

Model: IV-110 - STAND-BY RANGE

400/230 V - THREE-PHASE | 1.500 R.P.M. | 50 Hz

Automatic with amf/ats panel Stand-by Genset V2.



Image for guidance purposes.

PRP

CONTINUOUS POWER: 100 kVA

PRP "Prime Power" norma ISO 8528-1

LTP

STAND-BY POWER: 110 kVA

LTP "Limited Time Power" norma ISO 8528-1

ENGINE

MAKE	MODEL
VOLVO	TAD531GE

ALTERNATOR

MAKE	MODEL
MECC-ALTE	ECP34-2SC

VOLTAGE	HZ	PHASE	COS Ø	PRP kVA/kW	LTP kVA/kW	AMP. (LTP)
400/230	50Hz	3	0,8	100,0/80,0	110,0/88,0	158,77

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ENGINE CHARACTERISTICS

MAKE	MODEL
VOLVO	TAD531GE

General Data

Power PRP (kWm)	88
Power LTP (kWm)	98
No. cylinders	4
Cylinder capacity (L)	4.76
Diameter per stroke (mm)	108 x 130
Compression ratio	18
Cooling system	LIQUID
Injection	DIRECT
Suction	TURBO-INTERC.
Series regulator	MECHANICAL
Fly wheel coupling	3-11.5

Lubrication system

Oil capacity (L)	13
Oil consumption (%)	0.41
Min. alarm oil pressure (bar)	2

Ventilation system

Air cooling flow (m³/h)	7200
Combustion air flow (m³/h)	342
Max. back pressure for fan (mbar)	

Exhaust system

Exhaust gas flow (m³/h)	1002
Exhaust back pressure (mbar)	50
Temp. exhaust gases (°C)	544

Electrical system

VDC (V)	12
Battery (Ah)	120
Engine start-up (kW)	3.1

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ALTERNATOR CHARACTERISTICS

MAKE	MODEL
MECC-ALTE	ECP34-2SC

General Data

Power PRP (kVA)	100
Power LTP (kVA)	110
Efficiency Alt. 100 %	92
Efficiency Alt. 110 %	91.7
No. Poles	4
Voltage regulator	DSR
No. wires	12
Insulation	H
Xd (%)	241.2
X'd (%)	18.4
X	6
Degree of protection	IP23

GENERATOR SET CONSUMPTION

% POWER USED	LITRES/HOUR
50%	12
75%	17
100%	23

DIMENSIONS, CAPACITIES, APPROXIMATE WEIGHT

Dimensions (mm)		
LENGTH	WIDTH	HEIGHT
2950	1100	1760

FUEL TANK (LITRES)	WEIGHT (KG)
220	1840

NOISE LEVEL (dB (A))
70dB(A)@7m

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INMESOL GENERATOR SET

GENERAL DESCRIPTION

The “INMESOL” generator set is an electrical energy generating machine which is used in places where there is **no mains supply** or when there is a MAINS failure.

The mobile elements, distribution belt, fan, etc., and those parts which reach high temperatures during operation, exhaust manifold, etc, include their corresponding protections, in compliance with the requirements of the Machinery Directive **2006/42**.



INMESOL S.L company with ISO 9001 quality certification system for the:

Design, manufacture, marketing and technical assistance of power GENSETS, lighting towers, welding GENSETS, tractor with PTO GENSET and hybrid generation systems.

Europe regulations:

Inmesol power GENSET sets comply with European legislation and were given the CE marking which includes the following directives:

- 2006/42/EC on machinery safety.
- 2005/88/EC on NOISE EMISSIONS by equipment for outdoor use (amends the 2000/14/EC).
- 2014/30/UE on Electromagnetic Compatibility.
- 2014/35/UE on electrical safety, electrical equipment designed to be used within certain voltage limits

International regulations:

Upon request, INMESOL can supply equipment that complies with the International Legislation and Regulations:

- “Technical Regulation on Safety of Machinery & Equipment” No. 753, repealing GOST R standards for exports to Russia.
- Resolution n° 90708 dated August 30th 2013 “Reglamento Técnico de Instalaciones Eléctricas RETIE” issued by the Ministry of Mining and Energy, Section 20.21 Engines and power generators, for exports to Colombia.

Information:

The power ratings are for reference to environmental conditions: barometric pressure 100 kPa, 25°C and 30% relative humidity. These are defined by ISO 8528 and ISO 3046.

PrimePower (PRP) “Main Service” is applicable for power GENSETS that function as main electric power source. It may be overloaded by 10% in limited time points, maximum once every 12 hours.

StandbyPower (LTP) “Emergency Service” applies to power GENSETS that run during Electrical Grid failure. This power may NOT BE OVERLOADED.

Nevertheless, to obtain long engine life, it is recommended that the active power average load (kW) connected to the power GENSET set in any period of 24 hours of operation does not exceed the following values:

- In Main Service 70% of the PRP power.
- In Emergency Service during Electrical Grid failure 80% of the LTP power.

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SB **STAND-BY**
RANGE

Scope of supply

V2 GENSET WITH AMF CONTROL PANEL WITH TRANSFER SWITCH.



