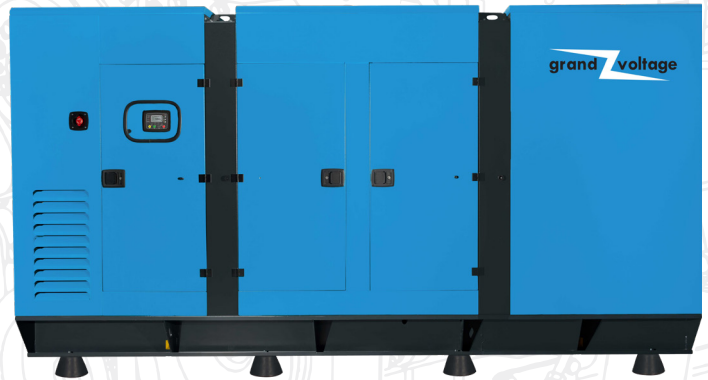


## Industrial Diesel Generator - PERKINS 110kVA/88kW - 110/230/400V(50/60Hz)

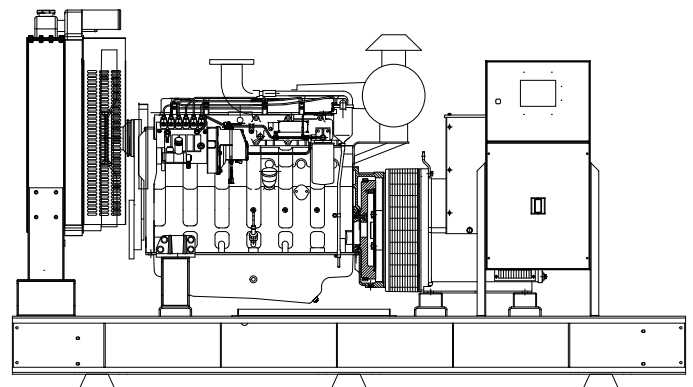
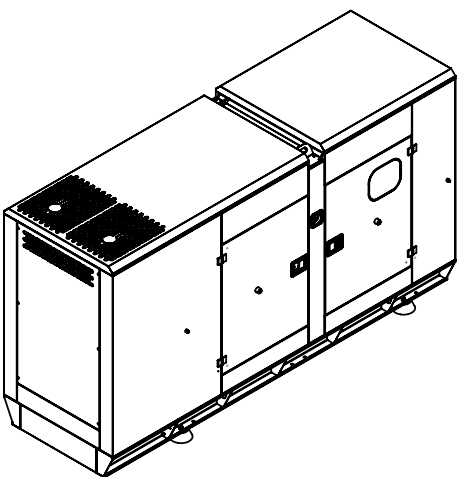


### General Specifications

|                     |               |
|---------------------|---------------|
| Standby Power (kVA) | 110           |
| Standby Power (kW)  | 88            |
| Prime Power (kVA)   | 100           |
| Prime Power (kW)    | 80            |
| Frequency (Hz)      | 50 / 60       |
| Cooling System      | Water Cooling |

- 1) Standby power: The max power available during a variable electrical power sequence, under the stated operating conditions, for which a generating set is capable of delivering in the event of a utility power outage. Overloading isn't permissible.
- 2) Prime Power: The maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load. Average load should be 70%. The generator can be overloaded 10% for 1 hour per 12 hrs.

### Dimensions & Weight



| Type        | Length (mm) | Width (mm) | Height (mm) | Weight (Kg) | Fuel Tank Capacity |
|-------------|-------------|------------|-------------|-------------|--------------------|
| With canopy | 2800        | 1000       | 1500        | 1480        | 195                |
| Open type   | 2350        | 1000       | 1450        | 1290        | 195                |

## Engine Specifications

|                           |                   |      |
|---------------------------|-------------------|------|
| Engine                    | PERKINS           |      |
| Engine Model              | 1104A-44TG2       |      |
| Number of Cylinders       | 4 Inline          |      |
| Injection System          | Direct            |      |
| Compression Ratio         | 18.2 : 1          |      |
| Bore (mm)                 | 105               |      |
| Stroke (mm)               | 127               |      |
| Displacement (lt)         | 4.4               |      |
| Air Intake                | Turbo Intercooler |      |
| Speed (RPM)               | 1500              |      |
| Oil Capacity (lt)         | 8                 |      |
| Standby Power (kW / hp)   | 80.7 / 109        |      |
| Prime Power (kW / hp)     | 73.4 / 99         |      |
| Fuel Type                 | Euro Diesel       |      |
| Governor System           | Mechanical        |      |
| Cooling System            | Water Cooling     |      |
| Coolant Capacity (lt)     | 13                |      |
| Fuel Consumption (lt / h) | Full Load         | 22   |
|                           | 75% Load          | 16.9 |
|                           | 50% Load          | 11.1 |

