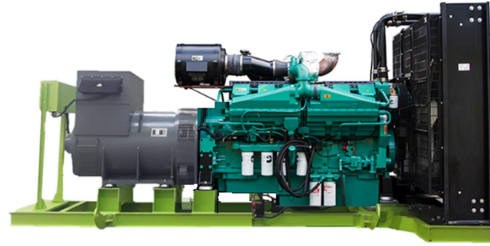


# GCC SERIES

**GENPOWER**<sup>®</sup>  
GENERATOR

When you need

**GCC 1650**



STANDARD SPECIFICATIONS

## General Specifications

Genset Model		GCC 1650	Fuel		Diesel
Stand By Power	kVA / kW	1650 / 1320	Stand By Ampers	Amp.	2384
Prime Power	kVA / kW	1500 / 1200	Prime Ampers	Amp.	2168
Continuous Power	kVA / kW	1050 / 840	Continuous Ampers	Amp.	1517
Engine Brand		CUMMINS	Engine Model		KTA50G8
Alternator Brand		GENPOWER	Alternator Model		GNP 400 LX
Speed	rpm	1500	Frequency	Hz	50
Voltage	V	231 / 400	Power Factor	Cos φ	0,8
Cooling System		Water Cooled	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 RUNNING 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.

TECHNICAL SPECIFICATIONS



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





environment friendly

## DIESEL ENGINE

### Engine Technical Specifications

#### Technical Parameters

Number Of Cylinders	16
Configuration	60°Vee
Aspiration	Turbo Charged&Aftercooled
Combustion System	Direct injection
Compression Ratio	14.9:1
Bore	mm 159
Stroke	mm 159
Displacement	L 50,3
Governing Type	Electronic
Governing Class	G3
Rotation	Counterclockwise
Firing order	1L,1R, 3L,3R,7L,7R,5L,5R, 8L,8R,6L,6R,2L,2R,4L,4R
Emission	Non-Regulated

Gross Engine Power	kW	1429
Net Engine Power	kW	1397
Fan and belt Power Consumption	kW	32
Other Power Loss	kW	-
Mean Effective Pressure	kPa	2275
Intake Air Flow	m <sup>3</sup> /min.	99,05
Exhaust Temperature Limit	°C	510
Exhaust Flow	m <sup>3</sup> /min.	260
Heat Rejection To Ambient (Radiated )	kW	210
Mean Piston Speed	m/s	7,9
Cooling Fan Air Flow	m <sup>3</sup> /min.	2631
Typical Generator Output Power	kVA	1676
Generator Efficiency	%	96

#### Electrical System

Voltage	V	24
Starter	kW	2X9
Alternator Output Amperes	A	35
Alternator Output Voltage	V	28
Batteries Capacity	Ah	4x143

#### Heat Rejection

Energy In Fuel (Heat Of Combustion)	kW	3220
Gross Heat To Power	kW	1429
Energy To Coolant And Lubricating Oil	kW	764
Energy To Exhaust	kW	817
Heat To Radiation	kW	210

#### Fuel Consumption

Standby - Load 100%	(L/h)	345
Prime - Load 100%	(L/h)	289
Prime - Load 75%	(L/h)	222
Prime - Load %50	(L/h)	155

**Note:** The density of diesel is 0.835 kg/L

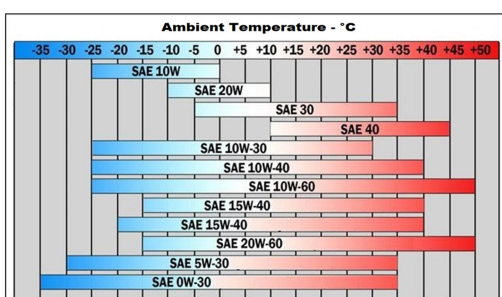
Fuel specification: BS 2869: Part 2 1998 Class A2 or ASTM D975 D2 Diesel.

