



Image for demonstration purposes

Generating Set SUPERSILENT - Diesel

GE.MT.2040/1850.SS+011

1500 rpm - Threephase - 50Hz - 400V Automatic panel without switching on board



Standard equipment

Canopy Soundproofing

Soundproofing with class 1 polyester material Handles with key lock and automatic closing Special baffles for air intake and air expulsion Inspection doors for controls and maintenance

Exhaust

Exhaust rain cap Insulated exhaust pipes Exhaust flexible expansion joint Internal residential muffler - 35dB(A)

Fuel Supply

Fuel connections Automatic shutdown system for low fuel level

Handling

n.4 lifting hooks integrated into the bearing structure

Base Frame

Bunded base at 110% of fuel tank capacity Anti-vibrating mounting pads

Engine

Engine pre-heater 230V

High coolant temperature and low oil pressure shutdown system

Oil pressure and coolant temperature gauge (only with QPE or +14 variant)

Oil change pump

Engine liquids (oil and antifreeze)

40°C radiator

Rotating parts protection

Electronic speed governor

Radiator level sensor

Alternator

AVR Automatic Voltage Regulator AVR Pre-arranged for parallel Bi-phase sensing AVR Impregnation for marine environment

Panel & connection

Emergency Stop button Magnetothermal circuit breaker on alternator board Tamperproof panel IP55 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

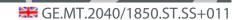
Speed	RPM	1500
Frequency	Hz	50
PRP	KVA	1850
PRP - Prime power	KW	1480,0
LTP - Standby power	KVA	2035
LTP - Standby power	KW	1628,0
Standard Voltage	V	400/230
Current	Α	2673,41
Voltage for current calculation	V	400
COSFI	0,8	0,8
General electrical protection		
Rated current	A	3200
-		
Type		Magnetothermal switch on the alternator boar
Poles	N	Magnetothermal switch on the alternator boar
	N	
Poles	N	
Poles Fuel Consumption	N It	4P
Poles Fuel Consumption TYPE		4P Diesel
Fuel Consumption TYPE Standard Fuel Tank capacity	lt .	4P Diesel 1000
Fuel Consumption TYPE Standard Fuel Tank capacity Autonomy @ 75% load	lt h	4P Diesel 1000 4
Fuel Consumption TYPE Standard Fuel Tank capacity Autonomy @ 75% load Fuel consumption at 100% load	lt h lt/h	4P Diesel 1000 4 353,5
Fuel Consumption TYPE Standard Fuel Tank capacity Autonomy @ 75% load Fuel consumption at 100% load Fuel consumption at 75% load	lt h lt/h lt/h	4P Diesel 1000 4 353,5 266
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Fuel Consumption TYPE Standard Fuel Tank capacity Autonomy @ 75% load Fuel consumption at 100% load Fuel consumption at 75% load Fuel consumption at 50% load Fuel consumption at 50% load	It h It/h It/h It/h	4P Diesel 1000 4 353,5 266 184,1
Fuel Consumption TYPE Standard Fuel Tank capacity Autonomy @ 75% load Fuel consumption at 100% load Fuel consumption at 55% load Fuel consumption at 50% load General data Rated capacity	It h It/h It/h Ah	4P Diesel 1000 4 353,5 266 184,1

Combustion air flow

Weight and Dimensions

Dimensions (L x w x h)	cm	940x245x310
Weight with liquids (excluding optionals and fuel)	Kg (+/-3%)	18511

1800





Engine

Factory		мти
Model		12V 4000 G24F
Emissions stage		Stage 0
Speed governor		Electronic
Radiator	°C	40
Cooling	Тіро	liquid (water + 50% Paraflu11)
Active net power	Kwm	1535
Nominal net power	CV	2085,6
Cycle	Tipo	4 strokes
Injection	Tipo	Direct
Aspiration	Tipo	Turbo
Numbers of cylinders	N	12
Cylinders arrangement		v
Bore	mm	170
Stroke	mm	210
Total displacement	lt .	57,17
Engine oil features		15W40-API CI-4/CH-4 ACEA E5-E7
Total oil capacity	lt .	260
Total coolant capacity	lt .	490

The emission levels of the exhaust gas are indicated in the engine technical datasheet. Any changes due to more restrictive regulatory adjustments are excluded.

