

AI-440 - FPT - C13 TE3A

1.500 R.P.M. | 50 Hz

TECHNICAL SPECIFICATIONS



Model:

AI-440

Stand-by automatic gen set.



Image for guidance purposes.

ENGINE	MAKE	MODEL
	FPT	C 13 TE3A
ALTERNATOR	MODEL	
	MECC-ALTE ECO 40-1SN	

(400 / 230 V)

CONTINUOUS POWER:
(PRP "Prime Power" norma ISO 8528-1) **400 kVA**

STAND-BY POWER:
(LTP "Limited Time Power" norma ISO 8528-1) **440 kVA**

Amperes in the different voltages:

VOLTAGE	HZ	PHASE	COS Ø	PRP KVA/KW	LTP KVA/KW	AMPERAGE
415/240	50	3	0,8	400,0/320,0	440,0/352,0	612,86
400/230	50	3	0,8	400,0/320,0	440,0/352,0	635,84
380/220	50	3	0,8	400,0/320,0	440,0/352,0	669,3
240/139	50	3	0,8	400,0/320,0	440,0/352,0	1059,73
230/133	50	3	0,8	400,0/320,0	440,0/352,0	1105,81
220/127	50	3	0,8	400,0/320,0	440,0/352,0	1156,07

ELECTRO EXIM SRL

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ENGINE CHARACTERISTICS

MAKE	MODEL
FPT	C 13 TE3A

GENERAL DATA

Power PRP (kWm)	352
Power LTP (kWm)	387
No. cylinders	6
Cylinder capacity (L)	12.90
Diameter per stroke (mm)	135 x 150
Compression ratio	16.50
Cooling system	LIQUID
Injection	DIRECT
Suction	TURBO
Series regulator	ELECTRONIC
Fly wheel coupling	1-14"

Lubrication system

Oil capacity (L)	35
Oil consumption (%)	0.20
Min. alarm oil pressure (bar)	-

Ventilation system

Air cooling flow (m3/h)	24480
Combustion air flow (m3/h)	1770
Max. back pressure for fan (mbar)	20

Exhaust system

Exhaust gas flow (m3/h)	4911
Exhaust back pressure (mbar)	50
Temp. exhaust gases (°C)	445

Electrical system

VDC (V)	24
Battery (Ah)	2 x 185
Engine start-up (kW)	5.50

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ALTERNATOR CHARACTERISTICS

MODEL

MECC-ALTE ECO 40-1SN (400 / 230 V)

GENERAL DATA

Power PRP (kVA)	400
Power LTP (kVA)	440.00
Efficiency Alt. 3/4 %	94.40
Efficiency Alt. 4/4 %	94.20
No. Poles	4
Voltage regulator	DER-1
No. wires	12
Insulation	H
Xd (%)	277.00
X'd (%)	22.50
X	14.20
Degree of protection	IP21

GENERATOR SET CONSUMPTION

% POWER USED	LITRES/HOUR
50%	48.60
75%	72.50
100%	98.50

DIMENSIONS, CAPACITIES, APPROXIMATE WEIGHT AND NOISE

LENGTH	DIMENSIONS (MM)	
	WIDTH	HEIGHT
3000	1300	2255
FUEL TANK (LITRES)		WEIGHT (KG)
500		3040.00
NOISE LEVEL (dB (A))		

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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**.

REGULATIONS

The machine holds the "CE" marking, and the corresponding Declaration of Conformity is issued with each of them, in which it specifies that the machine complies with **R.D 842/2002 Low Voltage Regulations and with the European Directives:**

- 2006/42 on Safety in Machinery.
- 2006/95/CE on Electrical Safety.
- 2004/108/CE on Electromagnetic Compatibility.
- 2005/88/CE on NOISE EMISSIONS by equipment for outdoor use (for SOUNDPROOF GENERATOR SETS).

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SB STAND-BY RANGE / SCOPE OF SUPPLY

		
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 epoxy paint.	✓	✓
Canopy of steel sheet sound proofed with fireproof rockwool, and treated with degreasing liquids and applied with a phosphate coat and epoxy paint.	•	✓
Fuel tank integrated in the chassis provided with fuel level gauge and fuel lines to the engine.	✓	✓
Engine with mechanical engine driven pusher fan.	✓	✓
Industrial silencer with -15 db(A) noise reduction and exhaust outlet tube.	✓	•
Residential silencer with -35 db(a) noise reduction with exhaust tube and protection cap.	•	✓
4 Pole thermal and magnetic circuit breaker.	✓	✓
Battery charge alternator.	✓	✓
Starter battery complete with cables to the engine and pole protection.	✓	✓
Installation prepared for earthing spike (spike not included).	✓	✓
Security protection for belts and moving parts as well as on electrical component.	✓	✓
External emergency stop push button.	✓	✓
Manual engine oil extraction pump.	•	✓
Self excited and auto regulated alternator.	✓	✓
Integrated lifting hook for single point lifting with crane, gensets up to 450 kVA (Except in swing-out cover model)	•	✓
4 Lifting points for gen sets from 450 kVA and bigger.	✓	•
Prepared for extended fuel tank, fully bonded for leakage protection.	✓	✓
Base frame prepared for trailer kit	✓	✓
Standard electronic speed governor on engines from 220 kVA and up.	✓	✓
Electric control cubicle with digital control module, automatic mains failure, manual start or remote start on signal.	✓	✓
Battery charger for gen set with 12VCC battery (2A).	✓	✓
Battery charger for gen set with 24VCC battery (5A).	✓	✓
Electric engine coolant preheating on gen sets with automatic mains failure controller.	✓	✓
Horizontal outlet for hot air	•	✓

