



# JCB ENERGY ELECTRIC POWER INDUSTRY

MADRID / SPAIN



[www.jcbenergy.es](http://www.jcbenergy.es)



## 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
JCN 770	50	231/400	0.8	1500	JCN	B952JCI	BII	JCB ENERGY	JCB	355MX	Standby	770,0	616,0	1.112,7
											Prime	700,0	560,0	1.011,6
											Continuous	490,0	392,0	708,1
JCN 860	60	277/480	0.8	1800	JCN	B952JCI	BII	JCB ENERGY	JCB	355M1	Standby	860,0	688,0	1.242,8
											Prime	781,8	625,5	1.129,8
											Continuous	547,3	437,8	790,9

- 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

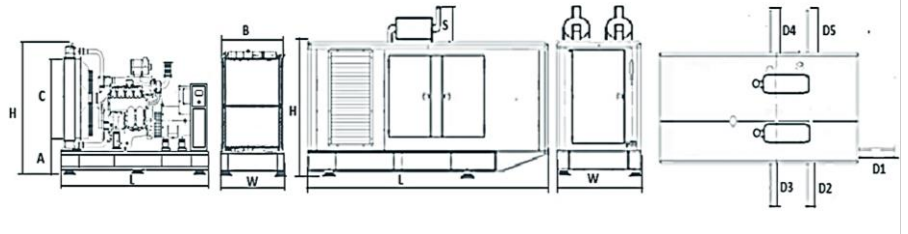
- \* Generators can work on Continuous Power at 70% of Prime power value if only all maintenances are done on time with original spare parts and high-quality oils that manufacturer advice.
- \* Generators should not operate below 50% of Prime Power value. In such a case, the engine will burn excessive 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	3476	4320
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
	l/hr	l/hr
110 %	151,59	169,86
100 %	139,48	155,89
75 %	105,14	117,51
50 %	70,81	79,14

## DIESEL ENGINE MAIN TECHNICAL PARAMETERS

GENERAL		
Number of Cylinders		8
Configuration		V-Type
Aspiration		Turbocharged & Intercooled
Combustion System		Direct Injection
Compression Ratio		15.5:1
Bore	mm	128
Stroke	mm	155
Displacement	L	15,948
Governing Type		Electronic
Governing Class		G3
Rotation		Counterclockwise
Firing Order		1-5-7-2-6-3-4-8
Emission		Tier II
Moments of Rotation Inertia		
Engine	Kg - m <sup>2</sup>	4,54
Flywheel	Kg - m <sup>2</sup>	2,1
Performance Rating		
Speed Droop	%	≤0,5
Steady State Speed Band	%	≤0,5
FILTERS		
Air Filter		Dry Type, Replaceable
Fuel Filter		With Water Separator
Oil Filter		Element Type, Particulate Trap
FLYWHEEL HOUSING AND FLEX COUPLING		
Flywheel Housing	SAE (J620)	1
Flex Coupling Disc	Inch (")	14
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
OVERALL DIMENSIONS		
Length*	mm	2179
Width	mm	1330
Height	mm	1440
Dry Weight	kg	1400
*From front end of radiator to near end of air filter		
FAN		
Diameter	mm	900
Drive Ratio		1,15:1
Number of Blades		7
Material		Plastic
Type		Blowing



# JCN 770 & 860

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



## DIESEL ENGINE MAIN TECHNICAL PARAMETERS

### COOLING SYSTEM

Radiator Type	50°C	Tropical
Total Coolant Capacity	L	80
Max. Perm. Coolant Outlet Temperature	°C	105
Max. Perm. Flow Resist. (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 <sup>3</sup> / h	5,60
Min. Pressure Before Coolant Pump	bar	0,5
Radiator Face Area	m <sup>2</sup>	1,39
Rows	Row	5
Matrix Density	Per / Inch	15,5
Material		Aluminum
Width of Matrix	mm	1162
Height of Matrix	mm	1196
Pressure Cap Setting	kPa	70
Estimated Cooling Air Flow Reserve	kPa	0,15
Engine Pre Heater-Tube (with Circulation Pump)	W	3000