Alternator

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

Factory		Stamford
Model		PI734E
Single-phase Range	KVA	1900
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	%	95,8
Engine coupling		Elastic disk
Short circuit current		>= 300% (3ln)
Protection degree	IP	23
Cooling system		Self ventilating
Maxium overspeed	rpm	2250
Waveform distortion	%	<5
Exciter		PMG

Standard operating environmental conditions

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

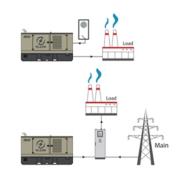




₩ GE.MT.2040/1850.ST.SS+011

Control Systems on board QPE-C-SC-3F-V1





operating scheme - schema di funzionamento

The QPE-C control panel represents the evolution of the panel for the control and management of the gen set. With its microprocessor logic it is able to meet any user requested features. The dual operation mode manual and automatic guarantees to every type of functionality protection, analysis and control of the generating set in order to make the managment easy and efficient. Variant without transfer switch on board. ATS panel type QC as optional. The panel manages the QC panels directly or any other ATS panel.

Mechanical features

IP 55
Ir 33

Battery charger

Model		ELCOS - CB1	
Maximum output current	Α	2,5	
Output DC voltage (selectable)	Vdc	12-24	
Input AC voltage (selectable)	Vac	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) Common Alarm - DC output GS start with key in OFF position (Only in MRS mode) GS lock Mains contactor close/open command (2) GS test without load Programmable output - Volt free output







Model MC4 AMF - MRS Operating mode

Specifics

Applications

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

ENGINE MEASURES

Fuel tank level %

Engine oil pressure BAR (1)

Engine Coolant temperature °C (1)

Total run time Partial run time

Hours to maintenance

Battery voltage

Battery charging voltage

Start-ups counter

Engine speed (2)

Engine Oil temperature (2)

Cooler temperature (2)

Engine oil level (2)

Engine coolant level (2)

Engine coolant pressure (2)

Turbo pressure (2)

Fuel Consumption (2)

Tank autonomy - hrs (5) Fuel remaining quatity (5)

Fuel used quantity (5)

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

Generator Reactive Power kVAR

Generator accumulated power kWh

Power factor Cosfi

MAINS MEASURES

Mains voltage L1, L2, L3

Mains voltage L1-N, L2-N, L3-N

Mains frequency

COMMUNICATION PORTS

Can-bus port

RS485 port with Mod-bus RTU communication

RS232 port for display connection

USB port for parameters saving and firmware

update

EQUIPMENT

Microprocessor Logic

Back-lit display

Programmable from display

16 event log

Multiple display languages

STOP button

START button

TEST button

Reset alarm button

Alarm mute button

Fuel transfer pump activation button

Glow-plug activation button

PRE-ALARMS/ ALARMS

Common Alarm

Fuel reserve (pre-alarm)

Low fuel level (alarm)

Tank overflow

Charge alternator failed (dinamo)

Low oil pressure (pre-alarm) (1)

Low oil pressure (alarm)

Oil sensor failed (alarm)

High coolant temperature (pre-alarm) (1)

High coolant temperature (alarm)

Low coolant temperature (pre-alarm)

Low water level (1) Water in fuel (1)

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

Reverse power

Earth fault (pre-alarm)

Earth fault (alarm) Block from password

CAN communication Failed

Maintenance request

Emergency button pressed

Remote emergency active

Forced stop

External battery failed

Fuel theft

Genset negative phase sequence

Mains negative phase sequence

Fuel theft protection

VISUALIZATIONS ON CONTROL MODULE/DISPLAY

Pre-alarms

Alarms

Engine measures

Alternator measures

Mains measures

Date and time

Operating mode

Genset status Mains status

Mains contactor status

Genset contactor status

Digital Input and Output status

Grounding current mA (3)

Grounding current threshold mA (3)

Delay time of differential protection (3)

Glow plugs status

CONTROL MODULE FUNCTIONS

Automatic start and stop when the Mains Fails (7)

Remote Start and Stop

Remote Start and Stop with key in OFF position

Manual Start and stop

Emergency stop button on panel board

Remote emergency stop

Remote lock

Remote test without load

Remote test on load

Scheduled start-ups

MODBUS commands (Start, Stop, Reset, Test)

CONTROL MODULE SPECIAL FUNCTIONS (on demand)

Automatic charging of an external battery

Dummy load (4)

Load shedding (4) Redundant starter motor management

Fuel monitoring

GS battery Load test

Idle mode Service phone number indication

Variable speed Generator

Master / Slave mode

⁽¹⁾ Present with the sensor installed on engine

⁽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

⁽⁴⁾ Present with optional expansion modules (5) Present with special function activated