## Alternator Specifications

|                              |                 |  |
|------------------------------|-----------------|--|
| Frequency (Hz)               | 50 / 60         |  |
| Power (kVA)                  | 110             |  |
| Voltage (V)                  | 110 / 230 / 400 |  |
| No. of Phases                | 3               |  |
| Aut. Voltage Regulator (AVR) | AS440           |  |
| Voltage Regulation           | ±1%             |  |
| Insulation Class             | H               |  |
| Protection Standard          | IP22-IP23       |  |
| Power Factor (Cos)           | 0.8             |  |

**Technical Specifications**

**ENGINE**

- PERKINS heavy duty diesel engine
- 12V starter and charge alternator
- Replaceable air, fuel and oil filters
- Mechanical governor control
- Tropical type radiator
- Flexible fuel hose
- Oil drain valve and extension hose
- Industrial type silencer and steel compensator
- Maintenance-free starter battery
- Water jacket heater
- 1500 rpm engine speed

**ALTERNATOR**

- IP 21-23 Protection Standard
- H Insulation Class
- 50/60 Hz Frequency
- 4 pole brushless synchronous type alternator
- Automatic Voltage Regulator (AVR)
- 110/230/400V AC Output Voltage - 1500 rpm

**SOUND PROOF CANOPY AND CHASSIS**

- Convenient design for easy lifting and carrying
- High standard sound proof canopy design
- Modular design with easily removable nuts - bolts
- Lockable doors
- Transparent window for watching Control Panel
- Electrostatic powder painted, providing protection against harsh weather conditions
- Emergency STOP button
- Fuel tank inside the chassis
- Anti-vibration wedges (engine - chassis and chassis - ground)

**OPTIONAL**

- Thermal magnetic CB (for automatic models)
- Super Silent Canopy
- Mobile Generator Sets
- Automatic fuel filling system
- Synchronization panel
- 3 Pole and 4 Pole ATS (Automatic Transfer Switch)
- Fuel Heater, Oil Heater
- External fuel tank and automatic fuel filling system
- Fuel - water separator filter
- Remote monitoring and control system



**Control Panel**

# Web based Next Generation Controller



## SPECIFICATIONS

- Diesel and gas genset support
- 400Hz operation support
- 400 event logs, full snapshot
- All parameters front panel editable
- 3 level configuration password
- 128x64 graphical LCD display
- Downloadable languages
- Waveform display of V & I
- Harmonic analysis of V & I
- 16Amp MCB & GCB outputs
- 8 configurable digital inputs
- 6 configurable digital outputs
- 3 configurable analog inputs
- Both CANBUS-J1939 & MPU
- 3 configurable service alarms
- Multiple automatic exerciser
- Weekly operation schedule
- Dual mutual standby with equal aging of gensets
- Manual “speed fine adjust” on selected ECUs
- Automatic fuel pump control
- Disable protections feature
- Excess power protection
- Reverse power protection
- Overload IDMT protection
- Load shedding, dummy load
- Multiple load management
- Current unbalance protection
- Voltage unbalance protection
- Fuel filling & fuel theft alarms
- Battery back-up real time clock
- Idle speed control
- Battery charge run enabled
- Combat mode support
- Multiple nominal conditions
- Contactor & MCB drive
- 4 quadrant genset power counters
- Mains power counters
- Fuel filling counter
- Fuel consumption counter
- Modem diagnostics display
- Configurable through USB, RS-232 and GPRS
- Free configuration program
- Allows SMS controls
- Ready for central monitoring
- Mobile genset support
- Automatic GSM geo-location
- GPS connectivity (RS232)
- Easy USB firmware upgrade
- IP65 rating with optional gasket

## MEASUREMENTS

- Mains & genset PN/PP voltages
- Mains & genset frequency
- Mains & genset phase currents
- Mains & genset neutral currents
- Mains & genset, phase & total, kW, kVA, kVA<sub>r</sub>, pf
- Engine speed
- Battery voltage

## FUNCTIONALITIES

- AMF unit
- ATS unit
- Remote start controller
- Manual start controller
- Engine controller
- Remote display panel

## COMMUNICATION

- USB Device
- RS-232 (2400-57600baud)
- J1939-CANBUS
- Geo-locating through GSM
- GPS support (RS-232)
- Internet Central Monitoring
- SMS message sending
- E-mail sending
- Free PC software: Rainbow Plus
- Modbus RTU
- Modbus TCP/IP