

DIESEL GENERATING SETS

GMS750CS



NOISE LEVEL: 74.3dBA@7m

⚡ **Your Partner for Power...**

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■ Manufacturing standards and environmental conditions

Design Standards

The designs and the productions are in conformity with:

- Conformance Européenne (CE)
- China Compulsory Certification (CCC)
- ISO8528-1995
- GB/T2820-1997

Environmental Operating Conditions

- Installation place: Outdoors or indoors (well ventilated).
- Ambient temperature: -25°C to 40°C. The coolant heater is needed when the temperature is below 5°C
- Humidity: Less than 80%.
- Altitude: Below one thousand (1000) meters above sea Level.

Factory Inspection

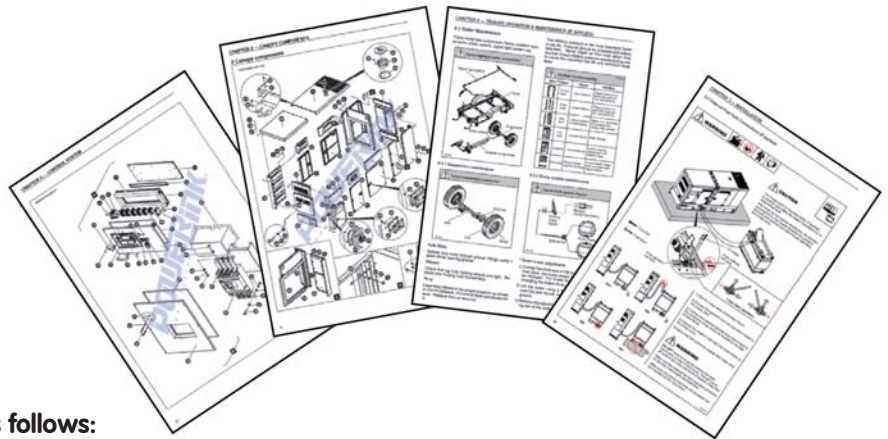
- Inspection items.
- Protection devices working test.
- Starting ability in normal temperature.
- 50% rated power load moment capability.
- Voltage deviation and speed variation: 0%, 25%, 50%, 75%, 100%, 110% Load.

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.

Relevant materials with the genset as follows:

- Certificate of Conformity
- Test Report
- Maintenance Manual
- Warranty Service Manual
- Installation Manual of Genset
- Circuit Diagram of Genset
- Certificate of Origin of Diesel Engine
- Installation and Maintenance Manual of Diesel Engine
- Installation and Maintenance Manual of Alternator



Optional technical materials for genset as follows:

- Three-view Drawing of Genset
- Technical Specifications
- Parts Manual of Genset
- Parts Manual of Diesel Engine
- Operation Instructions of Control System Module

POWERLINK also provides parts list, specifications, engineer handbook etc. Contact POWERLINK for complete information or technical support through the website, phone, fax, or email if you encounter a problem when using your product or product documentation.

Product Features

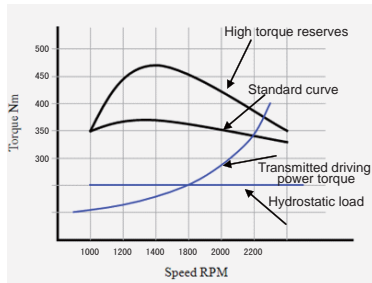
GOOD AT TOUGH WORK!

Strong Power, Stable Performance

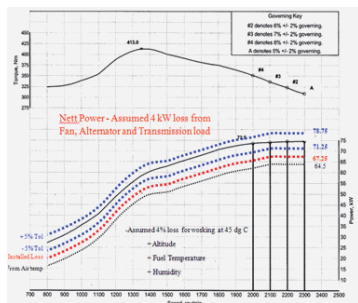
ENGINES AND ALTERNATORS

- Excellent engines and alternators featured with strong power, high torque, quick start, easy maintenance and operation.

High torque reserves



Ultra-low power loss



HIGH QUALITY STEEL AND PAINT PROCESS

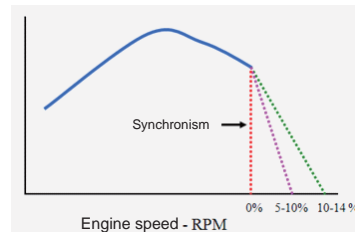
The canopies are made of high quality steel and powder coated. The paint is highly durable against erosion and scratch, and strongly rustproof.

