

### Features

- Highly efficient gas engine
- AC synchronous alternator
- Gas safety train
- Cooling system suitable for ambient temperature up to 50°C
- Advanced engine control system, including: ignition system, detonation control system, speed control system, air/fuel ratio control system and cylinder temp. protection system
- Strict shop test for all gensets
- Industrial silencer reduces the noise by 12-20dB(A)
- Integrated the control & switch cabinet
- Multi-functional control system with easy operation
- Data communication interfaces integrated into control system
- Monitoring battery voltage and charging from mains
- Bus interface for connecting to higher level control unit



#### Structure and control cabinet

Structure Type	Soundproof
Spraying Process	High quality powder coating
Electrical control cabinet	Integrated, IP54
Noise level@ 1m, dB(A)	75.1
@7m, dB(A)	62.2
@10m, dB(A)	60.4

#### Dimension and weight

Dimension ( LxWxH ) , mm	2600x1250x1613
Weight, kg	2085

#### Special statement :

1. The technical data are based on natural gas with a lower calorific value of 36.0MJ/Nm<sup>3</sup>.The technical data indicated is based on standard conditions according to ISO8528/1, ISO3046/1 and BS5514/1.
2. The technical data is measured in standard conditions:  
Absolute atmospheric pressure: 100kPa  
Ambient temperature : 25°C  
Relative air humidity : 30%
3. Rating adaptation at ambient conditions acc to DIN ISO 3046/1. The tolerance for the specific fuel consumption is + 5 % at rated output.
4. Technical data above are just for standard product ,and may be subject to change. As this document is used only for presale reference, take the specification supplied by PowerLink before ordering as final.

#### Electric data @50Hz

Voltage-V	Power-kW	Efficiency-%	Current-A
380	50	36.0	95
400	50	36.0	90
415	50	36.0	87
440	50	36.0	82

#### Fuel and emission

Fuel type	Natural gas
Methane number	MN > 80
Excess air factor ( Lambda )	1.3
Fuel consumption @100% load, m <sup>3</sup> /h	13.9
Supply gas pressure range (gage pressure), kPa	10~20
<b>Emission without catalytic converter</b>	
NOx , mg/Nm <sup>3</sup>	< 500mg/Nm <sup>3</sup>
CO , mg/Nm <sup>3</sup>	< 650mg/Nm <sup>3</sup>
HCHO ( formaldehyde ) , mg/Nm <sup>3</sup>	< 60mg/Nm <sup>3</sup>
NMHC , mg/Nm <sup>3</sup>	< 150mg/Nm <sup>3</sup>
<b>Emission with catalytic converter(optional)</b>	
NOx , mg/Nm <sup>3</sup>	≤250 mg/Nm <sup>3</sup>

### Genset performance data and manufacturing technology

Genset model	GR50S-NG	Telephone interference factor(TIF)	≤50
Frequency(Hz)	50	Telephone harmonious factor(THF)	≤2% , as per BS4999
Electrical output power (kW)	50	<p><b>Manufacturing technology</b></p> <ul style="list-style-type: none"> <li>● Special welded base frame, inner vibration isolators and design for whole lifting</li> <li>● With high quality paint, enduring brightness as well resistance against abrasion and defacing</li> <li>● Installation manual, operation and maintenance manual circuit diagram</li> </ul> <p><b>Standards and certificate</b></p> <ul style="list-style-type: none"> <li>● ISO3046 , ISO8528 , GB2820</li> <li>● BS5000PT99 , AS1359 , IEC34</li> <li>● ISO9001:2008 quality system certification</li> </ul>	
Genset electrical efficiency	36.0%		
Overload runtime at 1.1xSe(hour)	1		
Steady-state voltage deviation	±1 %		
Transient-state voltage deviation	-15% ~20 %		
Voltage recovery time(s)	≤4		
Voltage unbalancedegree	1%		
Steady-state frequency regulation	±0.5%		
Transient -state frequency regulation	±5%		
Frequency recovery time(s)	≤3		
Steady-state frequency band	0.5%		
Recovery time response(s)	0.5		

