A larger diagram is available in the operators manual.



### DIMENSIONS AND MOUNTING

For flat surface mounting in a Type 1 enclosure to meet UL requirements

DIMENSIONS

240.0mm x 181.1mm x 41.7mm (9.4" x 7.1" x 1.6")

PANEL CUTOUT: 220mm x 160mm (8.7" x 6.3")

Deep Sea Electronics Plc. Tel:+44 (0)1723 890099 Fax: +44 (0)1723 893303 LO CALL (from UK BT landlines) Telephone 0845 260 8933 Email: support@deepseaplc.com Web: www.deepseaplc.com

Deep Sea Electronics inc. Phone: +1 (815) 316-8706 Fax: +1 (815) 316- 8708 TOLL FREE (USA only) : Tel: 1 866 636 9703 Email: dsesales@deepseausa.com Web: www.deepseausa.com

#### DEEP SEA ELECTRONICS 053-129 8620 INSTALLATION INSTRUCTIONS **ISSUE 1**

# ACCESSING THE FRONT PANEL CONFIGURATION EDITOR.

- 0 Ensure the engine is at rest and the module is in STOP mode by pressing the Stop/Reset button Editor
- Press the Stop/Reset O and Info 🕑 buttons simultaneously.
- If a module security PIN has been set, the PIN number request is then shown :



Press the  $\bigcirc$  button the first digit will flash to enable the pin to be entered.

000 000 0 0 Press (up) or (down to adjust it to the correct value) 00 C

- 0 (right) when the first digit is correctly entered. The digit you have just entered will now Press show '#' for security
- Repeat this process for the other digits of the PIN number. You can press (left) if you need to move ٠ back to adjust one of the previous digits.
- $\bigotimes$  is pressed after editing the final PIN digit, the PIN is checked for validity. If the number is When not correct, you must re-enter the PIN.
- If the PIN has been successfully entered (or the module PIN has not been enabled), the editor is displayed :

Editor - Display Contrast 53%

## EDITING A PARAMETER

DSE

- Enter the editor as described above.
  - ۵ 0 00 O 000 0 Press the or to cycle to the section you wish to view/change. Then press or
  - 000 0 to cycle to the parameter within the section you have chosen.
- To edit the parameter, press  $\checkmark$  to enter edit mode. The parameter begins to flash to indicate that you are editing the value.
- Press the up or down buttons to change the parameter to the required value.
- Press to save the value. The parameter ceases flashing to indicate that it has been saved.
- To exit the editor at any time, press and hold the  ${f O}$  or  ${igodot}$  button
- Δ NOTE: When the editor is visible, it is automatically exited after 5 minutes of inactivity to ensure security.
- **A** NOTE: The PIN number is automatically reset when the editor is exited (manually or automatically) to ensure security.
- Δ NOTE: More comprehensive module configuration is possible using the 86xx series PC configuration software. Please contact us for further details
- Δ NOTE: The contents of the tables overleaf may differ depending on the actual module configuration.

