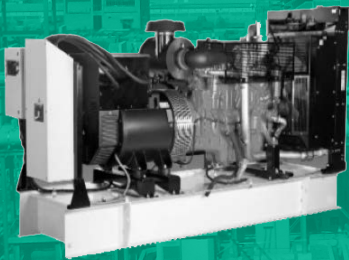


Model B⁺

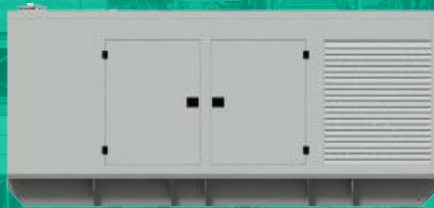
50Hz/60Hz switchable

560kW @ 50Hz 400V

560kW @ 60Hz 480V



Open



Canopy



Container

Model B⁺

Prime				Standby	
Genset model		Model B ⁺		Model B ⁺	
380 V	50Hz	700.0 kVA	560.0 kW	770.0 kVA	616.0 kW
400 V	50Hz	700.0 kVA	560.0 kW	770.0 kVA	616.0 kW
415 V	50Hz	700.0 kVA	560.0 kW	770.0 kVA	616.0 kW
Genset model		Model B ⁺		Model B ⁺	
380 V	60Hz	700.0 kVA	560.0 kW	770.0 kVA	616.0 kW
480 V	60Hz	700.0 kVA	560.0 kW	770.0 kVA	616.0 kW

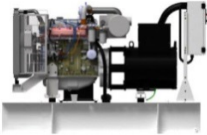
Ratings at 0.8pf

Prime: This rating is for the supply of continuous electrical power (at variable load) in lieu of commercially purchased power. There is no limitation on the annual hours of operation and 10% overload power can be supplied for one hour in twelve hours.

Standby: This rating is for the supply of continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted.

Engine	Scania	DC16-078A	DC13-078A
Number of cylinders		8 V	8 V
Cubic capacity	litre (cu inch)	16.4 (1000.79)	16.4 (1000.79)
Aspiration		Turbocharged	Turbocharged
Alternator		Newage Stamford	MeccAlte UK
Frequency	Hz	50	60
Engine speed	rpm	1500	1800
Fuel consumption at full rating: Prime	litre /h (USgal /h)	139.50 (36.86)	146.60 (38.73)
Standby	litre /h (USgal /h)	156.80 (41.43)	161.60 (42.69)
Heat rejection to exhaust system (max)	kW (BTU /min)	480.00 (27319.20)	480.00 (27319.20)
Heat rejection to cooling system (max)	kW (BTU /min)	229.00 (13033.54)	279.00 (15879.29)
Total radiated heat (max)	kW (BTU /min)	63.00 (3585.65)	65.00 (3699.48)
Exhaust temperature (max)	deg C (deg F)	578.00 (1072.40)	557.00 (1034.60)
Radiator cooling air flow	cu m /min (cfm)	837.10 (29562.19)	863.80 (30505.10)
with max Restriction	mm (inch) H ₂ O	20.00 (0.79)	20.00 (0.79)
Combustion air flow (max)	cu m /min (cfm)	34.80 (1228.96)	36.50 (1289.00)
Exhaust gas flow (max)	cu m /min (cfm)	112.60 (3976.47)	117.00 (4131.86)
with max allowable back pressure	mm (inch) H ₂ O	1000.00 (39.37)	1000.00 (39.37)

Note: Standard reference conditions: 25deg C (77deg F) air inlet temperature, 152.4m (500feet) above sea level, 60% relative humidity. All engine performance data based on the above mentioned maximum continuous ratings. Fuel consumption data at full load for diesel fuel with specific gravity of 0.85 and conforming to BS2869: 1998, class A2.

Model	Dimensions: mm (inch)	Weight: (kg)	Fuel tank: (L)
 Open	Length 3869 (152.3) Width 1316 (51.8) Height 2212 (87.1)	4150	940
 Canopy	Length 5400 (212.6) Width 1750 (68.9) Height 2100 (82.7)	6050	1020
 Container	Length 6060 (238.6) Width 2440 (90.1) Height 2590 (102.0)	7000	1200

Note: Above weights for Open/Canopy/Container are estimated figures, excluding fuel and options.

In line with our policy of continuous development, we reserve the right to change specification without notice.

Specification should be confirmed prior to purchase.

We have made every effort to provide accurate information. However we are not responsible for errors or omissions.



Technical data

DC16 078A, 620-680 kW / 700-770 kVA (engine ref. 02-43)

Emission compliance	Fuel injection system
Fuel optimized	XPI

	1500 rpm (50 Hz)		1800 rpm (60 Hz)		Unit
	PRP	ESP	PRP	ESP	
Gross power	621	680	620	680	kW
	700	770	702	772	kVA
Gross torque	3953	4329	3289	3608	Nm
Spec. fuel consumption					
full load	191	196	201	202	g/kWh
3/4 load	189	191	197	198	g/kWh
1/2 load	189	188	198	197	g/kWh
Heat rejection					
to coolant	192	229	231	279	kW
to exhaust gas	414	480	451	480	kW
to charge air	121	128	113	121	kW
to surrounding air	56	63	59	65	kW
Air consumption	43	44	45	47	kg/min
Air temperature					
before charge air cooler	214	223	196	202	°C
after charge air cooler	48	51	49	49	°C
Pressure in intake manifold	2.6	2.7	2.2	2.3	Bar
Fall of pressure, charge air cooler	0.1	0.2	0.2	0.2	Bar
Exhaust flow	45	46	47	49	kg/min
Exhaust temperature	524	578	541	557	°C
Step load performance					
(According to class G2. See section 2 for more information.)	61	56	84	78	%
	381	380	520	533	kW

6A

Cooling performance

Cooling package 1.5 m², fan Ø965, ratio 1500 rpm: 1:1.1, ratio 1800 rpm: 1:0.9

1500 rpm (50 Hz)						1800 rpm (60 Hz)					
PRP			ESP			PRP			ESP		
Air-on temp* (°C)	Airflow (kg/s)	Rest-riction (Pa)	Air-on temp* (°C)	Airflow (kg/s)	Rest-riction (Pa)	Air-on temp* (°C)	Airflow (kg/s)	Rest-riction (Pa)	Air-on temp* (°C)	Airflow (kg/s)	Rest-riction (Pa)
64	16	260	61	16	260	59	16	260	55	16	260
66	18	150	63	18	150	62	19	150	59	19	150
68	20	100	65	20	100	68	20	100	63	20	100

* Based on engine coolant temperature 110°C

Fan power losses (kW)

25	23
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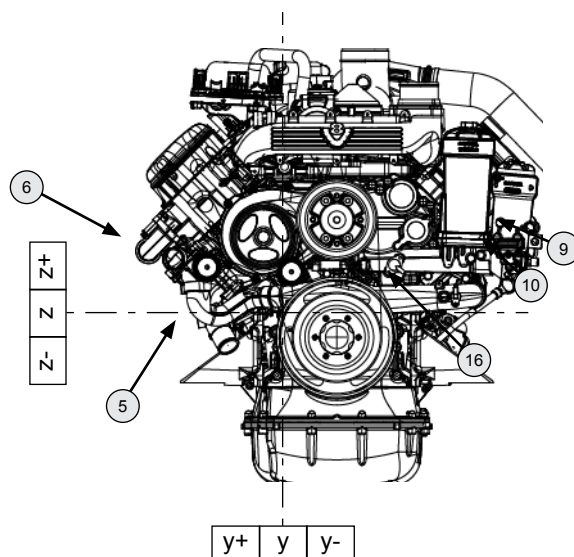
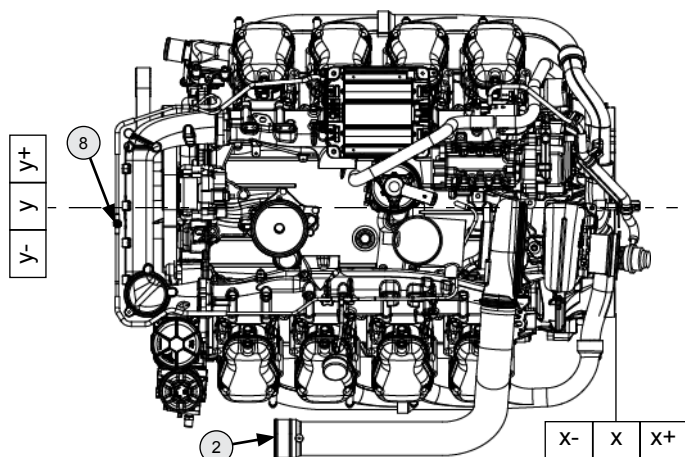
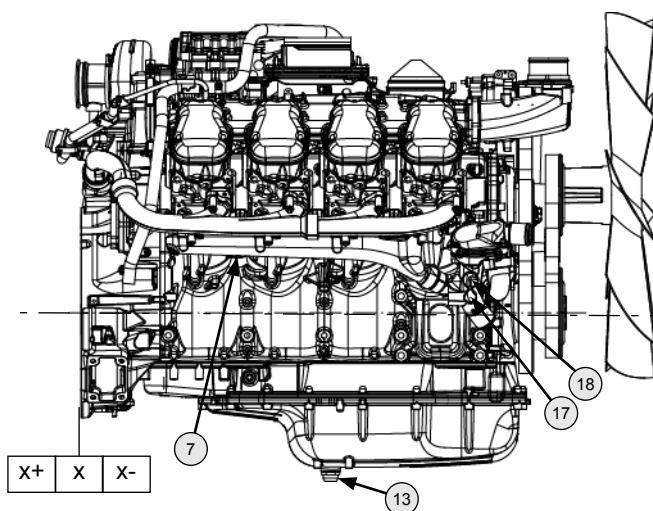
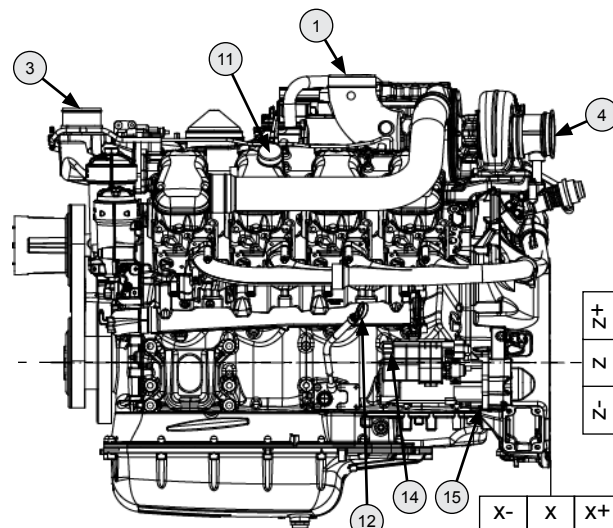


