



UNIVPOWER

GENERATOR SET

UGY200KS



K3 MACHINE.CO.,LTD
บริษัท เค3 แมชชีน จำกัด



@k3machine



www.k3machine.co.th



Sales@k3machine.com



082-392-8994

UNIV DIESEL POWER SOLUTIONS

Uninterrupted Energy for Industrial Excellence

Executive Summary

Univ Diesel Power Solutions is a leading provider for Industrial Energy, offering starting generator quality and ensuring uninterrupted solutions that rely on the innovation of cultivating qualitative generation energy.



OPERATIONAL EXCELLENCE: 1. Superior Performance

- Robust design for heavy loads
- Ensures continuous smooth output
- Maximizes uptime



RESOURCE OPTIMIZATION: 2. Fuel Efficiency

- Advanced combustion technology
- Lowers Operational Costs (OPEX)
- Sustainable & cost-effective



ASSET RELIABILITY: 3. Durability & Longevity

- High-quality material construction
- Minimal maintenance
- Extends asset lifecycle & ROI



LIFECYCLE PARTNERSHIP: 4. Expert Support

- Dedicated technician team
- Proactive after-sales service
- Zero-downtime commitment



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Technical Data

Model		UGY200KS
Frequency	50Hz	
Rated speed	r/min	1500
Rated power factor (lagging)		0.8
Rated prime power	KVA	200
Rated standby power	KVA	220
Rated voltage line to line	V	400
Rated current	A	288.7
Maximum sound power level	dB(A)	75
Fuel consumption at 75%	L/H	34
Fuel consumption at 100%	L/H	45
Fuel tank capacity	L	285

Engine-Cummins

Model		6CTAA8.3-G2
Rated net power prime	kW	183
Rated net power standby	kW	203
Cooling way		Water
Number of cylinders		6
Arrangement		In-line
Bore	mm	114
Stroke	mm	135
Compression ratio		18.0:1
Displacement	L	8.3
Oil capacity	L	23.8(Min)
Charging alternator	V	24
Start motor	V	24

Alternator-Stamford

Model		UCI274H
Voltage	V	400
Frequency	Hz	50
Prime Capacity	kva	200
Prime Power	kw	160
Phase no.		3
Power factor		0.8
Voltage regulation	%	±1
Protection grade		IP23
Insulation grade		Class H

Dimension

Length*width*height	mm	3500*1130*1700
Net weight	kg	2550
Gross weight	kg	2600



Controller-Deepeer DSE7320

Standard function

Engine control	Generator monitoring
Generator protection	Specification display

Display

Frequency	Battery voltage
Running hour	

Warning/shutdown

Under/over voltage	Under/over speed
Under/over frequency	Low oil pressure
High/low battery voltage	High water temperature

Communication modules

RS232, RS485, S-USB

This generator does comply with EU requirements related to working environment, regulations concerning safety as well with the outdoor noise directive 2000/14/EC.

ENGINE DATASHEET

Dongfeng Cummins Techical Operations



ENGINE MODEL: 6CTAA8.3-G2
CURVE & DATASHEET: FR93271

REV 00 26OCT2012



Generator Engine Performance Data

DONGFENG CUMMINS ENGINE Co.,LTD

Xiangfan, Hubei Province, China
<http://www.dcec.com.cn>

Basic Engine Model:

6CTAA8.3-G2

FR93271

FR93271 @ 1500 RPM &1800RPM

Configuration

D413058GX03

CPL Code

CPL: 1783

Revision

2012/10/26

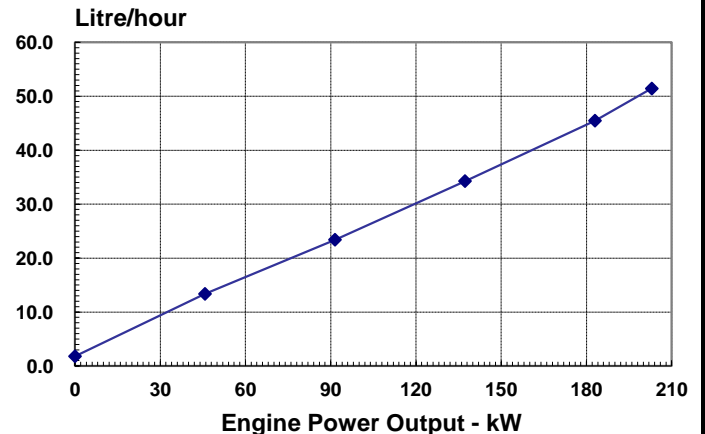
Compression Ratio:	18.0:1	Aspiration:	Turbocharged and Charge Air Cooled
Bore:	114 mm	Displacement:	8.3 L
Stroke:	135 mm	No. of Cylinders:	6
Emission Certification:	MEP STAGE I	Fuel System:	BYC P7100/Electronic Governor
Governor Regulation:	≤3%		

All data is based on the engine operating with fuel system, water pump, and 15.2 in H₂O (3.7 kPa) inlet air restriction with 5.98 in (152mm) inner diameter, and with 3 in Hg (10 kPa) exhaust restriction with 4.02 in (102 mm) inner diameter; not included are alternator, fan, optional equipment and driven components. Coolant flows and heat rejection data based on coolants as 50% ethylene glycol/50% water. All data is subject to change without notice.

