TYPICAL WIRING DIAGRAM

NOTE 1

V V R R

MPU

USER CONFIGURABLE +VE OUTPUT C
USER CONFIGURABLE +VE OUTPUT D

ANALOGUE INPUT COMMON
ANALOGUE INPUT A
ANALOGUE INPUT B
ANALOGUE INPUT C
ANALOGUE INPUT D
ANALOGUE INPUT COMMON
ANALOGUE INPUT E
ANALOGUE INPUT F
ANALOGUE INPUT G

| A1 | A2 | | C2 | C8 | C3 | | A11 | A18 | A17 | A16 | A15 | | C4 | C5 | C6 | C12 | | C1 | C7 | | C9 | C10 | C11 |

NOTE 5

A B SCR
RS 485

7 RATIOMETRIC INPUTS

B   SCR
GOV
OUTPUT

+ − SCR
MPU

BATTERY +VE
2 DIGITAL OUTPUTS

MODULE E400
NOTE 3

WIRED AS RESISTIVE	WIRED AS 0-10V	WIRED AS 4-20mA (SELF POWERED)	WIRED AS 4-20mA (LOOP POWERED)	WIRED AS DIGITAL
C & D	A & B	E	F	G

USB PROGRAMMING PORT

BATTERY
−VE +VE

FUEL START
CHARGE ALT

PWMi DC SUPPLY
−VE +VE

2 PWMi OUTPUTS

NOTE 4
4 DIGITAL INPUTS

CAN
H L SCR

| A13 | A7 | | A3 | A4 | A5 | A14 | | C13 | C14 | | C16 | C15 | | A6 | A12 | C18 | C17 | | A10 | A9 | A8 |

DO NOT CONNECT THE SCREEN TO ENGINE

NOTE 2

EMERGENCY STOP BREAKS SUPPLY TO THE FUEL AND START OUTPUTS

SUITABLY RATED FUSE
SUITABLY RATED FUSE
+VE OUTPUT A SUPPLIED FROM EMERGENCY STOP
+VE OUTPUT B SUPPLIED FROM EMERGENCY STOP
SUITABLY RATED FUSE

USER CONFIGURABLE PWMi OUTPUT E
USER CONFIGURABLE PWMi OUTPUT F

USER CONFIGURABLE +VE INPUT A
USER CONFIGURABLE +VE INPUT B
USER CONFIGURABLE −VE INPUT C
USER CONFIGURABLE −VE INPUT D

PWM
PWM
500mA FUSE

BATTERY + −

FUEL
START
WL CHARGE ALT

CONNECTOR A
6 12 18
1 7 13

CONNECTOR C
6 12 18
1 7 13

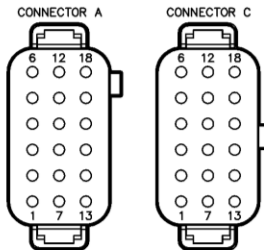⏚ BATTERY NEGATIVE MUST BE GROUNDED

NOTE 1. THESE GROUND CONNECTIONS MUST BE ON THE ENGINE BLOCK, AND MUST BE TO THE SENSOR BODIES.

NOTE 2. 120 Ω TERMINATING RESISTOR MAY BE REQUIRED EXTERNALLY, SEE ENGINE MANUFACTURERS LITERATURE.

NOTE 3. ANALOGUE INPUTS CAN BE CONFIGURED AS EITHER A DIGITAL INPUT, RESISTIVE INPUT, 0-10V INPUT, 4-20mA INPUT OR ANY COMBINATION OF THE ABOVE.

NOTE 4. DIGITAL INPUTS CAN BE CONFIGURED AS EITHER +VE OR −VE SWITCHING.

NOTE 5. AN EXTERNAL 120 Ω TERMINATING RESISTER MUST BE FITTED IF THE CONTROLLER IS THE FIRST OR LAST UNIT ON THE RS485 LINK
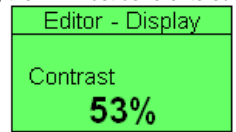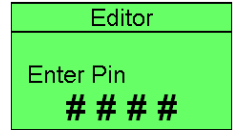
⚠ NOTE: To meet UL requirements, fuse the module supply at 167% of supply current.

DSEE400 Installation Instructions

ACCESSING THE FRONT PANEL EDITOR

* Ensure the engine is at rest and the module is in STOP mode by pressing the Stop/Reset button.

* Press and hold the Stop/Reset and Auto buttons simultaneously.

* If a module security PIN has been set, the PIN number request is then shown:

* Press the Auto button, the first '#' changes to '0'. Press Up or Down buttons to adjust it to the correct value.

* Press and hold the Up button when the first digit is correctly entered. The digit you have just entered will now show '#' for security.

* Repeat this process for the other digits of the PIN number. Press and hold the Down button if previous digits need to be edited. Press the Auto button to finish editing the PIN.