### ADJUSTABLE PARAMETERS

#### Front Panel Configuration Editor

Section	Parameter as shown on display	Values
Display	Contrast	53%
	Language	English, others.
Timers	Current Date and Time	hh:mm
	LCD Page Timer Scroll Delay	5m 2 <b>s</b>
	Engine Pre Heat Timer	05
	Engine Crank Duration	10s
	Engine Crank Rest Time	10s
	Engine Safety On Delay	10s
	Engine Smoke Limiting	0s
	Engine Smoke Limiting Off Engine Warm Up Time	0s 0s
	Engine Cool Down Time	1m
	Engine Speed Overshoot Delay	0s
	Engine Failed To Stop	30s
	Battery Under Voltage Warning Delay	1m
	Battery Over Voltage Warning Delay	1m
	Return Delay	30s
	Generator Transient Delay Mains Transient Delay	0s
	Mains transfer time	2s 0.7s
Mains	Mains Under Voltage Alarm	184V
manis	Mains Over Voltage Alarm	277V
	Mains Under Frequency Alarm	45Hz
	Mains over Frequency Alarm	55Hz
	Mains Transient Delay	2s
	CT Primary	600A
	CT Secondary Mains KW Rating	5A 345kw
	Mains KVar Rating	258kw
Generator	Under Voltage Shutdown	184v
	Under Voltage Pre-Alarm	196v
	Nominal Voltage	230v
	Over Voltage Pre-Alarm	265v
	Over Voltage Shutdown	277v
	Under Frequency Shutdown	40Hz
	Under Frequency Pre-Alarm Nominal frequency	42Hz 50Hz
	Over Frequency Pre-Alarm	50HZ
	Over Frequency Shutdown	57Hz
	Full Load Rating	500A
	kw Overload Trip	100%
	Delayed Over current	Active
	Delayed Over Current	100%
	AC System	3 Phase 4 Wire
	CT Primary	600A Power Cycle After Exit 5A Power Cycle After Exit
	CT Secondary Short Circuit Trip	5A Power Cycle After Exit 200%
	Earth CT Primary	500A
	Earth Fault Trip	Active
	Earth Fault Trip	10%
	Transient Delay	0s
	Gen Reverse Power Delay	2s
	Full kw rating	
		345kw
	Full kVAr rating	258kVAr
	Load Ramp Rate	258kvAr 3%
	Load Ramp Rate Gen Reverse Power	258kVAr 3% 35kw
	Load Ramp Rate Gen Reverse Power Insufficient Capacity Delay	258kvAr 3%
	Load Ramp Rate Gen Reverse Power	258kvAr 3% 35kw 1s
	Load Ramp Rate Gen Reverse Power Insufficient Capacity Delay Insufficient Capacity action	258kvAr 3% 35kw 1s None
	Load Ramp Rate Gen Reverse Power Insufficient Capacity Delay Insufficient Capacity action Reactive Load CTL mode Load Parallel Power Load Power Factor	258kVAr 3% 35kw 1s None VAr fixed export 50% 1.00pf 0 KVAr 0%
Engine	Load Ramp Rate Gen Reverse Power Insufficient Capacity Delay Insufficient Capacity action Reactive Load CTL mode Load Parallel Power Load Power Factor Oil Pressure Low shutdown	258kvAr 3% 35kw 1s None VAr fixed export 50% 1.00pf 0 KVAr 0% 1.03bar
Engine	Load Ramp Rate Gen Reverse Power Insufficient Capacity Delay Insufficient Capacity action Reactive Load CTL mode Load Parallel Power Load Power Factor Oil Pressure Low shutdown Oil Pressure Low Pre-Alarm	258kVar 3% 35kw 1s None Var fixed export 50% 1.00pf 0 kVar 0% 1.03bar 1.24bar
Engine	Load Ramp Rate Gen Reverse Power Insufficient Capacity Delay Insufficient Capacity Action Reactive Load CTL mode Load Parallel Power Load Power Factor Oil Pressure Low shutdown Oil Pressure Low Shutdown Oil Pressure Low Pre-Alarm	258kvAr 3% 35kw 1s None VAr fixed export 50% 1.00pf 0 kvAr 0% 1.03bar 1.24bar 90°C
Engine	Load Ramp Rate Gen Reverse Power Insufficient Capacity Delay Insufficient Capacity action Reactive Load CTL mode Load Parallel Power Load Power Factor Oil Pressure Low shutdown Oil Pressure Low shutdown Oil Pressure Low Pre-Alarm Coolant Temp High Pre-Alarm Coolant Temp High Electrical Trip	258kvAr 3% 35kw 1s None VAr fixed export 50% 1.00pf 0 KvAr 0% 1.03bar 1.24bar 90°C 92°C (when Enabled)
Engine	Load Ramp Rate Gen Reverse Power Insufficient Capacity Delay Insufficient Capacity action Reactive Load CTL mode Load Parallel Power Load Power Factor Oil Pressure Low shutdown Oil Pressure Low Pre-Alarm Coolant Temp High Pre-Alarm Coolant Temp High Shutdown	258kVar 3% 35kw 1s None Var fixed export 50% 1.00pf 0 kVar 0% 1.03bar 1.24bar 90°c 92°C (when Enabled) 95°C
