



Image for demonstration purposes

 **Generating Set**
PROFESSIONAL - Diesel

GE.BD.440/400.PRO+011

1500 rpm - Trifase - 50Hz - 400V
Multifunction panel without switching on board



Standard equipment

Canopy Soundproofing

Removable soundproof canopy
Painting canopy (RAL) in galvanized sheet steel
Soundproofing with class 1 polyester material
Handles with key lock and automatic closing
Inspection doors for controls and maintenance
Inspection doors with hermetic gasket

Exhaust

Exhaust rain cap
Insulated exhaust pipes
Internal residential muffler

Fuel Supply

Single wall daily tank with bunded base
Automatic shutdown system for low fuel level
Fuel gauge

Handling

n.4 lifting hooks integrated into the bearing structure
Loadable side by side for truck transportation

Base Frame

Anti-vibrating mounting pads
Anti pollution Bunded base

Engine

Oil pressure and coolant temperature gauge (only with QPE or +14 variant)
Tropicalized radiator
Electronic speed governor

Alternator

AVR Automatic Voltage Regulator
AVR Pre-arranged for parallel
Impregnation for marine environment
IP23

Panel & connection

Emergency Stop button
Magnetothermal circuit breaker on alternator board
Tamperproof panel IP55
Cable output from the bottom
IP44 wiring
Start-up battery (pre-charged)
Grounding point

Documentation

CE conformity declaration
User and Maintenance manual
Wirings diagrams

Normatives

All Generating sets are compliant to CE Marking
2014/30/UE Electromagnetic compatibility
2000/14/CE Noise Emission for outdoor use
Factory-designed systems built according to ISO 9001:2015
CEI EN 60204-1:2018 - Electrical equipment of machines

Primary data

General Information

Speed	RPM	1500
Frequency	Hz	50
PRP	KVA	400
PRP - Prime power	KW	320,0
LTP - Standby power	KVA	440
LTP - Standby power	KW	352,0
Standard Voltage	V	400/230
Current	A	578,03
Voltage for current calculation	V	400
COSFI	0,8	0,8

General electrical protection

Rated current	A	630
Type	Magnetothermal switch on the alternator board	
Poles	N	4P

Noise level +/- 3dB(A)

LWA	dB(A)	96
Sound pressure level @ 7 mt	dB(A)	71
Sound pressure level @ 1 mt	dB(A)	80

Fuel Consumption

TYPE		Diesel
Standard Fuel Tank capacity	lt	560
Autonomy @ 75% load	h	9
Fuel consumption at 100% load	lt/h	85
Fuel consumption at 75% load	lt/h	63,5
Fuel consumption at 50% load	lt/h	43,1

General data

Rated capacity	Ah	2x180
Auxiliary Voltage	V	24
Exhaust gas temperature	°C	580
Exhaust gas flow	l/s	1118
Combustion air flow	l/s	433
Cooling fan airflow	mc/s	6,6
Exhaust diameter	mm	140

Weight and Dimensions

Dimensions (L x W x H)	cm	395x154x220
Weight with liquids (excluding optionals and fuel)	Kg (+/-3%)	4096

⚙ Engine

Factory		Baudouin
Model		6M21G440/5
Emissions stage		Stage 0
Speed governor		Electronic
Radiator	°C	50
Cooling	Tipo	liquid (water + 50% Paraflu11)
Active net power	Kwm	345
Nominal net power	CV	468,8
Cycle	Tipo	4 strokes
Aspiration	Tipo	Turbo
Numbers of cylinders	N	6
Cylinders arrangement		L
Bore	mm	127
Stroke	mm	165
Total displacement	lt	12,535
Engine oil features		15W40-API CI-4/CH-4 ACEA E5-E7
Total oil capacity	lt	32
Total coolant capacity	lt	69
ISO 8528-5 class		G2

⚙ Alternator

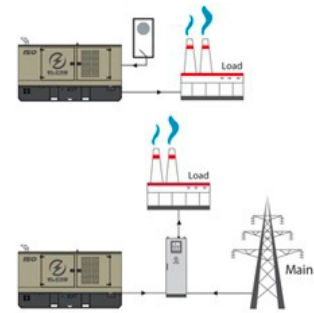
* **May vary based on stock availability. However, a primary brand will be used.**

