



# CUMMINS GENERATOR 153 KVA (123 KW) (INDIA)



# 6BTAA5.9-G6



# > Specification sheet

# Our energy working for you.™



# **Description**

The B5.9 engine has established an unrivalled reputation for reliability, incorporating features designed to maximise engine integration within OEM installation. The 6BTAA5.9-G6 CoolPac utilises the latest Cummins manufacturing processes and Quality Standards.



This engine has been built to comply with CE certification.



This engine has been designed in facilities certified to ISO9001 and manufactured in facilities certified to ISO9001 or ISO 9002 orTS16949.

## **Features**

**Single Poly Vee belt drive** for fan, alternator and water pump, with self-tensioning idler for minimum maintenance.

**Rotary-type Bosch pump** operates at high injection pressures for cleaner combustion and lower emissions.

Spin-on fuel filter and full-flow lubricating oil filter.

**Top mounted Holset HX35 turbocharger** for increased power, fuel economy, and lower smoke and noise levels.

**CoolPac Integrated Design** - Products are supplied complete with cooling package and air cleaner kit for a complete power package. Each component has been specifically developed and rigorously tested for G-Drive products, ensuring high performance, durability and reliability.

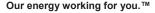
**Service and Support** - G-Drive products are backed by an uncompromising level of technical support and after sales service delivered through a world class service network.

# **1500 rpm (50 Hz Ratings)**

	Gross Engine Output		Typical Generator Set Output					
Standby	Prime	Base	Standb	y (ESP)	Prime (PRP)			
	kWm/BHP		kWe	kVA	kWe	kVA		
145/195	135/180	135/180	120	150	109	136		

# 1800 rpm (60 Hz Ratings)

	Gross Engine Output		Typical Generator Set Output					
Standby	Prime	Base	Standb	y (ESP)	Prime (PRP)			
	kWm/BHP		kWe	kVA	kWe	kVA		
160/215	150/205	145/195	135	169	123	153		





# **General Engine Data**

Туре	4- cycle, In-line, 6- cylinder, Turbocharged and Charge Air Cooled, Diesel
Bore mm	102 mm (4.02 in.)
Stroke mm	120 mm (4.72 in.)
Displacement Litre	5.9 litre (360.0 in. <sup>3</sup> )
Cylinder Block	Cast iron, 6 cylinder
Battery Charging Alternator	55 amps
Starting Voltage	12 volt, 55 Amp negative ground
Fuel System	Direct injection
Fuel Filter	Venturi Combo Stratapore Filter
Lube Oil Filter Type(s)	Venturi Combo Stratapore Filter
Lube Oil Capacity (I)	16.4
Flywheel Dimensions	SAE3/11.5

# **Coolpac Performance Data**

Cooling System Design	Charged Air Cooled
Coolant Ratio	50% ethylene glycol; 50% water
Total Coolant Capacity (I)	21.4
Limiting Ambient Temp**	50 Degrees
Fan Power (kWm)	10
Cooling System Air Flow (m <sup>3</sup> /s)**	3.7 for 60Hz & 2.7 for 50Hz
Air Cleaner Type (heavy duty)	Dry replaceable element with restriction indicator

<sup>\*\* @ 13</sup> mm H<sub>2</sub>0

# **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.

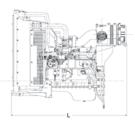
### Base Load (Continuous) Power (COP):

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, DIN6271 and BS 5514.

# **Weight and Dimensions**

	Length	Width	Height	Weight (dry)
	mm	mm	mm	kg
CoolPac	1723	896	1380	718
CoolPac	1/23	896	1380	/18





# Fuel Consumption 1500 (50 Hz)

%	kWm	BHP	L/ph	US gal/ph							
Standby Power											
100	145	195	37.05	9.89							
Prime Power											
100	135	180	35.16	9.46							
75	101	165	26.58	7.14							
50	68	91	17.92	4.80							
25	34	46	9.43	2.50							
Continuous	Continuous Power										
100	135	180	35.16	9.46							

