Model: **HGE-130 T6 LPG**
INDUSTRIAL RANGE
Open Skid
Powered by TEDOM

HIMOINSA®

K7	
WATER COOLED	
THREE PHASE	
60 Hz	
NOT REQUIRED	
LPG	

Generating Rates

SERVICE		COP	STANDBY
Power	kVA	130	Not allowed
Power	kW	104	Not allowed
Rated Speed	r.p.m.	1.800	
Standard Voltage	V	480/277	
Available Voltages	V	380/220 - 416/240 - 440/254 - 460/265 - 600/346	
Rated at power factor	Cos Phi	0,8	

HIMOINSA, company with quality certification ISO 9001
HIMOINSA gensets and cogenerations are compliant with EC mark which includes the following directives:

• 2006/42/CE Machinery safety.
• 2006/95/EC Low voltage.
• 89/336/EEC Electromagnetic compatibility.
• 2000/14/EC Sound Power level. Noise emissions outdoor equipment. (amended by 2005/88/EC).
• 97/68/EC Emissions of gaseous and particulate pollutants. (amended by 2002/88/EC & 2004/26/EC).
• EN 12100, EN 13857, EN 60204.

Ambient conditions of reference: 1000 mbar, 25ºC, 30% relative humidity. Power according to ISO 3046 normative.

CONTINUOUS POWER (COP) – ISO 8528: it is defined as being the maximum power which the generating set is capable of delivering continuously whilst supplying a constant 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.

PRIME POWER (PRP) - ISO 8528: It is defined as being 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 over 24 h of operation shall not exceed 70 % of the PRP.

STANDBY POWER (ESP) - ISO 8528: It is defined as being the maximum power which a generating set is capable of delivering continuously whilst supplying 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 manufacturer. The permissible average power output over 24 h of operation shall not exceed 70 % of the ESP.

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Engine

		COP	STANDBY
Rated Output	Kw	120	Not allowed
Manufacturer		TEDOM	
Model		TP120G8VTX86	
Rated Speed	r.p.m.	1.800	
Fuel		LPG	
Engine Type		4 otto-cycle	
Ignition System		Spark plug ignition	
Aspiration Type		Turbocharged	
Cylinders Arrangement		6 - L	
Bore and Stroke	mm	130 x 150	
Displacement	l	11,946	
Cooling System		Liquid	
Compression Ratio		9,5 : 1	
Governor	Type	Electronic	
Air Filter	Type	Dry	

Alternator

Poles	Num	4
Winding Connections (standard)		Star
Frame Mounting		S-1 14"
Insulation	Class	H class
Enclosure (according IEC-34-5)		IP23
Exciter System		self-excited, brushless
Voltage Regulator		A.V.R. (Electronic)
Bearing		Single bearing
Coupling		Flexible disc
Coating type		Standard (Vacuum impregnation)

Cooling system

Air Flow (Combustion + Cooling)	m³/h	14.972
Engine Coolant Capacity	l	22
Coolant Flow	m³/h	18
Heat rejection to Coolant	kW	122

Exhaust system

Exhaust Flow at Rated kW	kg/h	793
Exhaust Temperature at Rated kW	°C	626
Maximum Back Pressure	kPa	5
Exhaust Flange Size	mm	120,7
Heat rejection to Exhaust (to 120 °C)	kW	120

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Lubrication system

Lube Oil Specifications		SAE 40
Lube Oil Capacity with filters	l	56

Air inlet system

Intake Air Flow	m³/h	632
Cooling Air Flow	m³/h	14.340

Starting system

Starting Motor	Kw	6,6
Recommended Battery Capacity	Ah	150
Auxiliary Voltage	Vcc	24

Fuel system

LPG Specifications*		Refer to manual
Fuel Consumption StandBy	Nm³/h	Not allowed
Fuel Consumption 100% COP	Nm³/h	12,9
Fuel Consumption 75 % COP	Nm³/h	-
Fuel Consumption 50 % COP	Nm³/h	-
Fuel Supply Connection Size	inches	2
Fuel Supply Pressure	mbar	30-300
Auto Fuel Lock-Off Double Solenoid Valve		Standard

