POWERLINK
Power Systems

Gas generator set

Sound-proof type

GR12S-NG

SPECIFICATIONS

POWERlink *Power Systems* ®
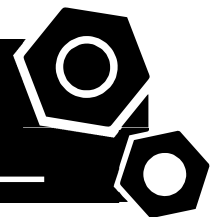
1 Standards & Conditions

Design Standards

The designs and the productions are in conformity with:

- Conformite Europeenne (CE)
- ISO8528-5:2005
- GB/T2820.5-2009

Environmental Operating Conditions

- Installation place: Indoors (well ventilated).
- Ambient temperature: -25℃ to 50℃.The coolant heater is needed when the temperature is below 5℃
- Humidity: Less than 80%.
- Altitude: Below one thousand (1000) meters above sea level.

Fuel Requirement

- Fuel type: Natural gas
- Supply gas pressure: 5kPa to 30kPa
- LHV: More than 36.0MJ/Nm³ or 10.0kW/Nm³

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 colors are based on the manufacturer's standard.
- The customer could also choose the color which the manufacturer offers.

2 General Features

- POWERLINK engine GR1.8E01N
- Close coupled to PowerLink alternator PL1D
- Microprocessor control module GCC92
- Main circuit breaker: 25A
- Excitation system: Self excited
- A.V.R model: SX440
- Emergency stop switch

- Time counter
- 1x12V/72AH Sealed for life maintenance free battery
- Gas train
- Air-fuel ratio control system
- Speed control system
- Powder coated canopy
- Lockable battery isolator switch
- Oil filter
- 50℃ radiator
- Steel base frame with lifting lugs
- Vibration isolators between the engine/alternator and base frame
- Dry type air filter
- Operator's Manual / Specifications
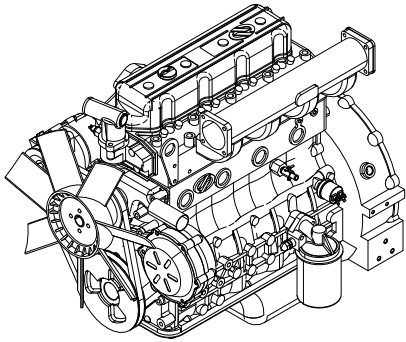
3 Equipment Specification

General technical data
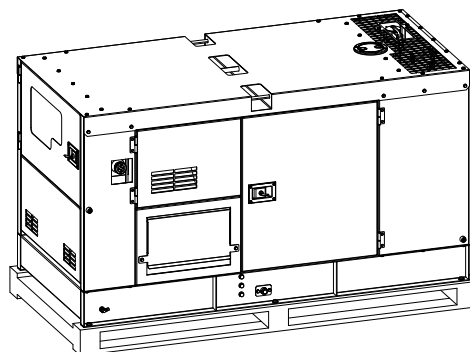
Model...GR12S-NG
Structure type .... R
Dry weight...725kg
Noise level @7m 50dBA
Dimensions L×W×H............................1800X865X1076mm
Prime Power... 15kVA/12kW
Electric efficiency... 28.6%

Voltage	380V	400V	415V
Ampere	22.8A	21.7A	20.9A
Natural Gas Consumption			
Load	25%	50%	75%	100%
50Hz (m³/h)	1.2	2.2	3.1	4.2

Gas engine

Engine Manufacturer/Brand........................... POWERLINK
Engine Model.. GR1.8E01N
Dry Weigh (approx.) 156Kg
Number of Cylinders..4
Bore...80mm
Stroke 90mm
Displacement...1.809L
Compression Ratio...10.5
Burn type ....stoichiometric
Excess air factor...1.2
Intake System...Natural aspiration
Cooling System ....Water cooled
Fan .... Pusher
Battery Voltage 12V
Type of Fuel..Natural gas
Type of Oil .... SAE 40
Type of Coolant ....Glycol mixture
Prime Power..16kW