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DSE 7320 AUTOMATIC CONTROL PANEL

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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 7320.



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

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DSE 7320 AUTOMATIC CONTROL PANEL

- 4 DSE 7320 CONTROL and PROTECTION CENTRE.** It has a digital LCD screen, which provides easy reading of the information regarding the ENGINE, ALTERNATOR, MAINS and CHARGING.

READINGS that can be made:

ENGINE:

- Coolant temperature
- Oil pressure
- Turning speed (rpm)
- Fuel level
- Battery voltage
- Battery alternator voltage.
- Operating hours
- Number of start-ups

ALTERNATOR AND CHARGE:

- Voltages between phases and between phases and neutral.
- Intensities
- Frequency
- Active Power (kW)
- Reactive Power (kVAr)
- Apparent Power (kVA)
- Cos phi
- Active energy meter (kW-h)

MAINS:

- Frequency
- Phase rotation order
- Voltages between phases and neutral (L1-N, L2-N, L3-N).
- Voltages between phases and (L1-L2, L2-L3, L1-L3).
- Earth current

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

Protection of the engine and alternator, with the ALARMS activated:

ENGINE:

- Low oil pressure
- High coolant temperature
- Low and High battery Voltage.
- Failure of the alternator to charge batteries
- Low fuel level

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DSE 7320 AUTOMATIC CONTROL PANEL

ALTERNATOR:

- Low and High Voltage
- Low and High Frequency
- Overload due to Intensity (A)
- Short-circuit
- Negative Phase Sequence.
- Power Overload (KW-kVA)
- Load control:
 - 1.Connection and disconnection of artificial loads.
 - 2.Disconnection of non-essential loads

MAINS:

- Low and High Voltage
- Low and High Frequency

OTHER CHARACTERISTICS:

- The real-time clock provides an exact record of events.
- Extensive number of configurable inputs and outputs.
- Configurable alarms and timers.
- USB connectivity
- Fully configurable via software and PC.
- Modbus RTU
- Possibility of SMS text messages
- Communications Ethernet, RS 232 and RS 485
- Programmer Clock with multiple maintenance events which can be configured for the optimal operation of the engine. Weekly and/or monthly programming of up to 16 starts and stops per week.
- ALTERNATIVE CONFIGURATIONS, which open up the working possibilities

5 DISTRIBUTION:

- Direct output of the magnetothermal switch.

6 OPTIONAL:

- 4-Pole Switchboard installed next to the Automatic Panel
- 4-Pole Switchboard in metal cabinet independent from the Automatic Panel

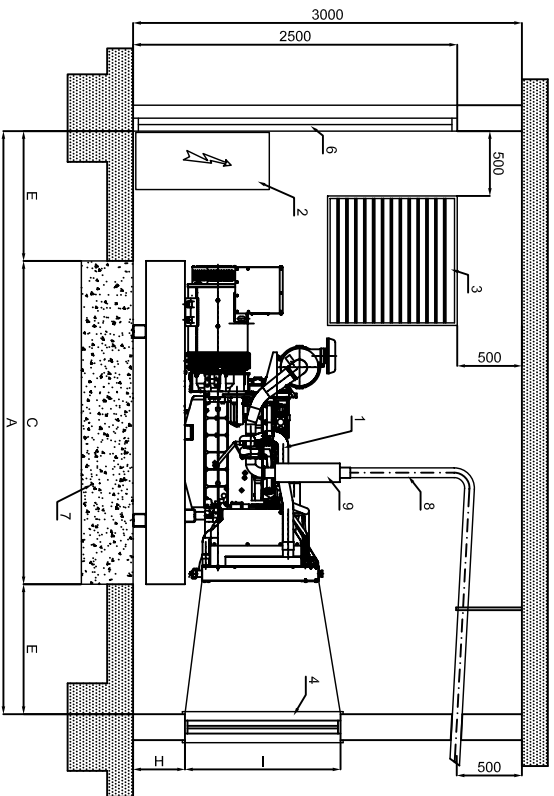
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The following table shows the different amperages of the magnetothermal switches and the switchboards according to the set's power - Three-phase generators (single phase by request):

