

150KW Cummins Diesel Generator

Rental Type | Prime & Continuous Use | Trailers Available

For construction, rental yards, concerts, major events, emergency, & other mobile power needs



GENERAL INFORMATION & KEY FEATURES

- **Power:** 150kW / 188 kVA | Prime & Continuous Use
- **Engine:** Cummins 6CTA8.3-G2
- **Cylinder:** 6-cylinder, in-line
- **Cooling:** Water-cooled
- **Displacement:** 8.3 Liter
- **Aspiration:** Turbocharged & Aftercooled
- **Bore x Stroke:** 4.49 x 5.32 (in.)
- **Voltage:** 3 voltage settings - 3ph 277/480V, 3ph 120/208V, 1ph 120/240V
- **Phase:** Single phase or 3-phase available
- **Operating Speed:** 1800 rpm
- **Noise Level:** 69 db @ 7m
- **Enclosure Type:** Silent IP-65, soundproof and weatherproof customizable enclosure
- **Connection Features:** 2x rows of Cam-Locks, 2x rows of Terminals, 2x Twist Lock Sockets, 2x Duplex 120V 15amp
- **Electrical:** Sockets provide 1ph power while the switch is on 3ph for main supply
- **Controller:** DSE 7320 MKII
- **Fuel Tank:** 90 or 225 gallons, extended fuel tank capacity options
- **Dimensions:** L*W*H - 125.9 x 44.4 x 62.9 (in.)
- **Weight:** 6713 lbs.
- **Certifications:** Certified ISO:9001, ISO:17025, ISO:8258, EPA Tier 1, UL2200

Diesel generator set 6CTA8.3 series engine



> **Specification sheet**
140 kW - 175 kW standby

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Description

Cummins Power Generation commercial generator sets are fully integrated power generation systems providing optimum performance, reliability and versatility for stationary standby and prime power applications.



This generator set is designed in facilities certified to ISO 9001 and manufactured in facilities certified to ISO 9001 or ISO 9002.



The Prototype Test Support (PTS) program verifies the performance integrity of the generator set design. Cummins Power Generation products bearing the PTS symbol meet the prototype test requirements of NFPA 110 for Level 1 systems.



All low voltage models are CSA certified to product class 4215-01.



The generator set is available Listed to UL 2200, Stationary Engine Generator Assemblies.

U.S. EPA

Engine meets former U.S. EPA Nonroad Source Emissions Standards, 40 CFR 89, Tier 1.

Features

Cummins® heavy-duty engine - Rugged 4-cycle, industrial diesel delivers reliable power, low emissions and fast response to load changes.

Alternator - Several alternator sizes offer selectable motor starting capability with low reactance 2/3 pitch windings, low waveform distortion with non-linear loads and fault clearing short-circuit capability.

Control system - The PowerCommand® electronic control is standard equipment and provides total genset system integration including automatic remote starting/stopping, precise frequency and voltage regulation, alarm and status message display, AmpSentry™ protection, output metering, auto-shutdown at fault detection and NFPA 110 Level 1 compliance.

Cooling system - Standard integral set-mounted radiator system, designed and tested for rated ambient temperatures, simplifies facility design requirements for rejected heat.

Enclosures - Optional weather protective and sound attenuated enclosures are available.

Fuel tanks - Dual wall sub-base fuel tanks and in-skid day tanks are also offered.

NFPA - The genset accepts full rated load in a single step in accordance with NFPA 110 for Level 1 systems.

Warranty and service - Backed by a comprehensive warranty and worldwide distributor network.

Model	Standby rating		Prime rating		Continuous rating		Data sheets	
	60 Hz kW (kVA)	50 Hz kW (kVA)	60 Hz kW (kVA)	50 Hz kW (kVA)	60 Hz kW (kVA)	50 Hz kW (kVA)	60 Hz	50 Hz
DGFA	150 (188)	140 (175)	135 (169)	125 (156)			D-3431	D-3433
DGFB	175 (219)	150 (188)	160 (200)	135 (169)			D-3432	D-3434

Generator set specifications

Governor regulation class	ISO 8528 Part 1 Class G3
Voltage regulation, no load to full load	± 1.0%
Random voltage variation	± 1.0%
Frequency regulation	5%
Random frequency variation	± 0.5% (isochronous optional ± 0.25%)
Radio frequency emissions compliance	Meets requirements of most industrial and commercial applications.