Factory		Stamford
Model		S4L1D-F
PRP continuous power	KVA	415
Voltage Regulator (voltage accuracy)	+/- %	1
Poles	N°	4
Phases	N°	3+N
Standard windings connection		Star Series
Stator/rotor impregnation		H (Outdoor Temp 40°C)
Efficiency	%	93,2
Engine coupling		Elastic disk
Short circuit current		>= 300% (3In)
Protection degree	IP	23
Cooling system		Self ventilating
Maxium overspeed	rpm	2250
Waveform distortion	%	<5
Exciter		Diode bridge

⚙ Standard operating environmental conditions

Ambient temperature	°C	25
Relative Humidity	%	30
Max altitude	mt	1000

Control Systems on board QLE-B-SC-3F-V1



operating scheme - schema di funzionamento

QLE Multifunction panel without switching on board

The QLE command and control panel offers outstanding protection, monitoring and control for small and middle size generator sets. Elcos's control module MC2 Plus offers advanced features to meet the most demanding on-site application. Elcos's control module MC2 Plus is designed to offer an easy user interface. Variant without transfer switch. The panel directly manages the QLTS and QC panels. The output line is protected from overload and short-circuit by a magnetothermic breaker mounted on alternator board.

Mechanical features

Protection degree	IP	55
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Battery charger

Model		ELCOS - CB1
Maximum output current	A	2,5
Output DC voltage (selectable)	V _{dc}	12-24
Input AC voltage (selectable)	V _{ac}	220-260
Frequency	Hz	50-60

Data Communication

Data connection port		RS-485
Communication protocol		Mod-bus RTU-8N1

Remotable functions in terminal box

GS start	Genset contactor close/open command (1)
Mains contactor close/open command (2)	Remote horn - DC output
Programmable output - Volt free output	

(1) Ready to load function (ARS mode without QC or QLTS panel)(1) Genset contactor open and close command (AMF mode with QC or QLTS panel)(2) Mains contactor open and close command (AMF mode with QC or QLTS panel)

Control Module



Model	MC2 Plus
Operating mode	AMF - ARS

Specifics

Applications

Emergency to the Mains
Stand-alone
Construction site/Rental
Self-production

ENGINE MEASURES

Fuel tank level %
Total run time
Battery voltage
Start-ups counter
Engine speed

ALTERNATOR MEASURES

Generator Voltage L1, L2, L3
Generator Voltage L1-N, L2-N, L3-N
Generator frequency
Generator current L1, L2, L3
Generator Apparent Power kVA
Generator Active Power kW

COMMUNICATION PORTS

Can-bus port
RS485 port with Mod-bus RTU communication
USB port for parameters saving and firmware update

EQUIPMENT

Microprocessor Logic
Back-lit display
Programmable from display
16 event log
Icons management
STOP button
START button
TEST button
Reset alarm button
Alarm mute button

PRE-ALARMS/ ALARMS

Common Alarm
Fuel reserve (pre-alarm)
Low fuel level (alarm)
Charge alternator failed (dinamo)
Low oil pressure (alarm)
Oil sensor failed (alarm)
High coolant temperature (alarm)
Battery undervoltage
Battery overvoltage
GS failure to start
GS failure to stop
Can-bus Failure
No Can-bus communication
Genset overload L1, L2, L3 phases
Genset short circuit
Genset overvoltage
Genset undervoltage
Genset high frequency
Genset low frequency
overspeed
Earth fault (alarm)
Maintenance request
Emergency button pressed
Remote emergency active
Genset negative phase sequence

VISUALIZATIONS ON CONTROL

MODULE/DISPLAY

Pre-alarms
Alarms
Engine measures
Alternator measures
Operating mode
Genset status
Genset contactor status
Glow plugs status

CONTROL MODULE FUNCTIONS

Remote Start and Stop
Manual Start and stop
Emergency stop button on panel board
Remote emergency stop
Remote test on load
Scheduled start-ups
MODBUS commands (Start, Stop, Reset, Test)

- (2) Present according to the engine equipment and to the ECU type (ECU - Canbus)
(3) Present only with the residual current device mounted on genset board
(5) Present with special function activated

OPTIONAL

Fuel Supply



O.G-ACO-AT-CI-02

External tank connections for supply only from external tank (g without tank) GE 130/700

Canopy



O.G-COF-PV-02

Lift off doors kit for SS versione (130/400 kVA) and PRO version (130/500 KVA)

Electrical on board



O.Q-QLE-K-DIF-M3

Adjustable differential protection only for MC2-PLUS controller for Gen Sets 10/500 kVA (+011 variant)



O.Q-QLE-QBM-COM-AMF25

Additional price for QBM COMAP AMF25 panel replacing the standard QLE-A.