⁽⁶⁾ Only with the optional of the automatic fuel refilling system on board

⁽⁷⁾ Only in AMF mode



OPTIONAL

Fuel Supply



O.G-ACO-AT-C3V-03 External fuel tank connections with 3-way valve for supply from internal or external tank (750/3000 kVA)



O.G-ACO-AT-C3V-AR-03 Quick coupling connectors with 3-way valve for internal or external fuel tank connection (750/3000 kVA)



O.G-ACO-AT-CI-03 External tank connections for supply only from external tank (g without tank) GE 750/3000



O.G-ACO-GA-01 Mechanical analogue float for internal fuel tank on board



O.G-ACO-GA-02 Electrical analogue float to monitor the external refilling point on board



O.G-ACO-ST-2P Double redundant electric pump kit for automatic fuel refilling system



"Heavy Duty" automatic fuel refilling system on board, controlled by QPE-C and QLE-B panels



O.G-ACO-ST-BG-STD "Standard" automatic fuel refilling system on board, controlled by QPE-C and QLE-B panels

Alternator



O.G-ALT-AL-COTE-01 Temperature control unit up to 4 x PT100 probes for MC4 management



Anti-condensation heater 230 V (on Stamford from 80 to 2000 kVA)



O.G-ALT-ST-AVR-MX321 Stamford MX321 automatic voltage regulator with PMG (Check dimensions)



O.G-ALT-ST-AVR-MX341 Stamford MX341 automatic voltage regulator with PMG (Check dimensions)



O.G-ALT-ST-PT100-1CU 1 x PT100 probe on bearing (80/3000 kVA)



O.G-ALT-ST-PT100-3AV nr. 3 RTD-PT100 probes on stator windings (80/3000 kVA)



O.G-ALT-ST-PT100-6AV nr. 3+3 RTD-PT100 probes on stator windings (80/3000 kVA)



O.G-ALT-ST-RIGU-01 Diode Failure Detector (DFD) mounted on the alternator. Alarm contact available into the panel

Batteries







O.G-BAT-DOB-07

Redundant battery kit for Gen Sets 1900/3000 kVA





O.G-COF-ANTI-RIL-02

Fire detection kit for containers 30,30HC,40', 40HC, for machine room

O.G-COF-ANTI-VALV-02

Firewatchman thermal fuel cut off valve kit for immediate cutoff of the diesel flow in case of fire inside the canopy. Suitable only for stationary SS units from 800 to 3000KVA.



O.G-COF-AP-01

Door opening alarm system (each door)



O.G-COF-IL-03

Internal LED lighting with micro-switches for Gen Sets 750/3000 kVA

O.G-COF-TRT-MAR-07

High resistance canopy treatment for corrosive environments for 1300/3000 kVA (SS Version)



O.G-COF-VER-PAR-07

Canopy custom paint (Grey base-frame) for 1250/3000 kVA (SS Version)



O.G-COF-VER-TOT-07

Total canopy custom paint for 1250/3000 kVA (SS Version)

Container



O.CO-GR-VE-ESP-02

Frontal vertical ejection grilles for GE from 750 to 3000 kVA

Electrical on board



O.G-USP-SW-MOT.1700-3000

Motorization switch mounted on alternator for Ge 1700/3000 Kva - (for variant +11)

O.Q-QBM-BMIN-230V-02

Additional price for 230V minimum voltage coil on MCCB both on the control panel and on the alternator (check feasibility)

O.Q-QBM-CPI-BEN-01

Permanent insulation controller for IT networks up to 230V / 400V. BENDER IR423-D4-1. Adjustable threshold $10 \div 300$ kohm. (2 DIN rail modules - check feasibility)

O.Q-QPA-COM-GC500

Option with COMAP GC500 controller on board instead of InteliGen 200.

O.Q-QPA-COM-NTCBB

Option with COMAP INTELIGEN controller on board instead of InteliGen 200.



O.Q-QPA-LOV-RGK900

Option with LOVATO RGK900 controller on board instead of InteliGen 200.



