TYPICAL WIRING DIAGRAM

A larger diagram is available in the operators manual.
Part No 057-163

AUTOMATIC MCCB,
AUTOMATIC ACB
or CONTACTOR
3 OR 4 POLE

CTs 1 OR 5 AMP
SECONDARY
PROTECTION CLASS

P1   P2
S1   S2

FROM
GENERATOR

TO
LOAD

TO OTHER 86xx,
86XX & 87xx MODULES
MSC CONNECTIONS
MAX 250 METERS
120 OHM SCREENED CABLE

THE FIRST AND LAST
UNITS MSC MUST BE FITTED
WITH A 120 OHM RESISTOR
ACROSS H AND L

2 AMP
FUSES

2 AMP
FUSES

TO GEN SWITCHING
DEVICE CIRCUITRY

MPU

| 51 | 52 | 53 | 55 | 54 | 43 | 44 | 45 | 46 | 41 | 42 | 24 | 22 | 23 | 39 | 40 | 28 | 29 | 30 | 47 | 48 | 49 | 50 | 33 | 31 | 32 |

CT1 CT2 CT3 CT4 COM
L1S1 L2S1 L3S1 N S1
GEN CURRENT

U V W N
L1 L2 L3
GEN VOLTS

CLOSE
OUTPUT
D

SCR – +
MPU

OUTPUT
C

B A SCR
DSE NET
HIGH SPEED
PERIPHERAL
LINK

R S T N
L1 L2 L3
BUS VOLTS

SCR H L
MSC

MODULE 8810

RS485
PORT 2   A
         B
RS232
PORT 1   SCR
         A
         B
         SCR

RJ45
ETHERNET

USB HOST

USB
PROGRAMMING
PORT

BATTERY
+VE –VE

FUEL

OIL PRESSURE
WATER TEMP
FUEL LEVEL (FLEXIBLE)
FLEXIBLE
COMMON GROUND
CHRG ALT

12 INPUTS

PLANT +VE

8 FET OUTPUTS

GOVERNOR
O/P   B A

AVR
O/P   B A

ENGINE ECU
SCR H L

| 2 | 1 | 3 | 4 | 5 | 17 | 18 | 19 | 20 | 16 | 6 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 7 | 34 | 35 | 36 | 37 | 38 | 27 | 25 | 26 |

MIN 2 AMPS
MAX 20 AMP
ANTI-SURGE FUSE

UPTO 32 AMPS
FUSE

REMOVE LINK FOR
FOR REMOTE EM STOP

TO FUEL SOLENOID MAX 16AMP OUTPUT A
TO CRANK SOLENOID MAX 16AMP OUTPUT B

LOW OIL PRESSURE
HIGH COOLANT TEMP
FUEL LEVEL
SENDER

CHARGE ALTERNATOR

TO ENGINE EARTH

USER CONFIGURABLE –VE INPUT A
USER CONFIGURABLE –VE INPUT B
USER CONFIGURABLE –VE INPUT C
USER CONFIGURABLE –VE INPUT D
USER CONFIGURABLE –VE INPUT E
USER CONFIGURABLE –VE INPUT F
USER CONFIGURABLE –VE INPUT G
USER CONFIGURABLE –VE INPUT H
USER CONFIGURABLE –VE INPUT I
USER CONFIGURABLE –VE INPUT J
USER CONFIGURABLE –VE INPUT K
USER CONFIGURABLE –VE INPUT L

USER CONFIGURABLE +VE OUTPUT E
USER CONFIGURABLE +VE OUTPUT F
USER CONFIGURABLE +VE OUTPUT G
USER CONFIGURABLE +VE OUTPUT H
USER CONFIGURABLE +VE OUTPUT I
USER CONFIGURABLE +VE OUTPUT J
USER CONFIGURABLE +VE OUTPUT K
USER CONFIGURABLE +VE OUTPUT L

CONNECT SCREEN
AT GENERATOR ONLY

TO
GOVERNOR

TO
AVR

CONNECT SCREEN
AT GENERATOR ONLY

SCREEN EARTHED
AT THIS END ONLY

120 R TERMINATING RESISTOR
MAY BE REQUIRED EXTERNALLY.
SEE ENGINE MANUFACTURERS LITERATURE

BATTERY +VE
(12 OR 24 VDC)   BATTERY –VE

DIMENSIONS AND MOUNTING
For flat surface mounting in a Type 1 enclosure

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")

Accessing the Front Panel Configuration Editor.

