



HIMOINSA®
THE ENERGY

MODEL
HYW-20 T5
INDUSTRIAL RANGE
Soundproof
Powered by YANMAR



- B10
- WATER-COOLED
- THREE PHASE
- 50 HZ
- STAGE 3A
- DIESEL

Generating Rates



SERVICE		PRP	STANDBY
Power	kVA	20	22
Power	kW	16	17,6
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.
- 2006/95/EC Low voltage.
- 2004/108/CE 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 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

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Engine Specifications 1.500 r.p.m.

ENGINE		PRP	STANDBY
Rated Output	kW	19,1	21
Manufacturer		YANMAR	
Model		4TNV84T BGGEH	
Engine Type		Diesel 4 strokes-cycle	
Injection Type		Direct	
Aspiration Type		Turbocharged	
Ciyinders Arrangement		4 - L	
Bore and Stroke	mm	84 x 90	
Displacement	L	1,995	
Cooling System		coolant	
Lube Oil Specifications		SAE 3 class 10W30 / API grade CD,CF	
Compression Ratio		18,9	
Fuel Consumption StandBy	l/h	5,47	
Fuel Consumption 100% PRP	l/h	4,95	
Fuel Consumption 75 % PRP	l/h	3,75	
Fuel Consumption 50 % PRP	l/h	2,72	
Lube Oil Consumption Full Load	g/kwh	0,27	
Total Oil Capacity	L	7,4	
Total Coolant Capacity	L	5,8	
Governor	Type	Mechanical	
Air Filter	Type	Dry	
Inner diameter exhaust pipe	mm	34,7	

02

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)
Bearing		Single bearing
Coupling		Flexible disc
Coating type		Standard (Vacuum impregnation)



Application Data

Exhaust System		
Maximum exhaust temperature	°C	450
Exhaust Gas Flow	m3/min	5,24
Maximum allowed back pressure	mm H2o	1000
Exhaust Flange Size (external diameter)	mm	65

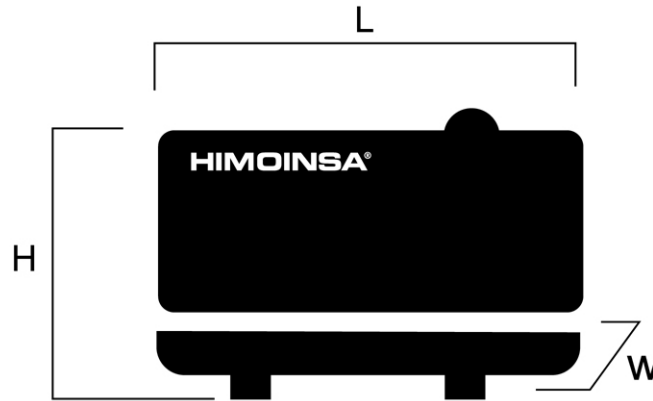
Air Inlet System		
Intake Air Flow	m3/h	116,71
Cooling Air Flow	m3/s	0,8
Alternator fan air flow	m3/s	0,09

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	100
Other Fuel tank capacity	L	190, 330



Dimensions



Weight and Dimensions

(L) Length	mm	2.100
(H) Height	mm	1.350
(W) Width	mm	975
Maximum shipping volume (standard supplier)	m ³	2,76
(*) Wet weight	Kg	800
Fuel tank capacity	L	100
Autonomy	Hours	27
Sound pressure level	dB(A)@7m	60 ± 2,3

(*) (with standard accessories)

STANDARD VERSION (Plastic tank)

Himoinsa has the right to modify any characteristic without prior notice.
Weights and dimensions based on standard products. 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



Dimensions of other available versions

<i>Weight and Dimensions</i>		
(L) Length	mm	2.100
(H) Height	mm	1.410
(W) Width	mm	975
Maximum shipping volume (standard supplier)	m ³	2,89
(*) Wet weight	Kg	887
Fuel tank capacity	L	190
Autonomy	Hours	51
Sound pressure level	dB(A)@7m	60 ± 2,3
(*) (with standard accessories) HIGH CAPACITY VERSION (Steel tank)		

<i>Weight and Dimensions</i>		
(L) Length	mm	2.100
(H) Height	mm	1.565
(W) Width	mm	975
Maximum shipping volume (standard supplier)	m ³	3,2
(*) Wet weight	Kg	938
Fuel tank capacity	L	330
Autonomy	Hours	88
Sound pressure level	dB(A)@7m	60 ± 2,3
(*) (with standard accessories) HIGH CAPACITY VERSION (Steel tank)		



