

## Model: C440D5

Powered by CUMMINS

### Output Rating

MODEL		Power rating		Voltage available
		PRIME(1)	STANDBY(2)	
C440D5	400V/50HZ	320KW	350 KW	380/220V400/230V415/240V
	PF:0.8	400KVA	440KVA	

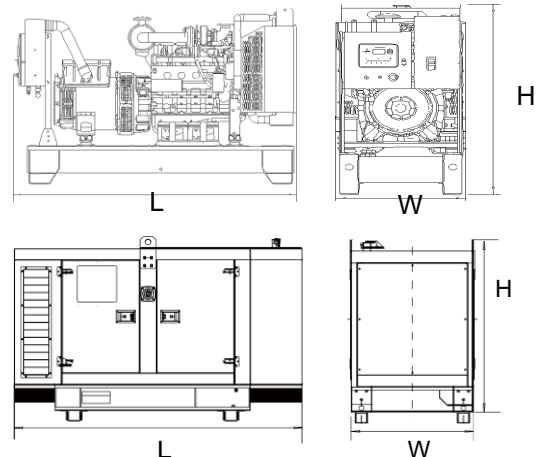
### General Information

Model	C440D5	
Engine	NTA855G7A	
Speed control type	Electronic	
Phase	3	
Control System	Digital	
System voltage	24V	
Frequency	50HZ	
Engine Speed(RPM)	1500	
Fuel Consumption L/hr	Standby power(2)	98
	Prime Power(1)	89.2
	75% prime power	67.8
	50% prime power	47.5



### Dimension and Weight

Dimension	Open	Silent
Length(L)	3300mm	3980mm
Width (W)	1300mm	1420mm
Height (H)	1950mm	2050mm
Net Weight	3870KG	4870KG



AGG POWER gensets are compliant with EC mark which include the following directives:

- \* 2006/42/EC Machinery safety.
- \* 2006/95/EC Low voltage
- \* EN 60204-1: 2006+A1:2009, EN ISO 12100:2010, EN ISO 13849-1: 2008, EN 12601: 2010

#### (1) Prime Power (PRP):

According to ISO 8528-1:2005, Prime power is the maximum power which a generating set is capable of delivering continuously whilst supplying a variable electrical load when operated for an unlimited number of hours per year under the agreed operation conditions with the maintenance intervals and procedures being carried out as prescribed by the manufacturer. The permissible average power output (Ppp) over 24h of operations shall not exceed 70% of the PRP.

#### (2) Standby Power (ESP):

According to ISO 8528-1:2005, standby power is the maximum power available during available electrical power sequence, under the stated operation conditions, for which a generating set is capable of delivering in the event of a utility power outage or under test conditions for up to 200h of operation per year with the maintenance intervals procedures being carried out as prescribed by the manufacturers. The permissible average power output over 24h of operation shall not exceed 70% of the ESP.



## Engine Specification

### GENERAL ENGINE DATA

Type.....	4-Cyc...le;In-line;6-Cylinder
Aspiration .....	Tu...rb...ocharged,Air-Air Cooled
Bore x Stroke - in...in. (mm..mm).....	5.5... x6 ( 140 x 152 )
Displacement - in.3(L).....	.855 ( 14 )
Compression Ratio .....	14.0:1
Firing Order .....	1-5-3-6-2-4
Dry Weight	
--Engine Only - lb. (kg).....	2800 ( 1270 )
Wet Weight	
--Engine Only - lb. (kg).....	2910 ( 1320 )

### ENGINE MOUNTING

Maximum Allowable Bending Moment at Rear Face of Block - lb.-ft. (N-m).....	1000( 1356 )
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### LUBRICATION SYSTEM

Oil Pressure @ Idle Speed - PSI (kPa).....	15 Min ( 103 ) Min
@ Governed Speed - PSI (kPa).....	35-50 ( 241 - 345 )
Maximum Allowable Oil Temperature - °F (°C).....	250 ( 121 )
Maximum Oil Consumption - U.S.qt./h (L/h).....	0.25 ( 0.24 )
Oil Pan Capacity - Low / High - U.S. gal. (L).....	7.5/ 9.5 ( 28.4 / 36.0 )
Total System Capacity - U.S. gal. (L).....	10.2( 38.6 )
Angularity of Oil Pan - Front Down/Front Up/Side to Side.....	.38°/38°/38°

### Exhaust System

Maximum Allowable Back Pressure - in.Hg (kPa).....	3.0 ( 10 )
Standard Exhaust Pipe Diameter - in. (mm).....	5.0 ( 127 )

### Cooling System

Coolant Capacity - Engine Only - U.S. gal (L).....	5.5( 20.8 )
- With Radiator - U.S. gal (L).....	16.0 ( 60.6 )
Maximum Coolant Friction Head External to Engine - PSI (kPa).....	6 ( 41 )
Maximum Static Head of Coolant (exclusive of Pressure Cap) - PSI (kPa) .....	15 ( 103 )
Maximum Static Head of Coolant Above Engine Crank Centerline -ft. (m) .....	46 ( 14.0 )
Standard Thermostat (Modulating) Range - °F (°C) .....	180- 202 ( 82 - 94 )
Minimum Allowable Pressure Cap -PSI (kPa).....	7.0 (48.2 )
Maximum Coolant Temperature - °F (°C).....	205 ( 96 )
Maximum Top Tank Temperature - °F (°C).....	212 ( 100 )
Minimum Top Tank Temperature - °F (°C).....	160 ( 71 )
Minimum Coolant Expansion Space - % of System Capacity .....	.5
Minimum Coolant Makeup Capacity - U.S. gal (L).....	1.1( 4.2 )

