

Generating Rates

SERVICE		PRP	STANDBY
Power	kVA	20	22
Power	kW	16,2	17,7
Rated Speed	r.p.m.	1.5	500
Standard Voltage	V	400	
Available Voltages	V	400/230 - 230/132 - 230 V	
Rated at power factor	Cos Phi	0,8	



HIMOINSA Company with quality certification ISO 9001 HIMOINSA geneets 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, 25°C, 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.

HIMOINSA HEADQUARTERS:

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Subsidiaries: ITALY | PORTUGAL | POLAND | GERMANY I SINGAPORE | UAE | MEXICO | PANAMÁ I ARGENTINA







Engine Specifications 1.500 r.p.m.

ENGINE	PRP	STANDBY		
Rated Output	Kw	19,1	21	
Manufacturer		YANMAR		
Model		4TNV841	T BGGEH	
Engine Type		Diesel 4 str	ockes-cycle	
Injection Type		Dir	rect	
Aspiration Type		Turboo	harged	
Ciylinders Arrangement		4	- L	
Bore and Stroke	mm	84 :	x 90	
Displacement	L	1,9	995	
Cooling System		coolant		
Engine Specifications		SAE 3 class 10W30 / IPE grade CD,0		
Compression Ratio		18,9		
Fuel Comsumption Stand By	l/h		6	
Fuel Comsumption 100% PRP	l/h	5,64		
Fuel Comsumption 75 % PRP	l/h	4,	25	
Fuel Comsumption 50 % PRP	l/h	2,	99	
Lube Oil comsumption full load	g/kwh	0,	27	
Total Oil Capacity	L	7	,4	
Total Coolant Capacity	L	5,8		
Governor	Туре	Mech	anical	
Air Filter	Туре	Dry		
Inner diameter exhaust pipe	mm	34,7		







Generator

Generator		
Poles	Num	4
Winding Conections (standard)		Star-serie
Frame Mounting		S-4 7,5"
Insulation	Class	H class
Enclosure (according IEC-34-5)		IP23
Exciter System		self-excited, brushless
Voltage Regulator		A.V.R. (Electronic)
Steady Voltage Precision		± 1%
Bearing		Single bearing
Coupling		Flexible disc
Coating type		Standar (Vacuum impregnation)

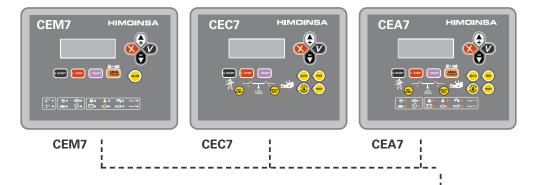






INDUSTRIAL RANGE Open Skid Powered by YANMAR

Control Panel Models



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

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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HIMOINSA®

Model: HYW-20 T5 INDUSTRIAL RANGE Open Skid Powered by YANMAR

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







INDUSTRIAL RANGE Open Skid Powered by YANMAR

Controllers Features

CIENT OF READINGS Multiple antong phases and nutral Amperage Amperage Amperage Amperage Amperage Apparent power (WA) Active power (WA) Power factor Nulsge antong phases not nutral Amperage Amperage Amperage Amperage Amperage Approxer Approxer <t< th=""><th></th><th></th><th>CEM 7</th><th>CEC 7</th><th>CEA 7</th><th>CEM7 + CEC7</th></t<>			CEM 7	CEC 7	CEA 7	CEM7 + CEC7
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Frequency • • • Active power KWA • • • Active power KWA • • • Power factor • • • Image anong phase and neutral × • • Angerage × • • • Frequency × • • • Active power × × • • Active power × • • • Appendage × • • • Appendage × • • • Active power × × • • Active power						
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Fuel storage • × • Fuel storage by sensor × • Stop failure • × • Battery voltage failure • × • Overspeed • × • • Overspeed • × • • Underspeed • × • • Start failure • × • • Emergency Stop • • • • ALTERNATOR PROTECTIONS • • • • High frequency • • • • • Low frequency • • • • • • High roltage • • • • • • • Low frequency • • • • • • • <td< td=""><td></td><td></td><td>•</td><td>х</td><td>•</td><td>•</td></td<>			•	х	•	•
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Battery charge alternator failure • × • Overspeed × • Underspeed × • Start failure × • Emergency Stop • • Image alternator failure × • Emergency Stop • × • ALTERNATOR PROTECTIONS • • • High frequency • • • Low frequency • • • Low frequency • • • Low voltage • • • Short-circuit × • • Asymmetry among phases • • • Incorrect phase sequence • • • Inverse power × • • Overload • × •		Stop failure	•	х	•	•
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Underspeed • × • Start failure • × • Emergency Stop • • • ALTERNATOR PROTECTIONS • • • High frequency • • • Low frequency • • • Low frequency • • • High voltage • • • Low voltage • • • Short-circuit • × • Asymmetry among phases • • • Incorrect phase sequence • • • Inverse power • × • Overload • × •			•			
Start failure × • Emergency Stop • • ALTERNATOR PROTECTIONS • • High frequency • • • Low frequency • • • • High voltage • • • • Low voltage • • • • Short-circuit • × • • Asymmetry among phases • • • • Incorrect phase sequence • • • • Inverse power • × • • Overload • × • •			•			
Emergency Stop •			•			
ALTERNATOR PROTECTIONS High frequency • • • Low frequency • • • • High voltage • • • • • Low voltage • • • • • • Short-circuit × • <td></td> <td></td> <td>•</td> <td></td> <td></td> <td></td>			•			
High frequency • • • Low frequency • <td< td=""><td></td><td>Emergency Stop</td><td>•</td><td>•</td><td>•</td><td>•</td></td<>		Emergency Stop	•	•	•	•
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Low frequency • • • High voltage • • • Low voltage • • • Short-circuit • × • Asymmetry among phases • • • Incorrect phase sequence • • • Inverse power • X • Overload • X •						
High voltage • • • Low voltage • • • Short-circuit • • • Asymmetry among phases • • • Incorrect phase sequence • • • Inverse power • × • Overload • × •						
Low voltage • • • Short-circuit • × • Asymmetry among phases • • • Incorrect phase sequence • • • Inverse power • × • Overload • × •						
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Asymmetry among phases • • • Incorrect phase sequence • • • Inverse power • X • Overload • X •		-				
Incorrect phase sequence Inverse power Overload						
Inverse power x • Overload • x •						
Overload • x • •						
Genset signal groop						
		Genset signal droop	•	•	•	•

