

Airport Equipment

- AC 400 Hz Power Supply
- Cable Carrier
- High Quality Products
- Customer Service & Support



Telemeter Electronic

Thermal Management

Industrial Components

Test & Measurement

RF & Microwaves

Aviation

Engineering & Service



... we provide solutions!

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400 Hz Static Frequency Converters



Telemeter Electronic GmbH stands with Powervamp converters 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 / 60 Hz systems, Powervamp units are designed from conception to operate continuously at the demanding 400 Hz frequency.

The 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 90 kVA, 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, our converters use forced air-flow 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, Telemeter Electronic 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 / 200 V 400 Hz. The output transformer provides galvanic isolation between the input and the output. The 28 V DC module can be directly coupled to the GPU 400 Hz output through an adaptor plate thereby minimizing investment costs.

Our converters utilize electronic rectifiers with power factor correction to ensure that current drawn from the mains is perfectly in phase with the voltage, 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.

45 kVA Ground Power Unit

PV45

400 Hz mobile electrical ground power unit

The PV45 GPU improves on the successful PV40 GPU with increased power output as well as many additional features. In particular, the use of a 12-pulse rectifier provides improved input harmonics and power factor without compromising robustness and reliability.

Specifically designed for hangar use, with optional plinth for fixed indoor or outdoor installation.

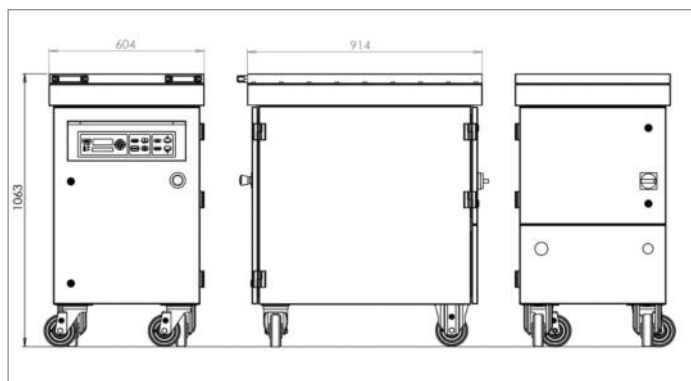
With a power rating of 45 kVA, the PV45 is targeted at the small to medium sized aircraft.

As a manufacturer and exclusive provider of ground power at major air shows, Powervamp's engineers have been uniquely placed to operate the company's converters on all the world's latest generation aircraft, gaining unrivalled data and experience while working alongside the airframe manufacturers' test and field engineers. In this respect Powervamp is unique.



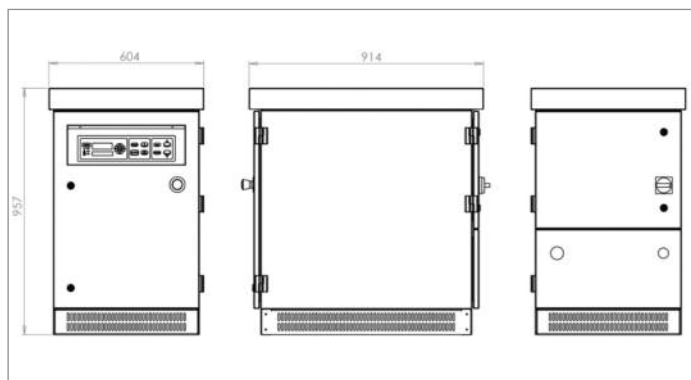
FEATURES

- Mobile
- Heavy duty castors with brake
- High quality output suitable for all aircraft
- 12-pulse input rectifier
- Unique tactile key board with secret legend
- Unique super-large display for instant viewing and operator comfort
- IP55 Automatic line drop compensation
- Comprehensive easy-to-use intelligent control panel
- Civil or military use
- Pre-fitted input cable with 63 A plug
- Pre-fitted output cable with aircraft connector



OPTIONAL FEATURES

- Fixed installation plinth
- External swipe card Input
- Extended input cable
- Extended output cable



