Wholesale Diesel Generators

WHOLESALE DIESEL GENERATORS
A DIVISION OF NORTH STAR LOGISTICS LLC
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800KW
CUMMINS
DIESEL GENERATOR

GENERAL INFORMATION & KEY FEATURES

- **Power:** 800KW/1000KVA at 60 Hz
- **Engine:** Cummins KTA38-G2
- **Cylinder:** 12-cylinder
- **Cooling:** Water-cooled
- **Displacement:** 38 Liter
- **Aspiration:** Turbocharged & Aftercooled
- **Bore x Stroke:** 159x159 mm
- **Voltage:** Any voltage can be customized
- **Phase:** Single phase or 3-phase options available
- **Operating Speed:** 1800 rpm
- **Noise Level:** 79 db @ 7m
- **Enclosure Type:** Silent IP-65, soundproof and weatherproof customizable enclosure
- **Controller:** DSE GenSet 6110
- **Fuel Tank:** Custom options available
- **Dimensions:** L*W*H - 228 x 88 x 100 (in.)
- **Weight:** 19500 lbs.
- **Certifications:** Certified ISO:9001, ISO:17025, ISO:8258, UL2200

Specification Sheet

KTA38-G3

Fuel Optimized

Description

The KTA38-Series benefits from years of technical development and improvement to bring customers an innovative and future proof diesel engine that keeps pace with ever changing generator set requirements.

Recognized globally for its performance under even the most severe climatic conditions, the KTA38-Series is widely acknowledged as the most robust and cost-effective diesel engine in its power range for the generator set market.

Features

Aftercooler – Large capacity after cooler results in cooler, denser intake air for more efficient combustion and reduced internal stresses for longer life.

Fuel System – Cummins exclusive low-pressure PT™ system with wear compensating pump and integral dual flyweight governor. Camshaft actuated fuel injectors give accurate metering and timing. Fuel lines are internal drilled passages in cylinder heads. Spin-on fuel filter.

ISO 9001 ISO 14001 ISO 45001	This product was manufactured in a facility whose quality management system is certified to ISO 9001 and its Health Safety Environmental Management Systems certified to ISO 14001 and ISO 45001.
RoHS	Consult factory for RoHS information.

Cylinder Block – Alloy cast iron with removable wet liners. Cross bolt support to main bearing cap provides extra strength and stability.

Service and Support - G-Drive products are backed by an uncompromising level of technical support and after sales service, delivered through a world class service network.

Turbocharger – Cummins Turbo Technologies (CTT) exhaust gas driven turbocharger mounted at top of engine provides more power, improved fuel economy, altitude compensation, and lower smoke and noise levels.

Cooling System – Gear driven centrifugal water pump. Large volume water passages provide even flow of coolant around cylinder liners, valves, and injectors. Bypass thermostats regulate coolant temperature. Spin-on corrosion resistors check rust and corrosion, control acidity and remove Impurities.

1500 rpm (50 Hz Ratings)

Gross engine output			Net engine output			Typical generator set output					
Standby	Prime	Base	Standby	Prime	Base	Standby (ESP)		Prime (PRP)		Base (COP)	
kWm/BHP			kWm/BHP			kWe	kVA	kWe	kVA	kWe	kVA
895/1200	806/1080	656/880	864/1159	784/1051	634/850	816	1020	741	926	600	750

1800 rpm (60 Hz Ratings)

Gross engine output			Net engine output			Typical generator set output					
Standby	Prime	Base	Standby	Prime	Base	Standby (ESP)		Prime (PRP)		Base (COP)	
kWm/BHP			kWm/BHP			kWe	kVA	kWe	kVA	kWe	kVA
1000/1340	910/1220	776/1041	957/1283	877/1176	743/996	909	1137	833	1042	706	883

