GDZ SERIES

We are Exclusive Distributor of DEUTZ

68 dB(A) @ 7mt

GENPOWER GENERATOR

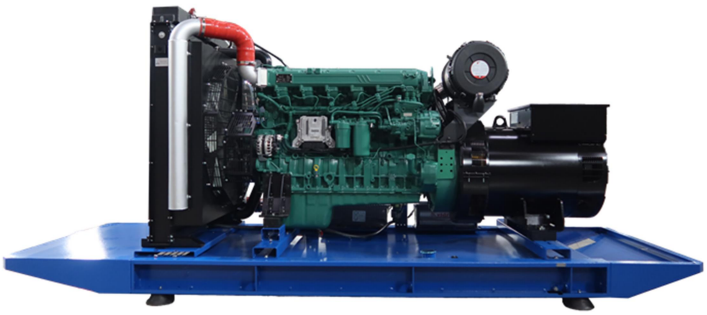
231/400V - 50Hz & 277/480V - 60Hz

GDZ 375 & 415

Genset General Information														
Generator	Frequency	Voltage	Power Factor	Speed	Diesel Engine			Alternator			Type of	Generator Output		
Model	Hz	V	CosQ	rpm	Brand	Model	Serial	Brand	Model	Serial	Operation	kVA	kW	A
GDZ 375	50	231/400	0,8	1500	DEUTZ	TCD12.1G1	TCD	GENPOWER	GNP	GNP 315 S	Stand By Prime Continuous	375,0 341,0 299,6	300,0 272,8 239,7	541,9 492,8 433,0
GDZ 415	60	277/480	0,8	1800						GNP 270 LXA	Stand By Prime Continuous	415,0 377,3 349,0	332,0 301,8 279,2	599,7 545,2 504,3

Features and Benefits

- We are exclusive Distributor of DEUTZ Engine
- Half Century Experience in Generator Manufacturing
- Diesel Engines with Advanced Technology and Quality
- Alternators with Advanced Technology and Quality
- Control Panel Suitable for Flexible Application
- High Quality and Reliable Technology
- Patented Compact Designed and Soundproof Canopy
- Original DEUTZ AG Products
- Low Noise Level
- Low Exhaust Emission
- Low Operating Cost
- Low Fuel Consumption
- Low Oil Consumption
- Tropical 50°C Radiator
- Global DEUTZ AG Warranty
- Suitable for Heavy-Duty
- Durability
- Wide Range of Affordable Spare Parts
- Fuel Filter with Water and Particle Separator
- First Class Product Support
- Global Technical Service and Maintenance Support



GENPOWER RESERVES THE RIGHT TO CHANGE THE CATALOGUES, PRODUCTS, MODELS AND TECHNICAL SPECIFICATIONS

GDZ SERIES

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GENPOWER GENERATOR

231/400V - 50Hz & 277/480V - 60Hz

General Characteristics

50Hz - 1500-min -1

Engine

Type		TCD12.1
Speed	min^{-1}	1500
Net frequency	Hz	50
Power standard		LTP
Power level		G1
Exhaust emission standard		Fuel optimized

General

Aspiration		Turbo, CAC
Governing System		Electronic
Governor Brand		Bosch
No of cylinders		6
Configuration		in-line
Injection system		Common Rail
Displacement	l	12,10
Bore	mm	131
Stroke	mm	150
Compression ratio		17:1
Mean effective pressure	bar	26
Piston speed	m/s	8
Rotation (looking at flywheel)		ccw
No of teeth on flywheel ring gear		143

Governor performance

Speed droop (static) electr. gov.	%	0
Governing standards to ISO 8528 Parts 1 and 5		G3

Moment of inertia

Flywheel (standard genset spec.)	kg m²	2,16
Max. step load acceptance, 1st step	%	-
Sound power at full load, incl. cooling system	dB(A)	108,30
Sound press. (1m average, full load), incl. cool. syst.	dB(A)	95,50

Engine Weight

Engine dry, w/o cooling system	kg	1154
Engine with cooling system	kg	1249

Lubrication system

Oil specification		15W40 / CI-4/SL
Oil consumption (as % of fuel consumption)	%	0,10
Oil capacity (sump)	l	30
Min. oil pressure (warning)	bar	0,80
Min. oil pressure (shut down)	bar	0,60
Max. permissible oil temperature (oil pan)	°C	130