ADVANCED WATERPROOF AND DUSTPROOF DESIGN

The control panel, service doors and canopy board adopt waterproof design and effectively stop rain and dust intrusion.



Excellent speed governing control



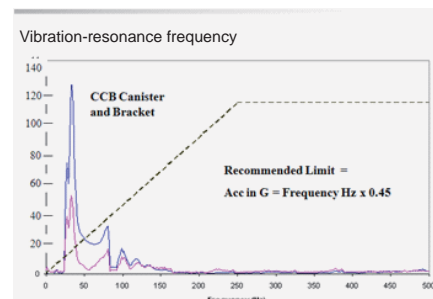
COMPACT STRUCTURE

Compact structure, small size, and longer service life.

EXCELLENT ANTI-VIBRATION DEVICES

- Anti-vibration mountings between the engines, alternators and the base significantly reduce the vibrations during operation, ensuring stable operation.
- All movable devices are fixed firmly, and therefore help reduce vibration.

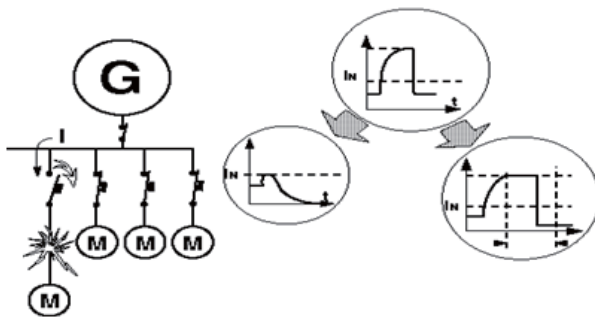
Scientific suspension system design



Enhanced Safety

ELECTRIC SAFETY

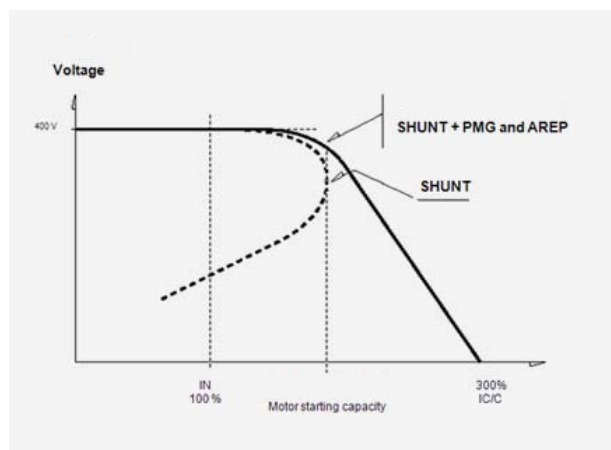
- The double protection for the cable connection panel lowers the probability of leakage caused by unintended touch or rain falling.
- Three-dimensional CABLING design for all the generator cables, providing reasonable, accurate and perfect protection.
- Automatic turn-on circuit breaker with undervoltage protection system inside maximally avoids human misoperation.
- Automatic control module for multi-directional monitoring meets multilevel demands and considerate protection of or for customers.



Short circuit current diagram

OPERATION SAFETY

- The radiator and high-voltage parts are guarded to avoid accidents caused by touch.
- The control panel is lockable. Current changeover switch, voltage regulator and circuit breakers are installed behind the door.
- Anti-vibration rubbers are installed in the two sides of the doors to avoid damage to the machines when open the doors.
- Lockable fuel filling cap.



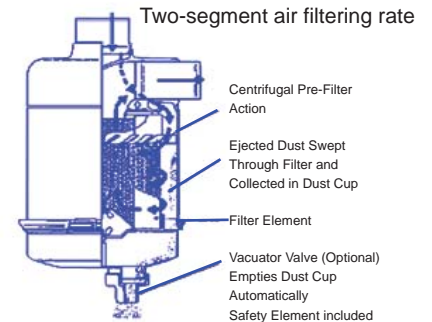
Genset overload diagram



Environmental

POWERFUL ENGINES

- Adopts world-famous engines, with low noise and low emission.
- Rigid structure ensures lowest vibration.
- Common rail system: (for some models) significantly lowers the combustion temperature, and also leads to cleaner exhaust.
- For the turbocharged machines, the carbon dioxide (CO₂) emission is reduced.



EXCELLENT SILENCERS

Silencer and muffler pipe system dramatically reduce the noise during operation, and therefore cause less effect on daily life.

