

DSE®

Product Guide

Industry Leading Control Systems



A Message From Our Group President

It's an exciting time at DSE as we embrace the challenges ahead of us and introduce the latest technology that will shape our future over the coming years.

We are proud of the intelligent range of products we have created across our four core brands. Each one offering market-leading features and benefits that add quality, functionality and reliability to customer applications.

Our customers are at the heart of our business. We work together daily to make sure our product range never stands still. This unique approach ensures we continue to design and manufacture the 'Industry Leading Control Systems' we are renowned for across the world.

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UK HERITAGE
Founded in 1975.
Over 45 years dedicated industry experience.



YEAR-ON-YEAR GROWTH
2022 product sales revenue of £70 million.



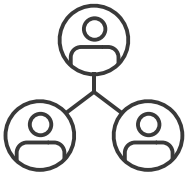
DEDICATED TEAM
220+
global workforce.



GLOBAL FOOTPRINT
Located in North Yorkshire & Midlands - UK, Rockford - USA, Dubai - MEE, Pune - India.



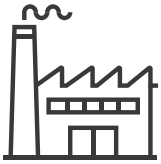
SPECIALIST DISTRIBUTOR NETWORK
Strong global distributor network supplying DSE product into 150 countries.



MARKET-LEADING R&D TEAMS
25% + of workforce dedicated to in-house research & development.



IN-HOUSE DEVELOPMENT SPECIALSITS
In-house hardware, software, embedded and PC software development combined with application engineering & support.



IN-HOUSE UK MANUFACTURING
In-house UK manufacturing. 4 fully automated surface mount lines. Over 650,000 products manufactured annually.



IN-HOUSE TEST & APPROVALS CENTRE
Dedicated on-site test & approvals centre with advanced testing facilities.



GLOBAL MARKET LEADER
Hold a market leading share across all our global markets.



COMPREHENSIVE PRODUCT RANGE
Diverse product range for genset, off-highway, ATS and battery charger markets.



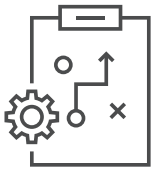
MULTI-NATIONAL SUPPLIER
Global purchasing and pricing agreements for multi-national companies.



KEY STRATEGIC RELATIONSHIPS
Strategic partners located across multiple continents, delivering high-level product sales & support.



MARKET FOCUSED DESIGN
Products designed to exceed market requirements. UL approval, heated screens and language support across multiple products.



AUTOMATED PRODUCT TESTING
Fully automated testing at all stages of the manufacturing process.



PREMIUM TECHNICAL SUPPORT SERVICES
Market-leading technical support services provided via on-site and remote product specialists.

About Us

Sophisticated Automation Since 1975.







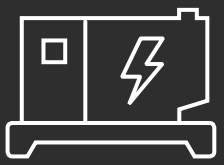
Premium Surface Mount Machinery:
Technology at the highest level.

Automated Optical Inspection:
Intelligent equipment for enhanced reliability.

Expert Product Assembly:
Precision engineering delivered at all times.

Innovative Packaging Solutions:
Shipping products with maximum care.

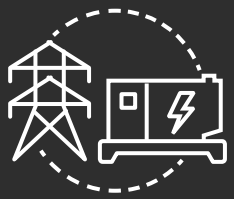
Multiple Application Specialists.



Generator
Control



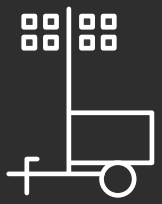
Advanced Paralleling
Genset Controllers



Load Sharing
& Synchronising



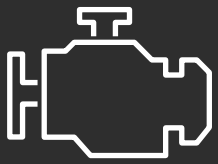
Mains (Utility)
Protection



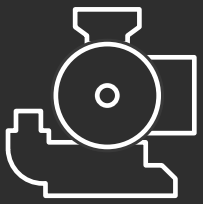
Lighting Tower
Control



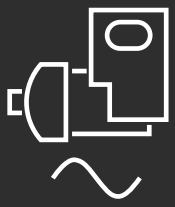
ATS
Control



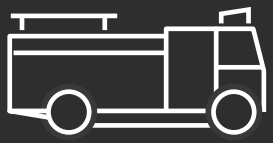
Engine
Control



Pump & Compressor
Control



Digital
AVR Control



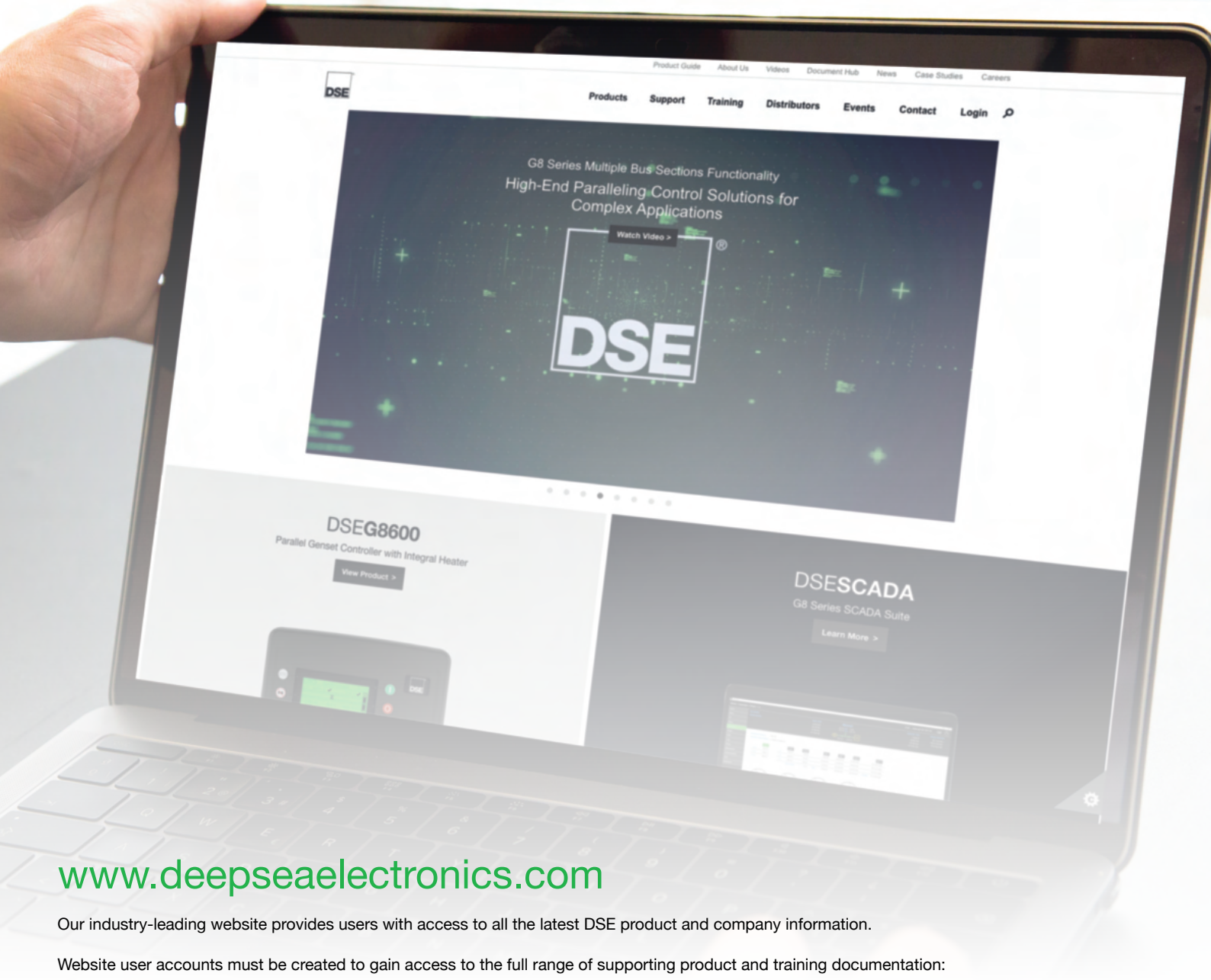
Vehicle &
Off-Highway Control



Remote
Monitoring



Battery
Charging



www.deepseaelectronics.com

Our industry-leading website provides users with access to all the latest DSE product and company information.

Website user accounts must be created to gain access to the full range of supporting product and training documentation:

Downloads include:

– PC Software
– Product Manuals
– Software Manuals
– Training Documentation
– Product Certifications
– Typical Wiring Diagrams

DSE**Genset®**

DSE**Genset®** products have been developed for use across a wide range of application environments, including data centers, telecoms towers, hospitals, events and rental equipment.

Control solutions include advanced paralleling genset controllers, load sharing & synchronising multi-set control solutions, auto start and auto mains (utility) failure single-set generator control solutions, digital automatic voltage regulators (AVRs), mains (utility) protection relays, lighting tower control solutions, remote communication devices, overview displays and expansion modules.

Each range has been designed, developed and manufactured by industry leading experts, to deliver features and benefits that set new standards across our industries.

Suitable For:





G8 series

Advanced Paralleling Solutions

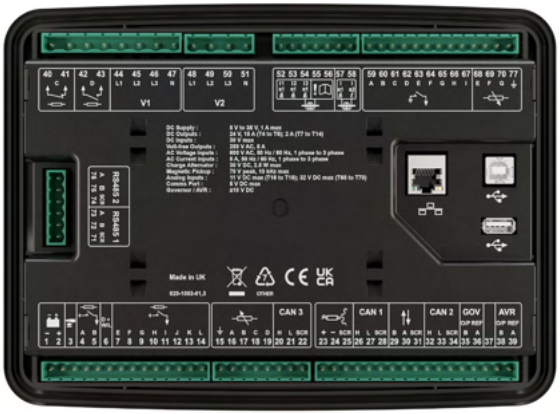
The G8 Series has been developed for the advanced control of high-level projects. It is currently in use across a wide number of demanding application environments globally with critical infrastructure requirements, including banks, stadiums, hospitals and data centers.

DSE**G8600**

Parallel Genset Controller with Integral Heater

Part Number: G8600-01





The G8600 is a parallel genset controller with integral heater designed for complex paralleling applications. The G8600 can be configured to provide paralleling for up to 4,032 generators on a single site and provides a wide range of high-end features for multiple application environments. The module is configurable for use as a single-set controller, multi-set controller, mains (utility) controller or group controller.

Key Features

- Multiple bus sectioning
- Spinning reserve
- Group controller functionality
- Load demand schemes
- Advanced MSC link (AMSC)
- Advanced PLC functionality including multi-purpose PIDs
- Phase locking
- Virtual inputs
- On-screen mimic
- Multiple application support
- Multi-level pin protected front panel editor
- Integral LCD display heater
- Enhanced high-resolution 240 x 128 pixel display
- Single or multiple generator control
- Latest ECU / ECM support
- Load sharing & VAr sharing
- Virtual shared inputs, outputs and data via AMSC
- Touch screen panel PC support
- Zero sequence voltage protection

Features

- Built-in governor control
- DSE digital AVR support
- Base load (kW export) control
- Positive & negative kVAr export control
- Dead bus synchronising
- Mains (utility) decoupling protection
- Multiple language support
- 3-phase generator sensing & protection
- 3-phase mains (utility) sensing
- 3-phase bus sensing
- Mains (utility) failure detection
- Generator current, protection & power monitoring
- Configurable timers
- Integrated SNMP
- Data logging
- PC configuration
- DSENet® (Expansion support)
- Flexible I/O (inputs/outputs)
- Automatic and front panel breaker control
- Power-save mode

Key Applications

Hospitals

Industrial

Data Centers

Rental

Telecoms

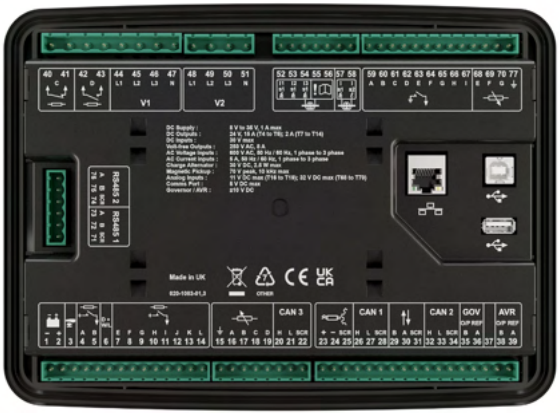
Hybrid

OVERALL SIZE
248 mm x 182.6 mm x 45.2 mm (9.77” x 7.19” x 1.78”)
PANEL CUT-OUT SIZE
220 mm x 160 mm (8.66” x 6.3”)

DSE**G8660**
Mains (Utility) Controller

Part Number: G8660-01





The G8660 is a ATS / Mains (Utility) controller with integral heater designed to work with the G8600 that is configured for use as a multi-set controller. The G8660 allows multiple generators to synchronise with a mains (utility) supply and controls switching power between generator and mains (utility) sources, without loss of supply to the load.