Basic dimensions

The basic dimensions are indicated with coordinates. The coordinate system is three dimensional and consists of three planes at straight angles to each other; x, y and z. The dimensions are indicated in mm from crankshaft centre.

DC16 072/078A

1 Air intake (Ø 125 mm)		1	x	-522
			y	-75
			z	+760
2 Connection to charge air cooler Prepared for cooling package - option.				
	DC16 072A:	2	x	-900
			y	-599
			z	+447
	DC16 078A:	2	x	-896
			y	-599
			z	+447
3 Connection from charge air cooler		3	x	-1236
			y	+217
			z	+673
4 Exhaust outlet	DC16 072A:	4	x	+2
			y	-114
			z	+604
	DC16 078A:	4	x	-40
			y	-103
			z	+604
5 Coolant inlet (Ø 57 mm)		5	x	-1072
			y	+288
			z	-21
6 Coolant outlet (Ø 57 mm)		6	x	-1187
7 Coolant drain			y	+433
8 Coolant bleed pipe			z	+207
9 Fuel inlet (Ø 16 mm)		9	x	-1049
			y	-568
			z	+238
10 Fuel return (Ø 12 mm)		10	x	-1118
			y	-532
			z	+198
11 Oil filler		11	x	-738
12 Oil dipstick			y	-423
			z	+558
13 Oil drain plug		13	x	-660
			y	-70
			z	-445
14 Battery connection + (M10)				
15 Battery connection - (M10)				
16 To cab heater (M18 x 1.5)				
17 From cab heater (M18 x 1.5)				
18 Static line (Ø 32 mm)				



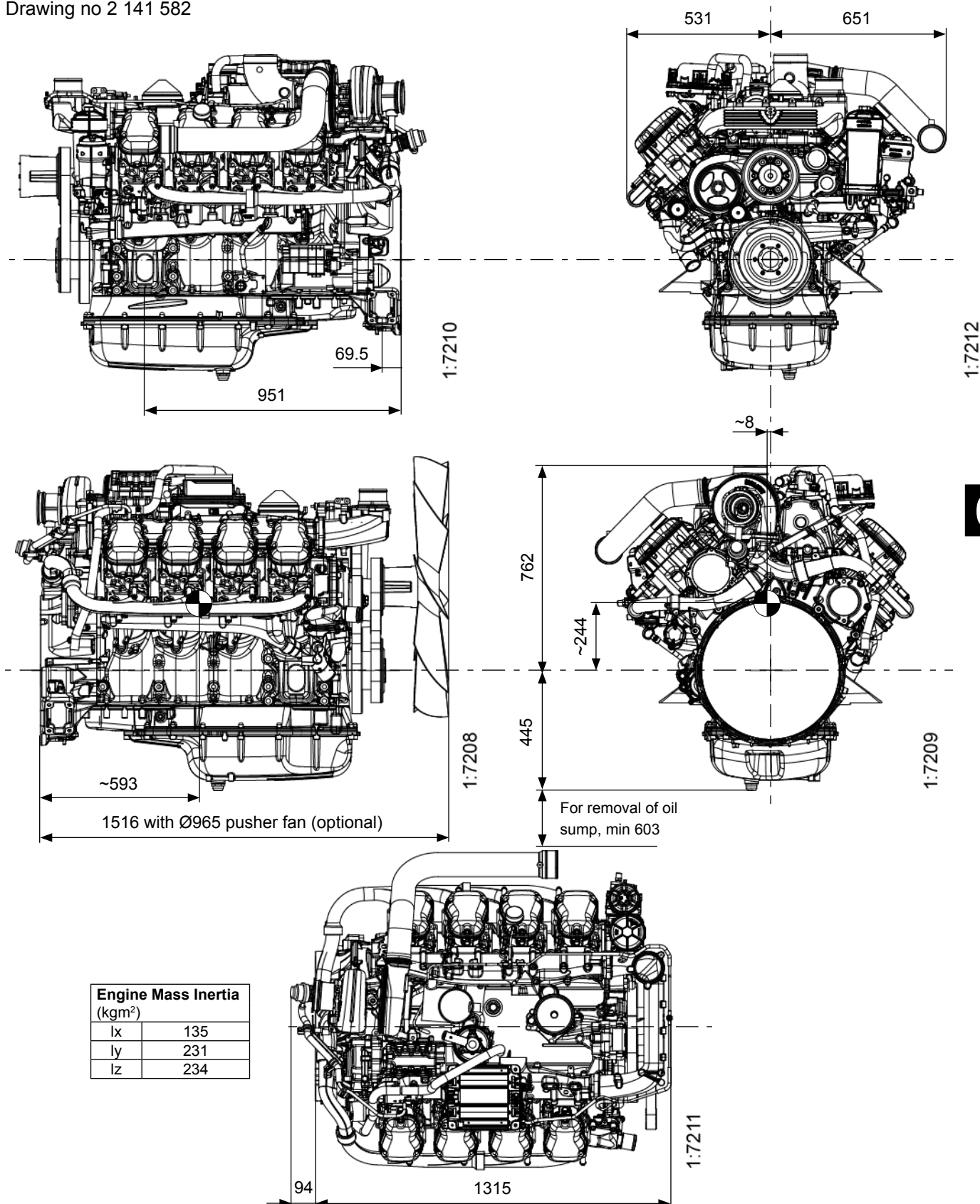


Dimensional drawings

All sketches are only intended as general sales information and must not be used for any installation purposes. The values for centre of gravity applies for engines with standard equipment including coolant. All dimensions are indicated in mm.

