



DSEM-Series



Advanced Programmable Display & Controller Technology for Mobile Machines.



A Message From Our DSEControl® General Manager

DSE specialises in designing and manufacturing advanced programmable controllers & displays for off-highway vehicles and mobile machinery.

We develop a leading range of hardware and software platforms that allow original equipment manufacturers and systems integrators to create bespoke control systems that are powerful, robust, and reliable.

Our unrivalled global customer support combined with our application experience, ensures customers have access to a highly skilled team to help create the right solutions for their machines and meet the control requirements different global markets demand.

Take a moment to look at the products we offer and the different applications our products have been designed for. If you have any questions, please get in touch.

Mark Wass

DSEControl® General Manager



Mission Statement



We are dedicated to building long-term successful relationships with our customers and partners by understanding their needs, delivering advanced **control solutions** and providing unrivalled support services.



DSEM-Series

Application Driven Technology.

Innovation is at the heart of our business. We are dedicated to creating technology platforms that enhance all application environments.

We are committed to delivering levels of quality, safety and functionality that improve mobile machines, allowing original equipment manufacturers to offer advanced innovative technologies to their global customer base.

Different application environments inspire us to evolve our technology platforms. No two mobile machines are the same. Control requirements change continuously, which is why our dedicated engineers take time to understand what an application demands from the innovative technology that supports it.

Regular collaboration with machine designers and operators, to understand the challenges being faced, ensures ongoing changes to DSE hardware and software, support evolving machine technologies.



DSEM-Series Range

⚙️ Controllers



DSEM640
Programmable Controller (68 I/O)

- 32 bit processor with 220 MHz clock speed.
- 32 configurable inputs with digital / analogue capability.
- 36 configurable outputs with digital, PWM and PWMI.
- 4 independent CAN interfaces, J1939, CANopen and Raw CAN.



DSEM643
Programmable Controller (34 I/O)

- 32 bit processor with 220 MHz clock speed.
- 16 configurable inputs with digital / analogue capability.
- 18 configurable outputs with digital, PWM and PWMI.
- 4 independent CAN interfaces, J1939, CANopen and Raw CAN.

⚙️ Displays



DSEM835
3.5" Programmable Display

- Optically bonded 3.5" colour display for harsh environments.
- Powerful processor with Cortex M7 400 MHz clock speed.
- 4 configurable inputs with digital / analogue capability.
- 3 configurable digital outputs.
- CAN interfaces (J1939 / Raw CAN).



DSEM840
4.3" Programmable Display

- Optically bonded 4.3" colour display for harsh environments.
- Powerful processor with Cortex M7 400 MHz clock speed + M4 200 MHz clock speed.
- 64 MB of SDRAM / 20 MB CODESYS application / 20 MB user data memory.
- 4 configurable inputs, digital / analogue capability.
- 4 configurable digital outputs (2 x PWM).
- 2 independent CAN interfaces (J1939, CANopen and Raw CAN).

DSEM-Series Range

⚙️ Displays



DSEM870
7" Programmable Display



- Optically bonded 7" colour display for harsh environments.
- Powerful ARM Cortex A9 processor with 800 MHz clock speed.
- 512 MB of DDR3 SDRAM / 2 GB NAND mass storage.
- 4 configurable inputs, digital / analogue capability.
- 4 configurable digital outputs.
- 2 independent CAN interfaces (J1939, CANopen and Raw CAN).



DSEM812
12" Programmable Display
(Non Keyed / Keyed Variants)



- Optically bonded 12.1" colour display for harsh environments.
- i.MX 6 quad processor.
- 16 GB flash / 2 GB RAM.
- 6 configurable outputs.
- 6 inputs (digital, resistive, voltage, 0 mA - 20 mA, frequency input).
- Keyed variant features 16 configurable colour backlit keys.
- 3 independent CAN interfaces (J1939, CANopen and Raw CAN).



DSEM810
10" Programmable Display
(Non Keyed / Keyed Variants)



- Optically bonded 10.1" colour display for harsh environments.
- NXP i.MX 8 DualXPlus processor with GPU.
- 8 GB flash / 1 GB RAM.
- 4 outputs (Digital / PWM).
- 4 inputs (Digital, resistive, voltage, 0 mA - 20 mA, 4 mA - 20 mA, frequency input).
- Keyed variant features 12 configurable colour backlit keys.
- 2 independent CAN interfaces (J1939, CANopen and Raw CAN).

