GXC60-6NG

Natural Gas CHP Unit

Standard Basic Module -Open Type

- Highly efficient gas engine
- AC synchronous alternator
- Gas safety train
- Cooling system suitable for ambient temperature up to 50℃
- Advanced engine control system, including: ignition system, speed control system, air/fuel ratio control system
- Strict shop test for all gensets
- Industrial silencer reduces the noise by12-20dB(A)
- Integrated the control& switch cabinet
- Data communication interfaces integrated into control system
- Bus interface for connecting to higher level control unit

Structure and control cabinet

Structure Type	Open
Spraying Process	High quality powder coating
Electrical control cabinet	Integrated , IP54
Noise level @1m, dB(A)	88.1
@7m, dB(A)	84.2
@10m, dB(A)	80.8

Dimension and weight

Dimension（LxWxH）, mm	2640×1050×1530
Weight, kg	1360

Special statement:

1、The technical data is based on natural gas with a lower calorific value of 34.2MJ/Nm³.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.

Power and Efficiency @60Hz

Electric power -kW	60	Electric efficiency	35.3%
Thermal power-kW	87	Thermal efficiency	51.2%
Fuel Input -kW	170	Total efficiency	86.5%

Fuel and emission

Fuel type	Natural gas
Methane number	MN＞80
Excess air factor（Lambda）	1.2
Fuel consumption @100% load, m³/h	17.9
Supply gas pressure range (gage pressure), kPa	10~20
Emission	
NOx，mg/Nm³	<500mg/Nm³
CO，mg/Nm³	<650mg/Nm³
HCHO（formaldehyde），mg/Nm³	<60mg/Nm³
NMHC，mg/Nm³	<150mg/Nm³

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Standard Basic Module + Acoustic Attenuated Canopy (Optional)

Dimension and Noise Level	
Canopy Size	3000*1250*1700 mm
Noise Level@ 1m，dB(A)	75.1
@ 7m，dB(A)	62.2
@ 10m，dB(A)	60.4

☐ Modular designed and manufactured for plug and play□ Environmental friendly low emission

☐ Small indoor space required for installation□ Low noise does not affect the surrounding environment

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Natural Gas CHP Unit

Standard Basic Module + Acoustic Attenuated Container (Optional)

Dimension and Noise Level

Optional container（mm） （customized container modeling service available）	☐ 7000*2300*2500 ☐ 6058*2438*2591 ☐ 12192*2438*2896 ☐ 12192*3000*2896
Noise Level @ 1m，dB(A)	73
@ 7m，dB(A)	60
@ 10m，dB(A)	58

☐ Outdoor application enabled, weatherproof and dustproof, corrosion preventive □ Environmental friendly low emission

☐ Modular designed and manufactured for plug and play □ Low noise does not affect the surrounding environment

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Natural Gas CHP Unit

CHP Unit performance data and manufacturing technology

Model	GXC60-6NG
Frequency（Hz）	50
Electric output power（kW）	60
Thermal output power（kW）	87
Electric efficiency	35.3
Thermal efficiency	51.2
Total efficiency	86.5%
Heating water temp. outlet(℃)	90~95
Heating water temp. return(℃)	82~87
Hot water production @inlet 82℃/outlet 90℃[t/h]	10
Voltage recovery time(s)	≤4
Steady-state frequency regulation	±0.5%
Transient -state frequency regulation	±5%
Steady-state frequency band	0.5%
Recovery time response(s)	0.5
Frequency recovery time(s)	≤3
Telephone interference factor(TIF)	≤50
Telephone harmonious factor(THF)	≤2%，as per BS4999

Power and efficiency	
Load	100%
Electric power (kW)	60
Heat power (kW)	87
Energy input (kW)	170
Electric efficiency	35.3
Heat efficiency	51.2
Total efficiency	86.5%

Manufacturing technology

- Special welded base frame, inner vibration isolators and design for whole lifting
- With high-class coating, endurable brightness as well resistance against abrasion and defacing
- Installation manual, operation and maintenance manual wiring program

Standards and certificate

- ISO3046，ISO8528，GB2820
- BS5000PT99，AS1359，IEC34
- ISO9001:2008 quality system certification

