AIRPORT EQUIPMENT SERVICES PTE. LTD.
41 Kallang Pudding Road, #03-10 Golden Wheel Building,
Singapore 349316 Phone: (65) 65421160 Fax: (65) 65421160
Email: aessg@singnet.com.sg Website: www.aessg.com
(Business Registration No: 199400661M)

# DIESEL GPU
## APA SERIES

The Ultra Green Power Solution Diesel engine driven GPU series APA is designed to reduce $CO_2$ emissions with its unique technical characteristics.

There is an additional output of standard voltage 50/60 Hz allows to use APA as common diesel power station. You can also use it as mobile electrical GPU by connecting it to a 50/60 Hz, 400 V 3 phase main power supply. These two features allow it to perform the complete service of aircrafts at remote parking places and use APA series GPUs inside of aircraft hangars without emitting $CO_2$.

It has the following outputs: constant DC voltage 28.5 V (up to two output channels) and three-phase alternating 3×115 V frequency 400 Hz (up to three output channels). These GPUs have diesel generator sets, which provide a three-phase AC input voltage 3×400 V for rectifiers EAR and frequency converters EAC 400Hz. 36 VAC and 270 VDC outputs are also available. All power supply channels are independent, have very stable output parameters and can work simultaneously.

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# MAIN TECHNICAL PARAMETERS

## APA Diesel Powered

### Performance
- Climatic execution: -40 to +55˚C
- Humidity: 10 – 100%
- Noise level: < 75dB(A)
- Warranty: 24 months
- Execution: mobile/vehicle mounted
- Protection class: IP 54/55

### General parameters
- Forklift pockets
- Wheels: Solid tyres
- Parking brakes: tow bar activated
- Cable lenght: 10m

### Control panel
- Luminescent display, main lamp, emergency stop
- Engine speed
- Fuel gauge
- Engine temperature
- Oil pressure
- Alarm and faults
- Voltage
- Current
- Frequency
- Start/Stop

### Documentation
- User + service manual
- Passport
- Warranty certificate

### Protection
- Over / under voltage at output
- Overload
- Over / under frequency
- Over temperature
- Short circuit at output
- Control voltage error
- Leakage current supervision
- No break power transfer

### Engine section, automatic shutdown
- Low oil pressure
- High coolant temperature
- Engine over speed
- E-stop button stops entire system

### Output parameters
- Number of outputs: up to 5
- Rated summary output power, kVA: 60, 90, 120, 140, 180
- Rated output voltage, VAC: 115/200 ± 2
- Range of load changes, %: 0 – 100
- Total harmonic distortion, not worse, %: 3
- Output frequency, Hz: 400 ± 0.001
- Power factor: > 0.8 at 100% load
- Coefficient of efficiency, %: 97
- Coefficient of amplitude modulation of the output voltage, %, not more: 1.5
- Line drop compensation: automatic

### Diesel generator unit
- Output voltage of diesel generator: 50/60Hz 3x400, N, PE
- Engine: Caterpillar/Perkins/Deutz
- Starting system: Electric starter
- Cooling system: Liquid, closed
- Engine speed: 1500 RPM
- Fuel tank capacity, l: for 10 h. of continuous work

### AC overload
- 10 min – 110%
- 5 min – 125%
- 60 sec – 150%

### Optional
- 28,5 VDC output
- Range of voltage regulation, V: ± 10%
- Range of frequency regulation, Hz: 360 – 440
- Anti – condensation heating: +
- Interlock: + bypass
- Remote control: control panel, main lamp, emergency stop
- Additional output: 220V, 16A (1Ph+N+PE) + residual – current device
- Additional output 28,5VDC
- User interfaces: RS485 / 232 ; TCP/IP; Modbus
- Measuring devices type: analog or digital
- Monitoring of energy consumption
- Beacon light
- Voice signalization
- Control panel backlight
- CE Certificate
- EUR 1 Certificate
- Prime Power from external mains voltage: 3x400V, 50/60Hz

### Norms, standards and directives that we follow:
ISO6858, ISO1540, BS 2G 219, MIL-STD-704F, EN 62040-1, EN 61000-6-4, EN 61000-6-25, EN61558-2-6, EN 2282, EN 1915-1, SAEARP 50 15, IEC 60721, IEC 60529, DFS400, GOST 54073-2010, ISO 9001:2008, ISO 14001:2004, OHSAS 18001, 2014/35/EU, 2004/108/EC