GCC SERIES



When you need

GCC 110



General Specifications

Genset Model		GCC 110
Stand By Power	kVA / kW	110 / 88
Prime Power	kVA / kW	100 / 80
Continuous Power	kVA / kW	70 / 56
Engine Brand		CUMMINS
Alternator Brand		GENPOWER
Speed	rpm	1500
Voltage	V	231 / 400
Cooling System		Water Cooled

Fuel		Diesel
Stand By Ampers	Amp.	159
Prime Ampers	Amp.	145
Continuous Ampers	Amp.	101
Engine Model		6BTA5.9G5
Alternator Model		GNP 225 LX
Frequency	Hz	50
Power Factor	Cos φ	0,8
Usage Type		Automatic / Manual

Genset Rating Classifications

The below ratings represent the engine performance capabilities to conditions specified in ISO 8528/1, ISO 3046/1:1986, BS 5514/1.

CONTINUOUS POWER RATING - COP

COP is the power that the engine can continue to use under the prescribed speed and the specified environment condition in the normal maintenance period stipulated in the manufacturing plant. And continuous power is applicable for supplying utility power at a constant 100% load for an unlimited number of hours per year. No overload capability is available for this rating.

LIMITED TIME RUNNIG POWER - LTP

Gensets with a limited-time power rating are designed to operate at a maximum of 500 hours per year, although they can effectively manage an average load factor of up to 100 percent.

PRIME POWER RATING - PRP

PRP is available for unlimited hours per year in variable load application. Variable load should not exceed an average of 70% of the Prime Power rating during any operating period of 24 hours. The Total operating time at 100% Prime Power shall not exceed 500 hours per year. A 10% overload capability is available for a period of 1 hour within a 12 hours period of operation. Total operating time at the 10% overload power shall not exceed 25 hours per year.

STAND BY POWER (EMERGENCY) RATING - ESP

ESP is applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. A standby rated engine should be sized for a maximum of a 70% average load factor and 200 hours of operation per year. This includes less than 25 hours per year at the Standby Power rating.

PAY ATTENTION to the points below in picking and using the generator

* Generators can work on Continuous power at 70% of Prime power value if only all maintenances are done on time with original spare parts and high quality oils that manufacturer advice.

* Generators should not operate below 50% of prime power value. In such a case, the engine will burn excessive oil and eventually have irreparable damage.

* If your need is 1000 kVA or above, you should prefer synchronic systems with 2-3 generators with failure back up and simultaneous aging.

* These points will provide advantage for you with purchasing and operating the generator.







environment friendly

Engine Technical Specifications

Technical Parameters

Number Of Cylinders Configuration Aspiration Combustion System Compression Ratio Bore Stroke Displacement Governing Type Governing Class Rotation Firing order Emission	mm mm L	6 Vertical, in line Turbo Charged&Aftercooled Direct injection 17.6:1 102 120 5,9 Electronic G3 Counterclockwise 1-5-3-6-2-4 Non Bogulated	Gross Engine Power Net Engine Power Fan and belt Power Consumption Other Power Loss Mean Effective Pressure Intake Air Flow Exhaust Temperature Limit Exhaust Flow Heat Rejection To Ambient (Radiated) Mean Piston Speed Cooling Fan Air Flow Typical Generator Output Power	kW kW kW kPa m³/min. ℃ m³/min. kW m/s m³/min. kVA %/	102 98 4 - 1386 7,86 533 21,42 15 6 216 110 90
EIIIISSIOII		Non-Regulated	Generator Enciency	/0	90
Electrical System			Heat Rejection		
Voltage	V	12	Energy In Fuel (Heat Of Combustion)	kW	254
Starter	kW	4	Gross Heat To Power	kW	102
Alternator Output Ampers	A	55	Energy To Coolant And Lubricating Oil	kW	34,6
Alternator Output Voltage	V	14	Energy To Exhaust	kW	102
Batteries Capacity	Ah	60	Heat To Radiation	kW	15
Fuel Consumption			Cooling System		
Standby - Load 100%	(L/h)	27	Radiator Type	50°C	Tropi
Prime - Load 100%	(L/h)	25	Total Coolant Capacity	L	19,8
Prime - Load 75%	(L/h)	18	Max. Perm. Coolant Outlet Temperature	°C	100
Prime - Load %50	(L/h)	12	Max. Perm. Flow Resis. (Cool. System And Piping)	bar	0,5
			Max. Temperature Of Coolant Warning	°C	95
Note: The density of diesel	is 0.835 kg/L		Max. Temperature Of Coolant Shutdown	°C	98
	Ū		Thermostat operation temperature- Initial Open	°C	84
Fuel specification: BS 2869: Part	2 1998 Class A	A2 or ASTM D975 D2 Diesel.	Thermostat operation temperature- Full Open	°C	95