Engine specifications

Bore	114.0 mm (4.49 in)
Stroke	135.1 mm (5.32 in)
Displacement	8.3 L (504.0 in ³)
Configuration	Cast iron, in-line 6 cylinder
Battery capacity	550 amps minimum at ambient temperature of 0 °C (32 °F)
Battery charging alternator	65 amps
Starting voltage	12 volt, negative ground
Fuel system	Direct injection: number 2 diesel fuel, fuel filter, automatic electric fuel shutoff
Fuel filter	Single element, 10 micron filtration, spin-on fuel filter with water separator
Air cleaner type	Dry replaceable element
Lube oil filter type(s)	Spin-on, full flow
Standard cooling system	40 °C (104 °F) ambient radiator

Alternator specifications

Design	Brushless, 4 pole, drip proof revolving field
Stator	2/3 pitch
Rotor	Single bearing, flexible discs
Insulation system	Class H
Standard temperature rise	150 °C standby at 40 °C ambient
Exciter type	Torque match (shunt)
Phase rotation	A (U), B (V), C (W)
Alternator cooling	Direct drive centrifugal blower
AC waveform total harmonic distortion	< 5% no load to full linear load, < 3% for any single harmonic
Telephone influence factor (TIF)	< 50 per NEMA MG1-22.43
Telephone harmonic factor (THF)	< 3

Available voltages

60 Hz line-neutral/line-line	50 Hz line-neutral/line-line
• 120/208 • 240/416 • 120/240 • 254/440 • 127/220 • 277/480 • 139/240	• 110/190 • 120/208 • 230/400 • 110/220 • 120/240 • 240/415 • 115/220 • 127/220 • 254/440 • 115/230 • 220/380

Note: Consult factory for other voltages.

Generator set options and accessories

Engine

- ☐ 120/240 V 1500 W coolant heater
- ☐ 120/240 V 150 W lube oil heater
- ☐ Electronic governor
- ☐ Engine oil temperature

Fuel system

- ☐ 12 hour sub-base tank (dual wall)
- ☐ 24 hour sub-base tank (dual wall)
- ☐ 473 L (125 gal) sub-base tank (single wall)

Alternator

- ☐ 105 °C rise
- ☐ 125 °C rise
- ☐ 120/240 V 100 W anti-condensation heater
- ☐ PMG excitation
- ☐ Single phase

Exhaust system

- ☐ Genset mounted muffler
- ☐ Heavy duty exhaust elbow
- ☐ Slip on exhaust connection

Cooling system

- ☐ 50 °C ambient
- ☐ Remote radiator

Generator set

- ☐ AC entrance box
- ☐ Battery
- ☐ Battery charger
- ☐ Enclosure: aluminum, steel, weather protective or sound attenuated
- ☐ Export box packaging

- ☐ UL 2200 Listed
- ☐ Main line circuit breaker
- ☐ PowerCommand Network Communications Module (NCM)
- ☐ Remote annunciator panel
- ☐ Spring isolators
- ☐ 2 year standby power warranty
- ☐ 2 year prime power warranty
- ☐ 5 year basic power warranty

Note: Some options may not be available on all models - consult factory for availability.

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Ratings definitions

Emergency standby power (ESP):

Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Limited-time running power (LTP):

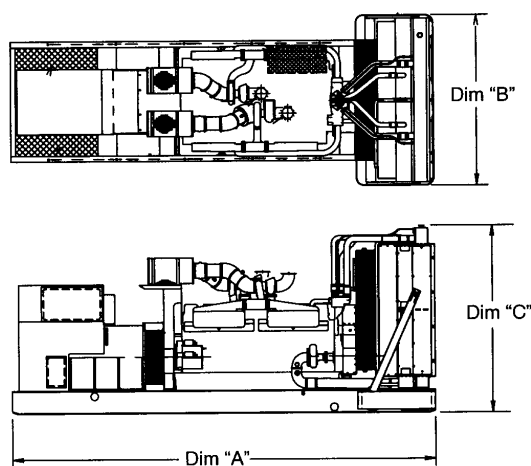
Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.

