



GENERATING SET GE 60 FSX-5

The images are for reference



DEFINITION

Valid declared powers up to the followings environmental conditions: temperature 25°C, altitude 100 meters above sea level

LTP power: stand-by power: Maximum available power for use with variable loads for a yearly number of hours limited at 500 h. No overload is admitted.

PRP power: continue power with variable loads. Maximum power for use with variable loads for a yearly illimited nubers of hours.

COP power: continuous power with constant load. Maximum power for use with constant loads for a yearly unlimited numbers of hours.

POWER RATINGS

* Stand-By three-phase power	60 kVA (48 kW) / 400V / 86.6A
* PRP three-phase power	60 kVA (48 kW) / 400V / 86.6A
* COP power	34 kVA / kW / 400V / 49.1A
Frequency	50 Hz
Cos φ	0.8

* Output powers according to ISO 8528-1

FEATURES

- EPA TIER 4B (Final) compliant engine
- Electronic engine speed control
- Exhaust gas post-treatment with DOC (catalyst) and DPF (particulate filter)
- Fuel pre-filter and fuel filter with water in fuel indicator
- Anti-tipping pockets for handling with forklifts
- Central lifting hook
- Rounded edges to allow rainwater to drain
- Sealed base capable of containing any leaks of liquids present in the engine avoiding environmental pollution
- Large capacity steel tank
- External access for cleaning and emptying the tank
- External filling of the fuel tank with safety key
- Large access doors to allow easy maintenance (replacement of air, oil, fuel filters)
- Access door for cleaning and checking the radiator
- External access for filling the radiator
- Door with viewing window for the control panel
- External plugs for oil and water drainage
- 3-way valve for fuel transfer from external tank with quick filling connections housed in special niche (OPTIONAL)
- Tilting rain cover at the exhaust gas outlet
- Low level of noise emissions
- Fuel level sensor
- Battery isolating switch
- Emergency button
- Power cable connection terminal board
- Electrical distribution panel with three-phase and single-phase output sockets (OPTIONAL)
- Four-pole circuit breaker
- Electronic residual current device adjustable in current and intervention time (OPTIONAL) standard with electrical distribution panel
- Isometer (alternative to electronic residual current device) Only with the electrical distribution panel
- Primary brand brushless alternator with three-phase sensing electronic "AVR" voltage regulation
- Alternator windings protected with impregnation for marine use



water cooled



diesel



three-phase power



electric

ENGINE 1500 RPM

4 STROKE, DIRECT INJECTION, TURBOCHARGED	
Model	FPT F34TEVP01
* Stand-By net power	54 kW (73.4 hp)
* PRP net power	54 kW (73.4 hp)
* COP net power	38 kW (51.7 hp)
Cylinders / Displacement	4 / 3.4 lit. (3400 cm ³)
Bore / Stroke	99 / 110 (mm)
Compression ratio	17 : 1
BMEP (Brake Mean Effective Pressure : LTP - PRP)	1290 kPa (12.9 bar)
Speed governor type	Electronic
FUEL CONSUMPTION	
110 % (Stand-by power)	/
100 % to PRP	13.9 lt./h
75 % to PRP	10.8 lt./h
50 % to PRP	7.8 lt./h
COOLING SYSTEM	
Total system cap. - only engine	10.5 lt – 5 lt.
Fan air flow	60 m ³ /min.
LUBRICATION SYSTEM	
Total oil system capacity	9.5 lit.
Oil capacity in sump	8 lt, ÷ 6 lt.
Oil consumption at full load	/

EXHAUST SYSTEM	
Maximum exhaust gas flow	4.05 kg/mim.
Max. exhaust gas temp.	760 °C
Maximum back pressure	2.2 kPa (22 mbar)
External diameter exhaust pipe	/
ELECTRICAL SYSTEM	
Starter motor power	4.2 kW
Battery charging alternator cap.	120 A
Cold start	- 25 °C
With cold start aid	/
AIR FILTER	
Combustion air flow	3.83 kg/min.
HEAT REJECTED AT FULL LOAD	
To exhaust system	33.1 kW
To water and oil	40.8 kW
Radiated to room	7.8 kW
To charge cooler	7.3 kW

* Output powers according to ISO 3046-1

ALTERNATOR

SYNCHRONOUS, THREE-PHASE, SELF-EXCITED, BRUSHLESS	
Continuous power	60 kVA
Stand-by power	65 kVA
Three phase voltage	380-415 Vac
Frequency	50 Hz
Cos φ	0.8
Model A.V.R.	HVR-30 (3ph. sensing)
Voltage regulation acc.	± 1.0 %
Sustained short circuit current	3 In
Transient dip (100% load)	10 %
Recovery time	≤ 3 sec.
Efficiency at 100% load	89.6 % (400V - Cos φ 0.8)
Insulation	Class H
Connection - Terminals	Star (With N) - N°12
Electromagnetic compatibility (R.F.I. suppr.)	EN 55011
Waveform distortion - THD	< 3 %
Telephone interference - THF	< 2 %