- Compact
- Unique marine IP65 all weather controls
- Data logging

45 kVA Ground Power Unit

PV45 400 Hz mobile electrical ground power unit

Technical data PV45-3 GPU

Output active power (kW)	36.0
Apparent output power (kVA)	45.0

Input

Number of phases	3
Nominal input voltage	400 V 3 Wire + E (+/- 10 %)
Nominal input frequency	50 / 60 Hz (+/- 10%)
Rectification topology	12 Pulse
Current distortion	< 15 % @ 100 % load
Power factor	> 0.97 @ 100 % load
Inrush current	N/A
Maximum input circuit breaker	63A

Output

Nominal output voltage	200 / 115 V Three phase + N + E
Static voltage regulation	< 1%
Nominal output frequency	400 Hz (+/- 0,01 %)
Total harmonic distortion	< 3 % (2 % typical)
Load power factor	0.7 lag – 0.9 lead
Voltage modulation	< 1%
Phase angle symmetry	120° (+/- 1) for balanced load, 120° (+/- 2 %) 30 % unbalanced load
Dynamic response	MIL-STD-704

Overload

45kVA @ 0,8PF Continuous
125 % for 5 minutes
200 % for 5 seconds
250 % for 1 second

Efficiency

100 % load	> 91 %
50 % load	> 82 %
Standby losses	< 60 W
No load losses	< 2 kW

General

Operating temperature	-40°C bis + 50°C
Altitude	2000 m before de-rating
Protection level	IP55
Colour	RAL 7035 (other colours available)
Noise Level	< 65dBA @ 1m

Dimensions

Height	1060 (42 in)
Width	610 mm (24 in)
Depth	915 mm (36 in)
Weight	345 kg (761 lbs)

Standards

Safety	EN 62040-1
Emissions	EN 61000-6-3
Immunity	EN 61000-6-2
Specification for 400 Hz aircraft power	DFS400
Aircraft ground support electric supplies	ISO 6858
General requirements for ground support equipment	BS 2G 219
Aircraft electric power characteristics	MIL-STD-704
Ground equipment 400 Hz ground power performance requirement	SAE ARP 5015

45 kVA Ground Power Unit

PV45

400 Hz mobile electrical ground power unit

OPERATION

- Safety Input Isolator Switch
- Low Ripple Rectifier
- Clean Output Inverter
- Efficient Output Transformer
- Isolated Output Contactor

STANDARD FEATURES

- High Overload Capability
- Auto Connect
- Automatic Line-drop Compensation

SAFETY FEATURES

- Neutral Monitoring
- Emergency Stop
- Aircraft Interlock
- Rear Door Interlock

ENCLOSURE

- Double Door Seals
- Rust Treatment
- Paint Finish
- Mobile

OPTIONAL FEATURES

- Fixed Mounting
- External Card Swipe Input
- Input / Output Cable

PROTECTIONS

- No Break Power Transfer (NBPT)
- Output Neutral Monitoring
- Output Overload
- Output Short Circuit
- Output Under / Overvoltage
- Output Current Limit
- Over Temperature
- Aircraft Interlock
- Input Supply Monitor (voltage & frequency)
- Input Phase Rotation

CONTROL PANEL

- LCD Screen
- LED Status Indication
- Simple Menu function
- Easy Robust Operation
- Secret-till-lit Technology
- Real-time Data-logger



90 kVA Ground Power Unit

PV90 400 Hz mobile electrical ground power unit

The third generation PV90 GPU meets the specific demands of modern aircraft by **delivering a genuine 90kW output** from its 90 kVA unit.

Powervamp is unique in the UK in being both software designer and manufacturer of its industry leading solid state GPUs. Its philosophy is to engineer unparalleled reliability, achieved by generously sized electrical and electronic components. With all power stage components in a single pull-out module – replaceable in minutes – down time and fault finding are no longer a problem. In the pressured front line operating environment of airports the PV90-3 is a converter that does not require the support of trained technicians. Our PV90-3 is designed to be a zero downtime GPU requiring a minimum of planned maintenance.

