## 021-58437 : تلفن www.Radocorp.com





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#### **Features and Benefits**

• 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
- Suitable for Heavy-Duty
- Durability

ENERATOR

• Wide Range of Affordable Spare Parts

### GNT 300 & 300

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

- Low Noise Level
- Low Exhaust Emission
- Low Operating Cost
- Low Fuel Consumption
- Low Oil Consumption
- Tropical 50°C Radiator
- Fuel Filter with Water and Particle Separator
- First Class Product Support
- Global Technical Service and Maintenance Support

Generator General Information																	
Generator	Frequency	Voltage	Power Factor	Speed Diesel Engine		Alternator		Type of	Ger	erator Ou	tput						
Model	Hz	V	CosQ	rpm	Brand	Model	Series	Brand	Model	Series	Operation	kVA	kW	Α			
<b>GNT</b> 300	50	231/400	0,8	1500	I N T	E371TDI	5274TDI	E274TDI	5274TDI CI		G E N P	e N <b>G</b>	270LX	Stand By Prime Continuous	300,0 272,7 190,9	240,0 218,2 152,7	433,5 394,1 275,9
<b>GNT</b> 300	60	277/480	0,8	1800	E R			U	P	270MX	Stand By Prime Continuous	300,0 272,7 190,9	240,0 218,2 152,7	433,5 394,1 275,9			

رادوكو نمايندگي ديزل ژنراتور

#### **INTER** Diesel Engine Technical Parameters and Matching Parameters

#### **Diesel Engine Main Technical Parameters**

General		
Number of Cylinders		6
Configuration		Vertical, In Line
Aspiration		Turbocharged & Intercooled
Combustion System		Direct Injection
Compression Ratio		17:1
Bore	mm	126
Stroke	mm	130
Displacement	L	9,726
Governing Type		Electronic
Governing Class		G3
Rotation		Counterclockwise
Firing Order		1-5-3-6-2-4
Emission		Tier II
Moments of Rotation Inertia		
Engine	kg • m²	3,02
Flywheel	kg • m²	2,35
Performance Rating		
Speed Droop	%	≤0,5
Steady State Speed Band	%	≤0.5
Test Conditions		
Ambient Temperature	%	25
Atmospheric Pressure	kPa	100
Relative Humidity	RH (%)	30
Max. Operating Intake Resistance	kPa	5
Exhaust Backpressure Limit	kPa	10
Fuel Temperature (Fuel Inlet Pump)	°C	38 ± 2
Filters		
Air Filter		Dry Type, Replaceable
Fuel Filter		With Water Seperator
Oil Filter		Element Type, Particulate Trap
Flywhell Housing and Flex Coupling		
Flywheel Housing	SAE (J620)	1
Flex Coupling Disc	Inch (")	14
Overall Dimensions		
Length *	mm	1854
Width	mm	887
Height	mm	1209
Dry Weight	Kg	980
* From front end of radiator to rear end of air filter		

Cooling System		
Radiator Type	50°C	Tropical
Total Coolant Capacity	L	46
Max. Perm. Coolant Outlet Temperature	°C	103
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	68
Thermostat Operation Temperature - Full Open	°C	71
Delivery of Coolant Pump	m ³/ h	5,60
Min. Pressure Before Coolant Pump	bar	0,5
Radiator Face Area	m²	0,72
Rows	Row	5
Matrix Density	Per / Inch	15,5
Material		Aluminum
Width of Matrix	mm	830
Height of Matrix	mm	870
Pressure Cap Setting	kPa	90
Estimated Cooling Air Flow Reserve	kPa	0,125
Engine Pre Heater Tube (with Circulation Pump) Lubrication System	W	3000
Total System	L	26
Minimum Oil Level	L	20
Nominal Motor Operating Temperature	°C	40
Lubricating Oil Pressure (Rated Speed)	bar	5
Relief Valve Opens	kPa	300-400
Oil / Fuel Consumption Ratio	%	≤0,36
Normal Oil Temperature	°C	105
Electrical System	0	100
Voltage	V	24
Starter	kW	8,5
Alternator Output Ampers	A	55
Alternator Output Voltage	V	28
Batteries Capacity	Ah	2X120
Fan	7.01	and a final second
Diameter	mm	760
Drive Ratio		1,04:1
Number of Blades		10
Number of Blades Material		Plastic