The fuel must be clean and without water

#### Lubrication System

Total System	L	204
Minimum Oil Level	L	186
Nominal Motor Operating Temperature	°C	50
Lubricating Oil Pressure	bar	4,8
Relief Valve Opens	kPa	300
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



#### Cooling System

Radiator Type	50°C	Tropical
Total Coolant Capacity	L	420
Max. Perm. Coolant Outlet Temperature	°C	110
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	76
Thermostat operation temperature- Full Open	°C	85
Delivery Of Coolant Pump	Lt /sec.	12
Min. Pressure Before Coolant Pump	bar	0,5
Radiator Face area	m <sup>2</sup>	5,26
Rows	Row	7
Matrix Density	Per/Inch	12
Material		Aluminum
Width Of Matrix	mm	2508
Height Of Matrix	mm	2100
Pressure Cap Setting	kPa	90
Estimated Cooling Air Flow Reserve	kPa	0,125
Engine Pre Heater Tube (with Circulation Pump)	W	2 x 3000

#### Fan

Diameter	mm	1600
Drive Ratio		0.95:1
Number Of Blades		12
Material		Aluminum
Type		Blowing

#### Filters

Air Filter	Dry Type, replaceable
Fuel Filter	With water separator
Oil Filter	Element type, particulate trap



Legend of *power*

**ALTERNATOR  
CANOPY & BASE FRAME**

**Alternator Technical Specifications**

**Technical Parameters**

Insulation Class		H	Field Control system		Self excited
Winding Pitch		2/3 - (N° 6)	A.V.R. Model	Standard	MX341+PMG
Wires		6	Voltage Regulation	%	± 1
Protection		IP 23	Sustained Short-Circuit Current	10 sec	300% (3 IN)
Altitude	m	1000	Total Harmonic (*) TGH / THC	%	< 4
Overspeed	rpm	2250	Wave Form : NEMA = TIF - (*)		< 50
Air Flow	m³/sec	1,614	Wave Form : I.E.C. = THF - (*)	%	< 1.5
Bearing Drive	N/A	-	Bearing Non - Drive	Bearing	6317-2RZ
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**

<b>Standard: Genpower / GNP400L2 - Optionally: Leroy Somer / LSA50.2L8 &amp; Stamford / P7C</b>								Frequency- Hz	50
								Power Factor- CosQ	0,8
Duty		Continuous				Stand By			
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 Power	kVA	1500	1500	1556	-	1650	1650	1712	-
	kW	1200	1200	1245	-	1320	1320	1370	-

Genpower synchron 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 homogeneity 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

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 certified)  
 Best sound level (in dBA)  
 Lifting and carrying equipments  
 High quality weatherstrips and shock absorbers  
 Internal and/or external exhaust mufflers (silencers)

**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 homogeneity 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  
 Impermeability test for fuel tank with special equipments  
 Fuel filling cap  
 Fuel inlet and return records  
 Vibration absorbing and vacuumed feet under chasis

STANDARD SPECIFICATIONS

TECHNICAL SPECIFICATIONS



*time to restart*

## CONTROL PANEL & MODULE

### Control Panel Specifications

#### General Specifications

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

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

### Control Module Technical Parameters

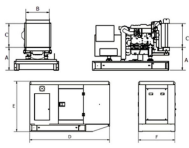
Brand	GENPOWER	Model	Trans-MIDIAMF.232.GP
Dimensions	120mm x 94mm	Protection Class	IP65 from the front
Weight	260 gr.	Environmental conditions	2000 meters above sea level
Ambient Humidity	90% max.	Ambient temperature	-20 ° C to + 70 ° C
DC Battery Supply Voltage	8 - 32 V	Battery Voltage Measurement	8 - 32 V
Network Frequency	5 - 99,9 Hz	Mains Voltage Measurement	3 - 300 V Phase-Neutral, 5 - 99.9 Hz
Generator Voltage Measurement	3 - 300 V	Generator Frequency	5 - 99.9 Hz
Current Transformer Secondary	5A	Working Period	Continuous
Charge Alternator Voltage Measurement	8 - 32 V	Charge Alternator Excitation	210mA & 12V, 105mA & 24V Nominal 2.5W
Communication Interface	RS-232	Analog Sender Measurement	0 - 1300ohm
Generator contactor Relay Output	5A & 250V	Mains contactor Relay Output	5A & 250V
Solenoid Transistor Outputs	1A with DC supply	Start Transistor Outputs	1A with DC supply
Configurable-3 Transistor Outputs	1A with DC supply	Configurable-4 Transistor Outputs	1A with DC supply