DC16 072/078A

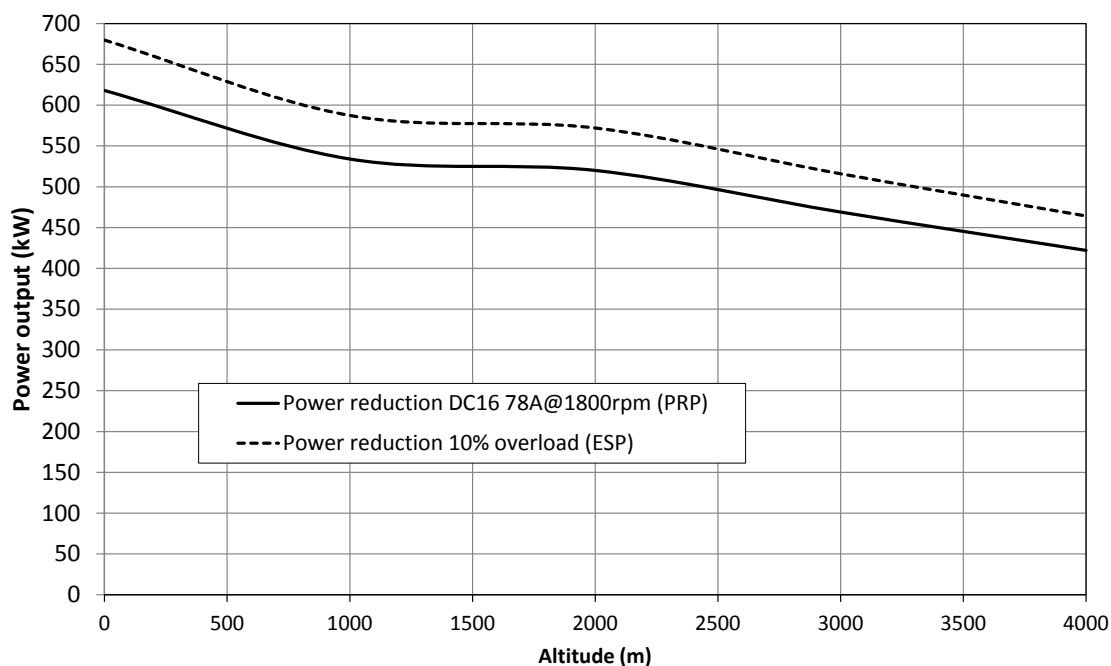
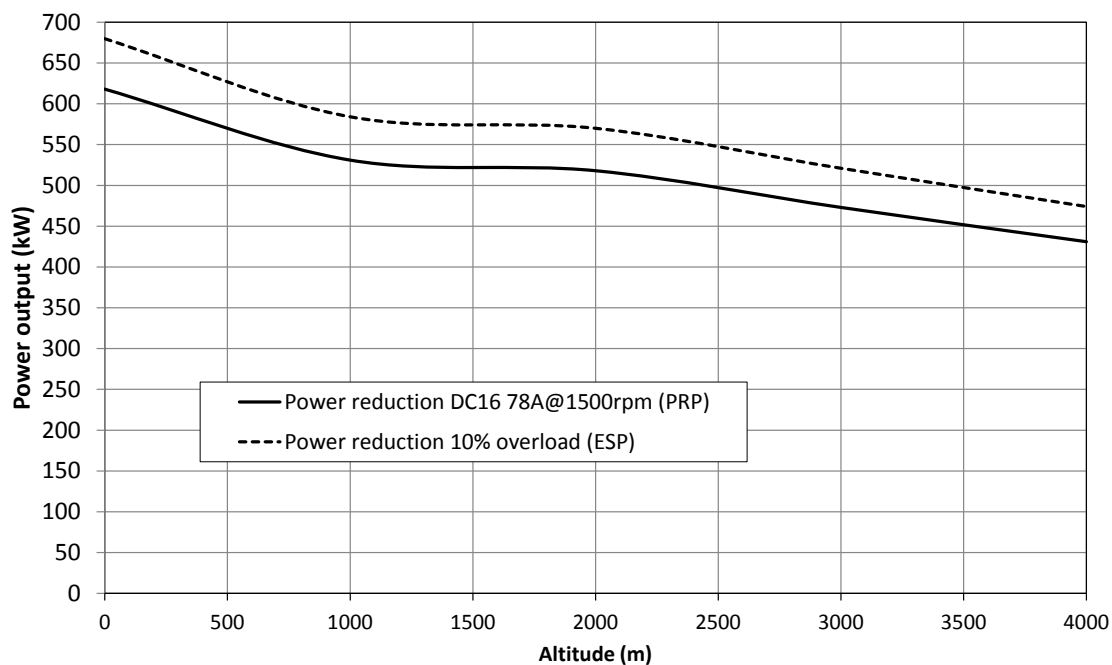
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6A



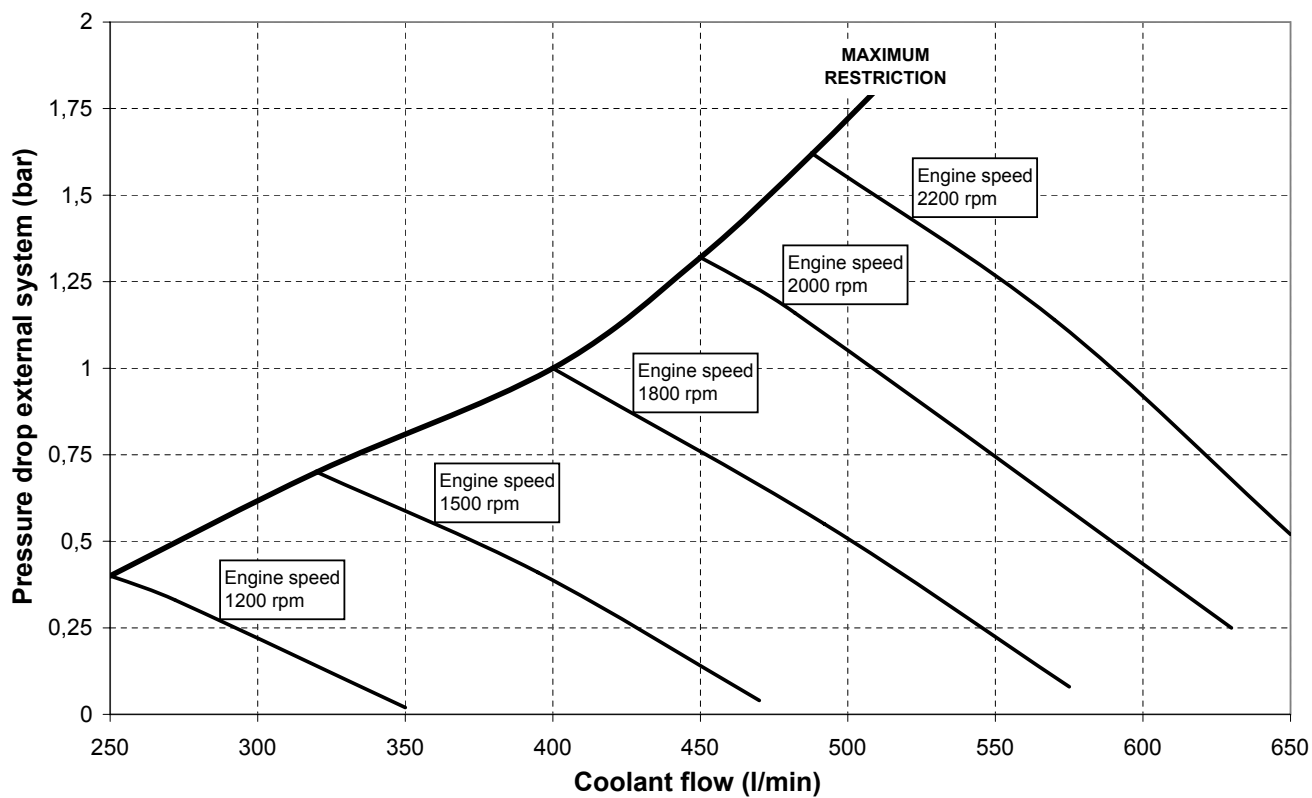
DC16 078A





Coolant flow

The coolant flow depends on the pressure drop in the external system according to the graph below.
Valid for all DC16.



6A



Exhaust noise

The table below presents unsilenced exhaust noise measured 1 m after the turbocharger at maximum power. Most important overall frequency range for exhaust noise is 50-500 Hz. Noise at higher frequencies is generally not induced by the engine gas pulsations but by the exhaust system itself, for example turbulent and whistle noise.

Engine size	Power (kW)	Engine speed (rpm)	Sound level (dB(A))	1/3 octave band (Hz)
D16	405	1500	116	100 + 200
		1800	119	125 + 250
	478-515	1500	118	100 + 200
		1800	121	125 + 250

Engine sound power level

The engine sound power level measurements are performed according to ISO 3744 with 10 microphones placed in a hemispherical pattern with the engine in the centre. There has been one exception concerning the radius of the hemisphere and that is that it has been limited by the dimensions of the test cell to 2 m, which is less than what is recommended in ISO 3744.

