ZENITH

THE PINNACLE OF POWER

# ZPDG220S

# SPECIFICATIONS

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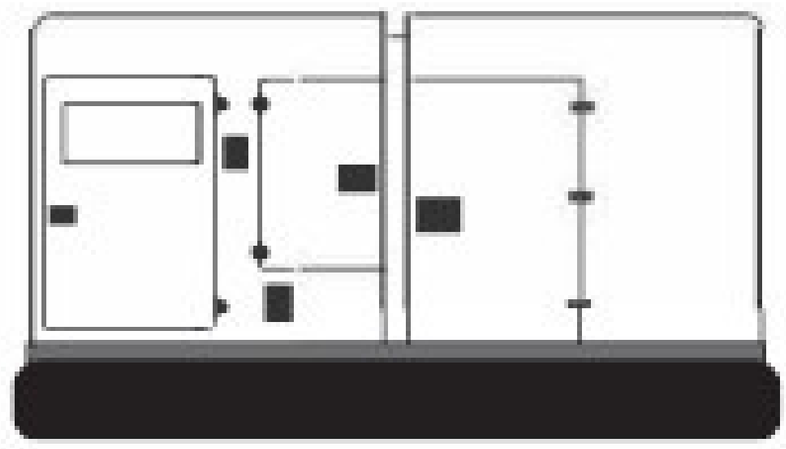

# ZPDG220S

## 50 Hz @ 1500rpm, 3-phase/4-wiring

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# *Standards & Conditions*

## Design Standards

**The designs and the productions are in conformity with:**

- Conformite Europeenne (CE)
- China Compulsory Certification (CCC)
- ISO8528-5:2005
- GB/T2820.5-2009

## Environmental Operating Conditions

- Installation place: Outdoors or indoors (well ventilated)
- Ambient temperature: -25 degrees C TO 45 degrees C. The coolant heater is needed when the temperature is below 5 degrees C
- Humidity: Less than 80%
- Altitude: Below one thousand (1000) metres.

## Factory Inspection

- Inspection items.
- Protection devices working test.
- Starting ability in normal temperature.
- 50% rated power load moment capability.
- Voltage deviation and speed variation: 0%, 25%, 50%, 75%, 100%, 110% Load

## Painting Process

- Painting process specifications and colours are based on the manufacturer’s standard.
- The customer could also choose the colour which the manufacturer offers.

# *General Features*

- Perkins  engine 1106A-70TAG4
- Close coupled to a Leroy Somer alternator TAL-A44-M
- Microprocessor control module PLC-7420
- Main circuit breaker: 400A
- Rotate speed governor: Electronic fuel injection governor
- Excitation System: Self excited, SHUNT
- A.V.R.Model: R150
- Key switch
- Emergency stop switch
- ATS (automatic transfer switch) receptacle
- 1 x 12V/120AH sealed for life maintenance free battery
- Lockable battery isolator switch
- Powder coated canopy
- 50 degrees C, radiator
- Oil pump on the engine
- Steel base frame with forkslots
- Vibration isolators between the engine/alternator and base frame
- Dry type air filter
- Base fuel tank for 28 hours running
- Drain points for fuel tank
- Operation Manual/Specifications

