



JOHN DEERE



JD88M

| | |
|--------------------------|------------|
| John Deere Engine type | 4045TF258 |
| Meccalte Alternator type | ECP32 4L4B |
| Performance class | G3 |

GENERAL CHARACTERISTICS

| | |
|------------------------|----------|
| Frequency (Hz) | 50 |
| Reference voltage (V) | 400/230 |
| Max power ESP (kVA) | 88 |
| Max power ESP (kWe) | 70 |
| Max power PRP (kVA) | 80 |
| Max power PRP (kWe) | 64 |
| Intensity (A) | 127 |
| Standard Control Panel | DSE 4610 |
| Optional control panel | DSE 6010 |

DESCRIPTIVE

- Mechanic governor
- Mechanically welded chassis with antivibration suspension
- Main line circuit breaker
- Radiator for wiring temperature of 48/50°C max with mechanical fan
- Protective grille for fan and rotating parts
- 9 dB(A) silencer supplied separately
- Charger DC starting battery with electrolyte
- 12 V charge alternator and starter
- Delivered with oil and coolant -30°C
- Manual for use and installation

DIMENSIONS COMPACT VERSION

| | |
|-------------------|------|
| Length (mm) | 2300 |
| Width (mm) | 1000 |
| Height (mm) | 1237 |
| Dry weight (kg) | 1038 |
| Tank capacity (L) | 320 |

POWER DEFINITION

PRP : Prime Power is available for an unlimited number of annual operating hours in variable load applications, in accordance with ISO 8528-1.

ESP : The standby power rating is applicable for supplying emergency power in variable load applications in accordance with ISO 8528-1.

Overload is not allowed.

TERMS OF USE

According to the standard, the nominal power assigned by the genset is given for 25°C Air Inlet Temperature, of a barometric pressure of 100 kPA (100 m A.S.L), and 30 % relative humidity. For particular conditions in your installation, refer to the derating table.

ASSOCIATED UNCERTAINTY

For the generating sets used indoor, where the acoustic pressure levels depends on the installation conditions, it is not possible to specify the ambient noise level in the exploitation and maintenance instructions . You will also find in our exploitation and maintenance instructions a warning concerning the air noise dangers and the need to implement appropriated preventive measures.

POWERS

| Voltage | ESP | | PRP | | Standby Amps |
|---------|-----|-----|-----|-----|--------------|
| | kWe | kVA | kWe | kVA | |
| 415/240 | 69 | 86 | 63 | 78 | 120 |
| 400/230 | 70 | 88 | 64 | 80 | 127 |
| 380/220 | 68 | 85 | 62 | 77 | 129 |
| 240 TRI | 70 | 88 | 64 | 80 | 212 |
| 230 TRI | 70 | 88 | 64 | 80 | 221 |
| 220 TRI | 70 | 88 | 64 | 80 | 231 |
| 200/115 | 70 | 88 | 64 | 80 | 254 |



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ENGINE SPECIFICATIONS

GENERAL ENGINE DATAS

| | |
|---|--|
| Engine model | John Deere 4045TF258 , 4 stroke, Turbo , 4 cylinder |
| Cylinder arrangement | L |
| Displacement (C.I.) | 4.48 |
| Bore (mm) x Stroke (mm) | 106 x 127 |
| Compression ratio | 17 : 1 |
| Speed (RPM) | 1500 |
| Pistons speed (m/s) | 6.35 |
| Maximum stand-by power at rated RPM (kW) | 83 |
| Frequency regulation (%) | +/- 2.5% |
| BMEP (bar) | 13.50 |
| Governor type | Mechanical |

COOLING SYSTEM

| | |
|--|-----------|
| Radiator & Engine capacity (L) | 25 |
| Max water temperature (°C) | 105 |
| Outlet water temperature (°C) | 93 |
| Fan power (kW) | 2.5 |
| Fan air flow w/o restriction (m3/s) | 3.37 |
| Available restriction on air flow (mm EC) | 20 |
| Type of coolant | Cool gard |
| Thermostat (°C) | 82-94 |

EMISSIONS

| | |
|------------------------|-----|
| Emission PM (mg/Nm3) | 60 |
| Emission CO (mg/Nm3) | 190 |
| Emission HCNOx (g/kWh) | 0 |
| Emission HC (g/kWh) | 0 |

EXHAUST

| | |
|------------------------------------|-----|
| Exhaust gas temperature (°C) | 565 |
| Exhaust gas flow (L/s) | 205 |
| Max. exhaust back pressure (mm EC) | 750 |

FUEL

| | |
|-------------------------------|------|
| Consumption @ 110% load (L/h) | 21.5 |
| Consumption @ 100% load (L/h) | 19.5 |
| Consumption @ 75% load (L/h) | 14 |
| Consumption @ 50% load (L/h) | 10 |
| Maximum fuel pump flow (L/h) | 108 |