Key Features

- Ability to configure multiple bus segments
- Spinning reserve
- Load demand schemes
- Advanced multi set communications link (AMSC)
- Advanced PLC functionality including multi-purpose PIDs
- Phase locking
- Virtual inputs
- On-screen mimic
- Multiple application support
- Multi-level pin protected front panel editor
- Integral LCD display heater
- Enhanced high-resolution 240 x 128 pixel display
- Load sharing & VAr sharing
- Virtual shared inputs, outputs, states and instrumentation values via AMSC
- Touch screen panel PC support (G80XX)
- Zero sequence voltage protection
- Integral gasket (IP65 protection)

Features

- Base load (kW export) control
- Positive & negative kVAr export control
- Mains (utility) decoupling protection
- Multiple language support
- 3-phase mains (utility) sensing
- 3-phase bus sensing
- Mains (utility) failure detection
- Mains (utility) current & power monitoring
- Configurable timers
- Integrated SNMP
- Data logging
- PC configuration
- DSENet® (Expansion support)
- Flexible I/O (inputs/outputs)
- Automatic and front panel breaker control
- Power-save mode

Key Applications

Hospitals

Industrial

Data Centers

Rental

Telecoms

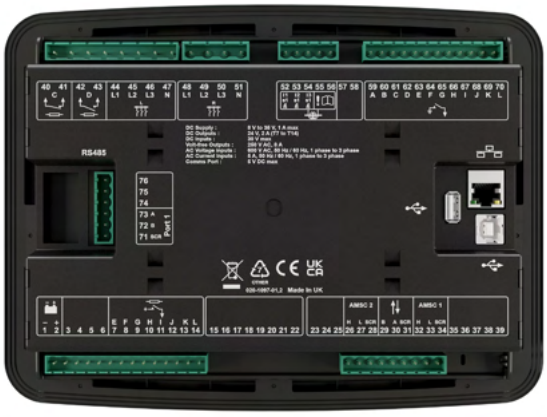
Hybrid

OVERALL SIZE
248 mm x 182.6 mm x 45.2 mm (9.77” x 7.19” x 1.78”)
PANEL CUT-OUT SIZE
220 mm x 160 mm (8.66” x 6.3”)

DSE**G8680**
Bus-Tie Controller

Part Number: G8680-01





The G8680 controls a generator bus-tie breaker. It automatically manages the synchronising and check-sync across the breaker using the AMSC (advanced multi-set communications) link. The controller has been designed to work with the DSEG8600 when configured as a single-set / multi-set or mains (utility) controller and with the dedicated G8660 mains (utility) controller.

Key Features

- Comprehensive synchronising functionality
- Close on to dead-bus
- Load ramping
- CT support (4)
- 12 configurable inputs
- 10 configurable outputs (2 volt-free)
- Advanced PLC functionality including multi-purpose PIDs
- RS485 communications
- Ethernet communications
- Modbus RTU & TCP support
- User configurable MODBUS pages
- Remote SCADA monitoring
- Virtual shared inputs, outputs, states and instrumentation values via AMSC

Features

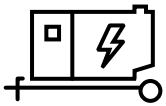
- DSENet® expansion
- Data logging
- DSE configuration suite software
- Front-panel editing
- 4-line LCD text display
- LED / LCD alarm indication
- Configurable languages
- Customisable status screens
- Configurable event log (250)
- Backed-up real time clock
- IP65 (with gasket)

Key Applications


Hospitals


Industrial


Data Centers


Rental


Telecoms


Hybrid

OVERALL SIZE
248 mm x 182.6 mm x 45.2 mm (9.77” x 7.19” x 1.78”)
PANEL CUT-OUT SIZE
220 mm x 160 mm (8.66” x 6.3”)

DSE**G8920**

7” Colour Parallel Genset Controller

Part Number: G8900-01





The G8900 is a 7” colour parallel genset controller designed for complex paralleling applications. The G8900 can be configured to provide single-set and multi-set paralleling on a single site and provides a wide range of high-end features for multiple application environments.

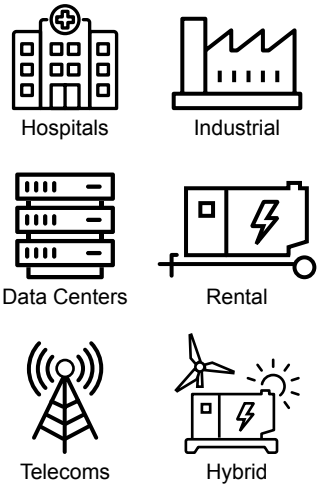
Key Features

- Multiple bus sectioning
- Spinning reserve
- Load demand schemes
- Advanced multi-set communications link (AMSC)
- Advanced PLC functionality including multi-purpose PIDs
- Phase locking
- Virtual inputs
- On-screen mimic
- Multiple application support
- Multi-level pin protected front panel editor
- Integral LCD display heater
- 7” high-resolution colour display
- Single or multiple generator control
- Latest ECU / ECM support
- Load sharing & VAr sharing
- Virtual shared inputs, outputs and data via AMSC
- Touch screen panel PC support (G8015/G8021)
- Zero sequence voltage protection
- Integral gasket (IP65 protection)

Features

- Built-in governor & AVR control
- DSE digital AVR support
- Base load (kW export) control
- Positive & negative kVAr export control
- Dead bus synchronising
- Mains (utility) decoupling protection
- Multiple language support
- 3-phase generator sensing & protection
- 3-phase mains (utility) sensing
- 3-phase bus sensing
- Mains (utility) failure detection
- Generator current, protection & power monitoring
- Configurable timers
- Integrated SNMP
- Data logging
- PC configuration
- DSENet® (Expansion support)
- Flexible I/O (inputs/outputs)
- Automatic and front panel breaker control
- Power-save mode

Key Applications

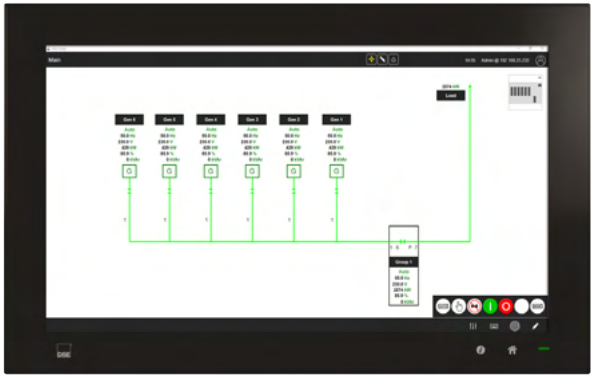


OVERALL SIZE
305 mm x 161 mm x 45 mm (12” x 6.34” x 1.77”)
PANEL CUT-OUT SIZE
282 mm x 136 mm (11.1” x 5.35”)

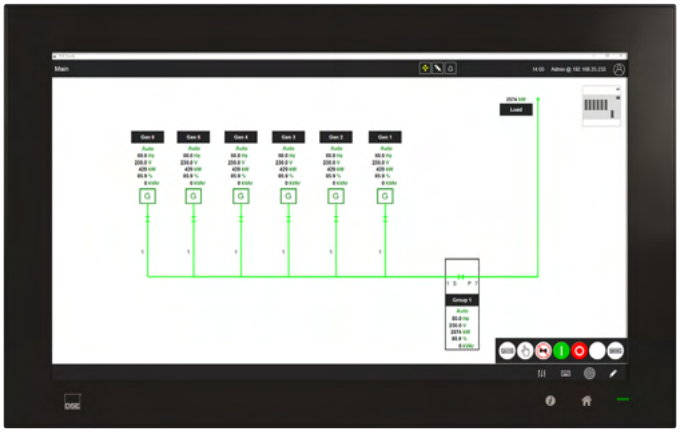
DSE**G8015** / DSE**G8021**

15” Panel PC with DSE SCADA / 21” Panel PC with DSE SCADA

Part Number: G8015-01 / G8021-01



G8015



G8021

The G8015 and G8021 are Windows based panel PC’s running DSE SCADA suite software and are designed for use with the G8 Series paralleling controller platform. The units are available in 15” or 21” 1920 x 1080 LED backlit capacitive touchscreen display formats. When mounted, the units offer IP66 protection and the powerful Intel processor ensures smooth operation. The units are connected to DSE G8 Series controllers via Ethernet.

Key Features

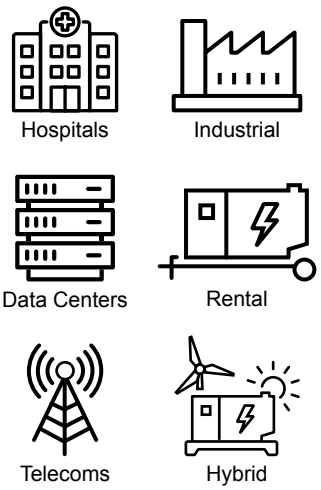
- Powerful Intel® Atom® processor
- 4 GB SDRAM
- Multi-touch capacitive display
- 2 x Ethernet, 2 x USB 3.0, 2 x USB 2.0, 2 x RS232 / RS422 / RS485, 1 x mini PCIe socket
- IP66 front panel protection
- Panel mount
- Windows 10 IoT Enterprise
- 2.5” SATA Solid State Drive

A license key for the DSE SCADA software can be purchased without any hardware. The pricing and part number is in the table below. The customer must supply their machine ID to DSE technical support prior to being issued with the license key. The license key will only work on the machine ID supplied. The license key enables the user to gain access to the multi-set commissioning configuration section of DSE SCADA.

OVERALL SIZE G8015
419.7 mm x 269 mm x 60 mm (16.52” x 10.59” x 2.36”)
PANEL CUT-OUT SIZE G8015
412.4mm x 261.7 mm (16.23” x 10.3”)

OVERALL SIZE G8021
558.4 mm x 349.8 mm x 60.3 mm (21.98” x 13.77” x 2.37”)
PANEL CUT-OUT SIZE G8021
550.3 mm x 341.8mm (21.66” x 13.45”)

Key Applications



DSE**G0123**
Analogue Load Share Lines Interface

Part Number: G0123-01



The DSEG0123 Analogue Load Share Lines Interface converts DSE AMSC / MSC digital load share communications to universal analogue load share lines, allowing DSE paralleling controllers to seamlessly deliver kW and kvar load sharing with third party manufactured products.

The DSEG0123 also allows the DSEG8600, DSEG8900, DSE8610 MKII, DSE8610, DSE7510 and DSE5510 controllers to be added to an existing DSE load sharing application and deliver kW and kvar load sharing across all DSE controllers within the system.

The flexibility of the DSEG0123 makes expanding existing systems extremely simple.

Key Features

- Converts a G8 Series AMSC* link to analogue load share lines.
- Converts a DSE MSC link to analogue load share lines.
- Compatible with multiple manufacturers paralleling controllers, including Cummins, Selco, Barber Colman, DEIF and Woodward.
- Configuration Suite PC software configuration.
- PC SCADA instrumentation for system diagnostics.
- Power on / status LEDs.
- USB programming port.

Key Applications

Hospitals

Industrial

Data Centers

Rental

Telecoms

Hybrid

OVERALL SIZE
164.5 mm x 76.4 mm x 48.9 mm (6.48” x 3.0” x 1.93”)

DSE2160 / DSE2170
Bi-Directional DSE**Net**® Expansion Module / Thermosensor DSE**Net**® Expansion Module

Part Number: 2160-01 / 2170-01





The DSE**2160** Bi-Directional Expansion Module has been developed for use with the DSE**G8600** control module platform, extending the host modules digital I/O capabilities for increased application flexibility. The DSE**2160** provides 8 additional digital inputs and 8 additional digital outputs. Two digital inputs are analogue configurable. The module features RS485 and CAN communications for enhanced flexibility and a red power on / link lost status LED to easily identify when the module is connected to a power source and its host controller.

Key Features

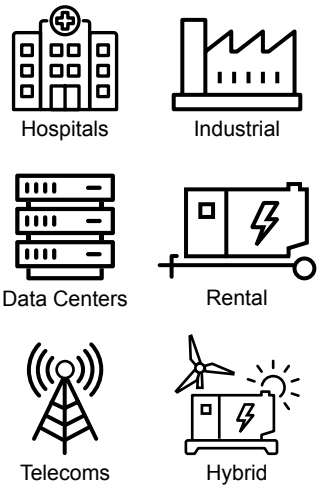
- 8 digital inputs (2 analogue configurable)
- 8 digital outputs
- RS485 communications
- CAN communications
- Power on / Link lost LED indication
- Firmware upgradeable

The DSE**2170** Thermosensor DSE**Net**® Expansion Module has been developed for use with the DSE**G8600** control module platform and provides thermocouple inputs and analogue outputs for increased application flexibility. The DSE**2170** provides 4 thermocouple (J type/K type/2-wire/3-wire) inputs and 4 analogue outputs. The module features RS485 and CAN communications for enhanced flexibility and a red power on / link lost status LED to easily identify when the module is connected to a power source and its host controller.

Key Features

- 4 thermocouple inputs
- 4 analogue outputs
- RS485 communications
- CAN communications
- Power on / Link lost LED indication
- Firmware upgradeable

Key Applications



OVERALL SIZE
120 mm x 75 mm x 35 mm (4.72” x 2.95” x 1.24”)



Manual & Auto Start Control Modules

Communications are a key part of everyday life all over the globe. Remote telecoms sites use the DSE**7310 MKII** to control the on-site generators and meet all their power requirements.

The DSE**7310 MKII** is fully compatible with our industry-leading remote monitoring software, DSE**WebNet®**. The software allows the site to be monitored and controlled remotely, reducing engineer call-outs. Remote monitoring is suited to this industry, due to the large number of telecoms generators being used in remote locations.