Output

Gross output(LTP or StandBy Power)	kW	330
Fan reduction	kW	13
Net flywheel	kW	317
Electrical output (Stand By)	kVA	375
Gross output(PRP or Prime Power)	kW	290
Gross output(Continous Power)	kW	268

60Hz - 1800-min -1

Engine

Type		TCD12.1
Speed	min^{-1}	1800
Net frequency	Hz	60
Power standard		LTP
Power level		G1
Exhaust emission standard		Fuel optimized

General

Aspiration		Turbo, CAC
Governing System		Electronic
Governor Brand		Bosch
No of cylinders		6
Configuration		in-line
Injection system		Common Rail
Displacement	l	12,10
Bore	mm	131
Stroke	mm	150
Compression ratio		17:1
Mean effective pressure	bar	24,5
Piston speed	m/s	9,6
Rotation (looking at flywheel)		ccw
No of teeth on flywheel ring gear		143

Governor performance

Speed droop (static) electr. gov.	%	0
Governing standards to ISO 8528 Parts 1 and 5		G3

Moment of inertia

Flywheel (standard genset spec.)	kg m²	2,16
Max. step load acceptance, 1st step	%	-
Sound power at full load, incl. cooling system	dB(A)	108,30
Sound press. (1m average, full load), incl. cool. syst.	dB(A)	96,50

Engine Weight

Engine dry, w/o cooling system	kg	1154
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Lubrication system

Oil specification		15W40 / CI-4/SL
Oil consumption (as % of fuel consumption)	%	0,10
Oil capacity (sump)	l	30
Min. oil pressure (warning)	bar	0,80
Min. oil pressure (shut down)	bar	0,60
Max. permissible oil temperature (oil pan)	°C	130

Output

Gross output(LTP or StandBy Power)	kW	365
Fan reduction	kW	17,5
Net flywheel	kW	347,5
Electrical output (Stand By)	kVA	415
Gross output(PRP or Prime Power)	kW	335
Gross output(Continous Power)	kW	310

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50Hz - 1500-min -1

Fuel System, Fuel consumption

110% Load	l/h	72,56
100% Load	l/h	63,81
75% Load	l/h	48,10
50% Load	l/h	33,21

Cooling System, General engine cooling data

Max. perm. coolant outlet temperature	°C	99
Max. perm. flow resistance (cool. syst. and piping)	bar	0,30
Max. temperature of coolant (warning)	°C	105
Max. temperature of coolant (shutdown)	°C	108
Temperature at which thermostat starts to open	°C	80
Temperature at which thermostat is fully open	°C	90
Delivery of coolant pump	m3/h	28,80
Min. pressure before coolant pump	bar	0,80
Temperature at CAC outlet at standard conditions	°C	50

Engine Cooling System

Coolant capacity (engine)	l	20
Coolant capacity (incl. cooling unit)	l	35
Air to boil (max. permissible cool. air temp. at fan)	°C	55
Fan power consumption	kW	13
Cooling air flow	m3/h	38486
Air pressure loss	mbar	1,64

Heat Balance

Heat dissipation (engine radiator)	kW	108
Heat dissipation (CAC)	kW	55

Inlet / Exhaust Data

Max. intake depression (Switch setting)	mbar	50
Combustion air volume	m3/h	1186
Max. exhaust back pressure	mbar	50
Max. exhaust gas temperature	°C	511
Exhaust gas flow (at above temp)	m3/h	3301
Exhaust flange / pipe diameter	mm	120

Electrical System

Voltage	V	24
Starter	Kw	8,80
Alternator output	A	80
Batteries (minimum capacity, cold start limit -5°C)	Ah	2*120

60Hz - 1800-min -1

Fuel System, Fuel consumption

110% Load	l/h	82,76
100% Load	l/h	75,62
75% Load	l/h	57,01
50% Load	l/h	39,36

Cooling System, General engine cooling data

Max. perm. coolant outlet temperature	°C	99
Max. perm. flow resistance (cool. syst. and piping)	bar	0,30
Max. temperature of coolant (warning)	°C	105
Max. temperature of coolant (shutdown)	°C	108
Temperature at which thermostat starts to open	°C	80
Temperature at which thermostat is fully open	°C	90
Delivery of coolant pump	m3/h	34.6
Min. pressure before coolant pump	bar	0.8
Temperature at CAC outlet at standard conditions	°C	50

