## Introduction

The GreenTech Series is a sustainable generator solution designed to reduce environmental impact through alternative fuel compatibility, low emission levels, and reduced noise output. With HVO fuel support and advanced exhaust and safety systems, it ensures compliance with environmental standards and significantly reduces carbon emissions. The GreenTech Series offers lifecycle performance certified by EPD and LCA. Through the use of recycled and bioplastic materials, hybrid-ready infrastructure, and environmentally conscious production processes, the GreenTech Series contributes to long-term sustainability goals. (Image is for illustrative purposes only.)

## Power

3 Phase,50 Hz, PF 0.8

| Voltage (V) | STANDBY RATING (ESP) | | PRIME RATING (PRP) | | STANDBY CURRENT (A) |
|---|---|---|---|---|---|
| | kW | kVA | kW | kVA | |
| 400 / 231 | 88.0 | 110 | 80.00 | 100 | 159 |

STANDBY RATING (ESP) Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. ESP is in accordance with ISO 8528-1. Overload is not allowed.

PRIME RATING (PRP) Applicable for supplying power to varying electrical load for unlimited hours. PRP is in accordance with ISO 8528-1. 10 % overload capability is available for a period of 1 hour within 12-hour period of operation.

## General Characteristics

| | |
|---|---|
| Model Name | AP 110 - GTS |
| Frequency (Hz) | 50 |
| Fuel Type | Diesel |
| Engine Make and Model | Perkins 1104C-44TAG2 |
| Alternator Make and Model | Mecc Alte ECP 34-2S/4 C |
| Control Panel Model | DSE 6120 |
| Canopy | N/A 1 |
| Noise Level @1m , @7m (dB(A)) | 79.8 / 70 |

## Engine Specifications

### General Data

| | |
|---|---|
| Manufacturer | Perkins |

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| | |
|---|---|
| Engine Model | 1104C-44TAG2 |
| Number of Cylinders / Type | 4 cylinders - in line |
| Bore mm (in) | 105 |
| Stroke mm (in) | 127 |
| Displacement l (cu. In) | 4.4 |
| Compression Ratio | 18.23:1 |
| Engine Speed (rpm) | 1500 |
| Standby Power (kW/hp) | 103/138.06 |
| Prime Power (kW/hp) | 93.6/125.46 |
| Block Heater (QTY) | 1 |
| Block Heater Power (Watt) | 750 |
| Governor System | Electronic |
| Air Filter | Dry Type |
| Aspiration | Turbocharged and Air-to-Air Charge Cooled |

## Lubrication System

| | |
|---|---|
| Oil Capacity l (qal) | 8 |
| Max. Oil Temperature ºC (F) | 125 |

## Fuel System

| | |
|---|---|
| Fuel Type | Diesel |
| Injection Type | Direct |
| Type of Fuel Pump | Delphi Rotary Type |

## Electrical System

| | |
|---|---|
| Operating Voltage (Vdc) | 12 Vdc |
| Battery and Capacity (Qty/Ah) | 1x66 |
| Charge Alternator (A) | 65 |

## Cooling System

| | |
|---|---|
| Cooling Method | Water Cooled |
| Coolant Capacity (engine only) l (gal) | 7 |

## Exhaust System

| | |
|---|---|
| Exhaust Gas Flow (m³/min) | 16.3 |
| Exhaust Back Pressure in-Hg (kPa) | 18 |
| Exhaust Gas Temperature ºC (F) | 543 |
| Heat Rejection to Exhaust kW (BTU/min) | 78,9 |

## Radiator

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| | |
|---|---|
| Total Coolant Capacity (l) | 12.6 |
| External Restriction to Cooling Airflow (Pa) | 125 |

### Fuel Consumption

| | |
|---|---|
| Fuel Cons. @100% Prime Load l/h (kg/h) | 22.6 |
| Fuel Cons. @75% Prime Load l/h (kg/h) | 17.1 |
| Fuel Cons. @50% Prime Load l/h (kg/h) | 11.8 |

## Alternator Characteristics

| | |
|---|---|
| Manufacturer | Mecc Alte |
| Alternator Model | ECP 34-2S/4 C |
| Frequency (Hz) | 50 |
| Power (kVA) | 100 |
| Voltage (V) | 400 |
| Phase | 3 |
| A.V.R. | DSR |
| Voltage Regulation | 1 |
| Insulation Class | H |
| Protection Class | IP23 |
| Rated Power Factor | 0.8 |
| Weight Complete Generator (kg) | 349 |
| Temperature Rise Class | H |
| Cooling Air (m³/min) | 29.2 |

## Open Generator Set Dımensıons

| | |
|---|---|
| Length mm | 2150 |
| Width mm | 1050 |
| Height mm | 1490 |
| Open Gen.Set Gross Weight Dry kg | 1120 |
| Full Tank Capacity (l) | 240 |

## Canopy Characteristics

| | |
|---|---|
| Length mm | N/A |
| Width mm | N/A |
| Height mm | N/A |
| Dry Weight kg | N/A |
| Full Tank Capacity (l) | N/A |

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## Control Panel

| | |
|---|---|
| Manufacturer | DSE |
| Control Module Model | DSE 6120 |
| Communication Ports | CANBUS |




1. Menu navigation buttons
2. Close mains button
3. Main Status and instrumentation display
4. Alarm LED's
5. Close generator button
6. Status LED's
7. Operation selecting buttons

### Standard Devices

DSE model 6120, Auto Mains Failure control module, Static battery charger input 198-264 volt, output 27,6V 5A (24V) or 13,8 Volt 5A (12V), fuses for control circuits. This Control Module is suitable for a wide variety of single gen-set applications

### Control Unit

- The DSE 6120 module has been designed to monitor generator frequency, volt, current, engine oil pressure, coolant temperature running hours and battery volts.
- Module monitors the mains supply and control the switch over to the generator when the mains power fails.
- The DSE6120 also indicates operational status and fault conditions, Automatically shutting down the Gen. Set and giving true first up fault condition of Gen. Set failure.The LCD display indicates the fault.