# Fuel Consumption 1800 (60 Hz)

%	kWm	BHP	L/ph	US gal/ph							
Standby Power											
100	160	215 41.14		10.86							
Prime Power											
100	150	205	36.46	10.42							
75	113	152	31.47	8.31							
50	75	101	20.71	5.46							
25	38	51	11.71	3.09							
Continuous	Power										
100	145	195	36.59	9.66							

#### **Cummins G-Drive Engines**

Asia Pacific 10 Toh Guan Road #07-01 TT International Tradepark Singapore 608838 Phone 65 6417 2388 Fax 65 6417 2399 Europe, CIS, Middle East and Africa Manston Park Columbus Ave Manston Ramsgate Kent CT12 5BF. UK Phone 44 1843 255000 Fax 44 1843 255902

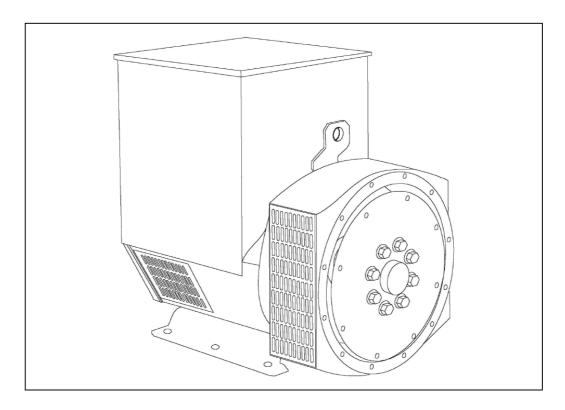
Latin America Rua Jati, 310, Cumbica Guarulhos, SP 07180-900 Brazil Phone 55 11 2186 4552 Fax 55 11 2186 4729 Mexico Cummins S. de R.L. de C.V. Eje 122 No. 200 Zona Industrial San Luis Potosí, S.L.P. 78090 Mexico Phone 52 444 870 6700 Fax 52 444 870 6811 North America 1400 73rd Avenue N.E. Minneapolis, MN 55432 USA Phone 1 763 574 5000 USA Toll-free 1 877 769 7669 Fax 1 763 574 5298

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# UCI274E - Technical Data Sheet



## **SPECIFICATIONS & OPTIONS**



#### **STANDARDS**

Newage Stamford industrial generators meet the requirements of BS EN 60034 and the relevant section of other international standards such as BS5000, VDE 0530, NEMA MG1-32, IEC34, CSA C22.2-100, AS1359. Other standards and certifications can be considered on request.

#### **VOLTAGE REGULATORS**

### **SX460 AVR - STANDARD**

With this self excited control system the main stator supplies power via the Automatic Voltage Regulator (AVR) to the exciter stator. The high efficiency semiconductors of the AVR ensure positive build-up from initial low levels of residual voltage.

The exciter rotor output is fed to the main rotor through a three phase full wave bridge rectifier. This rectifier is protected by a surge suppressor against surges caused, for example, by short circuit.

#### SX440 AVR

With this self-excited system the main stator provides power via the AVR to the exciter stator. The high efficiency semi-conductors of the AVR ensure positive build-up from initial low levels of residual voltage.

The exciter rotor output is fed to the main rotor through a three-phase full-wave bridge rectifier. The rectifier is protected by a surge suppressor against surges caused, for example, by short circuit or out-of-phase paralleling.

The SX440 will support a range of electronic accessories, including a 'droop' Current Transformer (CT) to permit parallel operation with other ac generators.

If 3-phase sensing is required with the self-excited system, the SX421 AVR must be used.

## SX421AVR

This AVR also operates in a self-excited system. It combines all the features of the SX440 with, additionally, three-phase rms sensing for improved regulation and performance. Over voltage protection is provided via a separate circuit breaker. An engine relief load acceptance feature is built in as standard.

#### MX341 AVR

This sophisticated AVR is incorporated into the Stamford Permanent Magnet Generator (PMG) control system.

The PMG provides power via the AVR to the main exciter, giving a source of constant excitation power independent of generator output. The main exciter output is then fed to the main rotor, through a full wave bridge, protected by a surge suppressor. The AVR has in-built protection against sustained over-excitation, caused by internal or external faults. This de-excites the machine after a minimum of 5 seconds.