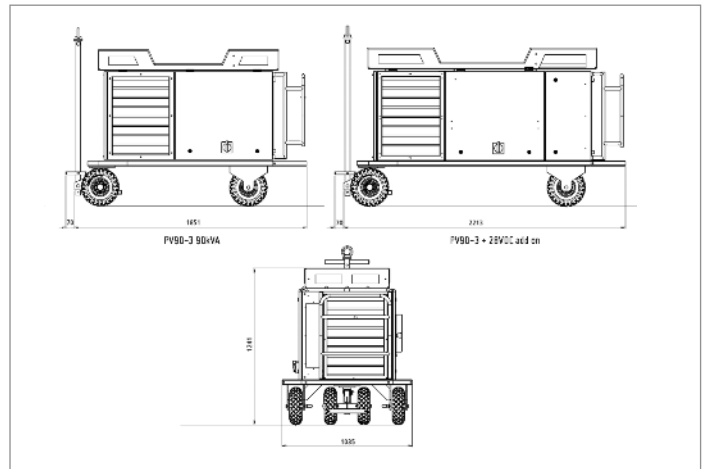
The Telemeter Electronic PV90-3 features an extra large high-definition integrated display with simple controls that allow interrogation of all parameters and functions such as automatic line drop compensation. The PV-3's features include connectivity and integration with existing communication platforms supporting a large variety of communication methods which can be used with Powervamp's Monitoring and Billing System (MABSTM).

FEATURES

- Unity output power factor 90 kVA / 90 kW
- Stainless steel enclosure as standard
- Low input harmonic distortion (< 8 %)
- Unique tactile key board with secret legend
- Unique super-large display for instant viewing and operator comfort
- Unique marine IP65 all weather controls
- IP55 enclosure suitable for outdoor use
- Comprehensive easy-to-use intelligent control panel
- Data logging
- Civil or military use
- RS232, LAN, Bluetooth and GPRS connections

OPTIONAL FEATURES

- Monitoring and Billing System (MABSTM)
- Load power metering
- Second 400 Hz output
- 28 V DC base module
- Heavy duty trailer mount
- Heavy duty castor mount
- Input cable side entry option



- Pluggable power module for easy first line maintenance
- High quality output suitable for all aircraft
- Automatic line drop compensation

90 kVA Ground Power Unit

PV90

400 Hz mobile electrical ground power unit

Technical data PV90-3 GPU

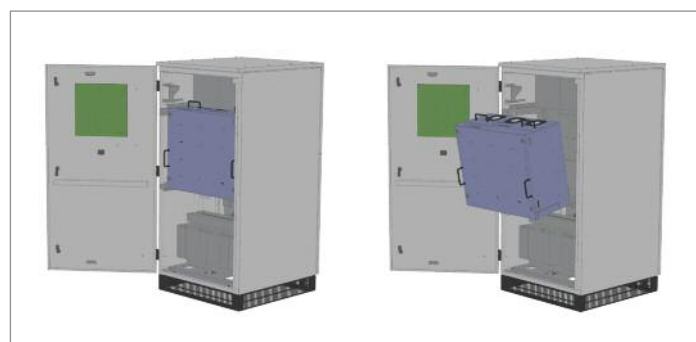
Output active power (kW)	90.0
Apparent output power (kVA)	90.0

Input

Number of phases	3
Nominal input voltage	400 V 3 Wire + E (+/- 10 %)
Nominal input frequency	50 / 60 Hz (+/- 10 %)
Rectification topology	12 Pulse
Current distortion	< 8 % @ 100 % load
Power factor	> 0.97 @ 100 % load
Inrush current	N/A
Maximum input circuit breaker	160 A

AC Output

Nominal output voltage	200 / 115 V AC three phase +N +E
Voltage adjustment	112 – 119.5 V (L – N)
Static voltage regulation	+/- 0.5 %
Nominal output frequency	400 Hz (+/- 0.01 %)
Total harmonic distortion	< 2 % typically
Voltage modulation	< 1 %
Output wave shape	Sinewave
Crest factor	1.414 % (+/- 0.04 %)
Load Power Factor	0.7 Lag – 0.95 Lead
Overload	90.0 kVA @ PF1 hour/continuous
	125 % for 10 minutes
	150 % for 60 seconds
	200 % for 30 seconds
	300 % for 10 seconds
	400 % 1100 A peak
	inrush for 1 second



DC Output

Voltage	28.5 V DC
Current	600 A constant
Voltage regulation	< 0.5 %
Voltage ripple	< 2 %
Overload	1200 A for 30 seconds
	1800 A for 10 seconds
	2100 A for 5 seconds
	2400 A for 2 seconds
Over/under voltage trip	U < 20 V DC for more than 4 sec.
	U > 32 V DC for more than 4 sec.
	U < 40 V DC for more than 1 sec.

