

GRW22Y



Generator engineered and designed to work in a wide variety of applications where temporary power supply is needed. Versatility, high efficiency, high structural resistance, high degree of protection and low noise emissions together with easy-to-use and easy access for maintenance make these generator sets the ideal solution for Rental companies.

Power Rating

Frequency	Hz	50
Voltage	V	400
Phases	No	3
Power factor	cos ϕ	0.8
Standby power LTP	kVA	19.27
Standby power LTP	kW	15.42
MAX current	A	28
Prime power PRP	kVA	18.29
Prime power PRP	kW	14.63
NOMINAL current	A	26



Ratings definition (According to standard ISO8528 1:2005)

PRP - Prime Power:

It is defined as being the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year under the agreed operating conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output over 24 h of operation shall not exceed 70 % of the prime power.

LTP - Limited-Time running Power:

It is defined as the maximum power available, under the agreed operating conditions, for which the generating set is capable of delivering for up to 500 h of operation per year (whose no more than 300 for continuative use) with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. No overload capability is available.

Power supply 50Hz 230V Three Phase (with supplement VSS)

Frequency	Hz	50
Voltage	V	230
Phases	№	3
Power factor	$\cos \phi$	0.8
Standby power LTP	kVA	19.27
Standby power LTP	kW	15.42
MAX current	A	48
Prime power PRP	kVA	18.29
Prime power PRP	kW	14.63
NOMINAL current	A	46

**Power supply 50Hz 230V Single Phase (with supplement VSS)**

Frequency	Hz	50
Voltage	V	230
Phases	№	1
Power factor	$\cos \phi$	1
Standby power LTP	kVA	12.40
Standby power LTP	kW	12.40
MAX current	A	54
Prime power PRP	kVA	11.20
Prime power PRP	kW	11.20
NOMINAL current	A	49



Engine specifications

Engine manufacturer	YANMAR	
Model	4TNV88-BGPGE	
Engine cooling system	Water	
Nr. of cylinder and disposition	4 in line	
Displacement	cm ³	2190
Aspiration	Natural	
Speed governor	Mechanical	
Oil capacity	l	7.4
Coolant capacity	l	2.7
Electric circuit	V	12
ENGINE DATA	Hz	50
[50Hz] Operating Speed-Nominal	rpm	1500
[50Hz] Exhaust emission level	Stage IIIA	
[50Hz] Specific fuel consumption @ 75% PRP	g/kWh	232
[50Hz] Specific fuel consumption @ 100% PRP	g/kWh	231



Engine Equipment

Standards

The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/1, ISO 3046/1:1986, BS 5514/1

Fuel system

- Direct injection system
- Fuel filter paper element
- Fuel pump Bosch in-Line

Lube oil system

- Forced feed system
- Trochoid pump
- Paper element lube oil filter

Induction system

- Mounted air filter

Cooling system

- Thermostatically-controlled system with gear-driven circulation pump and belt-driven pusher fan
- Mounted radiator and piping

Alternator Specifications

Alternator	LEROY SOMER
Model	LSA 40-M5
Type	Brushless
Class	H
IP protection	23
Winding insulation	Protection System 2
Poles	4
Winding leads	12
Voltage regulation system	Electronic
Standard AVR	R 438
Voltage tolerance	% 0.5



SPECIALLY ADAPTED TO APPLICATIONS

The LSA 40 alternator is designed to be suitable for typical generator applications, such as: backup, marine applications, rental, telecommunications, etc.

TOP OF THE RANGE ELECTRICAL PERFORMANCE

- Class H insulation.
- Standard 12 wire re-connectable winding, 2/3 pitch, type no. 6.
- Voltage range:
 - 50 Hz: 220 V - 240 V and 380 V - 415 V
 - 60 Hz: 208 V - 240 V and 380 V - 480 V
- High efficiency and motor starting capacity.
- R 791 interference suppression conforming to standard EN 55011 group 1 class B standard for European zone (CE marking).

