

HIMOINSA®

Model: HTW-920 T5



HEAVY RANGE Open Skid Powered by MITSUBISHI



DIESEL

Generating Rates

SERVICE		PRP	STANDBY
Power	kVA	916	1006
Power	kW	733	805
Rated Speed	r.p.m.	1.5	600
Standard Voltage	V	4(00
Available Voltages	V	400/230 - 415/2	240 - 380/220 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.

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Model: HTVV-920 T5 HEAVY RANGE Open Skid Powered by MITSUBISHI

Engine Specifications 1.500 r.p.m.

ENGINE		PRP	STANDBY	
Rated Output	Kw	771	850	
Manufacturer		MITSUBISHI		
Model		S12A2 PTA2S		
Engine Type		Diesel 4 strockes-cycle		
Injection Type		Dir	ect	
Aspiration Type		Turbocharged a	and aftercooled	
Ciylinders Arrangement		12	2V	
Bore and Stroke	mm	150)	(160	
Displacement	L	33	,93	
Cooling System		Water		
Engine Specifications		API CD or CF S/	AE 30 or SAE 40	
Compression Ratio		15,	3:1	
Fuel Comsumption Stand By	l/h	22	20	
Fuel Comsumption 100% PRP	l/h	19	95	
Fuel Comsumption 75 % PRP	l/h	14	17	
Lube Oil comsumption full load	g/kwh	0	,8	
Total Oil Capacity	L	1(00	
Total Coolant Capacity	L	21	15	
Governor	Туре	Elec	trical	
Air Filter	Туре	D	ry	
Inner diameter exhaust pipe	mm	2	12	







Model: HTVV-920 T5 HEAVY RANGE Open Skid Powered by MITSUBISHI

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)
Steady Voltage Precision		± 0,5%
Bearing		Single bearing
Coupling		Flexible disc
Coating type		Standar (Vacuum impregnation)

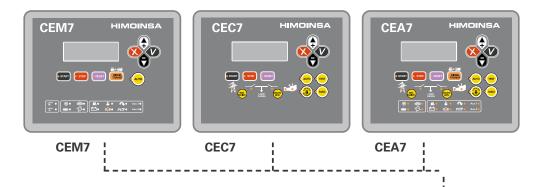






Control Panel Models

HEAVY RANGE Open Skid Powered by MITSUBISHI



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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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







Controllers Features

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HEAVY RANGE Open Skid Powered by MITSUBISHI