- Ensure the engine is at rest and the module is in STOP mode by pressing the Stop/Reset ⊙ button.
- Press and hold the the ⊙ Stop button and ✓ Tick button together.
- If a module security PIN has been set, the PIN number request is then shown .

- Press ✓, the first '#' changes to '0'. Press ▲ (up) or ▼ (down) to adjust it to the correct value.
- Press ▶ (right) when the first digit is correctly entered. The digit you have just entered will now show '#' for security.
- The other digits of the PIN number. You can press ◀ (left) if you need to move back to adjust one of the previous digits.
- When ✓ is pressed after editing the final PIN digit, the PIN is checked for validity. If the number is 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.
- To edit the parameter, press ✓ 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 ⊙ or ✓ button.

EDITING A PARAMETER

- Enter the editor as described above.
- Press the ▲ (up) ▼ (down) and ▶ (right) to cycle to the section you wish to view/change.
  Then press ▲ (up) or ▼ (down) to cycle to the parameter within the section you have chosen.

- To edit the parameter, press ✓ 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 ⊙ or ✓ button.

⚠ NOTE: When the editor is visible, it is automatically exited after 5 minutes of inactivity to ensure security.

⚠ NOTE: The PIN number is automatically reset when the editor is exited (manually or automatically) to ensure security.

⚠ NOTE: More comprehensive module configuration is possible using the PC configuration software. Please contact us for further details

⚠ NOTE: The contents of the tables overleaf may differ depending on the actual module configuration.

ADJUSTABLE PARAMETERS - Front Panel Configuration Editor.

Section	Parameter	Detail of Parameter	Parameter Action	Values
Inputs	Oil Pressure	Low Oil Pressure	Shutdown Trip	0.00 Bar
			Warning Trip	0.00 Bar
	Coolant Temperature	High Coolant Alarms	Pre-Alarm Trip	00 Deg C
			Electrical Trip	00 Deg C
			Shutdown Trip	00 Deg C
		Low Coolant Alarms	Pre Alarm Trip	00 Deg C
	Fuel Level	Fuel Usage Alarm	Running Rate	Up / down
			Stopped Rate	Up / down
Timers	Start Timers	Start Delay	Remote Start Off Load	s
			Remote start On Load	s
			Telemetry Start	s
		Start Timers	Preheat	s
			Cranking Time	s
			Crank Rest Time	s
			Smoke Limit	s
			Smoke Limit Off	s
			Safety on Delay	s
			Warming up Timer	s
	Stopping Timers	Stopping Timers	Return Delay	s
			Cooling Time	mm:ss
			Fail To Stop Delay	0s
			Gen Transient Delay	0s
	Display		Page Timer	mm: ss
			Scroll Timer	s
Generator	Generator Options	AC System		3 Phase, 4 wire Delta
				2 Phase, 3 Wire L1-L3
				2 Phase, 3 Wire L1-L2
				3 Phase, 3 Wire
				Single Phase, 2 Wire
				3 Phase, 4 Wire
		Generator Rating	KW Rating	0 KW
			kVAr Rating	0 kVAr
	Generator Current	Current Options	CT Primary (L1,L2,L3,N)	0A
			CT Secondary 5Amp / 1 Amp	5 / 1 Amp
			Full Load Rating	0A
		Earth Fault	Earth CT Primary	0A
			Trip Action	Enabled / Disabled
			Trip Percentage	0%
		Over Current Alarm	IDMT Alarm	Enabled / Disabled
			Trip	0% 0.0A
		Short Circuit	Trip	0% 0.0A
	Generator Voltage	Under Voltage Alarms	Alarm Trip	0%
			Pre-Alarm Trip	0A
		Nominal Voltage	Nominal Voltage	0V
		Over Voltage Alarms	Pre-alarm ttrip	0V
			Alarm Trip	0V
	Generator Frequency	Under Frequency Alarms	Alarm Trip	0.0Hz
			Pre-Alarm Trip	0.0Hz
		Nominal Frequency	Nominal Frequency	0.0Hz
			Pre-Alarm Trip	0.0Hz
			Alarm Trip	0.0Hz
	Generator Power	Overload Protection	Overload Protection Trip	0% (0 kW)
			Reverse Power Trip (Delay)	0kW (0.0 s)
	Synchronising	Load Control		KVAr Fixed Export
			Reactive Load Mode	kVAr Share
				None
		Ramp Speed	Ramp Speed	0.0 %/s
		Load Demand	Calling For More Sets	0 %
			Calling For Less Sets	0 %
		Insufficient Capacity	Action	Warning / Shutdown / None / Indication / Electrical Trip
Engine	Engine Options	Overspeed Options	Overspeed Overshoot	0%
			Overshoot Delay	s
		Droop	Enable	Enabled / Disabled
			Percent	0.0%
	Speed Settings	Under Speed	Alarm Enable	Enabled / Disabled
			Alarm Trip	0000 RPM
			Warning Enable	Enabled / Disabled
			Warniing Trip	0000 RPM
		Over Speed	Alarm Trip	0000 RPM
			Pre-Alarm Enable	Enabled / Disabled
			Pre-Alarm Trip	0000 RPM
	Plant Battery	Under Voltage Alarms	Under Volts Enable	Enabled / Disabled
			Under Volts Delay	mm:ss
			Under Volts Pre-Alarm	0.0v
		Over Voltage Alarms	Over Volts Enable	Enabled / Disabled
			Over volts Delay	mm:ss
			Over Volts Pre-Alarm	0.0v
		Charge Alt Alarm	Alarm Enable	Enabled / Disabled
			Alarm Trip	0.0v
			Alarm Delay	s
		Charge Alt Pre-Alarm	Pre-Alarm Enable	Enabled / Disabled
			Pre-Alarm Trip	0.0v
			Pre-Alarm Delay	s
Alt. Config Options	Default Configuration			Alternative Configuration 3
				Alternative Configuration 2
				Alternative Configuration 1
				Main Configuration

