

Electronic Chart Display and Information System

- Built to Last



DM800 ECDIS
DM700 ECDIS



A leading maritime hardware manufacturer

Optimise the safety, performance and cost of your vessel and fleet operations with cutting-edge Voyage Data Recorders (VDR), Electronic Chart Display and Information Systems (ECDIS), and ship-2-shore data solutions from Danelec Marine.

Our technology enables more than 6000 ships worldwide to meet stringent safety and environmental regulations, and we continue to develop new ways of improving performance and efficiency through the application of data collected on board and accessed in the cloud.

Founded in 1981, we introduced our first ECDIS solution in 2010. Since then, every Danelec ECDIS has been built with a commitment to our key product principles:

SOLID - SAFE - SIMPLE

Revolutionizing Shipboard Service

Save time and money, while eliminating in-port delays with Danelec's SoftWare Advanced Protection (SWAP).

This unique approach allows all system software and programming data to be saved on a 'hot-swappable' memory card for quick and easy transfer to a new VDR unit during service or repair, saving hours in software installation and configuration.

- Onboard repairs take hours, not days
- Save money by reducing man hours
- Protect and secure VDR data
- Keeps ships on schedule

Danelec User Group

Market trends and customer needs guide Danelec's overall policy and strategy for our ECDIS solutions.

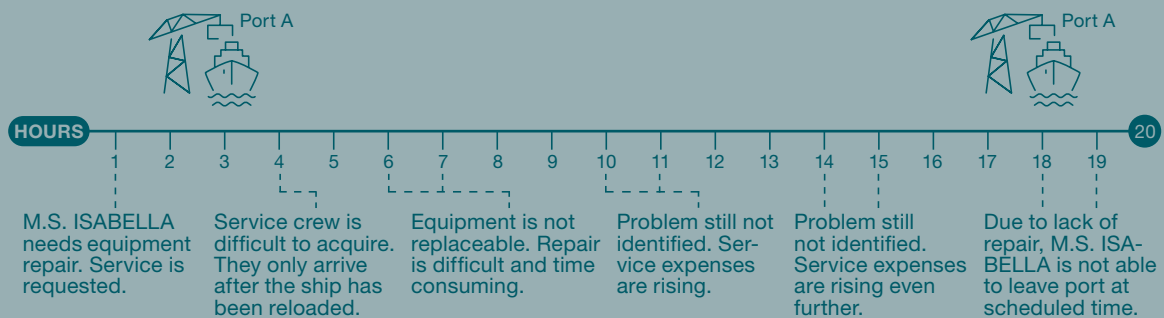
The Danelec User Group is intended to form an open space for exchanging experience, ideas, and best practices for our ECDIS solutions with a mission of gathering feedback for future development and share best practices in the use of our ECDIS solutions with our customers.

Our product software development is market-driven with our roadmap also relying on customer input from the various maritime market segments (tankers, bulkers, container, multi-purpose and supply vessels, etc.)

SWAP™ Technology

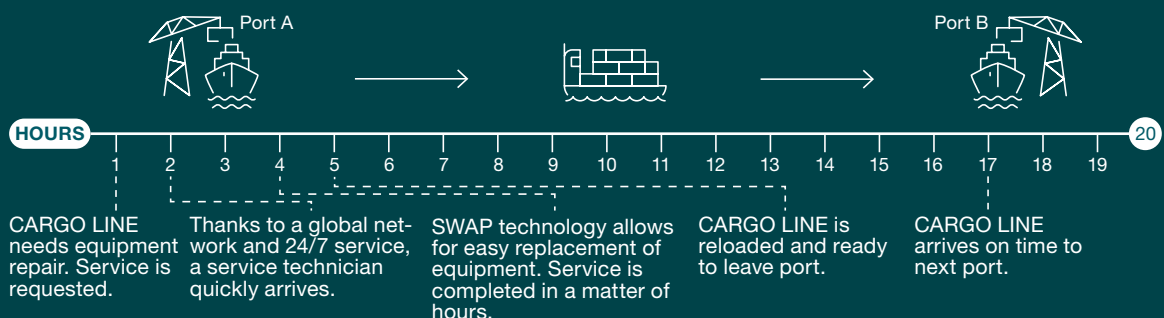
REPAIR ON BOARD

↑ TRADITIONAL WAY



MOVE REPAIR TO SHORE

↓ DANELEC WAY





SOLID Product design

Dependable operation

Equipment that is built to be at sea

– Our products are based on an application-specific design to ensure extreme reliability. Fewer components mean fewer points of failure, resulting in the highest MTBF in the industry.