Engine	Load Ramp Rate Gen Reverse Power Insufficient Capacity Delay Insufficient Capacity action Reactive Load CTL mode Load Parallel Power Load Parallel Power Load Power Factor Oil Pressure Low Shutdown Oil Pressure Low Pre-Alarm Coolant Temp High Pre-Alarm Coolant Temp High Shutdown Start Delay Off Joad	258kvAr 3% 35kw 1s None VAr fixed export 50% 1.00pf 0 KvAr 0% 1.03bar 1.24bar 90°C 92°C (when Enabled)
Engine	Load Ramp Rate Gen Reverse Power Insufficient Capacity Delay Insufficient Capacity Action Reactive Load CTL mode Load Parallel Power Load Power Factor Oil Pressure Low shutdown Oil Pressure Low Shutdown Oil Pressure Low Pre-Alarm Coolant Temp High Pre-Alarm Coolant Temp High Shutdown Start Delay Off Ioad Start Delay Olad Start Delay Telemetry	258kvAr 3% 35kw 1s None VAr fixed export 50% 1.00pf 0 kvAr 0% 1.03bar 1.24bar 90°c 92°c (when Enabled) 95°c 5s 5s 5s
Engine	Load Ramp Rate Gen Reverse Power Insufficient Capacity Delay Insufficient Capacity action Reactive Load CTL mode Load Parallel Power Load Power Factor Oil Pressure Low shutdown Oil Pressure Low whetdown Coolant Temp High Pre-Alarm Coolant Temp High Electrical Trip Coolant Temp High Shutdown Start Delay Off load Start Delay on load Start Delay Telemetry Pre Heat Timer	258kvAr 3% 35kw 1s None VAr fixed export 50% 1.00pf 0 kvAr 0% 1.03bar 1.24bar 90°c 92°c (when Enabled) 95°c 5s 5s 5s 5s 0s
Engine	Load Ramp Rate Gen Reverse Power Insufficient Capacity Delay Insufficient Capacity action Reactive Load CTL mode Load Parallel Power Load Power Factor Oil Pressure Low shutdown Oil Pressure Low Shutdown Oil Pressure Low Pre-Alarm Coolant Temp High Electrical Trip Coolant Temp High Electrical Trip Coolant Temp High Shutdown Start Delay Off load Start Delay on load Start Delay Telemetry Pre Heat Timer Crank Duration	258kVar 3% 35kw 1s None Var fixed export 50% 1.00pf 0 kVar 0% 1.03bar 1.24bar 90°C 92°C (when Enabled) 95°C 5s 5s 5s 5s 0s 10s
Engine	Load Ramp Rate Gen Reverse Power Insufficient Capacity Delay Insufficient Capacity Action Reactive Load CTL mode Load Parallel Power Load Parallel Power Load Power Factor Oil Pressure Low Shutdown Oil Pressure Low Pre-Alarm Coolant Temp High Pre-Alarm Coolant Temp High Shutdown Start Delay Off load Start Delay Off load Start Delay on load Start Delay Iemetry Pre Heat Timer Crank Duration Cank rest Time	258kvAr 3% 35kw 1s None VAr fixed export 50% 1.00pf 0 kvAr 0% 1.03bar 1.24bar 90°c 92°c (when Enabled) 95°C 5s 5s 5s 0s 10s 10s
Engine	Load Ramp Rate Gen Reverse Power Insufficient Capacity Delay Insufficient Capacity action Reactive Load CTL mode Load Parallel Power Load Power Factor Oil Pressure Low shutdown Oil Pressure Low shutdown Coolant Temp High Pre-Alarm Coolant Temp High Electrical Trip Coolant Temp High Shutdown Start Delay Off load Start Delay on load Start Delay Telemetry Pre Heat Time Crank Duration Crank rest Time Safety On Delay	258kVAr 3% 35kw 1s None VAr fixed export 50% 1.00pf 0 kVAr 0% 1.03bar 1.24bar 90°c 92°C (when Enabled) 95°C 5s 5s 5s 0s 10s 10s 10s
Engine	Load Ramp Rate   Gen Reverse Power   Insufficient Capacity Delay   Insufficient Capacity Action   Reactive Load CTL mode   Load Parallel Power   Load Power Factor   Oil Pressure Low shutdown   Oil Pressure Low Pre-Alarm   Coolant Temp High Shetcham   Coolant Temp High Shutdown   Start Delay Off load   Start Delay Olad   Start Delay Olad   Start Delay Tolemetry   Pre Heat Timer   Crank Ruration   Crank rest Time   Safety On Delay   Smoke Limiting	258kVar 3% 35kw 1s None VAr fixed export 50% 1.00pf 0 KVAr 0% 1.03bar 1.24bar 90°C 92°C (when Enabled) 95°C 5s 5s 5s 5s 0s 10s 10s 10s 0s