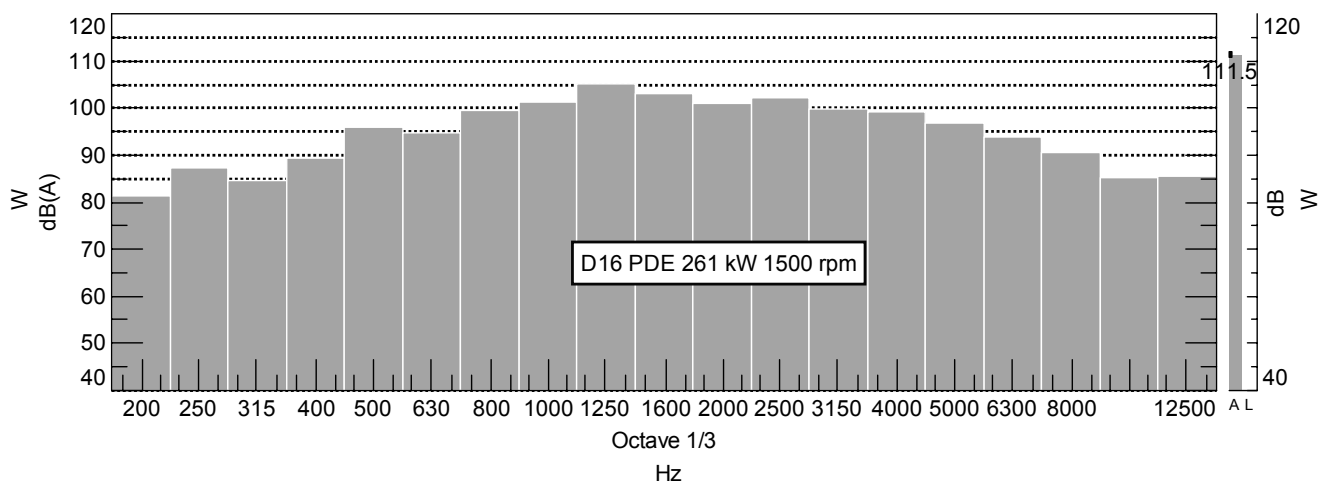
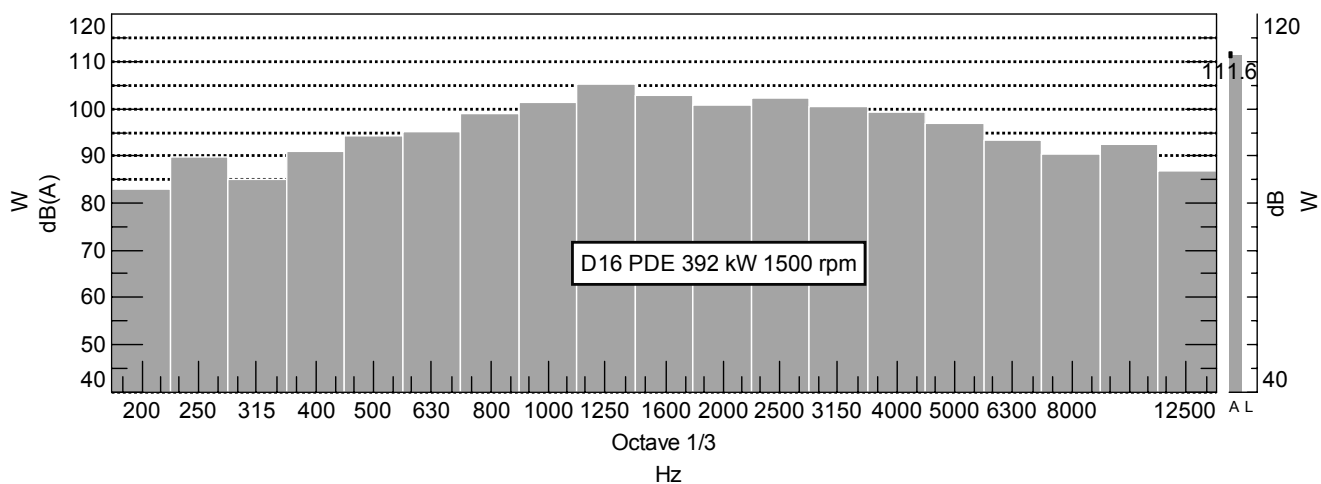
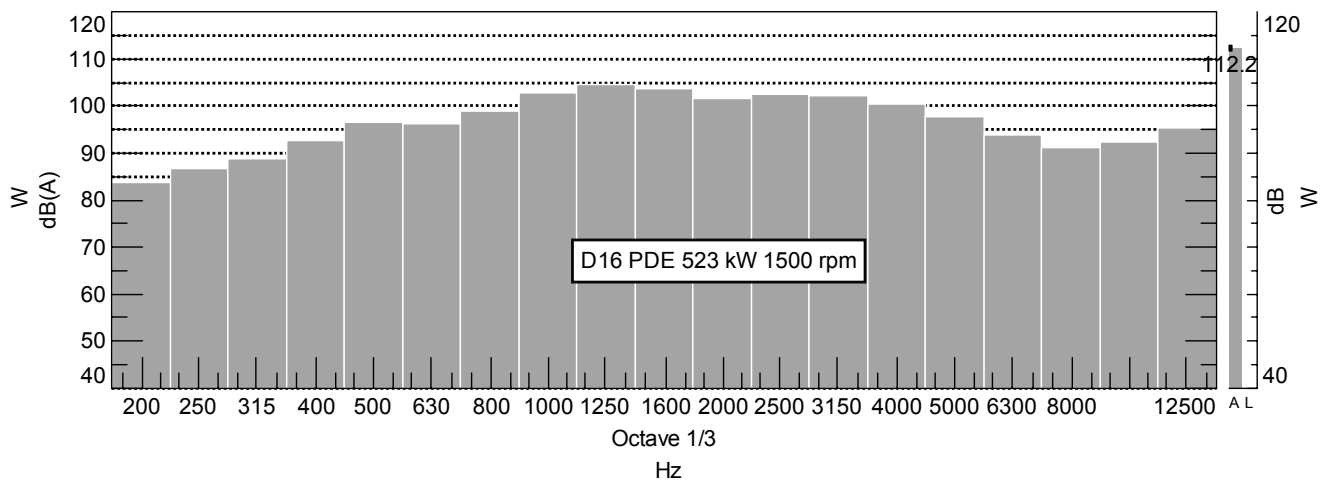
The sound power level measurements are made with the following test parameters:

Frequency range: 0-16384 Hz
Frequency resolution: 1 Hz
Engine speed: 1500 rpm and 1800 rpm

The results of the sound power level measurements are presented on the following pages in several 1/3 octave band charts in dB(A). The bar furthest to the right in every chart shows the total level of all 1/3 octave band in dB(A).



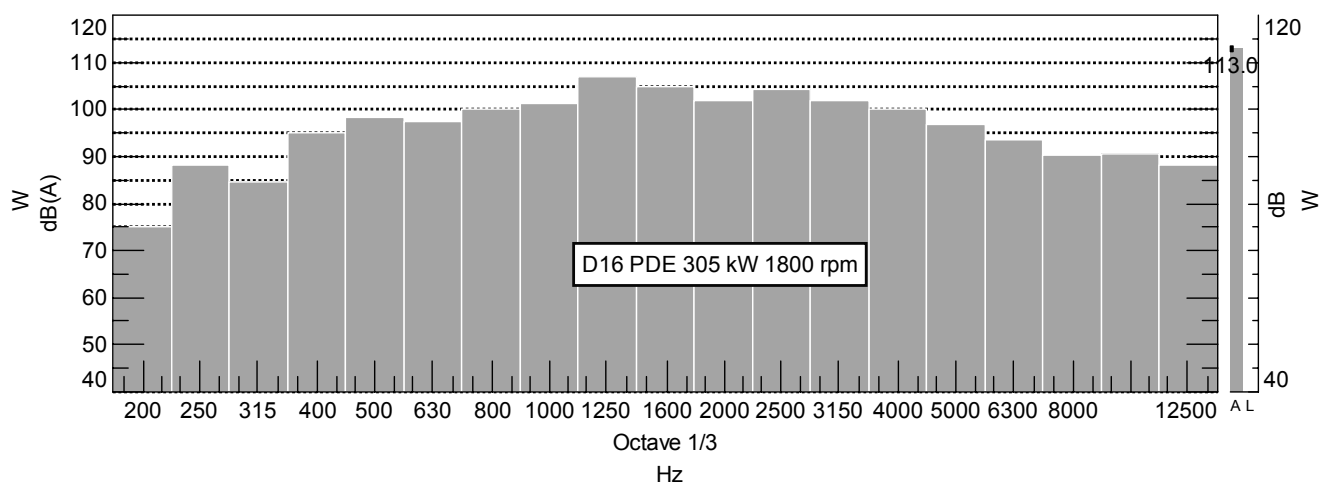
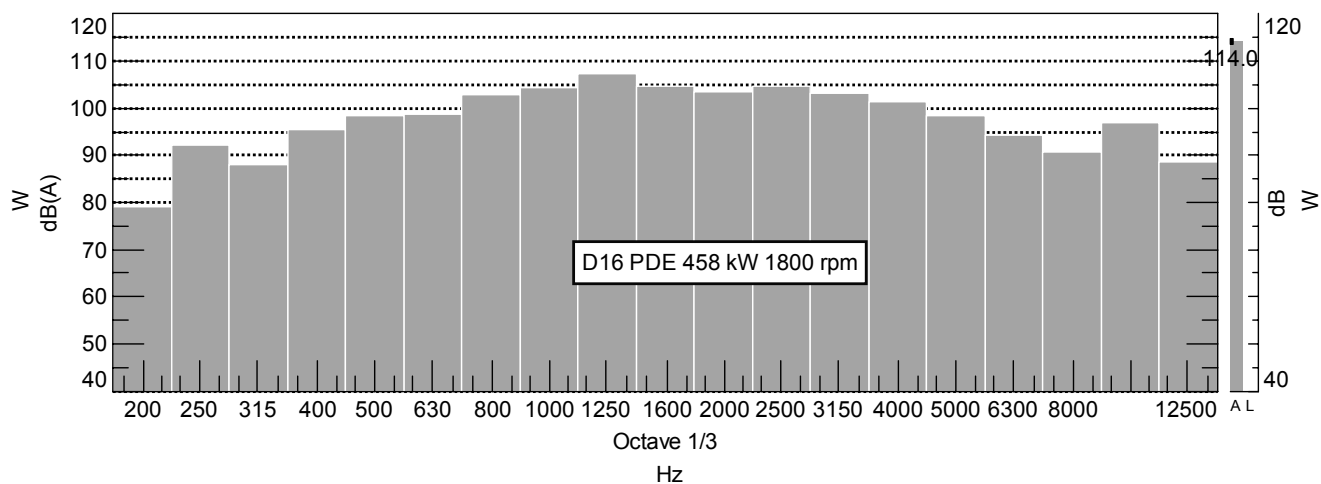
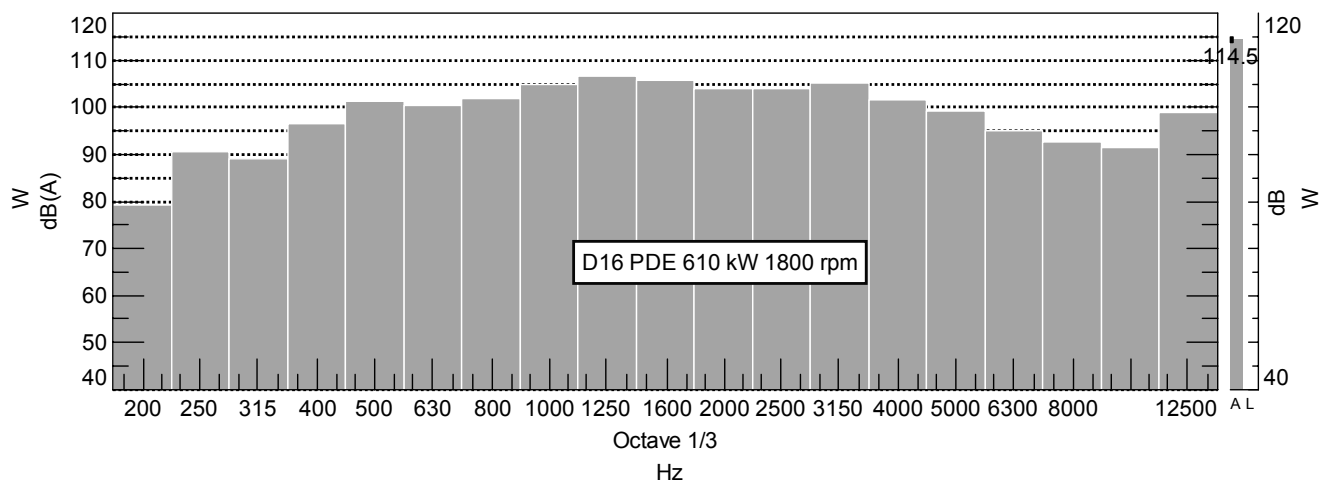
DC16 PDE, 1500 rpm