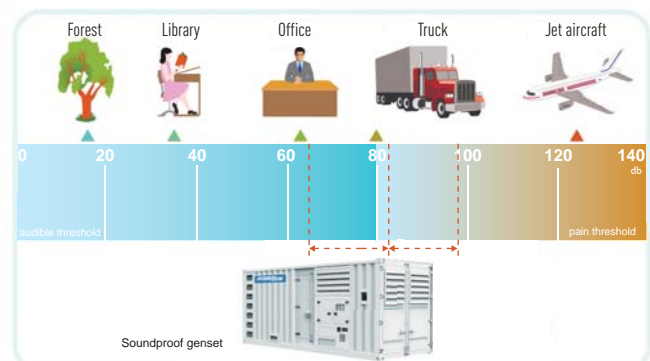
HIGH QUALITY SOUND ABSORBING MATERIAL

The interior is lined with new type fire retardant and sound absorbing cotton, and the door is airproof with rubber specific for car doors use only, which helps absorb massive noise and heat during the operation.

FULLY-CLOSED NOISE REDUCTION

Besides applying airproof rubber around the doors, the concept of noise reduction has also been fully integrated into the inlet/outlet and other aspects.

Emission-Noise (routine sound value)





Product Features

Easy to Operate

CONTROL SYSTEM

- Micro-processor cored digital system.
- Multiple languages for option, automatic control.
- Connected with the mains through ATS, which can help realize automatic transfer between the mains and the generators. Also, multiple generators can be paralleled for bigger power need.

CONVENIENT REFUELING AND WATERING INSTALLATIONS

- Outer filling fuel port.
- 8-12 hours base fuel tank in soundproof generator sets prevent against leakage and fuel spray when cleaning the interior. The fuel tank abides by European environment protection standards
- Drainage outlet.
- Water feeder is located on top of the canopy;

CONVENIENT CONNECTION

- Terminal connection lugs (L1, L2, L3, and LN) make connection and wiring more simple and well-ordered.
- Emergency stop provides convenient operation in emergent situation and when servicing.

EASY TO TRANSPORT

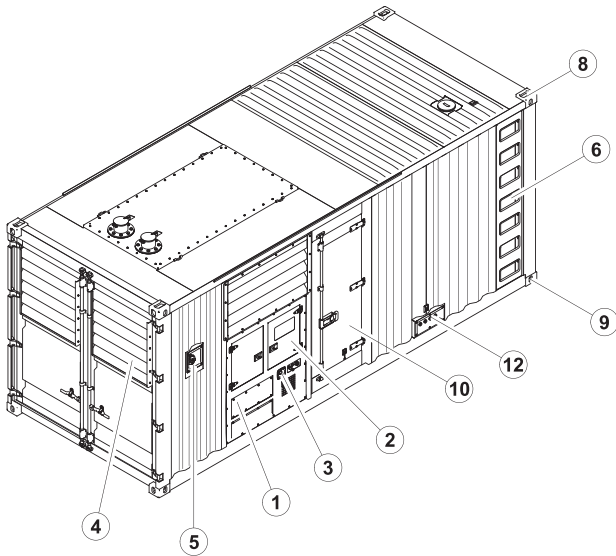
- The machines below 500kVA have holes for forklift and dragging in the base for easy transport.
- Lifting eyes located on top of the canopy make easier move by cranes.

EASY TO MAINTAIN

- The daily maintenance work can be performed on both sides of the machine, and wide door allows you easily get in touch with the machine.
- An integral waste drainage outlet located at the bottom of the machine makes easier regular maintenance.
- For generators above 300kVA, a ladder for climbing is equipped. It makes easier to check and service.



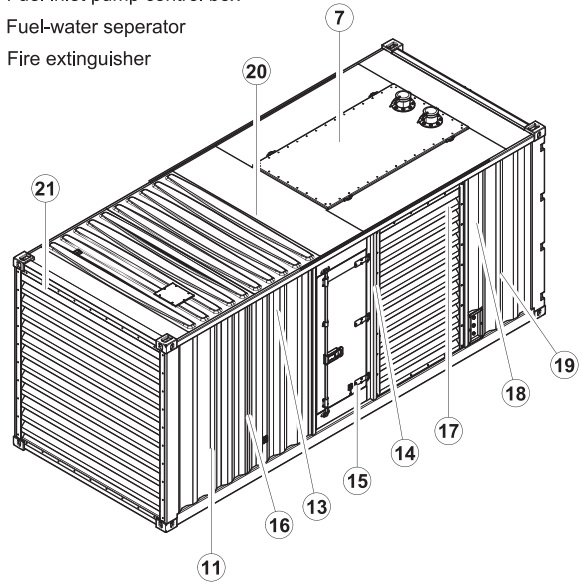
Product configuration—GMS750CS



- ⑦ Muffler
- ⑥ Ladder
- ⑤ Fuel inlet
- ④ Air inlet
- ③ Emergency stop switch
- ② Control cabinet
- ① Cable trench
- ⑭ Alternator
- ⑬ Engine
- ⑫ External fuel inlet/return hose fitting
Coolant/Oil drain hose fitting
- ⑪ Radiator
- ⑩ Access door
- ⑨ Fixing lug
- ⑧ Lifting lug

