DYNAMIS
POWER SOLUTIONS

Model DY22P-S1

Power by PERKINS

Perkins®

LEROY SOMER

DSE

Generator Specification

Service	PRP(1)	ESP(2)
Power (KVA)	20	22
Power (KW)	16	18
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):

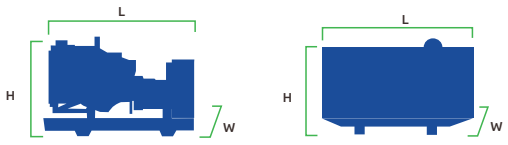
According to ISO 8528-1, It is defined as the maximum power available, under the agreed operating conditions, for which the generating set is capable of delivering for up to 500 hours of operation per year (of which no more than 300 hours for continuative use) with the maintenance intervals and procedures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

Power Voltage	ESP		PRP		Standy Amps
	KVA	KW	KVA	KW	
415/240	22	18	20	16	30.6
400/230	22	18	20	16	31.8
380/220	22	18	20	16	33.4

Performance Data		
Model		DY22P-S1
Engine		Perkins
Engine model		404A-22G1
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	6.1
	100% prime power	5.3
	75% prime power	4
	50% prime power	2.9

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)	1900 mm
Width (W)	780 mm
Height (H)	1025 mm
Net Weight	670 KG
Fuel Tank (L)	50L

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Engine Specification : 404A- 2 2G1

Basic technical data	
No. of cylinders	4
Cylinder arrangement	In-line
Cycle	4 stroke
Induction system	Naturally aspirated
Compression ratio	23.3:1
Bore	84mm
Stroke	100mm
Displacement	2.216L
All ratings certified to within	± 5%
Estimated total weight	242kg

Cooling system	
Total coolant capacity -with radiator	7.0L
-without radiator	3.6L
Maximum top tank temp	112°C
Thermostat operation range	82-95°C
Radiator face area	0.167m²
Rows and material	2 rows aluminium
Pressure cap setting	90kPa
Fan diameter	320,0mm
Drive ratio	1.25 : 1
Number of blades	6

Fuel system	
Injection system	Indirect
Fuel injection pump	Cassette type
Fuel atomiser	Pintle nozzle
Nozzel opening pressure	14,7 MPa
Fuel lift pump type	Mechanical
-flow/hour	63 l/h
-pressure	10 kPa
Maximum suction head: -1500 rev/min	3m

Induction system	
Clean filter	3.0kpa
Dirty filter	6.5kpa
Air filter type	Dry

Lubrication system	
Maximum sump capacity	10.6L
Minimum sump capacity	8.9L
Total system	-
Maximum engine operating angles - front up, front down, right side or left side	35°C
Lubricating oil pressure - Relief valve opens	352-448 kPa
Normal oil temperature	125°C
oil flow at rated speed	10.9 litres/min.

Electrical system Type	
Type	Negative ground
Alternator voltage	12 volts
Alternator output	15 amps
Starter motor voltage	12 volts
Starter motor power	2KW

General installation	Prime power
Gross engine power	18.7kW
Brake mean effective pressure	669kPa
Combustion air flow	1.45m³/min
Exhaust gas temperature outlet	445 °C
Energy to coolant	17kW
Energy to exhaust	14kW

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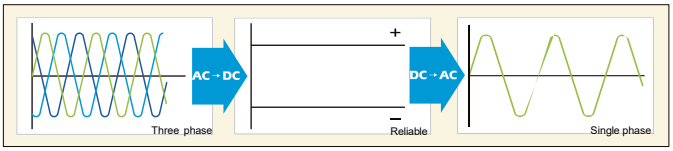
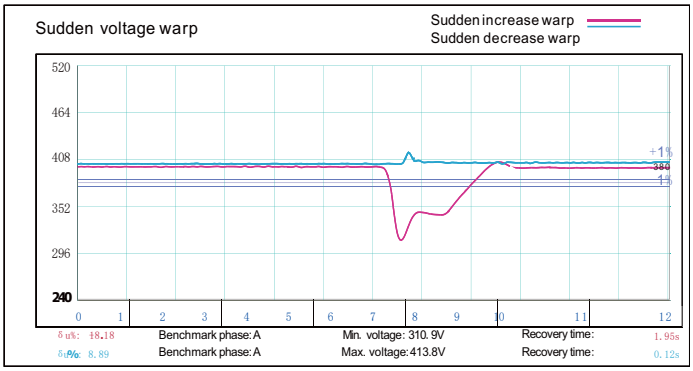
ALTERNATOR SPECIFICATION : LEROY SOMER TAL-A40-F

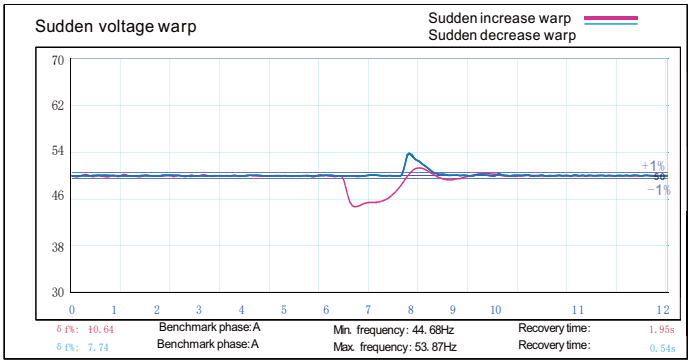
Alternator	
Number of phase	3
Power factor (Cos Phi)	0.8
Poles	4
Winding Connections (standard)	Star-serie
Terminals	12
Insulation type	H class
Winding Pitch	2/3
IP rating	IP23
Excitation system	Self-excited
Bearing	Single bearing
Coating	Vacuum impregnation
Voltage regulator	A.V.R
Couping	Flexible disc



Emergency voltage curve



Emergency frequency curve



OPTIONS

Engine	Alternator	Generator Sets	Fuel System
• Water Jacket Pre heater • Fuel heater	• Winding Temp measuring Instrument • Alternator Pre heater • PMG • Anti-damp and anti corro-sion treatment • Anti-condensation heater • Winding and bearing RTD	• Tools with the machine • Extended range fuel tank • Bunded fuel tank	• Low fuel level alarm • Automatic fuel feed-ing system • Fuel T-valves
Canopy	**Lub Oil System**	**Cooling System**	**Control Panel**
• Rental type Canopy • Trailer	• Oil Pre-heater • Oil temp sensor	• Front heat protection	• Remote control panel • ATS • Synchronizing con-troller • Adjustable earth leakage relay

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Control Panel: DEEPSEA 7320MKII

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

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Dynamis Power Solutions by NETIS

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

DSEGenset®

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

The DSE**890 MKII** 4G gateway is used in conjunction with supported DSE controllers to provide remote monitoring and communications data via DSE**WebNet®** or third party MQTT brokers.

The DSE**890 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 DSE**WebNet®** or MQTT broker (Amazon Web Services, Google, IBM etc..).

DSE**WebNet®** 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 DSE**890 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 DSE**WebNet®** server.

For additional information on DSE**WebNet®** software refer to data sheet 055-192.

Note: The DSE**890 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.

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