

22.0 KVA UNDERSLUNG DIESEL GENERATOR

FEATURES & BENEFITS

- Maximum 22.0 kVA, 380V, 1500 RPM
- Constant voltage AVR (Automatic Voltage Regulator)
- 12 Volt Electric Starter
- 200 Litre Fuel Tank, 58 Hours @ 75% load
- Reefer Underslung Version (Trailer Mount)
- 4-Cylinder Inline, Water Cooled
- Three Phase Output
- DeepSea DSE3110 Digital Control Panel
- Low oil pressure system
- Low water cut out engine protection



DEEP SEA ELECTRONICS

GENERAL DATA	
Model:	BPD20S3-US-F
Prime Power (P.R.P):	20.0 kVA
Stand-by Power (L.T.P):	22.0 kVA
Amps:	33 A
Power Factor / COS:	0.8
Frequency:	50 Hz
Voltage:	380 V
Phases:	Three Phase
Engine Speed:	1500 RPM
Length:	1620 mm
Width:	1516 mm
Height:	830 mm
Weight:	690 kg's
Tank Capacity:	200 l

ADDITIONAL	
Running Time:	58 Hours @ 75% load
Structure Type:	Reefer Underslung
Noise Level (7m):	N/A
Auto Voltage Regulator:	Constant voltage AVR
ISO9001 Certified:	Yes
CE Certified:	Yes
Fuel Cons. @ 100% Load:	4.5
Fuel Cons. @ 75% Load:	3.4
Fuel Cons. @ 50% Load:	2.3

ENGINE DATA	
Brand:	FAW
Model:	4DW91-29D
Type:	4-Cylinder Inline, Water Cooled
Starting System:	12 Volt Electric Starter
Auto-Decompression:	Yes
Cubic Capacity (l):	2.54
Compression Ratio:	17:1
Rated Power (kW/RPM):	23 / 1500
Fuel Type:	Diesel
Lube Oil:	15W40
Low Pressure Alert:	Yes
Low Fuel Cut Out:	Yes

CONTROL PANEL	
Model:	DeepSea DSE3110
Type:	Digital Control Panel
Digital Inputs:	6
Timers & Alarms:	Yes
Remote Start Input:	Yes

ALTERNATOR	
Model:	BUNDU - DPC184E
Pole Number:	4
Excitation Mode:	Self Excitation

Johannesburg
011 397 7373

Pietermaritzburg
033 007 0812

Nelspruit
013 007 1753

Bloemfontein
051 001 1429

4DW91-29D DIESEL ENGINE



ITEM	MEASURE	VALUE
Engine model		4DW91-29D
Type		4-cylinder 4-stroke
Air intake type		Natural
Cooling mode		Water cooling
Governor mode		Mechanical & electronic
Bore × Stroke	mm	90 × 100
Compression ratio		17:1
Rated speed	RPM	1500
Displacement	L	2.54
Rated power (without fan)	kW	21
Standby power (without fan)	kW	23
Emission compliant		Stage II
The flywheel shell interface		SAE4
		Flywheel for 7.5" & 10" flexible coupling
Dry weight of base	kg	220
Dry weight of GenPac	kg	240
Overall Dimension (base)	mm	750 × 555 × 680
Overall Dimension	mm	920 × 610 × 760
Fan consumption	kW	1.6
27°C air consumption	m3/min	1.7
Heat rejection of exhaust	kW	17.4
Exhaust gas temp. after turbine	°C	450
Exhaust gas flow	m3/min	4.6
Heat rejection fromengin	kW	1.3
Heat rejection of coolant	kW	13.7

DSE3110

MANUAL & AUTO START CONTROL MODULE

FEATURES



The DSE3110 can be utilised as a Manual or Auto Start Module for single gen-set applications or engine only applications. The module has been designed to work with electronic and non-electronic engines, providing advanced engine monitoring and protection features.

The DSE3110 includes a back-lit icon LCD display which clearly shows the status of the engine at all times.

The module monitors engine speed, frequency, voltage and engine run hours and also displays the warning and shutdown status.

The module includes fixed and flexible outputs as well as configurable inputs making this product ideal for a wide variety of applications. The module can either be programmed using the front panel or by using the DSE Configuration Suite PC software.

The module is available in two variants:

- CAN** – For use with electronic engines only.
 - Optional frequency (Hz) sensing from main AC alternator for gen-set applications.

- MPU/ALT.** – For use with non-electronic engines only (magnetic pick-up/alternator sensing).
 - Optional frequency (Hz) sensing from main AC alternator for gen-set applications.
 - Optional Magnetic Pickup speed sensing.