The fuel must be clean and without water

Lubrication System

Total System	L	16.4
Minimum Oil Level	L	12
Nominal Motor Operating Temperature	°C	50
Lubricating Oil Pressure	bar	4,5
Relief Valve Opens	kPa	200-220
Oil, Fuel Consumption Ratio	%	<0,1
Normal Oil Temperature	°C	120

Recommendation: SAE 15W40 to API CI4 Viscosity Lubricating oil, mono-grade or multi-grade oil





DIESEL ENGINE

Cooling System		
Radiator Type	50°C	Tropical
Max Perm Coolant Outlet Temperature	۲ د	100
Max. Perm. Flow Resis. (Cool. System And Piping)	bar	0,5
Max. Temperature Of Coolant Warning	°C	95
Max. Temperature Of Coolant Shutdown	°C	98
Thermostat operation temperature- Initial Open	°C	84
Thermostat operation temperature- Full Open	°C	95
Delivery Of Coolant Pump	Lt /sec.	3,1
Min. Pressure Before Coolant Pump	bar	0,35
Radiator Face area	m²	0,37
Rows	Row	2
Matrix Density	Per/Inch	15
Material		Aluminum
Width Of Matrix	mm	600
Height Of Matrix	mm	630
Pressure Cap Setting	kPa	90
Estimated Cooling Air Flow Reserve	kPa	0,125
Engine Pre Heater Tube (with Circulation Pump)	W	2000

Fan

Diameter	mm	590
Drive Ratio		1.38:1
Number Of Blades		8
Material		Plastic
Туре		Blowing

Filters

Air Filter
Fuel Filter
Oil Filter

Dry Type, replaceable With water seperator Element type, particulate trap





ALTERNATOR CANOPY & BASE FRAME

legend of power

Alternator Technical Specifications

Technical Parameters

Insulation Class Winding Pitch Wires Protection Altitude Overspeed Air Flow Bearing Drive Rotor Winding	m rpm m³/sec N/A 100%	H 2/3 - (N° 6) 12 IP 23 1000 2250 0.216 - Copper	Field Control system A.V.R. Model Voltage Regulation Sustained Short-Circuit Current Total Harmonic (*) TGH / THC Wave Form : NEMA = TIF - (*) Wave Form : I.E.C. = THF - (*) Bearing Non - Drive Stator Winding	Standard % 10 sec % Bearing 100%	Self excited SX460 ± 1 300% (3 IN) < 5 < 50 < 2 6309-2RZ Copper
Rotor Winding	100%	Copper	Stator Winding	100%	Copper

(*) Total harmonic content line to line, at no load or full rated linear and balanced load

Specifications

Standard: Connowor / CND2251 X - Orthonethy Lange (TALOND & Stanford / 1/02740									50	
Standard: Genpower / GNP225LA - Optionally: Leroy Somer / TAL044D & Stamford / 0C274C							4C	Power Factor- Co	sQ 0,8	
Duty			Continu	ous			Stand	Ву		
Ambient	C°		40°C	;			27°	C		
Class/Temp. Rise	C°		H / 125° K				H / 163° K			
Series Star (V)	V	380/220	400/231	415/240	1 Phase	380/220	400/231	415/240	1 Phase	
Parallel Star (V)	V	190/110	200/115	208/120	220	190/110	200/115	208/120	220	
Series Delta (V)	V	220	230	240	230	220	230	240	230	
Output Dowor	kVA	109	109	113	-	120	120	124	-	
	kW	87	87	90	-	96	96	99	-	

Genpower sychron alternators are produced according to TSE 60034-1; IEC 60034-22; GB755; BS4999-5000; NEMA MG 1.22 standards

Sound Proof Canopy Specifications

General Specifications

Special and registered Genpower Design A1 quality DKP / HRU /Galvanized Steel Sensitive twist on automatic Press Brake Spray system chemical cleaning in 11 pools with nano technology before painting Provide homogeniety on 280 meters of conveyor line Glasswool isolation with A1 quality material with -50/+500C temperature durability Hinges, locks, bolts, nuts made from rustproof material Temperature tests for different environments Cable exit connectors and conduits Emergency stop button Radiator water filling cap