Fuel Composition: 60% butane, 40% propane

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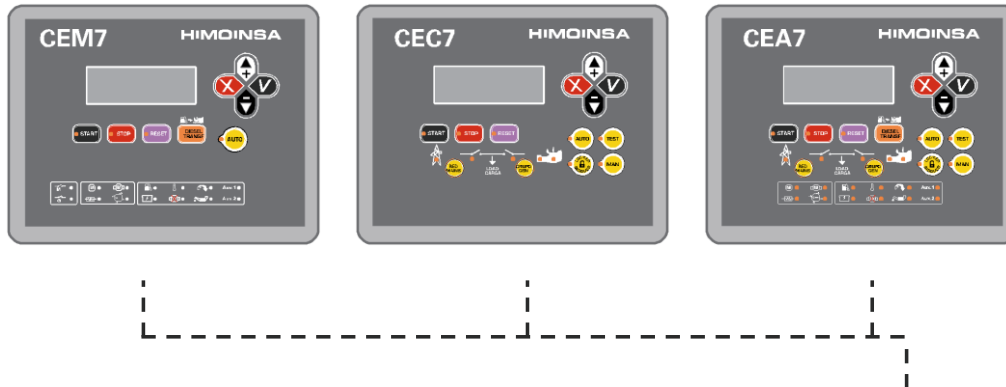
Control Panel

FUNCIONALITY	PANEL MODEL	CONTROLLER MODE
Auto-start	M5	CEM7
Automatic Control Panel without Grid Control	AS5	CEM7**
Automatic Control Panel with Grid Control (customer change over contactors)	AS5	CEA7
Automatic Control Panel with Grid Control (Himoinsa change over contactor with display)	AS5XCC2	CEM7+CEC7
Automatic Grid Failure (wall mounted panel)	AC5	CEA7

(**) Pre-heating resistance in the Genset and battery charger in the control panel included.

Option available: Auto-start control panel without circuit breaker

General Description

CEM7

The CEM7 controller unit is a device able to control de operation, monitoring and protection of a generating set. The controller unit consists of 2 different modules:
1. The VISUALIZATION module
2. The MEASUREMENTS module

VISUALIZATION MODULE

Provides information about the status of the device and, at the same time, allows the user to interact with it. It consists on a backlit display and various LEDs for monitoring the status of the controller and buttons that allow the user to control, program and configure the functions of the unit.

MEASUREMENTS MODULE

Controls and monitors the control board. It is located in the rear part of the panel, in order to reduce the wiring and to avoid electromagnetic disturbances. Every signal, sensor and actuator is connected to this module. The connexion between the visualization module and the measurements module is made with a CAN communication bus. This feature allows the intercommunion of other modules to the main controller with a scalability warranty.

CEC7

The CEC7 controller unit is a net sings supervision equipment, and control and supply supplier through generating set. The controller unit consists of 2 different modules:
1. The VISUALIZATION module
2. The MEASUREMENTS module

VISUALIZATION MODULE

The visualization module provides information about the status of the device and, at the same time, allows the user to interact with it. With this visualization module the user is able to control, program and configure the functions of the unit. It consists on a backlight display and various LEDs for monitoring the status of the controller and buttons that allow the user to control, program and configure the functions of the unit.

MEASUREMENTS MODULE

The measurements module controls and monitors the control board. It is located in the rear part of the panel, in order to reduce the wiring and to avoid electromagnetic disturbances. Every signal, sensor and actuator is connected to this module. The connection between the measure module and visualization mode is made by means of a CAN BUS (Communication Bus).This produces an interconnection between additional modules which guarantees the proper working of the controller.