REACTANCES (60 kVA - 400V)	
Direct axis synchronous - X _d	260 %
Direct axis transient - X' _d	21 %
Subdirect axis transient - X'' _d	7 %
Quadrature axis synchronous - X _q	148 %
Quadr. axis subtransient - X'' _q	/
Negative sequence - X ₂	/
Zero sequence - X ₀	/
TIME CONSTANTS	
Transient - T' _d	0.015 sec
Subtransient - T'' _d	0.009 sec
Open circuit - T' _{do}	0.195 sec
Armature - T _a	/
Short-circuit ratio K _{cc}	0.63
IP protection degree	IP 23
Cooling air flow	0.20 m ³ /sec.
Coupling Bearing	Direct SAE 3 - 11 ½ - N°1

GENERAL SPECIFICATIONS

Fuel tank capacity	200 lt.
Running time (75% to PRP)	18.5 h
Starter battery	12 Vdc -100Ah / 800A CCA(EN)
IP protection degree	IP 44

* Measured acoustic power L _{WA} (pressure L _{pA})	91 dB(A) (66 dB(A) @ 7m)
* Guaranteed acoustic power L _{WA} (pressure L _{pA})	93 dB(A) (68 dB(A) @ 7m)
Performance class (ISO 8528)	G3

* Acoustic power according to European Directive 2000/14/CE



CONTROL PANEL

DIGITAL CONTROL PANEL (TERMINAL BOARD ONLY)

- InteliLite4 AMF9 controller
- Power switch
- Siren
- Emergency stop button
- Forced regeneration button
- 1500-1800 rpm selector for forced regeneration
- Switch magnetemic
- Electronic differential relay (OPTIONAL)
- Power terminal block
- Earth terminal (PE)



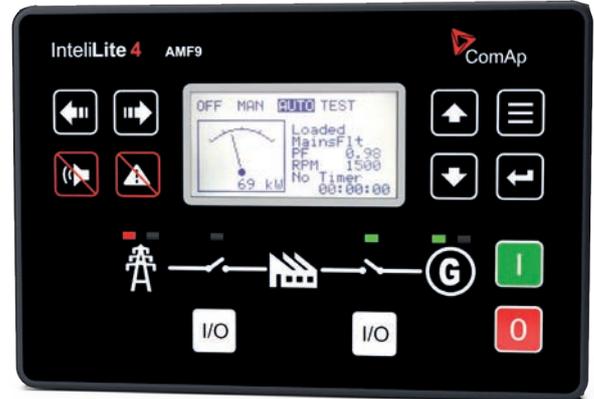
INTELLILITE4 AMF9 CONTROLLER CHARACTERISTICS	
Operating mode	<ul style="list-style-type: none"> • OFF - MAN.- AUTO - TEST
Display - Pulsanti-LEDs	<ul style="list-style-type: none"> • Backlit display, LCD 132x64 pixels • Buttons / Buttons: START - STOP - RESET ALARMS / FAULT RESET • LEDs: Generator / GCB ON status - Grid status
Generator Measures	<ul style="list-style-type: none"> • Voltage : L1-L2 / L2-L3 / L3-L1 - N-L1/N-L2/N-L3 • Current : I1 - I2 - I3 • Frequency Hz • Powers : kVA - kW - kVAR (totali e per fase) • Energy : kVAh - kWh - kVARh • Cos φ (medium and per phase)
Engine Measures	<ul style="list-style-type: none"> • Water temperature • Oil pressure • Fuel level • Rpm meter • Battery voltage • Maintenance • Hours meter • Starts number
Generator Protections	<ul style="list-style-type: none"> • Overload • Overcurrent • Short circuit • Over-Udervoltage • Over-Uderfrequency • Voltage asymmetry • Unbalanced current • Phase sequence
Engine Protections	<ul style="list-style-type: none"> • Overspeed • High water temperature warning • Low oil pressure warning • Low fuel level warning • Over-Uder battery voltage • Battery charge alternator failure • Start failure • Stop failure • Emergency stop • Low water level shutdown (option)