Efficiency

100% load	> 92 %
50% load	> 89 %
Standby losses	< 200 W
No load losses	< 3 kW

General

Operating temperature	-40°C to + 50°C
Altitude	2000 m before de-rating
Protection level	IP55
Colour	RAL 7035 (other colours available)
Noise Level	< 65 dBA @ 1m
MTBF	100,000 Hrs
MTTR	10 mins

Standards

Safety	EN 62040-1
Emissions	EN 61000-6-3
Immunity	EN 61000-6-2
Specification for 400 Hz aircraft power	DFS400
Aircraft ground support electric supplies	ISO 6858
General requirements for ground support equipment	BS 2G 219
Aircraft electric power characteristics	MIL-STD-704X
Ground equipment 400 Hz ground power performance requirement	SAE ARP 5015

90 kVA Ground Power Unit

PV90

400 Hz mobile electrical ground power unit

SYSTEM OPERATION

- Safety Input Isolator Switch
- Low Ripple Rectifier
- Clean Output Inverter
- Efficient Output Transformer
- Isolated Output Contactor

STANDARD FEATURES

- High Overload Capability
- Auto Connect
- Automatic Line-drop Compensation
- Remote Control / Monitoring Connections

MODULAR DESIGN

Pluggable Power Module

In unlikely event of system failure, the „HEART“ of the system can be easily replaced by first line maintenance staff in a matter of minutes.

- No matter where you are in the world
- Possible without the need for site
- No factory trained engineers necessary

ENCLOSURE

- Three Point Locking System
- Double Door Seals
- Rust Treatment
- Paint Finish

PROTECTIONS

- No Break Power Transfer (NBPT)
- Output Neutral Monitoring
- Output Overload
- Output Short Circuit
- Output Under / Overvoltage
- Output Current Limit
- Over Temperature
- Aircraft interlock
- Input Supply Monitor (voltage & frequency)
- Input Phase Rotation

OPTIONAL FEATURES

- Monitoring and Billing System (MABSTM)
- Dual 400 Hz Output
- 28 V DC Output
- Base Module
- Remote Monitoring

CONTROL PANEL

- LCD Screen
- LED Status Indication
- Simple Menu Function
- Easy Robust Operation
- Secret-till-lit Technology
- Real time Data-logger
- Remote Mounting



Cable Carrier



Sidewinder

Aircraft power cabling and aircraft plugs are subjected to extremes of wear, impact damage and rough handling. As a result, power cables and AC plugs are a constant source of problems at busy airports, with any failure potentially having an impact on safety, turn-round times and costs.

Telemeter Electronic provides Powervamp's Sidewinder cable carrier systems which is engineered to give airports a simple, **reliable power transfer system** at an affordable price, backed by our unique five-year Sidewinder warranty.

Compared with any other type of cable carrier, Sidewinder has the lowest life cost of ownership, achieved through key design features such as:



- High quality low rolling resistance castoring wheels
- Special steel drag link chain beam pivots
- Modular sub-assemblies
- Quick release connectors
- Quick access beams and chains

We have considered all aspects of Sidewinder deployment – from initial transport and installation to ease of operation and field service.

Working directly with ground handling teams at major UK airports to understand their problems, the design team has created Sidewinder, the ultimate in simple, reliable, airport transfer systems from converter to aircraft.