Dry weight	12100kg
Fuel tank capacity	1150L
Dimensions L x W x H	6058x2438x2730mm

- ⑳ Canopy
- ㉑ Air cleaner
- ⑲ Fuel tank
- ⑱ Fuel inlet pump
- ⑱ Fuel inlet pump control box
- ⑱ Fuel-water separator
- ⑱ Fire extinguisher



Configuration		
	Genset Model	GMS750CS
Engine	4 stroke water-cooled Diesel engine	●
	Industrial Silencer	●
	Switch in the Negative Pole	●
	Oil Sump Pump	●
	Water Jacket Preheater 220/240V	○
	Oil Preheater	○
	Standard Air Filter	●
Alternator	PMG	○
	Anti-condensing Heater	○
	Winding Temperature Measuring Instrument	○
	IP23 Single Bearing, Class H insulation	●
	Alternator Preheater	○
AVR	●	
Cooling Systems	Radiator for 45°C	●
	Coolant Integrated with genset	●
	Coolant Protection Port	●
	Shelter of Water Tank	●
Starting Systems	Start-up and Charging	●
	Batteries with cables and Switch	●
	Protecting Jacket of Solenoid Terminal	●
Control Systems	Battery Charger	○
	Key Start	●
	AMF	○
	Paralleling	○
Fuel Systems	Automatic Refueling	●
	Breather Valve	●

	Genset Model	GMS750CS
Fuel Systems	Fuel Level Sensor	●
	Fuel T-valves	○
Canopy and Soundproof Configuration	Outside Refueling	●
	Outside Watering	●
	Rainhat of Hush Pipe	●
	Lifting Lugs	●
	Labbers	●
	Shock Absorbers	●
	Emergency stop button Outlaid	●
	Control Cabinet with windows and doors	●
	No-skid Floor	●
	Air Inlet	●
Air Outlet	●	
Silencer	●	
Fire Extinguisher	●	
Emergency Light	●	
Rest Room	●	
Bases	Base Fuel Tank	●
	Holes for Forklift	●
	Pulling slots	●
	Wiring hole	●
	Earthed Protection	●
Materials with Gensets	Drain Outlet	●
	Parts Manual	●
	Operation manual	●
	Warranty manual	●
	Records notebook of Maintenance	●

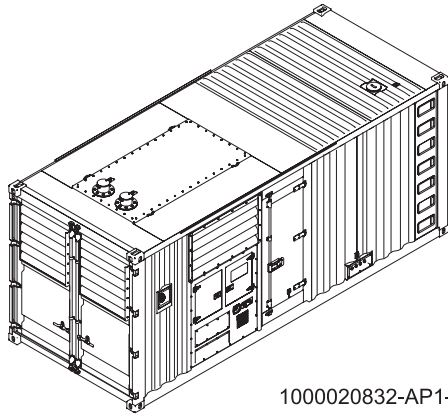
Standard: ● Optional: ○ Impossible: ✕

■ Optional

Engine	Alternator	Generator Set	Fuel System	Canopy
<ul style="list-style-type: none"> • Water Jacket Preheater • Oil Preheater 	<ul style="list-style-type: none"> • Winding Temperature Measuring Instrument • Alternator Preheater • PMG • Anti-damp and anti-corrosion treatment • Anti-condensation heater 	<ul style="list-style-type: none"> • Tools with the machine 	<ul style="list-style-type: none"> • Low fuel level alarm • Automatic fuel feeding system • Fuel T-valves 	
Lubricating System	Exhaust System	Cooling System	Control Panel	Voltages
<ul style="list-style-type: none"> • Oil with the machine 	<ul style="list-style-type: none"> • Protection board from hotness 	<ul style="list-style-type: none"> • Front heat protection • Coolant (-30°C) 	<ul style="list-style-type: none"> • Remote control panel • PLC-7320 • PLC-8610 • ATS 	<ul style="list-style-type: none"> • 415/240V • 400/230V • 380/220V • 220/127V • 200-115V