Future proof

Never obsolete, always supported

– We guarantee a service life time of our products for a minimum of 10 years. Since our products are developed in-house, we have full control over all components.



SAFE Service & support

Immediate global support

There is always a service tech near your ship

– Our extensive global network of service centers carry spare parts and provide service repairs 24/7 with 500+ factory-certified technicians in 50+ countries.

World class service

Consistent, efficient and transparent

– Our eService platform™ automates and streamlines traditional manual processes, bringing unprecedented levels of consistency and efficiency to shipboard service.



SIMPLE Operation & maintenance

Information at your fingertips

Capture shipboard data and put it to use

– Our remote management solutions enable instant cost-optimized shore to ship management, so you can leverage big data for informed decisions and more efficient asset management.

Maximize uptime

Rest assured your ship sails on schedule

– Our exclusive SWAP technology™ enables fast and easy replacement of equipment in case of failure, without reinstalling software or reconfiguring the system.



Secure
safety



Optimize
operations



Reduce
cost

We provide the most efficient products and service solution to the maritime industry

An Innovative ECDIS Family

Designed to meet your current demands and future needs

Our broad and flexible ECDIS product range is built upon one technology platform, providing the most compelling ECDIS retrofit solution, through several alternatives to suit every need.

Built to support all maritime shipping business segments, our ECDIS platform is based on the Linux operating system and allows

crew members to update ALL software themselves. Due to our innovative software technology, we deliver maximum uptime.

The design and continuous development of Danelec ECDIS solutions are based on customer feedback, ensuring that our products always meet the current market demands and future needs.

DM800 ECDIS

The Danelec DM800 ECDIS is the larger member of the Danelec ECDIS family. Equipped with 12 serial channels and 4 Ethernet ports, it offers the capacity for fully redundant operation in an ECDIS cluster with two or more ECDIS units, as well as in systems with a high number of sensor inputs. In order to secure system stability, the DM800 ECDIS controls network and serial data traffic by means of a dedicated front-end computer. This ensures uninterrupted communication even during restart of the DM800 unit.



DM700 ECDIS

Smaller than its DM800 ECDIS counterpart and equipped with 5 serial channels and 2 Ethernet ports, the Danelec DM700 ECDIS offers a compact solution as a backup ECDIS or for use in systems where the number of sensor inputs is limited. At the same time, it delivers the solidity, safety and simplicity of the ECDIS graphical user interface available in the DM800 ECDIS. The DM700 ECDIS operates on 12 VDC power and can be powered by an ECDIS monitor or a separate power supply.



Combining DM800 ECDIS & DM700 ECDIS

The DM800 ECDIS and DM700 ECDIS Main Units can be configured in any combination as either Master or Back-up Unit, i.e. you may have a configuration with a DM800 ECDIS as Master Unit and a DM700 ECDIS as Back-up Unit. Similarly, you may choose configurations with dual DM800 ECDIS or DM700 ECDIS Units, one serving as Master and the second as Back-up Unit.

The DM800 ECDIS is fully interoperable with the DM700 ECDIS unit as well as with other DM800 ECDIS units, in clusters with up to four ECDIS units. Therefore, in an ECDIS cluster, sensor data connected to a serial channel on one ECDIS can easily be shared over Ethernet with other ECDIS in the cluster.

Your ECDIS Solution with Danelec Equipment

Setting the standard for the industry with the most sustainable ECDIS in the market, maximum performance and reliability with hassle-free installation and crew training.