Prime power (PRP):

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, AS 2789, DIN 6271 and BS 5514.

Base load (continuous) power (COP):

Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.



This outline drawing is for reference only. See respective model data sheet for specific model outline drawing number.

Do not use for installation design

Model	Dim "A" mm (in.)	Dim "B" mm (in.)	Dim "C" mm (in.)	Set Weight* dry kg (lbs)	Set Weight* wet kg (lbs)
DGFA	2662 (104.8)	1016 (40.0)	1433 (56.4)		1513 (3336)
DGFB	2662 (104.8)	1016 (40.0)	1433 (56.4)		1520 (3350)

* Weights represent a set with standard features. See outline drawings for weights of other configurations.

Cummins Power Generation

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Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

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WINDING 14

CONTROL SYSTEM	SEPARATELY EXCITED BY P.M.G.		
A.V.R.	MX341	MX321	
VOLTAGE REGULATION	± 1%	± 0.5 %	With 4% ENGINE GOVERNING
SUSTAINED SHORT CIRCUIT	REFER TO SHORT CIRCUIT DECREMENT CURVES (page 6)		

CONTROL SYSTEM	SELF EXCITED		
A.V.R.	SX460	AS440	
VOLTAGE REGULATION	± 1.5 %	± 1.0 %	With 4% ENGINE GOVERNING
SUSTAINED SHORT CIRCUIT	DOES NOT SUSTAIN A SHORT CIRCUIT CURRENT		

INSULATION SYSTEM	CLASS H		
PROTECTION	IP23		
RATED POWER FACTOR	0.8		
STATOR WINDING	DOUBLE LAYER LAP		
WINDING PITCH	TWO THIRDS		
WINDING LEADS	12		
MAIN STATOR RESISTANCE	0.016 Ohms PER PHASE AT 22°C STAR CONNECTED		
MAIN ROTOR RESISTANCE	1.69 Ohms at 22°C		
EXCITER STATOR RESISTANCE	20 Ohms at 22°C		
EXCITER ROTOR RESISTANCE	0.091 Ohms PER PHASE AT 22°C		
R.F.I. 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%		
MAXIMUM OVERSPEED	2250 Rev/Min		
BEARING DRIVE END	BALL. 6315-2RS (ISO)		
BEARING NON-DRIVE END	BALL. 6310-2RS (ISO)		

	1 BEARING	2 BEARING
WEIGHT COMP. GENERATOR	580 kg	598 kg
WEIGHT WOUND STATOR	225 kg	225 kg
WEIGHT WOUND ROTOR	210.35 kg	199.39 kg
WR ² INERTIA	1.7674 kgm ²	1.7169 kgm ²
SHIPPING WEIGHTS in a crate	613 kg	630 kg
PACKING CRATE SIZE	123 x 67 x 103(cm)	123 x 67 x 103(cm)
TELEPHONE INTERFERENCE	THF<2%	TIF<50
COOLING AIR	0.617 m ³ /sec 1308 cfm	

VOLTAGE STAR	380	400	416
kVA BASE RATING FOR REACTANCE VALUES	200	200	200
Xd DIR. AXIS SYNCHRONOUS	1.81	1.63	1.51
X'd DIR. AXIS TRANSIENT	0.16	0.14	0.13
X''d DIR. AXIS SUBTRANSIENT	0.11	0.10	0.09
Xq QUAD. AXIS REACTANCE	1.09	0.98	0.91
X''q QUAD. AXIS SUBTRANSIENT	0.13	0.12	0.11
X _L LEAKAGE REACTANCE	0.06	0.05	0.05
X ₂ NEGATIVE SEQUENCE	0.11	0.10	0.10
X ₀ ZERO SEQUENCE	0.07	0.06	0.06

REACTANCES ARE SATURATED

VALUES ARE PER UNIT AT RATING AND VOLTAGE INDICATED

T'd TRANSIENT TIME CONST.	0.038s
T''d SUB-TRANSTIME CONST.	0.012s
T'do O.C. FIELD TIME CONST.	1.0s
Ta ARMATURE TIME CONST.	0.01s
SHORT CIRCUIT RATIO	1/Xd

