B GSE Group

400 HZ DISTRIBUTION AND CONTROL

400Hz Gate Box Assembly

90kVA Gate Box

Intertek

180kVA Gate Box

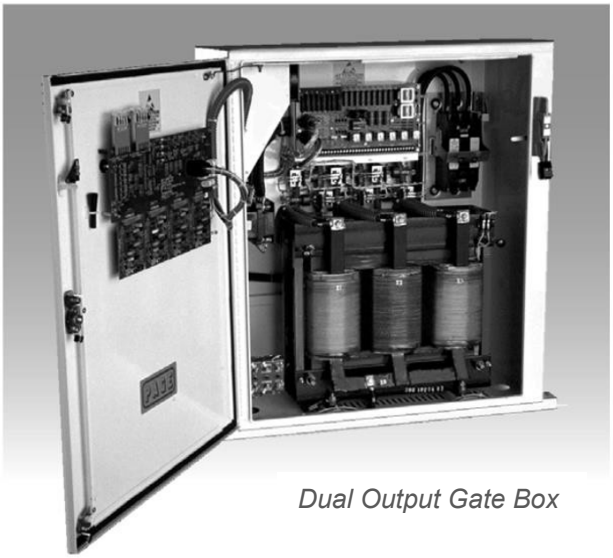
Introduction: *Today's aircraft make the most extensive use of electronics imaginable. The electronics, combined with other heavy electrical loads aboard, place very high demands on the ground power source. In addition to heavy ground power loading, the newer aircraft can produce high level power transients as a part of their normal operation.*

The Gate Box designed and built for B GSE Group. It addresses all the latest aircraft ground power requirements. The digital circuitry within the Gate Box ***will not*** *permit the aircraft to be connected to power that is out of limits. If ground power limits are exceeded while the aircraft is online, power to the aircraft will be interrupted by the Gate Box.* ***Without compromising safety, nuisance tripping is positively eliminated.*** *This equipment is user friendly and does not normally require routine maintenance.*

Long Term Advantage: *This product assists in minimizing the risk of power system fault damage to both the aircraft and the ground support facilities. This serves to enhance the reliability of the ground power system, thus encouraging more use of ground power and less use of the expensive APU aboard the aircraft. The elimination of nuisance fault trip has minimized the chance of gate delays caused by ground power or the aircraft.*

The Benefits:

- *Protects aircraft 400 Hz systems*
- *Protects the 400 Hz ground power system*
- *Minimized use of expensive aircraft APU*
- *Reduces gate delays caused by ground power*
- *Meet local APU exhaust & noise regulations*
- *Encourages the use of reliable ground power*
- ***COST EFFECTIVE***



Dual Output Gate Box

Weights and Dimensions

90-125 kVA	900 lbs (408 kg)
	53.5"H x 19"D x 30"W 1359 mm H x 483 mm D x 762 mm W
140-180 kVA	1255 lbs (593 kg)
	56.5"H x 21"D x 36.75"W 1435 mm H x 533 mm D x 933 mm W

Functional Characteristics

- Input: 115 / 200 volts wye, 575 volts or 960 volts delta, 30, 400 Hz (see table)
- Output: 115 / 200 volts wye, up to 260.5 amps maximum per output, not exceeding kVA rating of Gate Box (see table)
- Transformer secondary: 118/204 at no load

Protection

- Voltage and current values are independently determined for each output phase. Sensing is at the transformer secondary, ahead of the contactor(s).
- Overvoltage sensing per output phase
- Undervoltage sensing per output phase
- Overload sensing per output phase
- Trip Reset: May be reset from ground level by operating a ground level "Off Button"
- Control Circuit Protect ion: The E / F and ON / OFF circuits cannot be damaged by inadvertent contact with phase power.
- Thermal control: Redundant, independently controlled fans. A cooling failure for any reason will operate a self-resetting, high limit, thermal switch at 1 60 °F/ 70 °C and power down the Gate Box.

Operating Indicators

- Fault: Individual indicators for Overvoltage, Undervoltage and Overload (2 Overload on dual output units)
- Power Available
- Optional: Telemetry to remotely indicate voltage and current for each output

Operating Environment

- Ambient Temperature: -40°C to +56°C

Controls

- Output ON / OFF terminals
- E & F
- Signaling relays for Contactor Closed, Power Available and Summary Fault. Each has two "form C," 5-amp contacts. Separately fused 24 volts DC signaling voltage is provided.

Maintenance and Safety

- Test Access: Testing of all Gate Box operating characteristics may be done without requiring a separate test power source. Trip points, ON / OFF and E/ F circuits may be fully tested with the optional Gate Box Test Set.
- Spares: Two lamps, a lamp extractor and one of each type of fuse are stored inside the Gate Box.
- Repairability: All components may be removed and replaced without disturbing adjacent components.
- ***Underwriters Laboratories*** listing is provided for most equipment distributed in the U.S.
- Wiring: All wiring within the assembly is rated at least 125°C. Polyvinyl chloride insulation is not used.
- Door interlock: Standard door safety interlock discourages entry with power on.
- Door restraint: An adjustable door restraint is provided so that the door m ay be secured in any open posit ion.
- Safety shields: Safety shields cover all points with greater than 28-volt potential. Risk of inadvertent contact with live parts is minimized. The safety shields are clear, flame retardant polycarbonate material.
- The finish is two-part, polyurethane paint or fused, polyester, powder coating.
- Humidity: 0% to 99%, non-condensing
- Snow and Ice: Keep openings clear
- Blowing Rain: No restriction
- Blowing Sand & Dust: No restriction

B GSE Group has been designing and manufacturing high reliability aerospace, military and telecommunications equipment for many years. The aircraft ground support equipment that we offer is the end result of extensive studies on the needs of the marketplace, new aircraft requirements and existing equipment characteristics.

This equipment offers levels of safety, reliability and performance unavailable in any competing equipment, without exception.

NAMEPLATE KVA	RESISTIVE LOAD (kw)		REACTIVE LOAD (kVAR)	
	100%	150%	100%	150%
90	72	108	54	81
120	96	144	72	108
125	100	150	75	112.5
140	112	168	84	126
180	144	216	109	163.5