DSE7410 MKII
Auto Start Control Module



OVERALL SIZE
245 mm x 184 mm x 51 mm (9.6” x 7.2” x 2.0”)
PANEL CUT-OUT SIZE
220 mm x 160 mm (8.7” x 6.3”)

PRODUCT HIGHLIGHTS

I/O
- Configurable digital inputs (8)
- Configurable analogue / digital inputs (6)
- Configurable outputs (8)
- Independent fuel & start outputs
- Configurable volt-free outputs (2)

COMMUNICATIONS
- SNMP, GET, SET & TRAP support
- MODBUS TCP IP / MODBUS RTU
- USB for PC configuration
- Simultaneous use of RS485, RS232 & Ethernet ports
- SCADA software
- DSE**WebNet®** compatible

ENGINE COMPATIBILITY
- Conventional engine support (MPU & Hz)
- CAN engine support (Tier 4F / Stage 5)

CONFIGURATION
- DSE Configuration Suite PC software
- Configurable front panel (PIN protected)

ADVANCED FEATURES
- Embedded web server
- Supports 7 languages
- Advanced protections
- Oil pressure disconnect delay
- Configurable icon screens
- CAN support for DSE**A108** AVR
- Charge alternator disable functionality
- Dedicated inputs for ECU specific operations
- Advanced PLC editor
- SMS alerts & control
- Dual mutual standby
- DSE**Net®** expansion compatible



PRODUCT VARIANTS
7410-03 - 7410 MKII Auto Start Control Module

DSE7310 MKII
Auto Start Control Module



OVERALL SIZE
245 mm x 184 mm x 51 mm (9.6” x 7.2” x 2.0”)
PANEL CUT-OUT SIZE
220 mm x 160 mm (8.7” x 6.3”)

PRODUCT HIGHLIGHTS

I/O
- Configurable digital inputs (8)
- Configurable analogue / digital inputs (6)
- Configurable DC outputs (6)
- Independent fuel and start outputs
- Configurable volt-free outputs (2)

COMMUNICATIONS
- Simultaneous use of RS485 & RS232 ports
- MODBUS RTU
- USB for PC configuration
- SCADA software
- DSE**WebNet®** compatible

ENGINE COMPATIBILITY
- Conventional engine support (MPU & Hz)
- CAN engine support (Tier 4F / Stage 5)

CONFIGURATION
- DSE Configuration Suite PC software
- Configurable front panel (PIN protected)

ADVANCED FEATURES
- Supports 7 languages
- Advanced protections
- Oil pressure disconnect delay
- Configurable icon screens
- CAN support for DSE**A108** AVR
- Charge alternator disable functionality
- Dedicated inputs for ECU specific operations
- Advanced PLC editor
- SMS alerts & control
- Dual mutual standby
- DSE**Net®** expansion compatible



PRODUCT VARIANTS
7310-03 - 7310 MKII Auto Start Control Module

DSE**6110 MKIII**
Auto Start Control Module



PRODUCT HIGHLIGHTS

I/O
- Configurable digital inputs (8)
- Configurable digital / analogue inputs (4)
- Configurable DC outputs (6)
- Independent fuel and start outputs

COMMUNICATIONS
- USB for PC configuration
- DSE**WebNet®** compatible

ENGINE COMPATIBILITY
- CAN engine support (Tier 4F / Stage 5)
- Conventional engine support (MPU & Hz)

CONFIGURATION
- DSE Configuration Suite PC software
- Front panel (PIN protected)

ADVANCED FEATURES
- PLC editor
- Generator current & power monitoring
- 0-10 V & 4-20 mA oil pressure sensor support
- Fuel level alarms
- 1 alternative configuration
- 3-phase generator sensing & protection
- 5-key menu navigation / front panel breaker control buttons
- Text based display
- DSE**Net®** expansion compatible

Full list of features available at **deepseaelectronics.com**

PRODUCT VARIANTS

6110-05 - 6110 MKIII Auto Start Control Module

OVERALL SIZE
216 mm x 158 mm x 43 mm (8.5” x 6.2” x 1.5”)
PANEL CUT-OUT SIZE
184 mm x 137 mm (7.2” x 5.3”)

DSE**3110**
Manual & Auto Start Control Module



PRODUCT HIGHLIGHTS

I/O
- Configurable inputs (6)
- Configurable DC outputs (2)
- Fuel and start outputs (configurable on CAN variant)
- Remote start input

COMMUNICATIONS
- USB for PC configuration

ENGINE COMPATIBILITY
- CAN engine support
- Conventional engine support (MPU & Hz)

CONFIGURATION
- DSE Configuration Suite PC software
- Front panel

FEATURES
- Configurable timers and alarms
- Alternative configuration
- Tamper-proof hours counter
- Engine monitoring and protections
- Automatic shut-down
- Displays generator voltage, generator frequency, battery voltage and engine speed

Full list of features available at **deepseaelectronics.com**

PRODUCT VARIANTS

3110-01 - 3110 Manual & Auto Start Control Module (MPU)

OVERALL SIZE
98 mm x 79 mm x 40 mm (3.9” x 3.1” x 1.6”)
PANEL CUT-OUT SIZE
80 mm x 68 mm (3.1 “ x 2.7”)



Auto Mains (Utility) Failure Control Modules

Hospitals across the UK and Europe are using the DSE**7320 MKII** for automatically resuming critical power supplies in times of unexpected power failures. The sophisticated built-in no-break return to mains (utility) feature, minimises power disruptions enabling vital services to continue without any interruption.

DSE7420 MKII
Auto Mains (Utility) Failure Control Module



OVERALL SIZE
245 mm x 184 mm x 51 mm (9.6” x 7.2” x 2.0”)
PANEL CUT-OUT SIZE
220 mm x 160 mm (8.7” x 6.3”)

PRODUCT HIGHLIGHTS

I/O
- Configurable digital inputs (8)
- Configurable analogue / digital inputs (6)
- Configurable outputs (8)
- Independent fuel & start outputs
- Configurable volt-free outputs (2)

COMMUNICATIONS
- SNMP, GET, SET & TRAP support
- MODBUS TCP IP / MODBUS RTU
- USB for PC configuration
- Simultaneous use of RS485, RS232 & Ethernet ports
- SCADA software
- DSE**WebNet®** compatible

ENGINE COMPATIBILITY
- Conventional engine support (MPU & Hz)
- CAN engine support (Tier 4F / Stage 5)

CONFIGURATION
- DSE Configuration Suite PC software
- Configurable front panel (PIN protected)

ADVANCED FEATURES
- Embedded web server
- Mains (utility) supply monitoring
- Automatic transfer between mains (utility) & generator
- Supports 7 languages
- Crank disconnect on generator voltage
- Oil pressure disconnect delay
- Configurable icon screens
- CAN support for DSE**A108** AVR
- Charge alternator disable functionality
- Dedicated inputs for ECU specific operations
- Advanced PLC editor
- SMS alerts & control
- Dual mutual standby
- DSE**Net®** expansion compatible



Full list of features available at **deepseaelectronics.com**

PRODUCT VARIANTS
7420-03 - 7420 MKII Auto Mains (Utility) Failure Control Module

DSE7320 MKII
Auto Mains (Utility) Failure Control Module



OVERALL SIZE
245 mm x 184 mm x 51 mm (9.6" x 7.2" x 2.0")
PANEL CUT-OUT SIZE
220 mm x 160 mm (8.7" x 6.3")

PRODUCT HIGHLIGHTS

I/O
- Configurable digital inputs (8)
- Configurable analogue / digital inputs (6)
- Configurable DC outputs (6)
- Independent fuel and start outputs
- Configurable volt-free outputs (2)

COMMUNICATIONS
- Simultaneous use of RS485 & RS232 ports
- MODBUS RTU
- USB for PC configuration
- SCADA software
- DSE**WebNet®** compatible

ENGINE COMPATIBILITY
- Conventional engine support (MPU & Hz)
- CAN engine support (Tier 4F / Stage 5)

CONFIGURATION
- DSE Configuration Suite PC software
- Configurable front panel (PIN protected)

ADVANCED FEATURES
- Mains (utility) supply monitoring
- Automatic transfer between mains (utility) & generator
- Supports 7 languages
- Crank disconnect on generator voltage
- Oil pressure disconnect delay
- Configurable icon screens
- CAN support for DSE**A108** AVR
- Charge alternator disable functionality
- Dedicated inputs for ECU specific operations
- Advanced PLC editor
- SMS alerts & control
- Dual mutual standby
- DSE**Net®** expansion compatible



Full list of features available at **deepseaelectronics.com**

PRODUCT VARIANTS
7320-03 - 7320 MKII Auto Mains (Utility) Failure Control Module

DSE**6120 MKIII**
Auto Mains (Utility) Failure Control Module



PRODUCT HIGHLIGHTS

I/O
- Configurable digital inputs (8)
- Configurable digital / analogue inputs (4)
- Configurable DC outputs (6)
- Independent fuel and start outputs

COMMUNICATIONS
- USB for PC configuration
- DSE**WebNet®** compatible

ENGINE COMPATIBILITY
- CAN engine support (Tier 4F / Stage 5)
- Conventional engine support (MPU & Hz)

CONFIGURATION
- DSE Configuration Suite PC software
- Front panel (PIN protected)

ADVANCED FEATURES
- Mains (utility) supply monitoring
- Automatic transfer between mains (utility) & generator
- PLC editor
- Generator / mains (utility) current & power monitoring
- 0-10 V & 4-20 mA oil pressure sensor support
- Fuel level alarms
- 1 alternative configuration
- 3-phase generator sensing & protection
- 5-key menu navigation / front panel breaker control buttons
- DSE**Net®** expansion compatible

Full list of features available at **deepseaelectronics.com**

PRODUCT VARIANTS

6120-05 - 6120 MKIII Auto Mains (Utility) Failure Control Module

OVERALL SIZE
216 mm x 158 mm x 43 mm (8.5” x 6.2” x 1.5”)
PANEL CUT-OUT SIZE
184 mm x 137 mm (7.2” x 5.3”)

IP65 WITH GASKET

DSE**4520 MKII**
Auto Mains (Utility) Failure Control Module



PRODUCT HIGHLIGHTS

I/O
- Configurable digital inputs (4)
- Configurable analogue / digital inputs (3)
- Configurable DC outputs (4)
- Independent fuel and crank outputs

COMMUNICATIONS
- USB for PC configuration
- DSE**WebNet®** compatible

ENGINE COMPATIBILITY
- CAN engine support (Tier 4F / Stage 5)
- Conventional engine support (Hz)

CONFIGURATION
- DSE Configuration Suite PC software
- Front panel (PIN protected)

ADVANCED FEATURES
- 3-phase mains (utility) sensing
- Automatic transfer between mains (utility) & generator
- Configurable for use as an auto start or auto mains (utility) failure control module
- Sophisticated alarms including water in fuel and tank bund
- ECU periodic wake up for information retrieval
- Comprehensive engine and alternator protections
- Alternator frequency & CAN speed sensing
- Generator / load power & current monitoring and protection

Full list of features available at **deepseaelectronics.com**

PRODUCT VARIANTS

4520-05 - 4520 Auto Mains (Utility) Failure Control Module

OVERALL SIZE
140 mm x 113 mm x 43 mm (5.5” x 4.4” x 1.5”)
PANEL CUT-OUT SIZE
118 mm x 92 mm (4.6” x 3.6”)

IP65 WITH GASKET



Load Sharing & Synchronising

DSE's load sharing control modules are used in off-grid mining applications. These applications have built-in redundancy ensuring sufficient capacity for at least one or two gensets to be off-line at any one time. This allows for maintenance, servicing and unplanned shut-downs.

The DSE**8610 MKII** is configured to automatically run the built-in redundancy feature. The modules communicate information to the site management team who supervise the site from a remote location.

DSE**8610 MKII**
Synchronising & Load Sharing Control Module

PARALLEL
32 SETS
MAX



OVERALL SIZE
245 mm x 184 mm x 51 mm (9.6” x 7.2” x 2.0”)
PANEL CUT-OUT SIZE
220 mm x 160 mm (8.7” x 6.3”)

PRODUCT HIGHLIGHTS

I/O
- Configurable digital inputs (12)
- Configurable analogue / digital inputs (4)
- Configurable flexible sender inputs (2)
- Configurable DC outputs (8)
- Configurable volt-free outputs (2)
- Configurable 5 stage dummy load and load shedding outputs

COMMUNICATIONS
- Independent ports for RS485, RS232, CAN, USB and Ethernet
- MODBUS RTU / TCP IP
- SNMP
- SCADA software
- DSE**WebNet®** compatible

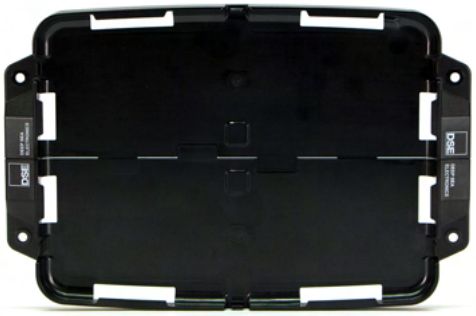
ENGINE COMPATIBILITY
- Conventional engine support (MPU & Hz)
- CAN engine support (Tier 4F / Stage 5)

CONFIGURATION
- DSE Configuration Suite PC software
- Front panel (PIN protected)

COMPATIBLE LOAD SHARE MODULES
- DSE**8660 MKII**
- DSE**8620 MKII**

ADVANCED FEATURES
- Generator load demand with sequential set start
- 0-10 V & 4-20 mA oil pressure sensor support
- Power monitoring
- RoCoF and vector shift monitoring
- Automatic hours run balancing
- Sophisticated fuel monitoring and alarms
- 3-phase generator voltage and current sensing
- Sophisticated bus sensing (3-phase)
- Direct governor and AVR control
- Multiple configurable maintenance alarms
- Advanced SMS messaging
- Advanced PLC editor
- Support for worldwide languages
- Extensive data logging & trending
- Start & stop via SMS messaging
- DSE**Net®** expansion compatible
- Option to use as a rear-mounted solution using a DSE rear mount panel bracket (020-1044)

