Airport Equipment Services Pte Ltd

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Diesel engine driven Ground Power Unit series APA

Diesel engine driven GPU series APA is designed to supply electrical equipment onboard aircraft and helicopters with constant voltage 28.5V (up to two output channels) and three-phase alternating 3x115V frequency 400Hz (up to three output channels). These GPUs have diesel generator sets, providing a three-phase AC input voltage 3x400V for rectifiers EAR and frequency converters EAC. The diesel generator unit and unit conversion equipment mounted on a single frame, which, in turn, is mounted on a truck chassis.

An additional 3rd output with 400 Hz 36 V of power up to 10 kW can be designed in a power supply unit. An energy intermediate unit ensures a smooth load variation to the diesel-generator. It means, that you get high stability of output voltage and fixed frequency 400Hz±0,01% at any unstable load level.

There is an additional output of standard voltage 50/60Hz. The customer can perform the complete service of aircrafts at remote parking plots with the possibility to supply power of common loads with standard voltage 50/60Hz without having to buy addition equipment. This saves time and simplifies service processes at remote parking places.

Main technical parameters of combined power supply unit series APA

Parameter	Value
Environmental conditions, temperature value, C^0	-45 ÷ +50
Degree of protection	IP54
Execution	Stationary /Mobile / Truck mounted
Beacon light	Yes
Automatic cable voltage drop compensation	Yes
Prime Power №1	**Diesel-generator**
Output voltage of diesel generator, V	3x400
Engine	Perkins 1100 Series / Deutz - optional
Starting system	Electric starter
Cooling system	Liquid, closed
Fuel tank capacity	For 12 hours of continuous work
Warranty for diesel engine	1 year or 1,000 hours, whichever comes first
Prime Power №2	**External mains**
Mains voltage	3x400V + / - 10% PE, 50 Hz
Possibility of output voltage and frequency regulation	Yes
Output AC 400 Hz	
Nominal (continuous) output power, kVA	Up to 180
Nominal output voltage, V	3L+N 115/200
Nominal load power factor not less than	0,8
Range of load changes, %	0-100
Stabilization accuracy of the output voltage, %	±2
Output voltage frequency, Hz	400
Output frequency deviation from nominal, %	±0,1
Sine wave distortion factor, not worse, %	3
Maximum overload during 60 min	110%
Maximum overload during 10 min	125%
Maximum overload during 60 s	150%
Maximum overload during 30 s	200%
Maximum overload during 3 s	300%
Output DC 28.5V (number of outputs: up to 2)	
Nominal output voltage, V	28,5
Nominal output current, A	Up to 1400
Accuracy stabilize the output voltage, V	+/-0,5
Coefficient of output voltage ripple, max,%	<2
Permitted overloading during 2 s	3 I_{nom}
Permitted overloading during 3,3 ms	4 I_{nom}
Permitted overloading during 50 s	1,25 ÷ 2 I_{nom}
Regime « 24/48»	Yes