# *Equipment Specifications*

## General technical data

Model : ZPDG220S

Tank capacity: 380L

Dry weight: 2559kg

Noise Level: @ 7m: 74.3 dBA

Dimensions LxWxH: 3468*1112*1848mm

Standby Power: 220kVA/176kW

Prime Power: 200kVA/160kW

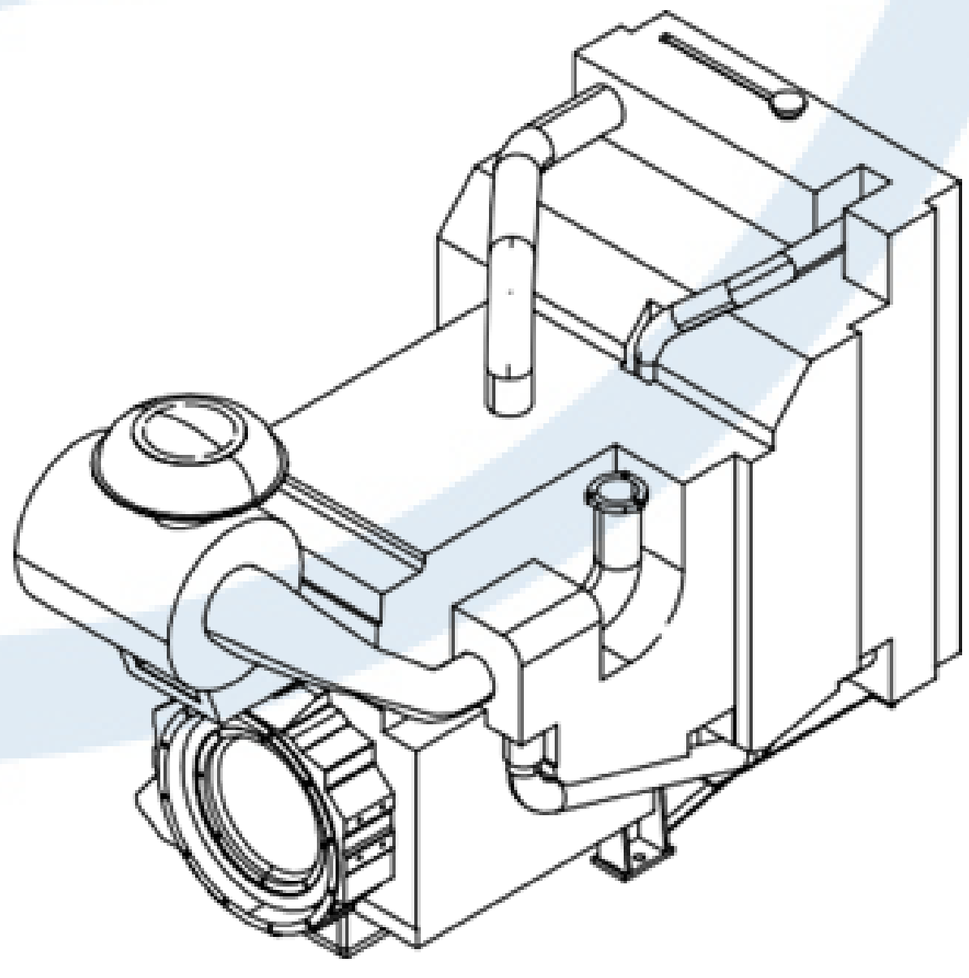
| Voltage | 380V | 400V | 415V | 440V |
|---|---|---|---|---|
| Ampere | 303.8A | 288.7A | 278.2A | 262.4A |

| ***Genset Fuel Consumption*** | | | | | |
|---|---|---|---|---|---|
| Frequency/Load | 25% | 50% | 75% | 100% | 110% |
| 50Hz (L/h) | N/A | 23.1 | 34.7 | 45.8 | 49.4 |