Alternator
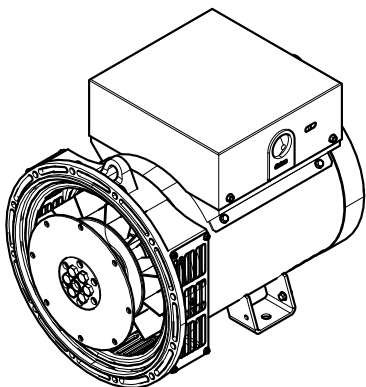
Alternator Manufacturer/Brand .... PowerLink
Alternator Model PL1D
Exciter..Brushless
Cooling Fan .... Cast alloy aluminum
Windings...100% copper
Insulation Class .... H
Winding Pitch..2/3
Terminals 12
Drip Proof IP23
Altitude...≤1000m
Overspeed...2250rpm
Air Flow......................... 5.3m³/min(50Hz),5.8m³/min(60Hz)
Voltage Regulation ....±1.0%
Total harmonic TGH / THCat no load < 1.5 % - on load < 5%
Telephone Interference..............................THF<2%;TIF<45
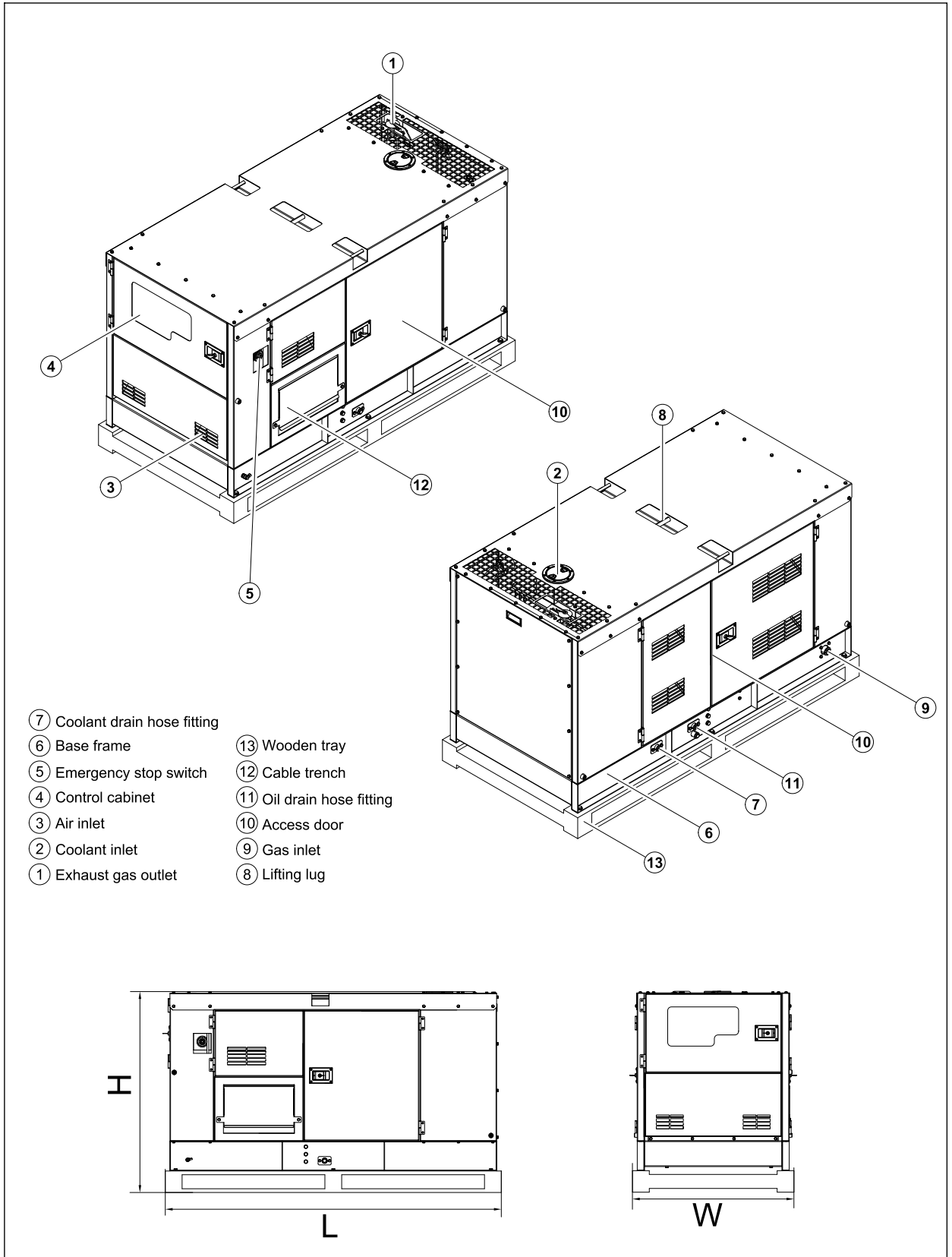
GCC92 Control System
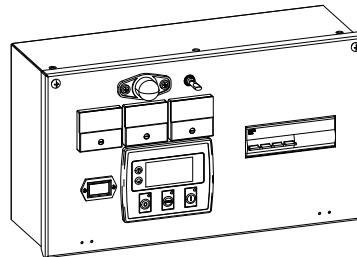
GCC92 is an advanced control module based on micro-processor designed to control the engine via a key switch and push buttons on the front panel. The module is used to start and stop the engine and indicate fault conditions, automatically shutting down the engine and giving a true first up fault condition of an engine failure.
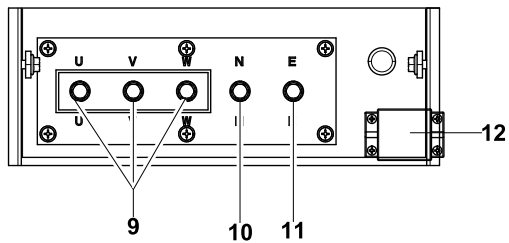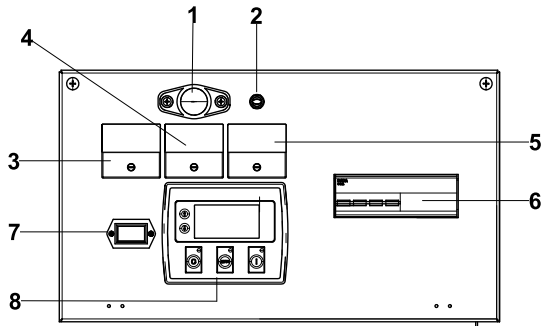
Standard Control Function