■ Genset specification

■ General technical data

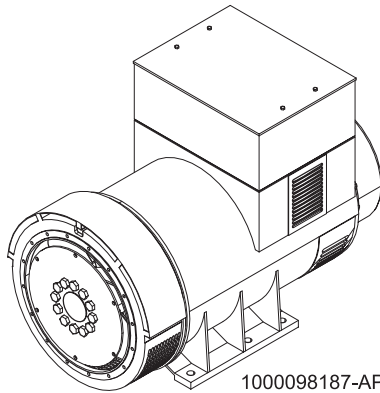


1000020832-AP1-A1

Model.....GMS750CS
 Structure type..... C
 Tank capacity..... 1150L
 Dry weigh..... 12100kg
 Noise level @7m N/A
 Dimensions L×W×H..... 6058x2438x2730mm
 Standby Power 825kVA/660kW
 Prime Power 750kVA/600kW

Voltage	380V	400V	415V
Ampere	1139.5A	1082.6A	1043.4A

■ Alternator

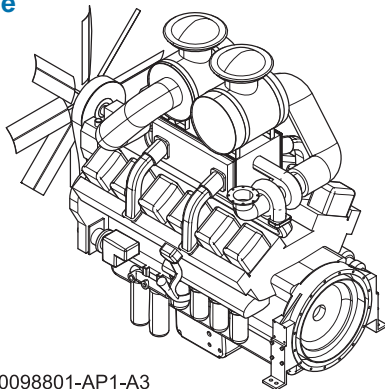


1000098187-AP1-A3

Alternator Manufacturer/Brand Stamford
 Alternator Model LVI634B
 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..... 2.18m³/s(50Hz), 2.63m³/s(60Hz)
 Voltage Regulation ±0.5%
 Total Harmonic TGH / THCat no load < 1.5 % - on load < 5%
 Telephone Interference..... THF<2%;TIF<50

■ Diesel engine



1000098801-AP1-A3

Engine Manufacturer/Brand..... Cummins
 Engine Model..... KTA38G2
 Dimensions L×W×H..... 2260.5×1338.9×2332.7mm
 Dry Weigh (approx.) 3723kg
 Number of Cylinders..... 12
 Bore 159mm
 Stroke 159mm

Displacement..... 37.8L
 Compression Ratio 14.5
 Type of injection..... Direct injection
 Intake System..... Turbocharged
 Intake Resistance ≤6.23KPa
 Cooling System Water cooled
 Fan Pusher
 Battery Voltage 24V
 Type of Fuel..... No.2 or ASTM D975
 Type of Oil APICD/SE or CCMCD4
 Oil Capacity 135L
 Type of Coolant Glycol mixture
 Coolant Capacity 210L
 Back Pressure ≤10KPa
 Standby Power 731kW
 Continuous Power 664kW
 Fuel Consumption(100%load)..... 167L/h

Control System

PLC-8610

With control module, you can parallel several sets for supplying power with wider range output. The basic functions include: automatic closing and tripping, automatic paralleling and splitting, automatic load share and distribution, and remote control for one set. Also you can choose an ATS to realize automatic switch between the mains and generator sets, In case mains fails, generator set can start automatically and supply power, is quite intelligent this operation. Several gensets can meet requirement of remote control.

Description

- By using inbuilt device with synchronization, power matching and paralleling functions, the controller can be synchronized with the mains, uninterruptedly return when reaching the zenith;
- Parallel with 16 generator sets at most.

KEY FEATURES

- Comprehensive loadshare capabilities
- Configurable inputs (11)
- Configurable outputs (8)
- Voltage measurement
- Built-in governor and AVR control
- kW overload alarms
- Comprehensive electrical protection
- Magnetic pick-up
- Electronic engine capability
- RS232 & RS485 remote communications
- Modbus RTU
- PLC functionality
- Multi event exercise timer
- Back-lit LCD 4-line text display
- Multiple display languages
- Automatic start/Manual start
- Audible alarm
- Fixed and flexible LED indicators
- Event log (250)
- Engine protection
- Fault condition notification to a designated PC
- Front panel mounting
- Protected front panel programming
- PC configuration
- Configurable alarms and timers
- Configurable start and stop timers
- SMS alert messaging
- Remote monitoring
- Compatible with DSE8700 Series



KEY BENEFITS

- RS232 & RS485 can be used at the same time
- DSENet connection for system expansion
- PLC functionality
- Auto voltage sensing
- Five step dummy load support
- Five step load shedding support
- High number of inputs and outputs
- Worldwide language support
- Configuration Suite PC software
- Direct USB connection to PC
- Ethernet monitoring
- USB host
- Data logging & trending