O.Q-QLE-QBM-DSE-7320

Additional price for QBM DSE7320 panel replacing the standard QLE-A.



O.Q-QLE-QPE-MC4

Additional price for QPE-C panel with MC4 replacing the standard QLE-A.

Engine



O.G-MOT-K-40C-03

Engine liquids suitable for -40°C ambient temperature for Gen Sets 130/250 kVA



O.G-MOT-PO-02

Oil change pump for Gen Sets 130/700 kVA



O.G-MOT-SC-AC-EL-01B

Engine pre-heater 230V with thermostat on board for Gen Sets from 130 to 500 KVA (PRO/RB)



O.G-MOT-SC-AC-EL-03

Super hot engine heater 230V with thermostat on board for Gen Sets 130/250 kVA

ATS Panels



QLTS.630A

Wall switching Panel 630 A 4-Poles (430kva 400V) - 80x128x60cm 45 kg

PRP

Engines of this rating provide unlimited hours of usage in a variable load application. The average load factor should not exceed 70% of the engine's prime power rating with a maximum number of 500 operational hours at 100% prime power rating. An overload capability of 10% is available, however, is limited to a period of 1 in every 12 hours

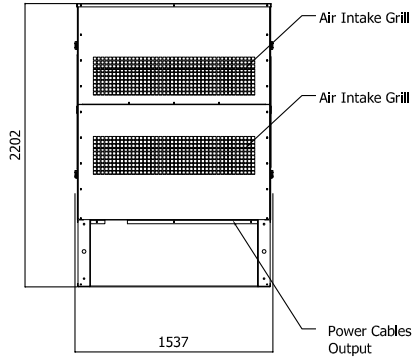
LTP

Limited-time running power is defined as the maximum power available, under the agreed operating conditions, for which the generating set is capable of delivering for up to 500h of operation per year with the maintenance intervals. The overload is not allowed.

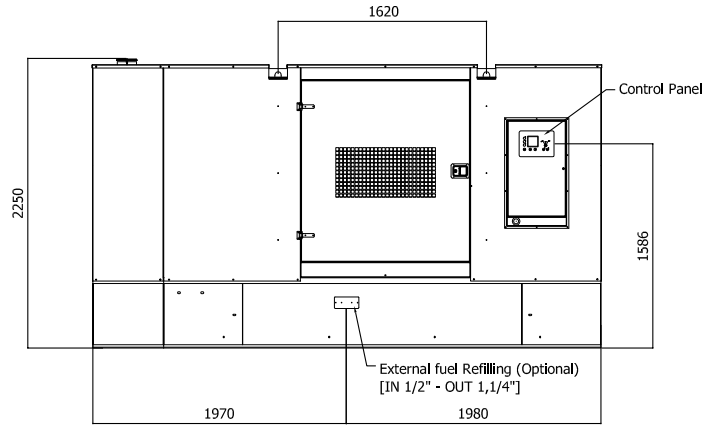
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OVERALL DIMENSIONS [mm]

