EQ-D4540

INDUSTRIAL RANGE



Illustrative image. Actual product details may differ from the illustration.

GENERATOR POWER RATINGS

		Standby power (ESP)		Prime power (PRP)	
Power	*kVA*	45	36 kW	40	32 kW
			65 A		58 A
Frequency	*Hz*	50			
Rated voltage	*V*	400/230			
Fuel type		Diesel			
Fuel tank capacity	*L*	93			
Control panel		ComAp AMF 25			

Emergency Standby Power ESP

According to ISO 8528-1, ESP power defines the maximum power available for emergency operation in the event of a utility power failure or during testing, limited to 200 operating hours per year. The average output power over a 24-hour operating period shall not exceed 70 % of the ESP value. Overload operation in this mode is not permitted.

Rated power PRP (Prime Power)

According to ISO 8528-1, PRP power defines the maximum power that the generating set can deliver continuously under variable electrical load, without limitation on the number of operating hours per year, provided that the operating conditions and service procedures specified by the manufacturer are observed. The average output power over a 24-hour operating period shall not exceed 70 % of the PRP value.

POWER QUALITY AND PERFORMANCE

- Digital voltage regulation ±0.25 %
- Three phase voltage sensing and control
- Total harmonic distortion THD below 2 %
- Fast load acceptance
- Performance class G2 in accordance with ISO 8528-5
- Suitable for manual and automatic operation

STANDARDS AND COMPLIANCE

- ISO 8528
- Machinery Directive 2006/42/EC
- Low Voltage Directive 2014/35/EU
- EMC Directive 2014/30/EU
- Noise Directive 2000/14/EC
- CE marking

•Alternator insulation class H •Protection degree IP23 •Compact design for transport and installation •Forklift lifting capability from front and side

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ALTERNATOR

Information	Specification
Brand	Leroy-Somer
Phases / Poles	3 / 4
Output voltage (V)	400/230 V AC
Frequency (Hz)	50
Automatic voltage regulation (±%)	± 1
Standby alternator power (kVA)	45
Prime alternator power (kVA)	40
Power factor (Cos φ)	0.8
Number of leads	12
Winding connection	Star
Protection class	IP23 / H
Excitation system	Self excited, AVR, brushless
Design	Synchronous, 3-phase, single bearing
THD (no load)	< 3.5 %

Technical description

Free standing power generator mounted on a robust steel base frame, suitable for a wide range of installation and operational configurations.

The unit is suitable for both continuous duty and standby operation **in compliance with ISO 8528 requirements**. It ensures reliable performance under variable load conditions in industrial, commercial and infrastructure applications.

The acoustic pressure **level LpA is measured at a distance of 7 m** in accordance with applicable international measurement standards.

The system is equipped **with a diesel engine** coupled to a brushless, synchronous alternator. All components are selected and rated to operate within the performance parameters defined by the manufacturer, ensuring operational **stability, safety and long service life**.

ENGINE

Information	Specification
Manufacturer	Deutz
Engine model	BF4M2011
Engine type	diesel, four-stroke
Engine speed (rpm)	1500
Number of cylinders	4
Engine displacement (L)	3.1
Bore x stroke (mm)	94 x 112
Compression ratio	19:1
Fuel system	Direct injection
Air intake system	Turbocharged & Aftercooler
Cooling system	Liquid
Fuel consumption at 100 % PRP load (l/h)	10.4
Fuel consumption at 75 % PRP load (l/h)	7.7
Fuel consumption at 50 % PRP load (l/h)	5.1
Speed governing	Mechanical
Performance class	G2 / ISO 8528-5
Exhaust emissions	In compliance with applicable EU regulations and standards
Fuel type	Diesel EN 590
Oil sump capacity (L)	10
Coolant capacity (L)	14
Engine electrical system	12 V

GENERATING SET EQUIPMENT

ENGINE SYSTEM

- Diesel engine, four stroke, liquid cooled
- Fuel system with direct injection
- Engine speed governor
- Engine preheating system
- Electric starting system with battery set
- Engine driven cooling fan
- Radiator cooling system
- Air intake filter
- Oil filter
- Fuel filter

ALTERNATOR SYSTEM

- Synchronous alternator, brushless
- Automatic voltage regulator AVR
- Single bearing design
- Insulation class H

CONTROL AND MONITORING SYSTEM

- Digital generating set control system
- Integrated control panel
- Monitoring system of basic operating parameters
- Engine and alternator protection systems
- Emergency stop push button
- Electronic battery charger

ELECTRICAL PROTECTION SYSTEM

- Main circuit breaker of the generating set
- Shunt trip coil of the generator breaker
- Earthing point
- Output terminal connection box

FUEL SYSTEM

- Integrated fuel tank within the base frame
- Fuel retention system
- Digital fuel level sensor

STRUCTURAL FRAME AND INSTALLATIONS

- Steel welded base frame, powder coated
- Provisions for permanent installation
- Vibration isolators reducing transmission of vibrations
- Lifting and transport points
- Lifting lugs