### LUBRICATION SYSTEM

Total System	L	28
Minimum Oil Level	L	19
Nominal Motor Operating Temperature	°C	40
Lubricating Oil Pressure (Rated Speed)	bar	5
Relief Valve Opens	kPa	200
Oil / Fuel Consumption Ratio	%	≤0,5
Normal Oil Temperature	°C	110

### ELECTRICAL SYSTEM

Voltage	V	24
Starter	kW	7
Alternator Output Ampers	A	45
Alternator Output Voltage	V	28
Batteries Capacity	Ah	2X135



# JCN 770 & 860

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



## JCB ENERGY DIESEL ENGINE POWER RATINGS

ENGINE MODEL	B952JCI	ENGINE FAMILY	JC25	ENGINE SERIES	BII		
Speed (Rpm)	Type of Operation	TYPICAL GENERATOR OUTPUT (NET)		ENGINE POWER			
		kVA	kWe	Gross		Net	
				KWm	Hp	kWm	Hp
1500	Stand By(Maximum)	770,0	616,0	672,0	902,0	649,0	871,1
	Prime	699,0	560,0	612,0	821,5	589,0	790,6
1800	Stand By(Maximum)	863,0	690,0	753,0	1.010,7	727,0	975,8
	Prime	782,0	626,0	684,0	918,1	659,0	884,6

## DIESEL ENGINE MATCHING PARAMETERS - 50 HZ

50 HZ @ 1500 R/MIN		STAND BY	PRIME
Gross Engine Power	kW	672,0	612,0
Net Engine Power	kW	649,0	589,0
Fan Power Consumption (Belt Pulley Driven)	kW	22,0	22,0
Other Power Loss	kW	1,5	1,0
Mean Effective Pressure	MPa	3,37	3,06
Intake Air Flow	m <sup>3</sup> / min	56,00	53,33
Exhaust Temperature Limit	°C	600	600
Exhaust Flow	m <sup>3</sup> / min	136,50	130,00
Boost Pressure Ratio		3,40	3,20
Mean Piston Speed	m / s	7,8	7,8
Cooling Fan Air Flow	m <sup>3</sup> / min	810,0	810,0
Typical Generator Output Power	kVA	770	699
HEAT REJECTION		STAND BY	PRIME
Energy in Fuel (Heat of Combustion)	kW	1680,0	1530,0
Gross Heat to Power	kW	672,0	612,0
Energy to Coolant and Lubricating Oil	kW	286,0	260,0
Heat Dissipation Capacity *	kW	118,0	107,0
Energy to Exhaust	kW	487,0	444,0
Heat to Radiation	kW	50,0	46,0

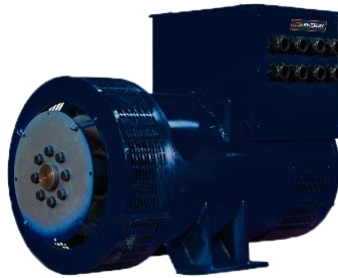
\*Intake Intercooled system

## DIESEL ENGINE MATCHING PARAMETERS - 60 HZ

60 HZ @ 1800 R/MIN		STAND BY	PRIME
Gross Engine Power	kW	753,0	684,0
Net Engine Power	kW	724,9	656,5
Fan Power Consumption (Belt Pulley Driven)	kW	26,4	26,4
Other Power Loss	kW	1,7	1,1
Mean Effective Pressure	MPa	3,15	2,86
Intake Air Flow	m <sup>3</sup> / min	62,72	59,63
Exhaust Temperature Limit	°C	650	650
Exhaust Flow	m <sup>3</sup> / min	152,88	145,33
Boost Pressure Ratio		3,80	3,60
Mean Piston Speed	m / s	9,3	9,3
Cooling Fan Air Flow	m <sup>3</sup> / min	907,0	907,0
Typical Generator Output Power	kVA	863	782
HEAT REJECTION		STAND BY	PRIME
Energy in Fuel (Heat of Combustion)	kW	1803,0	1614,0
Gross Heat to Power	kW	753,0	659,0
Energy to Coolant and Lubricating Oil	kW	320,0	291,0
Heat Dissipation Capacity *	kW	132,0	120,0
Energy to Exhaust	kW	546,0	496,0
Heat to Radiation	kW	43,0	48,0