### Construction and Finish

Components installed in sheet steel enclosure. Phosphate chemical, pre-coating of steel provides corrosion corrosion-resistant surface. Polyester composite powder topcoat forms a high gloss and extremely durable finish. Lockable and hinged panel door provides easy access to components.

### Installation

Control panel is mounted on baseframe with steel stand. Located at the right side of the generator set (When you look at the Gen.Set. from Alternator side)

### Engine

- Engine speed
- Oil pressure
- Coolant temperature
- Run time
- battery volts
- Configurable timing

### Shut Down

- Fail to start
- Emergency stop
- Low oil pressure
- High coolant temperature
- Over /Under speed
- Under/over generator frequency
- Under/over generator voltage
- Oil pressure sensor open

### Warnings

- Charge failure
- Battery Low/High voltage
- Fail to stop.
- Low /High generator voltage
- Under /Over generator frequency
- Over /Under speed
- Low oil pressure

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- Coolant temperature sensor open

- High coolant temperature

### Generator

- Voltage (L-L, L-N)
- Current (L1-L2-L3)
- Frequency
- Gen. Set ready
- Gen. Set enabled

### Electrical Trip

- Generator over current

### Mains

- Mains ready
- Mains enabled

### Options

- Flexible sensor can be controlled with temperature, pressure, percentage (warning/shutdown/electrical trip)
- Local setting parameters and monitoring from PC to control module with USB connection (max 6 mt).

### Control Panel Compliance List

- Electrical Safety / Electro Magenetic Compatibility (EMC)
- BS EN 60950 Electrical Safety
- BS EN 61000-6-2 EMC Generic Immunity Standard
- BS EN 61000-6-4 EMC Generic Emission Standard

### Static Battery Charger

- Battery charger is manufactured with switching-mode and SMD technology and ıt has high efficiency.
- Battery charger models' output V-I characteristic is very close to square and output is 5 amper, 13,8 V for 12 volt and 27,6 V for 24 V . Input 198 - 264 volt AC.
- The charger is fitted with a protection diode across the output.
- Connect charge fail relay coil between positive output and CF output.
- They are equipped with RFI filter to reduce electrical noise radiated from the device.
- Galvanically isolated input and output typically 4kV for high reliability.

## Standard Equipment

- Water cooled, Diesel engine
- Radiator with mechanical fan
- Protective grille for rotating and hot parts
- Electric starter and charge alternator
- Starting battery (with lead acid) including rack and cables
- Engine coolant heater
- Base frame design incorporates an integral fuel tank and anti-vibration isolators
- Flexible fuel connection hoses
- Single bearing, class H alternator
- Industrial exhaust silencer and steel bellows supplied separately(for open sets)
- Static battery charger
- Manual for application and installation

## Optıonal Equıpment

### Engine

### Alternator

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- Fuel-Water Seperator Filter
- Oil heater

- Anti-Condensation Heater
- Over sized alternator
- PMG excitation + AVR
- Main line circuit breaker

### Control Panel

- Automatic synchronising and power control system (Multi gen-set Parallel)
- Parallel system with mains
- Transition synchronization with mains
- Alarm output relays
- Earth fault, single set
- Parallel system with mains
- Remote relay output
- Remote communication with modem
- Charge Ammeter

### Transfer Panel

- Three or four pole contactor
- Three or four pole motor operated circuit breaker

### Auxiliary Equipment

- Main Fuel Tank
- Automatic or manual fuel filling system
- Electrical or manual oil drain pump
- Low and high fuel level alarm
- Inlet and outlet motorized louvers
- Inlet and outlet acoustic baffles
- Tool kit for maintenance
- 1500/3000 hours maintenance kit
- Supplied with oil and coolant (-30°C)

### Exhaust

- Residential Silencer
- Silencer Spark Arrester
- Critical Silencer
- Catalytic Convertor

### Canopy

- Galvanized Coating
- ISO Container
- Marine Grade Paint

### Optional Alternator and Control Panel

Please contact to your reseller for additional Alternator, Control Panel and Breaker Switch options.

## Aksa Certificates

**Directive**

- 2006/42/EC : Machinery Safety Directive
- 2014/30/EU : Electromagnetic Compatibility Directive
- 2014/35/EU : Low Voltage Directive

**Standarts**

- TS ISO 8528-5:2022 / TS EN ISO 8528-13:2018 : Reciprocating internal combustion engine-driven alternating current generating sets- Part:13: Safety

Quality Management Systems
ISO 9001:2015
ISO 14001:2015
ISO 45001:2018
ISO 50001:2018
ISO 27001:2013

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ISO 10002:2018