General Engine Data

Fuel Rating	FR6123
Type	4 cycle, 60-degree Vee, turbocharged, aftercooled
Bore mm	159 mm (6.25 in.)
Stroke mm	159 mm (6.25 in.)
Displacement litre	37.8 litre (2300 $in.^3$)
Cylinder block	12 cylinder
Battery charging alternator	35 amps
Starting voltage	24-volt
Fuel system	Direct Injection Cummins PT
Fuel filter	Dual spin-on paper element fuel filters with water separator
Lube oil filter type(s)	Spin-on full flow filter
Lube oil capacity (l)	135
Flywheel dimensions	SAE 0

Coolpac Performance Data

Cooling system design	1 pump/ 1 loop
Coolant ratio	50% ethylene glycol; 50% water
Coolant capacity (l)	229.2
Limiting ambient temp.** (°C)	50 (50Hz); 50 (60Hz)
Fan power (kWm)	24 (50Hz); 45.43 (60Hz)
Cooling system air flow (m^3/s)**	13.4 (50Hz); 17.58 (60Hz)
Air cleaner type	Dry replaceable element with restriction indicator

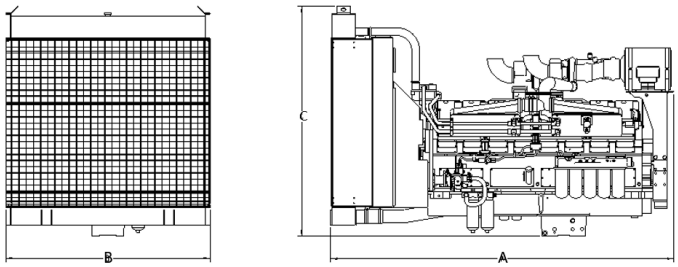
** @ 13 mm H_20

Fuel Consumption 1500 (50 Hz)

%	kWm	BHP	L/hr	US Gal/hr
Standby Power				
100	895	1200	221	58.3
Prime Power				
100	806	1080	198	52.3
75	604	810	151	39.9
50	403	540	104	27.3
25	201	270	54	14.3
Continuous Power				
100	656	880	164	43.3

Fuel Consumption 1800 (60 Hz)

%	kWm	BHP	L/hr	US Gal./hr
Standby Power				
100	1000	1340	238	62.9
Prime Power				
100	910	1220	217	57.2
75	683	915	168	44.3
50	455	610	119	31.4
25	228	305	73	19.4
Continuous Power				
100	776	1040	190	50.1



**Drawing for illustration purposes only.*

Weights and Dimensions

Length mm	Width mm	Height mm	Weight (dry) kg
3033	1685	2157	4689

Ratings Definitions

Emergency Standby Power (ESP):	Limited-Time Running Power (LTP):	Prime Power (PRP):	Base Load (Continuous) Power (COP):
Applicable for supplying power continuously to varying electrical loads for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528 and ISO 3046-1, obtained and corrected in accordance with ISO 15550).	Applicable for supplying power to a constant electrical load for limited hours. Limited-Time Running Power (LTP) is in accordance with ISO 8528.	Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046-1. Data shown above represents gross engine performance and capabilities as per ISO 3046-1, obtained and corrected in accordance with ISO 15550.	Applicable for supplying power continuously to a constant load up to the full output rating for unlimited hours. No sustained overload capability is available for this rating. Consult authorized distributor for rating. (Equivalent to Continuous Power in accordance with ISO 8528 and ISO 3046-1, obtained and corrected in accordance with ISO 15550).

For more information contact your local Cummins distributor or visit cummins.com

Our energy working for you.™

KTA38-G3 PD00000066 (02/25)

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S6L1D-D4 Wdg.311/312 - Technical Data Sheet

Standards

STAMFORD industrial alternators meet the requirements of the relevant parts of the IEC 60034 and the relevant sections of other international standards such as BS5000-3, ISO 8528-3, VDE 0530, NEMA MG1-32, CSA C22.2-100 and AS 60034. Other standards and certifications can be considered on request.

Quality Assurance

Alternators are manufactured using production procedures having a quality assurance level to BS EN ISO 9001.