EXPANSION DEVICES

- DSE2548 LED Expansion Module
- DSE2130 Input Expansion Module
- DSE2157 Output Expansion Module
- DSE124 CAN/MSC Extender

MODEL	PLC-8610	PLC-7320
General accessory		
AVR	•	•
Electronic Governing	•	×
Glow plug control	•	•
Cycle Cranking	•	•
(MODBUS) Networking	•	•
Fault History	•	•
manual start/stop	•	•
Auto/remote start	•	•
Regular Test	•	•
Auto operation LED	•	•
Manual operation LED	•	•
Common Shutdown LED	•	•
Common warning LED	•	•
Fail to start LED	•	•
Emergency stop(local)	•	•
Alphanumeric screen	•	•
Remote start input active LED	•	•
Fault reset	•	•
Operator Interface		
oil pressure	•	•
Water Temperature	•	•
Engine Speed	•	•
Hours Run	•	•
Number of Starts	•	•
Battery Voltage	•	•
Exhaust Coolant Temperature	•	•
3Phase-L Voltage&Frequency	•	•
3phase Current	•	•
Frequency	•	•
kWh	•	•
Apparent Power	•	•
Active Power and Inactive Power	•	•
Power Factor	•	•
Per PhaseKVA,KW	•	•
Per Phase Kva	•	•
Phase Voltage	•	•
Output Power	•	•
Grid Wire Voltage	•	•
Grid Phase Voltage	•	•
Grid Frequency	•	•
Measurement and Instrumentation		
Engine		
Low Fuel Level	•	•
High Fuel Level	○	○
Low Oil Pressure	•	•
High Water Temperature	•	•
Failure to Stop	•	•
Failure to Start	•	•
Controllable start circles/times	•	•
Over-speed	•	•
Alternator		
Under&Over Voltage	•	•
Under&Over Frequency	•	•
Overcurrent	•	•
Earth Leakage	○	○
Reverse Power	•	×
Reverse Var	•	×
Shutdown Protection and Indication		
Engine		
Low Oil Pressure	•	•
Low Water Temperature	○	○
High Water Temperature	•	•
Low Water Level	•	•
Low/High Battery Voltage	•	•
Failure to Charge	•	•
Overcurrent	•	•
Overload	•	•
Genset under/over Voltage	•	•
Genset under/over Power	•	•
under/over Speed	•	•
High Engine Temperature	•	•
Earth Leakage	•	•
Threshold Warning&Indication		
Synchroscope(Independent Wire)	•	×
Active and Inactive Power Transfer Function	•	×
Synchroscope(Shared Wire)	•	×
Synchronization Detector	•	×
Peak Logging	○	×
Paralleling Capability		
Automatic Transfer	•	•
Hard Closed Transition	•	•
Soft Closed Transition	•	×
Gen/Mains Breaker	×	•
Gen/Mains Breaker Status Protection	×	•
Speed/Voltage Control	•	×
Power Indication	•	•
Fuel&Solenoid valve Control	•	•
Stator Control	•	•
Preheating	○	○
Mains Transfer Switch (Standard)	•	•
Mains Transfer Switch (Emergency)	•	•
Power Transfer Function		
Ambient temperature (-40 °C - 70 °C)	•	•
Ambient humidity (-25 °C - 45 °C)	•	•
Humidity ≤ 80%	•	•
Environment		
Grid Over/Under Voltage Control	•	•
Grid Over/Under Frequency Control	•	•
Controller Input/ Output(Warning/No-load)	•	•
Optional Electrical Appliances Output	•	•
Telegram Distance Control with all functions	•	•
Engine Instrument Monitoring	•	•
Alternator Output Instrument Monitoring	•	•
Connection Point with all-round Setting for 8 Users	•	•
4Users input Connection Point	•	•
LED Light Control of Low Light Operation Environment	•	•
Safe PIN Code	•	•
Interface RS232/485	•	•
Control Panel with all-function Button including Language Selection	•	•
Multi-Language Function	•	•
Monitoring Function		