OIL

| | |
|---------------------------------|------|
| Oil capacity (L) | 12 |
| Min. oil pressure (bar) | 1 |
| Max. oil pressure (bar) | 5 |
| Oil consumption 100% load (L/h) | 0.02 |
| Carter oil capacity (L) | 12.5 |

HEAT BALANCE

| | |
|--------------------------------|----|
| Heat rejection to exhaust (kW) | 65 |
| Radiated heat to ambient (kW) | 10 |
| Haet rejection to coolant (kW) | 43 |

AIR INTAKE

| | |
|---------------------------------|-----|
| Max. intake restriction (mm EC) | 625 |
| Intake air flow (L/s) | 93 |



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ALTERNATOR SPECIFICATIONS

GENERAL DATAS

| | |
|--|---------------|
| Alternator brand | Mecc Alte |
| Alternator type | ECP32 4L4B |
| Number of phase | 3 |
| Power factor (Cos Phi) | 0.8 |
| Altitude (m) | 1000 |
| Overspeed (rpm) | 2250 |
| Number of pole | 4 |
| Excitation system | Brushless |
| Insulation class / T° class, continuous 40°C | H / H / 125°K |
| Regulation | DSR |
| Harmonic factor, no load TGH/THC | 3.3 |
| Wave form : NEMA=TIF-(TGH/THC) | <45 |
| Wave form : CEI=FHT-(TGH/THC) | <2 |
| Number of bearing | 1 |
| Coupling | Direct |
| Voltage regulation at established rating (%) | +/- 1.5% |
| Recovery time (Delta U = 20% transient) (ms) | 200 |

OTHER DATAS

| | |
|---|-------|
| Continuous Nominal Rating 40°C (kVA) | 80 |
| Standby Rating 27°C (kVA) | 87 |
| Efficiencies 4/4 load (%) | 90.0 |
| Air flow (m3/s) | 0.2 |
| Short circuit ratio (Kcc) | 0.31 |
| Direct axis synchro reactance unsaturated (Xd) (%) | 280.2 |
| Quadra axis synchro reactance unsaturated (Xq) (%) | 129.5 |
| Open circuit time constant (T'do) (ms) | 1.3 |
| Direct axis transient reactance saturated (X'd) (%) | 329.6 |
| Short circuit transient time constant (T'd) (sec) | .065 |
| Direct axis subtransient reactance saturated (X''d) (%) | 6.48 |
| Subtransient time constant (T''d) (sec) | 0.014 |
| Quadra axis subtransient reactance saturated (X''q) (%) | 32.1 |
| Zero sequence reactance unsaturated (Xo) (%) | 3.6 |
| Negative sequence reactance saturated (X2) (%) | 21.8 |
| Armature time constant (Ta) (sec) | 0.027 |
| No load excitation current (io) (A) | 0.6 |
| Full load excitation current (ic) (A) | 2.4 |
| Full load excitation voltage (uc) (V) | 27.20 |
| Recovery time (Delta U = 20% transient) (ms) | 200 |
| Engine start (Delta U = 20% perm. or 50% trans.) (kVA) | 230 |
| Transient dip (4/4 load) - PF : 0,8 AR (%) | 14.4 |
| No load losses (W) | 1420 |
| Heat rejection (W) | 6718 |



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CONTROL PANEL

DSE Deep Sea Electronics 4610 Standard

DSE Deep Sea Electronics 6010 optional

The DSE 4610 MRS is a versatile unit which can be operated in manual or automatic mode. It offers the following features:

Measurements:

phase-to-neutral and phase-to-phase voltages,
(In option: active power currents, effective power, power factor, oil pressure and coolant temperature levels)

Supervision:

Modbus RTU communication on RS485

Reports:

(In option: 2 configurable reports)

Safety features:

Over speed, oil pressure, coolant temperatures, minimum and maximum voltage, minimum and maximum frequency

(Maximum active power $P < 66\text{kVA}$)

Traceability:

Stack of 50 stored events

For further information, please refer to the data sheet for the DSE 4610.

The DSE 6010 MRS is a versatile control unit which allows

operation in manual or automatic mode

Measurements:

voltage and current, kW/kWh/kVA power meters

Standard specifications: Voltmeter, Frequency meter.

Optional: Battery ammeter.

J1939 CAN ECU engine control

Alarms and faults: Oil pressure, Coolant temperature,

Over speed, Start-up failure, alternator min/max,

Emergency

stop button.

Engine parameters: hour counter, battery voltage.

Optional (standard at 12V): Oil pressure, water temperature.

Event log/ Management of the last 50 gen set events.

Mains and gen set protection

Clock management

USB connections, USB Host and PC,

Communications: RS485 INTERFACE

Mod BUS protocol /SNMP

Optional: Ethernet, GPRS, remote control, 3G, 4G,

Web supervisor, SMS, E-mails