DM800 ECDIS Main Unit (Master or Back-Up)

Specifications: Linux-based ECDIS computer with 32 GB SSD · 12 serial channels (10 x IEC 61162-1, 2 x IEC 61162-2) · 4 Ethernet ports (100BASE-TX, RJ45) · 8 USB ports (USB 2.0) · AC power (110-230V, 50-60Hz) · Supplied with ECDIS Alarm Panel and USB Hardware Key. **Dimensions and weight:** W: 342 mm, H: 287 mm, D: 238 mm, W: 7,5 kg



DM700 ECDIS Main Unit (Master or Back-Up)

Specifications: Linux-based ECDIS computer with 64 GB SSD · 5 serial channels (5 x IEC 61162-2) · 2 Ethernet ports (1000BASE-T, RJ45) · 4 USB ports (1 x USB 3.0, 2 x USB 2.0, 1 x internal USB · 2.0 for USB Hardware Key) · Supplied with USB Hardware Key. **Dimensions and weight:** W: 211 mm, H: 35 mm, D: 161 mm, W: 0,95 kg



DM800 ECDIS & DM700 ECDIS Dual System Configuration

Specifications: 12 + 5 serial channels · 3 Ethernet ports for extra equipment · Additional Ethernet ports available using optional Ethernet switch · Supplied with USB Hardware Key · Full synchronization of ECDIS data (ENC Databases, Permit files, User and mariners objects etc.) between ECDIS units.



Advanced Keyboard / Trackball

Specifications: Rugged, military-grade marine keyboard · Chemically and abrasion resistant keys with red backlight · IP66 rated enclosure protection · Connection to Main Unit via USB port · Supplied with 50 mm Dura Track trackball. **Dimensions and weight:** standalone version: W: 424 mm, H: 63 mm, D: 170 mm, : 2,1 kg, flush mount version: W: 444,5 mm, H: 55,2 mm, D: 190,5 mm, W: 2,1 kg



Basic Keyboard / Trackball

Specifications: Rugged, IP67 waterproof marine keyboard · Contactless trackball with reduced friction · Removable ball for easy cleaning · Non-corrosive enclosure with Vesa mount. **Dimensions and weight:** standalone version: W: 354,5 mm, H: 163,5 mm, D: 38,6 mm, W: 0,8 kg, flush mount version: W: 350 mm, H: 159 mm, D: 36 mm, W: 0,6 kg



Monitors: 19", 24", 27"

Specifications: High-quality displays with full range backlight dimming · 19": 1280x1024 resolution · 24"/27": 1920x1080 resolution (16:9 - Full HD) · 1 x VGA, 1 x DVI-D and 1 x Display Port 1.2 · 1 x RS232 · AC power (90-264VAC) and power out for computer · Low power consumption / low heat emission for extended lifetime · Integrated buzzer · IP65 front – IP20 rear · Long life-time with fixed built-state industrial design · Wide temperature range.

STANDARD

STANDARD

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Bracket for 24" / 27"

Specifications: Tower made of aluminium · Mounting bracket made of steel · Sea water resistant materials · Turnable 180 degrees · IEC60945:2002 approved. **Dimensions and weight:** 24": W: 360 mm, H: 438,9 mm, D: 170 mm, W: 6,5 kg, 27": W: 360 mm, H: 482,2 mm, D: 170 mm, W: 6,5 kg



Bracket for 19"

Specifications: Tower made of aluminium · Mounting bracket made of steel · Sea water resistant materials · Turnable 180 degrees · IEC60945:2002 approved. **Dimensions and weight:** W: 380 mm, H: 384 mm, D: 170 mm, W: 6,5 kg



USB Key

Specifications: Unique 28 characters US-ERP/PERMIT for chart installation.

STANDARD



ECDIS Console

Specifications: Danelec ECDIS Console in classic pedestal design · Housing for ECDIS computer, Alarm Panel, Keyboard/trackball and monitor · Prepared for flush mounting of keyboard (with handrail) · Prepared for top mounting of monitor. **Dimensions and weight:** W: 620 mm, H 934: mm, D 679 mm, W: 64 kg



Network RADAR Processor (NRP 01-001)

Specifications: 12-24 VDC power supply · EN60945-compliant · Analogue radar inputs, wide range of input signal support: Analogue video, Trigger, ACP/ARP: 100 MHz sample rate: Supports PRFs up to 16kHz and scan rates up to 120RPM: RJ45 Ethernet adapter IEEE802.3 1000BaseT for ECDIS connection. **Dimensions and weight:** W: 203 mm, H: 120 mm, D: 35 mm, W: 0,4 kg



