



One of a batch of 90 kVA converters installed at Bristol airport

# 400Hz static frequency converters

Powervamp converters stand alongside those of the world's leading manufacturers in quality and performance, with a superb reputation when it comes to product reliability, support and service. Unlike converters derived from 50/60Hz systems, Powervamp units are designed from conception to operate continuously at the demanding 400Hz frequency.

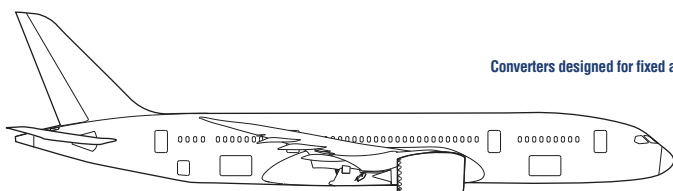
Powervamp converter reliability starts with Powervamp's software design team and full in-house manufacturing with intensive quality control – from initial design to finished product. The full range of converters, from 30 to 90kVA, is supported worldwide by the company's Technical Services Department and team of skilled graduate engineers, covering technical issues from power requirement and architects' drawings to installation and service contracts.

Housed in IP65 cabinets as standard, Powervamp converters use forced airflow with oversized heat sinking to maintain a stable temperature of the power electronics, crucial to the maintaining of continuous output at maximum load. Integral input and output EMC filters guarantee minimum distortion from the mains supply. Top wave form quality ensures compliance with the tight sine wave demands of modern aircraft.

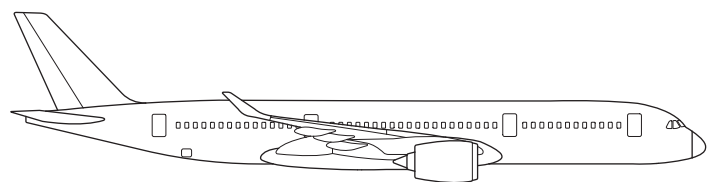
Where operators require both AC and DC power, Powervamp offers a separate stand-alone module which gives operators the flexibility to move the DC unit to different aircraft stands. For hangar installation, an integral unit is available.

A PFC rectifier converts three-phase into DC, with the PWM (Pulse-Width Modulation) inverter switching the DC back to AC at 115/200V 400Hz. The output transformer provides galvanic isolation between the input and the output. The 28V DC module can be directly coupled to the GPU 400Hz output through an adaptor plate thereby minimising investment costs.

Powervamp converters utilise electronic rectifiers with power factor correction to ensure that current drawn from the mains is perfectly in phase with the voltage (0.99pF @ full load), giving high efficiency compared to non PF corrected systems. Converters are designed for continuous operation at full load with the microprocessor controlled PWM IGBT inverter sized to accept high overload. Components and designs are sized for 100,000 hours MTBF.



Converters designed for fixed and mobile units for major airlines, airports, MROs and airshows



# Extendable Cable Carrier System

The Powervamp Extendable Cable Carrier is designed to facilitate the rapid connection of external aircraft power from a fixed electrical distribution point to an aircraft parked within the envelope of the cable carrier's extended length and side to side arc of travel.

The extendable carrier maximises cable life by preventing abrasion damage typically caused by ground contact. Safety is aided because cables are clear of the ground and protected by the modular alloy extruded sections. A heavy-duty galvanised steel stowage cage mounted on 4 castor wheels stores the free cable and protects AC and DC aircraft plugs from damage.

Each extruded alloy channel section has an alloy pivot plate to which are bolted nylon wheels. Heavy-duty IGUS chain protects and guides the cable, maintaining the correct bend radius and cable tension. Modular design allows carrier length to be tailored to aircraft stands and to cover a wide variety of aircraft types and parking positions within the stand area. Adjustable buffers on each extension cushion each section as the unit is returned to its stowed position after use.

Units can be left- or right-hand biased. Carrier length can be from 12 to 30 metres (39 to 98ft) in set increments (see specification).

Unless otherwise specified, the Powervamp extendable cable carrier is painted in powder coat yellow and is supplied as standard with a fixed stanchion/junction box unit with connections to accept the fixed electrical ground power output. An 'I' beam stanchion with shock absorber located at the opposite end of the extendable cable carrier's stowed position ensures correct parking with no over travel.

## SPECIFICATION

Dimensions	
Common	150mm (6in) wide x 150mm (6in) high
Extended length	12, 15, 20, 25, 30 metres (39, 49, 65.5, 82, 98ft)
Arm length	3 metres (10ft) and 5 metres (17ft)
Construction material	Extruded alloy
Pivot arrangement	Alloy base plate, centre shaft with pre-loaded bearings and polymer wearing surfaces with IGUS chain cable and radius protection. All non ferrous fittings
Skates	Flexell castors, high density nylon – 200mm (8in) diameter
Cable stowage cage	Mild steel, galvanised, painted powder-coat yellow with twin aircraft plug holsters
Base station	Lockable galvanised steel cabinet with heavy duty terminal bloc, isolator, earth point and grommet holes fixed to twin 'I' beams each with base plate and 4 x 20mm (¾in) securing holes
Max. extension angle to the vertical	20°



*Powervamp extendable cable carrier: options 12–30m (39–98ft), designed for use with all converters and FEGP installations*

