



Generator Specification

Service	PRP(1)	ESP(2)
Power (KVA)	100	110
Power (KW)	8	88
Rated speed (r.p.m)	1500	
Standard voltage (V)	400/230 V	
Rated at power factor (cos Phi)	0,8	

(1) PRP (Prime Power):

According to ISO8528-1, prime power is the maximum power available during a variable power sequence, which may be run for an unlimited number of hours per year, between stated maintenance intervals. The permissible average power output during at 24 hours period shall not exceed 80% of the prime power. 10% overload available for governing purposes only.

(2) ESP (Standby Power):

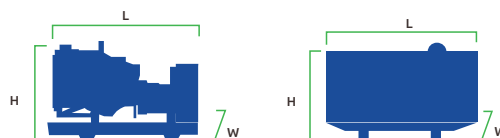
According to ISO 8528-1, It is defined as the maximum power available, under the agreed operating conditions, for which the generating set is capable of delivering for up to 500 hours of operation per year (of which no more than 300 hours for continuative use) with the maintenance intervals and procedures being carried out as prescribed by the manufacturers. No overload capability is available.

Power Voltage	ESP		PRP		Standby Amps
	KVA	KW	KVA	KW	
415/240	110	88	100	80	153.0
400/230	110	88	100	80	158.8
380/220	110	88	100	80	167.1

Performance Data		
Model	DY110P-S12	
Engine	Perkins	
Engine model	1104C-44TAG2	
Speed control type	Mechanical	
Phase	3	
Control sytem	Digital	
Starter motor voltage	12V	
Frequency	50Hz	
Engine speed (RPM)	1500	
Fuel Consumption (L/H)	100% standby power	24.9
	100% prime power	22.6
	75% prime power	17.1
	50% prime power	11.2

Standard reference Conditions

Note: Standard reference condition 25 °C[77° F] air inlet temp, 1000m(328ft) A.S.L 30% relative humidity. Fuel consumption dat with diesel fuel with specific gravity of 0.85 and conforming to BS 2869: 1998 Class A2



Dimension and Weight

Dimension	Silent
Length (L)	2277 mm
Width (W)	1080 mm
Height (H)	1400 mm
Net Weight	1574 KG
Fuel Tank (L)	180 L

Engine Specification : 1104C-44TAG2

Basic technical data

No. of cylinders	4
Cylinder arrangement	In-line
Cycle	4 stroke
Induction system	Naturally aspirated
Compression ratio	18.23:1
Bore	105mm
Stroke	127mm
Displacement	4.4L
All ratings certified to within	± 3%
Speed variation at constant load	± 0.25%

Cooling system

Total coolant capacity -with radiator	12.6L
-without radiator	7.0L
Maximum top tank temp	110°C
Thermostat operation range	82-93°C
Radiator face area	0.276m ²
Rows and material	38 aluminium
Pressure cap setting	100kPa
Fan diameter	559 mm
Drive ratio	1:1
Number of blades	10

Fuel system

Injection system	Direct
Fuel injection pump	Rotary
Fuel atomiser	Multi-hole
Nozzel opening pressure	29.0 MPa
Fuel lift pump type	Electronic
- flow/hour	120-150 l / h
- pressure	30-75 kPa
Maximum suction head: -1500 rev/min	10 kPa

Induction system

Clean filter	5kpa
Dirty filter	8kpa
Air filter type	2 stage cyclic/ionic/paper element

Lubrication system

Maximum sump capacity	7.0L
Minimum sump capacity	5.5L
Total system	8.0L
Maximum engine operating angles - front up, front down, right side or left side	30°C
Lubricating oil pressure - Relief valve opens	415-470 kPa
Lubricating oil pressure - Relief valve opens	276-414 kPa
Oil consumption at full load as a % of fuel consumption	0.15%.

Electrical system Type

Type	Negative ground
Alternator voltage	12 volts
Alternator output	TBD
Starter motor voltage	12 volts
Starter motor power	TBD

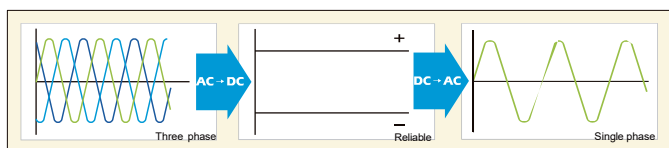
General installation

General installation	Prime power
Gross engine power	93.6kW
Brake mean effective pressure	1702kPa
Combustion air flow	6.01m ³ /min
Exhaust gas temperature outlet	514 °C
Energy to coolant	46.1kW
Energy to exhaust	71.7kW

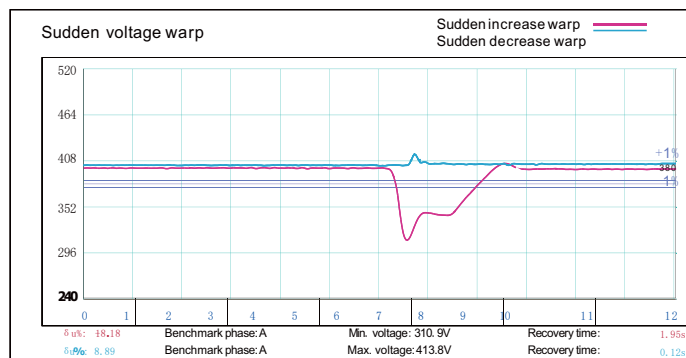
ALTERNATOR SPECIFICATION : LEROY SOMER TAL-A44-D

