

# JCB Diesel Generator Technical Specifications



## G220X

### Electrical

Frequency Hz	Phases	Voltage Volts	Prime		Standby	
			kVA	kW	kVA	kW
50	3	400/230	200.0	160.0	220.0	176.0
60	3	380/220	226.7	181.4	249.1	199.3
60	3	220/127	227.2	181.7	249.9	200.0

Frequency Hz	Phases	Voltage Volts	MCB Rating Amps	ATP Rating Amps	Rated Speed RPM
50	3	400/230	400	400	1500
60	3	380/220	400	400	1800
60	3	220/127	630	630	1800

### Power Factor

3 Phase	0.8
1 Phase	1

### All ratings are to standard reference conditions ISO8528

Prime: This rating is for the supply of continuous electrical power, at variable load, in lieu of commercially purchase power. There is no limitation on the annual hours of operation and 10% over load power can be supplied for 1 hour in 12.

Standby: This rating is for the supply of continuous electrical power, at variable load, in the event of a utility power failure. No overload is permitted.

"Stage IIIa" models are only emissions compliant at 50Hz Prime Power in accordance with 97-68EC

Alternator		HM280A2
Poles		4 pole
Winding Connections		Star
Insulation		Class H
Enclosure		IP21
Exciter System		Self-regulating brushless
Voltage Regulator		AVR
Steady State Voltage Regulation		+/- 1.0% (G1)
Bearing		Single bearing sealed
Coupling		Flexible disc
Cooling		Direct drive centrifugal blower fan
Coating		Winding Protection Grey

Engine		
1500 RPM		
Output Rating (PRP)	kW	193
Output Rating (Standby)	kW	212.3
1800 RPM		
Output Rating (PRP)	kW	215
Output Rating (Standby)	kW	236.5
Manufacturer and Model		Iveco NEF67 TE 2A
Fuel		Diesel
Injection		Direct Common Rail
Aspiration		Turbo Charged and Aftercooled
Cylinders		6
Bore and Stroke	mm	104x132
Displacement	l	6.7
Cooling		Water
Engine Oil Specification		ACEA E3-E5
Compression Ratio		17.5:1
Engine Oil Capacity		15
Coolant Capacity		43.5
Governor		Electronic
Air Filter		Dry
Engine Oil Consumption	100% Load	0.1% of fuel consumed

Fuel Consumption		
1500 RPM		
100% Load Prime	l/h	44.0
75% Load Prime	l/h	35.7
50% Load Prime	l/h	25.6
100% Load Standby	l/h	48.0
1800 RPM		
100% Load Prime	l/h	47.0
75% Load Prime	l/h	38.9
50% Load Prime	l/h	24.2
100% Load Standby	l/h	51.0

Exhaust System			
Maximum Temperature 100% Standby	°C	50Hz	550
Exhaust Gas Flow 100% Standby	m <sup>3</sup> /min		0.262
Maximum Allowed Back Pressure	kPa		6
Maximum Temperature 100% Standby	°C	60Hz	550
Exhaust Gas Flow 100% Standby	m <sup>3</sup> /min		0.275
Maximum Allowed Back Pressure	kPa		6
Exhaust Flange Size	mm	120	

Air System			
Intake Air Flow 100% Standby	m <sup>3</sup> /h	50Hz	754
Total Cooling Air Flow 100% Standby	m <sup>3</sup> /s		3.8
Alternator Fan Airflow	m <sup>3</sup> /s		0.514
Intake Air Flow 100% Standby	m <sup>3</sup> /h	60Hz	795
Total Cooling Air Flow 100% Standby	m <sup>3</sup> /s		4.8
Alternator Fan Airflow	m <sup>3</sup> /s		0.617

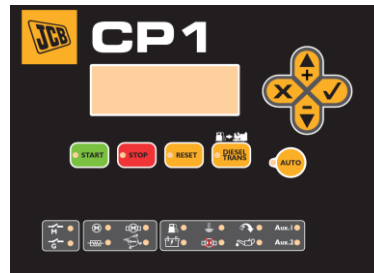
Starting System			
Starter Motor	kW	3	
Battery Capacity	Ah	185	
Number of Batteries		1	
Auxiliary Voltage	V	12	