EXCITATION AND REGULATION SYSTEM

- Excitation system: AREP
- Voltage A.V.R.: R 438

REINFORCED MECHANICAL STRUCTURE

- Compact rigid assembly to better withstand generator vibrations.
- Steel frame.
- Aluminium flanges and shields.
- single-bearing designed to be suitable for heat engines.
- Half-key balancing

PROTECTION SYSTEM SUITED TO THE ENVIRONMENT

- The LSA 40 is IP 23.
- Winding Protection Standard: for clean environments with relative humidity $\leq 95\%$, including indoor marine environments.
- Winding Protection System 2: reinforced insulation for tropical environment (abrasive atmosphere), rental (except for coastal area), relative humidity $> 95\%$

COMPLIANT WITH INTERNATIONAL STANDARDS

The LSA 40 alternator conforms to the main international standards and regulations: - IEC 60034, NEMA MG 1.32-33, ISO 8528-3, CSA C22.2 n°100-14, UL 1146 (UL 1004 on request), marine regulations, etc.

It can be integrated into a CE marked generator.

The LSA 40 is designed, manufactured and marketed in an ISO 9001 environment and ISO 14001.



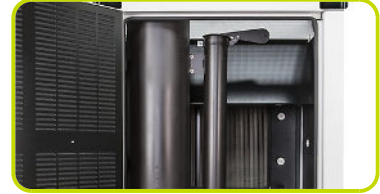
CANOPY

Canopy painted in RAL9016 made up of modular panels with 1000h+ tested salt spray resistant zinc metal sheet, with access doors on each side with high quality gaskets and lockable handles for easy maintenance and service.



SUPER SILENT

Soundproofing by means washable and fireproof soundproofing material, to get noise attenuation - max 75B(A)@1m.
Exhaust silencer integrated in the genset shape with flat rain flap.



BASE FRAME

Heavy duty base guarantees the highest standards of durability and resistance, painted using a high quality powder coating process (1000+h tested salt spray resistance).
Fully bunded, able to retain 110% of all the sets fluids, the base frame is provided with integrated fork pockets and pull bar for easy maneuverability and site positioning.



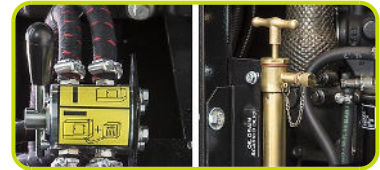
FUEL TANK

Integrated metal fuel tank complete with double fuel refilling point (one each side)



LEAK PROOF TRAY WITH DETECTOR SENSOR

Fluid leak check in the leak proof tray .



FUEL VALVE (6 WAY)

System designed for use the fuel from external tank and increase the autonomy of the generator



LUBE OIL DRAIN PUMP

Makes it easier to the engine oil change

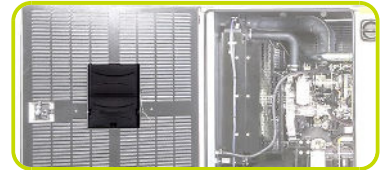


SINGLE LIFTING POINT



PLASTIC BUMPER

Protections for the transport and stocking



MANUAL BATTERY SWITCH

EARTH ROD

Earth stock with cable fixed inside the genset

DOCS HOLDER

Box intenal for documents, manuals and electrical drawings



Dimensional data

Length	(L) mm	2000
Width	(W) mm	1200
Height	(H) mm	1582
Dry weight	Kg	1205
Fuel tank material		Metal
Fuel tank capacity	l	216



Autonomy

[50Hz] Fuel consumption @ 75% PRP	l/h	3.59
[50Hz] Fuel consumption @ 100% PRP	l/h	4.76
[50hz] Running time @ 75% PRP	h	60.17
[50Hz] Running time @ 100% PRP	h	45.38



Noise level 50Hz (2000-14)

Guaranteed noise level (LWA)	dB(A)	90
Noise pressure level @ 1 mt	dB(A)	73
Noise pressure level @ 7 mt	dB(A)	61



Installation data

[50Hz] Cooling air	m ³ /min	55.08
[50Hz] Exhaust gas flow @ PRP	m ³ /min	3.5
[50Hz] Exhaust gas temperature @ LTP	°C	470

Control panel availability

MANUAL CONTROL PANEL	MCP
AUTOMATIC CONTROL PANEL	ACP

MCP - Manual Control Panel

Mounted on the genset, complete with digital control unit (InteliNanoNT Plus) for monitoring, control and protection of the generating set, protected through doors with lockable handle.