An engine relief load acceptance feature can enable full load to be applied to the generator in a single step.

If three-phase sensing is required with the PMG system the MX321 AVR must be used.

We recommend three-phase sensing for applications with greatly unbalanced or highly non-linear loads.

#### MX321 AVR

The most sophisticated of all our AVRs combines all the features of the MX341 with, additionally, three-phase rms sensing, for improved regulation and performance. Over voltage protection is built-in and short circuit current level adjustments is an optional facility.

### **WINDINGS & ELECTRICAL PERFORMANCE**

All generator stators are wound to 2/3 pitch. This eliminates triplen (3rd, 9th, 15th ...) harmonics on the voltage waveform and is found to be the optimum design for trouble-free supply of non-linear loads. The 2/3 pitch design avoids excessive neutral currents sometimes seen with higher winding pitches, when in parallel with the mains. A fully connected damper winding reduces oscillations during paralleling. This winding, with the 2/3 pitch and carefully selected pole and tooth designs, ensures very low waveform distortion.

#### **TERMINALS & TERMINAL BOX**

Standard generators are 3-phase reconnectable with 12 ends brought out to the terminals, which are mounted on a cover at the non-drive end of the generator. A sheet steel terminal box contains the AVR and provides ample space for the customers' wiring and gland arrangements. It has removable panels for easy access.

#### **SHAFT & KEYS**

All generator rotors are dynamically balanced to better than BS6861:Part 1 Grade 2.5 for minimum vibration in operation. Two bearing generators are balanced with a half key.

#### INSULATION/IMPREGNATION

The insulation system is class 'H'.

All wound components are impregnated with materials and processes designed specifically to provide the high build required for static windings and the high mechanical strength required for rotating components.

### **QUALITY ASSURANCE**

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

The stated voltage regulation may not be maintained in the presence of certain radio transmitted signals. Any change in performance will fall within the limits of Criteria 'B' of EN 61000-6-2:2001. At no time will the steady-state voltage regulation exceed 2%.

NB Continuous development of our products entitles us to change specification details without notice, therefore they must not be regarded as binding.

Front cover drawing typical of product range.