CEA7

CEA7 controller is a supervision equipment for mains signal and also a supervision and electrical supply through the genset. This controller is composed by 2 different modules:
1. VISUALIZATION module
2. MEASUREMENTS module

VISUALIZATION MODULE

The visualization module provides information about the status of the device and, at the same time, allows the user to interact with it. With this visualization module the user is able to control, program and configure the functions of the unit.

MEASUREMENTS MODULE

The measurements module controls and monitors the control board. It is located in the rear part of the panel, in order to reduce the wiring and to avoid electromagnetic disturbances. Every signal, sensor and actuator is connected to this module. Connection between the measure module and visualization mode is made by means of a CAN BUS (Communication Bus).This produces an interconnection between additional modules which guarantees the proper working of the controller.

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Control & Power Panel

1. CM Control Panel.
2. CP Power Panel.
3. On/Off Switch.
4. Emergency Stop.
5. Main Line Circuit Breaker for overload protection.
6. Main bus /hardwire connection panel with safety protection.

CE-7 Auto-start multilingual control panel

1. Voltage between each Phase & Neutral
2. Voltage between Phases
3. Current (amps) on each Phase
4. Frequency
5. Active, Aparent & Reactive Power
6. Power Factor
7. Instant Power (kWh) and Accumulative power)
8. Fuel On/Off
9. Oil pressure, coolant temperature, oil temperature
10. Battery voltage, battery charging alternator voltage
11. Engine Speed
12. Hours running
13. Multilingual (Spanish, English, French, Italian, Portuguese, Polish, German, Chinese, Russian, Swedish, Norwegian)

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Engine Alarms

1. High coolant temperature.
2. Low oil pressure.
3. Battery charge alternator.
4. Start failure.
5. Low water level.
6. Fuel supply.
7. Over-speed.
8. Under-speed.
9. Low battery voltage.
10. High coolant temp. by sensor.
11. Low oil pressure by sensor.
12. Low pressure fuel by sensor.
13. Unexpected shutdown.
14. Stop failure.
15. Low engine temperature.
16. Genset voltage drops.
17. Emergency stop.

Genset Alarms

1. Overload.
2. Unbalanced voltage.
3. Over-voltage.
4. Under-voltage.
5. Over-frequency.
6. Under-frequency.
7. Overload.
8. Short circuit.
9. Inverse Power.
10. Asymmetry among phases.
11. Genset contactor Failure.

Grid Alarms

1. Maximum Mains Voltage.
2. Minimum Mains Voltage.
3. Maximum Mains Frequency.
4. Minimum Mains Frequency.
5. Mains phase sequence failure.
6. Mains power failure.
7. Mains contactor switching failure.

ISO 9001

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Control Features

	CEM 7	CEC 7	CEA 7	CEM7 + CEC7
GENERATOR READINGS				
Voltage among phases	•	•	•	•
Voltage among phases and neutral	•	•	•	•
Amperage	•	•	•	•
Frequency	•	•	•	•
Apparent power (kVA)	•	•	•	•
Active power (kW)	•	•	•	•
Reactive power (kVAr)	•	•	•	•
Power factor	•	•	•	•
GRID READINGS				
Voltage among phases	x	•	•	•
Voltage among phase and neutral	x	•	•	•
Amperage	x	•	•	•
Frequency	x	•	•	•
Aparent power	x	x	•	•
Active power	x	x	•	•
Reactive power	x	x	•	•
Power factor	x	x	•	•
ENGINE READINGS				
Coolant temperature	•	x	•	•
Oil pressure	•	x	•	•
Fuel On/Off	•	x	•	•
Battery voltage	•	x	•	•
R.P.M.	•	x	•	•
Battery charge alternator voltage	•	x	•	•
ENGINE PROTECTIONS				
High water temperature	•	x	•	•
High coolant temperature by sensor	•	x	•	•
Low engine temperature by sensor	•	x	•	•
Low oil pressure	•	x	•	•
Low oil pressure by sensor	•	x	•	•
Low coolant level	•	x	•	•
Unexpected shutdown	•	x	•	•
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				
High frequency	•	•	•	•
Low frequency	•	•	•	•
High voltage	•	•	•	•
Low voltage	•	•	•	•
Short-circuit	•	x	•	•
Asymmetry among phases	•	•	•	•
Incorrect phase sequence	•	•	•	•
Inverse power	•	x	•	•
Overload	•	x	•	•
Genset signal droop	•	•	•	•

• Standard   x Not Included   • Optional

NOTE: All protections are programmable to make "warning" or "stop with cooling time" or "without".