Engine Speed	Standby Power		Prime Power		Continuous Power	
	kW	HP	kW	HP	kW	HP
RPM						
1500	203	272	183	245	149	200
1800	210	281	190	255	TBD	TBD

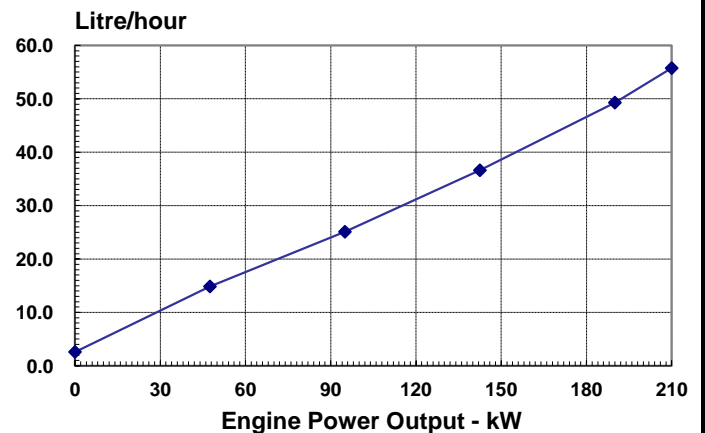
Engine Performance Data @ 1500 RPM

OUTPUT POWER			FUEL CONSUMPTION	
%	kW	HP	g/kW.h	L/h
STANDBY POWER				
100	203	272	209	51
PRIME POWER				
100	183	245	205	45
75	137	184	206	34
50	92	123	211	23
25	46	61	241	13
CONTINUOUS POWER				
100	149	241	205	37



Engine Performance Data @ 1800 RPM

OUTPUT POWER			FUEL CONSUMPTION	
%	kW	HP	g/kW.h	L/h
STANDBY POWER				
100	210	281	219	56
PRIME POWER				
100	190	255	214	49
75	143	191	212	37
50	95	127	218	25
25	48	64	258	15
CONTINUOUS POWER				
TBD	TBD	TBD	TBD	TBD



Curves shown above represent gross engine performance capabilities obtained and corrected in accordance with GB/T18297 conditions of 100kPa (29.61 in. Hg) barometric pressure, 25°C (77°F) inlet air temperature, and 1 kPa (0.30 in. Hg) water vapor pressure with No.0 diesel fuel. The engine may be operated without changing the fuel setting up to 2200 m (7218ft.) altitude.

GENERAL ENGINE DATA

Approximate Engine Weight (wet).....	-kg	684
Mass Moment of Inertia of Rotating Components (No Flywheel).....	-kg·m ²	0.37
Center of Gravity from Rear Face of Block.....	-mm	541
Center of Gravity above Crankshaft Centerline.....	-mm	163
Engine Idle Speed.....	-RPM	700-900
Fire Order.....		1-5-3-6-2-4

ENGINE MOUNTING

Maximum (Static) Bending Moment at Rear Face of Block.....	-N.m	1356
--	------	------

EXHAUST SYSTEM

Maximum Back Pressure.....	-kPa	10.1
----------------------------	------	------

AIR INTAKE SYSTEM

Maximum Intake Air Restriction with Heavy Duty Air Cleaner		
— Dirty Element.....	-kPa	6.2
— Clean Element.....	-kPa	3.7

CHARGE AIR COOLING SYSTEM

Maximum Temp. Rise Between Engine Air Intake and Intake Manifold	-°C	25
Maximum Air Pressure Drop from Turbo Air outlet to Intake Manifold		
— 1500RPM.....	-kPa	13
— 1800RPM.....	-kPa	13
Maximum Intake Manifold Temperature Differential (Ambient to IMT) (IMTD).....	-°C	50
Maximum Intake Manifold Temperature for engine protection (Warning Threshold).....	-°C	58

LUBRICATION SYSTEM

Minimum Engine Oil Pressure for Engine Protection Devices:		
— Idle Speed.....	-kPa	103
— Governed Speed.....	-kPa	276-414
Maximum Oil Temperature.....	-°C	121
Minimum Required Lube System Capacity - Sump plus Filters.....	-litre	23.8

FUEL SYSTEM

Type Injection System.....		BYC P7100 Direct Injection
Maximum Restriction at Lift Pump.....	-kPa	20.3
Maximum Fuel Flow on the Supply Side of the Fuel Pump.....	-litre/hr	83
Maximum Fuel Inlet Temperature.....	-°C	70
Total Drain Flow (constant for all loads).....	-litre/hr	30