Engine Cooling System

Coolant capacity (engine)	l	20
Coolant capacity (incl. cooling unit)	l	35
Air to boil (max. permissible cool. air temp. at fan)	°C	55
Fan power consumption	kW	17,5
Cooling air flow	m3/h	43298
Air pressure loss	mbar	1,64

Heat Balance

Heat dissipation (engine radiator)	kW	110
Heat dissipation (CAC)	kW	56,4

Inlet / Exhaust Data

Max. intake depression (Switch setting)	mbar	50
Combustion air volume	m3/h	1564
Max. exhaust back pressure	mbar	50
Max. exhaust gas temperature	°C	507
Exhaust gas flow (at above temp)	m3/h	4229
Exhaust flange / pipe diameter	mm	120

Electrical System

Voltage	V	24
Starter	Kw	8,80
Alternator output	A	100
Batteries (minimum capacity, cold start limit -5°C)	Ah	2*120

Alternator Technical Parameters

Insulation Class		H	Field Control System		Self Excited
Winding Pitch		2/3 - (N° 6)	A.V.R. Model	Standard	SX440
Wires		12	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	0.8	Wave Form :I.E.C. = THF - (*)	%	< 2
Bearing Drive	N/A	-	Bearing Non - Drive	Bearing	6314-2RZ
Rotor Winding	100%	Copper	Stator Winding	100%	Copper

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

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

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GENPOWER GENERATOR

231/400V - 50Hz & 277/480V - 60Hz

Alternator Specifications

50 Hz - 231/400V - Cos Q 0,8 - 1500 rpm — 50Hz

Standard Using Alternator				Optional Using Alternator					
Brand/Model	Genpower	GNP 315 S		Leroy Somer	TAL046G		Stamford	S4L1D E/HC4E	
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	373,0	373,0	387,0	-	410,0	410,0	426,0	-
Output Power	kW	298,4	298,4	309,6	-	328,0	328,0	340,8	-

60 Hz - 277/480V - Cos Q 0,8 - 1800 rpm — 60Hz

Standard Using Alternator				Optional Using Alternator					
Brand/Model	Genpower	270LXA		Leroy Somer	TAL046F		Stamford	HC4D	
Duty		Continuous				Stand By			
Ambient	C°	40°C				27°C			
Class/Temp. Rise	C°	H / 125° K				H / 163° K			
Series Star (V)	V	416/240	440/254	480/277	1 Phase	416/240	440/254	480/277	1 Phase
Parallel Star (V)	V	208/120	220/127	240/138	-	208/120	220/127	240/138	-
Series Delta (V)	V	240	254	277	240	240	254	277	240
Output Power	kVA	358,0	377,0	398,0	-	394,0	415,0	437,0	-
Output Power	kW	286,4	301,6	318,4	-	315,2	332,0	349,6	-

Other Details

Diesel Engine and Genset Rating Classifications

The below ratings represent the engine performance capabilities to conditions specified in TS ISO 8528/1, 8528-4, 8528-5, 8528-8, BS5000, ISO 3046/1:1986, NEMA MG-1.22.1, BS 5514/1.

STAND BY POWER 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. Under no condition is an engine allowed to operate in parallel with the public utility at the Stand By Power rating. This rating should be applied where reliable utility power is available. A Stand By rated engine should be sized for a maximum of an 70% average load factor and 200 hours of operation per year. This includes less than 25 hours per year at the Stand By Power rating. Stand By ratings should never be applied except in true emergency power outages. Negotiated power outages contracted with a utility company are not considered an emergency.

PRIME POWER RATING (PRP):

Applicable for supplying electric power in lieu of commercially purchased power. Prime Power applications must be in the form of one of the following two categories:

UNLIMITED TIME RUNNING PRIME POWER (ULTP):

PRP (Prime Power) is available for an unlimited number of hours per year in a variable load application. Variable load should not exceed a 70% average of the Prime Power rating during any operating period of 250 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-hour period of operation. Total operating time at the 10% overload power shall not exceed 25 hours per year.