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Control Features

	CEM 7	CEC 7	CEA 7	CEM7 + CEC7
COUNTERS				
Total hour counter	•	•	•	•
Partial hour counter	•	•	•	•
Kilowatt meter	•	•	•	•
Starts valid counters	•	•	•	•
Starts failure counters	•	•	•	•
Maintenance	•	•	•	•
COMUNICATIONS				
RS232	•	•	•	•
RS485	•	•	•	•
Modbus IP	•	•	•	•
Modbus	•	•	•	•
CCLAN	•	x	•	•
Software for PC	•	•	•	•
Analogic modem	•	•	•	•
GSM/GPRS modem	•	•	•	•
Remote screen	•	x	•	•
Telesignal	•(8+4)		•(8+4)	•(8+4)
J1939	•	x	•	•
FEATURES				
Alarms history	(10) / (•+100)	-10	(10) / (•+100)	(10) / (•+100)
External start	•	•	•	•
Start inhibition	•	•	•	•
Mains failure start	•(CEC7)	•	•	•
Start under normative EJP	•	x	•	•
Genset contactor activation	•	x	x	•
Main & Genset contactor activation	x	•	•	•
Fuel supply control	•	x	•	•
Engine temperature control	•	x	•	•
Manual override	•	x	•	•
Programmable alarms	•	x	•	•
Genset start function in test mode	•	x	•	•
Programmable outputs	•	x	•	•
Multilingual	•	•	•	•
SPECIAL FUNCTIONS				
Positioning GPS	•		•	•
Synchronization with mains	•		•	•
Mains Synchronism	•		•	•
Second Cero suppression	•		•	•
RAM 7	•		•	•
Remote screen	•		•	•
Timer	•		•	•

• Standard   x Not Included   • Optional

CEC7: available when the controller CEC7 is incorporated to the installation.
MPS 5.0: available application when the module MPS 5. has been incorporated to the panel.

Note: AS5 + CC2 configuration, will have all CEM7 functionality plus CEC7 mains readings.

Control Panel Model

M5
Digital manual auto-start control panel and thermal magnetic protection (according to voltage and phase) and differential relay. CEM7
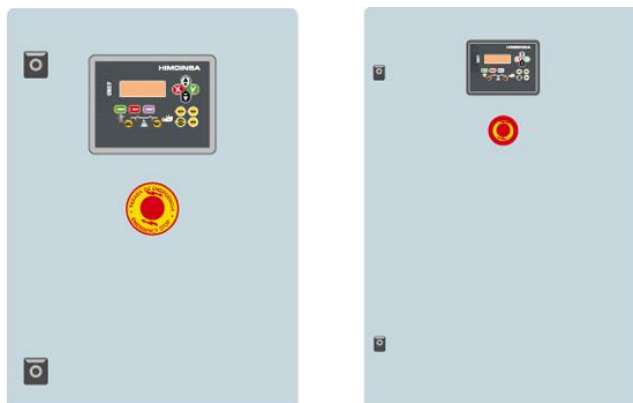
AS5
Automatic control panel WITHOUT ATS (Automatic Transfer Switch) and WITHOUT mains control with CEM7. (*) As optional AS5 with CEA7. Automatic control panel without ATS (automatic transfer switch) and with mains control.