UCI274G

STAMFORD

Winding 14 / 0.8 Power Factor

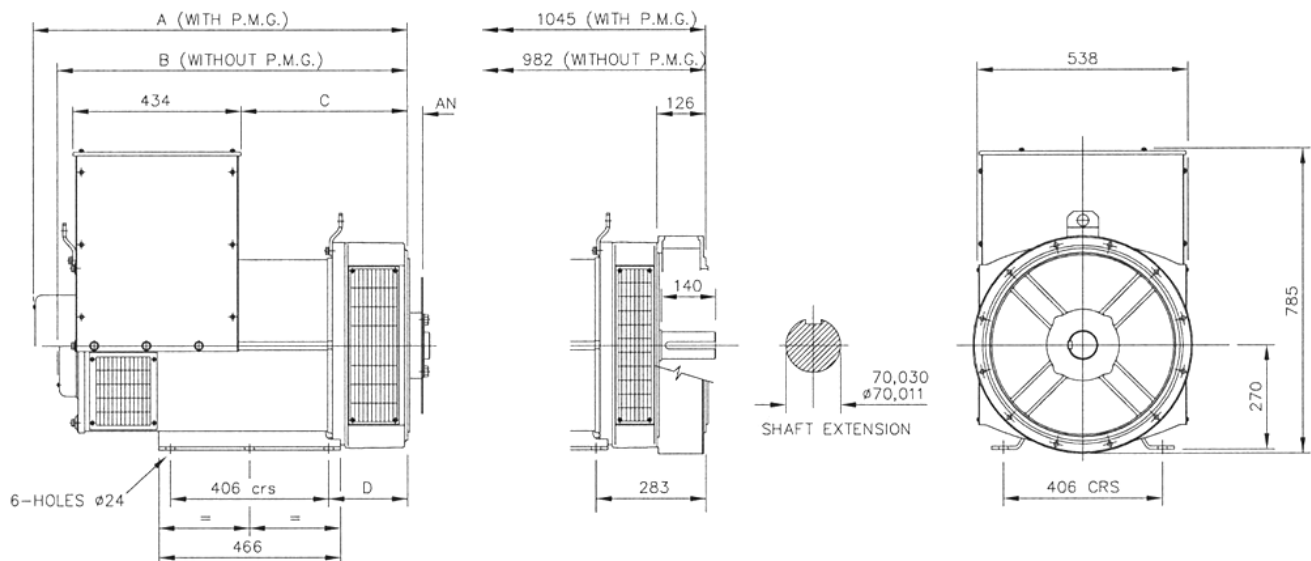
60Hz

RATINGS

Class - Temp Rise	Cont. F - 105/40°C			Cont. H - 125/40°C			Standby - 150/40°C			Standby - 163/27°C		
Series Star (V)	380	400	416	380	400	416	380	400	416	380	400	416
Parallel StarStar (V)	190	200	208	190	200	208	190	200	208	190	200	208
Series Delta (V)	220	230	240	220	230	240	220	230	240	220	230	240
kVA	187.5	187.5	187.5	200.0	200.0	200.0	207.5	207.5	207.5	212.5	212.5	212.5
kW	150.0	150.0	150.0	160.0	160.0	160.0	166.0	166.0	166.0	170.0	170.0	170.0
Efficiency (%)	93.0	93.2	93.4	92.9	93.1	93.3	92.8	93.0	93.2	92.7	93.0	93.1
kW Input	161.3	160.9	160.7	172.3	171.9	171.6	179.0	178.5	178.1	183.4	182.9	182.5

