

Integrated Starter Generator

ISG-100/200/300

Our Integrated Starter Generator (ISG) is a high-power permanent magnet generator purposely designed to power heavy-duty electric hybrid vehicles. Its simple design requires no maintenance, reducing the total cost of product ownership. The ISG couples directly to the engine crankshaft, resulting in a compact and bearingless design.

The ISG converts all engine crankshaft power to electrical power for both bus propulsion and electric bus accessory power. The ISG converts all engine crankshaft power to electrical power for both bus propulsion and electric bus accessory power. Based on vehicle size and weight, three power generators are available to choose from.

- ISG-100 converts up to 145 kW of power for 12 meter European buses
- ISG-200 converts up to 200 kW of power for 18 meter European buses and up to 200 kW of power for 40 foot North American buses at a sustained highway speed of 65 mph
- ISG-200 converts up to 200 kW of power for 40 foot North American buses at a sustained highway speed of 65 mph
- ISG-300 converts 230 kW of power for 60 foot articulated buses in North America at a sustained highway speed of 65 mph

This system's design and packaging makes it easily adaptable to multiple bus models and easy to install. The combined AC Traction Motor and ISG can be installed "in-line" (T-drive) or "transverse" (V-drive). MTS (combined Motor/ISG) models are available for HDS100, HDS200, and HDS300 systems.



Features

- Meets all transit industry standard performance requirements
- Mechanically simple; long life
- Integrated starter generator – eliminates conventional starter wear
- Sensorless ISG for improved reliability
- WEG cooled, no separate oil cooler required

Benefits

- Reliable with low lifecycle cost
- Easy installation
- Available for HD shuttle, transit, articulated, and double-deck buses
- Completely high-voltage protected for safety

	Integrated Starter Generator (ISG) Ratings		
	HDS100 For 12 meter European buses	HDS200 For 40 foot North American buses	HDS300 For 60 foot articulated buses in North America
Power Continuous	145 kW/(194 hp) at 2100 rpm	200 kW/(280 hp) at 2300 rpm	230 kW/(330 hp) at 2000 rpm
Torque Continuous	660 Nm (486 ft-lbs) 0 – 2100 rpm	870 Nm (640 ft-lbs) 0 – 2300 rpm	1175 Nm (865 ft-lbs) 0 – 2000 rpm
Speed Operational Overspeed	0-2100 rpm 2700 rpm	0-2300 rpm 2700 rpm	0-2000 rpm 2700 rpm
Physical Length (beyond FWH) Width Height Weight (wet)	155 mm (6 in) 600 mm (23.6 in) 600 mm (23.6 in) 107 kg (237 lbs)/+12 kg (26 lbs) for CWK	155 mm (6 in) 600 mm (23.6 in) 600 mm (23.6 in) 114 kg (251 lbs)/+12 kg (26 lbs) for Ring Gear	160 mm (6.3 in) 600 mm (23.6 in) 600 mm (23.6 in) 136 kg (300 lbs)/+12 kg (26 lbs) for Ring Gear
Cooling	Jacket water ethylene (or propylene) -glycol, 85°C (185°F) max, 38 lpm (10 gpm)		
Operating Temperature	-40° to 85°C (-40° to 185°F)/ Local external ambient		

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