# **WINDING 311**

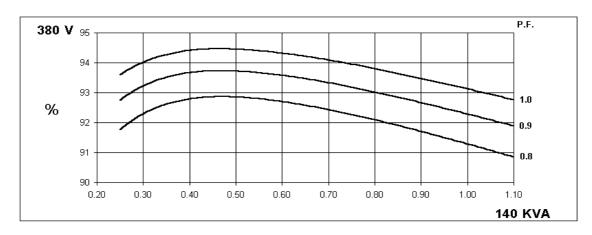
CONTROL OVOTEN	05545475	\	D\(\)								
CONTROL SYSTEM	SEPARATELY EXCITED BY P.M.G.										
A.V.R.	MX321	MX341									
VOLTAGE REGULATION	± 0.5 %	± 1.0 %	With 4% EN	GINE GOVER	RNING						
SUSTAINED SHORT CIRCUIT	REFER TO S	SHORT CIRC	CUIT DECRE	MENT CURVE	ES (page 7)						
CONTROL SYSTEM	SELF EXCIT	ED									
A.V.R.	SX460	SX460 SX440 SX421									
VOLTAGE REGULATION	± 1.5 %	± 1.0 %	± 0.5 %	With 4% EN	GINE GOVEF	RNING					
SUSTAINED SHORT CIRCUIT		ONTROL DO	ES NOT SUS	TAIN A SHO	RT CIRCUIT	CURRENT					
INSULATION SYSTEM		CLASS H									
PROTECTION				IP2	23						
RATED POWER FACTOR				0.							
			DO		CONCENTR						
STATOR WINDING			DO			KIC .					
WINDING PITCH				TWO T							
WINDING LEADS				1:	2						
STATOR WDG. RESISTANCE		0.0317	Ohms PER P	HASE AT 22	°C SERIES S	STAR CONNE	ECTED				
ROTOR WDG. RESISTANCE				1.34 Ohm:	s at 22°C						
R.F.I. SUPPRESSION	BS EN	N 61000-6-2	& BS EN 610	00-6-4,VDE 0	875G, VDE 0	875N. refer to	factory for o	thers			
WAVEFORM DISTORTION		NO LOAD	< 1.5% NON-	DISTORTING	3 BALANCED	LINEAR LO	AD < 5.0%				
MAXIMUM OVERSPEED				2250 R	ev/Min						
BEARING DRIVE END				BALL 6315	-2RS (ISO)						
BEARING NON-DRIVE END	BALL. 6315-2RS (ISO)  BALL. 6310-2RS (ISO)										
BEARING NON-DRIVE END		1 DE	ARING	DALL. 0310	21(3 (130)	2 BEA	DING				
WEIGHT COMP. GENERATOR			2 kg		511 kg						
WEIGHT WOUND STATOR			0 kg		180 kg						
WEIGHT WOUND ROTOR	<del> </del>		51 kg		156.55 kg						
WR <sup>2</sup> INERTIA			1 kgm <sup>2</sup>		1.2765 kgm <sup>2</sup>						
SHIPPING WEIGHTS in a crate			5 kg		539 kg						
PACKING CRATE SIZE		105 x 67	x 103(cm)		123 x 67 x 103(cm)						
		50	Hz		60 Hz						
TELEPHONE INTERFERENCE		THE	<2%		TIF<50						
COOLING AIR			ec 1090 cfm			0.617 m³/se					
VOLTAGE SERIES STAR	380/220	400/231	415/240	440/254	416/240	440/254	460/266	480/277			
VOLTAGE PARALLEL STAR	190/110	200/115	208/120	220/127	208/120	220/127	230/133	240/138			
VOLTAGE SERIES DELTA	220/110	230/115	240/120	254/127	240/120	254/127	266/133	277/138			
kVA BASE RATING FOR REACTANCE VALUES	140	140	140	n/a	160	167.5	167.5	178.8			
Xd DIR. AXIS SYNCHRONOUS	2.34	2.11	1.96	-	2.68	2.51	2.29	2.25			
X'd DIR. AXIS TRANSIENT	0.21	0.19	0.18	-	0.25	0.23	0.21	0.21			
X"d DIR. AXIS SUBTRANSIENT	0.14	0.13	0.12	-	0.17	0.16	0.15	0.14			
Xq QUAD. AXIS REACTANCE	1.53	1.38	1.28	-	1.74	1.63	1.49	1.46			
X"q QUAD. AXIS SUBTRANSIENT	0.18	0.16	0.15	-	0.22	0.21	0.19	0.18			
XL LEAKAGE REACTANCE	0.08	0.08	0.07	-	0.09	0.08	0.08	0.08			
X2 NEGATIVE SEQUENCE	0.16	0.14	0.13	-	0.19	0.18	0.16	0.16			
X <sub>0</sub> ZERO SEQUENCE	0.10 0.09 0.08 - 0.11 0.10 0.09						0.09	0.09			
REACTANCES ARE SATURAT	ED	\	ALUES ARE			ND VOLTAGE	INDICATED				
T'd TRANSIENT TIME CONST.				0.03							
T''d SUB-TRANSTIME CONST.	<u> </u>			0.0							
T'do O.C. FIELD TIME CONST.  Ta ARMATURE TIME CONST.	<del> </del>			0.8							
SHORT CIRCUIT RATIO	<del>                                     </del>										
OHORT OIROUT RATIO	1/Xd										