ENCLOSURE AND EXHAUST SYSTEM

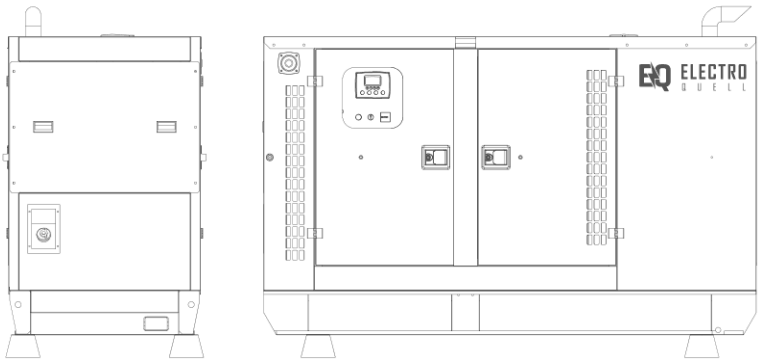
- Weather resistant sound attenuated enclosure
- Acoustic and thermal insulation of hot components
- Exhaust silencing system suitable for stationary operation
- Exhaust silencer with vibration compensation
- Exhaust outlet

SERVICE AND OPERATION DESIGN

- Design solutions facilitating service and operation
- Easy access service doors
- Protective grille for rotating and hot parts

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Dimensions in enclosure



Length x Width x Height (mm)	2100 x 960 x 1400
Generating set weight without fuel (kg)	960 kg
Fuel tank capacity (L)	93
Guaranteed sound pressure level (dB(A))	70 to 75 dB(A) at a distance of 7 metres

Sound attenuated enclosure specification

- Special design for noise level minimization
- Galvanized steel structure additionally protected with polyester powder coating
- Black painted locks and stainless steel hinges
- Inspection window for the control panel in lockable service doors
- Emergency stop button mounted on the external side of the enclosure
- Lifting, towing and fixing points on the main frame
- Radiator filling through a removable, tightly sealed rain cover with compression gasket

Operating guidelines

Service intervals of the generating set are defined in accordance with the recommendations of the engine manufacturer and the generating set manufacturer. Indicative values for standard operating conditions are presented below.

Fuel filter replacement	500 h or 1 year
Engine oil replacement	After first 100 h of operation, then every 500 h or 1 year
Oil filter replacement	After first 100 h of operation, then every 500 h or 1 year
Coolant replacement	1000 h or 2 years
Air filter replacement	500 h
Starter battery replacement	2 years
Electrical installation testing	In accordance with applicable regulations and PN-HD 60364-6

Note: actual service intervals may vary depending on operating conditions, load profile and engine manufacturer recommendations.

Warranty

Our standard warranty is **12 months** or **1,000 operating hours**, whichever comes first.

Detailed warranty conditions, including the scope of liability, service requirements and operational limitations, are defined in the warranty card, the technical and operational documentation of the generating set, or in accordance with the terms of the sales contract.

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Control system ComAp AMF 25

ElectroQuell generating sets are supplied as standard with the ComAp InteliLite AMF 25 control system. The controller is designed for automatic mains failure (AMF) operation in single generating set applications. By continuously monitoring the mains and the generator it ensures continuity of supply and safe operation.

The backlit display gives the user a clear view of the operating status, measured values and alarm messages at all times.

The controller can be programmed from the front panel or through optional external communication interfaces, and it is prepared for remote monitoring and integration into central control systems.

ComAp AMF 25



Measurement and monitoring

Electrical measurements

- Generator and mains voltages (3 phases, phase–neutral)
- Generator and mains frequency
- Generator phase currents
- Active power (kW), apparent power (kVA), reactive power (kVAr)
- Power factor (cos φ)

Engine and system parameters

- Engine speed
- Battery voltage
- Engine operating states and alarms
- Running hours counter

Control and operating functions

- Mains monitoring and automatic mains failure transfer (AMF), remote start (MRS)
- Generator circuit breaker control
- Manual and automatic operating modes
- Engine start / stop control
- Test run functions
- Prepared for remote monitoring and control (optional)

Communication and integration

- USB port for configuration and service
- CANbus communication (J1939)
- RS232 / RS485 via optional plug-in modules
- Modbus RTU / Modbus TCP (optional)
- SNMP v1 / v2c / v3 (optional)
- Monitoring and management of multiple generating sets through central supervisory software and SCADA systems

Protection functions

Electrical protections

- Over / under voltage (ANSI 59 / 27)
- Over / under frequency (ANSI 81O / 81U)
- Overcurrent (ANSI 50 / 51)
- Phase sequence and phase unbalance (ANSI 46)
- Active power overload (ANSI 32)

Engine protections

- Overspeed / underspeed
- Engine fault and warning signals from the ECU
- Engine protection via external sensor inputs

Panel and design

- Monochrome 3.2" LCD display
- User-friendly front panel
- Event and fault log
- Password-protected settings and service menus
- Manual control from the front panel
- Front panel protection degree IP65

Environmental conditions

- Operating temperature from −20 °C to +70 °C
- Storage temperature from −30 °C to +80 °C
- Rugged industrial design for high vibration and harsh field conditions

☑ BMS
☑ SCADA
☑ Modbus
☑ SNMP
☑ GSM / Ethernet

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