

F110M

Diesel Generator Set 400/230V 50Hz 3 Phase Powered by FPT-IVECO

TECHICAL SPECIFICATIONS

Power (ESP)	kVA/kw	110/88
Power (PRP)	kVA/kw	100/80
Starter Voltage	V	12
Rated Current	A	158
Rated Rotation Speed	r/min	1500
Power Factor		0.8
Noise Level	dB(A)@7m	Slitent Type: 76+2



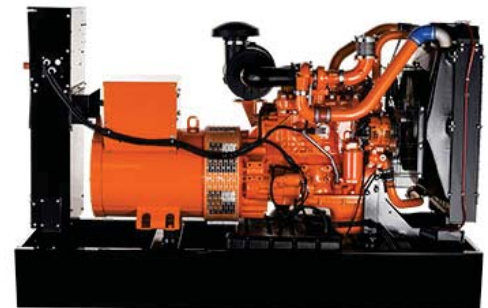
WEIGHT AND DIMENSIONS (L x W x H) mm.

Open Type	2170 x 880 x 1415	1242 Kg.	Fuel Tank 218/Litre
Slitent Type	3146 x 1056 x 1850	1727 Kg.	Fuel Tank 315/Litre

Standard: Engine, alternator, cooling system, Base frame (excluding fuel tank), shock absorber, air inlet system, control box (including mains floating charge), plastic fan blades (when the engine and water tank do not bring).

Optional: Base frame (including fuel tank), water jacket heater, fuel water separator, fuel heater, fuel level sensor (only supporting underframe tank), switch box (with switch), power switch, the water level sensor, motor anti condensation heater, automatic fueling system (only supporting base frame including fuel tank), battery frame.

Accessories: Silencer, bellow, exhaust silencing system accessories (with the matching engine), regular battery, starting cord assembly, data of gen-set, random tool (with the matching engine).



Generator Set Standard: GB/T2820-2009, ISO8528

Alternator: MARELLI GENERATOR , MJB 225 MA4

Disel Engine: FPT-IVECO , N45 TM2A

Standby Power: Continues running at variable load for duration of an emergency. No overload is permitted on these ratings.

Prime Power: Continues running at variable load for unlimited periods with 10% overload available for 1 hour in any 12 hour period.

ENGINE

Specification

MANUFACTURE: FPT-IVECO

Model	N45 TM2A
Engine Speed Rated	1500 RPM
Thermodynamic Cycle	Diesel 4 stroke
Cylinder / Arrangement	4 / L
Displacement	4.5 L
Bore and Stroke	104 mm x 132 mm
Injection System	Mechanical (Direct Injection)
Max. Stand by power at rated RPM	96KW / 128BHP
Governor : Type	Mechanical
Aspiration and Cooling	Turbocharged with aftercooler



FUEL SYSTEM

Fuek Consumption 100% (of the Prime Power)	22 L / h
Fuek Consumption 80% (of the Prime Power)	16 L / h
Fuek Consumption 50% (of the Prime Power)	11 L / h

STANDARDS

* Reference Standards: BS-5514 and DIN6271 standards are based on ISO-3046

- * FPT-IVECO engines with advanced design, reliable performance, durable operation.
- * Alloy-steel and connecting steel-lever, high durability
- * High combustion efficiency and low fuel consumption, work continuously
- * Pump injection technology, low cost, completely combustion

Note: All data sheets are for reference only and subject to change without prior notice.

ALTERNATOR

Specification

MANUFACTURER: MARELLI GENERATOR

Type	MJB 225 MA4
Number of Phase Power	3
Factor (Cos Phi)	0.8
Pole	4
Bearing	1
Coupling	Direct
Exciter Type	Brushless SHUNT
Insulation : Class, Temperature Rise	H / H
Degree of Protection	IP23
Voltage regulation accuracy	± 0,5 % In steady state condition
Radio interference	EN 55011 - Class B Group 1
Wave form THF	< 2%
Total harmonic content	< 2% - At no load



KEY FEATURES

- * Utilising wire-wound* (random-wound) technology
- * Environment alternators are the industry benchmark for all generator set configurations.
- * Brushless excitation with AVR
- * IP21, IP22, IP23, IP44 enclosure protection.
- * The ideal solution for marine/offshore, UPS, telecoms, basic and advanced protection, construction and other continuous or standby power applications.