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Othoge among phases 		CEM 7	CEC 7	CEA 7	CEM7 + CEC7
Voltage among phases and neutral • • • Amperage • • • Proguency • • • Apparent power (WA) • • • Reactive power (WA) • • • Power factor • • • Marks FADINGS • • • Voltage among phase and neutral × • • Amperage × • • • Frequency × • • • Aparent power × × • • Aparent power × × • • Aparent power × × • • Apter power × × • • Colont temp	GENERATOR READINGS				
Anperage • • Prequency • • Active power (WA) • • Ractive power (WA) • • Ractive power (WA) • • Ractive power (WA) • • Readine power (WA) • • Readine power (WA) • • Mains READINES • • Voltage among phases × • Anperage × • • Angerage × • • Angerage × • • Angerage × • • Angerage × • • Aparent power × × • Active power × × • Reative power × × • Retwe power × × • Retwe power × × • Power factor × × •	Voltage among phases	•	•	•	•
Frequency • • • Apprent power (kVA) • • • Reactive power (kVA) • • • Prever factor • • • MAINS READINGS • • • Voltage among phases × • • Amprenzige × • • Frequency × • • Apprent power × × • Apprent power × × • Active power × × • Color resoure × × • Color resoure × • •	Voltage among phases and neutral	•	•	•	•
Apgerin power IWA) • • Reactive power (WA) • • Power factor • • Mains Exabilities power (WA) • • Power factor • • Mains Exabilities power (WA) • • Voltage enong phases × • Amperage × • Andre power × • Angerage × • Frequency × • Aparent power × × Reactive power × × Reactive power × × Reactive power × × Reactive power × × Power factor × × Power factor × × Ender power × × Power factor × × Power factor × × Power factor × × Power factor × ×	Amperage	•	•	•	•
Active power (WM) • • • Power factor • • • MAINS READINGS • • • Voltage among phase and neutral × • • Amperage × • • Frequency × • • Aparent power × × • Active power × × • Active power × × • Power factor × × • Power factor × × • Colont temperature × × • Colont temperature × × • Colant temperature × × • Colant temperature voltage × • • Rative yoltage alternator voltage × • • Battery voltage alternator voltage × • • High voltage temperature by sensor × • • Low oping temperature by sensor × • • Low oping tempera	Frequency	•	•	•	•
Pasetive power (WAr) • • • Power factor • • • MAINS READINGS Voltage among phases and neutral × • • Variage among phases and neutral × • • • Amperage × • • • • Angerage × • • • • • Angerage × •	Apparent power (kVA)	•	•	•	•
Power factor • • • Miss READINGS Voltage among phases on phase and neutral x • • Amperage x • • Frequency x • • Arbre power x × • Active power x × • Colon temperature × × • Power factor x • • Colon temperature × • • Dial tevel (%) × • • Battery voltage × • • RP. M. × • • High colonit temperature by sensor × • • Low ongine temperature by sensor × • • Low ongine temperature by sensor<	Active power (kW)	•	•	•	•
MAINS READINGS Voltage among phases and neutral x • Amperage x • Amperage x • Prequency X • Aparent power x × Reactive power x × Power factor x × Power factor x × Colont temperature • × Oil pressure × • Colant temperature • × Oil pressure × • Fuel level (%) • × • Battery voltage × • • Battery voltage × • • Battery voltage × • • Low of pressure by sensor × • • Low of press		•	•	•	•
Voltage among phases x • • Voltage among phases and neutral x • • Amperage x • • Angerage x • • Argerage x • • Aparent power x X • Active power x X • Readtve power x X • Readtve power x X • Readtve power x X • Power factor x X • Coolant temperature · X • Old pressure · X • Battery voltage · X • Battery voltage · X • Battery voltage · X • Low olige temperature by sensor · X • Low olige temperature by sensor · X • Low olige temperature by sensor ×	Power factor	•	•	•	•
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Amperage x • • Amperage x • • Frequency x × • Aparent power x X • Reactive power x X • Power factor x X • Decompower x X • Coolant temperature • X • Colant temperature • X • Dil pressure • X • Battery voltage • X • Battery voltage • X • Battery voltage • X • High volant temperature by sensor • X • Low engine temperature by sensor × • • Low ongine temperature by sensor × • • Low colant level × • • • Low colant level × • • •			•	•	•
Frequency x • • Aparent power x X • Reactive power x X • Power factor x X • Colant temperature · X • Oil pressure · X • Fuellevel (%) · X • Battery voltage · X • RP.M. · X • Battery charge alternator voltage · X • High water temperature · X • High social temperature by sensor · X • Low oil pressure · X • • Low oil pressure by sensor · X • • Low oil pressure by sensor · X • • Low colent level · X • •					•
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Active power x x x Reactive power x x x Pewer factor x x • ENGINE READINGS - - Coolant temperature . x • Oil pressure . X • Fuel level (%) . x • Battery voltage . x • Battery charge alternator voltage . x • ENGINE PROTECTIONS - - • High water temperature by sensor . X • Low engine temperature by sensor . X • Low oil pressure . X • • Low oil pressure by sensor . X • • Low colent level . X • • • Unexpected shurdown . X • • • • Fuel storage by sensor . X • • • • • • Low coolent level .				•	
Reactive power Power factor x<				•	•