Fuel System			
Diesel Specification		EN590	
Standard Fuel Tank Capacity	l	250	

Weight and dimensions			
Length	mm	2900	
Width	mm	900	
Height	mm	1600	
Shipping Volume (sea ready)	m <sup>3</sup>	4.18	
Weight (standard build excluding fuel)	Kg	1650	

## Control Panel - JCB CPI (Standard)

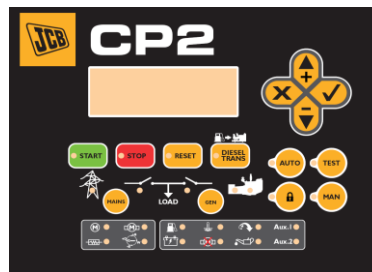
The JCB CPI control system is digital and has the capability to control, monitor and protect the generator. The display allows the user to easily monitor the status of the generator through an LCD display and LED outputs. It enables control of the generator operations through soft touch push button functionality and multi lingual capability



## Control Panel - JCB CP2 (Optional)

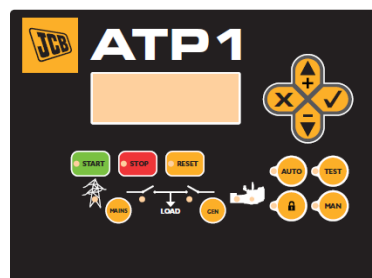
The JCB CP2 control system is digital and has the capability to control, monitor and protect the generator the same as the JCB CPI panel but additionally incorporates the functionality of the control module of the JCB ATP1.

The JCB CP2 Panel constantly monitors the mains and has to be hardwired into both mains and generator contactors. The display allows the user to easily monitor the status of the generator as well as controlling generator operation



## Control Panel - JCB ATP1 (Optional)

The JCB ATP1 control module is integrated into an Automatic Transfer Switch, which provides automatic mains failure capability. The JCB ATP1 can communicate with a generator through either 2 wire start volt free contactors or CANBUS through CPI to ATP1 (not compatible with CP2). The JCB ATP1 when connected via CANBUS to the JCB CPI will give control functions and display generator information.



Control Panel Features	CPI	CP2	ATPI
<b>Generator</b>			
Phase to Phase Voltage	●	●	●
Phase to Neutral	●	●	●
Phase Amperage	●	●	●
Frequency	●	●	●
kVA	●	●	●
Kw	●	●	●
kVAr	●	●	●
Power Factor	●	●	●
<b>Mains</b>			
Phase to Phase Voltage	x	●	●
Phase to Neutral	x	●	●
Phase Amperage	x	●	●
Frequency	x	●	●
kVA	x	x	x
kW	x	●	●
kVAr	x	x	x
Power Factor	x	x	x
<b>Engine</b>			
Coolant Temperature	●	●	x
Oil Pressure	●	●	x
Fuel Level Percentage	●	●	x
Battery Voltage	●	●	x
Engine RPM	●	●	x
Battery Charge Alternator Voltage	●	●	x
<b>Engine Alarms</b>			
High Coolant Temperature	●	●	x
Low Oil Pressure	●	●	x
Low Coolant Level	●	●	x
Unexpected Shutdown	●	●	x
Failure to Stop	●	●	x
Battery Voltage Failure	●	●	x
Battery Charge Alternator Failure	●	●	x
Over Speed	●	●	x
Under Speed	●	●	x
Failure to Start	●	●	x
Low Fuel level	●	●	x
Emergency Stop	●	●	●
<b>Alternator Alarms</b>			
High Frequency	●	●	●
Low Frequency	●	●	●
High Voltage	●	●	●
Low Voltage	●	●	●
Over Amperage	●	●	x
Short Circuit	●	●	x
Symmetry Between Phases	●	●	●
Incorrect Phasing	●	●	●
Inverse Power	●	●	x
Over Load	●	●	x
Generator Drop	x	x	●
Standard ● : Not Available x : Optional Δ			