Construction

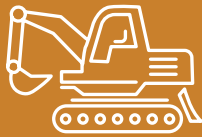
The construction industry needs reliable solutions that are robust, to handle the extreme conditions found across construction sites. Construction is extremely heavy duty with equipment being used on machinery for building construction, earth moving, handling materials safely and road construction.

DSE products can be found across all these applications, with programmable displays and controllers working together across complex CAN networks to effectively control and monitor a wide range of hydraulic functionality.

DSE equipment is designed for a wide range of construction machinery, including:



Front Loaders



Excavators



Backhoes



Drilling Rigs



Concrete Mixers



Dump Trucks





Agriculture

The agricultural industry relies on robust controllers and displays to perform within the toughest conditions. Our product portfolio is designed to withstand harsh environments, making it the perfect solution for a wide range of different machinery types.

DSE products are ideally suited to ensuring operators are fully supported in the field. Our range of programmable controllers deliver extensive configurable I/O, to handle the increasing complexity of agricultural machinery. The different programmable displays offer a wide number of display sizes to ensure operators have all the information they need, to be as efficient as possible when operating in the field.

DSE equipment is designed for a wide range of agricultural machinery, including:



Timber Harvesters



Tractors



Mowers



Combine Harvesters



Seeders



Crop Sprayers

Municipal

The municipal sector presents its own unique set of challenges as most vehicle types are required to operate in areas heavily populated by members of the public. This places a high level of importance on machine up-time, preventative maintenance and maximising vehicle efficiencies.

Municipal vehicles are often subjected to high levels of vibration related to the broad range of tasks they can be used for. DSE products are the perfect solution for these environments. Extensive vibration testing across the complete controller and display range ensures high levels of reliability are always delivered.

DSE equipment is designed for a wide range of municipal vehicles, including:



Road Sweepers



Refuse Vehicles



Skip Loaders



Snow Ploughs

Improving Vehicle Architectures with High Performance Display Solutions



DSEM-Series

Transport & Logistics

The quality, speed and reliability of equipment is essential in achieving highly successful transport & logistics operations. It is vital that all parts work together to achieve the desired outcome of optimising cargo and passenger flows worldwide.

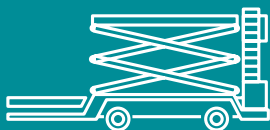
DSE products are the ideal solution to meet the complex demands of the logistics sector. The DSE range of programmable display technology delivers an outstanding ability to control moving and stationary equipment, including belt loaders, pushbacks, and jet bridges.

DSE display technology is also a reliable choice for controlling refrigerated trucks. Combined with DSE programmable controllers, the increasing requirements of the logistics sector can be handled with ease.

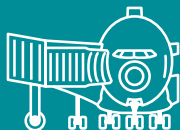
DSE equipment is designed for a wide range of logistics equipment, including:



Belt Loaders



Container Loaders



Jet Bridges



Refrigerated Trucks



Emergency

Emergency vehicles play a vital role across the globe in responding to incidents that present unique sets of challenges. Control & display technology can be exposed to extreme temperatures, humidity, dust, dirt, and vibrations. Across these environments DSE's robust controllers and displays provide important support to multiple emergency vehicle types.

The display technology is fully programmable for control, parameter setting and operating mobile equipment. Displays can be used as stand-alone products or with a programmable controller, transferring data and device functions across a CAN network.

DSE equipment can be mounted into a dashboard or onto a RAM mount, providing high levels of flexibility for emergency vehicle types of all different sizes.

DSE equipment is designed for a wide range of emergency vehicles, including:



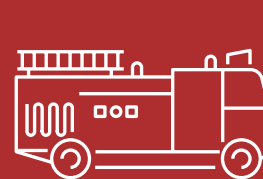
Police Vehicles



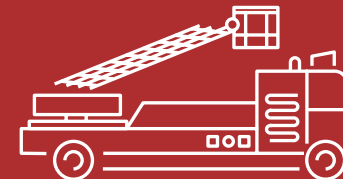
Ambulances



Rescue Vehicles



Fire Trucks



Aerial Ladders



Airport Rescue & Firefighting
Vehicles (ARFF)

Material Handling

Material handling requires the highest levels of safety. Equipment is primarily used to lift materials or people and reliability and safety are key to ensuring successful operation.