6A



DC16 PDE, 1800 rpm



ALTERNATOR MA5014G

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Electrical Characteristics										
Frequency		Hz	50				60			
Voltage (parallel star)		V	380	400	415	440	415	440	460	480
Rated power class H		kVA	750	750	750	-	860	900	900	900
		kW	600	600	600	-	688	720	720	720
Rated power class F		kVA	690	690	690	-	790	830	830	830
		kW	552	552	552	-	632	664	664	664
Regulation with		DER1	±0.5% with any power factor and speed variations between -5% +30%							
Insulation class			H							
Execution			Brushless							
Stator winding			12 ends							
Rotor			with damping cage							
Efficiencies class H	4/4	%	94.8	95.1	94.9	-	95.8	96.1	96.5	96.6
(see graph. for details)	3/4	%	95.1	95.3	95.1	-	95.9	96.3	96.7	96.8
	2/4	%	94.2	94.4	94.2	-	94.8	95.1	95.4	95.6
	1/4	%	91.5	91.6	91.4	-	91.4	91.7	92	92.2
Reactances (f. l.cl. F)	Xd	%	185	170.0	158.0	-	239.0	200.0	185.1	170.0
	Xd'	%	17.7	16.4	16	-	20.4	18.7	17.7	16.4
	Xd''	%	9.6	8.7	8.1	-	11.8	10.4	9.6	8.7
	Xq	%	128	118.0	107.0	-	159.0	139.0	128.0	118.0
	Xq'	%	128	118.0	107.0	-	159.0	139.0	128.0	118.0
	Xq''	%	15.1	14.3	12.6	-	17.3	16.2	15.1	14.3
	X ₂	%	13.3	12.1	11.1	-	15.4	14.1	13.3	12.1
	X ₀	%	2.7	2.2	2.0	-	3.4	3.1	2.7	2.2
Short Circuit Ratio	Kcc		0.54	0.59	0.63	-	0.42	0.50	0.54	0.59
Time Constants	Td'	sec.	0.18							
	Td''	sec.	0.015							
	Tdo'	sec.	3.70							
	Tα	sec.	0.071							
Short Circuit Current Capacity		%	>300				>350			
Excitation at no load		Amp.	0.4	0.6	0.8	-	0.4	0.5	0.55	0.6
Excitation at full load		Amp.	3.1	3.2	3.3	-	2.8	3	3.1	3.2
Overload (long-term)		%	1 hour in a 6 hours period 110% rated load							
Overload per 20 sec.		%	300							
Stator Winding Resistance (20°C)		Ω	0.0075							
Rotor Winding Resistance (20°C)		Ω	1.592							
Exciter Resistance (20 °C)		Ω	Rotor : 0,050				Stator : 8,85			
Heat dissipation at f.l.cl.H		W	32911	30915	32244	-	30163	29220	26114	25342
Telephone Interference			THF < 2%				TIF < 40			
Radio interference			EN61000-6-3, EN61000-6-1. For others standards apply to factory							
Waveform Distors.(THD) at f. load	LL/LN %		2,2 / 2,2							
Waveform Distors.(THD) at no load	LL/LN %		2,5 / 2,5							
Mechanical characteristics										
Protection			IP 23 (other protection on request)							
DE bearing			6322							
NDE bearing			6318.2RS							
Weight of wound stator assembly	kg		685							
Weight of wound rotor assembly	kg		449							
Weight of complete generator	kg		1693							
Maximun overspeed	rpm		2250							
Unbalanced magnetic pull at f.l.cl.F	kN/mm		6.9							
Cooling air requirement	m³/min		54				64.8			
Inertia Constant (H)	sec.		0.163				0.195			
Noise level at 1m/7m	dB(A)		94 / 82				98 / 88			

All technical data are to be considered as a reference and they can be modified without any notice.

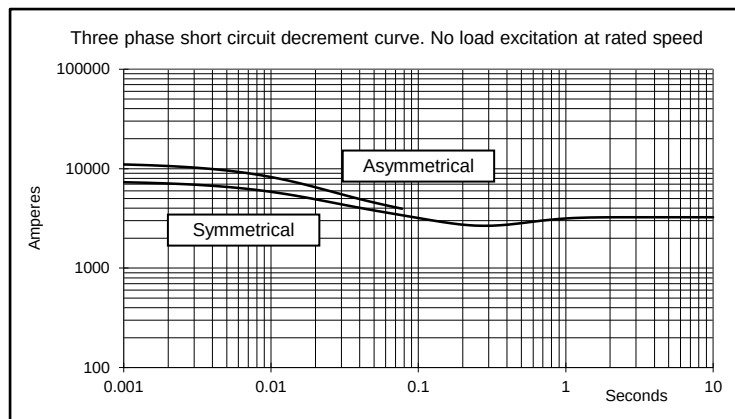
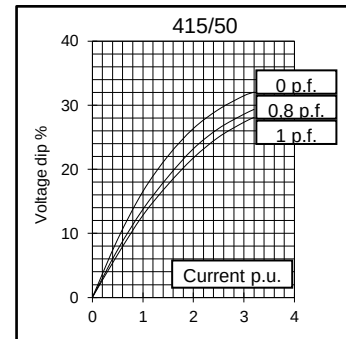
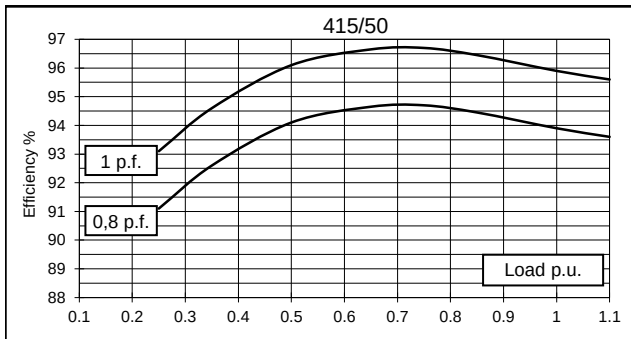
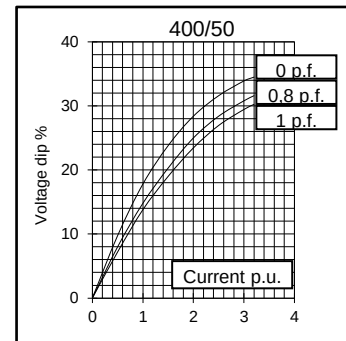
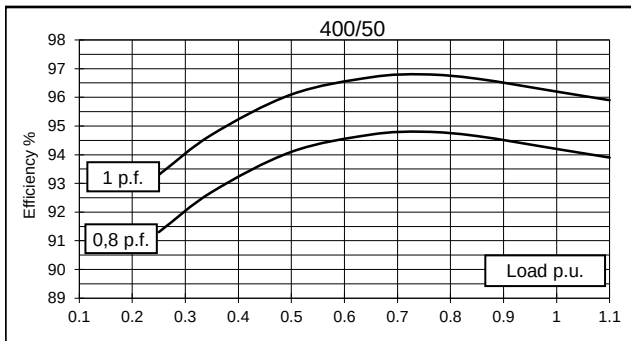
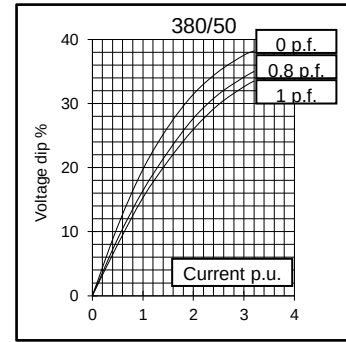
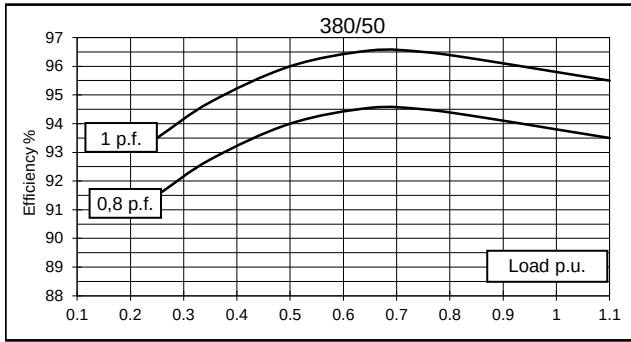
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50 Hz