Full list of features available at **deepseaelectronics.com**



Rear Mount Panel Bracket
(020-1044)

PRODUCT VARIANTS

8610-02 - 8610 MKII Synchronising & Load Sharing Control Module
8610-03 - 8610 MKII Synchronising & Load Sharing Control Module (Htr)

DSE**8620 MKII**

Synchronising & Load Sharing Auto Mains (Utility) Failure Control Module

Module can be configured to function as a DSE**8610 MKII** Synchronising and Load Sharing Control Module



OVERALL SIZE
245 mm x 184 mm x 51 mm (9.6” x 7.2” x 2.0”)
PANEL CUT-OUT SIZE
220 mm x 160 mm (8.7” x 6.3”)

PRODUCT HIGHLIGHTS

I/O
- Configurable digital inputs (12)
- Configurable analogue / digital inputs (4)
- Configurable flexible sender inputs (2)
- Configurable DC outputs (8)
- Configurable volt-free outputs (2)
- Independent fuel and crank outputs
- Configurable 5 stage dummy load and load shedding outputs

COMMUNICATIONS
- Independent ports for RS485, RS232, CAN, USB and Ethernet
- MODBUS RTU / TCP IP
- SNMP
- SCADA software
- DSE**WebNet®** compatible

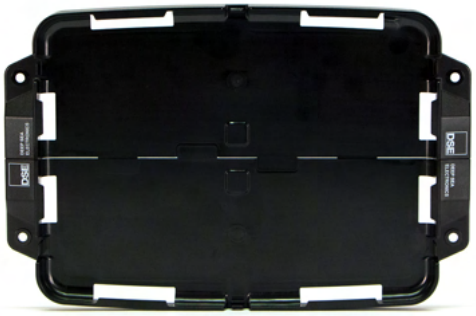
ENGINE COMPATIBILITY
- Conventional engine support (MPU & Hz)
- CAN engine support (Tier 4F / Stage 5)

CONFIGURATION
- DSE Configuration Suite PC software
- Front panel (PIN protected)

COMPATIBLE LOAD SHARE MODULES
- DSE**8660 MKII (**When DSE**8620 MKII** is configured as an DSE**8610 MKII**)
- DSE**8610 MKII**

ADVANCED FEATURES
- 3-phase mains (utility) & generator voltage and current sensing
- 0-10 V & 4-20 mA oil pressure sensor support
- Peak lopping and peak shaving functionality
- kW & kV Ar load sharing
- RoCoF and vector shift protection
- Automatic mains (utility) decoupling with no-break return
- Positive & negative kVAr export control
- Volts and frequency matching
- Sophisticated fuel monitoring and alarms
- Direct governor and AVR control
- Multiple configurable maintenance alarms
- Advanced SMS messaging
- Advanced PLC editor
- Support for worldwide languages
- Extensive data logging & trending
- Start & stop capability via SMS messaging
- DSE**Net®** expansion compatible

Full list of features available at **deepseaelectronics.com**



Rear Mount Panel Bracket
(020-1044)

PRODUCT VARIANTS

8620-02 - 8620 Synchronising & Load Sharing Auto Mains (Utility) Failure Control Module

DSE8660 MKII
Auto Transfer Switch & Mains (Utility) Control Module



OVERALL SIZE
245 mm x 184 mm x 51 mm (9.6” x 7.2” x 2.0”)
PANEL CUT-OUT SIZE
220 mm x 160 mm (8.7” x 6.3”)

PRODUCT HIGHLIGHTS

I/O
- Configurable digital inputs (11)
- Configurable DC outputs (6)
- Configurable volt-free outputs (2)

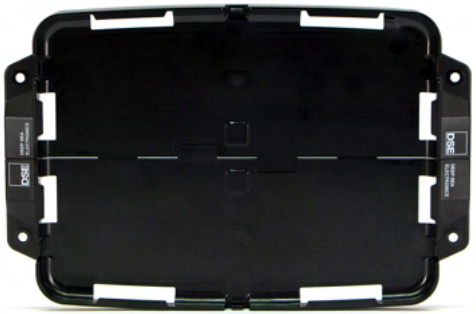
COMMUNICATIONS
- Independent ports for RS485, RS232, CAN, USB and Ethernet
- MODBUS RTU / TCP IP
- SCADA software
- DSE**WebNet®** compatible

CONFIGURATION
- DSE Configuration Suite PC software
- Front panel (PIN protected)

COMPATIBLE LOAD SHARE MODULES
- DSE**8610 MKII**
- DSE**8620 MKII** (When DSE**8620 MKII** is configured as an DSE**8610 MKII**)

ADVANCED FEATURES
- 3-phase mains (utility) voltage and current sensing
- Peak lopping and peak shaving functionality
- kW & kV Ar load sharing
- RoCoF and vector shift protection
- Mains (utility) kW export protection
- Automatic mains (utility) decoupling with no-break return
- Generator load demand
- Advanced SMS messaging
- Advanced PLC editor
- Support for worldwide languages
- Data logging & trending
- Multiple event scheduler
- Native no bus breaker support for signal ATS applications
- Separate ramp up and ramp down rates configurable via PLC
- DSE**Net®** expansion compatible
- Option to use as a rear-mounted solution using a DSE rear mount panel bracket (020-1044)

Full list of features available at **deepseaelectronics.com**



Rear Mount Panel Bracket
(020-1044)

PRODUCT VARIANTS

8660-02 - 8660 MKII Auto Transfer Switch & Mains (Utility) Control Module
8660-03 - 8660 MKII Auto Transfer Switch & Mains (Utility) Control Module (Htr)

DSE8680
Synchronising Generator Bus Tie Control Module



OVERALL SIZE
245 mm x 184 mm x 42 mm (9.4” x 6.8” x 1.6”)
PANEL CUT-OUT SIZE
220 mm x 160 mm (8.7” x 6.3”)

PRODUCT HIGHLIGHTS

I/O
- Configurable digital inputs (11)
- Configurable DC outputs (6)
- Configurable volt-free outputs (2)

COMMUNICATIONS
- Independent ports for RS485, RS232, USB and Ethernet
- MODBUS RTU / TCP IP

CONFIGURATION
- DSE Configuration Suite PC software
- Front panel (PIN protected)

COMPATIBLE LOAD SHARE MODULES
- DSE**86xx**
- DSE**86xx MKII**
- DSE**87xx**

ADVANCED FEATURES
- Enhanced bus sensing of 2 buses for improved synchronising functionality
- Multiple DSE**8680’s** can be used within one synchronising system
- Advanced PLC editor
- Instrumentation shows the status and measurements of both buses
- Advanced SMS control and fault messaging
- Supports multiple global languages
- Easy access diagnostic pages including modem diagnostic pages
- Advanced data logging and trending
- Eliminates the need for costly PLC systems
- DSE**Net®** expansion compatible

Full list of features available at **deepseaelectronics.com**



PRODUCT VARIANTS
8680-01 - 8680 Synchronising Generator Bus Tie Control Module



Digital Automatic Voltage Regulators

DSE digital automatic voltage regulators eliminate the complexities associated with traditional analogue AVRs and provide a stable AC output voltage, regardless of changes in temperature or changes to the connected electrical load.

Suitable for any application including the most complex genset synchronising & load sharing applications, sophisticated features such as connections for a quadrature droop are included as standard.

DSE**A109** / DSE**A106 MKII**
Digital Automatic Voltage Regulators (AVR)

The DSE digital automatic voltage regulator (AVR) range is designed to maintain regulated, smooth & stable AC output voltages, irrespective of the connected electrical load or changes in temperature.

The digital AVRs eliminate the complexities associated with analogue AVRs and are supplied by either a stator auxiliary winding or a shunt system taking power from the output windings.

Each variant is suitable for generator synchronising and load sharing (with connections for a quadrature droop), and other applications. A DSE**815** is required for programming.

DSE**A109** Digital Automatic Voltage Regulator (AVR) with CAN Communications & PMG

PRODUCT HIGHLIGHTS
- Power input compatible with PMG, auxiliary and shunt windings (single phase / 3-phase)
- 3-phase or single phase generator output voltage sensing
- CAN port providing J1939 communications
- Soft start ramping
- Under frequency roll off (UFRO) protection with optional instantaneous step
- Loss of voltage sensing protection
- Over excitation protection
- Potted electronics

PRODUCT VARIANTS
A109-01 - A109 Digital AVR (CAN & PMG)

OVERALL SIZES
DSE**A109**
180 mm x 145 mm x 61 mm (7.0” x 5.7” x 2.4”)
DSE**A106 MKII**
179 mm x 108 mm x 61 mm (7.1” x 4.3” x 2.4”)

DSE**A106** MKII Digital Automatic Voltage Regulator (AVR)

PRODUCT HIGHLIGHTS
- Soft start ramping
- Under frequency roll off (UFRO) protection with optional instantaneous step
- Loss of voltage sensing protection
- Over excitation protection
- Potted electronics

PRODUCT VARIANTS
A106-02 - A106 MKII Digital AVR (AUX)

Full list of features available at **deepseaelectronics.com**





Mains (Utility) Protection Relays

The DSE**P100** Mains (Utility) Decoupling Relay is being used increasingly across Great Britain as changing regulations to grid codes are making G59 equipment obsolete.

The DSE**P100** is used to detect a fault on the mains (utility) network and disconnect the connected application under relevant circumstances. The DSE**P100** is fully configurable, making it future proof against further grid code changes.

DSE**P100**
Mains (Utility) Decoupling Relay

G99/1
G98/1
COMPLIANT



OVERALL SIZE
157 mm x 95 mm x 67 mm (6.2" x 3.5" x 2.6")

The DSE**P100** is fully compliant with the latest G99/1, G98/1 and G59 requirements, RfG and other global standards for power applications connecting with local networks.

The DSE**P100** monitors the mains (utility) supply and on detection of a fault, disconnects the application to prevent an island being formed.

The DSE**P100** supports diesel gensets, PV (solar) installations and wind turbine applications.

PRODUCT HIGHLIGHTS
- 3 separate RoCoF protections
- Isolated AC / DC power supply
- Can be used to trip one or more breakers
- Incorrect phase sequence protection
- Lockable security tab to prevent configuration changes after commissioning
- Two stage under & over frequency protection
- Five stage under & over voltage protection
- Voltage asymmetry protection
- Vector shift protection
- Positive & negative sequence under/over voltage protection
- Zero sequence over voltage protection (NVD protection)
- Power up in trip position
- Breaker failed to open alarm
- True 3-phase mains (utility) RMS measurement
- Configurable automatic reset timer
- Future proofed to allow for changes in regulations
- Event log (250)
- DIN rail / chassis mount

COMMUNICATIONS
- RS485 (DSE**857** required)
- USB for PC configuration

CONFIGURATION
- DSE Configuration Suite PC Software



PRODUCT VARIANTS
P100-01 - P100 Mains (Utility) Decoupling Relay
P100-02 - P100 Mains (Utility) Decoupling Relay (G99 Type Tested)

Full list of features available at **deepseaelectronics.com**



Lighting Tower Control Modules

DSE lighting tower control modules are designed specifically for lighting tower applications and provide comprehensive automated control when required. Automatic light management is delivered as standard, including the ability to continue to operate in low temperatures.

DSEL401 MKII
Intelligent Lighting Tower Control Module



OVERALL SIZE
140 mm x 113 mm x 43 mm (5.5” x 4.4” x 1.7”)
PANEL CUT-OUT SIZE
118 mm x 92 mm (4.6” x 3.6”)

PRODUCT HIGHLIGHTS

I/O
- Configurable digital inputs (6)
- Configurable analogue / digital inputs (3)
- Configurable DC outputs (8)
- Independent fuel and start outputs
- Configurable staged light control outputs

COMMUNICATIONS
- USB for PC configuration

ENGINE COMPATIBILITY
- CAN engine support (Tier 4F / Stage 5)
- Conventional engine support (MPU & Hz)

CONFIGURATION
- DSE Configuration Suite PC software
- Front panel (PIN protected)

ADVANCED FEATURES
- Fuel monitoring allows automatic ‘selected lights off’ to enable longer running hours
- DC alternator compatibility
- Lighting tower mast and holding support control
- Automatic & manual light control
- Automatic light sequencing
- Individual lighting control
- Configurable light re-strike timer
- Light failure detection
- Sophisticated engine monitoring and protections
- 8 event scheduler and 4-stage load output, protects the generator from stalling on start-up
- Heated display option



PRODUCT VARIANTS
L401-01 - L401 MKII Intelligent Lighting Tower Control Module
L401-02 - L401 MKII Intelligent Lighting Tower Control Module (Htr)



Remote Overview Displays

The DSE8003 MKII is used by engineers in this UK industrial production facility to remotely view the genset system providing power to vital factory equipment in the event of a mains (utility) failure. The load sharing genset system is situated in an adjacent building, so real-time remote monitoring of the system from the shop floor helps to maximise engineering resources.