Excitation and Voltage Regulators

Excitation System					
AVR Type	MX341	MX321/MX322	DECS100	DECS150	
Voltage Regulation	± 1%	± 0.5%	± 0.25%	± 0.25%	with 4% Engine Governing
AVR Power	PMG	PMG	PMG	PMG	

No Load Excitation Voltage (V)	16 - 15.2
No Load Excitation Current (A)	0.87 - 0.82
Full Load Excitation Voltage (V)	59
Full Load Excitation Current (A)	2.9
Exciter Time Constant (seconds)	0.17

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Electrical Data								
Insulation System	H							
Stator Winding	Double Layer Concentric							
Winding Pitch	2/3							
Winding Leads	12/6							
Winding Number	311/312							
Number of Poles	4							
IP Rating	IP23							
RFI Suppression	BS EN 61000-6-2 & BS EN 61000-6-4,VDE 0875G, VDE 0875N. Refer to factory for others							
Waveform Distortion	NO LOAD < 1.5% NON-DISTORTING BALANCED LINEAR LOAD < 5.0%							
Short Circuit Ratio	1/Xd							
Steady State X/R Ratio	19.93							
	50 Hz				60 Hz			
Telephone Interference	THF<2%				TIF<50			
Cooling Air Flow	1.42 m³/sec				1.71 m³/sec			
Voltage Series Star (V)	380	400	415	440	416	440	460	480
Voltage Parallel Star (V)*	190	200	208	220	208	220	230	240
Voltage Delta (V)	220	230	240	254	240	254	266	277
kVA Base Rating (Class H) for Reactance Values (kVA)	910	940	940	875	1025	1063	1075	1125
Saturated Values in Per Unit at Base Ratings and Voltages								
Xd Dir. Axis Synchronous	2.027	1.890	1.756	1.454	2.287	2.120	1.961	1.885
X'd Dir. Axis Transient	0.146	0.136	0.126	0.105	0.165	0.153	0.141	0.136
X"d Dir. Axis Subtransient	0.118	0.110	0.102	0.085	0.133	0.123	0.114	0.110
Xq Quad. Axis Reactance	1.826	1.702	1.581	1.309	2.059	1.909	1.766	1.697
X"q Quad. Axis Subtransient	0.285	0.266	0.247	0.205	0.322	0.298	0.276	0.265
XL Stator Leakage Reactance	0.067	0.062	0.058	0.048	0.075	0.070	0.065	0.062
X2 Negative Sequence Reactance	0.175	0.163	0.151	0.125	0.197	0.183	0.169	0.163
X0 Zero Sequence Reactance	0.017	0.016	0.015	0.012	0.019	0.018	0.017	0.016
Unsaturated Values in Per Unit at Base Ratings and Voltages								
Xd Dir. Axis Synchronous	2.433	2.268	2.107	1.745	2.744	2.544	2.353	2.262
X'd Dir. Axis Transient	0.168	0.156	0.145	0.120	0.189	0.175	0.162	0.156
X"d Dir. Axis Subtransient	0.138	0.129	0.120	0.099	0.156	0.144	0.134	0.128
Xq Quad. Axis Reactance	1.880	1.753	1.629	1.349	2.121	1.966	1.819	1.748
X"q Quad. Axis Subtransient	0.342	0.319	0.297	0.246	0.386	0.358	0.331	0.318
XL Stator Leakage Reactance	0.075	0.070	0.065	0.054	0.085	0.079	0.073	0.070
Xlr Rotor Leakage Reactance	0.085	0.079	0.074	0.061	0.096	0.089	0.082	0.079
X2 Negative Sequence Reactance	0.210	0.196	0.182	0.150	0.237	0.219	0.203	0.195
X0 Zero Sequence Reactance	0.020	0.019	0.017	0.014	0.023	0.021	0.019	0.019