COOLING SYSTEM

Coolant Capacity - Engine Only.....	-litre	12.3
Maximum Coolant Friction Head External to Engine... -1800 rpm.....	-kPa	35
— -1500 rpm.....	-kPa	28
Maximum Static Head of Coolant Above Engine Crank Centerline.....	-m	18.3
Standard Thermostat (Modulating) Range.....	-°C	82 - 93
Minimum Pressure Cap.....	-kPa	103
Maximum Top Tank Temperature for Standby / Prime Power.....	-°C	110 / 104

ELECTRICAL SYSTEM

Cranking Motor (Heavy Duty, Positive Engagement).....	-volt	12V	24V
Battery Charging System, Negative Ground.....	-ampere	63	40
Maximum Allowable Resistance of Cranking Circuit.....	-ohm	0.00075	0.002
Minimum Recommended Battery Capacity			
—Cold Soak @ 0 to 32-F (-18 to 0-C).....	-0°F CCA	TBD	TBD

EMISSIONS

Gaseous Emissions per GB 20891-2007, at 1500rpm:

—Weight-Specific NOx.....	g/kW.h	9.2
—Weight-Specific HC.....	g/kW.h	1.3
—Weight-Specific CO.....	g/kW.h	5.0
—Weight-Specific Particulates.....	g/kW.h	0.5

Gaseous Emissions per GB 20891-2007, at 1800rpm:

—Weight-Specific NOx.....	g/kW.h	9.2
—Weight-Specific HC.....	g/kW.h	1.3
—Weight-Specific CO.....	g/kW.h	5.0
—Weight-Specific Particulates.....	g/kW.h	0.5

Fuel Rating Option used for these Data: **FR93271**

	STANDBY POWER		PRIME POWER		
	1800	1500	1800	1500	
Governed Engine Speed.....	-rpm	700 - 900	700 - 900	700 - 900	
Engine Idle Speed.....	-rpm	700 - 900	700 - 900	700 - 900	
Gross Engine Power Output.....	-kW	210	203	190	183
Piston Speed.....	-m/s	8.1	6.8	8.1	6.8
Friction Horsepower.....	-kW	22	17	22	17
Engine Water Flow to Engine:.....	-litre/sec.	4	3.3	4	3.3
Intake Air Flow.....	-litre/sec.	262	191	254	183
Exhaust Gas Flow.....	-litre/sec.	755	547	675	480
Exhaust Gas Temperature.....	-°C	585	580	520	510
Air to Fuel Ratio.....	-air:fuel	26.5 : 1	21.0 : 1	29.0 : 1	22.7 : 1
Radiated Heat to Ambient.....	-kW	33	26	29	24
Heat Rejection to Coolant.....	-kW	117	95	107	83
Heat Rejection to Fuel.....	-kW	180	139	157	123

ALL DATA CERTIFIED WITHIN 5%

TBD = To Be Decided

N/A = Not Applicable

N.A. = Not Available

All data is subject to change without notice, sorry for inform.

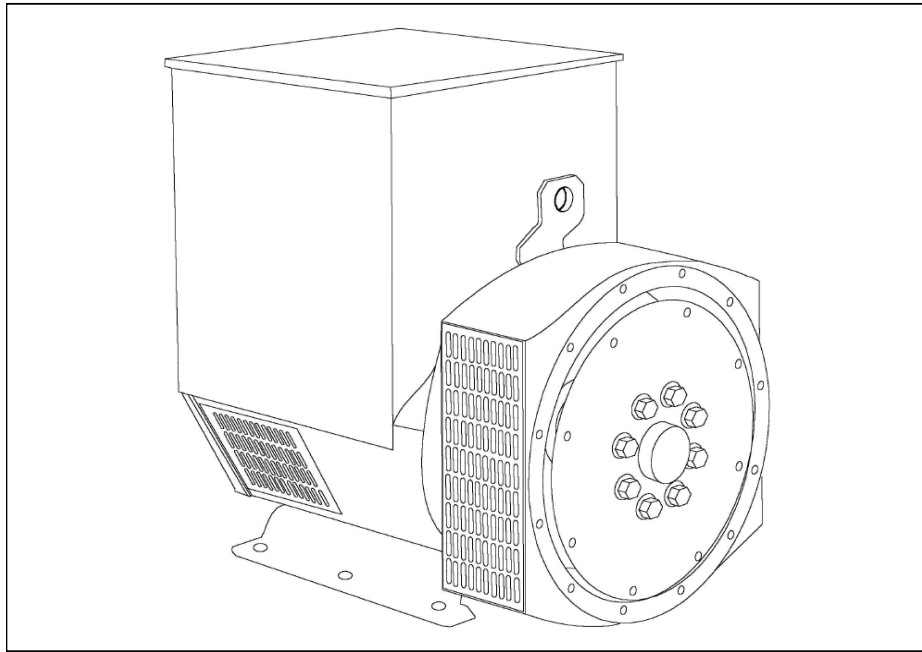
Dongfeng Cummins Engine Co., Ltd.