DSE8003 MKII
7” Graphical Colour Multi-Set Remote Overview Display



TOUCHSCREEN

OVERALL SIZE
310 mm x 160 mm x 40 mm (12.2” x 6.3” x 1.5”)
PANEL CUT-OUT SIZE
282 mm x 136 mm (11.1” x 5.3”)

PRODUCT HIGHLIGHTS

I/O
– DC alarm outputs (2)

COMMUNICATIONS
– RS232, RS485 and Ethernet
– USB for PC configuration

COMPATIBLE LOAD SHARING MODULES
– DSE**86xx MKII**

CONFIGURATION
– DSE Configuration Suite PC software
– SCADA software

ADVANCED FEATURES
– 7” LCD display presenting graphs, charts, metering, power and engine status information in full colour
– High screen resolution for optimum clarity
– Touchscreen enabled
– View multiple modules within the same load sharing system (max 20)
– Connects via a data communication link up to a maximum distance of 1.2 km
– Enhanced graphical user interface
– Powerful processor for fast operating response times
– Audible alarm
– Configurable as a single-set remote overview display



PRODUCT VARIANTS
8003-02 - 8003 MKII 7” Graphical Colour Multi-Set Remote Overview Display

DSE7310 MKII / DSE7320 MKII
Configured as DSE2510 MKII / DSE2520 MKII
Auto Start Remote Display Module / Auto Mains (Utility) Failure Remote Display Module



OVERALL SIZE
245 mm x 184 mm x 51 mm (9.6” x 7.2” x 2.0”)
PANEL CUT-OUT SIZE
220 mm x 160 mm (8.7” x 6.3”)

PRODUCT HIGHLIGHTS

I/O
– Configurable DC outputs (2)

ADVANCED FEATURES
– 2 display modules can be connected to 1 host control module
– RS232, RS485 & DSE**Net**® connection to host control module
– Remote displays can be located up to 1.2 km from the host module
– Designed to replicate the instrumentation, control and monitoring capabilities of the host control module
– Remote displays connected to the same system show the same information screens at all times
– The host controller can be set to show different information to the connected remote displays
– Audible alarm
– Five-key menu navigation

CONFIGURATION
– DSE Configuration Suite PC software
– Front panel (PIN protected)

NB: The DSE**2510 MKII** and DSE**2520 MKII** are firmware variants of the DSE**7310 MKII** and DSE**7320 MKII**. To configure as a remote display, a standard DSE**7310 MKII** or DSE**7320 MKII** should be ordered and configured using the DSE Configuration Suite software.



PRODUCT VARIANTS
7310-03 - 7310 MKII Auto Start Control Module
7320-03 - 7320 MKII Auto Mains (Utility) Failure Control Module



Remote Monitoring Software

A major international OEM utilises DSE**WebNet**® to monitor a fleet of gensets across Algeria that are powering a wide variety of critical applications including telecoms, banking, petroleum and industry.

DSE**WebNet**® provides the OEM with key system information for engineer analysis, ensuring accurate diagnoses can be made to avoid major long-term problems. The OEM is able to take full control of the genset and issue commands when required to maximise run-time.

DSE**WebNet**® also enables the OEM to improve its operating efficiencies, by providing detailed site operating information prior to engineers being sent out to site.

DSE**WebNet®**

Advanced Remote Monitoring of Gensets, Pumps & Compressors

DSE**WebNet®** Industry-leading online management tool for remote monitoring of generators, pumps and compressors.

Provides 24/7 access to multiple applications from anywhere in the world.

DSE**WebNet®** has been developed to support remote monitoring of single and multi-set generator systems, pump and compressor applications, being controlled by DSE products*. The intelligent software includes mapping with static locations, real time instrumentation & control, event log tables and automatic system alerts. Alerts can be sent to multiple users via email and SMS. DSE**WebNet®** is available for laptop, desktop, tablet and smart phone use.

ADVANCED FEATURES

- User configurable access
- Single user or organisational accounts
- Configurable reporting
- Start / stop equipment
- Clear alarm conditions
- Configurable user interfaces
- App for mobile and tablet (iOS / Android)
- Geo-fencing and asset tracking
- Maintenance scheduling and logging
- Event triggers
- Works across any phone network

A gateway device is required to use DSE**WebNet®**.



DSE**890 MKII**
DSEWebNet® Gateway 4G (GSM/Ethernet)
P/N: 0890-04
85 mm x 149 mm x 51 mm
(3.4” x 5.9” x 2.0”)

Key Industries:











Works Across Multiple Platforms:

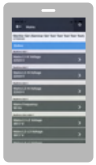
*View DSE**WebNet®** manual for full list of compatible DSE control modules.

Full list of features available at **deepseaelectronics.com**









Download on the App Store

GET IT ON Google Play

DSE**SCADA**
G8 Series SCADA Suite



DSE SCADA is secure software that provides advanced multi-set monitoring & commissioning functionality for G8 Series controllers.
The stand-alone software is downloaded from the DSE website and installed onto a Windows based laptop/desktop machine.
The software can be configured to connect with individual / multiple generators on the same site.
Users are able to gain full system overviews from any remote location with an Internet connection.

The software provides multi-set commissioning functionality, which is unlocked by purchasing a multi-set commissioning license.
Licenses are unique to each computer they are installed on.
Multi-set commissioning allows users to configure generators independently or apply single settings to multiple generators at the same time.

ADVANCED FEATURES
– Server/Client application
– Multi-set commissioning (DSE SCADA license required)
– Fully configurable instruments/screens
– Secure software platform
– Windows based software
– Ethernet communications
– View monitored & measured values on signle-screen
– Simple SCADA diagram setup via drag & drop icons
– Run software anywhere with an internet connection
– Multiple password protection levels (read only/read & write/full admin)
– Monitor & control single/multiple sets
– LAN/WAN compatible
– Reduce on-site monitoring costs
– Start generators independently or together

DSE8005
SCADA Suite Software



PRODUCT HIGHLIGHTS

COMPATIBLE MODULES

- DSE**73xx** / DSE**73xx MKII**
- DSE**74xx** / DSE**74xx MKII**
- DSE**86xx** / DSE**86xx MKII**
- DSE**87xx**
- DSE**88xx**

CONNECTION TO MODULES

- RS485
- Ethernet

OPERATING SYSTEMS

- Windows 10, 8, 7, Vista & XP operating systems
- Compatible with 32-bit & 64-bit operating systems

ADVANCED FEATURES

- Monitors up to a maximum of 40 DSE controllers in any combination of up to 32 generators and 16 mains (utilities)
  e.g. 32 generators and 8 mains (utilities), 30 generators and 10 mains (utilities)
- User-friendly set up using the integral graphical design tool with simple drag and drop facility
- Compatible with touchscreen enabled PC's
- Engine start / stop
- Switching on and off load
- Load demand priority
- Mains (utility) base load power levels

DSE892
Simple Network Management Protocol (SNMP) Gateway



PRODUCT HIGHLIGHTS

ADVANCED FEATURES

- Status LEDs for each communications port
- DIN rail mounting
- Plug & socket connections
- Firmware upgradeable via USB
- SNMP SET to change controller mode
- SNMP GET for instrumentation
- Simple Internet browser configuration
- Controller event / operating status change SNMP TRAP email messaging
- Single gateway device can be connected to multiple controllers
- SNMP management system integration for third-party equipment monitoring
- Compatible with SNMP V2c specifications
- Monitor controller state, operating mode and alarms

COMPATIBLE MODULES

- Refer to DSE**892** operators manual for control module compatibility

COMMUNICATIONS

- RS232, RS485, USB & Ethernet

Full list of features available at **deepseaelectronics.com**

PRODUCT VARIANTS

0892-01 - 892 Simple Network Management Protocol (SNMP) Gateway

OVERALL SIZE
85 mm x 149 mm x 51 mm (3.4" x 5.9" x 2.0")

CE



Expansion Modules

Existing applications requiring additional features and functionality to meet newer, more demanding specifications are utilising DSE input and output expansion modules for system upgrades.

Many new installations also use expansion devices to meet the demands of complex applications.

DSE2548 / DSE2157 / DSE2152
Output Expansion Modules



DSE2548 DSENET® LED OUTPUT EXPANSION MODULE

PRODUCT HIGHLIGHTS

OUTPUTS
- Configurable LEDs (8)
- Audible alarm with mute function

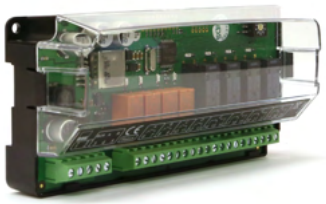
COMPATIBLE DSE MODULES
- DSE**61xx MKIII**
- DSE**73xx MKII**
- DSE**74xx MKII**
- DSE**86xx MKII**

FEATURES
- Up to ten DSE**2548** modules can be linked together and connected to the host module up to a maximum distance of 1km away
- ID switch
- Flashing LED for 'link lost'

PRODUCT VARIANTS
2548-01 - 2548 LED Output Expansion Module

OVERALL SIZE
180 mm x 116 mm x 43 mm (7.1" x 4.6" x 1.7")

PANEL CUT-OUT SIZE
154 mm x 98 mm (6.0" x 3.9")



DSE2157 DSENET® OUTPUT EXPANSION MODULE

PRODUCT HIGHLIGHTS

OUTPUTS
- Configurable, normally open, volt-free outputs (4)
- Configurable volt-free changeover outputs (4)

COMPATIBLE DSE MODULES
- DSE**61xx MKIII**
- DSE**73xx MKII**
- DSE**74xx MKII**
- DSE**86xx MKII**

FEATURES
- Relay contacts with LED indication
- Up to ten DSE**2157** modules can be linked together and connected to the host module up to a maximum distance of 1km away
- ID switch
- Flashing LED for 'link lost'

PRODUCT VARIANTS
2157-01 - 2157 Output Expansion Module

OVERALL SIZE
165 mm x 76 mm x 49 mm (6.5" x 3.0" x 1.9")



DSE2152 DSENET® ANALOGUE OUTPUT EXPANSION MODULE

PRODUCT HIGHLIGHTS

OUTPUTS
- Configurable analogue outputs (6)

COMPATIBLE DSE MODULES
- DSE**61xx MKIII**
- DSE**73xx MKII**
- DSE**74xx MKII**
- DSE**86xx MKII**

FEATURES
- Up to four DSE**2152** modules can be linked together and connected to the host module up to a maximum distance of 1.2 km away
- ID switch
- Flashing LED for 'link lost'

PRODUCT VARIANTS
2152-01 - 2152 Analogue Output Expansion Module

OVERALL SIZE
165 mm x 76 mm x 49 mm (6.5" x 3.0" x 1.9")

DSE2133 / DSE2131 / DSE2130
Input Expansion Modules



DSE2133 RTD/THERMOCOUPLE INPUT EXPANSION MODULE

PRODUCT HIGHLIGHTS

INPUTS
- RTD / thermocouple inputs (8)

COMPATIBLE DSE MODULES
- DSE**61xx MKIII**
- DSE**73xx MKII**
- DSE**74xx MKII**
- DSE**86xx MKII**

FEATURES
- Provides additional protections for temperature, engine, enclosure, etc.
- Up to four DSE**2133** modules can be linked together (max 32 inputs) and connected to the host module up to a maximum distance of 1.2 km away
- ID switch
- Flashing LED for 'link lost'

PRODUCT VARIANTS

2133-01 - 2133 RTD / Thermocouple Input Expansion Module

OVERALL SIZE

165 mm x 76 mm x 49 mm (6.5" x 3.0" x 1.9")



DSE2131 RATIOMETRIC INPUT EXPANSION MODULE

PRODUCT HIGHLIGHTS

RATIOMETRIC ANALOGUE INPUTS
- Inputs configurable for digital / resistive (10)

COMPATIBLE DSE MODULES
- DSE**61xx MKIII**
- DSE**73xx MKII**
- DSE**74xx MKII**
- DSE**86xx MKII**

FEATURES
- Up to four DSE**2131** modules can be linked together and connected to the host module up to a maximum distance of 1.2 km away
- ID switch
- Flashing LED for 'link lost'

PRODUCT VARIANTS

2131-01 - 2131 Ratiometric Input Expansion Module

OVERALL SIZE

165 mm x 76 mm x 49 mm (6.5" x 3.0" x 1.9")



DSE2130 INPUT EXPANSION MODULE

PRODUCT HIGHLIGHTS

INPUTS
- Digital inputs (4)
- Configurable analogue / digital inputs (4)

COMPATIBLE DSE MODULES
- DSE**61xx MKIII**
- DSE**73xx MKII**
- DSE**74xx MKII**
- DSE**86xx MKII**

FEATURES
- Up to four DSE**2130** modules can be linked together and connected to the host module up to a maximum distance of 1.2 km away
- ID switch
- Flashing LED for 'link lost'

PRODUCT VARIANTS

2130-00 - 2130 Input Expansion Module

OVERALL SIZE

134 mm x 76 mm x 49 mm (5.3" x 3.0" x 1.9")

DSE**124** / DSE**G0123**
Expansion Modules





DSE**124 MSC/CAN EXTENDER**

PRODUCT HIGHLIGHTS
The DSE**124** is designed to extend a multi-set comms (MSC) load share link or engine CAN bus. Multiple DSE**124**s can be linked together. The extenders can be located between 250 meters and 2000 meters apart, depending on the module variant being used.
Compatible with the DSE**55xx**, DSE**75xx**, DSE**86xx** and DSE**86xx MKII.**

PRODUCT VARIANTS
0124-01 - 124 CAN bus Extender (Fibre Optic)

OVERALL SIZE
134 mm x 77 mm x 49 mm (5.3” x 3.0” x 1.9”)

DSE**G0123 ANALOGUE LOAD SHARE LINES INTERFACE**

PRODUCT HIGHLIGHTS
The DSE**G0123** Analogue Load Share Lines Interface converts DSE AMSC / MSC digital load share communications to universal analogue load share lines, allowing DSE paralleling controllers to seamlessly deliver kW and kvar load sharing with third party manufactured products.

