

Whippendell Marine

600A Transformer Rectifier Unit (TRU)

Ensuring the availability of high quality electrical power to embarked aviation assets is critical to naval aviation operations.

The Whippendell Marine 600A DC Ground Power Unit (GPU) meets this requirement in a compact and reliable design, providing DC power to the standard of MIL-STD-704F.

The TRU is based on a COTS unit manufactured by a world leading supplier of aviation GPUs and in service globally. The unit is modified by Whippendell Marine to meet the requirements of the marine and naval environment and is EMC certified to DEF STAN 59-411 Below Decks.

Utilising the latest solid state technology, the GPU is capable of providing sufficient power for modern fixed and rotary wing aircraft, including a 2000A engine start capability, with a comfortable margin for future expansion and a 400% overload tolerance.

The modular design and no requirement for specialist tools, means that should the unit fail, the mean time to repair is less than 20 minutes, a critical factor during flying operations. In addition the majority of recommended spares are already NATO codified, making demand ordering simple.

The Whippendell Marine GPU, combined with our control and distribution systems, are the ideal choice for all aviation capable platforms.



INPUT	
Voltage	440V, 3Ø, 50/60Hz
Rectification	6 Puse
Line Current	29A
Power Factor	0.91
Inrush Current	None (Soft Start)

OUTPUT	
Current	600A Continuous
Engine Start	2000A @ 28VDC
Voltage	19-33VDC
Ripple	< 2% at Full Load
Voltage Regulation	<0.5% from no load to full load
Voltage Compensation	3V @ 600A

EFFICIENCY	
Overall Efficiency	0.87
Stand By Losses	130W
No Load Losses	330W

PROTECTION	
Enclosure	IP55
Voltage	Over & Under Voltage on Input & Output Internal Voltage Error
Current	Overload
Temperature	Over Temperature
Short Circuit	At Output

ENVIRONMENTAL	
Operating Temperature	-40°C to +56°C
Relative Humidity	10-100%
Noise Level	Noise level <65 dB(A)@1m

OVERLOAD	
1200A	30 seconds
1800A	10 seconds
2100A	5 seconds
2400A	2 second

STANDARDS	
ISO 6858	Aircraft ground support electric supplies
BS 2G 219	General requirements for ground support equipment
MIL-STD-704F	Aircraft electric power characteristics
EN1915-1&2	Machinery; General Safety Requirements
EN12312-20	Machinery; Specific Safety Requirements
EN62004-1	Machinery; Electrical Safety
EN62040-1-1	LVD Safety Standard
EN61558-2-6	LVD Safety Standard
EN61000-6-2	EMC - Generic Immunity Standard
EN61000-6-4	EMC - Generic Emission Standard
DEF STAN 59-411	Military EMC Requirements

OTHER	
Weight	<150Kg
MTBF	100,000 Hours
MTBF (Ventilation)	25,000 Hours Minimum
MTTR	20 Minutes
Shock Mounting	If required using X Mounts

Whippendell Marine

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