Engine	Load Ramp Rate Gen Reverse Power Insufficient Capacity Delay Insufficient Capacity action Reactive Load CTL mode Load Parallel Power Load Power Factor Oil Pressure Low shutdown Oil Pressure Low Pre-Alarm Coolant Temp High Pre-Alarm Coolant Temp High Electrical Trip Coolant Temp High Shutdown Start Delay Ofl Joad Start Delay on Joad Start Delay on Joad Start Delay Telemetry Pre Heat Time Crank Duration Crank rest Time Safety On Delay Smoke Limiting Smoke limiting off	258kvAr 3% 35kw 1s None VAr fixed export 50% 1.00pf 0 kvAr 0% 1.03bar 1.24bar 90°C 92°C (when Enabled) 95°C 5s 5s 5s 5s 5s 0s 10s 10s 0s 0s
Engine	Load Ramp Rate Gen Reverse Power Insufficient Capacity Delay Insufficient Capacity action Reactive Load CTL mode Load Parallel Power Load Power Factor Oil Pressure Low shutdown Oil Pressure Low Pre-Alarm Coolant Temp High Pre-Alarm Coolant Temp High Shutdown Start Delay Off Ioad Start Delay Off Ioad Start Delay Off Ioad Start Delay Telemetry Pre Heat Time Crank Duration Crank rest Time Safety on Delay Smoke Limiting Smoke Limiting offf Warm Up Time	258kVar 3% 35kw 1s None Var fixed export 50% 1.00pf 0 kVar 0% 1.03bar 1.24bar 90°C 92°C (when Enabled) 95°C 5s 5s 5s 5s 0s 10s 10s 10s 10s 0s 0s 0s 0s 0s
Engine	Load Ramp Rate Gen Reverse Power Insufficient Capacity Delay Insufficient Capacity action Reactive Load CTL mode Load Parallel Power Load Power Factor Oil Pressure Low shutdown Oil Pressure Low Pre-Alarm Coolant Temp High Pre-Alarm Coolant Temp High Electrical Trip Coolant Temp High Shutdown Start Delay Ofl Joad Start Delay on Joad Start Delay on Joad Start Delay Telemetry Pre Heat Time Crank Duration Crank rest Time Safety On Delay Smoke Limiting Smoke limiting off	258kvAr 3% 35kw 1s None VAr fixed export 50% 1.00pf 0 kvAr 0% 1.03bar 1.24bar 90°C 92°C (when Enabled) 95°C 5s 5s 5s 5s 5s 0s 10s 10s 0s 0s
Engine	Load Ramp Rate   Gen Reverse Power   Insufficient Capacity Delay   Insufficient Capacity Action   Reactive Load CTL mode   Load Parallel Power   Load Power Factor   Oil Pressure Low shutdown   Oil Pressure Low Pre-Alarm   Coolant Temp High Statt Delay off load   Start Delay off load   Start Delay on load   Start Delay on Delay   Safety On Delay   Smoke Limiting   Smoke Limiting off   Warm Up Time   Cool Down Time	258kVar 3% 35kw 1s None VAr fixed export 50% 1.00pf 0 KVAr 0% 1.03bar 1.24bar 90°C 92°C (when Enabled) 95°C 5s 5s 5s 5s 0s 10s 10s 10s 10s 0s 0s 0s 0s 0s 0s 0%
Engine	Load Ramp Rate   Gen Reverse Power   Insufficient Capacity Delay   Insufficient Capacity Action   Reactive Load CTL mode   Load Parallel Power   Load Parallel Power   Colant Temp High Pre-Alarm   Coolant Temp High Plectrical Trip   Coolant Temp High Shutdown   Start Delay on load   Start Delay no load   Start Delay on Poet   Crank Duration   Crank Duration   Safety On Delay   Smoke limiting   Smoke limiting off   Warm Up Time   Cool Overshoot Delay   Speed Overshoot Delay   Speed Overshoot Delay	258kvAr 3% 35kw 1s None VAr fixed export 50% 1.00pf 0 KvAr 0% 1.03bar 1.24bar 90°c 92°c (when Enabled) 95°C 5s 5s 5s 5s 0s 10s 10s 10s 10s 0s 0s 0s 0s 0s 0% 30s
Engine	Load Ramp Rate   Gen Reverse Power   Insufficient Capacity Delay   Insufficient Capacity Action   Reactive Load CTL mode   Load Parallel Power   Load Power Factor   Oil Pressure Low shutdown   Oil Pressure Low Pre-Alarm   Coolant Temp High Shetcharm   Coolant Temp High Shutdown   Start Delay Off load   Start Delay Telmetry   Pre Heat Timer   Crank rest Time   Safety On Delay   Smoke Limiting Off   Warm Up Time   Cool Down Time   Speed Overshoot Delay   Speed Overshoot Delay	258kVar 3% 35kw 1s None VAr fixed export 50% 1.00pf 0 KVAr 0% 1.03bar 1.24bar 90°C 92°C (when Enabled) 95°C 5s 5s 5s 5s 0s 10s 10s 10s 10s 0s 0s 0s 0s 0m 1m 0s 0%