The DSE**G0123** also allows the DSE**G8600**, DSE**G8900**, DSE**8610 MKII**, DSE**8610**, DSE**7510** and DSE**5510** controllers to be added to an existing DSE load sharing application and deliver kW and kvar load sharing across all DSE controllers within the system.

The flexibility of the DSE**G0123** makes expanding existing systems extremely simple.

PRODUCT VARIANTS
G0123-01 - Analogue Loadshare Lines Interface

OVERALL SIZE
164.5 mm x 76.4 mm x 48.9 mm
(6.48” x 3.0” x 1.93”)

DSE**Control®**

DSE**Control®** is an extremely powerful collection of programmable controllers and displays for vehicles and off-highway machinery and a dynamic range of control systems for engines, pumps and compressors.

Our specialist team of development engineers have created a range of products that combine outstanding performance, features and reliability, making each product suitable for use across multiple application environments.

SUITABLE FOR:


EMERGENCY VEHICLES

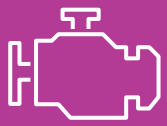

MILITARY


CONSTRUCTION


MUNICIPAL VEHICLES


AGRICULTRUAL


TRANSPORT & LOGISTICS


ENGINES


COMPRESSORS


PUMPS



Vehicle & Off-Highway Machinery Control Systems

DSE's range of programmable controllers are installed on construction machinery all over the world.

DSE**M64x** controllers and DSE**M8xx** displays provide users with powerful solutions that meet complex control requirements. Key areas of control include hydraulic movement control, engine control and CAN device interfacing.

DSE**M812**
12” Programmable Display



TOUCHSCREEN

OVERALL SIZE
330 mm x 210 mm x 63.5 mm (13” x 8.3” x 2.5”)
PANEL CUT-OUT SIZE
313 mm x 193 mm (12.3” x 7.6”)

PRODUCT HIGHLIGHTS
- Can be used independently or in conjunction with DSE**M64x** programmable controllers
- Fully programmable to meet the challenges of multiple off-highway and vehicle applications
- Designed for in-cab or dash / panel mounting
- Equipment controls can be incorporated into the DSE**M812** display for simplified user operation
- Information is presented in graphic, text and icon formats
- Camera inputs offer enhanced operator viewing and safer equipment control
- Outstanding response & performance through powerful processors, premium components and superior electronic design
- E11 type approval (Pending)
- IP67 / NEMA 6 protection



I/O
- 6 inputs (digital, resistive, voltage, 0 – 20 mA, 4 – 20 mA, frequency input)
- Configurable digital outputs (6)
- 4 analogue (composite video) camera support (PAL/NTSC)

COMMUNICATIONS
- Independent CAN interfaces (3), J1939, CANOpen and Raw CAN
- Ethernet interface (2) via M12 connectors
- USB
- Wi-Fi and bluetooth support (Qt variant only - external antenna required)
- GPS (external antenna required)
- USB device and host connection

PROGRAMMING LANGUAGE
- CODESYS 3.5
- QT (Order Qt variant)

ADVANCED FEATURES
- Robust HMI / programmable display specifically designed for mobile applications
- Optically bonded 12’1 inch colour TFT, 1280 x 800 16:10 resolution
- Powerful iMx6 quad processor
- 16 GB flash, 2 GB RAM
- Capacitive touchscreen with glove support

Full list of features available at **deepseaelectronics.com**

PRODUCT VARIANTS
M812-01 - Touchscreen with Buttons - Codesys
M812-02 - Touchscreen no Buttons - Codesys
M812-03 - Touchscreen with Buttons - Qt
M812-04 - Touchscreen no Buttons - Qt

DSE**M870**
7” Programmable Display



TOUCHSCREEN

OVERALL SIZE
272 mm x 165 mm x 81 mm (10.8” x 6.3” x 3.15”)
PANEL CUT-OUT SIZE
231 mm x 133 mm (9.09” x 5.24”)

PRODUCT HIGHLIGHTS
- Can be used independently or in conjunction with DSE**M64x** programmable controls
- Fully programmable to meet the challenges of multiple off-highway and vehicle applications
- Designed for in-cab or panel mounting
- Equipment controls can be incorporated into the DSE**M870** display for simplified user operation
- Clear information is presented on the screen in graphic, text and icon formats
- Camera inputs offer enhanced operator viewing and safer equipment control
- Outstanding response & performance through powerful processors, internal components and superior electronic design
- E11 type approval
- IP67 / NEMA 6 protection

I/O
- Configurable inputs with digital and analogue capability (4)
- Configurable digital outputs (4)
- Camera inputs (2)

COMMUNICATIONS
- Independent CAN interfaces (2), J1939, CAN Open and Raw CAN
- Ethernet interface
- USB

PROGRAMMING LANGUAGE
- CODESYS 3.5
- QT (on request)

ADVANCED FEATURES
- Robust HMI/programmable display specifically designed for mobile applications
- Optically bonded 7” colour screen for harsh environments
- Powerful ARM Cortex A9 processor with 800 MHz clock speed
- 512 MB of DDR3 SDRAM and 2 GB of NAND mass storage
- Touchscreen variant



PRODUCT VARIANTS
M870-01 - M870 Programmable Display
M870-02 - M870 Programmable Display (Touch-screen)

DSE**M840**
4.3” Programmable Display



OVERALL SIZE
131 mm x 208 mm x 56 mm (5.15” x 8.2” x 2.2”)
PANEL CUT-OUT SIZE
163 mm x 98 mm (6.42” x 3.86”)

PRODUCT HIGHLIGHTS
- Can be used independently or in conjunction with DSE**M64x** programmable controls
- Fully programmable to meet the challenges of multiple off-highway and vehicle applications
- Designed for in-cab or panel mounting
- Equipment controls can be incorporated into the DSE**M840** display for simplified user operation
- Clear information is presented on the screen in graphic, text and icon formats
- Outstanding response & performance through powerful processors, internal components and superior electronic design
- IP67 / NEMA 6 protection

I/O
- Configurable inputs with digital and analogue capability (4)
- Configurable digital outputs (4)

COMMUNICATIONS
- Independent CAN interfaces (2), J1939, CAN Open and Raw CAN
- Ethernet interface
- USB

PROGRAMMING LANGUAGE
- CODESYS 3.5
- C (on request)

ADVANCED FEATURES
- Robust HMI/programmable display specifically designed for mobile applications
- Optically bonded 4.3” colour screen for the harshest environments
- Powerful Cortex M4 + M processor with 200 MHz clock speed
- 32 MB of SDRAM and 16 MB of flash storage



PRODUCT VARIANTS
M840-01 - M840 Programmable Display

DSE**M835**
3.5” Programmable Display

IP67 NEMA6



OVERALL SIZE
112.5mm x 115 mm x 49 mm (4.43” x 4.53” x 1.93”)
PANEL CUT-OUT SIZE
80 mm / 3.15” Diameter

PRODUCT HIGHLIGHTS

I/O
– Configurable multi-functional inputs for digital, current, voltage & resistance (4)
– Outputs for external relays, LEDs and audible buzzer (3)

ENGINE COMPATIBILITY
– CAN engine support (Tier 4F / Stage 5)

CONFIGURATION
– CODESYS 3.5

ADVANCED FEATURES
– Fully programmable CAN display
– CODESYS 3.5
– 3.5” 320 x 240 pixel optically bonded TFT display
– 4 configurable multi-functional inputs (digital, current, voltage, resistance)
– 3 flexible outputs for external relays, LEDs and audible buzzers
– Five backlit soft navigation keys
– 80 mm circular panel cutout for simple replacement of traditional gauges
– IP67 rating offers increased resistance to water ingress
– 120 Ω resistor (software switchable)
– Auto on/off heated display
– Industry standard Deutsch 18 pin connector
– Compatible with Tier 4 Final and Stage V engine parameters
– TSC 1 messaging for speed control



PRODUCT VARIANTS
M835-01 - M835 Programmable Display

DSE**M640**
Programmable Controller (68 I/O)



OVERALL SIZE
240 mm x 190 mm x 49 mm (9.45” x 7.48” x 1.46”)

PRODUCT HIGHLIGHTS
- Can be used independently or in conjunction with DSE**M840 /** DSE**M870** programmable displays
- Engineered for durability and reliability in the most extreme environmental conditions
- Tough die-cast aluminium for direct mounting to chassis or machine frameworks
- Sophisticated breather valve to equalise pressure and reduce condensation
- Outstanding response & performance through powerful processors, internal components and superior electronic design
- Fully programmable to meet the challenges of multiple off-highway and vehicle applications
- E11 type approval
- IP67 / NEMA 6 protection

I/O
- Configurable inputs with digital and analogue capability (32)
- Configurable outputs with digital, PWM and PWMi capability (36)

COMMUNICATIONS
- Independent CAN interfaces, J1939, CAN Open or Raw CAN (4)
- J1939 communications compatible with Tier 4F / Stage V
- Ethernet interface

PROGRAMMING LANGUAGE
- CODESYS 3.5
- C (on request)

ADVANCED FEATURES
- Powerful 32-bit processor with 220 MHz clock speed
- 4 MB application memory



PRODUCT VARIANTS
M640-01 – M640 Programmable Off-Highway Controller

DSE**M643**
Programmable Controller (34 I/O)



OVERALL SIZE
240 mm x 190 mm x 49 mm (9.45” x 7.48” x 1.46”)

PRODUCT HIGHLIGHTS
- Can be used independently or in conjunction with DSE**M840 /** DSE**M870** programmable displays
- Engineered for durability and reliability in the most extreme environmental conditions
- Tough die-cast aluminium for direct mounting to chassis or machine frameworks
- Sophisticated breather valve to equalise pressure and reduce condensation
- Outstanding response & performance through powerful processors, internal components and superior electronic design
- Fully programmable to meet the challenges of multiple off-highway and vehicle applications
- E11 type approval
- IP67 / NEMA 6 protection

I/O
- Configurable inputs with digital and analogue capability (16)
- Configurable outputs with digital, PWM and PWMi capability (18)

COMMUNICATIONS
- Independent CAN interfaces, J1939, CAN Open or Raw CAN (4)
- J1939 communications compatible with Tier 4F / Stage V
- Ethernet interface

PROGRAMMING LANGUAGE
- CODESYS 3.5
- C (on request)

ADVANCED FEATURES
- Powerful 32-bit processor with 220 MHz clock speed
- 4 MB application memory



PRODUCT VARIANTS
M643-01 – M643 Programmable Off-Highway Controller

DSE**M040**
M64X Development Kit



PRODUCT HIGHLIGHTS
- Breakout PCB for application development
- Set of connecting harnesses for plug & play
- Multiple power configurations
- Access to all inputs and outputs via sprung terminal blocks
- CAN interface via Sub D9 female connectors and sprung terminal blocks
- Individual power and ground connection via 4mm connectors
- Ethernet programming cable and USB data cable included
- Suitable for DSE**M640** and DSE**M643** controllers

Full list of features available at **deepseaelectronics.com**

PRODUCT VARIANTS
M040-01 - M040 Development Kit

BREAKOUT PCB
320 mm x 210 mm x 46 mm (12.60" x 8.27" x 1.81")
CASE
437 mm x 379 mm x 160 mm (17.20" x 14.90" x 6.3")



Engine & Pump Controllers

Mobile pumps are used during times of severe flooding after heavy rainfall and riverbank breaches affect housing and developed areas across the USA.

Using the DSE**E800** controllers, the pumps drain the land into nearby unused areas and drainage ditches. Sophisticated data logging, particularly oil pressure and engine coolant temperature, allow maintenance engineers to keep the pumps running at optimum efficiency. Sophisticated communications through DSE**WebNet**® allow remote monitoring of the pumps throughout their 24/7 operation.

