



HIMOINSA®
THE ENERGY

MODEL
HFW-400 T5
INDUSTRIAL RANGE
Standard soundproofing
Powered by FPT_IVECO



- G1
- WATER-COOLED
- THREE PHASE
- 50 HZ
- STAGE 2
- DIESEL

Generating Rates



SERVICE		PRP	STANDBY
Power	kVA	400	449
Power	kW	320	360
Rated Speed	r.p.m.	1.500	
Standard Voltage	V	400/230	
Available Voltages	V	230 - 230/132	
Rated at power factor	Cos Phi	0,8	

01

HIMOINSA Company with quality certification ISO 9001

HIMOINSA gensets are compliant with EC mark which includes the following directives:

- 2006/42/CE Machinery safety.
- 2014/30/UE Electromagnetic compatibility.
- 2014/35/UE electrical equipment designed for use within certain voltage limits
- 2000/14/EC Sound Power level. Noise emissions outdoor equipment. (amended by 2005/88/EC)
- EN 12100, EN 13857, EN 60204

Ambient conditions of reference according to ISO 8528-1:2005 normative: 1000 mbar, 25°C, 30% relative humidity.

Prime Power (PRP):

According to ISO 8528-1:2005, Prime power is the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year under the agreed operating conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output (Ppp) over 24 h of operation shall not exceed 70 % of the PRP.

Emergency Standby Power (ESP):

According to ISO 8528-1:2005, Emergency standby power is the maximum power available during a variable electrical power sequence, under the stated operating conditions, for which a generating set is capable of delivering in the event of a utility power outage or under test conditions for up to 200 h of operation per year with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. The permissible average power output over 24 h of operation shall not exceed 70 % of the ESP

G2 class load acceptance in accordance with ISO 8528-5:2005

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Engine Specifications 1.500 r.p.m.

ENGINE		PRP	STANDBY
Rated Output	kW	352	387
Manufacturer		FPT_IVECO	
Model		C13TE3A	
Engine Type		4-stroke diesel	
Injection Type		Direct	
Aspiration Type		Turbocharged and after-cooled	
Number of cylinders and arrangement		6 - L	
Bore and Stroke	mm	135 x 150	
Displacement	L	12,9	
Cooling System		Liquid (water + 50% glycol)	
Lube Oil Specifications		ACEA E3 - E5	
Compression Ratio		16,5 : 1	
Fuel Consumption Standby	l/h	98,5	
Fuel Consumption 100% PRP	l/h	87,5	
Fuel Consumption 80 % PRP	l/h	72,5	
Fuel Consumption 50 % PRP	l/h	48,6	
Lube oil consumption with full load		0,5 % of fuel consumption	
Total oil capacity including tubes, filters	L	35	
Total coolant capacity	L	68	
Governor	Type	Electrical	
Air Filter	Type	Dry	
Inner diameter exhaust pipe	mm	108	

Generator

Generator		
Poles	No.	4
Connection type (standard)		Star-series
Mounting type		S-1 14"
Insulation	Class	H class
Enclosure (according IEC-34-5)		IP23
Exciter system		Self-excited, brushless
Voltage regulator		A.V.R. (Electronic)
Bracket type		Single bearing
Coupling system		Flexible disc
Coating type		Standard (Vacuum impregnation)



Application Data

Exhaust System		
Maximum exhaust temperature	°C	445
Exhaust Gas Flow	Kg/s	0,613
Maximum allowed back pressure	kPa	5
Exhaust Flange Size (external diameter)	mm	140
Heat dissipated by exhaust pipe	KCal/Kwh	703

Necessary Amount Of Air		
Intake air flow	m3/h	1770
Cooling Air Flow	m3/s	6,8
Alternator fan air flow	m3/s	0,8

Starting System		
Starting power	kW	6
Starting power	CV	8,16
Recommended battery	Ah	185 x 2
Auxiliary Voltage	Vdc	24

Fuel System		
Fuel Oil Specifications		Diesel
Fuel Tank	L	597
Other fuel tank capacities	L	1.660



Dimensions



G1 <i>Weight and Dimensions</i>		
(L) Length	mm	4.100
(H) Height	mm	2.200
(W) Width	mm	1.600
Maximum shipping volume	m ³	14,43
(*) Weight with liquids in radiator and sump	Kg	4.376
Fuel tank capacity	L	597
Autonomy	Hours	8
Sound pressure level	dB(A)@7m	68 ± 2,3
<i>(*) (with standard accessories)</i>		

STANDARD VERSION (Steel tank)

Himoinsa has the right to modify any feature without prior notice.
Weights and dimensions based on standard products. Illustrations may include optional equipment.
Technical data described in this catalogue correspond to the available information at the moment of printing.
Industrial design under patent.

