

GENERATING SET GE 165 FSX

The images are for reference



FEATURES

- Bunded base suitable to contain any liquids leakage from engine avoiding environmental pollution
- Oil drain pump
- Fuel pre-filter with water separator
- Large doors for better and easy maintenance (air, oil, fuel filters replacement)
- 2 central lifting eyes
- Control panel with digital control unit available with automatic or manual version
- Suitable for a wide range of uses in general construction
- Supersilenced
- Meets EC directives for noise and safety



POWER RATINGS

| | |
|------------------------------------|-------------------------------------|
| * Stand-By three-phase power (LTP) | 168 kVA (134.4 kW) / 400V / 242.5 A |
| * PRP three-phase power | 153 kVA (122.4 kW) / 400V / 221 A |
| * PRP single-phase power | 122 kVA (97.6 kW) / 400V / 176.3 A |
| Frequency | 50 Hz |
| Cos φ | 0.8 |

* Output powers according to ISO 8528-1

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.

ENGINE 1500 RPM

4 STROKE, DIRECT INJECTION, TURBOCHARGED

| | |
|--|------------------------------------|
| Model | FPT (IVECO) N67 TE1F (Stage 3A) |
| * Stand-By net power | 145 kW (197.2 hp) |
| * PRP net power | 131.5 kW (178.8 hp) |
| * COP net power | 105 kW (143 hp) |
| Cylinders / Displacement | 6/ 6700 cm ³ (6.7 lit.) |
| Bore / Stroke | 104 / 132 (mm) |
| Compression ratio | 17.5 : 1 |
| BMEP (Brake Mean Effective Pressure : LTP - PRP) | 1791 kPa - 1629 kPa |
| Speed governor type | Electronic |
| FUEL CONSUMPTION | |
| 110 % (Stand-by power) | 205 g/kWh - 36.5 lit./h |
| 100 % to PRP | 210 g/kWh - 34 lit./h |
| 75 % to PRP | 216 g/kWh - 26.5 lit./h |
| 50 % to PRP | 235 g/kWh - 20 lit./h |
| COOLING SYSTEM | |
| Total system cap. - only engine | 25.5 lit. - 10.5 lit. |
| Fan air flow | 228 m ³ /min. |
| LUBRIFICATION SYSTEM | |
| Total oil system capacity | 17 lit. |
| Oil capacity in sump | 8 lit. (min) - 12 lit. (max) |
| Oil consumption at full load | < 0.05 lit./h |

* Output powers according to ISO 3046-1

| | |
|-----------------------------------|--------------------------|
| EXHAUST SYSTEM | |
| Maximum exhaust gas flow | 13 kg/mim. |
| Max. exhaust gas temp. | 600 °C |
| Maximum back pressure | 5 kPa (0.05 bar) |
| External diameter exhaust pipe | / |
| ELECTRICAL SYSTEM | |
| Starter motor power | 3 kW |
| Battery charging alternator cap. | 90 A |
| Cold start | - 10 °C |
| With cold start aid | - 25°C |
| AIR FILTER | |
| Combustion air flow | 10.5 m ³ /min |
| HEAT REJECTED AT FULL LOAD | |
| To exhaust system | 614 kcal/kWh |
| To water and oil | 350 kcal/kWh |
| Radiated to room | 160 kcal/kWh |
| To charge cooler | 125 kcal/kWh |

ALTERNATOR

| SYNCHRONOUS, THREE-PHASE, SELF-EXCITED, SELF-REGULATED, BRUSHLESS | |
|---|---------------------------|
| Continuous power | 165 kVA |
| Stand-by power | 180 kVA |
| Three phase voltage | 380 - 415 Vac |
| Frequency | 50 Hz |
| Cos φ | 0.8 |
| Model A.V.R. | MARK I |
| Voltage regulation acc. | ± 0,5 % |
| Sustained short circuit current | 3 I _n |
| Transient dip (100% load) | < 20 % |
| Recovery time | < 0.3 sec |
| Efficiency at 100% load | 92.9 % (400V - Cos φ 0.8) |
| Insulation | Class H |
| Connection - Terminals | Star - N°12 |
| Electromagnetic compatibility (R.F.I. suppr.) | EN 55011 |
| Waveform distorsion - THD | < 2 % |
| Telephone interference - THF | < 2 % |