Alternator

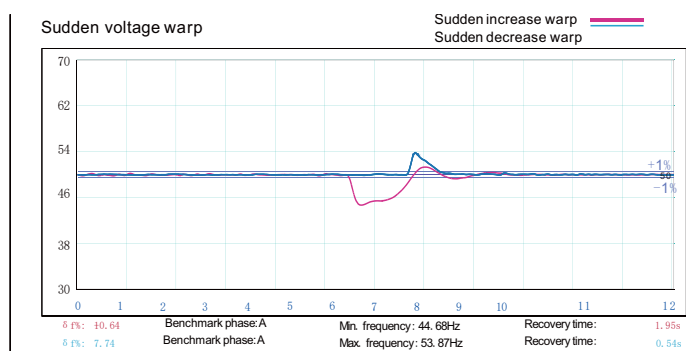
Number of phase	3
Power factor (Cos Phi)	0.8
Poles	4
Winding Connections (standard)	Star-serie
Terminals	12
Insulation type	H class
Winding Pitch	2/3
IP rating	IP23
Excitation system	Self-excited
Bearing	Single bearing
Coating	Vacuum impregnation
Voltage regulator	A.V.R
Couping	Flexible disc



Emergency voltage curve



Emergency frequency curve



OPTIONS

Engine	Alternator	Generator Sets	Fuel System
<ul style="list-style-type: none"> Water Jacket Pre heater Fuel heater 	<ul style="list-style-type: none"> Winding Temp measuring Instrument Alternator Pre heater PMG Anti-damp and anti corrosion treatment Anti-condensation heater Winding and bearing RTD 	<ul style="list-style-type: none"> Tools with the machine Extended range fuel tank Bunded fuel tank 	<ul style="list-style-type: none"> Low fuel level alarm Automatic fuel feeding system Fuel T-valves
Canopy	Lub Oil System	Cooling System	Control Panel
<ul style="list-style-type: none"> Rental type Canopy Trailer 	<ul style="list-style-type: none"> Oil Pre-heater Oil temp sensor 	<ul style="list-style-type: none"> Front heat protection 	<ul style="list-style-type: none"> Remote control panel ATS Synchronizing controller Adjustable earth leakage relay

Control Panel: DEEPSEA 6120MKII

DSE6110/20 MKIII

**AUTO START & AUTO MAINS (UTILITY)
FAILURE CONTROL MODULES**



DSE6110 MKIII



DSE6120 MKIII

KEY FEATURES

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

KEY BENEFITS

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

SPECIFICATIONS

DC SUPPLY

CONTINUOUS VOLTAGE RATING

8 V to 35 V Continuous
5 V for up to 1 minute

CRANKING DROPOUTS

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

MAXIMUM OPERATING CURRENT

260 mA at 12 V, 150 mA at 24 V

MAXIMUM STANDBY CURRENT

145 mA at 12 V, 85 mA at 24 V

CHARGE FAIL/EXCITATION RANGE

0 V to 35 V

GENERATOR & MAINS (UTILITY)

VOLTAGE RANGE

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

FREQUENCY RANGE

3.5 Hz to 75 Hz

MAGNETIC PICKUP

VOLTAGE RANGE

+/- 0.5 V to 70 V

FREQUENCY RANGE

10,000 Hz (max)

INPUTS

DIGITAL INPUTS A TO H

Negative switching

ANALOGUE INPUTS A & D

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

ANALOGUE INPUTS B & C

Configurable as:
Negative switching digital input
Resistive sensor

OUTPUTS

OUTPUT A & B (FUEL & START)

10 A DC at supply voltage

AUXILIARY OUTPUTS C, D, E, F, G & H

2 A DC at supply voltage

DIMENSIONS

OVERALL

216 mm x 158 mm x 43 mm
8.5" x 6.2" x 1.5"

Monitoring 3G/4G: DEEPSEA 890MKII (OPTIONAL)



DSE890 MKII DSEWebNet® / IoT 4G Gateway (GSM/Ethernet) Remote Communications Interface

The DSE890 MKII 4G gateway is used in conjunction with supported DSE controllers to provide remote monitoring and communications data via DSEWebNet® or third party MQTT brokers.

The DSE890 MKII gateway communicates with up to five connected DSE controllers, monitoring instrumentation and operating states. When this data changes, data is logged internally and transmitted from the gateway device to the DSEWebNet® or MQTT broker (Amazon Web Services, Google, IBM etc.).

DSEWebNet® software is accessed using an Internet browser or the dedicated app. Users are able to perform multiple tasks including: monitoring equipment, clearing alarm conditions, starting/stopping equipment and monitoring fuel levels.

The IoT feature of the DSE890 MKII supports MQTT V 3.1.1 (ISO/IEC 20922:2016). This enables connection to a third party server that is running an MQTT broker, whilst simultaneously supporting connection to the DSEWebNet® server.

For additional information on DSEWebNet® software refer to data sheet 055-192.

Note: The DSE890 MKII also supports 2G & 3G connections.



SPECIFICATIONS

DC SUPPLY CONTINUOUS VOLTAGE RATING

8 V to 36 V continuous

CRANKING DROPOUTS

Able to survive 0 V for 100 mS, providing supply was at least 8 V before dropout and supply recovers to 8 V. This is achieved without the need for internal batteries

MAXIMUM OPERATING CURRENT

GSM	755 mA at 12 V
	376 mA at 24 V
GSM & GPS	755 mA at 12 V
	376 mA at 24 V

MAXIMUM STANDBY CURRENT

GSM	207 mA at 12 V
	113 mA at 24 V
GSM & GPS	207 mA at 12 V
	113 mA at 24 V

COMMUNICATIONS

USB (Single DSE Controller)
CAN* (Multiple DSE Controller)
RS485 (Multiple DSE Controllers)
Ethernet (Multiple DSE Controllers)

DIMENSIONS

85 mm x 149 mm x 51 mm

MOUNTING

DIN Rail
Chassis Mount

* Only active for third-party MQTT brokers.