APPROVED

DIMENSIONS



SINGLE BEARING ADAPTORS				
ADAPTOR	A	B	C	D
SAE 1	978,3	915,3	439,3	216,3
SAE 2	964	901	425	202
SAE 3	964	901	425	202

COUPLING DISCS	
DISC	AN
SAE 10	53,98
SAE 11,5	39,68
SAE 14	25,40

DSE7310/20 MKII

AUTO START & AUTO MAINS FAILURE CONTROL MODULES



KEY FEATURES

- Configurable power-up mode
- MPU fail delay
- Enhanced graphical user interface
- Drag & drop advanced PLC editor
- MSC ID within PLC GenComm override
- 4-Line back-lit LCD text display
- Multiple Display Languages
- Five key menu navigation
- LCD alarm indication
- Heated display option available
- Customisable power-up text and images
- DSENet expansion compatibility
- Data logging facility
- Internal PLC editor
- Protections disable feature
- Fully configurable via PC using USB, RS232 & RS485 communication
- Front panel configuration with PIN protection
- Power save mode
- 3 phase generator sensing and protection
- 3 phase mains (utility) sensing and protection (DSE7320 MKII only)
- Automatic load transfer control (DSE7320 MKII only)
- Generator current and power monitoring (kW, kvar, kVA, pf)
- Mains current and power monitoring (kW, kvar, kVA, pf) (DSE7320 MKII only)
- kW and kvar overload and reverse power alarms
- Over current protection
- Unbalanced load protection
- Independent earth fault protection
- Breaker control via fascia buttons
- Fuel and start outputs configurable when using CAN
- 6 configurable DC outputs
- 2 configurable volt-free relay outputs
- 6 configurable analogue/digital inputs
- Support for 0 V to 10 V & 4 mA to 20 mA sensors
- 8 configurable digital inputs
- Configurable 5 stage dummy load and load shedding outputs
- 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 usage monitor and low fuel level alarms
- Simultaneous use of RS232 and RS485 communication ports
- True dual mutual standby using RS232 or RS485 for accurate engine hours balancing.
- MODBUS RTU support with configurable MODBUS pages.
- Advanced SMS messaging (additional external modem required)
- Start & stop capability via SMS messaging
- 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 supplied gasket) offers increased resistance to water ingress
- Modules can be integrated into building management systems (BMS) using MODBUS RTU

KEY BENEFITS

- Automatically transfers between mains (utility) and generator (DSE7320 MKII 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.

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

510 mA at 12 V, 240 mA at 24 V

MAXIMUM STANDBY CURRENT

330 mA at 12 V, 160 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 & F

Configurable as:
Negative switching digital input
0 V to 10 V sensor
4 mA to 20 mA sensor
Resistive sensor

ANALOGUE INPUTS B, C, D & E

Configurable as:
Negative switching digital input
Resistive sensor

OUTPUTS

OUTPUT A & B (FUEL & START)

15 A DC at supply voltage

OUTPUTS C & D

8 A AC at 250 V AC (Volt-free)

AUXILIARY OUTPUTS E, F, G, H, I & J

2 A DC at supply voltage

DIMENSIONS

OVERALL

245 mm x 184 mm x 51 mm
9.6" x 7.2" x 2.0"

PANEL CUT-OUT

220 mm x 160 mm
8.7" x 6.3"

MAXIMUM PANEL THICKNESS

8 mm
0.3"

STORAGE TEMPERATURE RANGE

-40°C to +85°C
-40 °F to +185 °F

OPERATING TEMPERATURE RANGE

-30°C to +70°C
-22 °F to +158 °F

HEATED DISPLAY VARIANT

-40 °C to +70 °C
-40 °F to +158 °F

RELATED MATERIALS

TITLE

DSE7310 MKII & DSE7320 MKII Installation Instructions
DSE7310 MKII & DSE7320 MKII Operator Manual
DSE7310 MKII & DSE7320 MKII Configuration Suite PC Manual

PART NO.

053-181
057-253
057-243

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DSE7310/20 MKII

AUTO START & AUTO MAINS FAILURE CONTROL MODULES

The DSE7310 MKII is an Auto Start Control Module and the DSE7320 MKII 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, remote PC and via SMS text alerts (with external modem).

The DSE7320 MKII will also monitor the mains (utility) supply. The modules include USB, RS232 and RS485 ports as well as 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. Dual mutual standby is now available on both the DSE7310 MKII & DSE7320 MKII using RS232 or RS485 communications. This provides for a simpler and more convenient installation with more advanced features such as true engine hours balancing.

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 supplied sealing gasket.

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