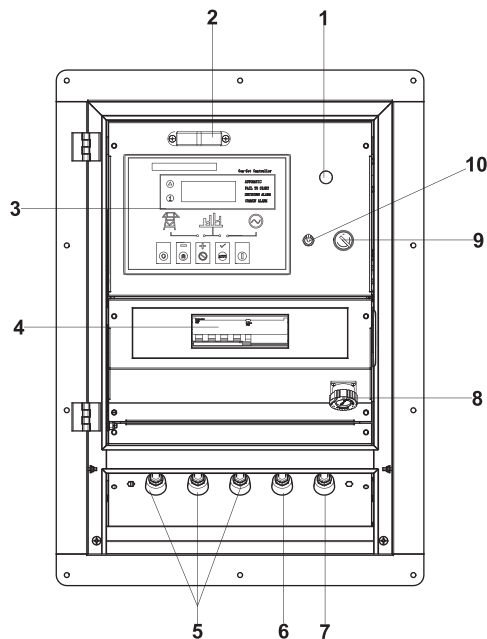
Control System

Digital, intelligent control system allows easier operation.

PLC-7320

Powerlink PLC-7320 generator controllers integrating digital, intelligent and network techniques are used for automatic control system of diesel generator. It can carry out functions including automatic start/stop, data measure and alarming.

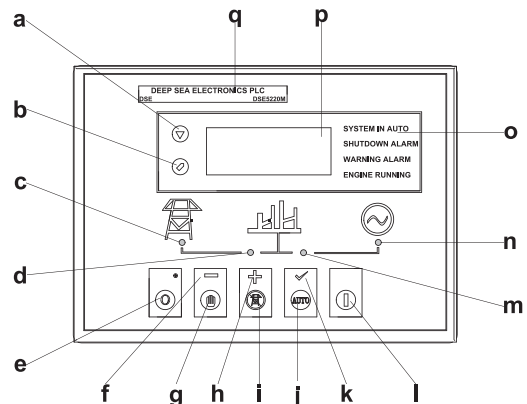
Upon detection of a mains (utility) failure the module automatically starts the generating set. Once the mains (utility) power has been restored it instructs the generating set to stop.



- | | |
|------------------------|--------------------------------|
| 1 Charge indicator | 6 Neutral wire terminal |
| 2 Control cabinet lamp | 7 Ground wire terminal |
| 3 Control module | 8 ATS connector |
| 4 Main circuit breaker | 9 Key switch |
| 5 Live wire terminals | 10 Control cabinet lamp switch |