Gas engine		AC alternator	
Brand	PowerLink	Brand	PowerLink
Model	GR4.5LE01	Model	PL2CL
NO. of cylinders	4	Rated output power @415V (kW)	58
Cylinders arrangement	In line	Power factor	0.8
Bore x Stroke (mm)	105x124	Rated current @415V (A)	101
Displacement (L)	4.5	Excitation system	PMG
Cooling system	Water cooled	THF (BS EN60034- 1)	<2%
Rated speed (rpm)	1500	TIF (NEMA MG 1-22)	<50
Rated output power (kW)	64	Winding material	100% copper
Excess air factor	1.3	Wiring connection	Star
Intake system	Turbocharged	Rotor insulation class	H
Lube oil consumption (kg/h)	0.021	Winding pitch	2/3
Combustion type	Lean burn	A.V.R. model	MX341
Battery voltage	24V	Voltage fluctuation(no load to full load)	± 0.5%
Coolant type	Glycol mixture	Housing protection	IP23
Gas consumption(m³/h)@ 100%load	13.9	Excitation method	Brushless
75%load	10.5	Rated ambient temperature(°C)	40
50%load	7.1	Rated stator temperature rise(°C)	125

### GCC742 control system

The advanced control system is adopted with all necessary functions to protect and control the genset.



#### Features

- Auto start and auto mains failure(AMF)
- Voltage and PF control
- Engine monitor: speed, oil pressure, coolant temperature, battery voltage, running time and so forth
- Alternator data : U, I, Hz, kW, kVA, kVA<sub>r</sub>, PF, kWh, kVAh
- Grid data : voltage, frequency
- RS232, RS485, and Ethernet available at the same time
- Remote control with internet and GPRS
- Data logging & trending and PLC functionality
- Manual, auto and remote control mode optional
- CAN and modbus communication

#### Advantages

- Accordant with consumer requirement
- Complete control solution
- Convenient remote monitor and service
- Simplified engine start/stop control
- Enhanced stability and safety

Standard protection functions		Standard control functions	
<b>Alternator protection</b> - Overload - Overcurrent - Overvoltage - Undervoltage - Over/underfrequency - Unbalanced current	<b>Powercontrol</b> - RPM control	<b>Voltage control</b> - Voltage control(island)	
	<b>Valve control</b> - Cooling system	<b>Pump control</b> - Cooling system	
<b>Busbar/mains protection</b> - voltage - Frequency	<b>Fan control</b> - Ventilation for engine room	<b>Lubrication control</b> - Auto refilling - Warning and monitoring	
	<b>Engine protection</b> - Various routine and customized protection functions - Monitoring		

### Standard configuration

Engine	Alternator	Canopy and base	Electrical cabinet
Gas engine Ignition system Lambda controller Speed control system Electrical start motor Battery system Detonation control system Cylinder temp. protection system Lockable isolator switch Turbocharger & intercooler	AC alternator H class insulation IP23 protection AVR voltage regulator PMG	Steel monocoque base frame Engine bracket Vibration isolators Alternator base	GCCcontrol system LCD screen Main circuit breaker Electrical switch cabinet Communication interfaces Mains float charger
Gas supply system	Lubrication system	Standard voltage	Induction/ exhaust system
Gas safety train Air/fuel mixer Throttle valve	Oil filter Daily auxiliary oil tank New and used oil tank (Only applicable to container , two inch with the daily oil tank)	380/220V 400/230V 415/240V 440/254V	Air filter Exhaust silencer Exhaust bellows Gas leakage protection(Only applicable to canopy and container)
Cooling system	Service and documents		
Circulation coolant pump Intercoolerradiator	Tools package Installation and operation manual Maintenance manual Software manual Parts manual	Engine operation and maintenance manual Gas quality specification Control system manual After service guide Standard package	

### Optional configuration

Engine	Alternator	Lubrication system
Jacket water heater	Space heater Treatments against humidity and corrosion	Auto refilling oil system
Electrical system	Gas supply system	Service and documents
RCD ATS control cabinet Thermal power gauge Electric power gauge	Gas flow gauge	Service tools Maintenance and service parts
Voltage	Exhaust system	Exhaust gas using
220V 230V 240V	Three-way catalytic converter	Exhaust gas evaporator