AMF functins (Automatic control panel only)	<ul style="list-style-type: none"> • Measure mains voltage : L1-L2 / L2-L3 / L3-L1 - N-L1/N-L2/N-L3 • Measure mains frequency • Three phase detection • Over-Under mains voltage • Over-Under mains frequency • Voltage asymmetry • Phase sequence • Dual mutual stand-by application
Features	<ul style="list-style-type: none"> • Event history, 150 stored events • 3 programmable test timers • Programming from panel or from PC • 3 selectable languages (other languages available) • Direct connection to engines with ECU (Stage V, Tier 4 Final) via Can Bus J1939 • External Start and Stop • Programmable inputs and outputs • Alternative configurations (50 / 60Hz) • IP 65 protection • Operating temperature: -20 ° C - + 70 ° C
Communication	<ul style="list-style-type: none"> • USB port • RS232- RS485 (optional) • Modbus RTU / TCP (optional) • GSM modem. Commands alarms, events via SMS (optional) • Internet connection with Ethernet (optional) • Online control and monitoring on web pages (embedded web server) (optional) • SNMP (optional) • GPS / 4G modem (optional) (geographical tracking via WebSupervisor) • Internal PLC support

CONTROL PANEL

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- Siren
- Forced regeneration button
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- Switch magnetermic
- Electronic differential relay
- Power terminal block
- Earth terminal (PE)
- Output sockets: 1x 400V 63A 3P+N+T CEE IP67
1x 400V 32A 3P+N+T CEE IP67
1x 400V 16A 3P+N+T CEE IP67
1x 230V 16A 2P+T CEE IP67
1x 230V 16A 2P+T SCHUKO
- Differential-magnetothermic switch for 400V 63A socket
- Differential-magnetothermic switch for 400V 32A socket
- Differential-magnetothermic switch for 400V 16A socket
- 2x Differential-magnetothermic switch for 230V 16A socket



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WEIGHT - DIMENSIONS AND ACCESSORIES

GE 60 FSX-5



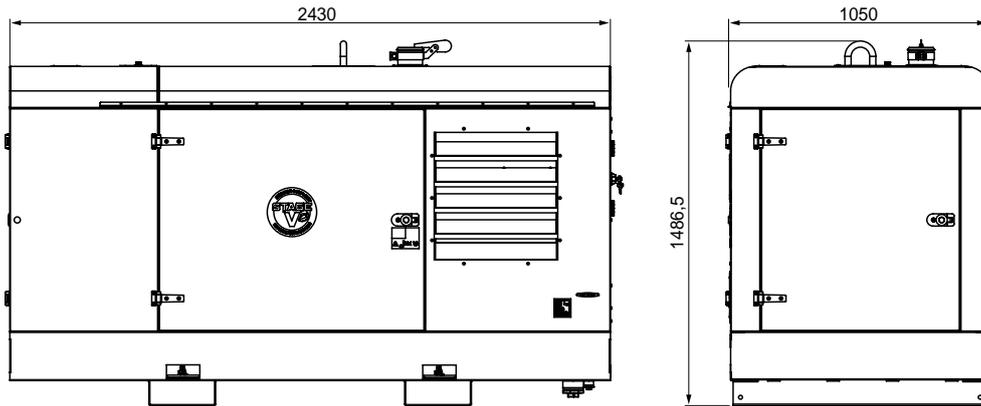
DRY WEIGHT MACHINE:

- 1360 Kg

Generating set pictured may include optional accessories.



DIMENSIONS DRAW



ACCESSORIES ON REQUEST

- Internet / Ethernet plug-in module with Web Server
- GPS / 4G modem with antenna
- Plug-in module with double RS232 and RS485 ports
- Report card 15 alarms / states (configurable)
- Remote control panel (ATS) PAC-I 70 (100A)
- MT25 grounding



AVAILABLE VERSIONS

CN9U0051	400T230M DIGITAL CONTROL PANEL (terminal board only)
CN9U0051R	400T230M DIGITAL CONTROL PANEL (terminal board only) • Earth leakage relay
CN9U0051GHR	400T230M DIGITAL CONTROL PANEL (terminal board only) • Earth leakage relay • 3-way valve fuel system with quick connection for external fuel tank supply • Leak detection sensor in the base
CN9U00G1R	400T230M CONTROL PANEL WITH SOCKETS (without terminal block) • Earth leakage relay
CN9U00G1GHR	400T230M CONTROL PANEL WITH SOCKETS (without terminal block) • Earth leakage relay • 3-way valve fuel system with quick connection for external fuel tank supply • Leak detection sensor in the base

GENERAL INFORMATION

COMPLIANCE GENERATING SETS WITH EC DIRECTIVES AND STANDARDS

- 2006/42 / EC (Machines Directive)
- 2014/35 / EU (Low Voltage Directive)
- 2014/30 / EU (EMC Directive)
- 2000/14 / EC (Directive Acoustic Emission for machines for use outdoors)
- ISO 8528 (Reciprocating internal combustion engine driven alternating current generating sets)



ISO 9001:2008 - Cert. 0192

WARRANTY

All devices are covered by the manufacturer's warranty.

The company reserves the right to change this specification without notice. For further information please contact the sales department.

© MOSA - Viale Europa, 59 - 20090 Cusago (Milano) - Italy - phone +39-0290352.1 - fax + 39-0290390466 E-mail: info@mosa.it Web site: www.mosa.it