رادوكو نمايندگي ديزل ژنراتور

ENERATOR

60 Hz @ 1800 r/min

Fan Power Consumption (Belt Pulley Driven)

Gross Engine Power

Net Engine Power

Other Power Loss

Intake Air Flow

Exhaust Flow

Mean Effective Pressure

Exhaust Temperature Limit

Typical Generator Output Power

Energy in Fuel (Heat of Combustion)

Energy to Coolant and Lubricating Oil

Boost Pressure Ratio

Mean Piston Speed

Cooling Fan Air Flow

Heat Rejection

Gross Heat to Power

Energy to Exhaust

Heat to Radiation

Heat Dissipation Capacity\*

\*Intake Intercooled System

### 021-58437 : تلفن

Prime

251.0

232,7

16,8

1.5

2 19

13.98

594

40,82

3,20

78

612,0

289

639,0

243,0

130,0

48,0

190,0

29.0

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

kW

kW

kW

kW

MPa

°С

m/s

kVA

kW

kW

kW

kW

kW

kW

m <sup>3</sup> / min

m <sup>3</sup> / min

m <sup>3</sup> / min

Stand By

276,0

257,2

16,8

2.0

2 4 1

14,63

636

44,97

3,30

78

612.0

319

703.0

267,0

143,0

53,0

209,0

32.0

# GNT 300 & 300 GENP

#### **Diesel Engine Matching Parameters**

50 Hz @ 1500 r/min		Stand By	Prime
Gross Engine Power	kW	276,0	251,0
Net Engine Power	kW	260,0	235,0
Fan Power Consumption (Belt Pulley Driven)	kW	14,0	14,0
Other Power Loss	kW	2,0	2,0
Mean Effective Pressure	MPa	2,73	2,49
Intake Air Flow	m <sup>3</sup> / min	13,80	13,20
Exhaust Temperature Limit	°C	650	650
Exhaust Flow	m <sup>3</sup> / min	40,20	36,55
Boost Pressure Ratio		3,26	3,09
Mean Piston Speed	m / s	6,5	6,5
Cooling Fan Air Flow	m <sup>3</sup> / min	612,0	612,0
Typical Generator Output Power	kVA	300	273
Heat Rejection			
Energy in Fuel (Heat of Combustion)	kW	703,0	639,0
Gross Heat to Power	kW	267,0	243,0
Energy to Coolant and Lubricating Oil	kW	143,0	130,0
Heat Dissipation Capacity*	kW	53,0	48,0
Energy to Exhaust	kW	209,0	190,0
Heat to Radiation	kW	32,0	29,0
*Intake Intercooled System			

#### **GENPOWER** Alternator Technical Parameters and Specifications

#### Alternator Technical Parameters

Insulation Class		Н
Winding Pitch		2/3 - (N° 6)
Wires		12
Protection		IP 23
Altitude	m	1000
Overspeed	rpm	2250
Air Flow	m³/sec	0.514
Bearing Drive	N/A	-
Rotor Winding	100%	Copper

Field Control System		Self Excited
A.V.R. Model	Standard	AS440
Voltage Regulation	%	±1
Sustained Short-Circuit Current	10 sec	300% (3 IN)
Total Harmonic (*) TGH / THC	%	< 4
Wave Form :NEMA = TIF - (*)		< 50
Wave Form :I.E.C. = THF - (*)	%	< 2
Bearing Non - Drive	Bearing	6310-2RZ
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

#### Alternator Specifications

	50 Hz - 231/400V - Cos Q 0,8 - 1500 rpm									
Standard Using Alternator Optional Using Alternator										
Brand/Model	Genpower	270LX		Leroy Somer	TAL046E		Stamford	S4L1DD		
Duty		Continuous					Star	nd 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	273,0	273,0	283,0	-	300,0	300,0	312,0		
Output Power	kW	218,4	218,4	226,4	-	240,0	240,0	249,6	-	