Power factor x x x • ENGINE READINGS Coolant temperature • x • Colant temperature • x • • Fuel level (%) • x • • Battery voltage • x • • Battery charge alternator voltage • x • • ENCINE PROTECTIONS • × • • High coolant temperature by sensor • x • • Low oig ine temperature by sensor • x • • Low oig ine temperature by sensor • × • • Low oig ine temperature by sensor • × • • Low oig ine temperature by sensor × • • • • Low oig ine temperature by sensor × • • • • • Low oig ine temperature by sensor × × • • • •				•	•
ENGINE READINGS Coolant temperature X • Oil pressure X • Puel level (%) • X • Battery voltage X • • Battery voltage X • • Battery charge alternator voltage X • • ENCINE PROTECTIONS * • • High coolant temperature by sensor X • • Low engine temperature by sensor X • • Low oil pressure by sensor X • • Low collect shutdown X • • Fuel storage X • • Fuel storage by sensor X • • Entery voltage failure X • • Battery voltage failure X • • Battery voltage failure X				•	•
Coolant temperatureוOil pressureוFuel level (%)וBattery voltageוBattery voltageוBattery charge alternator voltageוENCINE PROTECTIONS*•High vater temperature by sensorוLow engine temperature by sensorוLow oil pressureוLow oil pressure by sensorוLow coll pressure by sensorוEntery voltage failureוBattery voltage alternator failureוBattery voltage alternator failureוBattery voltage alternator failureוCoverpeedו•Underspeedו•High frequency•••Low frequency•••Low totage•<		X			
Oil pressure . X • Fuel level (%) . X • Battery voltage . X • Battery charge alternator voltage . X • Encine PROTECTIONS High volar temperature by sensor . X • Low engine temperature by sensor . X • Low oil pressure . X • Low oil pressure by sensor . X • Low oil pressure by sensor . X • Low colent level . X • • Low colent level . X • • Unexpected shutdown . X • • Fuel storage . X • • Fuel storage faiure . X • • Battery voltage faiure . X • • Battery charge alternator failure . X • • Underspeed . X • • •					
Fuel level (%) • × • Battery voltage • × • Battery charge alternator voltage • × • Battery charge alternator voltage • × • ENGINE PROTECTIONS • × • High voltar temperature by sensor • × • Low engine temperature by sensor • × • Low oil pressure • × • Low oil pressure by sensor • × • Low oil pressure by sensor • × • Low coller level • × • Unexpected shutdown • × • Fuel storage by sensor • × • Stop failure • × • Battery voltage failure • × • Battery voltage alternator failure • × • Battery charge alternator failure • × • Coverspeed • • • • Low oltage •		•			
Battery voltage • × • R.P.M. • × • Battery charge alternator voltage • × • ENGINE PROTECTIONS High vater temperature • × • High vater temperature by sensor • × • Low engine temperature by sensor • × • Low oil pressure by sensor • × • Low colent level • × • Unexpected shutdown • × • Fuel storage • × • Stop failure • × • Battery voltage failure • × • Indersp		•			
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 engine temperature by sensor x • Low oil pressure x • Low oil pressure by sensor x • Low collent level x • Unexpected shutdown x • Fuel storage x • Fuel storage failure x • Battery voltage failure x • Battery voltage failure x • Overspeed x • Underspeed x • Underspeed × • Low flique × • High frequency • • Low frequency • • Underspeed • • Hunderspeed × • High frequency •		•			
Battery charge alternator voltage • × • ENGINE PROTECTIONS High water temperature by sensor • × • Low engine temperature by sensor • × • Low oil pressure • × • Low oil pressure by sensor • × • Low collent level • × • Unexpected shutdown • × • Fuel storage • × • Stop failure • × • Battery voltage failure • × • Underspeed • × • • Overspeed • × • • High frequency • • • • Low frequency • • • • High frequency • • • • <		•	х		
ENGINE PROTECTIONS High vater 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 collent level • x • Unexpected shutdown • x • Fuel storage • x • Fuel storage • x • Fuel storage by sensor • x • Storg failure • x • Battery voltage failure • x • Battery voltage failure • x • Overspeed • × • • Underspeed • × • • Underspeed • × • • Low frequency • • • • Low frequency • • • • Low frequency • •		•			
High water temperature • × • High coolant temperature by sensor × • Low engine temperature by sensor × • Low oil pressure × • Low coolent level × • Unexpected shutdown × • Fuel storage × • Fuel storage × • Battery voltage failure × • Battery charge alternator failure × • Overspeed × • Underspeed × • Start failure × • Battery charge alternator failure × • Overspeed × • • Underspeed × • • Start failure × • • Emergency Stop • • • High frequency • • • Low voltage • • • Short-circuit × • • Asymmetry among phases • •	Battery charge alternator voltage	•	х	•	•
High water temperature • × • High coolant temperature by sensor × • Low engine temperature by sensor × • Low oil pressure × • Low coolent level × • Unexpected shutdown × • Fuel storage × • Fuel storage × • Battery voltage failure × • Battery charge alternator failure × • Overspeed × • Underspeed × • Start failure × • Battery charge alternator failure × • Overspeed × • • Underspeed × • • Start failure × • • Emergency Stop • • • High frequency • • • Low voltage • • • Short-circuit × • • Asymmetry among phases • •	ENCINE PROTECTIONS				
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Low engine temperature by sensorוLow cill pressureוLow coller by sensor•×Low coolent levelוUnexpected shutdown•×Fuel storage•×Fuel storage by sensor•×Stop failure•×Battery voltage failure•×Battery voltage failure•×Overspeed•×Underspeed•×Start failure•×Battery voltage failure•×Battery voltage failure•×Battery charge alternator failure•×Overspeed•×Underspeed•×Start failure•×Emergency Stop••High frequency••Low frequency••High frequency••Low frequency••High voltage••Short-circuit•×Asymmetry among phases••Incerse power••Overload•×Overload•×					