# *Power System*

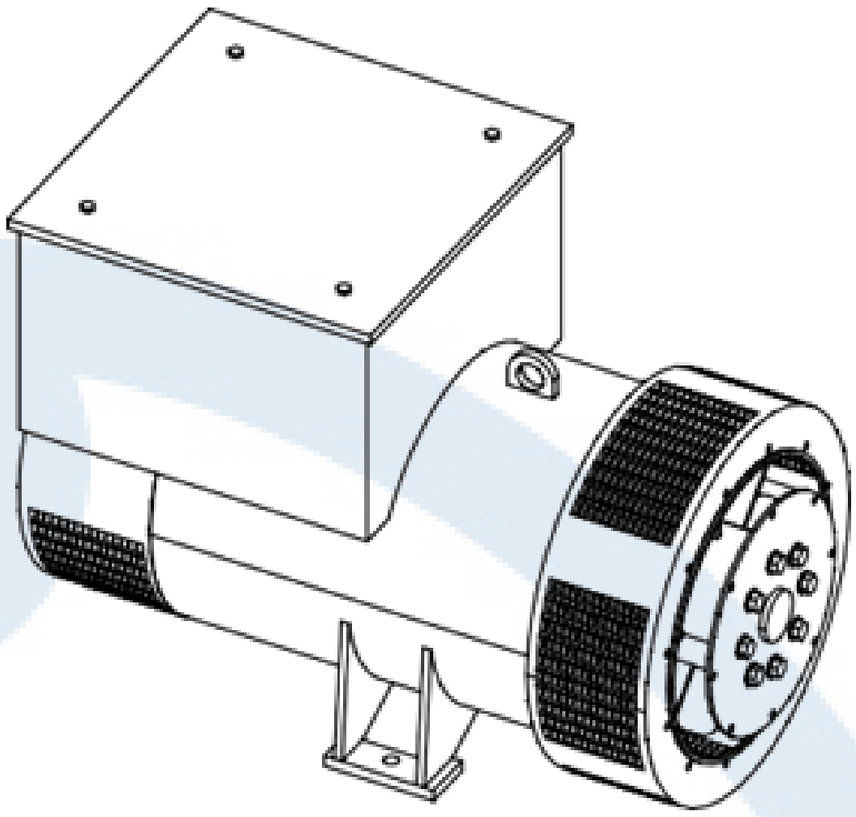
## Engine

Engine Manufacturer/Brand:  Perkins
Engine Model:  1106A-70TAG4
Dimensions:  L×W×H: 1763×756×1142mm
Dry Weigh (approx.) :  788kg
Number of Cylinders:  6
Bore: 105mm
Stroke: 135mm
Displacement:  7.0L
Compression Ratio:  16:1
Type of injection:  Direct injection
Intake System: Turbocharged, air-to-air charge cooled
Intake Resistance:   6.22kPa
Cooling System:  Water cooled
Fan:  Pusher
Battery Voltage:  12/24V
Type of Fuel:  EPA 2D 89.330-96
Type of Oil: API-CH-4, API-CG-4 or ACEA E3
Oil Capacity: 16.5L
Type of Coolant:  Glycol mixture
Back Pressure:  10.7kPa
Standby Power:  191.3kWm
Prime Power: 173.9Wm
Fuel Consumption(100%load):  45.8L/h



## Alternator

Alternator Manufacturer/Brand:  Leroy Somer
Alternator Model : TAL-A44-M
Exciter:  Brushless
Cooling Fan:  Cast alloy aluminium
Windings:  100% copper
Insulation Class:  H
Winding Pitch:  2/3
Terminals:  12
Drip Proof:  IP23
Altitude:  ≤1000m
Overspeed:  2250rpm
Air Flow: 0.43m³/s(50Hz),0.51m³/s(60Hz)
Voltage Regulation:  ±0.5%
Total harmonic TGH / THCno load < 2.5 % - on load < 2.5%
Telephone Interference:  THF<2%;TIF<50