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CC2
Himoinsa External ATS WITH visualization display. CEC7

Control Panel Model

AS5 + CC2

Automatic with mains control and ATS with visualization. The visualization will be in the genset and in the ATS box. CEM7+CEC7
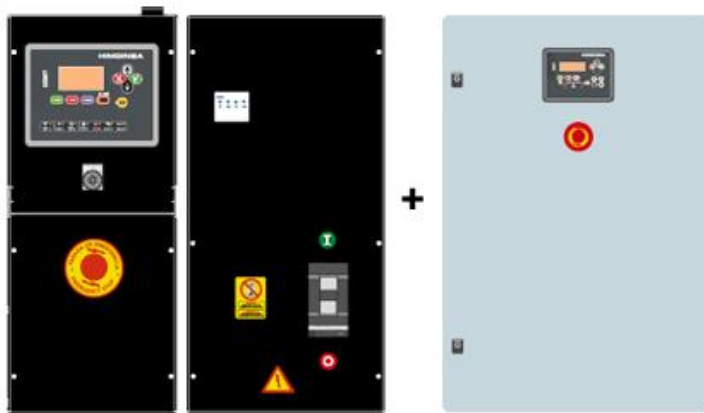
AC5

Automatic Mains Failure control panel. Wall mounted Automatic control panel including transfer switch with thermal magnetic protection (according to voltage and phase). CEA7
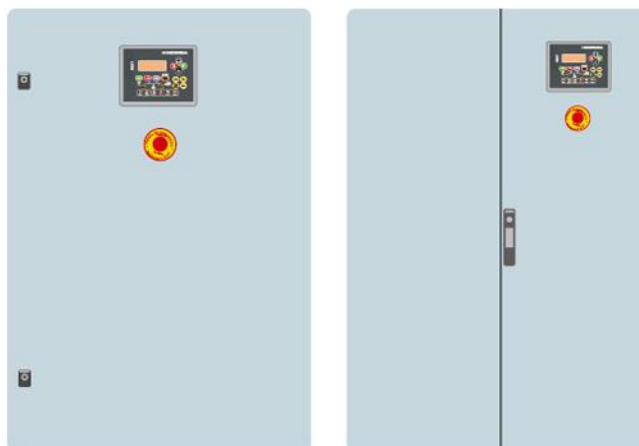
Standard and Optional Features

Engine

· LPG engine
· 4 strokes cycle
· Water-cooled
· 24V Electrical system
· Radiator with blowing fan
· Water separator decanting filter (no visible level)
· Electronic governor
· Sender WT
· Senders OP
· Dry air cleaner
· Hot components and radiator guards
· Mobile components guards

Alternator

· Self-excited and Self-regulated
· 4 poles
· AVR governor
· IP23 protection degree
· Insulation H class
· Single drive-shaft
· Flexible disc coupling

Electrical system

· Control and power electric panel, with measurements devices and controller (according to necessity and configuration)
· 4 poles circuit breaker
· Earth leakage protection adjustable (time & sensibility) standard in M5 and AS5 configuration with MCCB
· Battery charger (standard on automatic control panels)
· Pre-heating resistance (standard on automatic control panels) / water jacket heater
· Battery charge alternator with ground connection
· Starting battery/ies installed and connected to the engine (supports included)
· Ground connection electrical installation with connection ready for ground pike (not supplied)

Optional :
· Battery disconnector

Gas Train

· Ball valve
· Gas filter
· Double solenoid valve
· Gas pressure regulator
· Valve testing system
· Low pressure switch

Optional :
· Medium and high pressure regulator
· High pressure switch

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Standard and Optional Features

Open set version

· Emergency stop button
· Steel made chassis
· Anti-vibration shock absorber
· Chassis with integrated gas train
· Steel made residential silencer -15dB (A) attenuation

Optional:
· Supplementary oil system with pump
· Steel made residential silencer -35dB (A) attenuation

Weight & Dimensions

WEIGHT AND DIMENSIONS		
Length (L)	mm	3.000
Height (H)	mm	2.000
Width (W)	mm	1.160
Shipping Volume Seaworthy (standard supplier)	m³	6,96
Wet Weight*	kg	1.792

(*) (with standard accesories)

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

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Local Distributor

PDF Summary

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