ALTERNATOR DATASHEET

STAMFORD[®]

UCI274H - Winding 311

Technical Data Sheet



UCI274H

SPECIFICATIONS & OPTIONS

STAMFORD

STANDARDS

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 - OBSOLETE

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.

AS440 AVR - STANDARD

With this self-excited system the main stator provides power via the 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. The rectifier is protected by a surge suppressor against surges caused, for example, by short circuit or out-of-phase paralleling. The AS440 will support a range of electronic accessories, including a 'droop' Current Transformer (CT) to permit parallel operation with other ac generators.

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%.

DE RATES

All values tabulated on page 8 are subject to the following reductions

5% when air inlet filters are fitted.
3% for every 500 metres by which the operating altitude exceeds 1000 metres above mean sea level.
3% for every 5°C by which the operational ambient temperature exceeds 40°C.

Note: Requirement for operating in an ambient exceeding 60°C must be referred to the factory.

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.

UCI274H



WINDING 311

CONTROL SYSTEM	SEPARATELY EXCITED BY P.M.G.							
A.V.R.	MX321	MX341						
VOLTAGE REGULATION	± 0.5 %	± 1.0 %	With 4% ENGINE GOVERNING					
SUSTAINED SHORT CIRCUIT	REFER TO SHORT CIRCUIT DECREMENT CURVES (page 7)							
CONTROL SYSTEM	SELF EXCITED							
A.V.R.	SX460	AS440						
VOLTAGE REGULATION	± 1.0 %	± 1.0 %	With 4% ENGINE GOVERNING					
SUSTAINED SHORT CIRCUIT	SERIES 4 CONTROL DOES NOT SUSTAIN A SHORT CIRCUIT CURRENT							
INSULATION SYSTEM	CLASS H							
PROTECTION	IP23							
RATED POWER FACTOR	0.8							
STATOR WINDING	DOUBLE LAYER CONCENTRIC							
WINDING PITCH	TWO THIRDS							
WINDING LEADS	12							
STATOR WDG. RESISTANCE	0.0155 Ohms PER PHASE AT 22°C SERIES STAR CONNECTED							
ROTOR WDG. RESISTANCE	1.82 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	626 kg				641 kg			
WEIGHT WOUND STATOR	253 kg				253 kg			
WEIGHT WOUND ROTOR	227.53 kg				216.57 kg			
WR ² INERTIA	1.9349 kgm ²				1.8843 kgm ²			
SHIPPING WEIGHTS in a crate	659 kg				673 kg			
PACKING CRATE SIZE	123 x 67 x 103 (cm)				123 x 67 x 103 (cm)			
	50 Hz				60 Hz			
TELEPHONE INTERFERENCE	THF<2%				TIF<50			
COOLING AIR	0.514 m ³ /sec 1090 cfm				0.617 m ³ /sec 1308 cfm			
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	200	200	200	N/A	237.5	245	245	255
X _d DIR. AXIS SYNCHRONOUS	2.11	1.91	1.77	-	2.50	2.31	2.11	2.02
X' _d DIR. AXIS TRANSIENT	0.18	0.16	0.15	-	0.21	0.19	0.18	0.17
X'' _d DIR. AXIS SUBTRANSIENT	0.12	0.11	0.10	-	0.14	0.13	0.12	0.11
X _q QUAD. AXIS REACTANCE	1.28	1.15	1.07	-	1.53	1.41	1.29	1.23
X'' _q QUAD. AXIS SUBTRANSIENT	0.17	0.15	0.14	-	0.20	0.18	0.17	0.16
X _L LEAKAGE REACTANCE	0.08	0.08	0.07	-	0.10	0.09	0.08	0.08
X ₂ NEGATIVE SEQUENCE	0.13	0.12	0.11	-	0.16	0.15	0.13	0.13
X ₀ ZERO SEQUENCE	0.08	0.08	0.07	-	0.10	0.09	0.08	0.08
REACTANCES ARE SATURATED				VALUES ARE PER UNIT AT RATING AND VOLTAGE INDICATED				
T' _d TRANSIENT TIME CONST.	0.042 s							
T'' _d SUB-TRANSTIME CONST.	0.012 s							
T' _{do} O.C. FIELD TIME CONST.	1.1 s							
T _a ARMATURE TIME CONST.	0.012 s							
SHORT CIRCUIT RATIO	1/X _d							