Base Frame (Chasis) Specifications

General Specifications

Special and registered Genpower Design A1 quality DKP / HRU /Galvanized Steel Sensitive twist on automatic Press Brake Spray system chemical cleaning in 11 pools with nano technology before painting Provide homogeniety on 280 meters of conveyor line Standart fuel tank is in the chasis (external tank is used for some models) Fuel level gauge Fuel drain cap Lifting and carrying equipments Special and registered Genpower Color Delicate Cut on Automatic Punch and Laser bench Sensitive welding on robotic welding bench Robotic painting with electrostatic powder paint Drying and stabilizing on 200°C ovens Special covering over glass wool 1500 hour salt test (accredited laboratory certificated) Best sound level (in dBA) Lifting and carrying equipments High quality weatherstrips and shock absorbers Internal and/or external exhaust mufflers (silencers)

Special and registered Genpower Color Delicate Cut on Automatic Punch and Laser bench Sensitive welding on robotic welding bench Robotic painting with electrostatic powder paint Drying and stabilizing on 200°C ovens Impermeability test for fuel tank with special equipments Fuel filling cap Fuel inlet and return records Vibration absorbing and vacuumed feet under chasis









time to restart

Control Panel Specifications

General Specifications

Powder painted steel pannel with lockable door Emergency stop button ATS (automatic transfer panel) - optional (internal and/or external) Load output terminal Control relays

GENPOWER

260 gr.

90% max.

5 - 99,9 Hz

3 - 300 V

8 - 32 V

RS-232

5A & 250V

1A with DC supply

1A with DC supply

5A

8 - 32 V

120mm x 94mm

Control Module Technical Parameters

Brand Dimensions Weight Ambient Humidity DC Battery Supply Voltage Network Frequency Generator Voltage Measurement Current Transformer Secondary Charge Alternator Voltage Measurement Communication Interface Generator contactor Relay Output Solenoid Transistor Outputs Configurable-3 Transistor Outputs

Control Module Functions

Mains Voltage Level Control Network Frequency Level Control Engine Operating Option Control Engine Stop Option Control Engine Speed (RPM) level Control Battery Voltage Options Control Check Engine Maintenance Times Keeping error records of past events Communication interfaces GPRS, GSM Analog Modem Selectable protection alarm / shutdown Configurable analog inputs and outputs 3 phase Generator protections

- High / low voltage
- High / low frequency
- Current / voltage asymmetry
- Overcurrent / overload

Working Hour

Ground Leakage

Engine Speed, Oil Pressure, Water Temperature, Hours of Operation, Battery Voltage Display Generator, Voltage, Current, Frequency, Phase Sequence, Earthing Display

Control Module Alerts

Emergency Stop Malfunction High Generator Voltage Low Generator Frequency Low Load Over Current Unbalanced Current **Oil Sensor Broken** Magnetic Pickup Error

CE (ISO 9001:2008 OHSAS 18001:2007 ISO 14001:2004

Low Generator Voltage High Generator Frequency Phase Sequence Error Overload Low Water Level (Optional) Low Oil Pressure High Water Temperature Low Fuel Level (Optional)

Low Water Temperature Heat Sensor Broken **Reverse Power** Start Error Stop Error High Battery Voltage Low Battery Voltage Electronic Canbus Errors (ECU Engines)

Charge Alternator Error Unbalanced Load Maintenance Time Alarm Low Speed High speed High Oil Temperature (Optional)

CONTROL PANEL & MODULE

Control module - backlit LCD screen 128x64 pixels Battery charger Circuit breaker - optional (internal and/or external) System protection MCB's **Terminal Blocks**

Model **Protection Class** Environmental conditions Ambient temperature Battery Voltage Measurement Mains Voltage Measurement **Generator Frequency** Working Period Charge Alternator Excitation Analog Sender Measurement Mains contactor Relay Output Start Transistor Outputs Configurable-4 Transistor Outputs

Trans-MIDIAMF.232.GP IP65 from the front 2000 meters above sea level -20 ° C to + 70 ° C 8 - 32 V 3 - 300 V Phase-Neutral, 5 - 99.9 Hz 5 - 99.9 Hz Continuous 210mA & 12V, 105mA & 24V Nominal 2.5W 0 - 1300ohm 5A & 250V 1A with DC supply 1A with DC supply