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

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

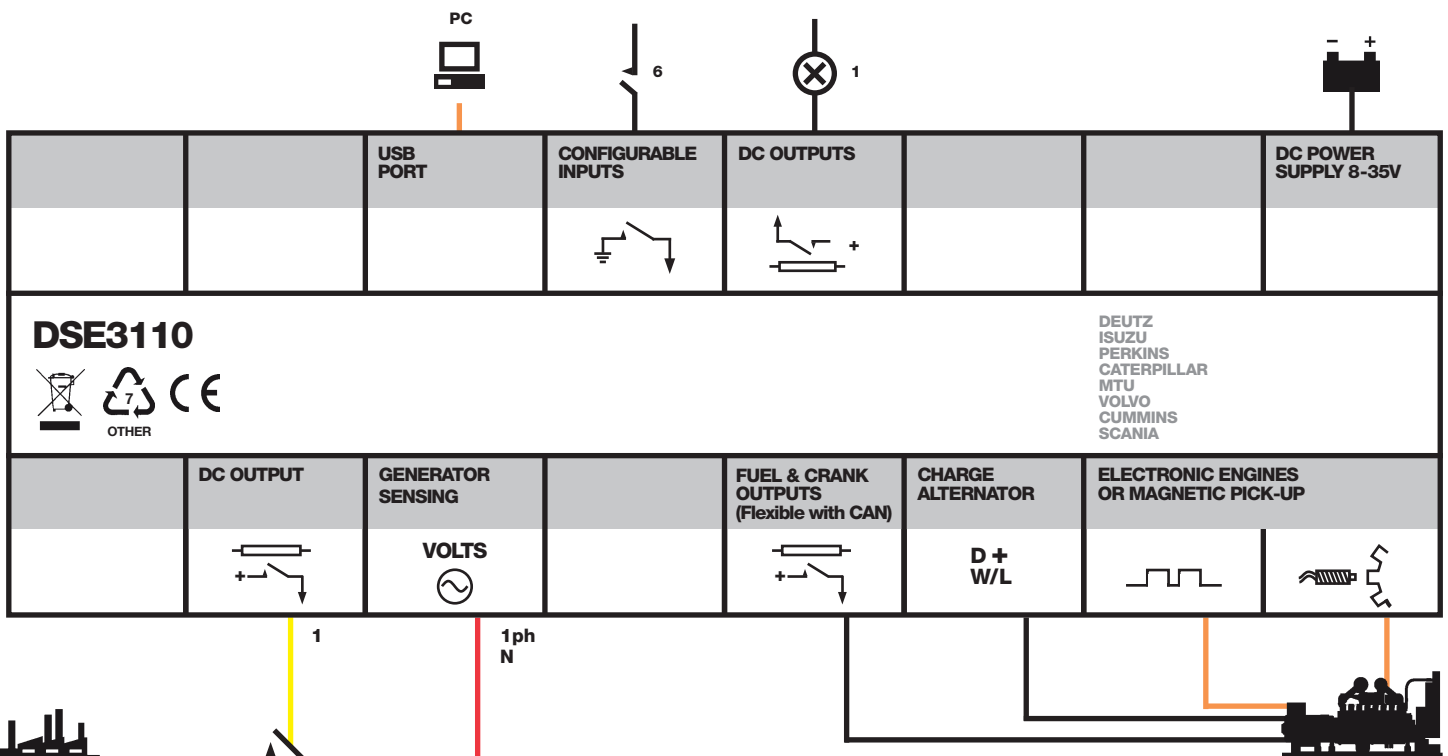
SHOCK

BS EN 60068-2-27
Three shocks in each of three major axes
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



DSE3110

MANUAL & AUTO START CONTROL MODULE

FEATURES



KEY FEATURES

- Back-lit icon LCD display
- Front panel editing
- LED and LCD alarm indication
- Power Save mode
- CAN and Magnetic Pick-up/Alt. versions available (specify on ordering)
- PC configurable
- 6 Digital inputs
- 4 Outputs (2 configurable on Magnetic Pick up/Alt., 4 configurable on CAN version)
- Configurable timers and alarms
- Alternative configuration
- Remote Start input
- Generator voltage display

- Generator frequency display
- Battery voltage display
- Engine speed display
- Hours counter
- Engine pre-heat
- Comprehensive shutdown or warning on fault condition

KEY BENEFITS

- Tamper-proof hours counter provides accurate information for monitoring and maintenance periods
- Multiple engine parameters are monitored simultaneously
- Module can be configured to suit individual applications

- Suitable for engine only applications
- Compatible with a wide range of CAN engines
- Uses DSE Configuration Suite PC software for simplified configuration
- IP65 rating (with optional gasket) offers increased resistance to water ingress
- Licence-free PC software

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

CHARGE FAIL/ EXCITATION

8 V to 35 V fixed power source 2.5 W

NOMINAL STANDBY CURRENT

23 mA at 12 V, 18 mA at 24 V

MAXIMUM OPERATING CURRENT

35 mA at 12 V, 30 mA at 24 V

OUTPUTS

OUTPUT A (FUEL)

2 A DC at supply voltage

OUTPUT B (START)

2 A DC at supply voltage

AUXILIARY OUTPUTS C,D

2 A DC at supply voltage

GENERATOR

VOLTAGE RANGE

15 V - 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)

DIMENSIONS

OVERALL

98 mm x 79 mm x 40 mm
3.9" x 3.1" x 1.6"

PANEL CUT-OUT

80 mm x 68 mm
3.1" x 2.7"

MAXIMUM PANEL THICKNESS

8 mm
0.3"

RELATED MATERIALS

TITLE

DSE3110 Installation Instructions
DSE3110 Quick Start Guide
DSE3110 Operator Manual
DSE3110 Configuration Suite PC Software Manual

PART NO'S

053-050
057-104
057-086
057-087

DEEP SEA ELECTRONICS PLC UK

Highfield House, Hunmanby Industrial Estate, Hunmanby YO14 0PH
TELEPHONE +44 (0) 1723 890099 **FACSIMILE** +44 (0) 1723 893303
EMAIL sales@deepseapl.com **WEBSITE** www.deepseapl.com

DEEP SEA ELECTRONICS INC USA

3230 Williams Avenue, Rockford, IL 61101-2668 USA
TELEPHONE +1 (815) 316 8706 **FACSIMILE** +1 (815) 316 8708
EMAIL sales@deepseausa.com **WEBSITE** www.deepseausa.com