	60 Hz - 277/480V - Cos Q 0,8 - 1800 rpm									
Standard Using Alternator Optional Using Alternator										
Brand/Model	Genpower	270MX		Leroy Somer	TAL046C		Stamford	UC 274J		
Duty		Continuous Stand By								
Ambient	C°		40°C				27°C			
Class/Temp. Rise	C°		H / 12	25° 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	269,0	284,0	298,0	-	296,0	312,0	328,0	-	
Output Power	kW	215,2	227,2	238,4	-	236,8	249,6	262,4	-	

# GNT 300 & 300

# GENPOWER GENERATOR

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

#### **Control Panel Specifications**

Powder Painted Steel Pannel with Lockable Door ATS (Automatic Transfer Panel) - Optional Control Module

#### **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

#### **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 Communication Interfaces GPRS, GSM Engine Speed Voltage

#### **Control Module Alerts**

Emergency Stop Malfunction High Generator Voltage Low Generator Frequency Low Load Over Current Unbalanced Current

#### Sound Proof Canopy and Base Frame (Chassis) Specifications

Special, Registered GENPOWER Design and Color A1 Quality DKP / HRU /Galvanized Steel Sensitive Twist on Automatic Press Brake Delicate Cut on Automatic Punch and Laser Bench Sensitive Welding on Robotic Welding Bench Chemical Cleaning Nano Technology Before Painting

#### Special Products / Non - Standardized

Synchronised Systems Scada Systems Mobile Systems Light Towers Ground Power Unit Generators

#### **Quality Documents & Certificates**

Trademark Registration Certificate Capacity Report (32400 Units / Year) Made in Turkey Certificate- For Generator/1-5000 kVA Made in Turkey Certificate-For Alternator/1-5000 kW Certificate of Competency for After Sales Services 2014/30/EU Electromagnetic Compatibility Directive CE Certificate - 2000/14/AT - 2000/14 EC (CE 2195) Battery Charger Emergency Stop Button Backlit, 128x64 Pixels

GENPOWER 120mm x 94mm 260 gr. 90% max. 8 - 32 V 5 - 99,9 Hz 3 - 300 V 5A 8 - 32 V RS-232 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 Configurable Analog Inputs and Outputs Keeping Error Records of Past Events Configurable Programmable Digital Inputs and Outputs Current and Frequency

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

Robotic Painting with Electrostatic Powder Paint Drying and Stabilizing on 200°C Ovens 1500 Hour Salt Test Glasswool Isolation, A1 Class Material -50/+500°C Special Covering Over Glass Wool Best Sound Level (in dBA)

Generators - with Trailer Medium Voltage - MV IP44-IP54 Class Generators Welding Machines Natural Gas Generator

 Industrial Registry Certificate
 TSE

 Certificate of Manufacturing Competence
 TSE

 TSE- Service Adequacy Certificate
 TSE

 ISO 9001 - 2015 Certificate
 AB-00

 ISO 14001 - 2015 Certificate
 EAC

 OHSAS 18001 - 2007 Certificate
 EAC

 2006/42/EC Machinery Directive
 CE C

 Coatchern- Türkak 1500 Hours Corrosion Durability Test Certificate
 Certificate

Control Relays Terminal Blocks Load Output Terminal

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

3 phase Generator Protections - High / Low Voltage - High / Low Frequency - Current / Voltage Asymmetry - Overcurrent / Overload Overheat Control 1 Phase or 3 Phase, Phase Selection Parameter Setting via Control Module Water Temperature Phase Sequence

Low Water Temperature Heat Sensor Broken Reverse Power Start Error Stop Error Magnetic Pickup Error

Temperature Tests Rustproof Accessories Cable Exit Connectors and Glands Emergency Stop Button Fuel Level Gauge Fuel Drain Cap

DC Generators High Voltage - HV Power Plants Trigeneration Systems Biogas Generator

TSE 8528 - 4 Certificate TSE 8528 - 5 Certificate TSE 8528 - 8 Certificate AB-0547-T Certificate EAC - GOST Certificate/ Diesel Generator EAC - GOST Certificate/ Gasoline Generator CE Certificate - EN ISO 17050-1,2004 System Protection MCBs Circuit Breaker - Optional LCD Screen