Generator Voltage Level Control Generator Frequency Level Control Generator Current Level Control Generator Power Level Control Generator Work Schedule and Timing Control **Oil Pressure Controllers Control Overheat Control** Mains, Generator ATS control Ethernet, USB, RS232, RS485 Modbus and SNMP Easy Parameter Setting via control module or computer Configurable programmable digital inputs and outputs 3 phase AMF function - High / low frequency - High / low voltage - High / low water temperature

- High / low load
- Alarm Horn

Heater Tube Thermostat control Single-Phase or Three-Phase, Phase Selection Network, Voltage, Frequency Display





GENERAL DIMENSIONS SPECIAL PRODUCTS & CERTIFICATES

beyond the lines

General Dimensions



Canopy Type Generator Dimensions

Open Type Generator Dimensions

STANDARD SPECIFICATIONS

Width	mm	900	Width	mm	1110
Length	mm	2400	Length	mm	2960
Height	mm	1643	Height	mm	1727
Weight (Net)	Kg	1158	Weight (Net)	Kg	1299
Fuel Tank Capacity	L	256	Fuel Tank Capacity	L	376

Special Products / Non - Standardized

Synchronised Systems Scada Systems Mobile Systems - On Trucks and Bus Light Towers Welding Machines - Generators High Frequency Generators - 100-200-400-800-1000 Hz Variable speed Generators Super Silent Canopy Ground Power Unit Generators - Mobile or Stationary

Quality Documents & Certificates

ISO 9001 - 2015 Certificate OHSAS 18001 - 2007 Certificate TSE 8528 - 8 Certificate Trademark Registration Certificate Capacity Report (32400 Units / Year) Made in Turkey Certificate- For Generator/ 1 - 5000 kVA Made in Turkey Certificate-For Alternator/ 1-5000kVA Made in Turkey Certificate- For Engine/1-5000 kW 2006/42/EC Machinery Directive EN ISO 12100:2010 Certificate EN 349:1993+A1:2008 Certificate EN 61000-6-2,2019 Certificate TS EN ISO 9227 Certificate TS EN ISO 4628-5 Certificate EAC - GOST Certificate/ For Diesel Generators and parts EAC - GOST Certificate/ For Gasoline Generators and parts EN ISO 8528-13,2016 Certificate EN ISO 13857:2008 Certificate Coatchem- Türkak 1500 hours Corrosion Durability Test Certificate

Generators - with Trailer Medium Voltage - MV Generators High Voltage - HV Generators IP44-IP54 Class Generators Marine Generators **Dual Generators** Direct Current - DC Generators Power Plants Cogeneration Systems Trigeneration Systems

Generators - with Heavy Oil Engines Generators - with Natural Gas Engines Generators - with Biogas Engines Generators - with Dual Fuel Engines Generators - with LPG Engines UPS Systems Electrical Forflift / 0,5 - 3,5 Tons Diesel Forklift / 1 -7,5 Tons Automatic Voltage Stabilizers / 1-5000 kVA

ISO 14001 - 2015 Certificate TSE 8528 - 4 Certificate TSE 8528 - 5 Certificate Industrial Registry Certificate Certificate of Competency for After Sales Services Certificate of Manufacturing Competence TSE- Service Adequacy Certificate 2014/30/EU Electromagnetic Compatibility Directive EN 60204-1,2018 Certificate EN ISO 14120:2015 Certificate CE Certificate - EN ISO 17050-1,2004 TS EN ISO 4628-3 Certificate TS EN ISO 4628-8 Certificate TS EN 60034 - 1 Certificate TS EN ISO 4628-4 Certificate TS EN ISO 2409 Certificate AB-0547-T Certificate EN 61000-6-4,2007/A1:2011 Certificate TS 9620 EN ISO 4628-2 Certificate

CE Certficate - 2000/14/AT - 2000/14 EC (CE 2195- Noise Emission in the Environment by Equipment for use Outdoors)







GLOBAL BRAND

all around the world

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GENPOWER



world's biggest generator factory







Your life power

Factory Address ASO II. Industrial Zone 2010 Street No: 18

06909 Temelli-Sincan/Ankara, Turkey

Tel/ Fax: +90(312) 641 32 22 - 641 32 32

info@genpower.com.tr genpower@genpower.com.tr

www.genpower.com.tr