

# PV90-4

## 90kVA 400Hz Electric Ground Power Unit

The PV90-4 – the fourth generation of SAS’s solid state frequency converters – now 30% more compact and with an efficiency >95%\*, has features that are unique. Emphasis is on all weathers ease of use, and the product’s ability to be serviced worldwide by local staff.

During ramp operations, whether wearing heavy gloves or operating in bright sunshine, the large 5.7” LCD display and oversized panel controls make power selection and system monitoring easy.

PV90-4 is offered with horizontal and vertical mounting options to suit all operations.

From conception, the SAS's PV90-4 was designed to be a zero downtime GPU requiring a minimum of planned maintenance.



## Modular Design



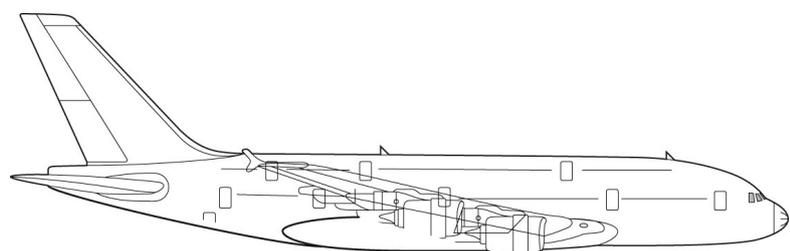
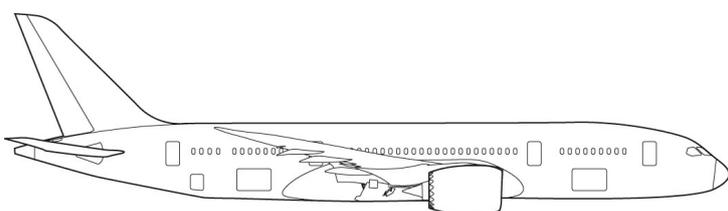
Achieving zero down time requires design modularity. The unique feature of the SAS PV90-4 is the pluggable (SWAP-OUT) Power Module. This “heart” of the system can be easily replaced by first line maintenance staff in a matter of minutes.

Because all power stage components are housed in a single pull out module, replaceable in minutes; a one-fix solution is available for almost any fault. No matter where PV90-4 is in the world, the repair does not need a factory trained engineer.

## Features

- ✔ Unity output power factor
- ✔ 95%\* efficiency
- ✔ Stainless steel enclosure
- ✔ Large 5.7” LCD display
- ✔ Link™ compatible for remote monitoring
- ✔ Solid state frequency converter with no moving parts
- ✔ Operates with any 400Hz aircraft
- ✔ Automatic line drop compensation
- ✔ Performance exceeds ISO 6858
- ✔ Several mounting options
- ✔ Pluggable Power Module for easy first line maintenance

**Typical aircraft:** Airbus A380, A350, A340, A330, A320, A319, A220. Boeing B787, B777, B747, B737, B767. Any 400Hz aircraft known.



Fixed and mobile units for major airlines, airports, MROs and air shows

\* At 100% load, 0.8PF

# Specifications

## INPUT

Number of Phases	3∅ + Earth
Power Factor	Unity PF (>30% load)
Voltage	400 – 480 VAC (±15%) Down to 315V with 30kVA load
Frequency	50/60Hz (±10%)
Current	140 – 118 Amps (400 – 480 VAC)
Current THD	< 5% @ full load
Inrush Current	None

## OUTPUT

Number of Phases	3∅ + Neutral & Earth
Power Factor	0.7 lag – 0.95 lead
Voltage	200 / 115 VAC
Frequency	400 Hz (±0.001%)
Crest Factor	1.414% ±0.04
Voltage Adjustment	112-119.5 VAC (L – N) Up to 8% automatic voltage line drop compensation
Static Voltage Regulation	< 0.5 for balanced load (up to 30% unbalanced load)
Dynamic Voltage Regulation	to MIL-STD-704F
Voltage THD	< 1.5% with linear load (1% typ.)
Phase Angle Symmetry	120° ±1% for balanced load. 120° ±2% for 30% unbalanced load

## EFFICIENCY

>95%	50 – 100% load at 0.8PF
>93%	25 – 50% load at 0.8PF
>90%	< 25% load at 0.8-1PF
Standby losses < 150W	

## OVERLOAD

125%	10 minutes
150%	60 seconds
200%	30 seconds
300%	10 seconds
400%	1 second (1100A peak inrush)

## GENERAL

Operating Temperature	-40°C to +56°C (-40°F to +132°F)
Relative Humidity	10 – 100%
Altitude	2.000 metre (6560 ft) before derating
Protection Level	IP 55
Colour	RAL 7000 / 7011
Noise Level	< 65dBA @1m
MTBF	100,000 hrs
MTTR	10 min
Filtration	Polyurethane foam media

## DIMENSIONS AND WEIGHT

### Stand alone unit

Dimensions: H 1100mm (43in) x W 600mm (23.6in) x D 600mm (23.6in)

Weight: 400kg (882lbs)

### Unit with base module

Dimensions: H 1500mm (59in) x W 600mm (23.6in) x D 600mm (23.6in)

Weight: 450kg (992lbs)

## STANDARDS

EN 62040-1	Safety (CE)
EN 61000-6-4	Emissions (CE)
EN 61000-6-2	Immunity (CE)
DFS 400	Specification for 400Hz aircraft power
ISO 6858	Aircraft ground support electric supplies
BS 2G 219	General requirements for ground support equipment
MIL-STD-704	Aircraft electric power characteristics
SAE ARP 5015 & SAE AIR 5387	Ground equipment 400Hz ground power performance requirement
UL 1012	Standard for Power Units other than class 2

# Options

-  Link™ remote monitoring system
-  Custom input and output cables
-  Second 400Hz output
-  28V DC output
-  PIT controls for remote operation
-  Military interlock
-  Modbus (RS485 or TCPIP)
-  Bridge mount adaptor
-  Base module for fixed installations
-  Heavy duty towable trailer
-  Heavy duty hangar trolley