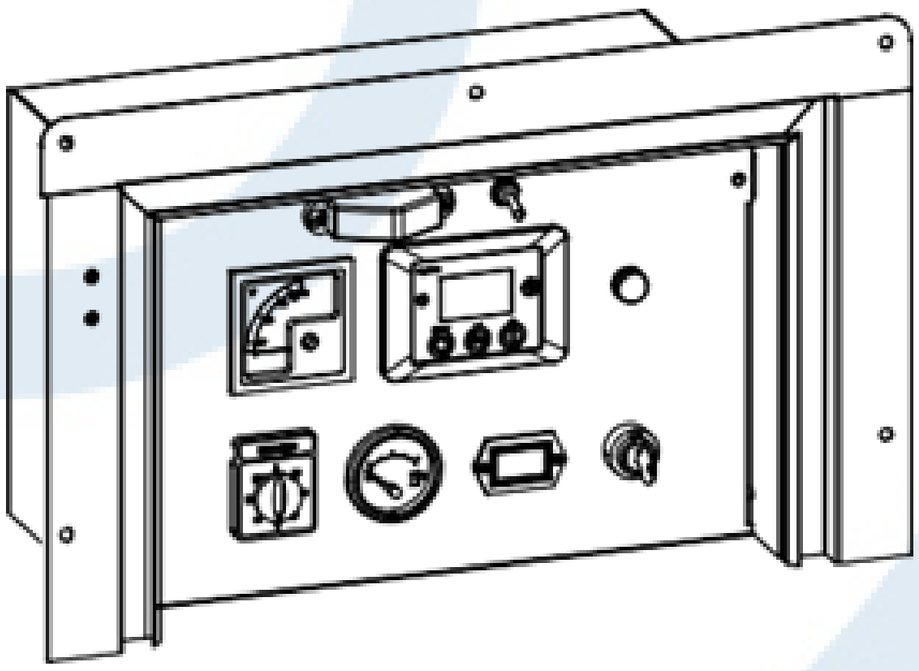


## PLC-920 Control System

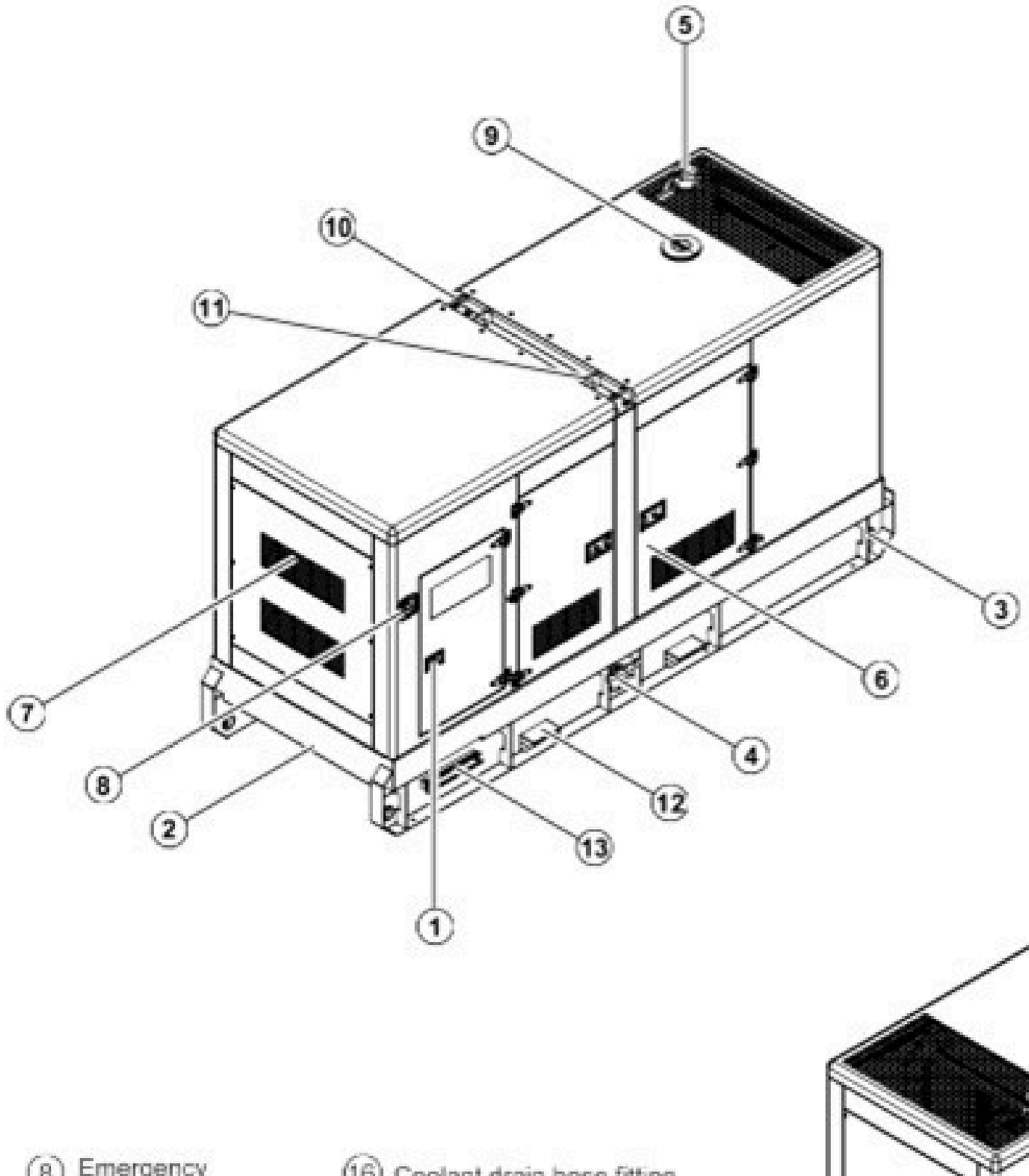
PLC920 is an advanced control module based on micro-processor designed to control the engine via a key switch and push buttons on the front panel. The module is used to start and stop the engine and indicate fault conditions, automatically shutting down the engine and giving a true first up fault condition of an engine failure.

