

# DSEE400

## ENGINE CONTROLLER

The DSEE400 is an easy to use engine controller designed to provide flexible control with built in monitoring and protection.

The DSEE400 is compatible with both electronic and mechanical diesel engines. It is fully configurable for a wide range of applications such as engine driven pumps and compressors.

All of the engine control functions, including the engine start, speed and clutch control can be achieved both automatically & manually.

The monitoring and configuration of the system variables allows the DSEE400 to start and stop the engine and increase and decrease engine speed as the output demand requires.

On board event, data logging and trending makes it possible to determine preventative maintenance and improved performance criteria for the machine.

The DSE Configuration Suite PC Software is used to easily make adjustments to the operating parameters, sequences, timers and alarms. Reducing valuable development and commissioning time

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

#### HUMIDITY

BS EN 60068-2-30  
Db Damp Heat Cyclic 20/55 °C at 95% RH  
48 Hours  
BS EN 60068-2-78  
Cab Damp Heat Static 40 °C at 93% RH  
48 Hours

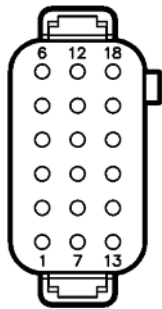
#### SHOCK

BS EN 60068-2-27  
Three shocks in each of three major axes  
15 gn in 11 ms

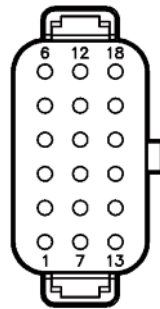
#### DEGREES OF PROTECTION PROVIDED BY ENCLOSURES

BS EN 60529  
IP67.

### CONNECTOR A



PIN	DESCRIPTION
1	Output C
2	Output D
3	Emergency Stop
4	Output A (Fuel)
5	Output B (Start)
6	Digital Input A
7	Plant Supply +ve
8	CAN Screen
9	CAN L
10	CAN H
11	Common
12	Digital Input B
13	Plant Supply -ve
14	Charge Fail
15	Analogue Input D
16	Analogue Input C
17	Analogue Input B
18	Analogue Input A



### CONNECTOR C

PIN	DESCRIPTION
1	Governor B
2	RS485 A
3	RS485 Screen
4	Common
5	Analogue Input E
6	Analogue Input F
7	Governor A
8	RS485 B
9	MPU +
10	MPU -
11	MPU Screen
12	Flexible Sender G
13	PWMI Supply -ve
14	PWMI Supply +ve
15	PWMI Output F
16	PWMI Output E
17	Digital Input D
18	Digital Input C

### RELATED PARTS

#### TITLE

Deutsch connector A (DT16-18SA-K004), 18 way complete with pins  
Deutsch connector C (DT16-18SC-K004), 18 way complete with pins  
Set of 2 harnesses, A & C connectors, pre-wired, 1.2 m, cables marked.

#### PART NO'S

007-850  
007-851  
007-852

# DSEE400

## ENGINE CONTROLLER



### KEY FEATURES

- Built-in governor control
- Automatic speed control
- Fill, empty, maintain fill and maintain empty control
- Manual speed control via push buttons, digital input or analogue input
- Automatic speed ramping
- Flexible automatic start control
- Clutch control
- LCD text display
- Multiple display languages
- Two-key menu navigation
- Front panel editing with PIN protection
- Customisable status screens
- Customisable multi instrumentation screens
- Configurable digital inputs (4)
- Configurable analogue inputs (7)
- Configurable DC outputs (2)
- Configurable PWM/PWMI outputs (2)
- Configurable analogue output (1)
- Configurable timers and alarms
- 3 configurable maintenance alarms
- Multiple date and time engine scheduler
- Configurable event log (250)
- CAN engine support
- CAN, magnetic pick-up or tachometer speed sensing
- Fuel usage monitor and low fuel alarms
- Charge alternator failure alarm
- "Protections disabled" feature
- LCD alarm indication
- Low power mode
- USB connectivity
- Backed-up real time clock
- Fully configurable via DSE Configuration Suite PC software
- Configurable display languages
- Remote SCADA monitoring via DSE Configuration Suite PC software
- Modbus RTU support by configurable RS485 port

### KEY BENEFITS

- 132 x 64 pixel ratio display for clarity
- Real-time clock provides accurate event logging
- Set maintenance periods can be configured to maintain optimum engine performance
- Can be integrated into remote monitoring systems
- Licence-free PC software
- Uses DSE Configuration Suite PC Software for simplified configuration
- IP67 rating offers increased resistance to water ingress
- User friendly set-up and button layout for ease of use
- Compatible with a wide range of CAN engines.
- Multiple date and time scheduler

### SPECIFICATION

#### DC SUPPLY

**CONTINUOUS VOLTAGE RATING**  
5 V to 35 V continuous

#### CRANKING DROPOUTS

Able to survive 0 V for 100 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.

#### MAXIMUM OPERATING CURRENT

326 mA at 12 V, 164 mA at 24 V

#### MAXIMUM STANDBY CURRENT

119 mA at 12 V, 60 mA at 24 V

#### MAXIMUM OFF MODE CURRENT

76 mA at 12 V, 38 mA at 24 V

#### CHARGE FAIL/EXCITATION RANGE

0 V to 35 V

#### INPUTS

##### DIGITAL INPUTS A to D

Configurable as:  
Positive switching  
Negative switching

##### ANALOGUE INPUT A to G

Configurable as:  
Negative switching digital input  
0 V to 10 V  
4 mA to 20 mA  
Resistive

#### OUTPUTS

##### DC OUTPUT A (FUEL) & B (START)

10 A DC for 10 seconds  
5 A DC continuous at supply voltage

##### DC OUTPUTS C & D

2 A DC at supply voltage

##### PWMI OUTPUTS E & F

4 A at supply voltage  
20 Hz to 250 Hz

##### PULSE PICK-UP

##### VOLTAGE RANGE

0.5 V to 60 V RMS  
Fully isolated

##### FREQUENCY RANGE

5 Hz to 10,000 Hz

##### GOVERNOR OUTPUT

Fully Isolated

##### VOLTAGE OUTPUT

0 V to 10 V range  
1000 Ω minimum load impedance

##### CURRENT OUTPUT

0 to 20 mA range  
500 Ω maximum load impedance

##### DIMENSIONS

##### OVERALL

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"

##### OPERATING TEMPERATURE RANGE

-30 °C to +80 °C  
-40 °C to +80 °C with heated display option

##### STORAGE TEMPERATURE RANGE

-40 °C to +85 °C

### RELATED MATERIALS

#### TITLE

DSEE400 Installation Instructions  
DSEE400 Operator Manual  
DSEE400 PC Configuration Suite Manual

#### PART NO'S

053-180  
057-252  
057-251

### 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