### FUEL SYSTEM

Type Injection System.....	Direct Injection Cummins PT
Maximum Allowable Restriction to Fuel Pump	
-- With Clean Fuel Filter - in.Hg (kPa).....	4.0( 13.5 )
-- With Dirty Fuel Filter - in.Hg (kPa).....	8.0( 27.1 )
Maximum Allowable Head on Injector Return Line	
-- With Check Valve - in.Hg (kPa).....	6.5 ( 22.0 )
-- Without Check Valve - in.Hg (kPa).....	2.5 ( 8.5 )
Fuel Rail Pressure - PSI (kPa).....	173 ( 1196 )
Maximum Fuel Temperature °F (°C).....	160 ( 71 )

### Electrical System

Minimum Recommended Battery Capacity ( 24V )	
-- Cold Soak (No Load) - CCA.....	900
- Minimum Reserved Capacity - CCA.....	320
-- Cold Soak (With Load) - CCA.....	900
- Minimum Reserved Capacity - CCA.....	320
Maximum Allowable Resistance of Cranking Circuit - ohm.....	0.002
Standard Cranking Motor (Heavy Duty , Positive Engagement.. - volt.....	24
Standard Battery Charging System , Negative Ground - ampere.....	35



## ▪ Alternator

Alternator		
Poles	Num	4
Winding Connections (standard)		Star-serie
Insulation	Class	H class
Enclosure (according IEC-34-5)		IP23
Exciter System		Brushless
Voltage Regulator		A.V.R. (Electronic)
Bearing		Single bearing
Coupling		Flexible disc
Coating type		Standard (Vacuum impregnation)

## ▪ Options

Engine	Alternator	Generator Sets	Fuel System	Canopy
<ul style="list-style-type: none"> <li>•Water Jacket Preheater</li> <li>•Oil Preheater</li> </ul>	<ul style="list-style-type: none"> <li>•Winding Temperature measuring Instrument</li> <li>•Alternator Preheater</li> <li>•PMG</li> <li>•Anti-damp and anti-corrosion treatment</li> <li>•Anti-condensation heater</li> </ul>	<ul style="list-style-type: none"> <li>•Tools with the machine</li> </ul>	<ul style="list-style-type: none"> <li>• Low fuel level alarm</li> <li>•Automatic fuel feeding system</li> <li>•Fuel T-valves</li> </ul>	<ul style="list-style-type: none"> <li>•Rental Type Canopy</li> <li>•Trailer</li> </ul>
Lubricating System	Exhaust System	Cooling System	Control Panel	Voltages
<ul style="list-style-type: none"> <li>•Oil with the machine</li> </ul>	<ul style="list-style-type: none"> <li>•Protection board from hotness</li> </ul>	<ul style="list-style-type: none"> <li>• Front heat protection</li> <li>• Coolant (-30°C)</li> </ul>	<ul style="list-style-type: none"> <li>•Remote control panel</li> <li>• ATS</li> <li>• Remote controller</li> <li>• Synchronizing controller</li> </ul>	<ul style="list-style-type: none"> <li>• 415/240V</li> <li>• 380/220V</li> <li>• 220/127V</li> <li>• 220/127V</li> <li>• 200-115V</li> </ul>



## Control Panel



## Product description

- Single gen-set controller for Stand-by and Prime-power applications
- Direct communication with EFI engines
- Total remote monitoring and control

## Key features

- Easy to install, configure and use
- Wide range of communication capabilities including:
  - connection via RS232, RS485, CAN and on board USB
  - internet access using Ethernet or GPRS
  - support for Modbus and SNMP protocols
- Cloud-based monitoring and control
- Active SMS and emails in different languages
- 2x 5 A binary outputs for cranking and fuel solenoid
- Option for up to 16 additional binary inputs/outputs
- Flexible event based history with up to 350 events
- Load shedding, dummy load capability
- Automatic temperature based cooling/heating
- Comprehensive gen-set protections
- Multipurpose flexible timers
- True RMS measurement

## Available extension modules

Product	Description	Order code
CM-Ethernet	Ethernet interface	CM2ETHERXBX
CM-GPRS	GSM modem / wireless internet	CM2GPRSXXBX
CM-RS232-485	Dual port interface	CM223248XBX
EM-BIO8-EFCP	8 additional binary inputs/outputs	EM2BIO8EXBX

## Functions and protections

Description	ANSI code	Description	ANSI code
Over voltage	59	Load shedding	32P
Under voltage	27	Overload	32
Voltage asymmetry and Phase rotation**	47	Power factor	55
Over frequency	81H	Temperature	49T
Under frequency	81L	Gas (fuel) level	71
Over current*	50 + 51	Earth fault current	50N + 64
Current unbalance	46		

\* Short current only

\*\* Fixed setting