### Front Panel Configuration Editor (continued)

Section	Parameter as shown on display	Values
Engine (Continued)	Battery Under Volts Warning	10v
	Battery Over Volts Warning	Active
	Battery Over Volts Warning Delay	1m
	Battery Over Volts Warning	30v
	Charge Alternator Failure Warning	Active
	Charge Alternator Failure Warning	6.0v
	Charge Alternator Warning Delay	5s
	Charge Alternator Failure Shutdown	Inactive
	Charge Alternator Failure Shutdown	4.0v (When Enabled)
	Charge Alternator Shutdown Delay	5s (When Enabled)
	Droop %	Active, Inactive. Electronic engines only when droop is enabled.
Scheduler	Scheduler	Active, Inactive
	Schedule On Load	Active , Inactive (Only Available When Scheduler Is Active)
	Schedule Period	Weekly, Monthly (Only Available When Scheduler Is Active)
	Schedule Time & Date Selection (1-16)	Press 🕑 to begin editing then or when selecting the different parameters in the scheduler.

### ACCESSING THE 'RUNNING' CONFIGURATION EDITOR

- The 'running' editor can be entered while the engine is running. All protections remain active if the engine is running while the running editor is entered.
- Press and hold the button to enter the running editor.

## ADJUSTABLE PARAMETERS (Running editor)

• Enter the editor as described above.

0

000



- Press the up or down so buttons to cycle to the section you wish to view/change.
- To Edit the parameter press the 🖉 button to enter edit mode. The parameter begins to flash to indicate that you are editing the value.



- Press the up or down obtitons to change the parameter to the required value.
- Press the 🕑 button to save the value. The parameter ceases flashing to indicate that it has been saved.
- To exit the editor at any time , press and hold the  $\checkmark$  button.

### **Running Editor**

٠

Section	Parameter as shown on display	Factory Settings
DISPLAY	Contrast	53%
	Language	English
	Load Power factor	0-100% (0)
	Load parallel power	0-100% (50)
]	Commissioning screens	Inactive, Active
1	Override starting alarms	Inactive, Active
1	Voltage adjust (manual mode only engine running breaker open)	0-100 % (0)
]	Frequency adjust (manual mode only engine running breaker open)	0-100 % (0)
	Auxiliary Mains Fail Out of sync reset	Inactive Active
	Mains decoupling test mode (Stop mode only)	Inactive Active