CONTROL SECTION

- ON/OFF selector switch
- Emergency push button
- Differential protection with internal switch
- 5A Battery charger.
- Potentiometer for voltage adjustment (internal)
- Alternator AVR (single plug wiring)

Control unit InteliNanoNT Plus

- Biggest LCD screen
- Generating set voltage (3 phases).
- Generating set frequency.
- Generating set current (1 phases).
- Battery voltage, Service time and Running hours indication
- Remote start/stop from external signal

Protection:

- Low fuel level
- Battery charger failure
- low oil pressure
- high engine temperature

Extra Instrumentation (analogue)

- Voltmeter with selector switch (3 phases)
- Ammeters (n.3)
- Fuel level meter
- Mechanical hour counter

POWER SECTION

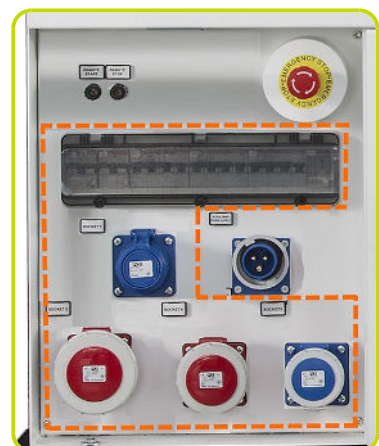
- It integrates 4 poles modular circuit breaker suitably rated with thermal and magnetic overloads.
- Large and robust busbar with cables passage opening from the bottom for easy power cable connection.
- Provided with safety switch to trip circuit breaker if operator open the power section door to operate on the bus bar.

SOCKET SECTION

- Emergency push button ✓
- Two wires facility for remote start/stop ✓
- Plug for auxiliary power supply ✓

SUPPLEMENT - Only available when order :

Socket Kit	Type	SPKA1
3P+N+T CEE 400V 32A	n	1
3P+N+T CEE 400V 16A	n	1
2P+T CEE 230V 16A	n	1
230V 16A SCHUKO	n	1
Each socket with its own circuit breaker		•
Common differential protection for three phase sockets		•
Each single phase provided with earth fault protection		•
Other Kit Socket combinations available		✓



ACP - Automatic Control Panel

Mounted on the genset, complete with digital control unit (AC-03) for monitoring, control and protection of the generating set, protected through doors with lockable handle.

CONTROL SECTION

- ON/OFF selector switch
- Differential protection with internal switch
- 5A Battery charger.
- Potentiometer for voltage adjustment (internal)
- Alternator AVR (single plug wiring)

Control unit (AC-03)

- Generating set voltage (3 phases).
- Mains voltage.
- Generating set frequency.
- Generating set current (3 phases).
- Battery voltage.
- Power (kVA - kW - kVAr - Cos φ).
- Hours-counter.
- Engine speed r.p.m.
- Fuel level (%).
- Engine temperature

Command and others:

- Four operation modes: OFF - Manual starting - Automatic starting - Test.
- Pushbutton for forcing Mains contactor or Genset contactor.
- Push-buttons: start/stop, fault reset, up/down/page/enter selection.
- Remote starting availability.
- Acoustic alarm.
- Automatic battery charger.
- RS232 Communication port.
- Settable PASSWORD for protection level

Protections:

- Engine protections: low fuel level, low oil pressure, high engine temperature,
- Genset protection: under/over voltage, overload, under/over battery voltage, battery charger failure.

