ethernet option factory default for User ID is "admin" and Password is "password", all in lower case.

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A15. What is the efficiency of my SGA / SGI and how do I use this to calculate input power?

Typical SGA / SGI efficiency is ~ 87%. Use the following formula to calculate the approximate input power required. The example is a 5 kW unit calculation: $P_{in} \quad \frac{P_{out}}{eff} \quad \frac{5kW}{87\%} \cong 5747W \; = \qquad \approx$

This is valid for full power output.

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A16. What does the Fault indicator light or analog Fault indicator mean when it is active?

This indicator is provided to notify the user that a hardware fault has occurred within the power supply. The supply requires service and the Ametek Programmable Power service department should be contacted.

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