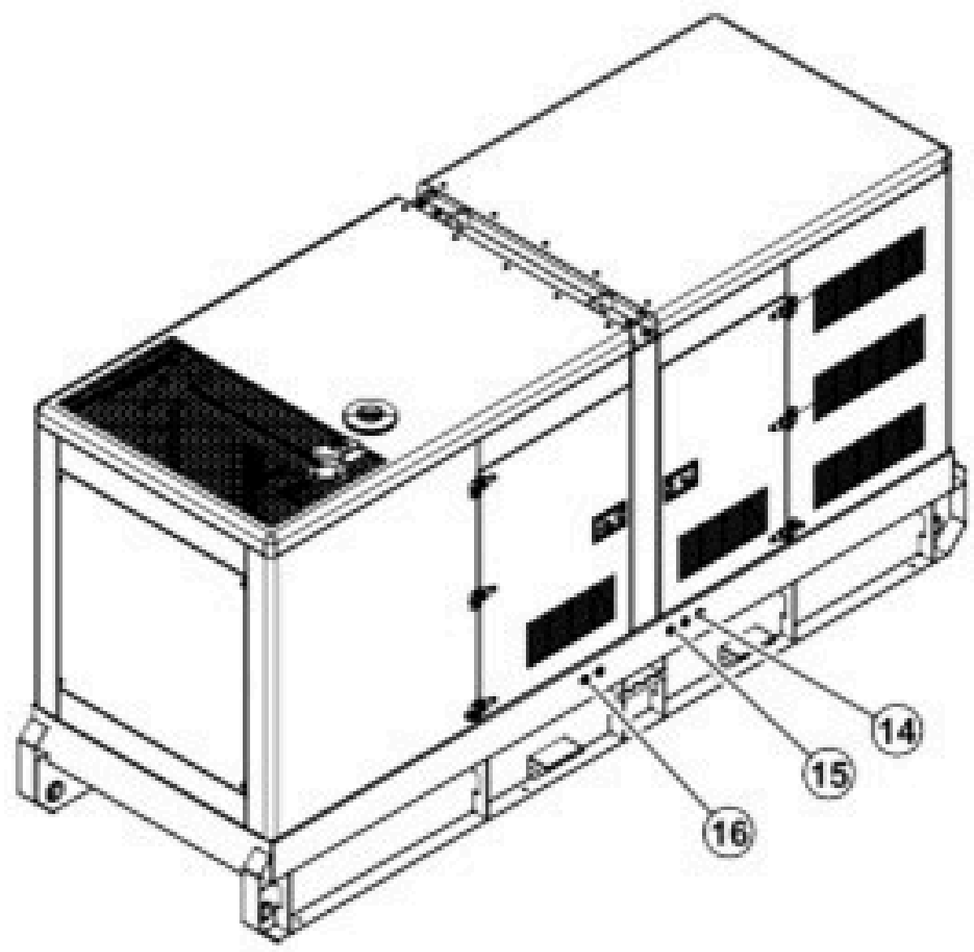
### Standard Control Function

- Manual Engine  Control Module
- Low Oil Pressure
- High Engine Temperature
- Auxiliary Shutdown
- Overspeed Protection
- Protection hold-off timer
- Charge Failure warning