Extra Instrumentation (analogue)

- Fuel level meter
- Mechanical hour counter

POWER SECTION

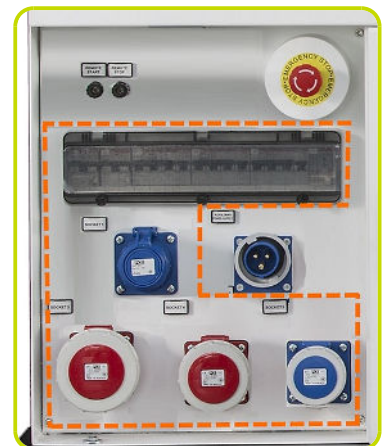
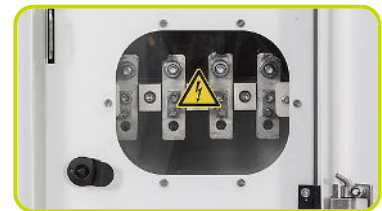
- It integrates 4 poles modular circuit breaker suitably rated with thermal and magnetic overloads.
- Large and robust busbar with cables passage opening from the bottom for easy power cable connection.
- Provided with safety switch to trip circuit breaker if operator open the power section door to operate on the bus bar.

SOCKET SECTION

- | | |
|--|---|
| • Emergency push button | √ |
| • Two wires facility for remote start/stop | √ |
| • Plug for auxiliary power supply | √ |
| • Multipin connector for LTS | √ |

SUPPLEMENT - Only available when order :

Socket Kit	Type	SPKA1
3P+N+T CEE 400V 32A	n	1
3P+N+T CEE 400V 16A	n	1
2P+T CEE 230V 16A	n	1
230V 16A SCHUKO	n	1
Each socket with its own circuit breaker	•	
Common differential protection for three phase sockets	•	
Each single phase provided with earth fault protection	•	
Other Kit Socket combinations available	√	



Supplements:

Only Available when order :

GENSET CONTROL EQUIPMENT

Voltage Selector Switch 3 positions (only with ACP)	Y400/230V 50Hz $\Delta\Delta$ 230V 1P 50Hz Δ 230V 3P 50Hz	VSS5
---	--	------



ELECTRICAL OPTION

Remote control trough IL-NT-GPRS + ANTENNA Available for	(ACP)	RCG 16
Free Voltage Contacts with module IL-NT-EFCPM2 + IR-B8 relay board	(ACP)	TLP 6
Differential Protection type B		ADI-B
Insulation Monitoring Device (Replace standard differential protection)		IMD
Socket Section Customized		SPKS
Control section internal lighting (automatic with door switch)		CLS
Internal Canopy Lighting system with manual switch		ICL
Engine analogue gauges (water temp / oil pressure)		EAG



MECHANICAL OPTION

Pre-heating system		PHS
Quick Fit Fuel connectors		QFC
Quick Fit Connectors inside the canopy		QFC1
Water Separator Filter		WSP
Heavy-DUTY Air Filter		HDF
Hot Parts Protections		HPP
Exhaust Spark Arrestor ATEX certified		ESA
Air Shut-Off Valve		ASV
Galvanized Sliding Skid		GGs
Baseframe Bumpers		BFB



Accessories

Items available as accessory equipment	:
RTR-B Road Trailer with Drawbar Height-Adjustable	•
RTR - Road Trailer	•
STR - Site trailer	•



LTS - Load Transfer Switch [Accessories for ACP Automatic Control Panel]

The Load Transfer Switch (LTS) panel operates the power supply changeover between the generator and the Mains in backup applications, guarantying the feeding to the load within a short period of time.

It consists of a standalone cabinet which can be installed separate from the generating set. The logic control of the power supply changeover is operated by means of the Automatic Control panel mounted on the generating set, so therefore none logic device is required on the LTS panel.



The information is aligned with the Data file at the time of download. Printed on 08/01/2018 (ID 3692)

©2017 | PR INDUSTRIAL s.r.l. | All rights reserved | Image shown may not reflect actual package. Specifications subject to change without notice