STANDARDS

- * IEC 60034-1; CEI 2-3; BS 4999-5000; VDE 0530; NF 51-100,111; OVE M-10, NEMA MG 1.22.
- * All alternators are manufactured in ISO 9001 and ISO 14001 environments.

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CONTROL PANEL

Model: DSE 7320

Microprocessor Control Modules

DIMENSIONS (L x W x H)

OVERALL	240 x 181 x 42 mm
PANEL CUTOUT	220 x 160 mm
WEIGHT	400 g (0.4 Kg)

KEY FEATURES

- * 4-Line back-lit LCD text display
- * Five key menu navigation
- * Front panel editing with PIN protection
- * Customisable status screens
- * Power save mode
- * Support for up to three remote display units
- * 9 configurable inputs
- * 8 configurable outputs
- * Flexible sender inputs
- * Configurable timers and alarms
- * 3 configurable maintenance alarms
- * Multiple date and time scheduler
- * Configurable event log (250)
- * Tier 4 CAN engine support
- * Integral PLC editor
- * Easy access diagnostic page
- * CAN and Magnetic Pick-up/Alt.sensing
- * Fuel usage monitor and low fuel alarms
- * Charge alternator failure alarm
- * Manual speed control (on compatible CAN engines)
- * Manual fuel pump control
- * Engine exerciser
- * "Protections disabled" feature
- * kW & kV Ar protection
- * Reverse power (kW & kV Ar) protection
- * LED and LCD alarm indication
- * Power monitoring (kW h, kV Ar, kVAh, kVARh)
- * Load switching (load shedding and dummy load outputs)
- * Automatic load transfer (DSE7320)
- * Unbalanced load protection
- * Independent Earth Fault trip
- * True dual mutual standby with load balancing timer (DSE7310 only)
- * USB connectivity
- * Backed up real time clock
- * Fully configurable via DSE Configuration Suite PC software
- * Configurable display languages
- * Remote SCADA monitoring via DSE Configuration Suite PC software
- * User selectable RS232 and RS485 communications
- * Configurable Gencomm pages
- * Advanced SMS messaging (additional external modem required)
- * Start & stop capability via SMS messaging
- * Additional display screens to help with modem diagnostics
- * Idle control for starting & stopping.
- * DSENet@ expansion compatible



KEY BENEFITS

- * 132 x 64 pixel ratio display for clarity
- * Real-time clock provides accurate event logging
- * Multiple date and time scheduler
- * Set maintenance periods can be configured to maintain optimum engine performance
- * Ethernet communications (via DSE860/865 modules), provides advanced remote monitoring at low cost
- * Modules can be integrated into building management systems(BMS)
- * Increased input and output expansion capability via DSENet@
- * Licence-free PC software
- * IP65 rating (with supplied gasket) offers increased resistance to water ingress
- * PLC editor allows user configurable functions to meet specific application requirements.

ENVIRONMENTAL TESTING STANDARDS

ELECTRO-MAGNETIC COMPATIBILITY

BS EN 61000-6-2 EMC Generic Immunity Standard for the Industrial Environment
BS EN 6100-6-4 EMC Generic Immunity Standard for the Industrial Environment

ELECTRICAL SAFETY

BS EN 60950 Safety of information Technology Equipment, including Electrical Business Equipment

TEMPERATURE

BS EN 60068-2-1 Ab/Ae Cold Test -30 C
BS EN 60068-2-2 Bb/Be Dry Test +70 C

VIBRATION

BS EN 60068-2-6 Ten sweeps in each of three major axes 5 Hz to 8 Hz @ +/-7.5 mm, 8 Hz to 500 Hz @ 2 gn

SHOCK

BS EN 60068-2-27 Three shocks in each of three major axes 15 gn in 11 mS

HUMIDITY

BS EN 60068-2-30 Db Damp Heat Cyclic 20/55 C @95% RH 48 Hours
BS EN 60068-2-78 Cab Damp Heat Static 49 C @93% RH 48 Hours

PROGRESS OF PROTECTION PROVIDED BY ENCLOSURES

BS EN60529 IP65 0 Front of module when installed into the control panel with the supplied sealing gasket.