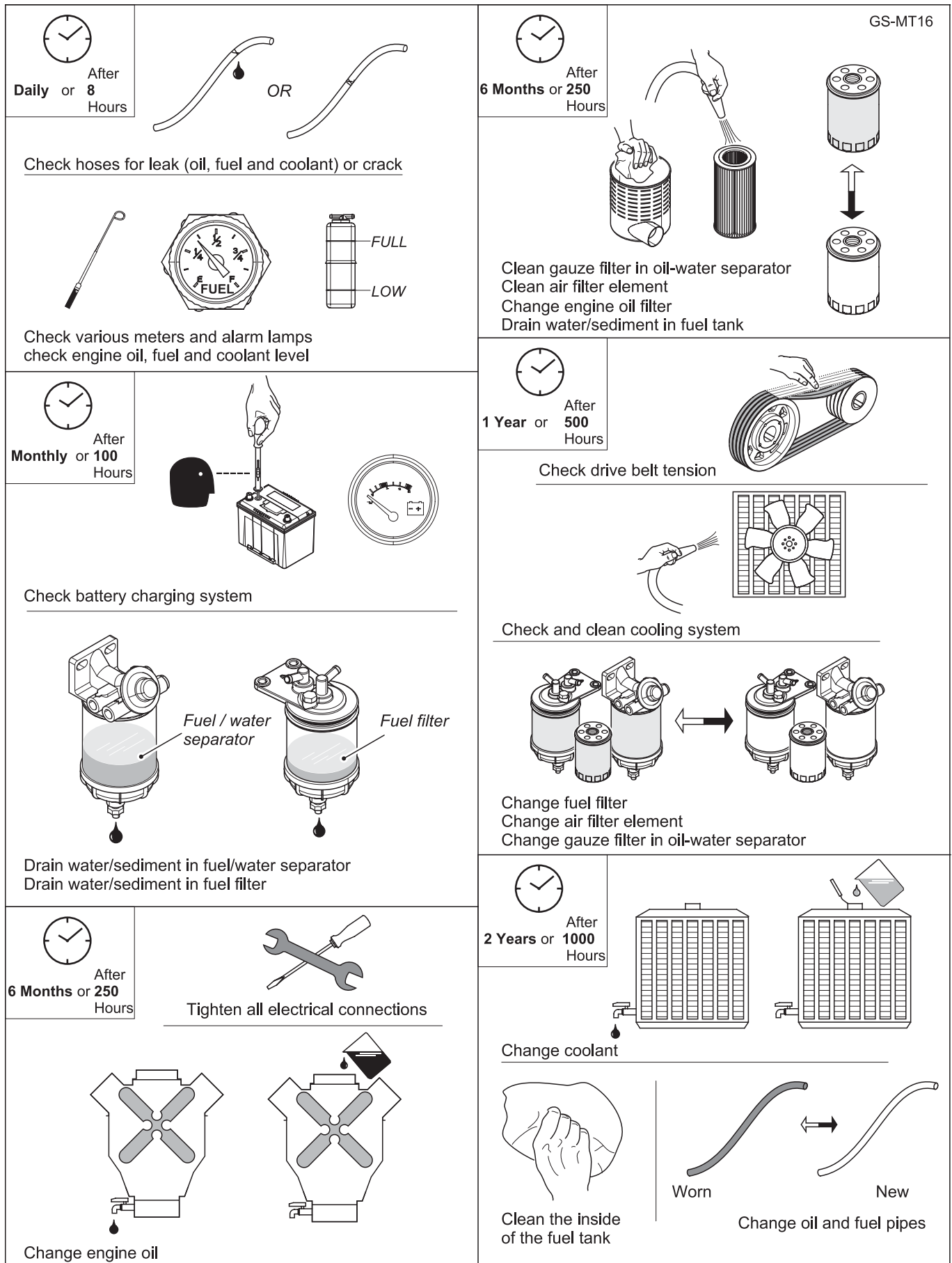
FEATURES

- Microprocessor control, with high stability and credibility .
- Mains supply and generator operation monitoring.
- Indicating operation status and fault conditions.
- Multiple protections; multiple parameters display, such as pressure, temperature.
- Manual and automatic work mode selectable.
- Real time clock for time and date display, overall runtime display, 99 log entries.
- Overall power output display.
- Integral speed/frequency detecting, telling status of start, rated operation, overspeed.
- Communication with PC via RS485 or RS232 interface, using MODBUS protocol.
- Engine ECU is available.
- Common USB cable is usable for parameter configuration.
- Multi-language is available. It can be translated for only one time and imported in forever. The idiom can also be changed after translation, eg. "Failure" to be "Malfunction".



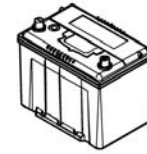
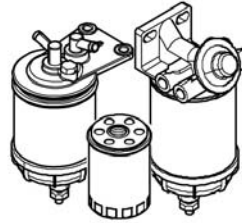
- a Scroll button
- b Information button(Change the display page)
- c Mains supply available LED
- d Mains supply on load LED
- e Stop/Reset button
- f Decrease (Configuration mode only)
- g Manual button (Manual control mode)
- h Increase (Configuration mode only)
- i Test button (Test mode)
- j Auto button (Auto mode)
- k Accept (Configuration mode only)
- l Start button
- m Genset on load LED
- n Genset available LED
- o Text insert
- p LCD display
- q Control module name

Routine Maintenance Diagram



■ Common Maintenance and Repair Parts (optional)

POWERLINK also provides spare parts such as filters, water-oil separators, oil filters or any other part if necessary.



The following lists are optional by the needs of customers.

Engine Model:KTA38-G2				
Minor Repair / 1000 hrs optional				
No.	Part Name	Part No.	Q'ty	Remark
1	CARTRIDGE,LUB	3889310=LF670	16	
2	ELEMENT,LUBOIL FILTER	3889311=LF777	8	
3	FILTER,FUEL	3313306=FF202	8	
4	CORROSION RESISTOR	3100308=WF2075	16	
5	CLEANER, AIR	3018042	8	
6	BELT,V, FAN	3003341	2	IMPORT
7	BELT,V, MULTI-SLOT	3031485	2	IMPORT
8	BEARING,CONNECTING	AR12250	1	
9	SET,MAIN BEARING	3047390	12	
10	NOZZLE,PISTON COOLING	3007517	6	
11	OIL PRESSURE SENSOR	3015237	1	
12	WATER TEMP, SENSOR	3015238	1	IMPORT
13	PICKUP ,MAGNETIC	3034572	1	
14	BUSHING	3043909	1	IMPORT
15	SWITCH,MAGNETIC	3050692	1	
16	SET,UPPER ENGINE GSK	3800730	1	IMPORT
17	SET,LOWER ENGINE GSK	3804301	1	IMPORT





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