Cable Carrier

Unique Modular Design

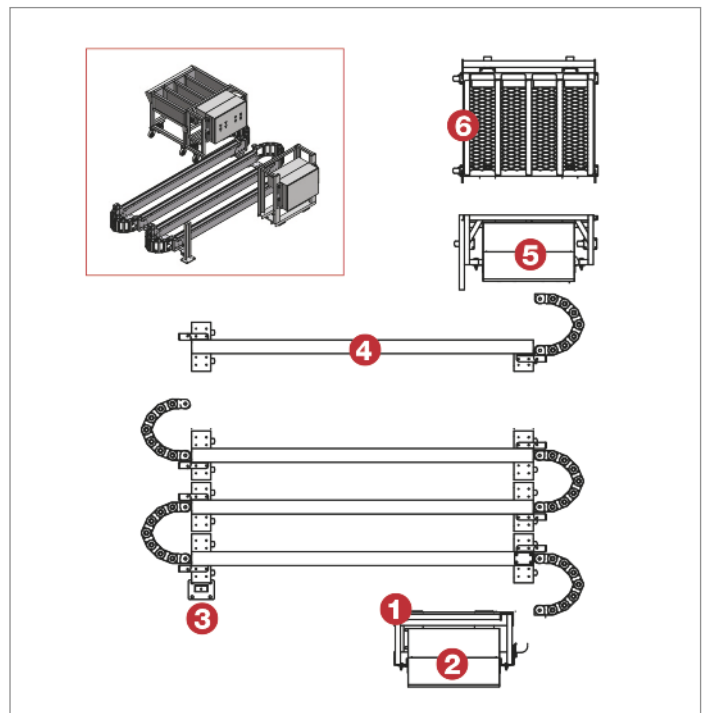
For rapid swap-out and upgrading

Sidewinder's unique design enables airports to modify an installed unit to accommodate stand upgrades or aircraft changes. Anchor holes for securing the beam are compatible with most other products allowing rapid swap-out and upgrade without the need to obtain permits or carry out major groundworks.

Telemeter Electronic comprises the following modules:

- 1. Beam anchor with distribution box mount**
- 2. Distribution box** designed for 1, 2, 3, or 4 x 90 kVA cabling
- 3. Beam parking post**
- 4. Chain/beam modules**
available in increments of 3.5 m;
Minimum length: 14 m (4 beams);
Option:
Length increases in increments of 3.5 m to maximum extension 8 beams (approx. 30 m)
- 5. Front end control box** with bus bar options for 1, 2, 3, or 4 x 90 kVA outputs and connection to 28V DC module (a separate DC module is recommended)
- 6. Quick detachable cable basket:**
Standard 2 compartments,
(optional 4 compartments) each stows up to 6 m of cable with stainless steel holster

With this system, we have covered all the issues that are troublesome with the existing cable carriers. Its low rolling resistance makes it easy for the ground handlers to deploy, and the modular design certainly makes maintenance a simple job for our engineers. There is no doubt sidewinder is appreciated by the ground handlers, airline and maintenance staff.



Cable Carrier



Technical data Sidewinder

Beam construction	2 mm stainless steel, with welded overlap
Beam length	2650 mm
Beam height	168 mm
Beam width	107 mm
Deployment length (infeed box to basket)	12 m, 18 m, 24 m
Output cables from basket	6 m
Overall stowed footprint 4 beam	W: 3520 x D: 3900 mm
Max working radius:	180 degrees
Wheel diameter – standard	100 mm 'D' profile type (optional 150 mm, 200 mm)

Basket dimensions

Height	860 mm
Width	1032 mm
Depth	905 mm
Weight	815 kg (4 cable, 15 meter version)
Installation bias	Left or right extension depending on final assembly
Drag link	Tensile steel links and pins with alloy vertical post modules
Forward control cabinet	Stainless steel IP 65 rated
Forward control buttons	400 Hz on / off Interlock on / off monitoring options
Brake system	Basket mounted double stamp locks with frame mounted back-up lock

Certification

ISO 9001:2008 – Independent power supplies for aerospace
SAE-ARP 5015, 2011 – 01 400 Hz ground power performance requirement

Hybrid GPU

Coolspool Hybrid 300

The Coolspool Hybrid 300 includes a 3-cylinder water-cooled Yanmar diesel engine and is the latest model of Powervamp's compact low cost diesel GPU, developed for regional DC aircraft operators and FBOs requiring continuous ripple free power in the hangar and remote power for line operations and turbine starting on the ramp. No other GPU delivers the versatility and convenience of Powervamp's Coolspool Hybrid 300. Depending on specification, this compact and efficient diesel GPU provides continuous AC or DC power. Very high DC amperage from its ultra-high-discharge batteries is available instantly for turbine starts and short-term loads that may exceed the generator's continuous output.