\*Intake Intercooled system

## 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	m <sup>3</sup> /sec.	1,035	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



# JCN 770 & 860

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



## ALTERNATOR SPECIFICATIONS

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

STANDARD USING ALTERNATOR		OPTIONAL USING ALTERNATOR							
BRAND/MODEL		JCB 355MX				TAL049B			LV6B
DUTY		Continuous				Stand By			
AMBIENT	C°	40°C				27°C			
CLASS / TEMP. RISE	C°	H/ 125° K				H/ 163° K			
SERIES STAR	V	<b>380/220</b>	400/231	<b>415/240</b>	1 Phase	<b>380/220</b>	400/231	<b>415/240</b>	1 Phase
PARALLEL STAR	V	<b>190/110</b>	200/115	<b>208/120</b>	220	<b>190/110</b>	200/115	<b>208/120</b>	220
SERIES DELTA	V	<b>220</b>	230	<b>240</b>	230	<b>220</b>	230	<b>240</b>	230
OUTPUT POWER	kVA	<b>700,0</b>	700,0	<b>726,0</b>	-	<b>770,0</b>	770,0	<b>799,0</b>	-
OUTPUT POWER	kW	<b>560,0</b>	560,0	<b>580,8</b>	-	<b>616,0</b>	616,0	<b>639,2</b>	-

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

STANDARD USING ALTERNATOR		OPTIONAL USING ALTERNATOR							
BRAND/MODEL		JCB 355M1				TAL047E			HC5E
DUTY		Continuous				Stand By			
AMBIENT	C°	40°C				27°C			
CLASS / TEMP. RISE	C°	H / 125° K				H / 163° K			
SERIES STAR	V	<b>416/240</b>	440/254	<b>480/277</b>	1 Phase	<b>416/240</b>	440/254	<b>480/277</b>	1 Phase
PARALLEL STAR	V	<b>208/120</b>	220/127	<b>240/138</b>	-	<b>208/120</b>	220/127	<b>240/138</b>	-
SERIES DELTA	V	<b>240</b>	254	<b>277</b>	240	<b>240</b>	254	<b>277</b>	240
OUTPUT POWER	kVA	<b>743,0</b>	782,0	<b>824,0</b>	-	<b>817,0</b>	860,0	<b>906,0</b>	-
OUTPUT POWER	kW	<b>594,4</b>	625,6	<b>659,2</b>	-	<b>653,6</b>	688,0	<b>724,8</b>	-



## 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 Db)
- 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





# JCB Energy Electric Power Industry S.L.

HAS OUR TOTAL SUPPORT

We are pleased to certify that this company, with its registered office (address as below) is fully authorized as an Original Equipment Manufacturer partner to incorporate Mecc Alte AC Generators when selling and distributing generating sets.

Mecc Alte also certifies that its product sold to this company are fully covered by the Mecc Alte Warranty.

Mecc Alte provides this company access to its extensive product knowledge in order to incorporate Mecc Alte AC Generators when selling and distributing generating sets.

World class alternators 1-5000kVA.

APPROVED MANUFACTURER

Radek Mivovca



COIF PIGOT ENG. M0089963

VALDURTEL 29 December 2024

COMPANY ADDRESS: C/Av. de Tréspaderne, 7, Pta. C, 28042 Madrid, Spain

GENUINE PARTS

POWER FROM WITHIN



GCR CERT

## CERTIFICATE



### JCB ENERGY ELECTRIC POWER INDUSTRY

CALLE DE TRESPADERNE, NUM 7 PLANTA 3, PUERTA C 28042 MADRID - (MADRID), SPAIN

In recognition of the organization's Management System which complies with

#### GDP

The scope of activities covered by this certificate is defined below:

MANUFACTURING, SALES AND SERVICE OF GENERATOR AND GENERATOR COMPLEMENTS, WATER PUMP, FORKLIFT, UPS, REGULATOR, CONVERTERS, SHUTTER POWER SUPPLIES.