Low oil pressureוLow oil pressure by sensorוLow coolent levelוUnexpected shutdownוFuel storageוFuel storage by sensorוFuel storage by sensorוStop failureוBattery voltage failureוBattery charge alternator failureוOverspeedוUnderspeedוUnderspeedוUnderspeedוAtterNATOR PROTECTIONS••High frequency••Low voltage••Low voltage••Short-circuitוAsymmetry among phases••Incorrect phase sequence•×Inverse power••Overload•×Overload•×				•	•
Low oil pressure by sensorוLow coolent levelוUnexpected shutdownוFuel storage•×Fuel storage by sensor•×Stop failureוBattery voltage failureוBattery voltage failureוBattery voltage failureוBattery charge alternator failureוOverspeedוUnderspeedוStart failureוEmergency Stop••High frequency••Low frequency••Low voltage••Short-circuitוAsymmetry among phases••Incorrect phase sequence••Inverse powerוOverload•×Overload•×				•	
Low coolent level • × • Unexpected shutdown • × • Fuel storage • × • Fuel storage by sensor • × • Stop failure • × • Battery voltage failure • × • Dverspeed • × • • Underspeed • × • • Underspeed • × • • Underspeed • × • • Start failure • × • • Emergency Stop • • • • High frequency • •	· · ·	•		•	•
Unexpected shutdownוFuel storageוFuel storage by sensorוStop failureוBattery voltage failure•×Battery voltage failure•×Battery voltage failure•×Battery coltage failure•×Battery coltage failure•×Battery coltage failure•×Battery coltage failure•×Battery coltage failure•×Battery coltage failure•×Overspeed•×Underspeed•×Start failure•×Emergency Stop••ALTERNATOR PROTECTIONS••High frequency••Low frequency••Low voltage••Low voltage••Short-circuit•×Asymmetry among phases••Incorrect phase sequence••Inverse power•×Overload•×Overload•×				•	•
Fuel storage • × • Fuel storage by sensor × • Stop failure • × • Battery voltage failure • × • Overspeed × • • • Underspeed • × • • Underspeed • × • • Start failure • × • • Emergency Stop • • • • ALTERNATOR PROTECTIONS • • • • High requency • • • • • Low frequency • • • • • Low voltage • • • • •				•	
Fuel storage by sensor • X • Stop failure • X • Battery voltage failure • X • Battery charge alternator failure • X • Battery charge alternator failure • X • Overspeed • X • • Overspeed • X • • Underspeed • X • • Start failure • X • • Emergency Stop • • • • ALTERNATOR PROTECTIONS • • • • High frequency • • • • Low frequency • • • • High voltage • • • • Low voltage • • • • Short-circuit • × • • Asymmetry among phases • • • • Incorrect phase sequence • ×				•	•
Stop failure • × • Battery voltage failure • × • Battery charge alternator failure • × • Overspeed • × • Underspeed • × • Start failure • × • Emergency Stop • • • ALTERNATOR PROTECTIONS • • • High frequency • • • Low frequency • • • High voltage • • • Short-circuit × • • Asymmetry among phases • • • Incorrect phase sequence • • • Inverse power × • • Overload • × •				•	•
Battery voltage failure • × • Battery charge alternator failure • × • Overspeed • × • Underspeed • × • Start failure • × • Emergency Stop • • • ALTERNATOR PROTECTIONS • • • High frequency • • • Low frequency • • • Low voltage • • • Short-circuit • × • Asymmetry among phases • • • Incorrect phase sequence • • • Inverse power • × • Overload • × •				•	•
Battery charge alternator failure • × • Overspeed • × • Underspeed • × • Start failure • × • 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 • × •	· · ·			•	•
Overspeed • × • Underspeed × • Start failure • × • Emergency Stop • • • ALTERNATOR PROTECTIONS • • • High frequency • • • Low voltage • • • Low voltage • • • Short-circuit • × • Asymmetry among phases • • • Incorrect phase sequence • • • Inverse power × </td <td></td> <td></td> <td></td> <td>•</td> <td>•</td>				•	•
Underspeed • × • 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 • × •		•		•	•
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 • × •				•	•
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High frequency • • • Low frequency • • • • High voltage • • • • Low voltage • • • • Low voltage • • • • Short-circuit • × • • Asymmetry among phases • • • • Incorrect phase sequence • • • • Inverse power • × • • Overload • × • •				•	•
High frequency • • • Low frequency • • • • High voltage • • • • Low voltage • • • • Low voltage • • • • Short-circuit • × • • Asymmetry among phases • • • • Incorrect phase sequence • • • • Inverse power • × • • Overload • × • •					
Low frequency • • • High voltage • • • Low voltage • • • Low voltage • • • Short-circuit • × • Asymmetry among phases • • • Incorrect phase sequence • • • Inverse power • × • Overload • × •					•
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Low voltage • • • Short-circuit • × • Asymmetry among phases • • • Incorrect phase sequence • • • Inverse power • × • Overload • × •					
Short-circuit x • Asymmetry among phases • • Incorrect phase sequence • • Inverse power • × Overload • ×					· · · · · · · · · · · · · · · · · · ·
Asymmetry among phases • • • Incorrect phase sequence • • • Inverse power • X • Overload • X •		-			
Incorrect phase sequence • • • • • • • Incorrect phase sequence • × •					
Inverse power X • • Overload • X • •				-	-
Overload • X • •			-	-	
	· · ·				
		•			