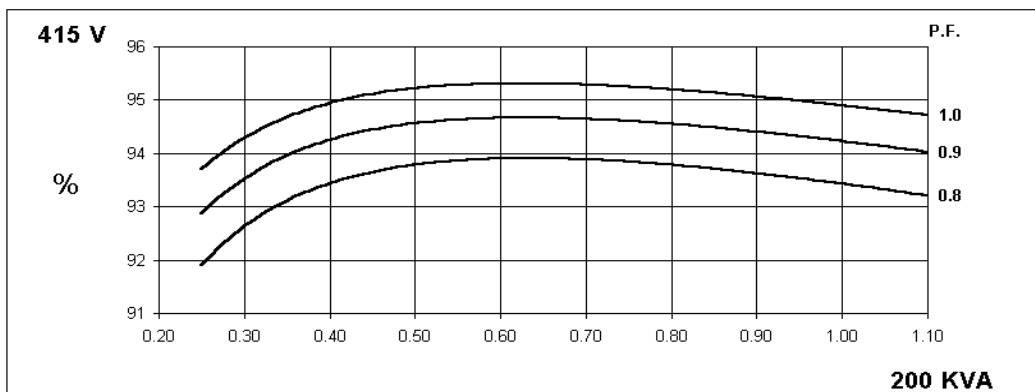
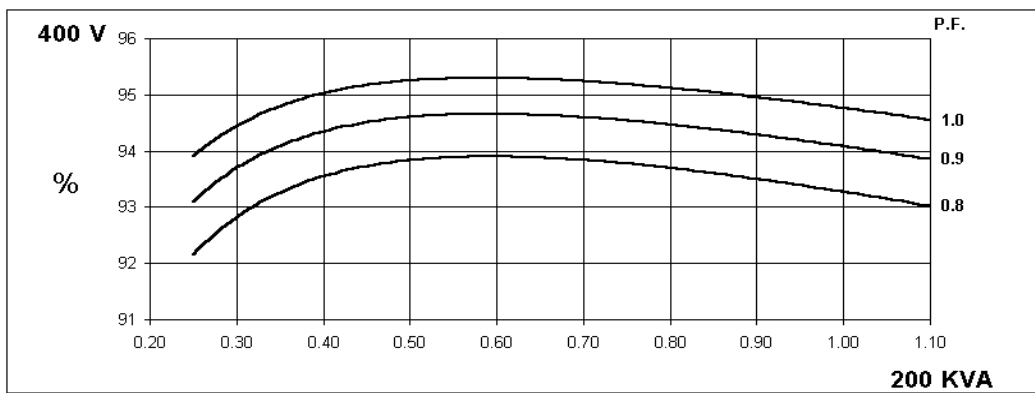
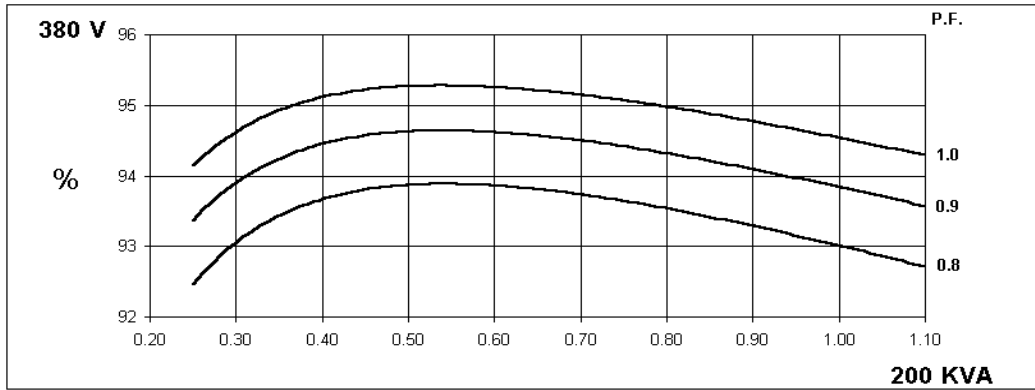
**50
Hz**