In enclosed spaces such as maintenance shops or hangars, **with the diesel engine shut down and the unit connected to a mains supply**, the CSH 300 while providing 28V, will automatically recharge its integral batteries. Available in various configurations and in series production over 17 years (Scammer), with sales to several armed forces.

FEATURES

- Up to 1400 peak amps for aircraft starting
- Supports 24/26 V and 28 V DC systems
- Up to 300 amps continuous at 28 V DC
- Additional 110 V / 230 V, 50 / 60 Hz power outlets for general ramp use
- Shore power capability for silent, clean aircraft maintenance supply within hangar
- Ability to recharge external ground power units via power output socket
- Easy to maneuver and transport between operational bases
- Simple to service and maintain
- Modular designs to suit operator requirements
- Reverse current protection
- Reverse polarity protection
- Complies with ISO 6858

UNITS SUPPLIED AS STANDARD WITH

- 130 amp/hr high discharge VRSLA batteries
- 4-metre (13 ft) double insulated DC output cable with heavy-duty rubber NATO plug
- Frame manufactured from hot dip galvanized steel channel and square hollow section. Alloy side panels finished in yellow powder coat paint with nonferrous/stainless steel fittings
- Stainless steel 33-litre (7 gallon) fuel tank with purge drain tap for air transportation
- Spare wheel
- Fire extinguisher (if dispatched by road)



OPERATE WITH:

- Diesel or Jet Fuel A1
- Power supplies
- Batteries 130 Ah

Hybrid GPU

Coolspool Hybrid 300

Technical data Coolspool Hybrid 300

Rated power	8.4 kW
Continuous current	300 amps
Voltage	28 V (other voltage available)
Output cable	4 x 70 sqmm 4 meters long
Output connector	3-pin aviation connector

AC OUTPUT

Voltage	230 V / 110 V
Frequency	50 / 60 Hz

ENGINE

Make	Yanmar
Number of cylinders	3
Fuel	Diesel; Jet A1
Cooling system	Liquid
Aspiration	Naturally aspirated
Rated speed	3000 / 3600 rpm

ALTERNATOR

Make	Meccalte
Output	3 phases, 50 / 60 Hz, 230 / 110 / 400 V
Rated speed	3000 / 3600 rpm
Output power (Class H)	10 kVA @3000 rpm, 12 kVA @ 3600 rpm

POWER SUPPLIES

Number	3 in parallel – modular design
Output power	3 kW each
Output continuous current	100 amps each
Protections	Over voltage, over temperature, over load
Operating temperature	-20 to +70°C

BATTERIES

Voltage	6 V
Number	4 connected in series
Capacity	130 Ah
Short circuit current	4000 amps
MDA	1400 amps

GPU

Tyres	Standard pneumatic 4.00-8
Suspension	Hot dip galvanized flexible rear arm with rubber suspension
Brake wheels	Adjustable foot activated brake on front
Fuel tank	Stainless steel tank 33 liters – all day operation. Easy removable tank for air transportation
Forklift points	2 lifting points in both sides
Air transportation	Yes
Chassis	Hot dip galvanized steel
Panels	Powder coated yellow aluminum with cam lock type fittings
Towable speed	10 mph (16 km/h)
Tow eye dimension	50 mm (2 in)
Dimensions mm	H 1244 (49 in); L 1885 (74 in); W 898 (35 in)
Dry weight	535 kg (1179 lbs)

CONTROL PANEL

- Fuel level gauge
- Digital voltmeter and ammeter
- LED for output ON
- Illuminated control panel for night operation
- Engine control module with LCD information display
- Input plug and output socket
- Emergency Stop
- LED power output display
- Interlock override key switch
- Dual ON/OFF power push buttons
- Switchable power source (engine/mains)
- Internal error LCD display

STANDARDS

ISO 6858	Aircraft ground support electrical supplies – general requirements
ISO 461/1 supplies	Aircraft connectors for ground electrical
ISO 461/2	Design, performance and test requirements, dimensions
STANAG 3632 AE (option)	Aircraft and ground support equipment electrical connections for static grounding
AEP-24 (option)	Aircraft electrical hazards on the flight line