CONT. POW		MAGNETOTHERMAL PROTECTION IV POLES (A)	SWITCHBOARD IV POLES (A)
SET'S POWER	250 - 275 kVA	400	400
	300 - 430 kVA	630	630
	450 - 500 kVA	800	800
	570 - 650 kVA	1000	1250
	780 - 800 kVA	1250	1250
	915 - 1100 kVA	1600	1650
	1150 - 1300 kVA	2000	2000
	1400 - 1750 kVA	2500	2500
	1800 - 2100 kVA	3200	3200



DIMENSIONES DE SALA SEGUN POTENCIA											
POTENCIA	A	B	C	D	E	F	G	H	I	d	PESO
30 Kva	3700	2730	1700	730	1000	1230	700	500	600	50	630
40 Kva	3700	2730	1700	730	1000	1230	800	500	700	50	720
60 Kva	3900	2900	1900	900	1000	1400	800	500	800	80	1000
75 Kva	3900	2900	1900	900	1000	1400	800	500	800	80	1080
85 Kva	3900	2900	1900	900	1000	1400	800	500	800	80	1100
105 Kva	3900	2900	1900	900	1000	1400	900	500	900	80	1400
130 Kva	4360	3035	2360	1035	1000	1535	900	500	900	80	1440
150 Kva	4360	3035	2360	1035	1000	1535	900	500	900	80	1460
200 Kva	4360	3035	2360	1035	1000	1535	900	500	900	80	1608
275 Kva	5000	3300	3000	1300	1000	1800	1000	500	900	110	1950
300 Kva	5000	3300	3000	1300	1000	1800	1000	500	900	110	2770
350 Kva	5000	3300	3000	1300	1000	1800	1000	500	900	110	3295
400 Kva	5000	3300	3000	1300	1000	1800	1000	500	900	110	3295

NOMENCLATURA

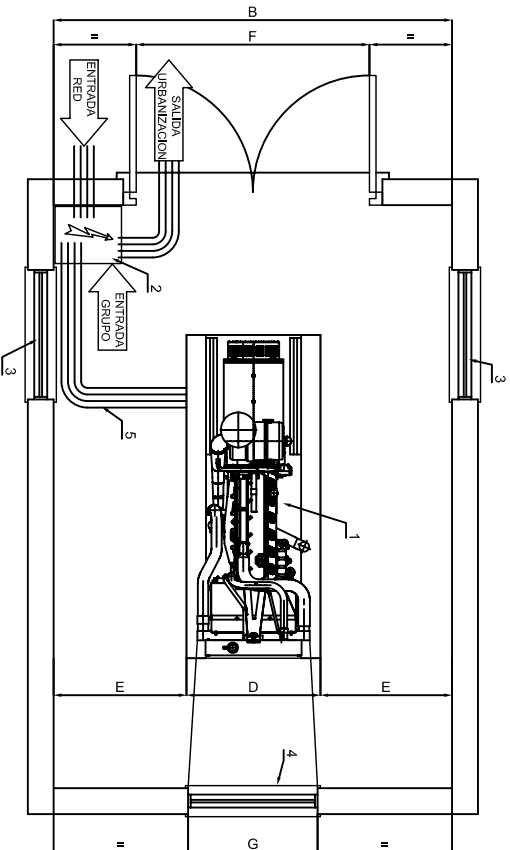
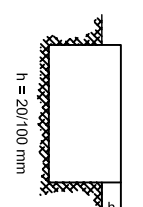
- 1.- GRUPO ELECTROGENO
- 2.- CUADRO DE CONTROL
- 3.- HUECO ENTRADA DEL AIRE
- 4.- TUNEL DE EXPULSION DEL AIRE
- 5.- BANDEJA PASACABLES
- 6.- PUERTA DE ACCESO
- 7.- BASE HORMIGON ARMADO H-175
- 8.- TUBO DE ESCAPE
- 9.- SILENCIADOR DE ESCAPE

EL Ø DE LA TUBERIA DE EXTENSION DEL ESCAPE PUEDE SER EL MISMO QUE EL DEL SILENCIADOR HASTA 5 m. PARA DISTANCAS MAYORES DE 5 m. DEBE AUMENTARSE EL Ø DE LA TUBERIA 10 mm POR CADA 10 m MAS DE DISTANCIA ENTRE EL GRUPO ELECTROGENO Y LA SALIDA EXTERIOR

CALCULO ESPESOR LOSA DE HORMIGON

$$D = \frac{W}{d \times B \times L}$$

D = altura bloque de hormigon
W = peso total grupo electrogeno
d = densidad del hormigon (2400 kg/m³)
B = anchura bloque de hormigon (m)
L = longitud bloque de hormigon (m)



		PROYECTO:		GRUPO ESTATICO ESTANDAR IVECO	
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PESO		DISEÑADO		TOLERANCIA GENERAL	
ESCALA		DENOMINACION:		EXPEDIENTE:	
		GRUPOS EST-STD IVECO		Nº MOD.	
		DIMENSIONES DE SALA		MARCHA	