LIMITED TIME RUNNING PRIME POWER (LTP):

LTP (Limited Time Prime Power) is available for a limited number of hours in a nonvariable load application. It is intended for use in situations where power outages are contracted, such as in utility power curtailment. Engines may be operated in parallel to the public utility up to 750 hours per year at power levels never to exceed the Prime Power rating. The customer should be aware, however, that the life of any engine will be reduced by this constant high load operation. Any operation exceeding 750 hours per year at the Prime Power rating should use the Continuous Power rating.

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.

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.

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Control Panel Specifications

Powder Painted Steel Pannel with Lockable Door	Battery Charger	Control Relays	System Protection MCBs
ATS (Automatic Transfer Panel) - Optional	Emergency Stop Button	Terminal Blocks	Circuit Breaker - Optional
Control Module	Backlit, 128x64 Pixels	Load Output Terminal	LCD Screen

Control Module Technical Parameters

Brand	GENPOWER/FORTRUST	Model	6120-D Version
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	3 phase Generator Protections	3 phase AMF Function
Network Frequency Level Control	Generator Frequency Level Control	- High / Low Voltage	- High / Low Frequency
Engine Operating Option Control	Generator Current Level Control	- High / Low Frequency	- High / Low Voltage
Engine Stop Option Control	Generator Power Level Control	- Current / Voltage Asymmetry	- High / Low Water Temperature
Engine Speed (RPM) Level Control	Generator Work Schedule and Timing Control	- Overcurrent / Overload	- High / Low Load
Battery Voltage Options Control	Oil Pressure Controllers Control	Overheat Control	Mains, Generator ATS control
Check Engine Maintenance Times	Configurable Analog Inputs and Outputs	1 Phase or 3 Phase, Phase Selection	Network, Voltage, Frequency Display
Communication Interfaces GPRS, GSM	Keeping Error Records of Past Events	Parameter Setting via Control Module	Parameter Setting via Computer
Engine Speed	Configurable Programmable Digital Inputs and Outputs	Water Temperature	Hours of Operation
Voltage	Current and Frequency	Phase Sequence	Earting
Alarm Horn	Modbus and SNMP	Ground Leakage	Ethernet, USB, RS232, RS485
Heater Tube Thermostat Control	Working Hour	Analog Modem	Selectable Protection Alarm / Shutdown
Battery Voltage	Oil Pressure		

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	Magnetic Pickup Error	Broken Oil Sensor Cable
High Oil Temperature (Optional)	High Battery Voltage	High Water Temperature	Electronic Canbus Errors (ECU)
Low Fuel Level (Optional)	Low Battery Voltage		

Sound Proof Canopy and Base Frame (Chassis) Specifications

Special, Registered GENPOWER Design and Color	Robotic Painting with Electrostatic Powder Paint	Temperature Tests	Fuel Inlet and Return Records
A1 Quality DKP / HRU /Galvanized Steel	Drying and Stabilizing on 200°C Ovens	Rustproof Accessories	Impermeability Test for Fuel Tank
Sensitive Twist on Automatic Press Brake	1500 Hour Salt Test	Cable Exit Connectors and Glands	Vacummed Rubber Mounted
Delicate Cut on Automatic Punch and Laser Bench	Glasswool Isolation, A1 Class Material - 50/+500ºC	Emergency Stop Button	High Quality Weatherstrips
Sensitive Welding on Robotic Welding Bench	Special Covering Over Glass Wool	Fuel Level Gauge	High Quality Shock Absorbers
Chemical Cleaning Nano Technology Before Painting	Best Sound Level (in dBA)	Fuel Drain Cap	Fuel Filling Cap (with ventilation)
Lifting and Carrying Equipments	External Exhaust Mufflers (Silencers)	Daily Fuel Tank	External Fuel Tank
Internal Exhaust Mufflers (Silencers)	Radiator Water Filling Cap		

Special Products / Non - Standardized

Synchronised Systems	Generators - with Trailer	DC Generators	High Frequency Generators
Scada Systems	Medium Voltage - MV	High Voltage - HV	Variable Speed Generators
Mobile Systems	IP44-IP54 Class Generators	Power Plants	Super Silent Canopy
Light Towers	Welding Machines	Trigeneration Systems	Cogeneration Systems
Ground Power Unit Generators	Natural Gas Generator	Biogas Generator	LPG Generator
Marine Generators	Automatic Voltage Stabilizers	Electrical and Diesel Forklift	HFO Generator
Dual Generators			