Certificate Number : GCR/CERT-11.2023.3586  
Certificate Issue Date : 01.11.2023  
Certificate Validity : 31.10.2024

Abimanyu Gaurav  
Abimanyu Gaurav  
Approval



GCR CERT

## CERTIFICATE



### JCB ENERGY ELECTRIC POWER INDUSTRY

CALLE DE TRESPADERNE, NUM 7 PLANTA 3, PUERTA C 28042 MADRID - (MADRID), SPAIN

In recognition of the organization's Management System which complies with

#### GHP

The scope of activities covered by this certificate is defined below:

MANUFACTURING, SALES AND SERVICE OF GENERATOR AND GENERATOR COMPLEMENTS, WATER PUMP, FORKLIFT, UPS, REGULATOR, CONVERTERS, SHUTTER POWER SUPPLIES.

Certificate Number : GCR/CERT-11.2023.3587  
Certificate Issue Date : 01.11.2023  
Certificate Validity : 31.10.2024

Abimanyu Gaurav  
Abimanyu Gaurav  
Approval



GCR CERT

## CERTIFICATE



### JCB ENERGY ELECTRIC POWER INDUSTRY

CALLE DE TRESPADERNE, NUM 7 PLANTA 3, PUERTA C 28042 MADRID - (MADRID), SPAIN

In recognition of the organization's Management System which complies with

#### ISO 22716:2013:GMP GOOD MANUFACTURING PRACTICES

The scope of activities covered by this certificate is defined below:

MANUFACTURING, SALES AND SERVICE OF GENERATOR AND GENERATOR COMPLEMENTS, WATER PUMP, FORKLIFT, UPS, REGULATOR, CONVERTERS, SHUTTER POWER SUPPLIES.

Certificate Number : GCR/CERT-11.2023.3585  
Certificate Issue Date : 01.11.2023  
Certificate Validity : 31.10.2024

Abimanyu Gaurav  
Abimanyu Gaurav  
Approval



GCR CERT

## CERTIFICATE

### HEALTHY & SAFE WORKPLACE CERTIFICATE

#### JCB ENERGY ELECTRIC POWER INDUSTRY

CALLE DE TRESPADERNE, NUM 7 PLANTA 3, PUERTA C 28042 MADRID - (MADRID), SPAIN

It has been entitled to obtain a Healthy and Safe Workplace Certificate by fulfilling the requirements for COVID-19 measures, within the physical conditions of the business with in the scope of the Healthy and Safe Workplace Certificate program.

FACTORIES - PRODUCTION LOCATIONS:  
ELECTRICAL AND ELECTRONICS INDUSTRY

Certificate Number : GCR/CERT-11.2023.3600  
Certificate Issue Date : 07.11.2023  
Certificate Validity : 06.11.2024

Abimanyu Gaurav  
Abimanyu Gaurav  
Approval



GCR CERT

## CERTIFICATE



### JCB ENERGY ELECTRIC POWER INDUSTRY

CALLE DE TRESPADERNE, NUM 7 PLANTA 3, PUERTA C 28042 MADRID - (MADRID), SPAIN

In recognition of the organization's Management System which complies with

#### ISO 10002:2018

The scope of activities covered by this certificate is defined below:

MANUFACTURING, SALES AND SERVICE OF GENERATOR AND GENERATOR COMPLEMENTS, WATER PUMP, FORKLIFT, UPS, REGULATOR, CONVERTERS, SHUTTER POWER SUPPLIES.

Certificate Number : GCR/CERT-10.2023.3525  
Certificate Issue Date : 25.10.2023  
Certificate Validity : 24.10.2024

Abimanyu Gaurav  
Abimanyu Gaurav  
Approval





[www.jcbenergy.es](http://www.jcbenergy.es)