UCI274H

STAMFORD

Winding 311

THREE PHASE EFFICIENCY CURVES



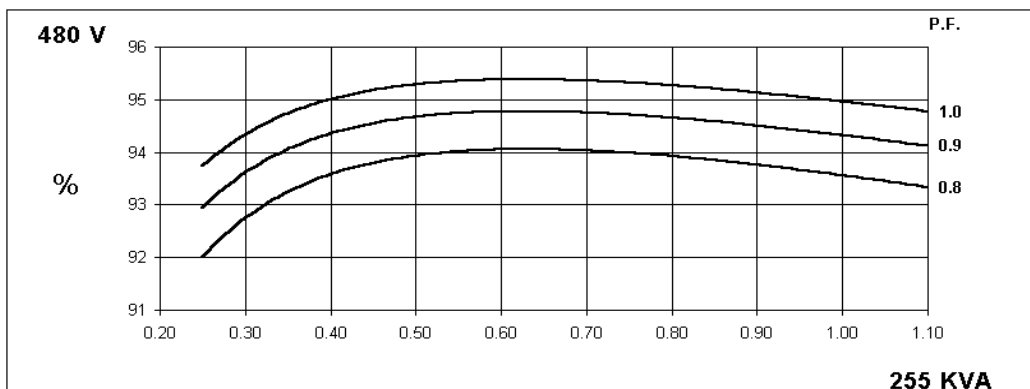
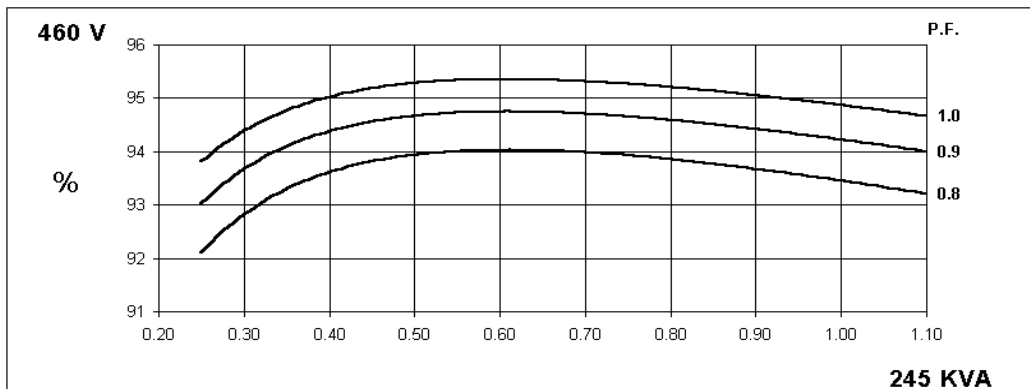
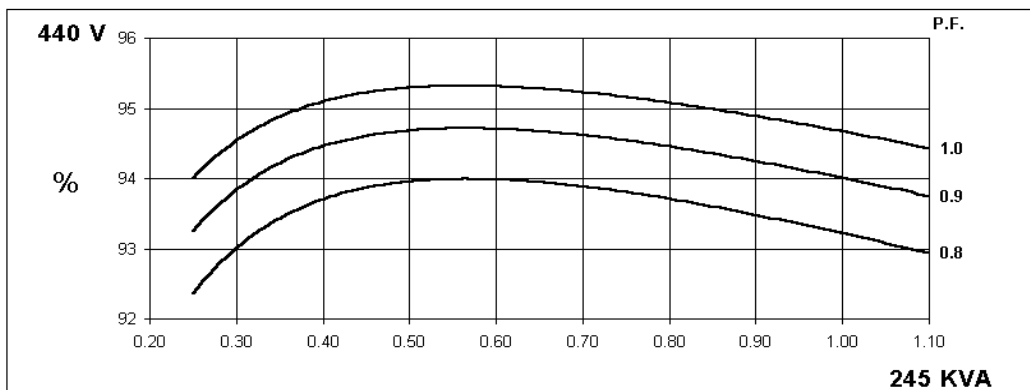
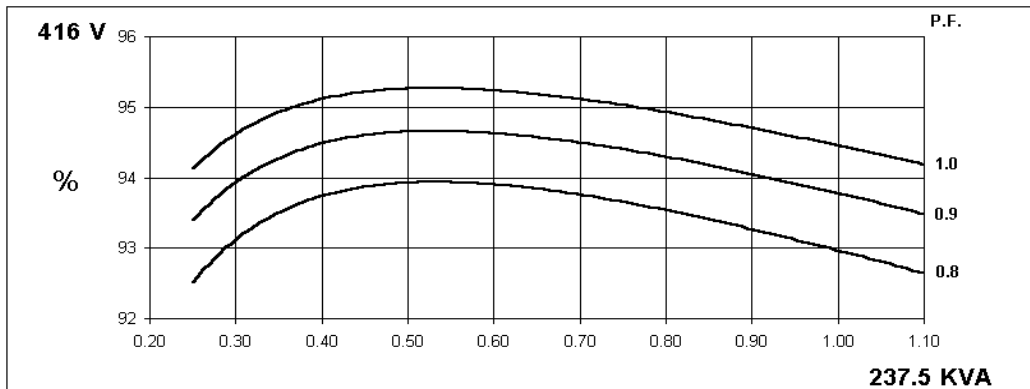
**60
Hz**