Local Distributor



Dimensions of Other Available Versions

<i>Weight and Dimensions</i>		
(L) Length	mm	4.100
(H) Height	mm	2.600
(W) Width	mm	1.600
Maximum shipping volume	m ³	17,06
(*) Weight with liquids in radiator and sump	Kg	5.011
Fuel tank capacity	L	1.660,0
Autonomy	Hours	23
Sound pressure level	dB(A)@7m	68 ± 2,3

(*) (with standard accessories)

HIGH CAPACITY VERSION (Steel tank)



CONTROL PANEL MODEL

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M5

Digital manual Auto-Start control panel and thermal magnetic protection (depending on current and voltage) and differential with CEM7. Digital control unit CEM7



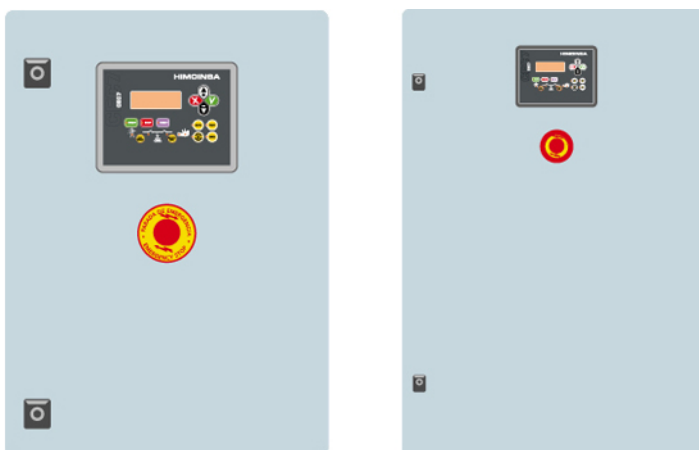
AS5

Automatic panel WITHOUT transfer switch and WITHOUT mains control with CEM7 unit. (*) AS5 as optional with CEA7 unit. Automatic panel without transfer switch and WITH mains control.



CC2

Himoinsa Switching cabinet WITH display. Digital control unit CEC7

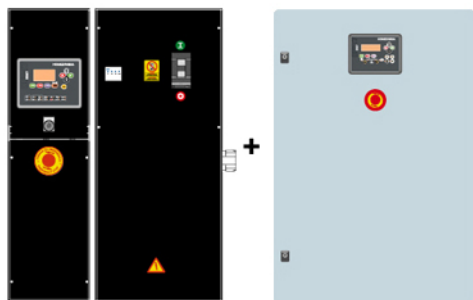




CONTROL PANEL MODEL

AS5 + CC2

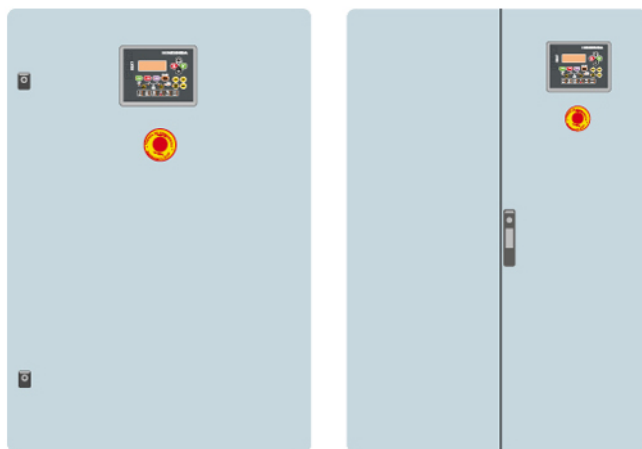
Automatic panel WITH transfer switch and with mains control. The display will be on the genset and on the cabinet. Digital control unit CEM7+CEC7



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AC5

Automatic mains failure control panel. Wall-mounted cabinet WITH transfer switch and thermal magnetic protection (depending on current and voltage). Digital control unit CEA7





Controller features (I)

- : Standard
- x : Not included
- : Optional

Generator Readings	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
Voltage between phases	•	•	•	•
Voltage between neutral and phase	•	•	•	•
Current intensities	•	•	•	•
Frequency	•	•	•	•
Apparent power (Kva)	•	•	•	•
Active power (Kw)	•	•	•	•
Reactive power (kVAr)	•	•	•	•
Power factor	•	•	•	•
Mains Readings	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
Voltage between phases	x	•	•	•
Voltage between phases and neutral	x	•	•	•
Current intensities	x	•	•	•
Frequency	x	•	•	•
Apparent power	x	•	x	x
Active power	x	•	x	x
Reactive power	x	•	x	x
Power factor	x	•	x	x
Engine Readings	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
Coolant temperature	•	•	x	•
Oil pressure	•	•	x	•
Fuel level (%)	•	•	x	•
Battery voltage	•	•	x	•
R.P.M.	•	•	x	•
Battery charge alternator voltage	•	•	x	•
Engine Protections	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
High water temperature	•	•	x	•
High water temperature by sensor	•	•	x	•
Low water temperature by sensor	•	•	x	•
Low oil pressure	•	•	x	•
Low oil pressure by sensor	•	•	x	•
Low water level	•	•	x	•
Unexpected shutdown	•	•	x	•