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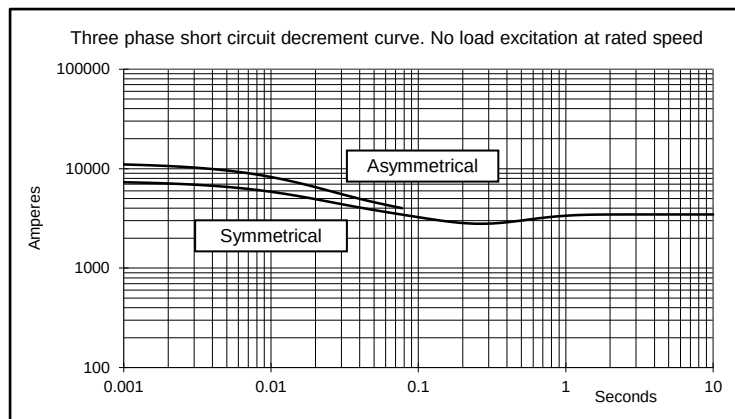
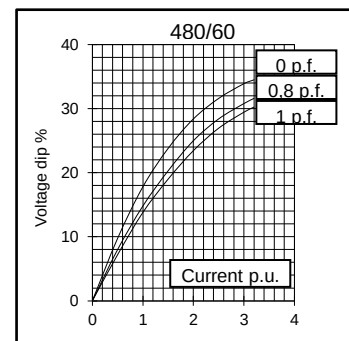
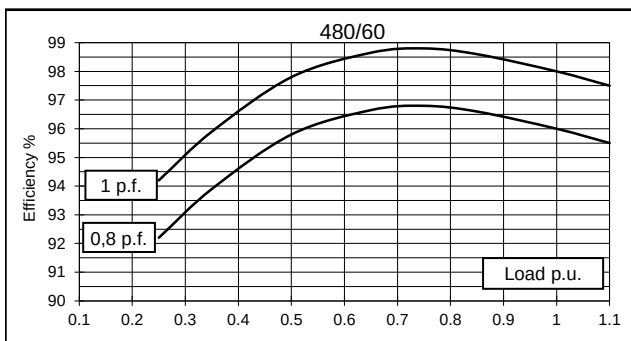
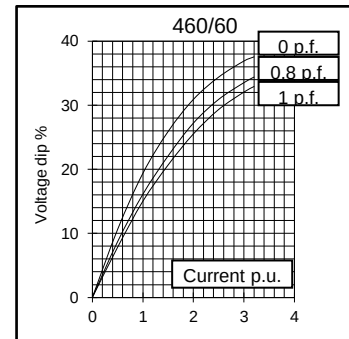
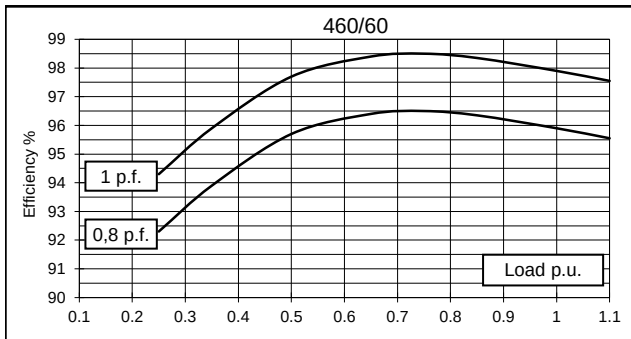
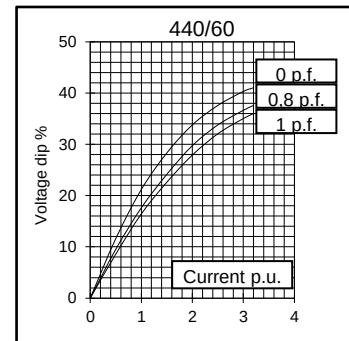
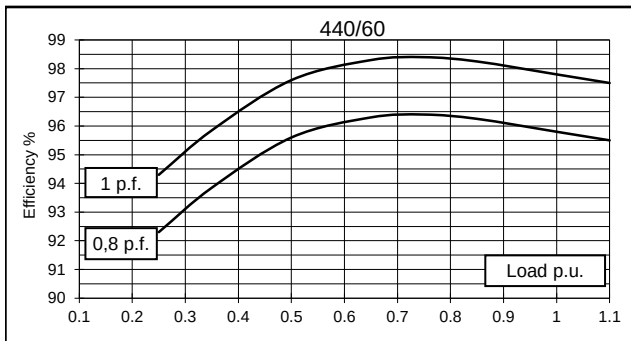
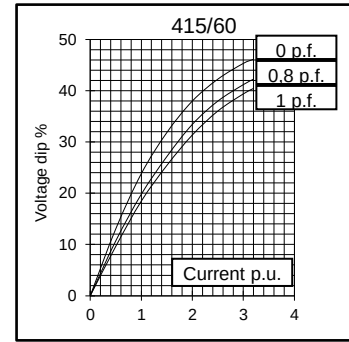
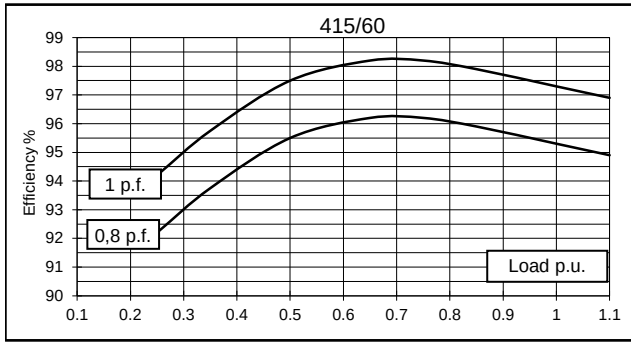
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ALTERNATOR MA5014G

Document : **DS108A/2**

issue 005 date : 21/03/2014

60 Hz



All technical data are to be considered as a reference and they can be modified without any notice.

This range of alternators is supplied by AJ Power Limited.

DSE7410/20 MKII

AUTO START & AUTO MAINS FAILURE CONTROL MODULES

DSE7420 MKII

DSE7410 MKII



KEY FEATURES

- 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 upto 20 parameters
- Internal PLC editor
- Protections disable feature
- Fully configurable via PC using USB, RS232, RS485 and ethernet communication
- Front panel configuration with multi-level PIN protection
- Power save mode
- 3 phase generator sensing and protection
- 3 phase mains (utility) sensing and protection (DSE7420 MKII only)
- Automatic load transfer control (DSE7420 MKII only)
- Generator current and power monitoring (kW, kvar, kVA, pf)
- Mains current and power monitoring (kW, kvar, kVA, pf) (DSE7420 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
- Support for 3 kΩ resistive 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, RS485 & ethernet communication ports
- True dual mutual standby using RS232 or RS485 for accurate hours balancing.
- MODBUS RTU & TCP support with configurable MODBUS pages.
- SNMP GET, SET and TRAP support built in.
- 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
- J1939-75 support & CAN alarm ignore function
- 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 & TCP
- Configurable CAN parameters to read and display CAN information from external CAN devices.

KEY BENEFITS

- Automatically transfers between mains (utility) and generator (DSE7420 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, B, E & F

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

ANALOGUE INPUTS C & D

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

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

RELATED MATERIALS

TITLE

DSE7410 MKII & DSE7420 MKII Installation Instructions
DSE7410 MKII & DSE7420 MKII Operator Manual
DSE7410 MKII & DSE7420 MKII Configuration Suite PC Manual

PART NO.

053-191
057-263
057-262

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DSE8610

SYNCHRONISING AUTO START LOAD SHARE CONTROL MODULE

FEATURES



The DSE8610 is an easy to use Synchronising Auto Start Control Module suitable for use in a multi-generator loadshare system, designed to synchronise up to 32 generators including electronic and non-electronic engines.

