HIMOINSA
A YANMAR COMPANY

MODEL
HYW-400 T5
INDUSTRIAL RANGE
Mobile
Powered by YANMAR

- G1 (HIGH SPEED)
- WATER-COOLED
- THREE PHASE
- 50 HZ
- DIESEL

Generating Rates

SERVICE		PRP	ESP
Power	kVA	400	440
Power	kW	320	352
Rated Speed	r.p.m.	1.500	
Standard Voltage	V	400/230	
Available Voltages	V	230/132 - 230 V (t)	
Rated at power factor	Cos Phi	0,8	

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 8528-1:2018 normative: 1000 mbar, 25ºC, 30% relative humidity.

Prime Power (PRP):
According to ISO ISO 8528-1:2018, 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 ISO 8528-1:2018, 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 8528-5:2018

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ISO 9001 SYSTEM CERTIFICATION

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Engine Specifications 1.500 r.p.m.

ENGINE		PRP	ESP
Rated Engine Output	kW	351,2	386
Manufacturer		YANMAR	
Model		6F135TE3A.GL	
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	
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		
Manufacturer		MECC ALTE
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)

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Application Data

Exhaust System		
Maximum exhaust temperature	ºC	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	m^3/h	1770
Cooling Air Flow	m^3/s	6,8
Alternator fan air flow	m^3/s	0,9

Starting System		
Starting power	kW	6
Starting power	CV	8,16
Auxiliary Voltage	Vdc	24

Fuel System		
Fuel Oil Specifications		Diesel
Fuel Tank	L	597
Fuel Consumption ESP	l/h	100,5
Fuel Consumption 100% PRP	l/h	85,8
Fuel Consumption 70 % PRP	l/h	61,2
Fuel Consumption 50 % PRP	l/h	42,8

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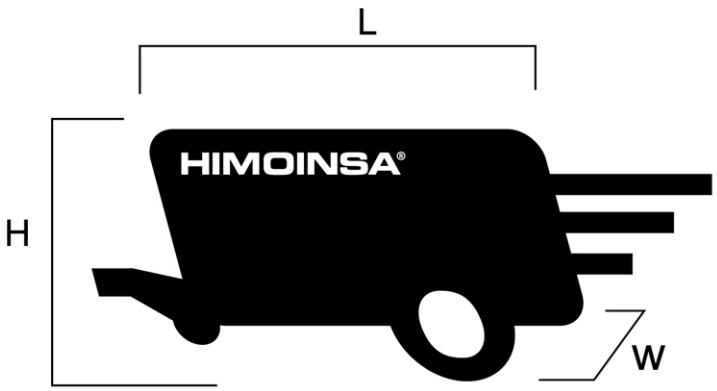
Dimensions



G1	Weight and Dimensions		
(L)	Length	mm	6.595
(H)	Height	mm	3.050
(W)	Width	mm	2.200
	Maximum shipping volume	m^3	44,25
(*)	Weight with liquids in radiator and sump	kg	5.760
	Fuel tank capacity	L	597
	Autonomy (100% PRP)	Hours	7
	Sound pressure level	dB(A)@7m	68 ± 2,4

(*) (with standard accessories)

STANDARD VERSION (Steel tank)

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CONTROL PANEL MODEL

M5

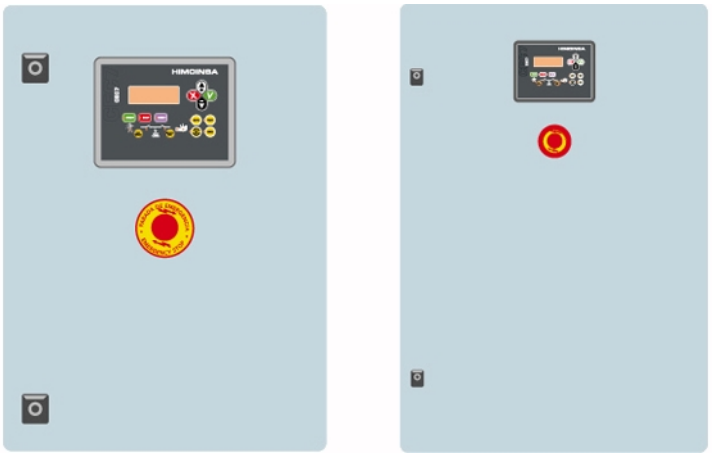
Digital manual Auto-Start control panel and thermal magnetic protection (depending on current and voltage) and differential with CEM7. Digital control unit CEM7

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



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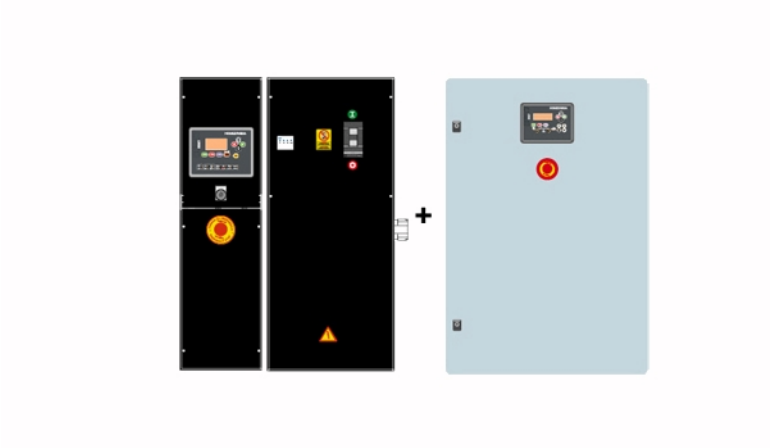
CONTROL PANEL MODEL

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



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

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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	•

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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	•	•	•	•

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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	• (100)	• (100)	• (100)	• (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	•

Generator set features

Engine

· Diesel engine
· 4-stroke cycle
· Water-cooled
· 24V electrical system
· Water separator filter (no visible level)
· Dry air filter
· Radiator with pusher fan
· Radiator water level sensor
· HTW sender
· LOP sender
· Electronic governor
· 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 Switch
· 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)

Soundproofed version

· Steel chassis
· Anti-vibration shock absorbers
· Fuel tank
· Fuel level gauge
· External emergency stop switch
· Bodywork made from high quality steel plate
· High mechanical strength
· Low noise emissions level
· Soundproofing provided by high-density volcanic rock wool
· Epoxy polyester powder coating
· Full access for maintenance (water, oil and filters, no need to remove the canopy)
· Reinforced lifting hooks for crane hoisting
· Watertight chassis (acts as a double barrier against liquid retention)
· Fuel tank drain plug

Generator set features

Soundproofed version

· Chassis drain plug
· Chassis ready for future mobile kit installation
· Steel residential silencer -35db(A) attenuation.
· Oil sump extraction kit
· Versatility to assemble a high capacity chassis with a metallic fuel tank
· IP Protection according to ISO 8528-13:2016

Optional :
· 3 way valve for external fuel supply (available in 1/2" and 3/8" fittings)
· Fuel transfer pump

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PDF Summary

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