* Press the Auto button to check the PIN for validity. If the number is not correct, the PIN must be re-entered.

* If the PIN has been successfully entered (or the module PIN has not been enabled), the editor is displayed:

Editor
Enter Pin
# # # #

Editor - Display
Contrast
53%

EDITING A PARAMETER

* Enter the editor as described.

* Press and hold the Up or Down buttons to cycle to the section you wish to view/change.

* Press the Up or Down buttons to select the parameter you wish to view/change within the currently selected section.

* To edit the parameter, press the Auto 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 Auto button to save the value. The parameter ceases flashing to indicate that it has been saved.

* To exit the editor and save the changes, press and hold the Auto button.

* To exit the editor and not save the changes, press and hold the Stop/Reset button.

⚠ NOTE: The editor is 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 DSE Configuration Suite PC Software, refer to DSE publication *057-251   DSEE400 Configuraiton Suite PC Software Manual*.

FRONT PANEL EDITOR PARAMETERS

Section	Parameter As Shown On Display	Value
Display	Contrast	66 %
	Backlight Level	100 %
	Language	English
	Current Date and Time	Day:month:year, hour:minute:seconds
Engine	Oil Pressure Low Shutdown (If Set)	1.03 bar, kPa, psi
	Oil Pressure Low Pre Alarm (If Set)	1.24 bar, kPa, psi
	Coolant Temperature High Pre Alarm (If Set)	90 ºC, ºF
	Coolant Temp High Controlled Shutdown (If Set)	92 ºC, ºF
	Coolant Temperature High Shutdown (If Set)	95 ºC, ºF
	Pre Heat Temperature (If Set)	50 ºC, ºF
	Pre Heat Timer	0 h 0 m 0 s
	Post Heat Temperature (If Set)	50 ºC, ºF
	Post Heat Timer	0 h 0 m 0 s
	Under Speed Shutdown	Active, Inactive
	Under Speed Shutdown	1200 rpm
	Under Speed Warning	Active, Inactive
	Under Speed Warning	1260 rpm
	Over Speed Warning	Active, Inactive
	Over Speed Warning	1650 rpm
	Over Speed Shutdown	1710 rpm
	Overspeed Overshoot	0s
	Overspeed Overshoot	0%
	Battery Under Voltage Warning	Active, Inactive
	Battery Under Voltage Warning	10.0v
	Battery Under Voltage Warning Delay	0h 1m 0s
	Battery Over Voltage Warning	Active, Inactive
	Battery Over Voltage Warning	30.0v
	Battery Over Volts Warning Delay	0h 1m 0s
	Charge Alternator Failure Pre-Alarm	Active, Inactive
	Charge Alternator Failure Pre-Alarm	6.0v
	Charge Alternator Failure Pre-Alarm Delay	0h 0m 5s
	Charge Alternator Failure Shutdown	Active, Inactive
	Charge Alternator Failure Shutdown	4.0v
	Charge Alternator Shutdown Delay	0h 0m 5s
	Battery Under Voltage Warning	Active, Inactive
	Battery Under Voltage Warning	10.0v
	Battery Under Voltage Warning Delay	0h 1m 0s
	Battery Over Voltage Warning	Active, Inactive
	Battery Over Voltage Warning	30.0v
	Battery Over Volts Warning Delay	0h 1m 0s
	Charge Alternator Failure Pre-Alarm	Active, Inactive
	Charge Alternator Failure Pre-Alarm	6.0v
	Charge Alternator Failure Pre-Alarm Delay	0h 0m 5s
	Charge Alternator Failure Shutdown	Active, Inactive
	Charge Alternator Failure Shutdown	4.0v
	Charge Alternator Shutdown Delay	0h 0m 5s
Clutch Control	Clutch Disengage Low Speed	0 rpm
	Clutch Engage Speed	0 rpm
	Clutch Disengage High Speed	8000 rpm
	Clutch Re-Engage	0 rpm
	Clutch Disengage Low Speed	0 rpm
PLC Instruments	PLC Watched Item (1-16)	[PLC value] units