The DSE8610 monitors the generator and indicates operational status and fault conditions, automatically starting or stopping the engine on load demand or fault condition.

System alarms are annunciated on the LCD screen (multiple language options available), illuminated LED and audible sounder.

The event log will record 250 events to facilitate easy maintenance. An extensive number of fixed and flexible monitoring, metering and protection features are included as well as comprehensive communication and system expansion options.

Using the DSE PC Configuration Suite Software allows easy alteration of the operational sequences, timers and alarms. With all communication ports capable of being active at the same time, the DSE8610 is ideal for a wide variety of demanding load share applications.

KEY LOAD SHARE FEATURES:

- Peak lopping/sharing (with DSExx60)
- Sequential set start
- Manual voltage/frequency adjustment
- R.O.C.O.F. and vector shift protection
- Generator load demand
- Automatic hours run balancing
- Mains (Utility) de-coupling
- Mains (Utility) de-coupling test mode
- Dead bus sensing
- Bus failure detection
- Direct governor and AVR control
- Volts and frequency matching
- kW and kV Ar load sharing
- Dead bus synchronising

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
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
5Hz to 8Hz @ +/-7.5mm, 8Hz to 500Hz @ 2gn

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

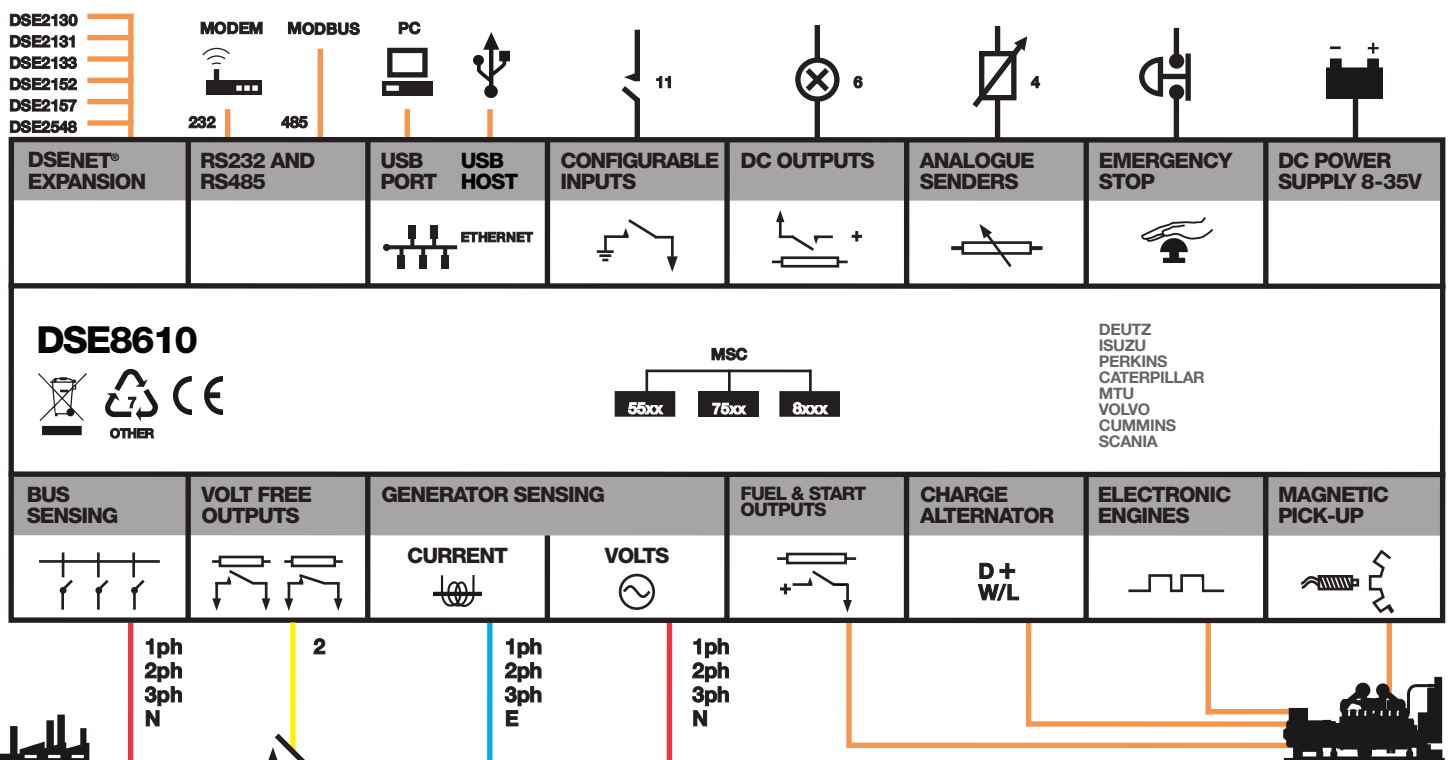
SHOCK

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

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 LOAD SHARE APPLICATIONS



DSE8610

SYNCHRONISING AUTO START LOAD SHARE CONTROL MODULE

FEATURES



KEY FEATURES

- Comprehensive synchronising & loadsharing capabilities
- Built-in governor and AVR control
- Base load (kW export) functionality
- Positive & negative kVAr export control
- Mains (utility) de-coupling protection
- Generator power (kW, kV Ar, kV A & pf) monitoring
- Overload (kW & kV Ar) protection
- Reverse power (kW & kV Ar) protection
- Unbalanced load protection
- Independent earth fault protection
- Advanced integral PLC editor
- 11 Configurable inputs
- 8 Configurable outputs
- Configurable flexible sensor inputs
- DSENet® expansion compatibility
- User configurable RS232, RS485 and Ethernet communications
- Remote SCADA monitoring via various DSE software applications
- MODBUS RTU & TCP support
- User configurable MODBUS pages
- Advanced SMS control and fault messaging (additional GSM modem required)
- Easy access diagnostic pages including modem diagnostic pages
- Data logging and trending
- CAN, MPU and Frequency speed sensing
- Tier 4 CAN engine support
- "Protections disabled" feature
- Front panel editing with PIN protection
- Fully configurable using DSE Configuration Suite PC software via USB
- 4 Line back-lit LCD text display
- LED and LCD alarm indication
- Configurable display languages
- USB connectivity
- Customisable status screens
- Five key menu navigation
- 3 Configurable maintenance alarms
- Multiple date and time run scheduler
- Manual fuel pump control
- Fuel usage monitor and low fuel level protection
- Charge alternator failure protection
- Load switching (load shedding and dummy load control)
- Configurable event log (250)
- Backed up real time clock

KEY BENEFITS

- Compatible in load share systems containing DSE5500, DSE7500 and DSE8600 series. Contact DSE for further details
- 132 x 64 pixel ratio display for clarity
- Real-time clock provides accurate event logging
- Ethernet communication, provides built in advanced remote monitoring.
- Can be integrated into building management systems (BMS) and programmable logic control (PLC)
- Increased input and output expansion capability via DSENet®
- Licence-free PC software
- IP65 rating (with supplied gasket) offers increased resistance to water ingress
- Advanced Internal PLC editor allows user configurable functions to meet specific application requirements.

EXPANSION DEVICES

- DSE124 CAN/MSD Extender
- DSE2130 Input Expansion Module
- DSE2131 Ratio-metric Input Expansion Module
- DSE2133 RTD & Thermo-couple Expansion Module
- DSE2152 Ratio-metric Output Expansion Module
- DSE2157 Output Expansion Module
- DSE2548 LED Expansion Module

RELATED MATERIALS

TITLE

DSE8610 Installation Instructions
DSE8610 Operator Manual
DSE8600 PC Configuration Suite Manual
DSE8660 Date Sheet

PART NO'S

053-069
057-115
057-119
055-086

SPECIFICATION

DC SUPPLY

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

MAXIMUM OPERATING CURRENT

460 mA at 12 V, 245 mA at 24 V

MAXIMUM STANDBY CURRENT

375 mA at 12 V, 200 mA at 24 V

CHARGE FAIL/EXCITATION RANGE

0 V to 35 V

OUTPUTS

OUTPUT A (FUEL)

15 A DC at supply voltage

OUTPUT B (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

GENERATOR & BUS

VOLTAGE RANGE
15 V to 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)

BUILT-IN GOVERNOR CONTROL MINIMUM LOAD IMPEDANCE
1000Ω
Fully isolated

GAIN VOLTAGE
0 V to 10 V DC
Fully isolated

OFFSET VOLTAGE
+/- 10 V DC
Fully isolated

BUILT-IN AVR CONTROL MINIMUM LOAD IMPEDANCE
1000Ω
Fully isolated

GAIN VOLTAGE
0 V to 10 V DC
Fully isolated

OFFSET VOLTAGE
+/- 10 V DC
Fully isolated

DIMENSIONS

OVERALL
240 mm x 181 mm x 42 mm
9.4" x 6.8" x 1.6"

PANEL CUTOUT
220 mm x 160 mm
8.7" x 6.3"

MAXIMUM PANEL THICKNESS
8 mm
0.3"

OPERATING TEMPERATURE RANGE
-30 °C to +70 °C

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

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DSE8660

AUTO TRANSFER SWITCH & MAINS CONTROL MODULE

FEATURES



The DSE8660 is an easy-to-use single or multi-mains controller with automatic transfer switch capability. Designed to synchronise single or multiple DSE8610s and DSE8680s with single or multiple mains (utility) supplies, the DSE8660 will automatically control the change over from mains (utility) to generator supply or run generators in synchronisation with the mains (utility) to provide no-break, peak lopping and peak shaving power solutions.