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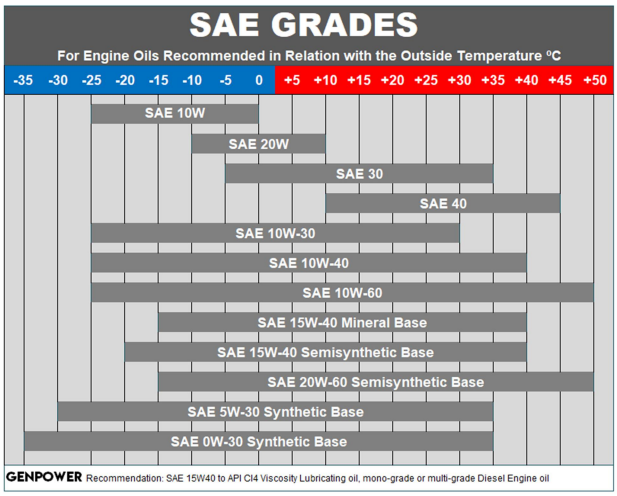
GENPOWER GENERATOR

231/400V - 50Hz & 277/480V - 60Hz

Generator Dimensions

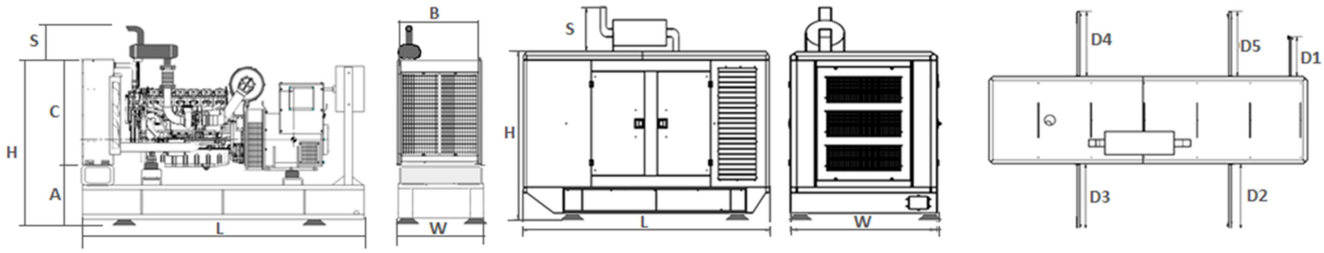
Values		Open Type Generator	Canopy Type Generator
Width	mm	1100	1179
Length	mm	3254	3921
Height	mm	1782	2498
Weight (Net)	Kg	2353	2790
Fuel Tank Capacity	L	475	673

Oil Recommendation and Oil Grades



Generator Technical Drawings

SYMBOL	OPEN	CANOPY
L	3254	3921
W	1100	1179
H	1598	1955
S	184	543
A	766	
B	810	
C	860	
D1		520
D2		850
D3		850
D4		850
D5		850



Why You Should Buy GENPOWER?

Only because it is the biggest generator factory in the World? NO!

* It is one of the most trustworthy and distinguished generator manufacturers in the world with its almost half century experience in the field.
* It has interiorized the strategy of **unconditional customer satisfaction** and has been working with this work ethic together with its whole crew.
* Customers and end users get their moneys' worth and more with every penny.
* It has become a big family with customers and users who receive durable, long-lasting and high quality products.
* It has been appreciated many times by customers and suppliers about the investments that have been made for quality enhancement.
* Both its suppliers and customers always know GENPOWER is and will always be there for them. GENPOWER on their side in bad and good days.
* In order not to harm brand reputation and recognition, each day, they work harder than the day before.
* It continues its business only with the suppliers, customers, dealers and technical services that also embrace the same mind set and work ethics.
* It proves its loyalty for quality and customer satisfaction with its mottos "**Your power is the core of our business**" and "**nothing will be left unfinished**"
* The specifications and/or modifications you can receive with extra costs by other manufacturers are included in standard production in GENPOWER
* When you purchase GENPOWER products, you are not a customer or a buyer but GENPOWER perceives and accepts you as a valuable member of its continuously growing family.

These are why you should buy from GENPOWER…

English 01-2022©2022 GDZ Series Generator

GENPOWER GENERATOR

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