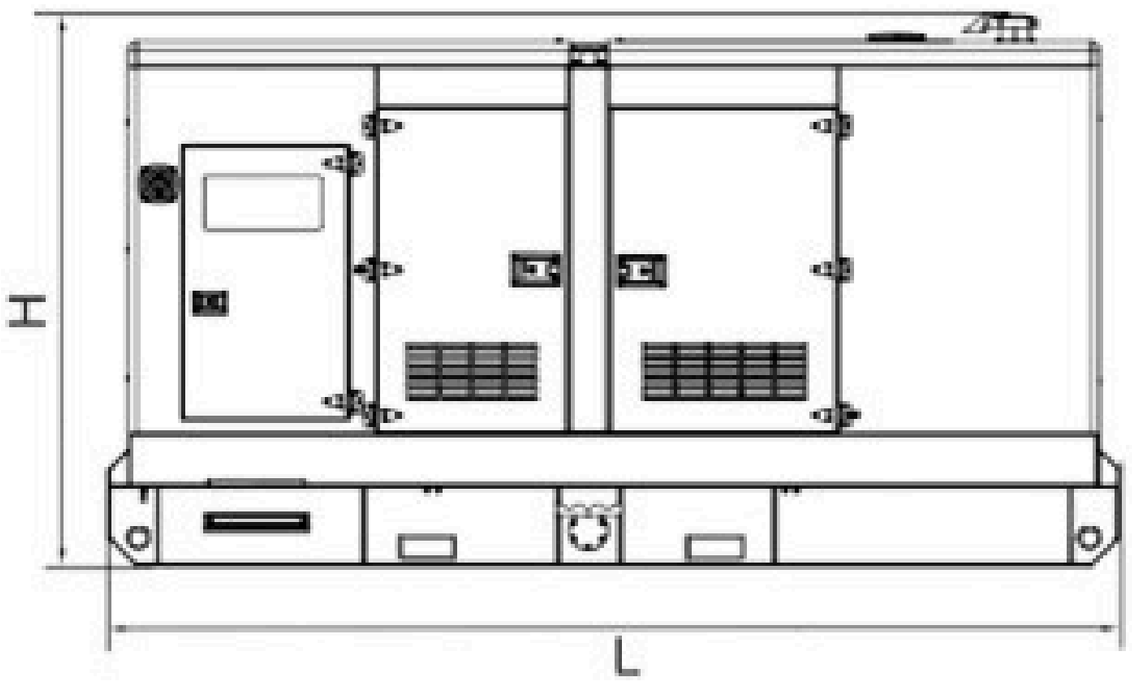


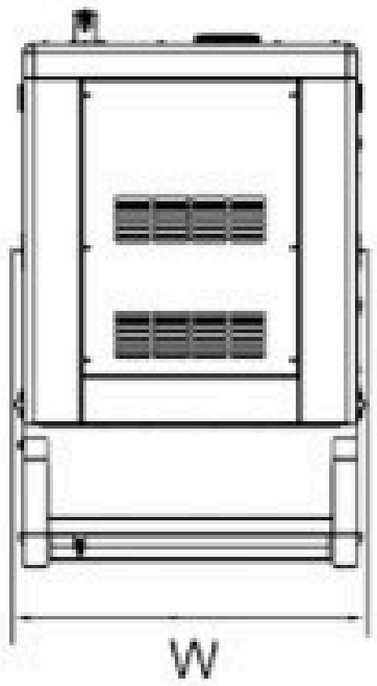
# *Overall Dimensions*



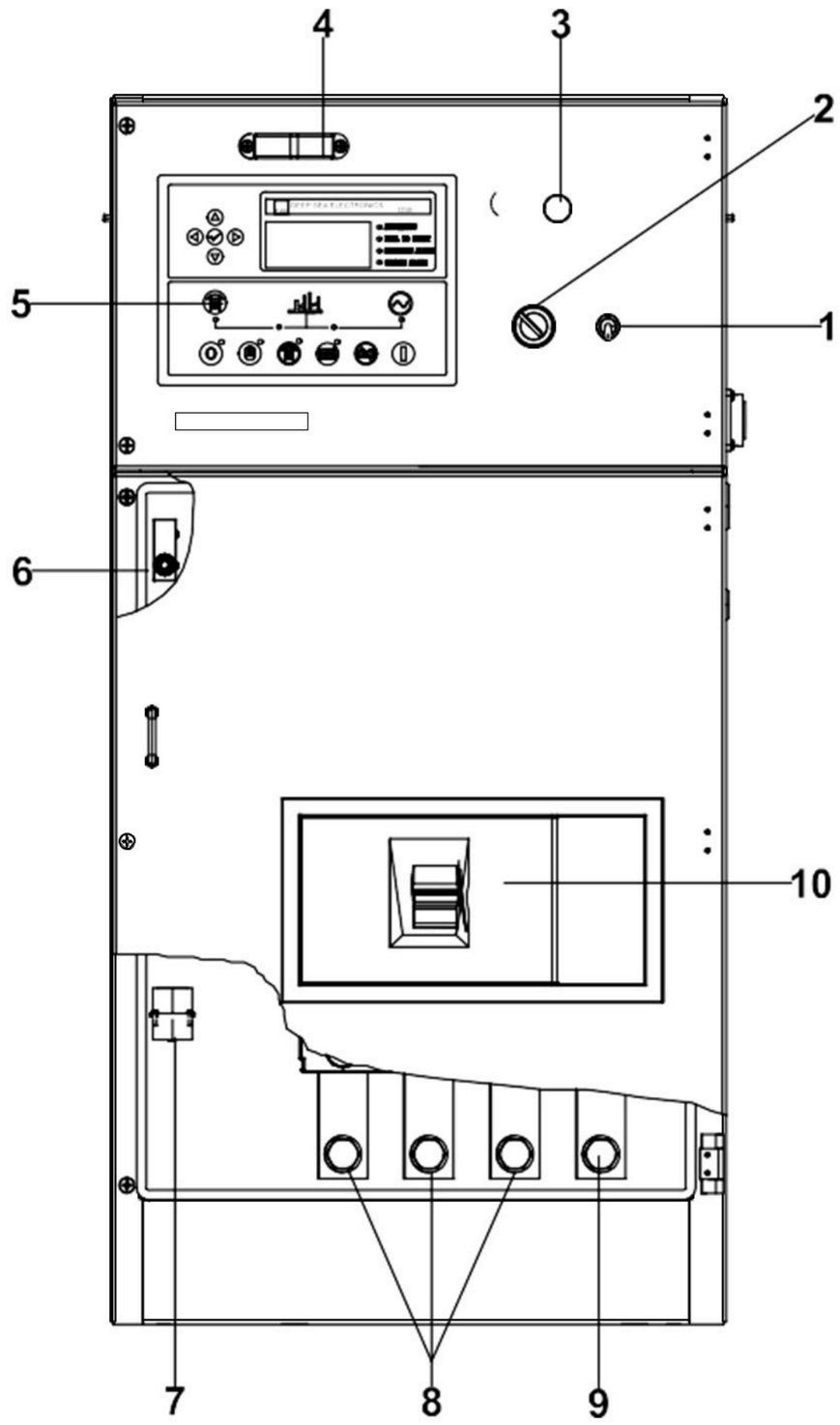




(8) Emergency stop switch
(7) Air inlet
(6) Access door
(5) Exhaust gas outlet
(4) Fuel drain
(3) Tie down
(2) Base frame
(1) Control cabinet
(16) Coolant drain hose fitting
(15) Oil drain hose fitting
(14) External fuel inlet/return hose fitting
(13) Cable trench
(12) Fork lift channel
(11) Lifting lug
(10) Roping lug
(9) Coolant inlet



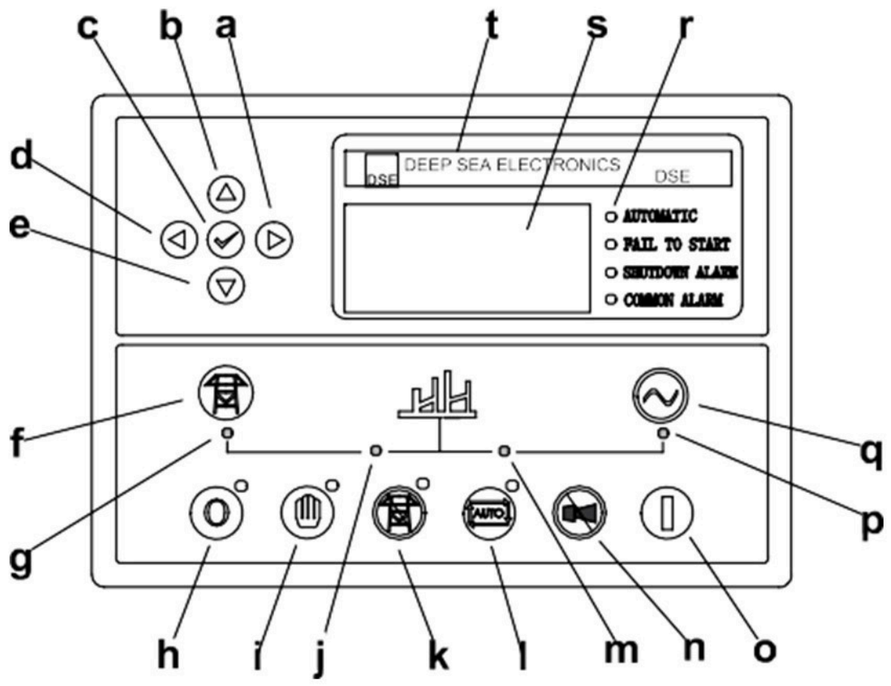



# Control System




Control & field wiring cabinet

| Ref. | Description |
|---|---|
| 1 | Control panel lamp switch |
| 2 | Key switch |
| 3 | Charge indicator |
| 4 | Control panel lamp |
| 5 | Control module |
| 6 | Limit switch |
| 7 | Mains input/remote/ATS/AMF communication connector |
| 8 | Live wire terminals |
| 9 | Neutral wire terminal |
| 10 | Main circuit breaker |




Control Panel

| | |
|---|---|
| a | Button (next page) |
| b | Button (increase value / previous item) |
| c | Button (accept) |
| d | Button (previous page) |
| e | Button (decrease value / next item) |
| f | Button (transfer the load to the mains supply, when in Manual mode only) |
| g | Mains supply available LED |
| h | Stop / Reset button |
| i | Manual button (Manual control mode) |
| j | Mains supply on load LED |
| k | Test button (Test mode) |
| l | Auto button (Auto mode) |
| m | Genset on load LED |
| n | Mute/Lamp test button |
| o | Start button (Manual) |
| p | Genset available LED |
| q | Button (transfer the load to the genset, when in Manual mode only) |
| r | Alarm LED (4 alarm items) |
| s | LCD display |
| t | Control module name |

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