* Parallel Star connection only available with 12 leads winding option

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Time Constants (Seconds)		
T'd Transient Time Const.	0.088	
T''d Sub-Transient Time Const.	0.015	
T'do O.C. Field Time Const.	3.63	
Ta Armature Time Const.	0.025	
T''q Sub-Transient Time Const.	0.01	
Resistances in Ohms (Ω) at 22^{0}C		
Stator Winding Resistance (Ra), per phase for series connected	0.00210	
Rotor Winding Resistance (Rf)	1.82	
Exciter Stator Winding Resistance	18.47	
Exciter Rotor Winding Resistance per phase	0.095	
PMG Phase Resistance (Rpmg) per phase	1.91	
Positive Sequence Resistance (R1)	0.00263	
Negative Sequence Resistance (R2)	0.00302	
Zero Sequence Resistance (R0)	0.00263	
Saturation Factors	400V	480V
SG1.0	0.528	0.537
SG1.2	2.099	1.879
Mechanical Data		
Shaft and Keys	All alternator rotors are dynamically balanced to better than ISO 21940-11 Grade 2.5 for minimum vibration in operation. Two bearing generators are balanced with a half key.	
	1 Bearing	2 Bearing
SAE Adaptor	SAE0,1	SAE0,1
Moment of Inertia	19 kgm²	18.5 kgm²
Weight Wound Stator	924kg	924kg
Weight Wound Rotor	800kg	758kg
Weight Complete Alternator	1953kg	2030kg
Shipping weight in a Crate	1996kg	2073kg
Packing Crate Size	160x105x153(cm)	160x105x153(cm)
Maximum Over Speed	2250 RPM for two minutes	
Bearing Drive End	-	BALL 6224
Bearing Non-Drive End	BALL 6317	BALL 6317

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RATINGS AT 0.8 POWER FACTOR

	Class - Temp Rise	Standby - 163/27°C				Standby - 150/40°C				Cont. H - 125/40°C				Cont. F - 105/40°C			
50 Hz	Star (V)	380	400	415	440	380	400	415	440	380	400	415	440	380	400	415	440
	Parallel Star (V)*	190	200	208	220	190	200	208	220	190	200	208	220	190	200	208	220
	Delta (V)	220	230	240	254	220	230	240	254	220	230	240	254	220	230	240	254
	kVA	1000	1010	1010	960	960	980	980	920	910	940	940	875	830	860	860	800
	kW	800	808	808	768	768	784	784	736	728	752	752	700	664	688	688	640
	Efficiency (%)	94.7	94.8	94.9	95.0	94.9	94.9	95.0	95.1	95.0	95.0	95.0	95.2	95.1	95.1	95.2	95.2
	kW Input	844	852	851	808	810	826	826	774	766	792	791	736	698	723	723	672

60 Hz	Star (V)	416	440	460	480	416	440	460	480	416	440	460	480	416	440	460	480
	Parallel Star (V)*	208	220	230	240	208	220	230	240	208	220	230	240	208	220	230	240
	Delta (V)	240	254	266	277	240	254	266	277	240	254	266	277	240	254	266	277
	kVA	1125	1163	1175	1219	1088	1125	1138	1188	1025	1063	1075	1125	915	965	1000	1025
	kW	900	930	940	975	870	900	910	950	820	850	860	900	732	772	800	820
	Efficiency (%)	94.9	95.0	95.0	95.0	95.0	95.0	95.1	95.1	95.1	95.1	95.2	95.2	95.2	95.2	95.2	95.2
	kW Input	948	980	989	1026	916	947	957	1000	862	894	904	946	769	811	840	861

*** Parallel Star connection only available with 12 leads winding option**

De-rates

All values tabulated above are subject to the following reductions:

- 5% when air inlet filters are fitted
- 3% for every 500 meters by which the operating altitude exceeds 1000 meters above mean sea level
- 3% for every 5°C by which the operational ambient temperature exceeds 40°C @ Class H temperature rise (please refer to applications for ambient temperature de-rates at other temperature rise classes)
- For marine alternators, 3% for every 5°C by which the operational ambient temperature exceeds 50°C
- For any other operating conditions impacting the cooling circuit please refer to applications

Note: Requirement for operating in an ambient exceeding 60°C and altitude exceeding 4000 meters (for <690V) or 1500 meters (for >690V) must be referred to applications.