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

4 Overall Dimensions

⑦ Coolant drain hose fitting
⑥ Base frame   ⑬ Wooden tray
⑤ Emergency stop switch   ⑫ Cable trench
④ Control cabinet   ⑪ Oil drain hose fitting
③ Air inlet   ⑩ Access door
② Coolant inlet   ⑨ Gas inlet
① Exhaust gas outlet   ⑧ Lifting lug

H

L

W

5 Control System

Ref.	Description
1	Control cabinet lamp
2	Control cabinet lamp switch
3	Voltage meter
4	Current meter
5	Frequency meter
6	Main circuit breaker
7	Time counter
8	Control module
9	Live wire terminal
10	Neutral wire terminal
11	Ground wire terminal
12	Remote control/Mains input

Control & field wiring cabinet
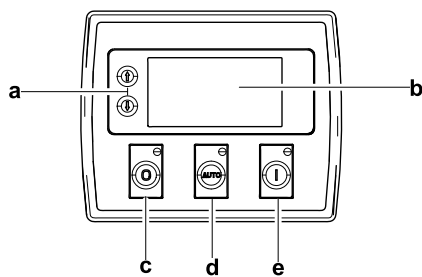
Ref.	Description
a	Navigation button; Accept (Configuration mode only)
b	Main status display
c	Stop/reset button; Next page (Configuration mode only)
d	Auto start button; Decrease value/next item (Configuration mode only)
e	Start button; Increase value/next item (Configuration mode only)

Control module