HIMOINSA®
THE ENERGY

Model: HTW-920 T5

HEAVY RANGE
Container
Powered by MITSUBISHI

- 20 FT
- WATER-COOLED
- THREE PHASE
- 50 HZ
- DIESEL

Generating Rates

SERVICE		PRP	STANDBY
Power	kVA	916	1006
Power	kW	733	805
Rated Speed	r.p.m.	1.500	
Standard Voltage	V	400	
Available Voltages	V	400/230 - 415/240 - 380/220 V	
Rated at power factor	Cos Phi	0,8	

ISO 9001
BUREAU VERITAS
Certification

QR Code

HIMOINSA Company with quality certification ISO 9001
HIMOINSA gensets are compliant with EC mark which includes the following directives:

- EN ISO 13857:2008 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)

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

P.R.P. Prime Power - ISO 8528 : prime power is the maximum power available during a variable power sequence, which may be run for an unlimited number of hours per year, between stated maintenance intervals. The permissible average power output during a 24 hours period shall not exceed 80% of the prime power. 10% overload available for governing purposes only.

Standby Power (ISO 3046 Fuel Stop power): power available for use at variable loads for limited annual time (500h), within the following limits of maximum operating time: 100% load 25h per year – 90% load 200h per year. No overload available. Applicable in case of failure of the main in areas of reliable electrical network.

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Engine Specifications 1.500 r.p.m.

ENGINE		PRP	STANDBY
Rated Output	Kw	771	850
Manufacturer		MITSUBISHI	
Model		S12A2 PTA2S	
Engine Type		Diesel 4 strokes-cycle	
Injection Type		Direct	
Aspiration Type		Turbocharged and aftercooled	
Ciylinders Arrangement		12V	
Bore and Stroke	mm	150x160	
Displacement	L	33,93	
Cooling System		Water	
Lube Oil Specifications		API CD or CF SAE 30 or SAE 40	
Compression Ratio		15,3:1	
Fuel Comsumption Stand By	l/h	220	
Fuel Comsumption 100% PRP	l/h	195	
Fuel Comsumption 75 % PRP	l/h	147	
Lube Oil comsumption full load	g/kwh	0,8	
Total oil capacity including tubes, filters	L	120	
Total Coolant Capacity	L	215	
Governor	Type	Electrical	
Air Filter	Type	Dry	
Inner diameter exhaust pipe	mm	212	

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Generator

Generator		
Poles	Num	4
Winding Conections (standard)		Star
Frame Mounting		S-0 18"
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		Standar (Vacuum impregnation)

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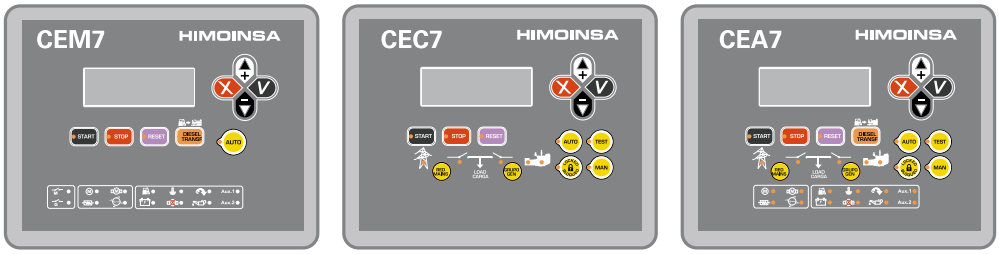
Control Panel Models



CEM7 CEC7 CEA7

FUNCIONALITY	PANEL MODEL	CONTROLLER MODE
Auto-start	M5	CEM7
Automatic Control Panel Without Mains Control	AS5	CEM7**
Automatic Control Panel With Mains Control (customer change over contactors)	AS5	CEA7
Automatic Control Panel With Mains Control (Himoinsa change over contactor with display)	AS5XCC2	CEM7+CEC7
Automatic Mains 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

CEM 7

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.

CEC 7

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.

CEA 7

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 inthe 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 level
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, Chinesse, Russian, Swedish, Norwegian)

Engine Alarms

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

Genset Alarms

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

Mains 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.