Section	Parameter As Shown On Display	Value
Speed Settings	Cranking Speed	0 rpm
	Warming Speed	0 rpm
	Idle Speed	0 rpm
	Priming Speed	0 rpm
	DPF Regeneration Speed*	Active, Inactive
	DPF Regeneration Speed*	0 rpm
	Cooldown Speed	0 rpm
Speed Control	Min Speed	0 rpm
	Default Running Speed	0 rpm
	Max Speed	0 rpm
	Fixed Running Speed	0 rpm
	Selectable Speed 1	0 rpm
	Selectable Speed 2	0 rpm
	Selectable Speed 3	0 rpm
	Selectable Speed 4	0 rpm
	Linear Min Sensor Value	[Val] <user/units>
	Linear Max Sensor Value	[Val] <user/units>
	Linear Speed at Min	0 rpm
	Linear Speed at Max	0 rpm
	Emptying Speed	0 rpm
	Filling Speed	0 rpm
	Maintain Empty Running Speed	0 rpm
	Maintain Empty Emptying Speed	0 rpm
	Maintain Empty Setpoint	[Val] <user/units>
	Maintain Empty Deadband	[Val] <user/units>
	Maintain Fill Running Speed	0 rpm
	Maintain Fill Filling Speed	0 rpm
	Maintain Fill Setpoint	[Val] <user/units>
	Maintain Fill Deadband	[Val] <user/units>
	Engine Start Value	[Val] <user/units>
	Engine Stop Value	[Val] <user/units>
Maintenance	Maintenance PIN protect	Active, Inactive
	Maintenance Alarm 1	10h
	Maintenance Alarm 2	10h
	Maintenance Alarm 3	10h
	Maintenance Alarm 4	10h
	Maintenance Alarm 5	10h
	Maintenance Alarm 6	10h
	Maintenance Alarm 7	10h
	Maintenance Alarm 8	10h
	Maintenance Alarm 9	10h
	Maintenance Alarm 10	10h
CAN	CAN Terminator Active	Active, Inactive
	DPF Auto Regen Inhibit*	Active, Inactive
	DPF Manual Regen*	Active, Inactive
	DPF Manual Regen Cancel*	Active, Inactive
Flexible Sensors	Flexible Sensor (A-G) Low Alarm	Active, Inactive
	Flexible Sensor (A-G) Low Alarm	[value] <unit>
	Flexible Sensor (A-G) Low Pre-Alarm	Active/Inactive
	Flexible Sensor (A-G) Low Pre-Alarm	[value] <unit>
	Flexible Sensor (A-G) High Pre-Alarm	Active/Inactive
	Flexible Sensor (A-G) High Pre-Alarm	[value] <unit>
	Flexible Sensor (A-G) High Alarm	Active/Inactive
	Flexible Sensor (A-G) High Alarm	[value] <unit>
Timers	LCD Page Timer	0h 5m 0s
	LCD Scroll Delay	0h 0m 2s
	Start Delay Off load	5s
	Start Delay On load	5s
	Start Delay Telemetry	5s
	Delayed Engine Start	0h 0m 30s
	Cranking	0m 10s
	Cranking Rest	0m 10s

Section	Parameter As Shown On Display	Value
Timers Cont.…	Safety On Delay	0m 10s
	Smoke Limiting	0h 0s
	Smoke Limiting Off	0h 0s
	Warming	0h 0m 0s
	Return Delay	0h 0m 30s
	Cooling	0h 1m 0s
	Cooling at Idle	0h 1m 0s
	Failed To Stop Delay	0m 30s
	Delayed Engine Stop	0h 0m 30s
	Engine Speed Transient Delay	0.0s
	Priming Delay	0h 0m 30s
	Selectable Speed Transfer Delay	0m 0.2s
	DPF Ramp*	5s
Scheduler	Schedule	Active, Inactive
	Schedule Period	Wkly/Mthly (If Active)
	Schedule Time & Date Selection (1-8)	See Editing A Parameter
	1 Schedule	Off Load / On Load / Auto start inhibit
	Week 1 (If Monthly selected)	Wk1, Wk2, Wk3, Wk4
	On	00:00
	Run Time	00:00
	M T W T F S S	Select day
Active Configuration	Active Config Select	<Main Config>
		<Alt Config 1>
		<Alt Config 2>
		<Alt Config 3>
		<Alt Config 4>

*Electronic Engines Only

ACCESSING THE SPEED CONTROL EDITOR

- Ensure the engine is at rest and the module is in STOP mode by pressing the Stop/Reset button.
- Navigate to the *Active Configuration* screen in the *Engine* section of the module's display.
- Press and hold the Up and Down buttons simultaneously to enter the editor, no PIN is required.
- Edit the parameters as described overleaf in the *Editing a Parameter* section.

DIMENSIONS AND MOUNTING

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

DIMENSIONS
189 mm x 125 mm x 54 mm
(7.5" x 4.9" x 2.1")

PANEL CUTOUT
148 mm x 112 mm
(5.8" x 4.4")

MOUNTING HOLE SPACING
165 mm x 68 mm
(6.5" x 2.7")

MOUNTING HOLE DIAMETER
Suitable for M4
(5/32" diameter)

CONNECTORS & WIRING HARNESS

Details	DSE Part Number	Manufacturer's Part Number	Manufacturer
Connector A	007-850	DT16-18SA-K004	Deutsch
Connector C	007-851	DT16-18SC-K004	Deutsch
1.2 m Wiring Harness Complete With Connector A & C.	007-852	-	DSE