CONTROL PANEL MODEL

M6

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



M5

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

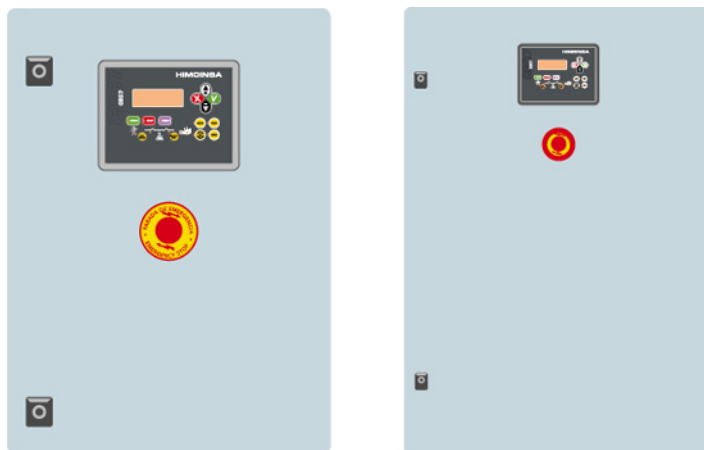




CONTROL PANEL MODEL

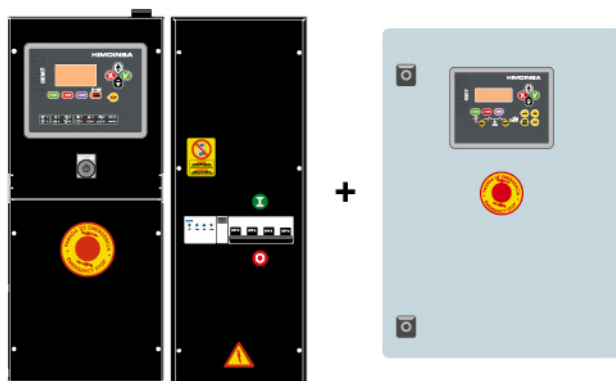
CC2

Himoinsa External ATS WITH visualization display. Digital control unit CEC7



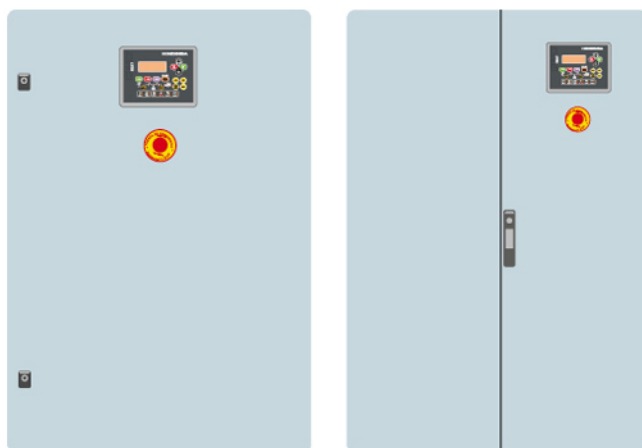
AS5 + CC2

Automatic with mains control and ATS with visualization. The visualization will be in the genset and in the ATS box. Digital control unit 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). Digital control unit CEA7





Controller features (I)

- : Standar
- x : Not included
- : Optional
- A : Warning. Warning alarm without engine stop.
- P : Alarm with Engine Stop

Generator Readings	M6	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
Voltage among phases	x	•	•	•	•
Voltage between neutral and phase	x	•	•	•	•
Amperage	x	•	•	•	•
Frequency	x	•	•	•	•
Aparent power (Kva)	x	•	•	•	•
Active power (Kw)	x	•	•	•	•
Reactive power (kVAr)	x	•	•	•	•
Power factor	x	•	•	•	•
Mains Readings	M6	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
Voltage among phases	x	x	•	•	•
Voltage among phases and neutral	x	x	•	•	•
Amperage	x	x	•	•	•
Frequency	x	x	•	•	•
Aparent power	x	x	•	x	x
Active power	x	x	•	x	x
Reactive power	x	x	•	x	x
Power factor	x	x	•	x	x
Engine Readings	M6	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
Coolant temperature	x	•	•	x	•
Oil pressure	x	•	•	x	•
Fuel level	x	•	•	x	•
Battery voltage	x	•	•	x	•
R.P.M	x	•	•	x	•
Battery charge alternator voltage	x	•	•	x	•
Engine Protections	M6	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
High water temperature	P	•	•	x	•
High water temperature by sensor	x	•	•	x	•
Low water temperature by sensor	x	•	•	x	•
Low oil pressure	P	•	•	x	•
Low oil pressure by sensor	x	•	•	x	•
Low water level	x	•	•	x	•
Unexpected shutdown	•	•	•	x	•



