


# JCB ENERGY ELECTRIC POWER INDUSTRY

📍 MADRID / SPAIN





## GENERATOR GENERAL INFORMATION

GENERATOR	FREQUENCY	VOLTAGE	POWER FACTOR	SPEED	DIESEL ENGINE			ALTERNATOR			TYPE OF	GENERATOR OUTPUT		
Model	Hz	V	Cos Q	Rpm	Brand	Model	Series	Brand	Model	Series	Operation	kVA	kW	A
JDD 600	50	231/400	0.8	1500	DOOSAN	DP158LD	DP		JCB	355S1	Standby	600,0	480,0	867,1
				Prime							545,5	436,4	788,2	
				Continuous							381,8	305,5	551,8	
JDD 655	60	277/480	0.8	1800							Standby	655,0	524,0	946,5
										315L	Prime	595,5	476,4	860,5
											Continuous	416,8	333,5	602,3

- Diesel Engines with Advanced Technology and Quality
- Alternators with Advanced Technology and Quality
- Low Exhaust Emission
- Control Panel Suitable for Flexible Application
- Patented Compact Designed and Sound proof Canopy
- Low Operating Cost, Suitable for Heavy-Duty
- Durability, Low Noise Level

- Tropical 50 °C Radiator, First Class Product Support
- Fuel Filter with Water and Particle Separator
- Low Fuel Consumption, Low Oil Consumption
- Global Technical Service and Maintenance Support
- Wide Range of Affordable Spare Parts
- High Quality and Reliable Technology
- Half Century Experience in Generator Manufacturing

### 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 no variable 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

#### 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

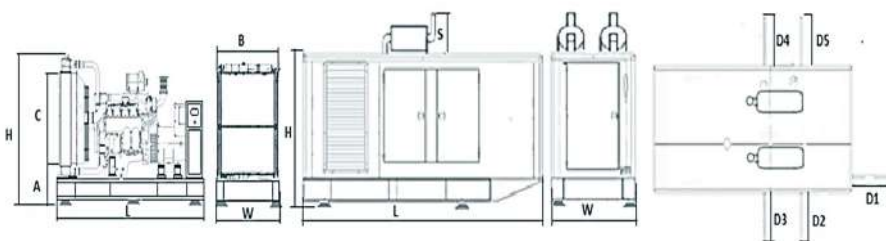
- \* Generators can work on Continuous Power at 70% of Prime power value if only all maintenances are done on time with original spare parts and high-quality oils that manufacturer advice.
- \* Generators should not operate below 50% of Prime Power value. In such a case, the engine will burn excessive 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.

## GENERATOR DIMENSIONS AND TECHNICAL DRAWINGS



VALUES		OPEN TYPE GENERATOR	CANOPY TYPE GENERATOR
WIDTH	mm	1400	1646
LENGTH	mm	3311	4632
HEIGHT	mm	1980	2641
WEIGHT (NET)	Kg	3386	4240
FUEL TANK CAPACITY	L	1066	400

SYMBOL	OPEN	CANOPY
L	3311	4632
W	1400	1646
H	1980	2000
S		641
A	560	
B	1200	
C	1200	
D1		1002
D2		800
D3		800
D4		800
D5		800



## FUEL CONSUMPTION

PERCENT OF PRIME POWER	1500 rpm		1800 rpm	
	g/kWh	l/hr	g/kWh	l/hr
110 %	200,0	120,7	200,0	131,6
100 %	195,0	107,1	195,0	116,5
75 %	197,0	81,1	197,0	88,3
50 %	212,0	58,2	212,0	63,3

## DIESEL ENGINE MAIN TECHNICAL PARAMETERS

### General Engine Data

Engine Model	DP158LD
Engine Type	4-Cycle, V-Type, 8-Cylinder Diesel, Water Cooled, Turbo Charged & Intercooled
Bore x Stroke	128 x 142 mm
Displacement	14.618 liters
Compression Ratio	15: 1
Rotation	Counter clockwise viewed from Flywheel
Firing Order	1-5-7-2-6-3-4-8
Fuel System	Bosch in-line "P" type
Governor	Electronic
Governor Class	G3

### Cooling System

Total System Coolant Capacity	20L
Thermostat Operation Range	80~90°C
Maximum Temperature to Engine	105°C
Minimum Temperature to Engine	70°C
Coolant Temperature Alarm	105°C
Limits of the Environment Temperature	52°C

### Lubrication System

Lubrication Oil Capacity	22L
Lubrication Oil Pressure	min 250 kPa (50Hz) /min 300 kPa (60Hz)
Lubrication Oil Temperature	At normal operation 105°C, Maximum 125°C
Lubrication Oil Consumption as % Fuel Consumption	0.1 % maximum
Pressure of Oil Relief Valve Opening	550 ± 50 kPa

### Electrical System

Alternator	28.5V x 45A alternator
Starter Motor	24V x 7.0 kW

### Fan

Diameter	915mm
Number Of Blade	7
Material	Plastic

### DOOSAN INFRACORE GENSET ENGINE

Engine Model	rpm	Gross Engine Output(kWm)		Typical Generator Output (kVa)	
		Stand-by	Prime	Stand-by	Prime
DP158LD	1500	510	464	599	545
	1800	556	505	653	593