- Standard
- x Not included
- Optional

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





Controllers Features



	CEM 7	CEC 7	CEA 7	CEM7 + CEC
COUNTERS				
Total hour counter	•	•	•	•
Partial hour counter	•	•	•	٠
Kilowatimeter	•	•	•	•
Starts valid counters	•	•	•	•
Starts failure counters	•	•	•	•
Maintenance	•	•	•	•
COMUNICATIONS				
RS232	•	•	•	•
RS485	•	•	•	•
Modbus IP	•	•	•	•
Modbus	•	•	•	•
CCLAN	•	х	•	•
Software for PC	•	•	•	•
Analogic modem	•	•	•	•
GSM/GPRS modem	•	•	•	•
Remote screen	•	х	•	•
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	•	х	•	•
Genset contactor activation	•	х	х	•
Main & Genset contactor activation	х	•	•	•
Fuel transfer control	•	х	•	•
Engine temperature control	•	х	•	•
Manual override	•	х	•	•
Programmable alarms	•	х	•	•
Genset start function in test mode	•	х	•	•
Programmable outputs	•	х	•	•
Multilingual	•	•	•	•
SPECIAL FUNCTIONS				
Positioning GPS	•		•	•
Synchronization with mains	•		•	•
Mains Synchronism	•		•	•
Second Cero suppression	•		•	•
RAM 7	•		•	•
Remote screen	•		•	•
Timer	٠		٠	٠

Standard

CEC7: available when the controller CEC7 is incorparted to the installation

x Not included • Optional Optional

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.







INDUSTRIAL RANGE Open Skid Powered by YANMAR

Generating Sets Standard and Optional Features

Engine

- · Diesel engine
- · 4 strokes-cycle
- · Water-cooled
- 12V Electrical system
 Radiator with blowing fan
- · water separator decanting filter (visible level)
- Mechanical governor
- · Dry air cleaner
- · Hot components and radiator guards
- · Mobile components guards

Alternator

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

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

Open set version

- · Emergency stop button
- · Steel made chassis
- Antivibration shock absorber
- Chassis with integrated fuel tank
- · Fuel level sensor
- · Drain cap fuel tank
- · Steel made residential silencer -15db(A) attenuation
- Optional : · Fuel transfer pump
 - · Steel made residential silencer -35db(A) attenuation.







Model: HYW-20 T5 INDUSTRIAL RANGE Open Skid Powered by YANMAR

Application Data

Exhaust System		
Maximum exhaust temperature 100% Stand By	°C	450
Exhaust Gas Flow 100% Stand By	m3/min	5,24
Maximum allowed back pressure	mm H2o	1000

Air Inlet System		
Intake Air Flow 100% Stand By	m3/h	116,71
Cooling Air Flow 100% Stand By	m3/s	0,8
Alternator fan air flow	m3/s	0,09

Starting System		
Starting Motor	Kw	1,4
Starting Motor	CV	1,9
Recommended Battery Capacity	Ah	92
Auxiliary Voltage	Vcc	12

Fuel System		
Fuel Oil Specifications		Diesel
Fuel Tank	L	76







Dimensions



Weight and Dimensions		
(L) Length	mm	1.700
н) Height	mm	1.286
(W) Width	mm	620
Shipping Volume seaworthy (standard suplier)	m3	1,36
(*) Dry weight	Kg	416
Fuel tank capacity	L.	76
Autonomy	Hours	18
(*) (with standard accesories)		STANDARD VERSION

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

Local Distritutor







CONTROL PANEL MODEL

Model: HYVV-20 T5 INDUSTRIAL RANGE Open Skid phase) and Powered by YANMAR



Key start manual control panel and thermal magnetic protection (according to voltage and phase) and differential relay. ${\sf CTME01}$



— M6

Control panel of free voltage contactand tetra polar thermal magnetic protection or bipolar (depending on voltage) and differential relay. M6





Digital manual auto-start control panel and thermal magnetic protection (according to voltage and phase) and differential relay. CEM7















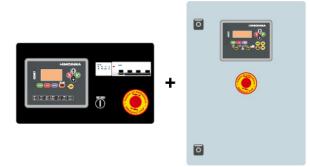
____ CC2

Himoinsa External ATS WiITH visualization display. CEC7



— AS5 + CC2

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









CONTROL PANEL MODEL

Model: HYW-20 T5 INDUSTRIAL RANGE Open Skid

Powered by YANMAR

— AC5

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









INDUSTRIAL RANGE Open Skid Powered by YANMAR

PDF Summary

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