Controller features (II)

- : Standar
- x : Not included
- : Optional
- A : Warning. Warning alarm without engine stop.
- P : Alarm with Engine Stop

Engine Protections	M6	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
Fuel storage	A	•	•	x	•
Fuel storage by sensor	x	•	•	x	•
Stop failure	x	•	•	x	•
Battery voltage failure	x	•	•	x	•
Battery charge alternator failure	A	•	•	x	•
Overspeed	P	•	•	x	•
Underspeed	x	•	•	x	•
Start failure	•	•	•	x	•
Emergency stop	•	•	•	•	•
Alternator Protections	M6	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
High frequency	P	•	•	•	•
Low frequency	x	•	•	•	•
High voltage	x	•	•	•	•
Low voltage	x	•	•	•	•
Short-circuit	x	•	•	x	•
Asymetry among phases	x	•	•	•	•
Incorrect phase sequence	x	•	•	•	•
Inverse power	x	•	•	x	•
Overload	x	•	•	x	•
Genset signal droop	x	•	•	•	•
Counters	M6	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
Total hour counter	x	•	•	•	•
Partial hour counter	x	•	•	•	•
Kilowattimeter	x	•	•	•	•
Starts valid counters	x	•	•	•	•
Starts failure counters	x	•	•	•	•
Maintenance	x	•	•	•	•
Communications	M6	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
RS232	x	•	•	•	•
RS485	x	•	•	•	•
Modbus IP	x	•	•	•	•
Modbus	x	•	•	•	•



Controller features (III)

- : Standar
- x : Not included
- : Optional
- A : Warning. Warning alarm without engine stop.
- P : Alarm with Engine Stop

Communications	M6	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
CCLAN	x	•	•	x	•
Software for PC	x	•	•	•	•
Analogic modem	x	•	•	•	•
GSM/GPRS modem	x	•	•	•	•
Remote screen	x	•	•	x	•
Telesignal	x	• (8 + 4)	• (8 + 4)	x	• (8 + 4)
J1939	x	•	•	x	•
Features	M6	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
Alarm history	x	• (10) / (opc. +100)	• (10) / (opc. +100)	• (10) / (opc. +100)	• (10) / (opc. +100)
External start	•	•	•	•	•
Start inhibition	x	•	•	•	•
Mains failure start	x	x	•	•	•
Start under normative EJP	x	•	•	x	•
Pre-heating engine control	•	•	•	x	•
Genset contactor activation	•	•	•	•	•
Mains & Genset contactor activation	x	x	•	•	•
Fuel transfer control	x	•	•	x	•
Engine temperature control	x	•	•	x	•
Manual override	x	•	•	x	•
Programmable alarms	x	•	•	x	•
Genset start function in test mode	x	•	•	•	•
Programmable outputs	x	•	•	x	•
Multilingual	x	•	•	•	•
Special Functions	M6	CEM 7	CEA 7	CEC 7	CEM7 + CEC7
Positioning GPS	x	•	•	x	•
Synchronization	x	•	•	x	•
Mains synchronization	x	•	•	x	•
Second Zero elimination	x	•	•	x	•
RAM7	x	•	•	x	•
Remote screen	x	•	•	x	•
Programming timer	x	•	•	x	•



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 parts protection
- Moving parts protection

Alternator

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

Electrical system

- Electric control panel with measurements devices and control display (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 charger 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 isolator

Soundproofed version

- Steel made chassis
- Oil sump extraction kit
- Versatility to assemble high capacity metallic fuel tank chassis
- Antivibration shock absorber
- Chassis with integrated fuel tank
- Fuel level sender
- Emergency stop button
- Sound attenuated canopy made of high quality steel metal.
- High mechanical strenght
- Low noise level
- Attenuation through high density rock wool material
- Epoxy Powder coating
- Easy acces for service mainteance
- Reinforced lifting eye to lift by crane
- Bunded chassis (works as liquids retention tray)
- Drain fuel tank cap
- Drain chassis cap
- Chasis ready for future mobile kit installation
- Steel made residential silencer -35db(A) attenuation.
- Optional : · Fuel transfer pump



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PDF Summary

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