Ramp Carts

Coolspool 410

Our 28 volt DC Coolspool ramp carts are designed to replace diesel GPUs or fixed and semi-mobile transformer rectifier units (TRUs) Where no mains power is present or noise curfews prohibit use of diesel GPUs, they are a highly efficient, low cost power source – operating at a fraction of the cost of a diesel GPU, yet able to deliver the same power and turbine starting output. **They provide a combination of instant high amperage with pure DC wave form and full mobility, low initial investment and extremely low operating costs.** Their zero noise and zero carbon footprint are important environmental considerations.

Typical power plant:

PT6C-67, TPE 331-12, RR Dart 356, RR AE3007A, PW121, PW127, PW150A, ALF502, CF34B, BR710

DC BATTERY CARTS

- 130 to 580 Ah Capacity
- 26 and 28 volt options
- Ultra high discharge ramp carts
- Environment-friendly power
- No noise
- No pollution
- No maintenance
- Minimum operating cost
- Rapid return on investment

FEATURES

Simple controls

- Heavy-duty push/pull (emergency) isolator switch

Full monitoring

- Digital voltmeter for GPU output voltage display
- Charge ammeter indicating charger output
- LED counter with start monitoring and interlock protection circuit (patent applied for)

All-weather operation

- Cold weather protection (anti-cold soak insulation)

GENERAL SPECIFICATIONS

Amp/hr capacity	From 130 amp/hr (see data sheet for specific battery characteristics based on user requirements)
Nominal voltage	28.5 volts
Optional nominal cart voltage	26 volts (for use on aircraft maximum upper voltage limit below 30 volts)
Max starting current (peak amps)	From 1200 to 6000 amps – capped at 2500 amps via cable resistance
Cell type	High power, high performance sealed, starved electrolyte or VRLA gas recombining lead-acid cells connected in series to deliver 28V. All cleared for air transportation
Leads	4-metre (13 ft) heavy-duty double-insulated 75 mm (3 in) section output cable with heavy-duty rubber NATO plug
Charging	80 amp single phase internal/external charger or 240 amp 3-phase external charger



- Full monitoring
- All-weather operation
- Rough terrain chassis



Rough terrain chassis

- Elastomeric rear suspension
- Bolt-on replaceable front axle assembly
- Bolt-on side protection bars
- Bolt-on mudguards
- Removable rear control panel module

General

- Paint finish – powder-coat yellow
- Replaceable alloy corrosion-proof panels
- Spare wheel (side mounted)
- Foot operated parking brake
- Fire extinguisher (supplied only if shipped by road due to air transport regulations)
- 12 month warranty against faulty parts or labour (batteries are on a proportional warranty based on usage over time)

Continuous Power

PS300

The PS300 28 volt power supply is a modular, lightweight, compact, high performance, ramp or hangar unit.

It delivers up to 300 amps DC power within a voltage range of 27 – 28.5 volts, providing continuous power for air conditioning, airshow ground power or general maintenance.

The small overall size and low height allow the power supply to be located under the fuselage or wing of smaller aircraft or helicopters, thereby freeing up hangar floor space or eliminating a ramp hazard. The PS300 is fitted with a solid-state voltmeter and ammeter and includes short circuit, over voltage, over temperature, and load protection.

The quick disconnect output allows fast cable replacement or the addition of a 'splitter' adapter to power delivery to two aircraft simultaneously.



FEATURES

- Small overall size and low weight
 - This allows unit to operate under the fuselage or wing of smaller aircraft/helicopters thereby freeing hangar floor space or eliminating a ramp hazard
- Solid state digital voltmeter and ammeter
- Variable speed fans for reduced noise
- Emergency stop push button
- Quick connect/disconnect output plug
 - Allows instant replacement of the output cable
 - connection of "splitter yoke" to allow power delivery to two aircraft
- Modular design making the PS300 easy to maintain and repair with basic tools

OPTIONS

- Tubular protective frame
- Padded protective jacket



- Small overall size and low weight
- Power supply status indicators
- Different input voltage can be selected by operating a key switch