### Control Module Functions

Mains Voltage Level Control	Generator Voltage Level Control
Network Frequency Level Control	Generator Frequency Level Control
Engine Operating Option Control	Generator Current Level Control
Engine Stop Option Control	Generator Power Level Control
Engine Speed (RPM) level Control	Generator Work Schedule and Timing Control
Battery Voltage Options Control	Oil Pressure Controllers Control
Check Engine Maintenance Times	Overheat Control
Keeping error records of past events	Mains, Generator ATS control
Communication interfaces GPRS, GSM	Ethernet, USB, RS232, RS485
Analog Modem	Modbus and SNMP
Selectable protection alarm / shutdown	Easy Parameter Setting via control module or computer
Configurable analog inputs and outputs	Configurable programmable digital inputs and outputs
3 phase Generator protections	3 phase AMF function
- High / low voltage	- High / low frequency
- High / low frequency	- High / low voltage
- Current / voltage asymmetry	- High / low water temperature
- Overcurrent / overload	- High / low load
Working Hour	Alarm Horn
Ground Leakage	Heater Tube Thermostat control
Engine Speed, Oil Pressure, Water Temperature, Hours of Operation, Battery Voltage Display	Single-Phase or Three-Phase, Phase Selection
Generator, Voltage, Current, Frequency, Phase Sequence, Earthing Display	Network, Voltage, Frequency Display

### Control Module Alerts

Emergency Stop Malfunction	Low Generator Voltage	Low Water Temperature	Charge Alternator Error
High Generator Voltage	High Generator Frequency	Heat Sensor Broken	Unbalanced Load
Low Generator Frequency	Phase Sequence Error	Reverse Power	Maintenance Time Alarm
Low Load	Overload	Start Error	Low Speed
Over Current	Low Water Level (Optional)	Stop Error	High speed
Unbalanced Current	Low Oil Pressure	High Battery Voltage	High Oil Temperature (Optional)
Oil Sensor Broken	High Water Temperature	Low Battery Voltage	
Magnetic Pickup Error	Low Fuel Level (Optional)	Electronic Canbus Errors (ECU Engines)	

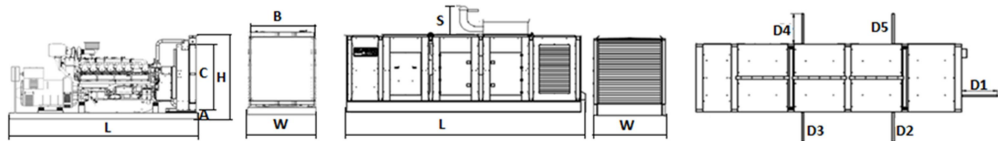


beyond the lines

GENERAL DIMENSIONS  
SPECIAL PRODUCTS & CERTIFICATES

## General Dimensions

SYMBOL	OPEN TYPE	CANOPY TYPE
L	5360	7883
W	2000	2352
H	2450	2706
S	-	700
A	350	
B	2508	
C	2100	
D1	0	1044
D2	0	1044
D3	0	1044
D4	0	1044
D5	0	1044



STANDARD SPECIFICATIONS

## Open Type Generator Dimensions

Width	mm	2000
Length	mm	5360
Height	mm	2450
Weight (Net)	Kg	11140
Fuel Tank Capacity	L	2500

## Canopy Type Generator Dimensions

Width	mm	2352
Length	mm	7883
Height	mm	2706
Weight (Net)	Kg	16160
Fuel Tank Capacity	L	2500

## 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

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 Forlift / 0,5 - 3,5 Tons  
Diesel Forklift / 1 -7,5 Tons  
Automatic Voltage Stabilizers / 1-5000 kVA

## 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

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

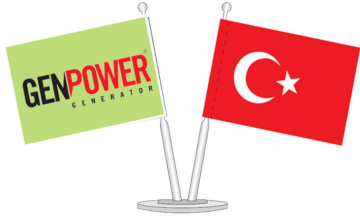
CE Certificate- 2000/14/AT - 2000/14 EC (CE 2195- Noise Emission in the Environment by Equipment for use Outdoors)

TECHNICAL SPECIFICATIONS



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





**GENPOWER**<sup>®</sup>  
GENERATOR

*all around the world*

**GLOBAL BRAND**



*world's biggest generator factory*



**GENPOWER**<sup>®</sup>  
GENERATOR

*Your life power*

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



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STANDARD SPECIFICATIONS

TECHNICAL SPECIFICATIONS