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STAMFORD

Winding 311

THREE PHASE EFFICIENCY CURVES



UCI274H
Winding 311

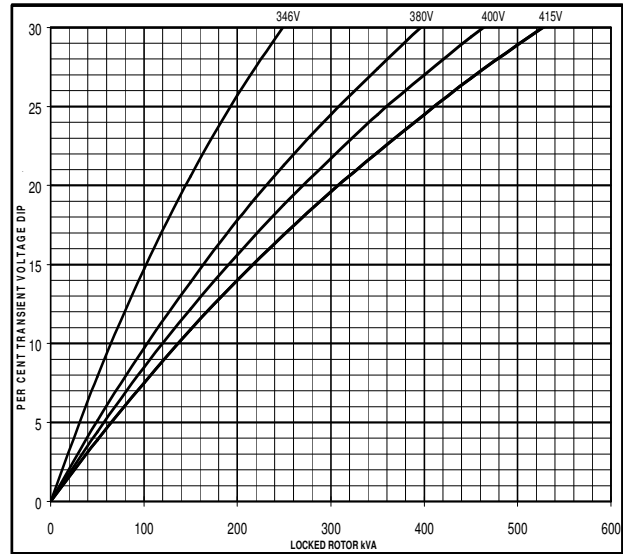
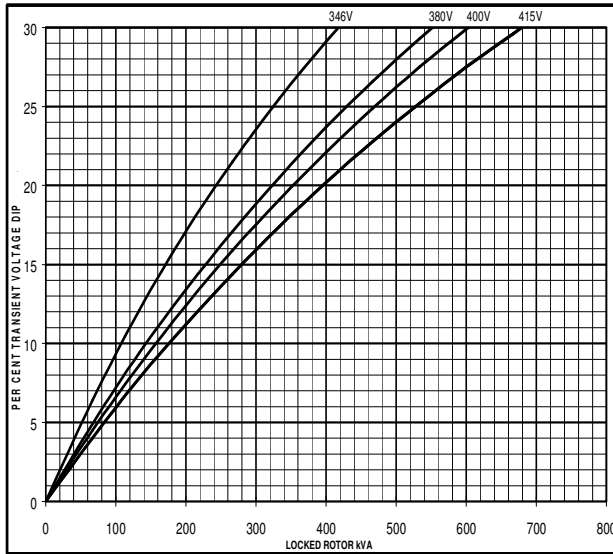
STAMFORD

Locked Rotor Motor Starting Curve

50
Hz

MX

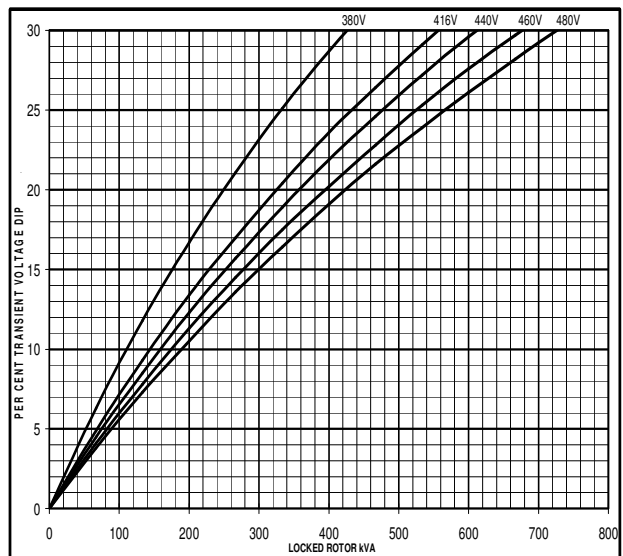
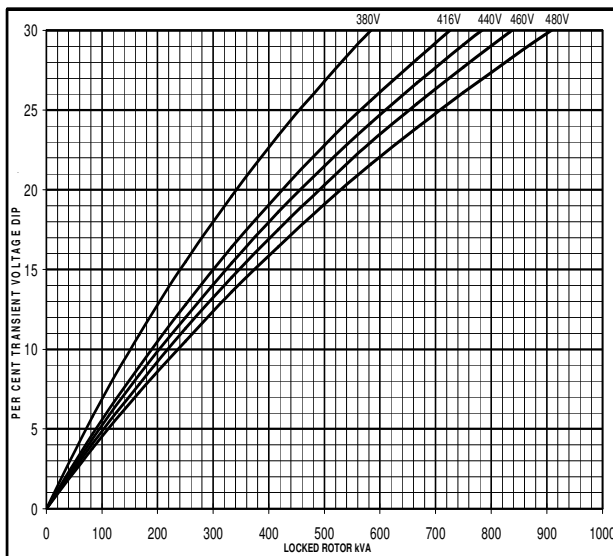
SX