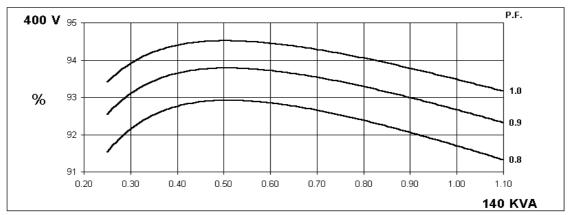
50 Hz

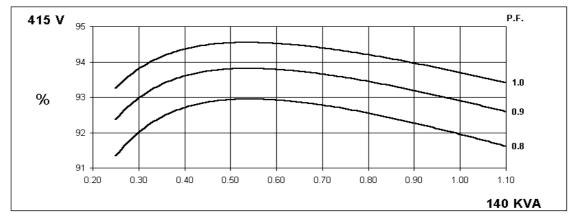
# UCI274E Winding 311

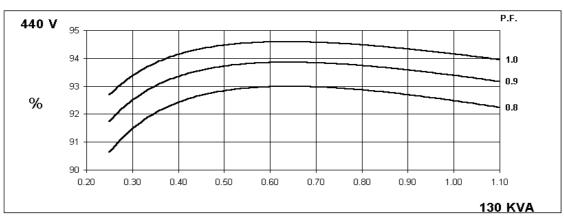


# THREE PHASE EFFICIENCY CURVES







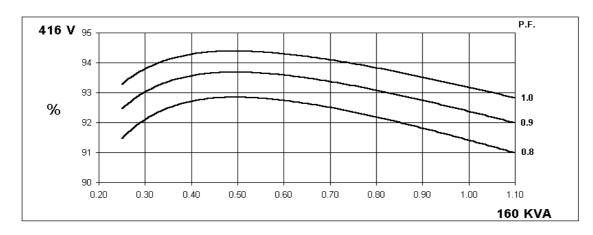


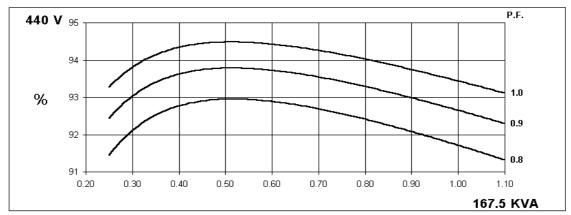


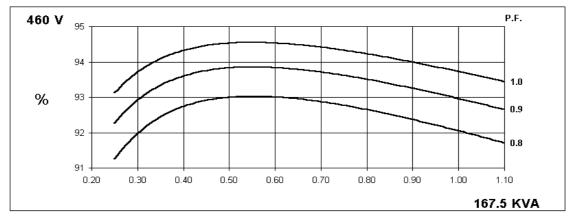
# Winding 311

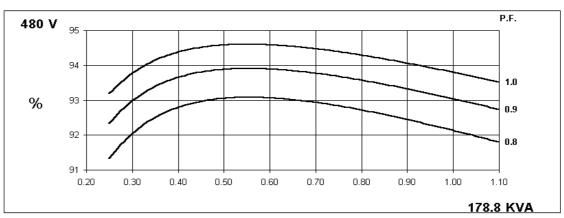
# 60 Hz

# THREE PHASE EFFICIENCY CURVES





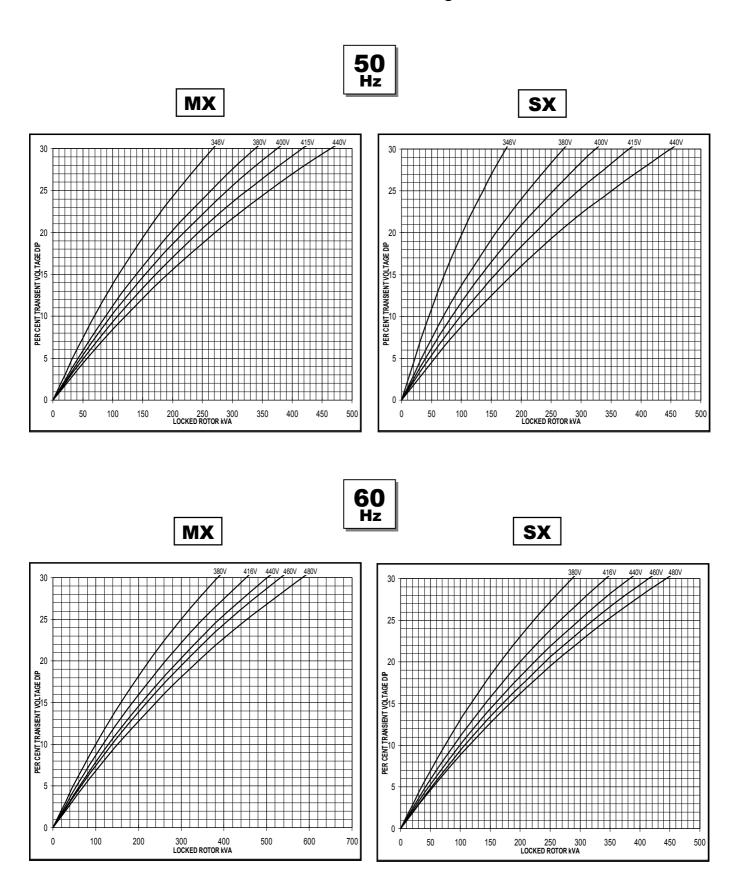




# UCI274E Winding 311



# **Locked Rotor Motor Starting Curve**

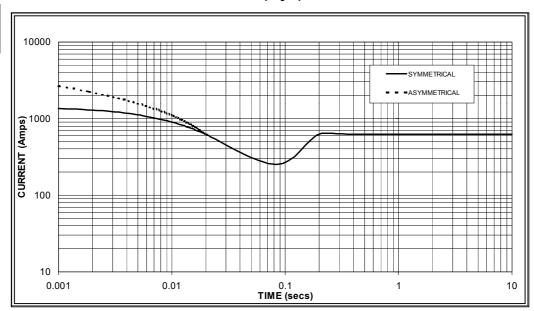




# **UCI274D**

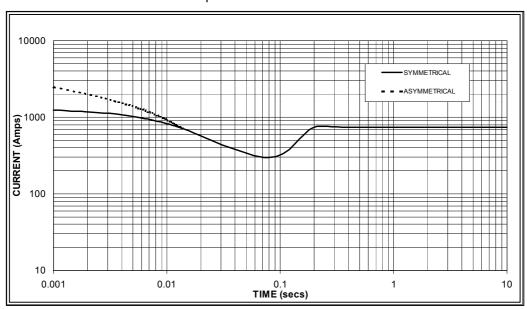
# Three-phase Short Circuit Decrement Curve. No-load Excitation at Rated Speed Based on star (wye) connection.

50 Hz



Sustained Short Circuit = 630 Amps

60 Hz



# Sustained Short Circuit = 740 Amps

### Note 1

The following multiplication factors should be used to adjust the values from curve between time 0.001 seconds and the minimum current point in respect of nominal operating voltage :

50	Hz	60Hz					
Voltage	Factor	Voltage	Factor				
380v	X 1.00	416v	X 1.00				
400v	X 1.07	440v	X 1.06				
415v	X 1.12	460v	X 1.12				
440v	X 1.18	480v	X 1.17				

The sustained current value is constant irrespective of voltage level

#### Note 2

The following multiplication factor should be used to convert the values calculated in accordance with NOTE 1 to those applicable to the various types of short circuit:

3-phase	2-phase L-L	1-phase L-N
x 1.00	x 0.87	x 1.30
x 1.00	x 1.80	x 3.20
x 1.00	x 1.50	x 2.50
10 sec.	5 sec.	2 sec.
	x 1.00 x 1.00 x 1.00	x 1.00 x 0.87 x 1.00 x 1.80 x 1.00 x 1.50

All other times are unchanged

#### Note 3

Curves are drawn for Star (Wye) connected machines. For other connection the following multipliers should be applied to current values as shown:

