



Generating Set
Diesel

GE.CU.2240/2040.BF+011

Standard Equipment and features

Exhaust

- Exhaust collectors protection
- Exhaust flexible joint
- Silenced muffler -15 dBA

Fuel supply

- Diesel connections
- Low fuel level shutdown automatic system

Handling

- 4 lifting lugs with integrated lifting structure

Base Frame

- Anti vibrating mounting pads

Engine

- Engine heater 230 V
- High coolant temperature and low oil pressure shutdown system
- Oil pressure & antifreeze temperature gauge
- Oil change pump
- Engine liquids (oil and antifreeze)
- Tropicalized radiator
- Rotating components protection guards

Alternator

- Parallel arranged AVR

Protection & connection Panel

- Magneto-thermal protection on alternator (adjustable only on variant +10 & +11)
- Emergency stop button
- Power cable outlet from side
- Earth leakage point
- Machine electric wiring IP 44
- Startup battery (pre-charged)

Documentation

- CE conformity declaration - User and maintenance manuals

Normatives

- All ELCOS Generating sets are compliant to CE Marking
- 2004/108/CE Electromagnetic compatibility
- 2000/14/CE Noise Emission for outdoor use
- Factory-designed systems built at Elcos ISO 9001:2008



Data and technical specifications are subject to change in order to update or improve the products.

Generating Set

Speed	rpm	1500
Frequency	Hz	50
PRP Prime power	kVA	2034
Prime power (cosfi 0,8)	KW	1627,2
LTP Limited-time running power	kVA	2237
Limited time running pow. (cosfi 0,8)	KW	1789,6
Voltage standard	V	400/230
Current PRP (cosfi 0,8)	A	2939

Noise level**Fuel consumption**

Fuel type	Type	Diesel
Fuel tank capacity	lt	no tank
Fuel consumption at 4/4 load	l/h	400
Fuel consumption at 3/4 load	l/h	307
Fuel consumption at 2/4 load	l/h	217

General Features

Battery capacity	Ah	4x180
Voltage	Vdc	24
Exhaust temperature	°C	430
Exhaust gas flow	l/s	5190
Combustion air flow	l/s	2264

Dimensions / weight

Dimensions (L x w x h)	cm	600x250x340
Weight inclusive of liquids (oil and antifreeze)	kg	15000

COP

It is the power that the generating set is capable to supply, in continuous operation, for an unlimited number of hours per year at the reference environmental conditions. This is valid as long as the engine undergoes a scheduled maintenance, as specified by the manufacturer. The generating set is able to provide power equal to 100% of the nominal load. COP power is typically 30% lower than the LTP one. No overload capability is allowed for this rating.

PRP

Applicable for supplying power in lieu of commercially purchased power. Prime power is the maximum power available at a variable load for an unlimited number of hours. A 10% overload capability is available for limited time. (Equivalent to Prime Power in accordance with ISO8528 and Overload Power in accordance with ISO3046, AS2789, DIN6271, and BS5514). This rating is not applicable to all generator set models.

LTP

Applicable for supplying emergency power for the duration of normal power interruption. No sustained overload capability is available for this rating. This rating is applicable to installations served by a reliable normal utility source. This rating is only applicable to variable loads with an average load factor of 80 percent of the standby rating for a maximum of 200 hours of operation per year and a maximum of 25 hours per year at 100% of its standby rating. The standby rating is only applicable to emergency and standby applications where the generator set serves as the back up to the normal utility source. No sustained utility parallel operation is permitted with this rating. (Equivalent to Fuel Stop Power in accordance with ISO3046, AS2789, DIN6271 and BS5514). Nominally Rated.

Engine

Factory		Cummins
Emissions		Stage 1
Model		QSK60G4
Speed governor		Electronic
Cooling system	Type	liquid (water + 50% Paraflu11)
Speed	rpm	1500
Nominal power	CV	2369,9
Gross engine power	KWm	1730
Cycle	Type	diesel 4 stroke
Injection	Type	direct
Aspiration	Type	Turbo
Numbers of cylinders	N°	16V
Bore x stroke	mm	159x190
Total displacement	lt	60,2
Engine oil features		15W40-API CG4-ACEA E3-E5
Engine oil consumption	%	
Total oil capacity	lt	280

Alternator

Factory *		Marelli
Model		MJB500MB4
Prime power 3F+N 400V (480V)	kVA	2200
Prime power 1F+N 230V (240V)	kVA	880
Voltage regulator		+/-0.5%
Poles	N°	4
Phases	N°	3+N
Standard windings connection		star serie
Stator/rotor impregnation		H (ext. temp. 40°C)
Efficiency pf=0,8 4/4	%	96,2
Couple engine		elastic disk
Short circuit current		>=300% (3In)
Degree of protection		IP 23
Cooling system		autoventilate
Maxium overspeed	RPM	2250
Waveform distortion	%	< 5
Exciter		diode bridge

* Availability will vary according to the warehouse stock. However, in any case a primary brand will be used.