60
Hz

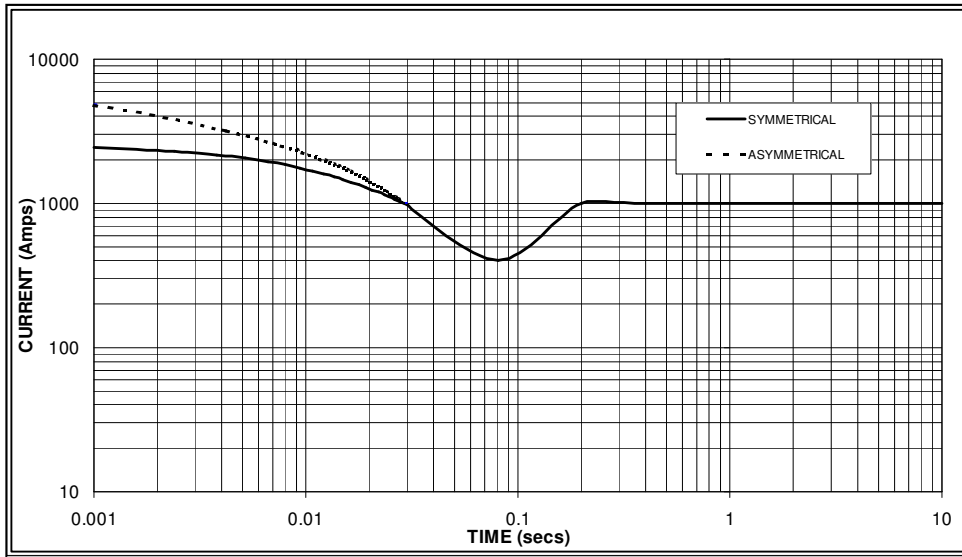
MX

SX



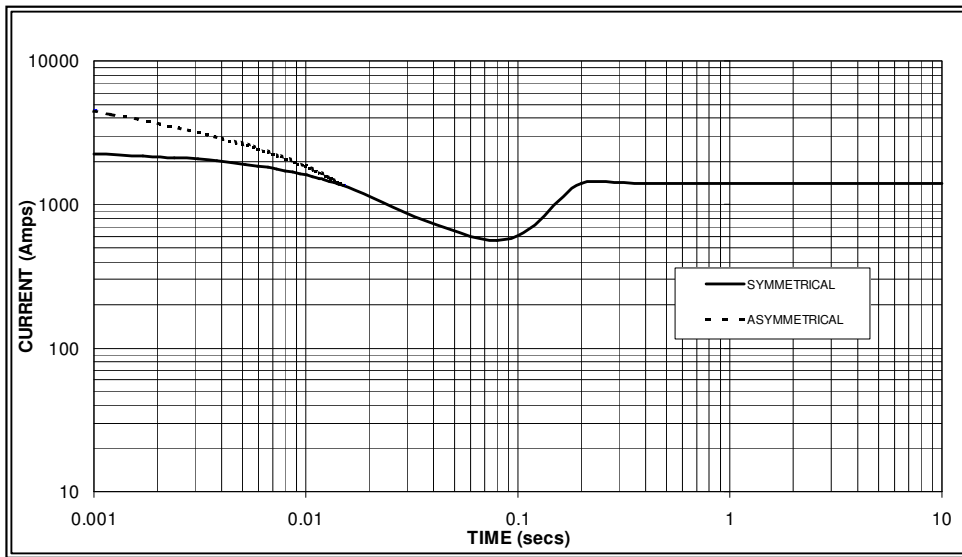
Three-phase Short Circuit Decrement Curve. No-load Excitation at Rated Speed
Based on star (wye) connection.

**50
Hz**



Sustained Short Circuit = 1,000 Amps

**60
Hz**



Sustained Short Circuit = 1,400 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 :

50Hz		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
		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
Instantaneous	x 1.00	x 0.87	x 1.30
Minimum	x 1.00	x 1.80	x 3.20
Sustained	x 1.00	x 1.50	x 2.50
Max. sustained duration	10 sec.	5 sec.	2 sec.

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 :

UCI274H



Winding 311 / 0.8 Power Factor

RATINGS

Class - Temp Rise		Cont. F - 105/40°C				Cont. H - 125/40°C				Standby - 150/40°C				Standby - 163/27°C			
50 Hz	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
	Series Delta (V)	220	230	240	254	220	230	240	254	220	230	240	254	220	230	240	254
	kVA	182.0	182.0	182.0	N/A	200.0	200.0	200.0	N/A	212.0	212.0	212.0	N/A	220.0	220.0	220.0	N/A
	kW	145.6	145.6	145.6	N/A	160.0	160.0	160.0	N/A	169.6	169.6	169.6	N/A	176.0	176.0	176.0	N/A
	Efficiency (%)	93.3	93.5	93.6	N/A	93.0	93.3	93.4	N/A	92.8	93.1	93.3	N/A	92.7	93.0	93.2	N/A
	kW Input	156.1	155.7	155.6	N/A	172.0	171.5	171.3	N/A	182.8	182.2	181.8	N/A	189.9	189.2	188.8	N/A

60 Hz	Series 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
	Series Delta (V)	240	254	266	277	240	254	266	277	240	254	266	277	240	254	266	277
	kVA	218.8	225.0	225.0	235.0	237.5	245.0	245.0	255.0	250.0	258.8	258.8	275.0	256.3	265.0	265.0	280.0
	kW	175.0	180.0	180.0	188.0	190.0	196.0	196.0	204.0	200.0	207.0	207.0	220.0	205.0	212.0	212.0	224.0
	Efficiency (%)	93.2	93.4	93.6	93.7	93.0	93.2	93.5	93.6	92.8	93.1	93.3	93.4	92.7	93.0	93.3	93.3
	kW Input	187.8	192.7	192.3	200.6	204.3	210.3	209.6	217.9	215.5	222.4	221.9	235.5	221.2	228.0	227.2	240.1

DIMENSIONS

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/>)

STAMFORD

www.stamford-avk.com

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CONTROLLER DATASHEET

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 upto 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	PART NO.
DSE7310 MKII & DSE7320 MKII Installation Instructions	053-181
DSE7310 MKII & DSE7320 MKII Operator Manual	057-253
DSE7310 MKII & DSE7320 MKII Configuration Suite PC Manual	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