DSE**E800**
Engine Control Module



OVERALL SIZE
240 mm x 172 mm x 57 mm (9.4” x 6.8” x 2.2”)
PANEL CUT-OUT SIZE
220 mm x 160 mm (8.7 “ x 6.3”)

PRODUCT HIGHLIGHTS

I/O
- Configurable digital inputs (11)
- Configurable ratio-metric inputs (12)
- Configurable DC outputs (4)
- Configurable volt-free outputs (2)
- Configurable PWMi outputs (4)
- Independent fuel and start outputs

COMMUNICATIONS
- User selectable RS232, RS485 & Ethernet communications
- MODBUS RTU & TCP IP
- USB for PC configuration
- DSE**WebNet®** compatible

ENGINE COMPATIBILITY
- CAN engine support (Tier 4F / Stage 5)
- Conventional engine support (MPU & Hz)

CONFIGURATION
- DSE Configuration Suite PC software
- PIN protected front panel editor

ADVANCED FEATURES
- Float contact support
- Configurable timers and alarms
- 3 configurable maintenance alarms
- Built-in governor and clutch control
- Automatic and manual speed control
- Automatic speed ramping
- Fuel usage monitor and low fuel alarms
- Flexible automatic start control
- Advanced support for multiple languages
- Sophisticated data logging and trending reports
- Advanced SMS control including start / stop and fault messaging
- User configurable MODBUS pages
- Customisable status screens
- Multiple date and time engine scheduler
- PLC editor
- Modem diagnostics
- Protections disabled feature
- Backed-up real time clock
- DSE**Net®** expansion compatible



PRODUCT VARIANTS
E800-01 - E800 Engine Control Module

DSE**E400**
Engine Control Module



OVERALL SIZE
189 mm x 125 mm x 54 mm (7.5" x 4.9" x 2.1")
PANEL CUT-OUT SIZE
148 mm x 112 mm (5.8" x 4.4")

PRODUCT HIGHLIGHTS

I/O
- Configurable digital inputs (4)
- Configurable analogue inputs (7)
- Configurable digital inputs (4)
- Configurable DC outputs (2)
- Configurable PWM / PWMi outputs (2)
- Configurable analogue output (1)

COMMUNICATIONS
- RS485 communications
- MODBUS RTU
- USB for PC configuration
- DSE**WebNet®** compatible

ENGINE COMPATIBILITY
- CAN engine support (Tier 4F / Stage 5)
- Conventional engine support (MPU & Hz)

CONFIGURATION
- DSE Configuration Suite PC software
- Front panel (PIN protected)

ADVANCED FEATURES
- Sophisticated pump control for fill / empty, maintain fill / empty
- Configurable timers and alarms
- 3 configurable maintenance alarms
- Built-in governor and clutch control
- Manual and automatic speed control
- Automatic speed ramping
- Fuel usage monitor and low fuel alarms
- Flexible automatic start control
- Advanced support for multiple languages
- Protections disabled feature
- Customisable status and instrumentation screens
- Backed-up real time clock
- Multiple date and time engine scheduler
- Extensive event logging



PRODUCT VARIANTS
E400-01 - E400 Engine Controller
E400-02 - E400 Engine Controller (Htr)

DSE**E100**
Engine Control Module



OVERALL SIZE
140 mm x 113 mm x 43 mm (5.5" x 4.4" x 1.7")
PANEL CUT-OUT SIZE
118 mm x 92 mm (4.6" x 3.6")

PRODUCT HIGHLIGHTS

I/O
- Configurable analogue / digital inputs (3)
- Configurable digital inputs (4)
- Configurable remote start input
- Configurable DC outputs (4)
- Fuel and start outputs

COMMUNICATIONS
- USB for PC configuration
- DSE**WebNet®** compatible

ENGINE COMPATIBILITY
- Conventional engine support (MPU & W terminal)

CONFIGURATION
- DSE Configuration Suite PC software
- Front panel (PIN protected)

ADVANCED FEATURES
- 3 engine maintenance alarms
- Engine speed protection
- Comprehensive warning, controlled shut down or shut down protection on fault condition
- Engine hours counter
- Real-time clock for accurate event logging
- Engine pre-heat
- Engine run-time scheduler
- Battery voltage monitoring
- Large display screen
- Power save mode
- Start on low battery voltage



PRODUCT VARIANTS
E100-01 - E100 Engine Controller

DSE**E050**
eView® Engine Display

IP67 NEMA6



OVERALL SIZE
112.5mm x 115 mm x 49 mm (4.43" x 4.53" x 1.93")
PANEL CUT-OUT SIZE
80 mm / 3.15" Diameter

PRODUCT HIGHLIGHTS

I/O
– Configurable multi-functional inputs for digital, current, voltage & resistance (4)
– Outputs for external relays, LEDs and audible buzzer (3)

ENGINE COMPATIBILITY
– CAN engine support (Tier 4F / Stage 5)

CONFIGURATION
– DSE Configuration Suite PC software

ADVANCED FEATURES
– 3.5" optically bonded TFT display screen
– 320 x 240 pixel display for high clarity viewing
– Auto on / off heated display screen
– Monitors engine speed, oil pressure, coolant temperature, fuel level & more
– TSC 1 messaging for speed control
– DTCs for the display of DM1 and DM2 diagnostic trouble codes
– Configurable CAN baud rate (250 kbit/s or 500 kbit/s)
– Configurable start-up screen and instrumentation pages
– Dark and light screen themes
– 80 mm circular panel cut-out for simple replacement of traditional gauges
– 120 Ω resistor software switchable
– Customised image display (30 screen support)
– IP67 / NEMA 6 protection
– Industry standard Deutsch 18 pin connector
– Low power / power save mode



PRODUCT VARIANTS
E050-01 - eView® Engine Display

DSE**Power®**

DSE**Power®** is a range of 12 and 24 volt compact, vertical, intelligent, and enclosed battery chargers, ranging from 3 amp to 30 amp. Each charger has been developed and manufactured by our specialist power engineering team.

All chargers within the range include multiple industry-leading features that are setting new standards in charging technology and enhancing multiple customer charging applications across a wide range of different industry sectors.

SUITABLE FOR:



CCTV



RAIL



SMOKE AOV



SHIPPING VESSELS



EMERGENCY VEHICLES



LIGHTING TOWERS



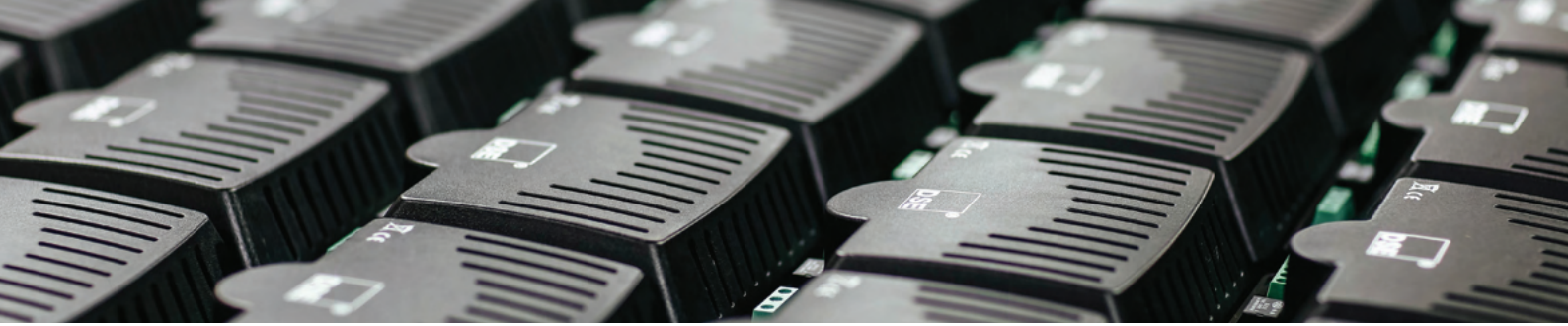
GENSETS



PUMPS



COMPRESSORS



Four Things To Consider When Choosing the Correct Battery Charger

Battery Type

Our battery chargers have a configurable float voltage making them suitable for most battery types (i.e. NiCd, lead acid, gel type).

If your battery manufacturer has specific charging requirements, these settings can be matched within our DSE Configuration Suite PC software and uploaded to your charger.

Voltage

Both AC and DC voltages in and out of the battery charger must be considered. Our battery chargers are designed with a wide AC voltage input range of 90 V – 305 V AC for use all over the world. In addition to this, the DC output of the charger can be put in series or parallel.

Float voltage can be changed via an on-board pot to allow adjustments for specific battery requirements.

Each charging stage output voltage can be changed using our DSE Configuration Suite PC software.

Current Output

It is advisable to use a battery charger with a current rating of 1:10 of the Ah capacity of the battery. For example a 100 Ah battery would need a 10 A battery charger.

This varies between battery chemistries and if you want to charge at a higher rate, your battery manufacturer will be able to advise you.

The DSE Configuration Suite PC software can be used to limit the maximum current output of your battery charger to perfectly suit your battery.

Standing Load

The standing load on a battery is the main requirement for the charge current. The battery charger must be able to supply this current, with the remaining capacity used to charge the battery.

Battery charging top-up requires only a small amount above this, as bulk charging.

Example: for a 2 A standing load, a 5 A or 10 A battery charger is considered suitable for the majority of applications.

DSE chargers can be used as battery chargers, power supplies or both simultaneously.



12 Volt Battery Chargers

Large boats typically contain sophisticated battery back up systems. The DSE switch mode intelligent battery charger range is used to reliably charge and provide vital instrumentation for these systems. Utilising MODBUS allows battery and charger status information to be viewed from any remote location.

This information can easily be displayed onto a control panel on the bridge of a boat by installing a DSE2541 remote battery charger display module.

DSE**BC1205**
12 Volt 5 Amp Charger



VERTICAL MOUNT
50 mm x 129.6 mm x 138.5 mm 2.0” x 5.1” x 5.45”)
HORIZONTAL MOUNT
129.6 mm x 138.5 mm x 50 mm (5.1” x 5.45” x 2.0”)

PRODUCT VARIANTS
BC1205-01 - 12 Volt 5 Amp Battery Charger

PRODUCT HIGHLIGHTS
FEATURES
- Wide AC input voltage
- Manual boost adjustment
- Constant current
- Constant voltage
- Automatic float mode return
- Low output ripple to suit all battery types
- Reverse polarity, short-circuit and current limiting protection
- Auto recovery on fault condition removal
- Battery charger thermal de-rate facility
- Cell charge boost and equalizing
- Chargers switch to eco power mode when batteries are fully charged
- Multiple modules can be linked together to increase current output
- Battery voltage measurement



24 Volt Battery Chargers

Gensets all over the world are operating with DSE battery chargers. The standing load of a panel is the main requirement for the charge current. DSE battery chargers are able to supply the panel load current, with remaining capacity used to charge the battery. After an engine start, bulk charging is usually performed by the DC charging alternator and the battery charger is used to keep the battery full.

DSE**BC2405**
24 Volt 5 Amp Vertical Charger



VERTICAL MOUNT
50 mm x 129.6 mm x 138.5 mm 2.0” x 5.1” x 5.45”)
HORIZONTAL MOUNT
129.6 mm x 138.5 mm x 50 mm (5.1” x 5.45” x 2.0”)

PRODUCT VARIANTS
BC2405-01 - 24 Volt 5 Amp Battery Charger

PRODUCT HIGHLIGHTS
FEATURES
- Wide AC input voltage
- Manual boost adjustment
- Constant current
- Constant voltage
- Automatic float mode return
- Low output ripple to suit all battery types
- Reverse polarity, short-circuit and current limiting protection
- Auto recovery on fault condition removal
- Battery charger thermal de-rate facility
- Cell charge boost and equalizing
- Chargers switch to eco power mode when batteries are fully charged
- Multiple modules can be linked together to increase current output
- Battery voltage measurement

DSE**9470 MKII**

12 Volt / 24 Volt 10 Amp Intelligent Battery Charger



OVERALL SIZE
200 mm x 130 mm x 70 mm (7.9" x 5.1" x 2.7")

PRODUCT HIGHLIGHTS - DSE**9470 MKII**

ADVANCED FEATURES
- Configurable for 12 V / 24 V operation
- Intelligent two, three and four stage charging profiles
- Adjustable current limit
- Digital micro-processor technology
- Low output ripple and tight load & line regulation
- Customisable charging curves
- AC input under / over voltage
- Battery charger over voltage protection
- Battery charger over current protection
- Battery under voltage alarm
- Auto battery detection
- Auto self-test function
- Output short circuit and inversion polarity with auto recovery
- Auto power de-rating at high ambient temperatures
- Optional battery temperature compensation using a PT1000 temperature sensor
- Cell charge boost & equalizing
- Configurable soft-start feature using DSE Configuration Suite software
  "View remaining charge time via SCADA"
- Digital input within SCADA
- Configurable bulk to absorption transmission
- 12 V / 24 V auto voltage battery detection
- Configurable charge termination
- Battery health check
- Battery voltage sensing (down to 1 V)
- Deep sleep mode
- PSU mode
- Automatic voltage detection (down to 1 V)
- Max current mode
- 86% operating efficiency
- DIN rail / chassis mount
- External remote LCD option (see DSE**2541**)

COMMUNICATIONS
- MODBUS RTU using RS485
- USB

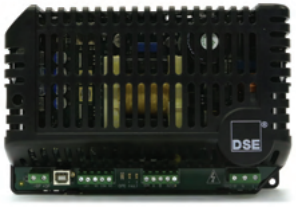
COMPATIBILITY
- All DSE modules
- All common battery types including lithium-ion

CONFIGURATION
- DSE Configuration Suite PC software

PRODUCT VARIANTS
9470-01 - 12 V / 24 V 10 A Intelligent Battery Charger (90 V - 305 V 50 Hz / 60 Hz)

DSE**BC2415i** / DSE**9474** / DSE**9476**

24 Volt 15 Amp / 20 Amp / 30 Amp Intelligent Battery Chargers



DSE**BC2415i**
15 Amp Intelligent Battery Charger

OVERALL SIZE
205 mm x 135 mm x 80 mm (8.1” x 5.3 x 3.1”)

PRODUCT VARIANTS
BC2415I-01 - 24 Volt 15 Amp Intelligent Battery Charger (90-305V 50/60HZ)



DSE**9474**
20 Amp Intelligent Battery Charger

OVERALL SIZE
240 mm x 263 mm x 89 mm (9.4” x 10.4” x 3.5”)

PRODUCT VARIANTS
9474-01 - 24 Volt 20 Amp Intelligent Battery Charger (90 V - 305 V 50 Hz / 60 Hz)



DSE**9476**
30 Amp Intelligent Battery Charger

OVERALL SIZE
183 mm x 233 mm x 76 mm (7.2” x 9.2” x 3.0”)

PRODUCT VARIANTS
9476-01 - 24 Volt 30 Amp Intelligent Battery Charger (90 V - 305 V 50 Hz / 60 Hz)

PRODUCT HIGHLIGHTS - DSE**9473,** DSE**9474 &** DSE**9476**

ADVANCED FEATURES
- Intelligent two, three and four stage charging profiles
- Adjustable current limit
- Digital micro-processor technology
- Low output ripple and tight load & line regulation
- Customisable charging curves
- AC input under / over voltage alarms
- Battery charger over voltage protection
- Battery charger over current protection
- Battery under voltage alarm
- Auto battery detection
- Auto self-test function
- Output short circuit and inversion polarity with auto recovery
- Auto power de-rating at high ambient temperatures
- Optional battery temperature compensation using a PT1000 temperature sensor
- Cell charge boost & equalizing
- Boosts and equalises cell charge improving battery performance and life
- 86% operating efficiency
- DIN rail / chassis mount (DSE**9474 &** DSE**9476** chassis only)
- External remote display option (DSE**2541**)

COMMUNICATIONS
- MODBUS RTU using RS485
- USB

COMPATIBILITY
- All DSE modules
- All common battery types

CONFIGURATION
- DSE Configuration Suite PC software



Enclosed Battery Chargers

Primarily used across the UK and Europe, DSE enclosed battery chargers can be found in a cross section of areas within the rail network industry. They are typically used on digital platform signs and on-board, within train carriages.