- Standard
- x Not included
- Optional







Model: HTW-920 T5 HEAVY RANGE Open Skid Powered by MITSUBISHI

Controllers Features



		CEM 7	CEC 7	CEA 7	CEM7 + CEC
\triangleright	COUNTERS				
	Total hour counter	•	•	•	•
	Partial hour counter	•	•	•	•
	Kilowatimeter	•	•	•	•
	Starts valid counters	•	•	•	•
	Starts failure counters	•	•	•	•
	Maintenance	•	•	•	•
2	COMUNICATIONS				
	RS232	•	•	•	•
	RS485	•	•	•	•
	Modbus IP	•	٠	٠	٠
	Modbus	•	٠	•	•
	CCLAN	•	х	٠	٠
	Software for PC	•	٠	•	•
	Analogic modem	•	٠	•	•
	GSM/GPRS modem	•	•	•	•
	Remote screen	•	х	•	•
	Telesignal	•(8+4)		•(8+4)	•(8+4)
	J1939	•	x	٠	٠
$\mathbf{\hat{\mathbf{b}}}$	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	x	•	•	•
	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				
	RAM 7 Remote screen	•		•	•

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.







HEAVY RANGE Open Skid Powered by MITSUBISHI

Generating Sets Standard and Optional Features

Engine

- · Standard air filter
- · Standard fuel filter
- · Standard oil filter
- · Oil temperature sensor
- · Low coolant level sensor
- · Exhaust gases compensator
- · Diesel engine
- · 4 strokes-cycle
- $\cdot \text{ Water-cooled}$
- · 24V Electrical system
- · Radiator with blowing fan
- \cdot 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

Electrical system

- · Control and power electric panel, with measurements devices and controller (according to necessity and configuration)
- · Connection panel wired to the safety protection (open thermalmagnetic protection and alarm)
- · Maintenance-free and anti-explosion battery
- · Battery disconnector
- · 4 poles circuit breaker
- · Battery charger (standard on automatic control panels)
- · Pre-heating resistance (standard on automatic control panels) / water jacket heater
- \cdot 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)

Open set version

- · Steel made chassis
- · Oil sump extraction kit
- \cdot Emergency stop button
- · 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: HTW-920 T5 HEAVY RANGE Open Skid

Open Skid Powered by MITSUBISHI

Application Data

Exhaust System		
Maximum exhaust temperature 100% Stand By	°C	520
Exhaust Gas Flow 100% Stand By	m3/min	222
Maximum allowed back pressure	mm H2o	600

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	350

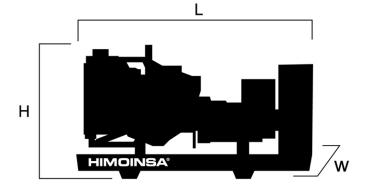






Model: HTW-920 T5 HEAVY RANGE Open Skid Powered by MITSUBISHI

Dimensions



Weight and Dimensions		
Length	mm	4.300
(H) Height	mm	2.150
(W) Width	mm	2.025
Shipping Volume seaworthy (standard suplier)	m3	18,72
(*) Wet weight	Kg	7.800
(*) Dry weight	Kg	7.479
Fuel tank capacity	L.	350
Autonomy	Hours	2
(*) (with standard accesories)		STANDARD VERSION

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Industrial design under patent.

Local Distritutor







HEAVY RANGE Open Skid Powered by MITSUBISHI

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PDF Summary

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