Gas engine

Brand	PowerLink
Model	GX7S-E02
NO. of cylinders	6 in-line
Bore x Stroke (mm)	105x124
Displacement (L)	4.3
Cooling system	Water cooled
Rated speed (rpm)	1800
Intake system	Turbocharged, intercooled
Lube Oil consumption(kg/h)	0.021
Combustion type	Lean burn
Battery voltage(V)	24
Coolant type	Glycol mixture

Energy balance and gas flow	
Mechanical power (kW)	66
Coolant heat (kW)	40
Radiation heat max. (kW)	9
Exhaust heat up to 120°C (kW)	44.9
Fuel Input (kW)	170
Combustion air flow(appro. kg/h)	300
Exhaust gas flow(appro.kg/h)	330
Exhaust gas temperature(℃)	≤580
Gas consumption(m^3/h) @100% load	17.9
75% load	13.4
50% load	9

AC alternator

Brand	LSA
Model	LSA44.3S5
Rated output power @400V (kW)	80
Power factor	0.8
Rated current @400V (A)	144
Excitation system	PMG
THF (BS EN60034- 1)	<2%
TIF (NEMA MG 1-22)	<50
Winding material	100% copper

Wiring connection	Star
Rotor insulation class	H
Winding pitch	2/3
A.V.R. model	R438
Voltage fluctuation(no load to full load)	± 0.5%
Drip proof	IP23
Excitation method	Brushless
Rated ambient temperature(℃)	40
Rated stator temperature rise(℃)	125

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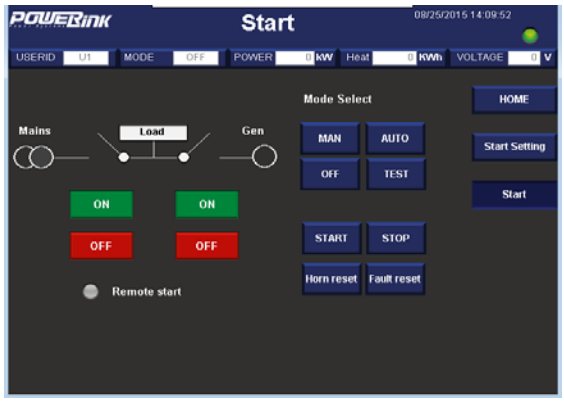
Natural Gas CHP Unit

PCC-300 control system

Programmable control system is adopted with touch screen display , and various functions, including: engine protection and control, CHP parallel and grid connection, and CHP control functions, as well as communication functions，etc.



Main functions

- Engine monitor：coolant, lubrication, exhaust, battery
- Supply gas circuit monitor：pressure, temperature and CH4 content
- Auto paralleling and load share
- Voltage and PF control
- Alternator data：U, I, Hz, kW, kVA, kVAr, PF, kWh, kVAh
- Grid data：U, I, Hz, kW, kVAr, PF
- Modbus communication protocol based on RS232 and RS485 interfaces
- SMS message
- Internet connection and USB 2.0 interface
- 10-inch touch screen
- Internet monitor, auto orientation and cloud communication
- 1000 history events log

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	
Alternator protection - 2xReverse power - 2xOverload - 4xOvercurrent - 1xOvervoltage - 1xUndervoltage - 1xOver/underfrequency 1xUnbalanced current	**Power control** - RPM control(synchronization) - Power control(grid connection) - Load share(island)	**Voltage control** - Voltage tracking (synchronization) - Voltage control(island) - PF control(grid connection) - Reactive power share (island）
	Lubrication control - Auto refilling - Warning and monitoring	**Pump control** - Cooling system - Emergency radiator
Busbar/ Grid protection - 1xOvervoltage - 1xUndervoltage - 1xOver/under frequency - 1xPhase sequence - 1xROCOF alarm	**Fan control** - Ventilation for engine room - Radiator fan - Emergency radiator fan	**Valve control** - Cooling system - Heating system - Emergency radiator
	Engine protection - Various routine and customized protection functions - Monitoring	

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Standard configuration

Engine	Alternator	Canopy and base	Electrical cabinet
Gas engine Ignition system Lambda controller Speed control system Electrical start motor Battery 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	PLC500 control 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 Intercooler radiator	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 LiBr refrigerator

Web: www.powerlinkworld.com

Data is subject to change without prior notice as new products are always developed.
Please contact PowerLink or local agent with any doubts or for more information