DSE**BC2410Ei**

12 / 24 Volt 10 Amp Enclosed Intelligent Battery Charger



PRODUCT VARIANTS

BC2410Ei-01 - 12/24 Volt 10 Amp Enclosed Intelligent Battery Charger (Display)
BC2410Ei-02 - 12/24 Volt 10 Amp Enclosed Intelligent Battery Charger (Display & Meters)
BC2410Ei-03 - 12/24 Volt 10 Amp Enclosed Intelligent Battery Charger (Meters)

OVERALL SIZE
170 mm x 305 mm x 116 mm (6.7” x 12.0” x 4.6”)

PRODUCT HIGHLIGHTS - DSE**BC2410EI**

ADVANCED FEATURES

- Intelligent two, three and four stage charging profiles
- Front panel control with multiple display variants
- Front panel meters
- 12 V / 24 V configurable
- Adjustable current limit
- Can be used as a battery charger or power supply
- Manual & automatic boost
- Digital micro-processor technology
- Battery charging temperature compensation
- Low output ripple / excellent line regulation
- Customisable charging curves
- AC input over / under voltage
- Battery charger over voltage protection
- Battery charger over current protection
- Battery under voltage alarm
- 12 V / 24 V auto voltage battery detection
- Auto self test function
- Output short circuit and inversion polarity with auto recovery
- Auto power de-rating at high ambient temperatures
- Optional battery temperature compensation using a PT1000 temperature sensor
- Power save mode
- 86% operating efficiency
- Chassis mount
- External remote display option (DSE**2541**)
- NFPA 110 (QWIR) COMPLIANT / UL LISTED

COMMUNICATIONS

- MODBUS RTU using RS485
- USB

COMPATIBILITY

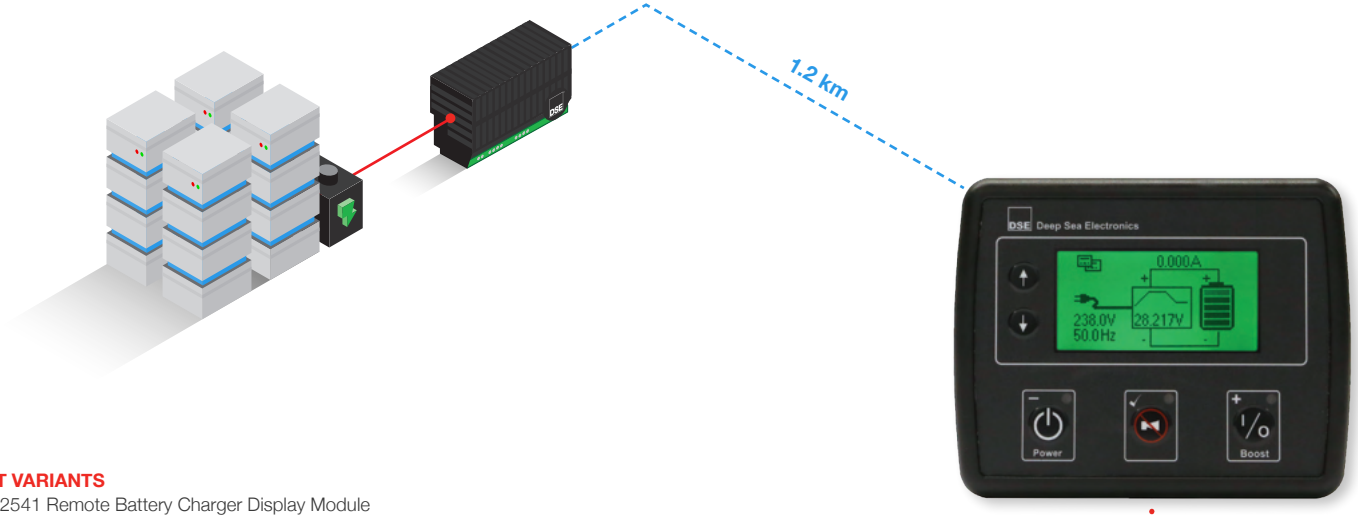
- All DSE modules
- All common battery types

CONFIGURATION

- DSE Configuration Suite PC software

Full list of features available at **deepseaelectronics.com**

DSE2541
Remote Battery Charger Display Module

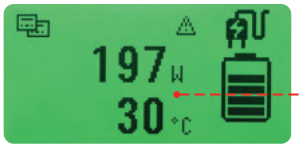


PRODUCT VARIANTS

2541-02 - 2541 Remote Battery Charger Display Module

The DSE**2541** remote battery charger display has been designed to work with our full range of intelligent and enclosed battery chargers. The display presents information to the operator on charge output, charge cycle, mains (utility) supply status and indicates when fault conditions are present.

ADVANCED FEATURES



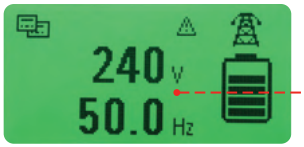
Battery charger power and temperature monitoring



Alarm indication



Remote boost and battery charger output control



Mains AC voltage and frequency monitoring

OVERALL SIZE
140 mm x 113 mm x 43 mm (5.5” x 4.4” x 1.7”)
PANEL CUT-OUT SIZE
118 mm x 92 mm (4.6” x 3.6”)

DSE**Ats®**

DSE**Ats®** features an advanced range of automatic transfer switch control modules and power supplies.

Our dedicated development team have an in-depth understanding of ATS markets ensuring all products provide a perfect balance of advanced features and functionality relevant to the demands of the industry.

SUITABLE FOR:

TELECOMS **DATA CENTRES** **HOSPITALS**



Automatic Transfer Switch Controllers

This office block utilises two DSE**7310 MKII** auto start control modules located in the basement. Each floor of the building is connected to a DSE**335** auto transfer switch control. The auto transfer switch modules control the load transfer of each floor in a stepped sequence, to and from the generator supply in the event of a mains (utility) failure.

Applying the load in a stepped sequence prevents genset overload /system fail and the stepped return to mains (utility) enables the gensets to reduce their load prior to shutdown.

DSE335
Auto Transfer Switch Control Module



OVERALL SIZE
245 mm x 184 mm x 42 mm (9.6” x 7.2” x 1.6”)
PANEL CUT-OUT SIZE
220 mm x 160 mm (8.7” x 6.3”)

PRODUCT HIGHLIGHTS

I/O
- Configurable inputs (12)
- Configurable volt-free outputs (6)
- Configurable DC outputs (6)

COMMUNICATIONS
- Configurable for RS232 or RS485
- USB for PC configuration
- DSE**WebNet®** compatible

CONFIGURATION
- DSE Configuration Suite PC software
- Front panel (PIN protected)

ADVANCED FEATURES
- 3-phase monitoring of 2 independent AC supplies (S1 and S2)
- Additional display screens to help with modem diagnostics
- Source 1 / source 2 control
- Manual restore to S1
- Load switching (load shedding outputs)
- Check sync feature
- Power monitoring (kW h, kV Ar, kV A h, kV Ar h)
- Start and load inhibit
- Manual and automatic return
- Supports multiple topologies
- Rotary ATS configuration
- Configurable timers and alarms
- Multiple date and time scheduler
- PLC editor
- Real-time clock
- SMS messaging
- Configurable GenComm pages
- DSE**Net®** compatible
- Compatible with DSE**160** power supply



PRODUCT VARIANTS
0335-01 - 335 Auto Transfer Switch Control Module - 12/24 Volt DC Supply

DSE334
Auto Transfer Switch Control Module



OVERALL SIZE
215 mm x 158 mm x 42 mm (8.5” x 6.2” x 1.6”)
PANEL CUT-OUT SIZE
182 mm x 137 mm (7.2” x 5.4”)

PRODUCT HIGHLIGHTS

I/O
- Configurable inputs (10)
- Configurable outputs (5)

COMMUNICATIONS
- USB for PC configuration
- DSE**WebNet®** compatible

CONFIGURATION
- DSE Configuration Suite PC software
- Front panel (PIN protected)

ADVANCED FEATURES
- Automatic switch-over between supplies
- Source 1 / source 2 control
- Manual restore to S1
- Check sync feature
- Event log (10)
- Multiple topology support
- Front panel configuration
- External mains (utility) or generator failure inputs
- Compatible with DSE**160** power supply



Full list of features available at **deepseaelectronics.com**

PRODUCT VARIANTS
0334-01 - 334 Auto Transfer Switch Control Module - 12/24 Volt DC Supply

DSE331
Auto Transfer Switch Control Module



PRODUCT HIGHLIGHTS

I/O
- Configurable inputs (4)
- Configurable volt-free outputs (4)
- Configurable DC outputs (4)

COMMUNICATIONS
- USB for PC configuration

CONFIGURATION
- DSE Configuration Suite PC software
- Front panel (PIN protected)

ADVANCED FEATURES
- Automatic switch-over between supplies
- Source 1 / source 2 control
- Manual restore to S1
- Check sync feature
- Icon or text display
- Configurable timers
- Start inhibit & load inhibit
- Manual & automatic return
- Supports multiple topologies
- Rotary ATS configuration
- 3-phase display
- Compatible with DSE**160** power supply

Full list of features available at **deepseaelectronics.com**

PRODUCT VARIANTS

0331-01 - 331 Auto Transfer Switch Control Module - 12/24 Volt DC Supply

OVERALL SIZE
180 mm x 116 mm x 42 mm (7.1" x 4.6" x 1.7")
PANEL CUT-OUT SIZE
154 mm x 98 mm (6.0" x 3.9")

DSE327
Auto Transfer Switch Control Module



PRODUCT HIGHLIGHTS

I/O
- Volt-free outputs (3)

CONFIGURATION
- Two precision time adjustable potentiometers

ADVANCED FEATURES
- Source 1 / source 2 control
- Self powered
- Configurable timers
- Automatic switch-over between supplies
- LED indicators
- DIN rail mount

Full list of features available at **deepseaelectronics.com**

PRODUCT VARIANTS

0327-01 - 327 Auto Transfer Switch Control Module (230 Volt)
0327-02 - 327 Auto Transfer Switch Control Module (110 Volt)
0327-03 - 327 Auto Transfer Switch Control Module (230 Volt - 10 Second Delay)

OVERALL SIZE
72 mm x 90.5 mm x 65 mm (2.8" x 3.6" x 2.6")

DSE160
Self-Seeking Power Supply



PRODUCT HIGHLIGHTS

- 1 A output
- 12 V and 24 V variants
- Powered by mains (utility), generator or battery
- LED indicators
- Wide operating input voltage
- Output auto restart short circuit protection
- Output over voltage protection
- Less than 1% output ripple
- Can be used as an AC / DC power supply
- DIN rail / chassis mount
- Compatible with DSE**335,** DSE**334,** DSE**331,** DSE**330** ATS controllers

Full list of features available at **deepseaelectronics.com**

PRODUCT VARIANTS

0160-00 - 12 Volt Self Seeking Power Supply (110 V-277 V 50 Hz/60 Hz)
0160-01 - 24 Volt Self Seeking Power Supply (110 V-277 V 50 Hz/60 Hz)

OVERALL SIZE
136 mm x 140 mm x 63 mm (5.4” x 5.5” x 2.5”)

Industry-Leading Technical Support

We are proud of the extensive technical support structure we have in place across the world. Our specialist distributor network and in-house technical support experts work closely together to ensure we provide industry-leading support to customers 24 hours a day, 7 days a week.

Whether customers are looking to identify the right module for their applications, require professional advice on upgrade solutions / system design, need product installation advice or would like to discuss specific module features, we can be relied upon when needed.

For all support related queries, please contact our technical support teams:

UK
T: +44 (0) 1723 890099
E: support@deepseaelectronics.com

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T: +1 (815) 316 8706
E: support@deepseaelectronics.com

India
T: +91 20 68195900
E: support@deepseaelectronics.com



Customer Training

Our range of technical training seminars have a reputation for being extremely informative, whilst being delivered in a clear, easy to follow format. We run seminars on a wide range of subjects from the most basic control system features to advanced high-end applications.

To reinforce our commitment to providing industry-leading training to our customer base we have invested heavily in our UK and USA training facilities. This investment allows us to provide customers with hands-on training in safe operating environments.

On-site equipment includes modern load sharing genset systems, solar hybrid systems and large training suites that feature working control modules across our entire product range.

Our extensive range of training courses can also be delivered at customer premises.

For further information on DSE training courses, please visit the dedicated training section on our website:

www.deepseaelectronics.com/training

Or email our training support team:

support@deepseaelectronics.com



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