Dimensional and Torsional Drawing

For dimensional and torsional information please refer to the alternator General Arrangement and rotor drawings available on our website (http://stamford-avk.com/)

Note: Continuous development of our products means that the information contained in our data sheets can change without notice, and specifications should always be confirmed with Cummins Generator Technologies prior to purchase.

DSEGenset®

DSE6110/20 MKIII

AUTO START & AUTO MAINS (UTILITY) FAILURE CONTROL MODULES

DSE**6110 MKIII**

DSE**6120 MKIII**

KEY FEATURES

- 4-line back-lit LCD text display
- Multiple display languages
- Five-key menu navigation
- LCD alarm indication
- Customisable power-up text and screen images.
- DSENet® expansion compatibility
- Data logging facility
- Internal PLC editor
- Protections disable feature
- Fully configurable via PC using USB communications
- Front panel configuration with PIN protection
- Power save mode
- 3-phase generator sensing and protection
- 3-phase mains (utility) sensing and protection (DSE6120 MKIII only)
- Automatic load transfer control (DSE6120 MKIII only)
- Generator current and power monitoring (kW, kvar, kVA, pf)
- Mains (utility) current and power monitoring (kW, kvar, kVA, pf) (DSE6120 MKIII only)
- kW overload alarm
- Over current protection
- Breaker control via fascia buttons
- Fuel and start outputs configurable when using CAN
- 6 configurable DC outputs
- 4 configurable analogue/digital inputs
- Support for 0 V to 10 V & 4 mA to 20 mA sensors
- 8 configurable digital inputs
- CAN, MPU and alternator frequency speed sensing in one variant
- Real time clock
- Manual and automatic fuel pump control
- Engine pre-heat and post-heat functions
- Engine run-time scheduler
- Engine idle control for starting & stopping
- Fuel level alarms
- 3 configurable maintenance alarms
- Compatible with a wide range of CAN engines, including Tier 4 engine support
- Uses DSE Configuration Suite PC Software for simplified configuration
- Licence-free PC software
- IP65 rating (with optional gasket) offers increased resistance to water ingress
- Configurable CAN read & transmitted information.
- 1 alternative configuration.

KEY BENEFITS

- Automatically transfers between mains (utility) and generator (DSE6120 MKIII only) for convenience.
- Hours counter provides accurate information for monitoring and maintenance periods
- User-friendly set-up and button layout for ease of use
- Multiple parameters are monitored & displayed simultaneously for full visibility
- The module can be configured to suit a wide range of applications for user flexibility
- PLC editor allows user configurable functions to meet user specific application requirements.

RELATED MATERIALS

TITLE	PART NO.
DSE6110 MKIII & DSE6120 MKIII Installation Instructions	053-240
DSE6110 MKIII & DSE6120 MKIII Operator Manual	057-289
DSE6110 MKIII & DSE6120 MKIII Configuration Suite PC Manual	057-290

SPECIFICATIONS

DC SUPPLY

CONTINUOUS VOLTAGE RATING
8 V to 35 V Continuous
5 V for up to 1 minute

CRANKING DROPOUTS
Able to survive 0 V for 100 mS, providing supply was at least 10 V before dropout and supply recovers to 5 V. This is achieved without the need for internal batteries. LEDs and backlight will not be maintained during cranking.

