

POWERED BY:



## CONTROL PANEL

Make	Deep Sea
Model	DSE4520

The DSE4520 is an Auto Start Control Module for single genset applications. It includes a backlit LCD display which clearly shows the status of the engine all the times. This module can either be programmed using the front panel or by using the DSE configuration suite PC software.

Metering and Alarm indications:

- Generator frequency
- Underspeed, Overspeed
- Generator volts (L-L, L-N)
- Generator current
- Engine oil pressure
- Engine coolant temperature
- Fuel level (Warning or shutdown) - Optional
- Hours run counter
- Battery volts
- Fail to start/stop
- Emergency stop
- Failed to reach loading voltage/frequency
- Charge fail
- Loss of magnetic pick-up signal - Optional
- Low DC voltage
- CAN diagnostics and CAN fail/error

## GENERATING SET MODEL (EY97)

Output Ratings	Prime	Standby
380-415 V, 3 ph, 50 Hz, 1500 rpm	87.5 KVA	97 KVA
	70 KW	77 KW

Ratings at 0.8 Power Factor

## ENGINE / TECHNICAL DATA

Engine Make	YTO
Engine Model	LR4M3L-D
Governing Type	Mechanical
Number of Cylinders	4
Cylinder Arrangement	Vertical in line
Bore and Stroke mm	110X125
Displacement / Cubic Capacity litres	4.75
Induction System	Turbo Charger
Cycle	4 stroke
Combustion System	Direct Injection
DC Voltage	24
Rotation	Anti-clockwise, viewed on flywheel
Cooling System	Water - cooled
<b>Engine Speed</b>	<b>1500rpm</b>

Engine Power kWm	82
Fuel Consumption @ 50% load L/hr	9.6
@ 75% load L/hr	14.4
@ 100% load L/hr	19.3
Fuel Tank Capacity: litres	155

## ALTERNATOR DATA

Make	ENGGA
Model	EG225-70N3
No. of bearings	1
Insulation class	H
Total Harmonic Content	<3%
Wires	12
Ingress Protection	IP23
Excitation System	SHUNT
Winding Pitch	2/3 (wdg 3)
AVR Model	EVC300
Overspeed	2250 mn <sup>-1</sup>
Voltage Regulation (steady)	±1%
Short Circuit Capacity	-

AREP Excitation System Available as Optional.

## DIMENSIONS WITH CANOPY

Length mm	2369
Width mm	1082
Height mm	1360



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**RATINGS DEFINITION****Prime Power**

These ratings are applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchased power. 10% overload power is available for 1 hour in 12 hours continuous operation.

**Standby Power**

These ratings are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings.

**STANDARD REFERENCE CONDITIONS**

Output ratings are presented at 25°C air inlet temperature, barometric pressure 100 kPa, relative humidity 30%. This generating set is designed to operate at high ambient temperatures (up to 55°C), humidity (up to 99%) and higher altitudes.

De-ration may apply, please consult your dealer for specific site ratings.

Some of the specifications are not standard on all Genset models.

**AVAILABLE OPTIONS & ACCESSORIES**

We offer a range of optional features and accessories to tailor our generating sets to meet your power needs.

**OPTIONS**

- A variety of generating set control and synchronizing panels
- Additional protection alarms and shutdowns
- Water fuel separator
- Water jacket heater
- Battery charger

**ACCESSORIES**

- Genuine spare parts
- Load banks
- Auxiliary fuel tanks
- Manual & automatic transfer switches

**STANDARD SPECIFICATIONS****1. ENGINE**

YTO four stroke heavy duty high performance industrial type diesel engine.

**2. ENGINE FILTRATION SYSTEM**

- Air filter
  - Fuel filter
  - Full flow lube oil filter
- All filters have replaceable elements.

**3. COOLING RADIATOR**

Radiator and cooling fan, complete with safety guards, designed to cool the engine at high ambient temperatures (consult your dealer for de-ration factors)

**4. EXHAUST SYSTEM**

Heavy duty Industrial Exhaust Silencer

**5. CIRCUIT BREAKER TYPE**

Legrand 3 pole MCB. (4 pole is optional)

**6. FUEL SYSTEM**

The baseframe design is incorporated with an integral fuel tank with a capacity of approx. 8 hours running at Full Load. The tank is supplied complete with fill cap breather, fuel feed and return lines to the Engine and drain plug.

**7. ALTERNATOR****7.1 INSULATION SYSTEM**

- The insulation system is Class H
- All windings are impregnated in either a triple dip thermosetting liquid, oil and acid resisting polyester varnish or vacuum pressure impregnated with a special polyester resin.
- Heavy coat of antitracking varnish additional protection against moisture or condensation.

**7.2 AUTOMATIC VOLTAGE REGULATOR**

(AVR) The fully sealed Automatic Voltage Regulator maintains the Voltage Regulation at  $\pm 0.5\%$ . Nominal adjustment by means of a trim pot incorporated on the AVR.

**7.3 MOTOR STARTING**

An overload capacity equivalent to 300% of the Full Load impedance at zero Power Factor can be sustained for 10 seconds, when AREP option is fitted.

**8. MOUNTING ARRANGEMENT****8.1 BASE FRAME**

The complete Generating Set is mounted as a whole on a heavy duty fabricated steel Baseframe.

**8.2 COUPLING**

The Engine and Alternator are directly coupled by means of an SAE flange. The Engine flywheel is flexibly coupled to the Alternator rotor.

**8.3 ANTI-VIBRATION MOUNTING PADS**

Anti-Vibration pads are affixed between the Engine / Alternator feet and the Baseframe thus ensuring complete vibration isolation of the rotating assembly.

**8.4 SAFETY GUARDS**

The Fan & Fan Drive along with the Battery Charging Alternator are Safety Guard protected for personnel protection.

**9. FACTORY TESTS**

- The Generating set is load tested before dispatch
- All protective devices control functions and site load conditions are simulated. The generator and it's systems are checked before dispatch.

**10. EQUIPMENT FINISHING**

All mild steel components are fully degreased and painted with powder coated paint to ensure maximum scuff resistance and durability.

**11. DOCUMENTATIONS**

Operation & Maintenance manual, Circuit wiring diagrams and Commissioning / Fault Finding instruction leaflets are accompanied with the Generator.

**12. QUALITY STANDARDS**

The equipment meets the following standards: BS4999, BS5000, BS5514 IEC 60034, VDE0530, NEMA MG 1.22 and ISO 8528.

**13. WARRANTY**

All of the Generating Sets are covered under a warranty policy for a period of 12 months. Warranty of the equipment is in line with manufacturers warranty terms & conditions. (check warranty statement for more details, as it may vary for different countries)

In line with continuous product development, we reserve the right to change specifications without notice.



FROM POWER TO PLUG

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