

SGA1-300-2

300A 28 Vdc Starter/Generator

The IPS Model SGA1-300-2 Brushless Starter/Generator (S/G) is designed to start turbine engines requiring up to 25 lb-ft starting torque at 2,000 rpm. When operating in the generator mode, a 28 Vdc, 300 amp output is available continuously from sea level to 45,000 feet at rotational speeds from 4,900 to 12,400 rpm. The brushless design eliminates the need for frequent overhauls necessitated by brush replacement and the contamination associated with brush wear.

The S/G consists of an eight pole rotor and a 48 slot stator which has two 3-phase windings separated by 30 electrical degrees. The S/G 6-phase output is rectified to DC by the IPS Model SGCU1-300-1 Starter/Generator Control Unit (S/GCU), providing power that meets MIL-STD-704E requirements. The start cycle is tailored to the specific engine requirements, reducing engine exhaust gas temperatures, thereby significantly increasing engine life. In addition, the intelligent start profile draws less battery current, thus extending battery life. A combination of S/GCU soft start capabilities and the use of grease-lubricated hybrid bearings results in extended bearing life. The S/G is air cooled via a custom designed, efficient axial flow fan which cools the S/G during both start and generator modes. At altitude, ram air assist is used to maintain the S/G temperature.

This S/G is a form, fit, and function replacement for brush type 300 amp Starter/Generators, and weighs only 25 lbs. This S/G is one in a family of 28 Vdc IPS Starter/Generators with outputs to 600 amps.

Specification

Output	28 Vdc, 300 A
Load	9 kW
Efficiency	90%
Overload	450 A, 5 min; 600 A, 5 sec.
Cooling Type	Air
Speed Range	4,900 - 12,400 rpm
Max Speed for Regulation	12,400 rpm
Overspeed	14,000 rpm
Altitude	45,000 ft
Temperature	-55 °C to +70 °C
Mounting Interface	MS3331-1-P
Weight	25 lbs
Starting Torque	45.1 lb-ft @ 0 rpm; 30 lb-ft @ 1,500 rpm
Power Quality	MIL-STD-704E
EMI	MIL-STD-461E
Environmental	MIL-STD-810D



The Power To Do More