Material handling is a fast paced, tough environment with operators often working in high risk areas, heavily populated with people or other off-highway machinery. DSE products are the right choice for these environments. Operators are completely reliant on correct system messages being transferred that adapt how a machine behaves depending on its operating conditions.

DSE M-Series controllers and displays make it possible for users to send the right messaging via an on-board CAN network. Their high-performance design allows them to be integrated into many different material handling machine concepts.

DSE equipment is designed for a wide range of material handling equipment, including:



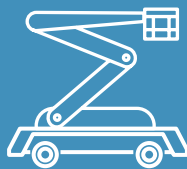
Mobile Cranes



Forklifts



Lifting Platforms



Boom Lifts





Electric

Electrifying different off-highway vehicles and mobile machinery is becoming increasingly popular. The increased focus on reducing carbon emissions and promoting sustainable practices, is driving the demand for electric equipment to new levels. The prospect of lower emissions and noise levels and aligning with stringent environmental regulations and sustainability goals, has led to sustainable practices becoming a priority.

Electric off-highway machinery continues to rely heavily on smart technologies. DSE programmable controllers and displays provide innovative solutions to meet the control requirements of electric equipment, helping to enhance performance, monitor battery health and strengthen safety technologies.

DSE equipment is designed for a wide range of electric vehicles and machinery, including:



Mowers



Forklifts



Loaders



Electric Carts



Trucks



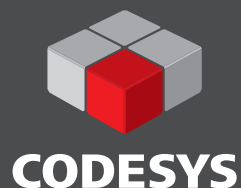
Excavators

**Specialists in Making
Mobile Machines
Intelligent, Productive
and Safe.**



DSEM-Series

Reliable Software Partners for Successful Automation.



- Reliable partner for successful automation devices.
- Globally established system platform.
- Single user interface.
- Power and usability for effective implementation of complex automation projects.
- Easy adaptation to different system requirements & environments.
- Integrated functionality for practice-oriented automation devices.



- Reliable partner at all stages of the product development process.
- Design and create incredible user interfaces.
- Intelligent software for developing and deploying entire product lines.
- Improved productivity support, enabling faster time to market for applications.
- Analyse customer insights with usage intelligence to support continuous device improvement.
- Automate testing and assure quality.

In-Depth Testing for Assured Quality.

All **DSEM-Series** products go through a series of rigorous tests in laboratory and real-life environments. This ensures all products comply with the required health and safety standards applicable to global mobile machine markets.



CE Marking



E11 Marking



Mechanical Testing



EMC Testing



Climatic Testing



Electrical Testing





DSEM-Series

**Deep Sea Electronics Ltd UK**

Highfield House, Hunmanby Industrial Estate,
Hunmanby, North Yorkshire, YO14 0PH, UK

Telephone +44 (0)1723 890099

Email sales@deepseaelectronics.com

Deep Sea Electronics Inc USA

3230 Williams Avenue, Rockford
IL 61101-2668, USA

Telephone +1 (815) 316 8706

Email usasales@deepseaelectronics.com

Deep Sea Electronics India

405, 406 Pride Gateway, Baner Pune 411045,
Maharashtra, India, CIN U52100PN2013FTC213603

Telephone +91 20 68195900

Email sales@deepseaelectronics.com

Deep Sea Electronics UAE

Gold Crest Executive Tower, Office 512,
Jumeirah Lake Towers, Dubai, UAE P.O. Box 72857

Telephone +971 (0) 45 910819

Email uaesales@deepseaelectronics.com

www.deepseaelectronics.com

Deep Sea Electronics Ltd maintains a policy of continuous development and reserves the right to change the details shown in this brochure without prior notice. The contents are intended for guidance only.

Registered in England & Wales No. 01319649
VAT No. 316923457



055-216/04/24 (5)