Standard operating environmental conditions

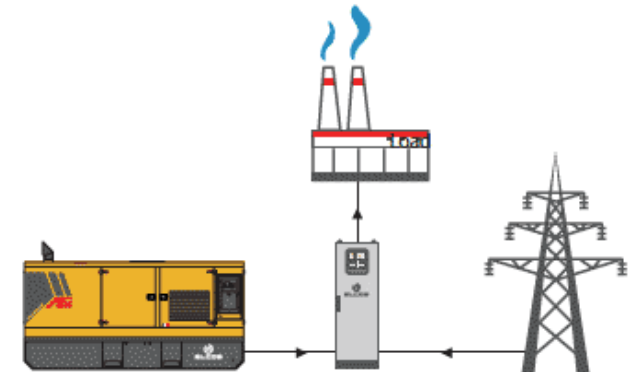
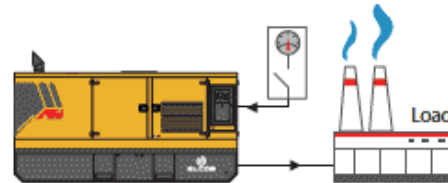
Ambient temperature 25°C
Relative Humidity 30%
Max altitude 1000mt

Control Systems on board



Variant +11 (QPE-C-VSC (50 - 3000 OF)) Automatic panel without switching on board

The QPE-C panel represents the evolution of the panels for the control and management of the generating set, with its microprocessor logic it is able to meet any user-requested features. In fact, the dual operation mode MANUAL or AUTOMATIC guarantees to every type of functionality protection, analysis and control of the generating set in order to make the management easy and efficient. Variant +011 has separate switching inside a wall or floor ATS panel. Protection degree of control panel IP44 (optional IP55 with cover plate).



Control module

mc4

Description

Elcos's control panel QPE-C gives you the industry leading control solution for your power needs.

The QPE-C control panel used MC4 control module for single genset applications.

The module incorporates a number of advanced features to meet the most demanding on-site applications.

The MC4 is an Auto mains (Utility) failure control module, It offers a cost effective way of monitoring and communicating with your genset and includes the additional capability of being able to monitor a mains supply.

It includes a USB port and an RS485 port for Mod BUS Communication.

Applications

- ♦ Emergency when the mains failure occurs
- ♦ Self-production
- ♦ Fire fighting
- ♦ Construction site
- ♦ Rent



FEATURES

→ Controls

- Manual start up and stop
- Automatic start up and stop from AMF
- Start up and stop through contact
- Fuel pump control
- Lock
- Reset
- Programmable automatic test
- Emergency stop button
- Main counter command closed
- G.s. counter command closed

→ Engine Measures

- Engine RPM*
- Engine oil pressure BAR
- Engine oil temperature*
- Engine oil level*
- Cooling system pressure*
- Cooling system temperature°C
- Coolant level %
- Fuel consumption*
- Fuel level %
- Total operating hours
- Partial operating hours (resettable)
- Hours to maintenance
- Battery charger voltage
- Start up counter

→ Communication Interfaces

- CAN-BUS communication
- 16-relay module (optional)
- GSM remote management modem (optional)
- Remote management software (optional)
- Remote panel (optional)
- Converter485/USB (optional)
- Converter485/LAN (optional)
- USB port for saving parameters and firmware updates
- RS485 serial output

→ Equipment

- Microprocessor logic
- Backlit refractive display
- 16-event alarm history list
- Multi-language management
- Troubleshooting with suggestions

→ Alternator Measures

- Genset voltage three-phase
- Genset star voltage RN.SN.TN.
- Genset three-phase current
- Genset frequency
- Genset apparent power KVA
- Genset actual power KW
- Genset reactive power KW_r
- Genset KWh
- Genset power factor cosφ

→ Main Measures

- Mains voltage RST
- Mains frequency

→ Signals/Protections

- Failed to start
- Failed to stop
- Low oil level*
- Low oil pressure
- Minimum oil pressure (pre-alarm)
- Low cooling liquid level
- Very high cooling liquid level
- High temperature (pre-alarm)
- Generator battery charger
- No fuel
- Low fuel level (pre-alarm)
- Start up
- Stop
- Fuel pump running
- Battery connected
- Battery charging
- Battery undervoltage
- Battery overvoltage
- Genset overvoltage
- Genset undervoltage
- Genset overload
- Genset short circuit
- Genset maximum frequency
- Genset minimum frequency
- Genset connected
- Genset contactor closed
- Circuit breaker protection
- Mains connected
- Mains overvoltage
- Mains undervoltage
- Mains contactor closed
- Emergency button pressed



Optional

Canopy - Soundproofing

- Air intake / outlet noise attenuators for room -25dB(A)
- Soundproof container of various sizes

Exhaust

- External residential muffler -35 dbA

Fuel supply

- Daily fuel tank with inspection hatch to allow cleaning
- Automatic fuel refilling system

Engine

- -40 C° Engine liquids
- Super hot Engine heater 230 V
- Automatic refilling oil system

Protection & connection Panel

- Differential protection (adjustable only on variant +10 & +11)
- Tamper proof panel

Panel

- ATS switching cabinet (QC) (only variant +11)
- Remote management software (only variant +10 & +11)
- Remote panel (only variant +10 & +11)
- Converter 485/USB (only variant +10 & +11)
- Converter 485/LAN (only variant +10 & +11)
- 16-relay module (only variant +10 & +11)
- GSM remote management modem (only variant +10 & +11)
- UTIF counter with ARCUDI terminal box
- GSM remote control system with web application without SIM card (only variant +10 & +11)
- GPS tracking system (only variant +10 & +11)

Other

- Toolbox for ordinary maintenance