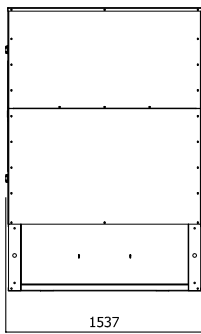
REAR VIEW



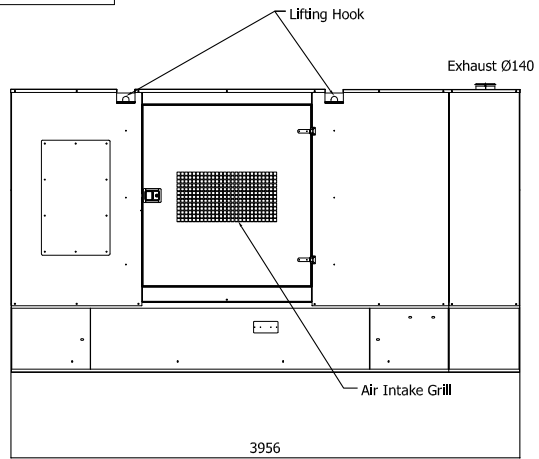
LEFT SIDE VIEW



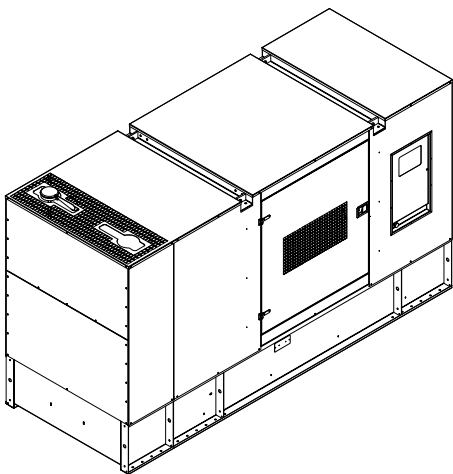
FRONT VIEW



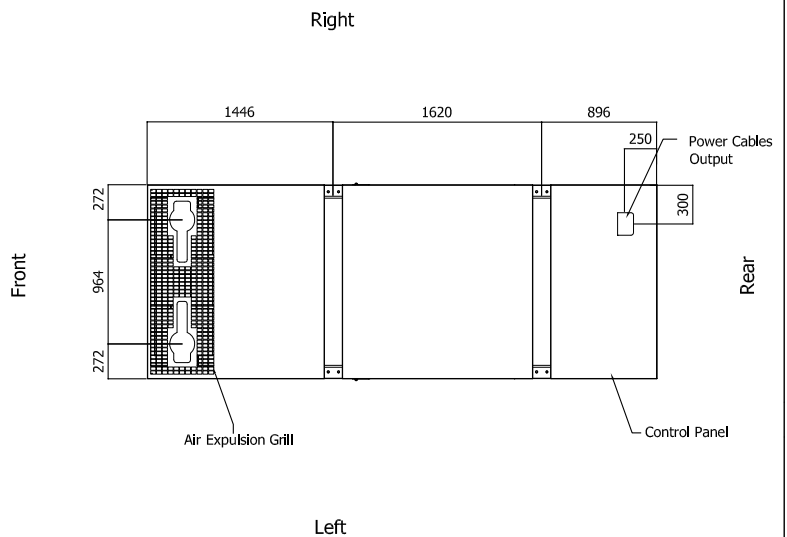
RIGHT SIDE VIEW



3D VIEW



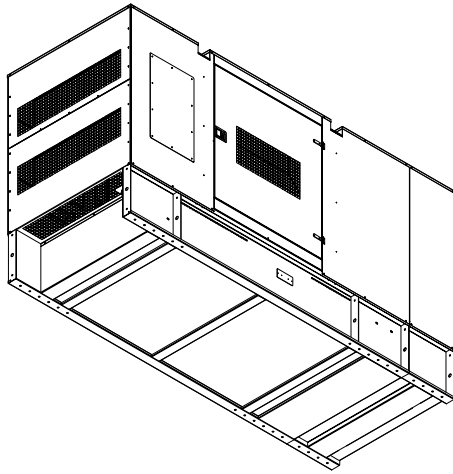
TOP VIEW



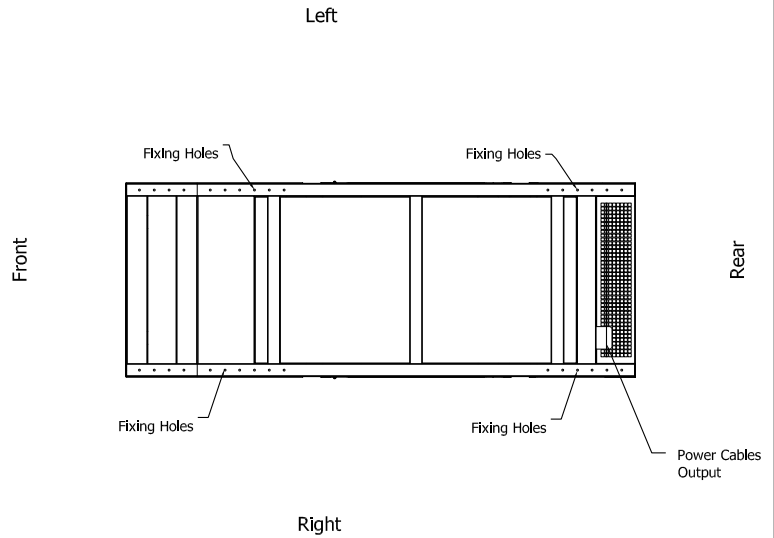
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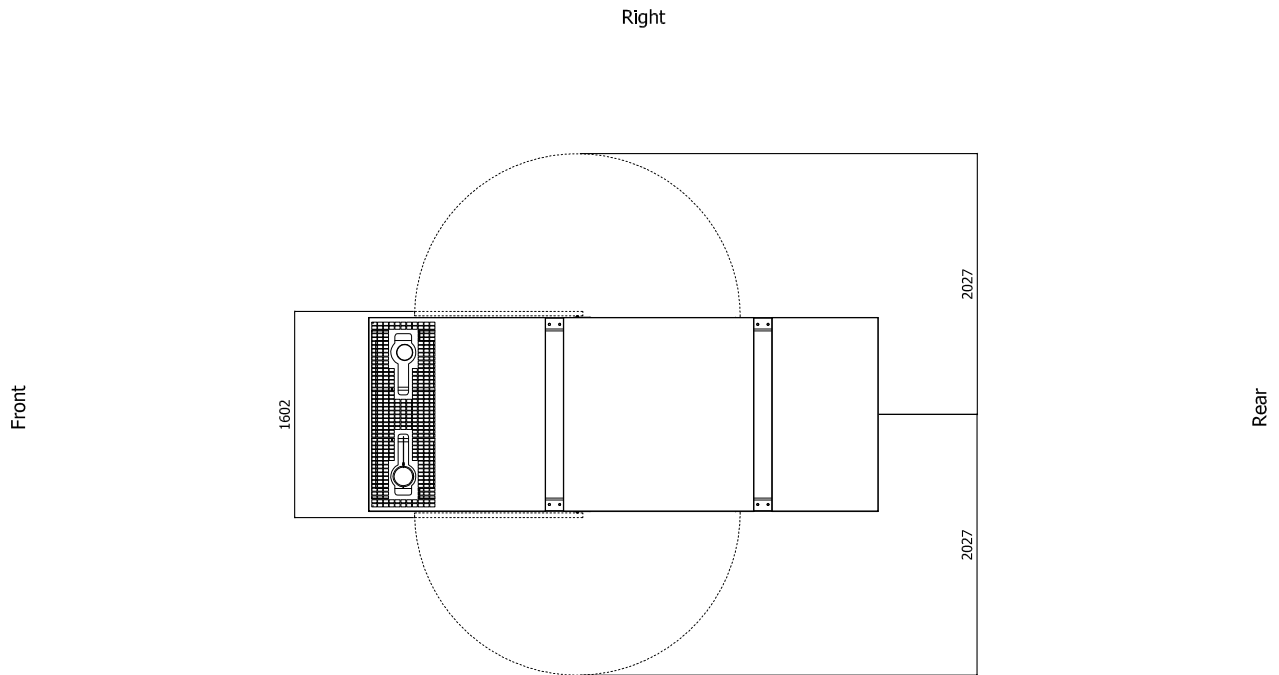
3D BOTTOM VIEW



BOTTOM VIEW



DIMENSIONS WITH OPEN DOORS [mm]



Note: With Lifting-Off Door Solution consider only canopy dimensions.
(Models with "Control Panel" behind rear door will mount a special cover to protect it)

VENTILATION OF THE ROOM

The windows area in the generating set room needs to be (recommended):
Aspiration: 0.90 m2
Expulsion: 0.60 m2
ATTENTION: for a correct ventilation the expulsion air and the exhaust gas needs to be conveyed in the open-air

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