| REACTANCES (165 kVA - 400V) | |
|--|---------------------------|
| Direct axis synchronuos - X _d | 280 % |
| Direct axis transient - X' _d | 24 % |
| Subdirect axis transient - X'' _d | 13.5 % |
| Quadrature axis synchronuos - X _q | 135 % |
| Quadr. axis subtransient - X'' _q | 14.9 % |
| Negative sequence - X ₂ | 14.2 % |
| Zero sequence - X ₀ | 2.9 % |
| TIME CONSTANTS | |
| Transient - T' _d | 0.09 sec |
| Subtransient - T'' _d | 0.011 sec |
| Open circuit - T' _{do} | 0.95 sec |
| Armature - T _a | 0.012 sec |
| Short-circuit ratio K _{cc} | 0.47 |
| Grado di Protezione IP | IP 23 |
| Cooling air flow | 0.42 m ³ /sec. |
| Coupling Bearing | Direct SAE 3 - 11 ½ - N°1 |

GENERAL SPECIFICATIONS

| | |
|---------------------------|---------------|
| Fuel tank capacity | 425 lt. |
| Running time (75% to PRP) | 16 h |
| Starter battery | 12 Vdc -180Ah |
| IP protection degree | IP 44 |

| | |
|---|--------------------------|
| * Measured acoustic power L _{WA} (pressure L _{pA}) | 93 dB(A) (68 dB(A) @ 7m) |
| * Guaranteed acoustic power L _{WA} (pressure L _{pA}) | 94 dB(A) (69 dB(A) @ 7m) |
| Performance class (ISO 8528) | G3 |

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

CONTROL PANEL

- Controller AMF 25
- Controller supply switch
- Siren
- Emergency stop button
- TCM 35 remote control plug
- Four pole circuit breaker
- PAC (ATS) plug - Automatic control panel only
- Battery charger - Automatic control panel only
- Earth terminal (PE)

| EP6 CONTROLLER CHARACTERISTICS | |
|--------------------------------|--|
| Operating mode | <ul style="list-style-type: none"> • OFF - MAN. - AUTO - TEST |
| Display | <ul style="list-style-type: none"> • Graphic back-light LCD display 128x64 pixels |
| LEDs | <ul style="list-style-type: none"> • Gen-set voltage OK • Gen-set failure • GCB ON (only for Automatic transfer unit) • Mains voltage OK (only for Automatic transfer unit) • Mains failure (only for Automatic transfer unit) • MCB ON (only for Automatic transfer unit) |
| Buttons | <ul style="list-style-type: none"> • START button • STOP button • FAULT RESET button • RESET HORN button • MODE selection button • Pulsante chiusura/apertura GCB button • Pulsante chiusura/apertura MCB button • N° 4 buttons for controller programming |
| 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 • Powers : kVA - kW - kVAR (totali e per fase) • Energy : kVAh - kWh - kVARh • Cos φ (medium and per phase) • Frequency |
| 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-Undervoltage • Over-Underfrequency • 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-Under battery voltage • Battery charge alternator failure • Start failure • Stop failure • Emergency stop • Low water level shutdown (option) |

| | |
|--|---|
| AMF functions (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 log and alarms • 2 tests run scheduler (Automatic test or scheduled starts) • Engine idle management (Idle) • Remote Start and Stop • Pre-heating • 2 selectable languages (other languages available) • Setpoints adjustable via controller buttons or PC • Direct connection to engines with ECU via Can bus J1939 • Configurable inputs and outputs (only via PC) • IP65 protection • Operation temperature: -20°C / +70°C |
| Communication | <ul style="list-style-type: none"> • RTU Modbus (optional board with RS232 & RS485 outputs is needed) • TCP/IP Modbus (optional Ethernet board with RJ45 output is needed) • SNMP Modbus (optional Ethernet board with RJ45 output is needed) • Internet (optional Ethernet board optional is needed) • GSM/GPRS (integrated Modem board optional is needed) for Gen-set remote control via SMS or internet |