The module can indicate operational status and fault conditions on the LCD screen (multiple languages available), by illuminated LED, audible sounder and SMS messaging.

Comprehensive communications are also available via RS232, RS485 & Ethernet for remote PC control and monitoring, and integration into building management systems. The comprehensive event log will record up to 250 events to facilitate maintenance.

An extensive number of fixed and flexible monitoring and protection features are included. Easy alteration of the sequences, timers and alarms can be made using the DSE PC Configuration Suite Software. Selected configuration is also available via the module's front panel.

With all communication ports capable of being active at the same time, the DSE8xxx Series is ideal for a wide variety of demanding load share applications.

KEY LOAD SHARE FEATURES (WITH DSE8x10) :

- Peak lopping/shaving
- Sequential set start
- Manual voltage/frequency adjustment
- R.O.C.O.F. and vector shift protection
- Generator load demand
- Automatic hours run balancing
- Mains (Utility) de-coupling
- Mains (Utility) de-coupling test mode
- Bus failure detection
- Volts and frequency matching.
- kW & kV Ar load sharing

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
5Hz to 8Hz @ +/-7.5mm, 8Hz to 500Hz @ 2gn

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

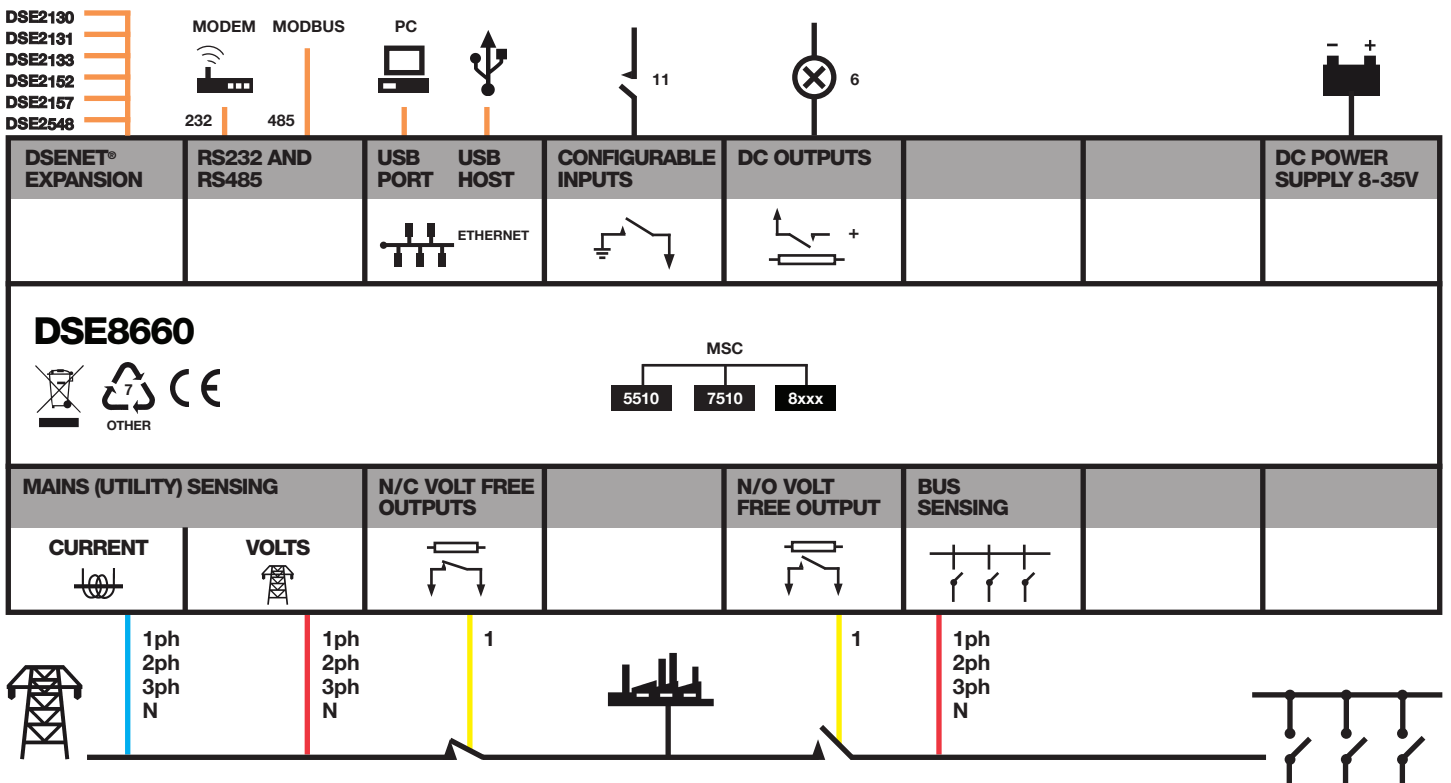
SHOCK

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

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 LOAD SHARE APPLICATIONS



DSE8660

AUTO TRANSFER SWITCH & MAINS CONTROL MODULE

FEATURES



KEY FEATURES

- Mains (utility) failure detection
- Mains (utility) power monitoring (kW, kV Ar, kV A and pf)
- Comprehensive synchronising and loadsharing capabilities
- Base load (kW export) functionality
- Positive & negative kVar export control
- Peak lopping & shaving functionality
- Mains (utility) kW export protection
- Mains (utility) de-coupling protection
- Advanced integral PLC editor
- User configurable RS232, RS485 & Ethernet communications
- MODBUS RTU & TCP support
- User configurable MODBUS pages
- Advanced SMS control and fault messaging (additional GSM modem required)
- DSENet expansion compatible
- Data logging and trending
- 4-Line back-lit LCD text display
- Multiple display languages

- Five key menu navigation
- Front panel editing with PIN protection
- Customisable status screens
- Configurable inputs (11)
- Configurable outputs (8)
- Configurable timers and alarms
- Multiple entry scheduler
- Configurable event log (250)
- Easy access diagnostic pages
- LED and LCD alarm indication
- USB connectivity
- Backed up real time clock
- Fully configurable via DSE Configuration Suite PC Software

KEY BENEFITS

- A single flexible solution for multiple applications
- Compatible with DSE5510, DSE7510 & DSE8x10 series of modules
- 132 x 64 pixel ratio display for clarity
- Real-time clock provides accurate event logging
- Ethernet communication provides built in advanced remote monitoring.

- Can be integrated into building management systems (BMS) and programmable logic control (PLC)
- Increased input and output expansion capability via DSENet®
- Licence-free PC software
- IP65 rating (with supplied gasket) offers increased resistance to water ingress
- Advanced Internal PLC editor allows user configurable functions to meet specific application requirements.

EXPANSION DEVICES

- DSE124 CAN/MSX Extender
- DSE2130 Input Expansion Module
- DSE2131 Ratiometric Input Expansion Module
- DSE2133 RTD & Thermocouple Expansion Module
- DSE2152 Analogue Output Expansion Module
- DSE2157 Output Expansion Module
- DSE2548 LED Expansion Module

SPECIFICATION

DC SUPPLY

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

MAINS (UTILITY)

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

FREQUENCY RANGE
3.5 Hz to 75 Hz

BUS

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

FREQUENCY RANGE
3.5 Hz to 75 Hz

OUTPUTS

OUTPUTS C & D
8 A at 250 V AC (Volt free)

AUXILIARY OUTPUTS E,F,G,H, I & J
2 A DC at supply voltage

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
0.3"

OPERATING TEMPERATURE RANGE
-30°C to +70°C

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

RELATED MATERIALS

TITLE

DSE8660 Installation Instructions
DSE8660 Operator Manual
DSE8600 PC Configuration Suite Manual
DSE8610 Data Sheet
DSE8680 Data Sheet
DSE8700 Data Sheet
DSE8810 Data Sheet
DSE8860 Data Sheet

PART NO'S

053-070
057-120
057-119
055-083
055-091
055-090
055-116
055-139

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055-251/10/18 (1§)

DSE8003 MKII

7" COLOUR MULTI-SET REMOTE OVERVIEW DISPLAY

The DSE8003 MKII is designed for use with the DSE86xx MKII load share control modules, giving a choice of display options suitable for a wide variety of applications. One (1) DSE8003 MKII module can be connected to multiple compatible modules via a data communication link up to a maximum distance of 1.2 km in length, using RS485.

The DSE8003 MKII features completely re-designed screen layouts and icons to provide comprehensive large screen graphs, charts, metering, power display and engine status information in a clear image and text format.

The DSE8003 MKII also features an improved processor for improved operating response times.

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
5Hz to 8Hz @ +/-7.5mm, 8Hz to 500Hz @ 2gn

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
15gn in 11mS

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 LOAD SHARE APPLICATIONS