Continuous Power

Technical data PS300

DC OUTPUT

Rated power	9 kW
Continuous current	300 amps
Voltage	28.5 volt (other voltage available)
Output cable	4 m, 2 x 70 sq mm
Output connector	3 pin aviation connector

INPUT

Position 1	3 phases + neutral + earth 380 – 415 V
Position 2	3 phases + earth 190 – 208 V
Typical input circuit breaker	32 amps

POWER SUPPLIES

Number	3 in parallel – modular design
Output power	3 kW each
Output continuous current	100 amps each
Protections	Short circuit, over voltage, over temperature, overload, fan alarm
Efficiency (typical)	89.5 %
Power factor (typical)	0.95 / 230 V AC at full load
Working humidity	20 % to 90 % RH non-condensing
Working temperature	-20°C to +70°C

GPU

Air transportation	Yes
Panels	Aluminium
Size mm	L 1885 (74 in) x W 898 (35 in) x H 1244 (49 in)
Weight	25 kg

STANDARDS

ISO 461/1: Aircraft connectors for ground electrical supplies
ISO 461/2: Design, performance and test requirements, dimensions

CONTROL PANEL

- Digital voltmeter
- Digital ammeter
- LEDs for power supplies condition
- Emergency stop push button
- Output connector for aviation lead
- ON/OFF switch
- Input voltage selector key switch

28 V Transformer

TRU 2400-2

28 V Transformer rectifier units

The TRU 2400-2 transformer rectifier unit will start and power all known 28 V DC aircraft. Silent, environmentally clean, and easy to use, the TRU-2 offers users significant operating benefits. Designed and built to the highest industry standards (MILSTD 704, ISO 6858), it produces the highest quality output signal with minimal AC ripple and is guaranteed to be accepted by all DC aircraft.

The 12 pulse rectification technology used ensures a low input total harmonic distortion less than 13 % at nominal load, adding to the efficiency of the system. **The TRU 2400-2 produces a regulated 28 V DC output and can deliver a constant current of 600 A with engine starting peaks of up to 2400 A.**

The current limiting feature enables the user to limit the output current to the aircraft and can be accessed and set via the digital display. This unit is a compact solid state module built to IP55 protection, designed for internal/external fixed or mobile use. With its weather-resistant, hot-dipped galvanized frame with wheels, the unit can be easily moved by hand over uneven surfaces.

FEATURES

- Low total input harmonic distortion
- Digital display
- Unique energy-saving sleep mode controlled via the display
- System data logger
- Indoor/outdoor hangar use
- Line drop compensation
- External system control (option)
- Emergency power off
- Aircraft interlock/system interlock override
- Input frequency and voltage monitoring



- **Output current regulation 1%**
- **Powder baked wheeled cart with alloy panels**
- **200 mm (8 in) dia. Pneumatic tyres, spare wheel, cable stowage**



Technical data TRU 2400-2

INPUT

Voltage	400 VAC / 208 VAC (3 Wire +E)
Frequency	50 / 60 Hz
Rectification	12 pulse
Inrush current	N/A
Power factor	> 0.86 @ nominal load
Line current	32 A / 62 A @ nominal load
Input harmonics	< 12 % @ nominal load

OUTPUT

Voltage	28 VDC
Current	600 amps continuous
Engine start capacity	2400 A selectable
Ripple	Less than 1 % at full load
Line drop compensation	Up to 15 %

DIMENSIONS

H 875 mm (35 in)	W 837 mm (33 in)	D 653 mm (26 in)
Weight	230 kg (507 lb)	





You may also be interested in:

Downlinks, Datalinks and Sat Com

- Applied solutions
- Suitable for evaluation processes
- Modular setup

... we provide solutions!

Downlinks, Datalinks and Sat Com

Luftfahrt- und Avionikzubehör

... wir liefern Lösungen!

Luftfahrt- und Avionikzubehör

Messen, Prüfen, Testen

- Laborgeräte
- Generatoren
- Digitaler Oszilloskope
- Breitband- und Selektiv-Messgeräte
- Absorber
- Arbeitsplatzumrüstungen

... wir liefern Lösungen!

Messen Prüfen Testen

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