ACCESSING THE "MAINTENANCE" EDITOR

Press ⬆ (up) or ⬇ (down) buttons together.

Press ⬆ ,(Up) ⬇ or(down) ➡ (right) to cycle to the Parameter you wish to action.

Description	Action	Activation
USB Stick Removal	Request	Press
Override Starting Alarms	Request	
Clear AMF Alarm	Clear	⬆
Manual Fuel Pump	Inactive	
Min / Max Session Reset	Request	Button
Cancel Telemetry	Request	

To exit the editor at any time, press and hold the ✓ Tick button.

ACCESSING THE 'RUNNING' CONFIGURATION EDITOR

- The 'running' or 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 Configuration Editor) Enter the editor as described above.

- Press the ⬆ (up) or ⬇ (down) buttons to cycle to the section you wish to view / change.
- To Edit the parameter press the ✓ Tick button 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 the ✓ Tick button to save the value. The parameter ceases flashing to indicate that it has been saved.
- Press and hold ✓ Tick button to exit the "Running Configuration Editor".

Section	Parameter	Detail Of Parameter	Values
Language	Language		other
			English (United Kingdon)
Generator	Running	Load Power Factor	0%
			0.00pf
			0kVAr
		Load Parallel Power	0%
			0kW
	Load Priority	Load Priority	1
	Options	Starting Alarms	Disabled / Enabled
		Decoupling Test Mode	Disabled / Enabled
	Voltage	Voltage Adjust	0%
	Frequency	Frequency Adjust	0%
Display	Press/ Temp Units	Pressure	kPA / PSI / Bar
		Temperature	Deg F / Deg C
	Volume Units	Volume	Litre / Gallons US / Gallons (UK)
	Display	LCD Backlight	0%
	AC Graphics	AC Min / Max Enable	Enabled / Disabled
		AC Meter Enable	Enabled / Disabled
		THD Screen Enable	Enabled / Disabled
	Engine	Multi Meter Mode	Enabled / Disabled
		Tier 4 Screen	Enabled / Disabled
	Alarm	Alarm Alert Box	Enabled / Disabled
	Summary	Summary Area Graphic	Bars / Connectors
	Home	Commissioning Screens	Enabled / Disabled
Engine	Speed Adjust		⬆ Up / ⬇ Down buttons
Time	Module Time		hh:mm:ss
	Module Date		DD/ MM/ YYYY
	Date Format	MM/ DD/ YYYY OR DD/ MM/ YYYY	MM/ DD/ YYYY OR DD/ MM/ YYYY