Controller features (II)

- : Standard
- x : Not included
- : Optional

Engine Protections	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
Fuel storage	•	•	x	•
Fuel storage by sensor	•	•	x	•
Stop failure	•	•	x	•
Battery voltage failure	•	•	x	•
Battery charge alternator failure	•	•	x	•
Overspeed	•	•	x	•
Underspeed	•	•	x	•
Start failure	•	•	x	•
Emergency stop	•	•	•	•
Alternator Protections	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
High frequency	•	•	•	•
Low frequency	•	•	•	•
High voltage	•	•	•	•
Low voltage	•	•	•	•
Short-circuit	•	•	x	•
Asymmetry between phases	•	•	•	•
Incorrect phase sequence	•	•	•	•
Inverse power	•	•	x	•
Overload	•	•	x	•
Genset signal drop	•	•	•	•
Counters	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
Total hour counter	•	•	•	•
Partial hour counter	•	•	•	•
Kilowatt meter	•	•	•	•
Starts valid counters	•	•	•	•
Starts failure counters	•	•	•	•
Maintenance	•	•	•	•
Communications	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
RS232	•	•	•	•
RS485	•	•	•	•
Modbus IP	•	•	•	•
Modbus	•	•	•	•



Controller features (III)

- : Standard
- x : Not included
- : Optional

Communications	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
CCLAN	•	•	x	•
Software for PC	•	•	•	•
Analogue modem	•	•	•	•
GSM/GPRS modem	•	•	•	•
Remote screen	•	•	x	•
Tele signal	• (8 + 4)	• (8 + 4)	x	• (8 + 4)
J1939	•	•	x	•
Features	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
Alarm history	• (10) / (opc. +100)	• (10) / (opc. +100)	• (10) / (opc. +100)	• (10) / (opc. +100)
External start	•	•	•	•
Start inhibition	•	•	•	•
Mains failure start	x	•	•	•
Start under normative EJP	•	•	x	•
Pre-heating engine control	•	•	x	•
Genset contactor activation	•	•	•	•
Mains & Genset contactor activation	x	•	•	•
Fuel transfer control	•	•	x	•
Engine temperature control	•	•	x	•
Manual override	•	•	x	•
Programmable alarms	•	•	x	•
Genset start function in test mode	•	•	•	•
Programmable outputs	•	•	x	•
Multilingual	•	•	•	•
Special Functions	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
GPS Positioning	•	•	x	•
Synchronisation	•	•	x	•
Mains synchronization	•	•	x	•
Second Zero elimination	•	•	x	•
RAM7	•	•	x	•
Remote screen	•	•	x	•
Programming timer	•	•	x	•



Generator set features

Engine

- Diesel engine
- 4-stroke cycle
- Water-cooled
- 24V electrical system
- Radiator with blower fan
- Water separator filter (no visible level)
- Electronic governor
- ATA bulbs
- BPA bulbs
- Radiator water level sensor
- Dry air filter
- Hot parts protection
- Moving parts protection

Alternator

- Self-excited and self-regulated
- 4 poles
- AVR governor
- IP23 protection
- H class insulation
- Single drive-shaft
- Flexible disc coupling

Electrical system

- Electric control and power panel with measurements devices and control unit (according to necessity and configuration)
- 4-pole thermal magnetic circuit breaker
- Battery isolator
- Adjustable earth leakage protection (time & sensitivity) standard in M5 and AS5, with thermal magnetic protection
- Battery charger (standard on gensets with automatic control panels)
- Heating resistor (standard on sets with automatic control panels)
- Battery charger alternator with ground connection
- Starter battery/ies installed (cables and bracket included)
- Ground connection electrical installation with connection ready for ground spike (not supplied)



Generator set features

Soundproofed version

- Steel chassis
 - Oil sump extraction kit
 - Versatility to assemble a high capacity chassis with a metallic fuel tank
 - Anti-vibration shock absorbers
 - Fuel tank
 - Fuel level gauge
 - Emergency stop button
 - Bodywork made from high quality steel plate
 - High mechanical strength
 - Low level of noise emissions
 - Soundproofing provided by high-density volcanic rock wool
 - Epoxy polyester powder coating (salt spray test of more than 1000 hours)
 - Full access for maintenance (water, oil and filters, no need to remove the bonnet)
 - Reinforced lifting hooks for crane hoisting
 - Watertight chassis (acts as a double barrier against liquid retention)
 - Fuel tank drain plug
 - Chassis drain plug
 - Chassis ready for future mobile kit installation
 - Steel residential silencer -35db(A) attenuation.
- Optional :
- 3-way valve fuel filling (available in 1/2" and 3/8" fittings)
 - Fuel transfer pump



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PDF Summary

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