O.O-OPE-485.CONV-LAN

Converter 485/LAN for QPE-C, QLE-B panel



O.Q-QPE-485.CONV-USB

Converter 485/USB for QPE panel

O.Q-QPE-DIS-MS.01

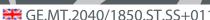
MASTER/SLAVE device for QPE panel



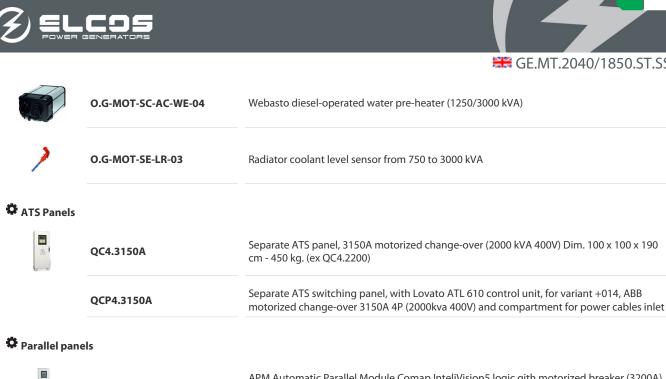


₩ GE.MT.2040/1850.ST.SS+011

	O.Q-QPE-K-DIF	Differential protection adjustable for the MC4			
	O.Q-QPE-MD-QPE-C	GSM remote management modem for QPE panel			
	O.Q-QPE-POT-VOLT	Internal potentiometer for voltage regulation - available only for variant +10/+11			
O #6.4 CSM # # 500	O.Q-QPE-PR-QPE-C	Remote panel for QPE-C, QLE-B - available only for variant +10/+11			
	O.Q-QPE-QBM-COM-AMF25	Option with QBM COMAP AMF25 controller on board instead of QPE			
	O.Q-QPE-QBM-DSE-7320	Option with QBM DSE7320 controller on board instead of QPE.			
	O.Q-QPE-RIL-16RELE	16-relay module for QPE panel			
	O.Q-QPE-RX8-QPE-C	Start-stop radio control with max. radius 500 mt indoors and 5 km outdoors (for QPE panel).			
START (A) STUP	O.Q-QPE-SAS-02	Auto Start-Stop at load request (QPE, QLE panels)			
	O.Q-QPE-SCD-01	Anti-condensation heater inside the panel			
F	O.Q-QPE-SEL-50-60	Switch selector 50Hz 400V / 60Hz 480V			
	O.Q-QPE-TG-EVO-GPS-2G	Remote management system via LAN/GSM 2G with WEB application and GPS location system			
	O.Q-QPE-TG-EVO-GPS-3G	Remote management system via LAN/GSM 3G with WEB application and GPS location system			
	O.Q-QPE-TG-QPE-C	Remote management software via LAN for QPE-C, QLE-B panel compatible with Windows XP and 7			
Carrie Engine					
Lingine	O.G-MOT-K-40C-08	Engine liquids suitable for -40°C ambient temperature for Gen Sets 1800/3000 kVA			
	O.G-MOT-MAG-07	Dual starter motor for Gen Sets 1700/2500 kVA (engine configuration to be checked)			
	O.G-MOT-SC-AC-EL-06	Super hot engine heater 230V with thermostat on board for Gen Sets 1250/3000 kVA			







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QP.APM8.3200A

APM Automatic Parallel Module Comap InteliVision5 logic qith motorized breaker (3200A) for gen set from 1700 to 2200kVA.Dim. cm. 100 x 100 x 190H.

Test



MS.CP-LT-05

FAT - Factory Acceptance Test for single Gen Set from 1250 to 1900 kVA according to our standard procedures in Elcos factory (max 2 hours - max 4 people - max 1 hour of operation)



MS.CP-SP-05

FAT - Factory Acceptance Test for single custom Gen Set from 1250 to 1900 kVA max 4 operating hours or parallel system up to 4 units for 1 operating hour, in Elcos factory (max 4 hours - max 4 people)



MS.CP-ST-05

FAT - Factory Acceptance Test for single Gen Set from 1250 to 1900 kVA according to our standard procedures in Elcos factory (max 4 hours - max 4 people - max 2 hour of operation)



MS.RF-ST-04

Noise test report for single Gen Set from 1700 to 3000 kVA



MS.TV-ST-02

Vibration test on 10 points with certificate for single Gen Set from 275 to 3000 kVA





O.G-VAR-CAT-03

Toolbox for ordinary maintenance.

O.G-VAR-PUN-TER-01

Round earth spike, diam. 20 mm, height 1.5mt, galvanized, complete with clamp and 3m yellow/green cable model FS17 1x35mm² with cable lugs.

O.G-VAR-PUN-TER-02

Cross-shaped earth spike, height 1.5mt, galvanized, complete with clamp and 3m yellow/green cable model FS17 1x35mm² with cable lugs.



O.G-VAR-TPD-01

IP 55 document holder

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.