Control Panel Features	CPI	CP2	ATPI
Measurement			
Total Hours Run	●	●	●
Kilowatt Meter	●	●	●
Number of Starts	●	●	●
Number of Start Failures	●	●	●
Service Indicator	●	●	●
Connectivity			
Remote Screen (CAN)	△	△	△
Local Monitoring (CANBUS)	△	△	△
Local Monitoring (CANLAN)	△	△	△
Remote Monitoring (CANModem – Fixed)	△	△	△
Remote Monitoring (CANModem – GSM)	△	△	△
Features			
Events History	●	●	●
External Start capability	●	●	●
Programmable Start Restriction	●	●	●
Mains Failure Start	●	●	●
Generator Contact Activation	●	x	x
Mains and Generators Contact Activation	x	●	●
Fuel Transfer Control	●	●	x
Engine Temperature	●	●	x
Manual Override	●	●	x
Programmable Alarms	●	●	x
Generator Start in Test Mode	●	●	x
Programmable Outputs	●	●	x
Multi Lingual	●	●	●
Programmable Timer	●	●	x
Synchronisation	●	●	x

Synchronisation	DSE8610	DSE8620	DSE8660
DEEP SEA Panels	△	△	△

Canopy/Skid	
Lockable Maintenance Access Doors	x
Control Panel Viewing Window	x
Fork Pockets	●
Single Lift Point	x
Rental Sledging Base	x
Bunding	△
Open Frame	●
Bund Level Indicator	x
50mm Rock Wool Sound Insulation	●
Yellow Paint	x
Red Paint	x
White Paint	x

Standard ● : Not Available x : Optional △

Mechanical Features	
Cooling Pack	●
Air Filter	●
Mechanical Governor	x
Electronic Governor	●
High coolant Temperature Sender	x
Low Oil Pressure Sender	x
Advanced coolant Temperature Sender	●
Advanced Oil Pressure Sender	●
Oil Temperature Sender	●
Water Level Sender	●
Radiator Guards	●
Hot Component Guards	●
Manual Oil Drain Pump (fitted in canopy)	●
Water Jacket heater	●
Battery Isolator	●
Battery Type	Gel
Battery Size (Ah)	75
Number of Batteries	1
Battery Charger	●
Manual Fuel Fill	△
Electric Fuel Fill	△
Racor Fuel Filter (no alarm)	△
Racor Fuel Filter (with alarm)	△
Pre-filter with Separator	x
External Spark Arrestor	△
Fuel Level Sender	●
Fuel Heater	△
External Fuel Fill (belly tank)	●
3 Way Fuel Valve and Coupling Nest	△
Residential Silencer	△
Exhaust Gas Compensator	x
Industrial Silencer	●

Fuel Tank Options		
	Material	Capacity (l)
Standard Tank	Plastic	250
Standard ● : Not Available x : Optional △		

Electrical Features	
AVR DSR	●
AVR DER	x
IP23 Alternator Protection Level	△
Winding Protection Standard	x
Winding Protection Standard +	●
Winding Protection Grey	△
Winding Protection Total	△
Winding Protection Total+	●
MAUX	△
PMG	△
Anti-Condensation Heater	x
Miniature Circuit Breaker (integrated busbar)	●
Moulded Case Circuit Breaker (with integrated busbar)	●
Earth Leakage Protection (shunt trip)	△
Synchronisation	x
Socket Box (inclusive of heavy duty busbar & micro switch)	●
Preparation for Earth Spike	△
Optional Voltages	△
Remote Screen	△
Panel Door Micro Switch	△
Copper Busbar/Tails	●
Emergency Stop Button	x
External Emergency Stop Button	x

JCB Communication and Control	
KSI	●
CPI (inclusive of program timer)	△
CP2 (inclusive of program timer)	△
ATP	△
CAN/USB	△
CAN/LAN	△
CAN RS-232	△
Remote Modem	△

### Reference Standards

JCB Generators are CE certified and conform to the following Directives (subject to a country requiring such standard):

- EN 12100, EN 13857, EN60204
- 2006/42/CE Machinery safety
- 2006/95/EC Low voltage
- 2004/108/CE Electromagnetic compatibility
- 2000/14/EC Sound Power Level (amended by 2005/88/EC)
- 97/68/EC Emissions(amended by 2002/88/EC & 2004/26/EC)
- Power according to ISO 8528 and ISO 3046
- Ambient reference conditions 1000mbar, 25°C, 30% relative humidity ISO 3046



Information based on standard specification equipment unless otherwise stated.