## JCB ALTERNATOR TECHNICAL PARAMETERS AND SPECIFICATIONS






### 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

### 50 HZ / 231-400V COSQ 0,8 / 1500 RPM

#### STANDARD USING ALTERNATOR




#### OPTIONAL USING ALTERNATOR

BRAND/MODEL		JCB 315S1				TAL0473D		S5L1D-D4	
DUTY		Continuous					Stand By		
AMBIENT	C°	40°C					27°C		
CLASS / TEMP. RISE	C°	H/ 125° K					H/ 163° K		
SERIES STAR	V	380/220	400/231	415/240	1 Phase	380/220	400/231	415/240	1 Phase
PARALLEL STAR	V	190/110	200/115	208/120	220	190/110	200/115	208/120	220
SERIES DELTA	V	220	230	240	230	220	230	240	230
OUTPUT POWER	kVA	555,0	555,0	576,0	-	610,0	610,0	633,0	-
OUTPUT POWER	kW	444,0	444,0	460,8	-	488,0	488,0	506,4	-

### 60 HZ / 277-480V COSQ 0,8 / 1800 RPM

#### STANDARD USING ALTERNATOR

#### OPTIONAL USING ALTERNATOR

BRAND/MODEL		JCB 315L				TAL0473C				S5L1D-C4
DUTY		Continuous				Stand By				
AMBIENT	C°	40°C				27°C				
CLASS / TEMP. RISE	C°	H / 125° K				H / 163° K				
SERIES STAR	V	416/240	440/254	480/277	1 Phase	416/240	440/254	480/277	1 Phase	
PARALLEL STAR	V	208/120	220/127	240/138	-	208/120	220/127	240/138	-	
SERIES DELTA	V	240	254	277	240	240	254	277	240	
OUTPUT POWER	kVA	580,0	611,0	643,0	-	638,0	672,0	707,0	-	
OUTPUT POWER	kW	464,0	489,0	514,0	-	510,0	538,0	566,0	-	

## CONTROL MODULE ALERTS

Emergency Stop Malfunction  
High Generator Frequency  
Low Generator frequency, Low Load  
Over Current, Unbalanced Current  
Low Generator Voltage  
High generator Frequency  
Phase sequence error  
Overload, Heat Sensor Broken  
Low Water Level (Optional)  
Low Oil Pressure, Reverse Power  
Low Water Temperature

Start Error, Stop Error  
Magnetic Pickup Error  
Charge Alternator Error  
Unbalanced Load  
Maintenance Time Alarm  
Low Speed, High Speed  
Broken Oil Sensor Cable  
High Oil Temperature (Optional)  
Low Fuel Level (Optional), High Battery Voltage  
Low Battery Voltage, High Water Temperature  
Electronic Can bus Errors (ECU)

## CONTROL PANEL SPECIFICATIONS



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

## CONTROL MODULE TECHNICAL PARAMETERS

Brand		Brand	Trans-MIDIAMF.232.GP
Dimensions	120mmx94mm.	Protection Class	IP65 From the Front
Weight	260 gr.	Environmental Conditions	2000 meters above sea level
Ambient Humidity	Max. %90.	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 FUNCTION

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

## SOUND PROOF CANOPY AND BASE FRAME (CHASIS) SPECIFICATIONS



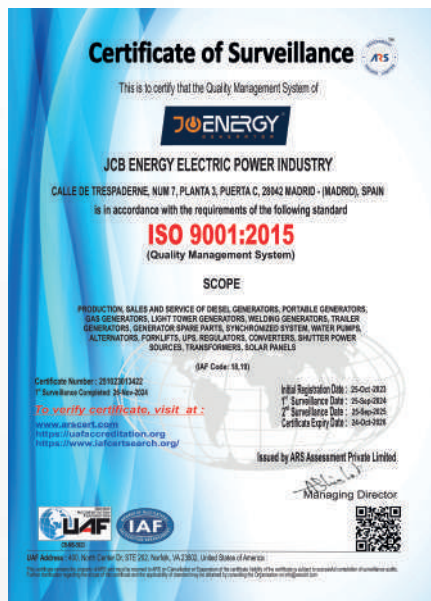
- Special, Registered JCB Energy Design and Colour
- A1 Quality DKP / HRU / Galvanized Steel
- Sensitive Twist on Automatic Press Brake
- Delicate Cut on Automatic Punch and Laser Bench
- Sensitive Welding on Robotic Welding Bench
- Chemical Cleaning Nano Technology Before Painting
- Robotic Painting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



# OUR CERTIFICATES







# MANAGEMENT SYSTEM CERTIFICATE

Certificate no.: 2372384

Valid until: 14 August 2021

Valid from: 14 October 2020 - 13 October 2021

This is to certify that the management system of **HD Hyundai Infracore Co., Ltd. Head Office & Incheon Plant** 489, Injung-ro, Dong-gu, Incheon, 22502, Republic of Korea and the sites as mentioned in the appendix accompanying this certificate has been found to conform to the Environmental Management System standard: **ISO 14001:2015**

This certificate is valid for the following scope: **Design, Development, Manufacture, Servicing of Internal Combustion Engine for use in Marine Industry, General Industry and Automotive Industry, and Earth Moving Equipment (Excavator, Wheel Loader, Dozer), Testing of Earth Moving Equipment (Excavator and Wheel Loader).**

Place and date: **Buenos Aires, 09 October 2021**

For the issuing office: **DNV Business Assurance** **DNV AS, Sandnessveien 135, NO-1300 Sandness, Norway**

DNV KMS Management Representative

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# MANAGEMENT SYSTEM CERTIFICATE

Certificate no.: 2372385

Valid until: 13 January 2021

Valid from: 14 October 2020 - 13 October 2021

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# CE DECLARATION OF CONFORMITY

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