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

3 phase AMF Function - High / Low Frequency - High / Low Voltage - High / Low Water Temperature - High / Low Load Mains, Generator ATS control Network, Voltage, Frequency Display Parameter Setting via Computer Hours of Operation Earting

Charge Alternator Error Unbalanced Load Maintenance Time Alarm Low Speed High Speed Broken Oil Sensor Cable

Fuel Inlet and Return Records Impermeability Test for Fuel Tank Vacummed Rubber Mounted High Quality Weatherstrips High Quality Shock Absorbers Fuel Filling Cap (with ventilation)

High Frequency Generators Variable Speed Generators Super Silent Canopy Cogeneration Systems LPG Generator

TS EN ISO 2409 Certificate TS EN ISO 4628-3 Certificate TS EN ISO 4628-4 Certificate TS EN ISO 4628-5 Certificate TS EN ISO 4628-8 Certificate TS EN ISO 9227 Certificate TS 9620 EN ISO 4628-2 Certificate TS EN 60034 - 1 Certificate Alarm Horn Heater Tube Thermostat Control Modbus and SNMP Working Hour Ground Leakage Analog Modem Ethernet, USB, RS232, RS485 Selectable Protection Alarm / Shutdown Battery Voltage Oil Pressure

High Oil Temperature (Optional) Low Fuel Level (Optional) High Battery Voltage Low Battery Voltage High Water Temperature Electronic Canbus Errors (ECU)

Lifting and Carrying Equipments Internal Exhaust Mufflers (Silencers) External Exhaust Mufflers (Silencers) Radiator Water Filling Cap Daily Fuel Tank External Fuel Tank

Marine Generators Dual Generators Automatic Voltage Stabilizers Electrical and Diesel Forklift HFO Generator

EN ISO 8528-13,2016 Certificate EN ISO 12100:2010 Certificate EN ISO 13857:2008 Certificate EN ISO 14120:2015 Certificate EN 349:1993+A1:2008 Certificate EN 60204-1,2018 Certificate EN 61000-6-2,2019 Certificate EN 61000-6-4,2007/A1:2011 Certificate

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

# GNT 300 & 300



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

#### **Generator Dimensions**

#### **Generator Technical Drawings**



#### **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 50 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.

#### **INTER** Diesel Engine Power Ratings – Fuel Consumption – Oil Recommendation and Oil Grades

<b>INTER</b> Diesel Engine Power Ratings									
Engine Model B711		DI	Engine Family	ID13	Engine Series	C	511		
0		Tunical Cone	ator Output (blot)		Engine Power				
Speed rpm	Type of Operation	Typical Generator Output (Net)		0	Gross	Net			
rpin		kVA	kWe	kWm	Нр	kWm	Нр		
4500	Stand By (Maximum)	300,0	240,0	267,0	358,4	258,0	346,3		
1500	Prime	273,0	218,0	243,0	326,2	235,0	315,4		
4000	Stand By (Maximum)	300,0	240,0	267,0	358,4	258,0	346,3		
1800	Prime	273,0	218,0	243,0	326,2	235,0	315,4		

enerator powers are typical and are based on an average alternator efficiency and a power factor (Cos. Q) of 0.8

Fuel Consumption								
Percent of Prime power	1500	rpm	1800 rpm					
Fercent of Frime power	g/kWh	l/hr	g/kWh	l/hr				
110%	225	62,0	225,0	62,0				
100%	220	57,0	220,0	57,0				
75%	225	45,0	225,0	45,0				
50%	230	30,0	230,0	30,0				

Note:The density of diesel is 0.835 kg/L

Fuel specification: BS 2869: Part 2 1998 Class A2 or (DIN EN 590) ASTM D975 D2 Diesel. The fuel must be clean and without water)

#### Why You Should Buy GENPOWER?

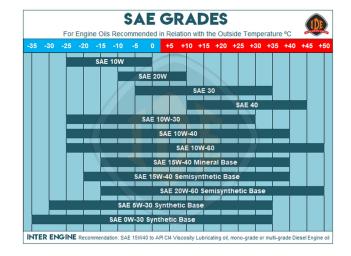
#### Only because it is the biggest generator factory in the World? NO!

- \* 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 01-2021@2021 GNT Series Generator

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