Parallel Star = Curve current value X 2

Series Delta = Curve current value X 1.732

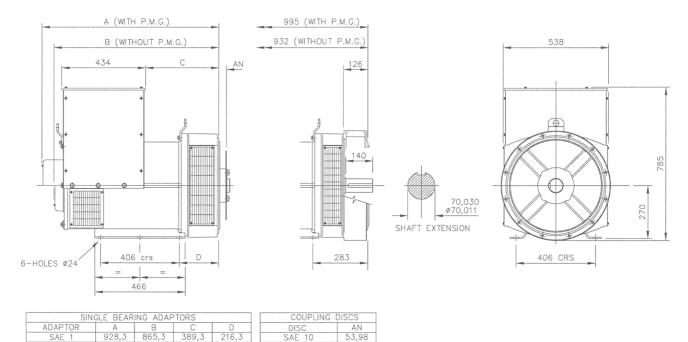


# Winding 311 / 0.8 Power Factor

# **RATINGS**

	Class - Temp Rise	Co	ont. F -	105/40°	C.	Co	ont. H -	125/40	°C	Sta	andby -	150/40	°C	Sta	andby -	163/27	°C
50	Series 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
Hz	Series Delta (V)	220	230	240	254	220	230	240	254	220	230	240	254	220	230	240	254
	kVA	125.0	125.0	125.0	n/a	140.0	140.0	140.0	n/a	145.0	145.0	145.0	n/a	150.0	150.0	150.0	n/a
	kW	100.0	100.0	100.0	n/a	112.0	112.0	112.0	n/a	116.0	116.0	116.0	n/a	120.0	120.0	120.0	n/a
	Efficiency (%)	91.7	92.1	92.3	n/a	91.3	91.7	92.0	n/a	91.1	91.6	91.8	n/a	91.0	91.4	91.7	n/a
	kW Input	109.1	108.6	108.3	n/a	122.7	122.1	121.7	n/a	127.3	126.6	126.4	n/a	131.9	131.3	130.9	n/a
60	Series Star (V)	416	440	460	480	416	440	460	480	416	440	460	480	416	440	460	480
Hz	Parallel Star (V)	208	220	230	240	208	220	230	240	208	220	230	240	208	220	230	240
	Series Delta (V)	240	254	266	277	240	254	266	277	240	254	266	277	240	254	266	277
	kVA	140.0	143.8	143.8	160.0	160.0	167.5	167.5	178.8	170.0	175.0	175.0	187.5	175.0	181.3	181.3	193.8
	kW	112.0	115.0	115.0	128.0	128.0	134.0	134.0	143.0	136.0	140.0	140.0	150.0	140.0	145.0	145.0	155.0
	Efficiency (%)	91.9	92.2	92.5	92.5	91.4	91.7	92.1	92.1	91.2	91.5	91.9	92.0	91.0	91.4	91.8	91.9
	kW Input	121.9	124.8	124.4	138.4	140.0	146.1	145.5	155.3	149.1	153.0	152.3	163.0	153.8	158.7	158.0	168.7

# **DIMENSIONS**





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# DSE**7310/20**

# **AUTO START & AUTO MAINS FAILURE CONTROL MODULES**

#### **FEATURES**



The DSE7310 is an Auto Start Control Module and the DSE7320 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 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 and dual mutual standby (DSE7310 only) to reduce engine wear.

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 @ +/-7.5 mm, 8 Hz to 500 Hz @ 2 gn

#### HUMIDITY

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

#### SHOCK

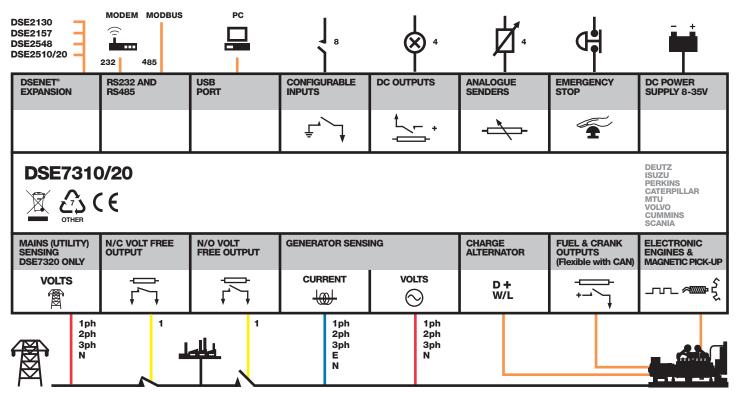
BS EN 60068-2-27 Three shocks in each of three major axes 15 gn in 11 mS