MAXIMUM OPERATING CURRENT
260 mA at 12 V, 150 mA at 24 V

MAXIMUM STANDBY CURRENT
145 mA at 12 V, 85 mA at 24 V

CHARGE FAIL/EXCITATION RANGE
0 V to 35 V

GENERATOR & MAINS (UTILITY)

VOLTAGE RANGE
15 V to 415 V AC (Ph to N)
26 V to 719 V AC (Ph to Ph)

FREQUENCY RANGE
3.5 Hz to 75 Hz

MAGNETIC PICKUP

VOLTAGE RANGE
+/- 0.5 V to 70 V

FREQUENCY RANGE
10,000 Hz (max)

INPUTS

DIGITAL INPUTS A TO H
Negative switching

ANALOGUE INPUTS A & D
Configurable as:
Negative switching digital input
0 V to 10 V sensor
4 mA to 20 mA sensor
Resistive sensor

ANALOGUE INPUTS B & C
Configurable as:
Negative switching digital input
Resistive sensor

OUTPUTS

OUTPUT A & B (FUEL & START)
10 A DC at supply voltage

AUXILIARY OUTPUTS C, D, E, F, G & H
2 A DC at supply voltage

DIMENSIONS

OVERALL
216 mm x 158 mm x 43 mm
8.5” x 6.2” x 1.5”

PANEL CUT-OUT
184 mm x 137 mm
7.2” x 5.3”

MAXIMUM PANEL THICKNESS
8 mm
0.3”

STORAGE TEMPERATURE RANGE
-40°C to +85°C
-40 °F to +185 °F

OPERATING TEMPERATURE RANGE

NON-HEATED DISPLAY VARIANT
-30°C to +70°C
-22 °F to +158 °F

HEATED DISPLAY VARIANT
-40 °C to +70 °C
-40 °F to +158 °F

OPTIONAL PARTS

PART	PART NUMBER
IP65 Gasket	020-521

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DSEGenset®

DSE6110/20 MKIII

AUTO START & AUTO MAINS (UTILITY) FAILURE CONTROL MODULES

The DSE6110 MKIII is an Auto Start Control Module and the DSE6120 MKIII is an Auto Mains (Utility) Failure Control Module suitable for a wide variety of single, diesel or gas, gen-set applications.

Monitoring an extensive number of engine parameters, the modules will display warnings, shutdown and engine status information on the back-lit LCD screen, illuminated LEDs and remote PC.

The DSE6120 MKIII will also monitor the mains (utility) supply. The modules include USB connection and dedicated DSENet® terminals for system expansion.

Both modules are compatible with electronic (CAN) and non-electronic (magnetic pick-up/alternator sensing) engines and offer an extensive number of flexible inputs, outputs and extensive engine protections so the system can be easily adapted to meet the most demanding industry requirements.

The extensive list of features includes enhanced event and performance monitoring, remote communications & PLC functionality.

The modules can be easily configured using the DSE Configuration Suite PC software. Selected front panel editing is also available.

ENVIRONMENTAL TESTING STANDARDS

ELECTRO-MAGNETIC COMPATIBILITY
BS EN 61000-6-2
EMC Generic Immunity Standard for the Industrial Environment
BS EN 61000-6-4
EMC Generic Emission Standard for the Industrial Environment

ELECTRICAL SAFETY
BS EN 60950
Safety of Information Technology Equipment, including Electrical Business Equipment

TEMPERATURE
BS EN 60068-2-1
Ab/Ae Cold Test -30 °C
BS EN 60068-2-2
Bb/Be Dry Heat +70 °C

VIBRATION
BS EN 60068-2-6
Ten sweeps in each of three major axes
5 Hz to 8 Hz at +/-7.5 mm,
8 Hz to 500 Hz at 2 gn

HUMIDITY
BS EN 60068-2-30
Db Damp Heat Cyclic 20/55 °C
at 95% RH 48 Hours
BS EN 60068-2-78
Cab Damp Heat Static 40 °C
at 93% RH 48 Hours

SHOCK
BS EN 60068-2-27
Three shocks in each of three major axes
15 gn in 11 ms

DEGREES OF PROTECTION PROVIDED BY ENCLOSURES
BS EN 60529
IP65 - Front of module when installed into the control panel with the optional sealing gasket.

COMPREHENSIVE FEATURE LIST TO SUIT A WIDE VARIETY OF GEN-SET APPLICATIONS