| CONTROL PANEL VERSION WITH OUTPUT SOCKETS | |
|--|--|
| SOCKETS Each socket is protect by own automatic switch. Circuit breaker for 125A and 63A sockets. GFI and circuit breaker 30mA for 32A and 16A socket. | 1x 400V 125A 3P+T CEE 1x 400V 63A 3P+T CEE 1x 400V 32A 3P+T CEE 1x 400V 16A 3P+T CEE 1x 230V 16A 2P+T CEE 1x 230V 16A 2P+T SCHUKO |

WEIGHT - DIMENSIONS AND ACCESSORIES

GE 165 FSX

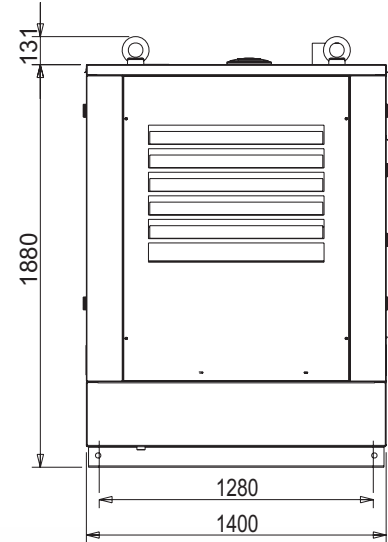
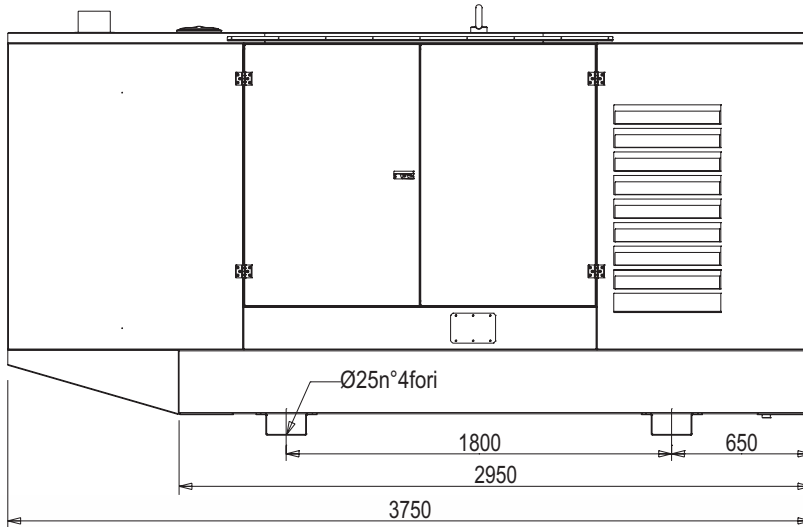


DRY WEIGHT MACHINE:
• 2700 kg

Generating set pictured may include optional accessories.



DIMENSIONS DRAW



OPTIONS ON REQUEST

- Automatic transfer switch unit (ATS) PAC 170-M (250A)
- Remote control TCM35
- Earthing kit
- Container feet kit

VERSIONS ON REQUEST

- Version with manual control panel 6 output sockets EC and SCHUKO (see Control board with output sockets section)
- Manual digital control panel (without sockets)
- Parallel switch board

FACTORY INSTALLATION OPTIONS

- Engine water heater WH
- Low level water sensor
- 3-way valve fuel system with quick connection for external fuel tank supply
- Main battery switch
- Automatic fuel transfer pump
- PMG - permanent magnet alternator excitation
- Electronic leakage relay
- Isometer
- Volt adjustable from control panel
- Deadening kit
- Plug-in board with RS232 & RS485 output for RTU Modbus protocol
- Ethernet plug-in board with RJ45 output for TCP/IP Modbus protocol - SNMP Modbus - Internet
- Plug-in board with integrated GSM/GPRS Modem for Gen-set remote control via SMS or Internet

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