# 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



















# DSE**7310/20**

# **AUTO START & AUTO MAINS FAILURE CONTROL MODULES**

## **FEATURES**



#### DSE**7310**



#### **KEY FEATURES**

- 4-Line back-lit LCD text display
- Five key menu navigation
- Front panel editing with PIN protection
- Customisable status screens
- Power save mode
- Support for up to three remote display units
- 9 configurable inputs
- 8 configurable outputs
- Flexible sender inputs
- Configurable timers and alarms
- 3 configurable maintenance
- Multiple date and time scheduler
- Configurable event log (250)
- Tier 4 CAN engine support
- Integral PLC editor
- Easy access diagnostic page
- CAN and Magnetic Pick-up/Alt. sensing
- Fuel usage monitor and low fuel alarms
- Charge alternator failure alarm
- Manual speed control (on compatible CAN engines)
- Manual fuel pump control
- Engine exerciser
- "Protections disabled" feature
- kW & kV Ar protection

#### DSE**7320**



- Reverse power (kW & kV Ar) protection
- LED and LCD alarm indication
- Power monitoring (kW h, kV Ar, kV A h. kV Ar h)
- Load switching (load shedding and dummy load outputs)
- Automatic load transfer (DSE7320)
- Unbalanced load protection
- Independent Earth Fault trip
- True dual mutual standby with load balancing timer (DSE7310 only)
- USB connectivity
- Backed up real time clock
- Fully configurable via DSE Configuration Suite PC software
- Configurable display languages
- Remote SCADA monitoring via DSE Configuration Suite PC
- User selectable RS232 and RS485 communications
- Configurable Gencomm pages
- Advanced SMS messaging (additional external modem required)
- Start & stop capability via SMS messaging
- Additional display screens to help with modem diagnostics
- Idle control for starting & stopping.
- DSENet® expansion compatible

# **KEY BENEFITS**

- 132 x 64 pixel ratio display for clarity
- Real-time clock provides accurate event logging
- Multiple date and time scheduler
- Set maintenance periods can be configured to maintain optimum engine performance
- Ethernet communications (via DSE860/865 modules), provides advanced remote monitoring at low cost
- Modules can be integrated into building management systems (BMS)
- Increased input and output expansion capability via DSENet®
- Licence-free PC software
- IP65 rating (with supplied gasket) offers increased resistance to water ingress
- PLC editor allows user configurable functions to meet specific application requirements

#### SPECIFICATION

CONTINUOUS VOLTAGE RATING

8 V to 35 V Continuous

#### **CRANKING DROPOUTS**

Able to survive 0 V for 50 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

340 mA at 12 V. 160 mA at 24 V

MAXIMUM STANDBY CURRENT 160 mA at 12 V 80 mA at 24 V

**CHARGE FAIL/EXCITATION RANGE** 

0 V to 35 V

MAINS (UTILITY) DSE7320 ONLY **VOLTAGE RANGE** 

15 V - 333 V AC (L-N)

FREQUENCY RANGE

3.5 Hz to 75 Hz

#### **OUTPUTS**

**OUTPUT A (FUEL)** 

15 A DC at supply voltage

**OUTPUT B (START)** 15 A DC at supply voltage

**OUTPUTS C & D** 

8 A 250 V (Volt free)

**AUXILIARY OUTPUTS E.F.G.H** 

2 A DC at supply voltage

# **GENERATOR**

**VOLTAGE RANGE** 15 V - 333 V AC (L-N)

FREQUENCY RANGE 3.5 Hz to 75 Hz

MAGNETIC PICK UP VOLTAGE RANGE

+/- 0.5 V to 70 V

FREQUENCY RANGE

10.000 Hz (max)

**DIMENSIONS** OVERALL

240 mm x 181 mm x 42 mm 9.4" x 7.1" x 1.6"

PANEL CUT-OUT

220 mm x 160 mm 8.7" x 6.3"

MAXIMUM PANEL THICKNESS 8 mm

## **RELATED MATERIALS**

# TITLE

**DSE7310 Installation Instructions** DSE7320 Installation Instructions DSE7200/7300 Quick Start Guide DSE7200/7300 Operator Manual DSE7200/7300 Configuration Suite PC Manual

# **PART NO'S**

053-028 053-029 057-101 057-074 057-077

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