Programmable Alarms:
There are 5 programmable alarms on text and action that could be associated to any engine alarms and showed on the auxiliary led 1 and 2 of the display

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Controllers 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	•	•	•	•
MAINS 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 level (%)	•	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 coolent 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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Controllers Features

	CEM 7	CEC 7	CEA 7	CEM7 + CEC7
COUNTERS				
Total hour counter	•	•	•	•
Partial hour counter	•	•	•	•
Kilowatimeter	•	•	•	•
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 transfer 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 incorparted 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 funcionality plus CEC7 mains readings.

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Generating Sets Standard and Optional Features

Engine

- Low coolant level sensor
- Exhaust gases compensator
- Standard air filter
- Standard fuel filter
- Standard oil filter
- Oil temperature sensor
- Diesel engine
- 4 strokes-cycle
- Water-cooled
- 24V Electrical system
- Radiator with blowing fan
- Electronic governor
- Sender WT
- Senders OP
- Hot components and radiator guards
- Mobile components guards

Alternator

- Self-excited and Self-regulated
- IP23 protection degree
- Insulation H class

Container version

- Soundproof insulation made of high density volcanic rockwool
- High mechanical resistance
- Low level of sound emissions
- Door with window to visualize control panel, alarms and measurements
- Hoisting points reinforced for lifting with cranes and lower points for transportation with forklifts
- Residential silencer steel made, with -35dB attenuation and tilting cap in the exhaust
- Fuel tank integrated in the chassis
- Anti-vibration shock absorbers
- Steel chassis
- Robust construction designed for continuous or emergency applications
- Stainless steel fittings

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Generating Sets Standard and Optional Features

Container version

- Emergency stops
- Easy access to the power connection
- Reinforced chassis for heavy range
- Easy access for chassis cleaning
- Silent-block with anti-corrosion protection between the monoblock and the chassis
- Easy access to fill radiator through the roof
- Manual oil extraction pump

Container Electrical System

- Control panel and emergency stop button
- Power panel
- 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)
- 4 poles circuit breaker (T5 models)
- Power panel with safety protection in ouput terminals box (open thermal magnetic protection and alarm)
- Maintenance-free and anti-blast battery
- Battery isolator

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Application Data

Exhaust System		
Maximum exhaust temperature	ºC	520
Exhaust Gas Flow	m3/min	222
Maximum allowed back pressure	mm H2o	600
Exhaust Flange Size (external diameter)	mm	200
Heat evacuated through exhaut pipe	KCal/Kwh	880,7

Air Inlet System		
Intake Air Flow 100% Stand By	m3/h	5040
Cooling Air Flow 100% Stand By	m3/s	23
Alternator fan air flow	m3/s	1,614

Starting System		
Starting Motor	Kw	7,5 x 2
Starting Motor	CV	10,2 x 2
Recommended Battery Capacity	Ah	300
Auxiliary Voltage	Vcc	24
Starting current	Peak	720
Starting current	Intensity	380

Fuel System		
Fuel Oil Specifications		Diesel
Maximum power suction pump	mm Hg	75
Maximum return feed pump	mm Hg	150
Fuel Tank	L	1.000

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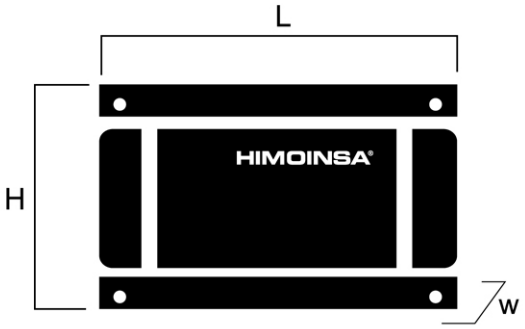
Dimensions



20ft	Weight and Dimensions		
(L)	Length	mm	6.058
(H)	Height	mm	2.896
(W)	Width	mm	2.438
	Shipping Volume seaworthy (standard suplier)	m3	42,77
(*)	Wet weight	Kg	11.800
(*)	Dry weight	Kg	11.479
	Fuel tank capacity	L.	1000
	Autonomy	Hours	7
	Sound Level	db(A)@7m	72

(*) (with standard accesories)

STANDARD VERSION

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

Local Distributor

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PDF Summary

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