Engine/alternator monobloc directly connected and installed via silent blocks on a frame made from high tensile electro welded steel profiles that are treated with degreasing liquids and applied with a phosphate coat and Polyester (QUALICOAT) paint.	External emergency stop push button.
Canopy of steel sheet sound proofed with fireproof rockwool, and treated with degreasing liquids and applied with a phosphate coat and Polyester (QUALICOAT) paint.	Manual engine oil extraction pump.
Sealed chassis	Self excited and auto regulated alternator.
Fuel tank integrated in the chassis provided with fuel level gauge and fuel lines to the engine.	Integrated lifting hook for single point lifting with crane, gensets up to 450 kVA (Except in swing-out cover model)
Engine with mechanical engine driven pusher fan.	Base frame prepared for trailer kit
Residential silencer with -35 db(a) noise reduction with exhaust tube and protection cap.	Standard electronic speed governor on engines
Thermal and magnetic circuit breaker	Electric control cubicle with digital control module, automatic mains failure, manual start or remote start on signal with change over switch in the same cabinet.
Battery charge alternator.	Battery charger for gen set with 12VCC battery (3A).
Starter battery complete with cables to the engine and pole protection.	Battery charger for gen set with 24VCC battery (5A).
Installation prepared for earthing spike (spike not included).	Electric engine coolant preheating.
Security protection for belts and moving parts as well as on electrical component.	Horizontal outlet for hot air (till canopy 4200x1600x2245)
	Control cable of 6 m

OPTIONS

Earth fault relay
Integral additional socket panel (from 20 kVA till 400 kVA PRP)

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DSE 6120 MKIII AUTOMATIC CONTROL PANEL WITH AMF/ATS PANEL

V2

PROTECTION, DISTRIBUTION AND AUTOMATIC CONTROL panel which starts the generator set when it detects a mains failure and stops it when the mains is restored with the control unit DSE 6120 MKIII. It also starts and stops the group manually via a pushbutton or remote start-up by contact. It incorporates change over switch. The entire assembly is in a steel enclosure separated from the gen set.



Image for guidance purposes.

It has the following:

1. EMERGENCY STOP PUSHBUTTON

2. PROTECTIONS:

Magnetothermal switch (preheating resist.) 2P (16 A)

Protection fuses for control module

3. BATTERY CHARGER

V1 PREWIRED GENSET READY TO
INSTALL AMF CONTROL PANEL.

V2 GENSET WITH AMF CONTROL PANEL
WITH TRANSFER SWITCH.

V3 GENSET WITH AMF CONTROL PANEL **WITHOUT TRANSFER SWITCH.**
READY TO ADD SEPARATED LTS PANEL.

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4. DSE 6120 MKIII PROTECTION CONTROL MODULE.

LCD SCREEN:

It is equipped with a digital LCD screen, which makes it easy to read the information concerning the ENGINE, ALTERNATOR and LOAD available in several languages. The readings that can be obtained are:

ENGINE:	ALTERNATOR AND CHARGE:	MAINS:
Coolant temperature	Voltages between phases and between phases and neutral.	Frequency
Oil pressure	Intensities	Voltages between phases and neutral (L1-N, L2-N, L3-N).
Turning speed (rpm)	Frequency	Voltages between phases and (L1-L2, L2-L3, L1-L3).
Fuel level	Active Power (kW)	Active Power (kW)
Battery voltage	Reactive Power (kVAr)	Reactive Power (kVAr)
Battery alternator voltage.	Apparent Power (kVA)	Apparent Power (kVA)
Operating hours	Cos phi	Cos phi
Number of start-ups	Active energy meter (kW-h)	

CONTROL OF THE SET:

STARTS and STOPS the set AUTOMATICALLY when mains failure is detected and when it is restored, respectively.

It can also operate MANUALLY a REMOTE STAR.

Breaker control via fascia buttons.

PROTECTION OF THE ENGINE AND ALTERNATOR, WITH THE ALARMS ACTIVATED:

ENGINE:	ALTERNATOR:	MAINS:
Low oil pressure	Low and High Voltage	Low and High Voltage
High coolant temperature	Low and High Frequency	Low and High Frequency
Low and High battery Voltage.	Overload due to Intensity (A)	
Failure of the alternator to charge batteries	Power Overload (KW)	
Low fuel level	Low load	

Engine maintenance alarms for fuel filter, air filter and oil filter

OTHER CHARACTERISTICS:

The real-time clock records the last 100 events.	USB connectivity	ALTERNATIVE CONFIGURATIONS, which open up the working possibilities
"DSE Net" for the connection of expansion modules. The possibilities of adapting the operation of the generator sets to the different current applications are expanded.	Fully configurable via software and PC.	DATA LOGGING. Option to display, either graphically or in editable tables, information on the genset operation.
Extensive number of configurable inputs and outputs.	Communication via USB cable for remote control	Sleep Mode
Configurable alarms and timers.	Programmable clock with multiple maintenance events which can be configured for optimal motor functioning. Weekly and/or monthly programming for up to 8 startups and shutdowns per week.	Option to inhibit start-up by external signal during a specific period.
Internal PLC editor	CAN, MPU & alternator speed sensing (selectable depending on engine type).	Five key menu navigation
Fuel and start outputs configurable when using CAN.	Customisable power up text and images	Backed-up real time clock.
Tier 4 ECO engine support including exhaust fluids & filters		

V1 PREWIRED GENSET READY TO INSTALL AMF CONTROL PANEL.

V2 GENSET WITH AMF CONTROL PANEL WITH TRANSFER SWITCH.

V3 GENSET WITH AMF CONTROL PANEL WITHOUT TRANSFER SWITCH. READY TO ADD SEPARATED LTS PANEL.

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5. PROTECTIONS

MAGNETO. PROTECTION (A)	EARTH LEAK PROTECTION	DISTRIBUTION	AMF/ATS PANEL
160A, 4P	Optional	Direct from circuit breaker	160

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