Uninterruptible Power Supply

Specifications: Danelec ECDIS is type approved without the need for UPS · UPS is available if flag state or customer requires · Backup time: 13.5 min. (130W) at half load / 5.5 min. (260W) at full load · AC power (230V, 50-60Hz) · Output power capacity: 420VA / 260W · Marine approved (IEC 60945). **Dimensions and weight:** W: 202 mm, H: 197 mm, D: 374 mm , W: 9,1 kg

OPTIONAL

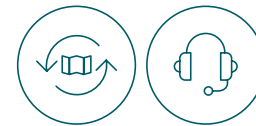


Main features

- Simple and safe software update process that can be done by crew members
- Uniform graphical interface on all ECDIS hardware
- Unrestricted combination of DM800 ECDIS and DM700 ECDIS in ECDIS clusters
- Supported by our unique SWAP technology™
- Support for all major commercial ENC's
- Easy-to-use, intuitive user interface with maximum 3-click drill-down to any feature
- Multiple overlay functions (AIS, AIO, NAVTEX, RADAR etc.)
- Advanced user features (logbook playback, improved route monitoring etc.)



Efficient Solutions for Chart Maintenance and Serviceability



The Danelec ECDIS platform runs all commercial Electronic Navigational Charts (ENCs), including Admiralty Vector Chart Service (AVCS) in S-57 and S-63 formats, as well as NAVTOR System Electronic Navigational Charts (SENC) data. It also incorporates additional overlay functions, such as Admiralty Information Overlay (AIO), NAVTEX, etc.

Updating charts is as easy as a click of a button. In addition to the chart database, all permits, AIO data, and subscribed digital publications are also updated at the same time.

Should a service issue arise, a Dump for Support log file can be generated containing essential system data allowing a service partner to perform a “health check” remotely and eventually being able to troubleshoot the problem even before the service call.

Since we design and manufacture our own products, we can guarantee that they can be serviced for a minimum of 10 years after the end of life of the product line.

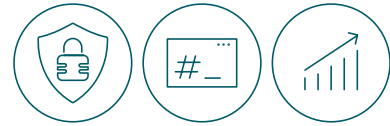
Simple and Intuitive User Interface



The uniform graphical user interface enables crew members to operate the systems irrespective of the type of Danelec hardware running the ECDIS application.

Our user interface provides 3 level menu depth, incl. main and sub menus, easy access to important features and easy route planning and navigation.

Cyber Secured, Linux-based, High Performance Solutions



Multiple levels of cyber security are designed into our products from their inception and we have an ongoing program of monitoring and responding to threats as they are identified.

Our goal is to create an ECDIS that runs consistently, reliably, and securely, every time. That's why we built our ECDIS solutions using Linux, a proven, open source operating system for embedded devices. This foundation permits us to create ECDIS software that is common across all installations and optimize quality through in-depth testing that covers all installation configurations.

Linux is also one of the most secure operating systems in the world. We control the source code and every feature within the operating system, ensuring that no hidden features might compromise the system.

Utilizing Linux also enables us to create a single firmware version that includes the operating system, system configuration applications, I/O interface firmware, and ECDIS application in a single distribution package.

This approach also ensures the security of system updates. Every update package is distributed as encrypted digitally signed by Danelec, eliminating the risk for software updates, and therefore your vessel's safety, to be compromised. The simple software update process ensures that your crew can easily and confidently update the system as necessary using a single, secure update package.

By using Linux, Danelec has created an ECDIS solution you can depend upon, one that is secure, safe, and simple.

Network RADAR Processor to Interface with the Majority of RADAR Systems



Danelec ECDIS permit the inclusion of up to four Network RADAR Processors (NRP 01-001) in an ECDIS cluster. This makes it possible to display the signal from any of up to four RADARs as a graphical overlay on the ECDIS chart.

The Network RADAR Processor (NRP) distributes digitized video to all ECDIS units in a cluster using UDP multicast. Apart from the NRP unit and cables used to connect the latter to the RADAR and the ECDIS, no extensions are needed to the ECDIS product.

The software necessary to display the RADAR overlay is an integral part of the ECDIS software, distributed with the ECDIS software package as a standard feature.



Complete Range of Training Options



ECDIS training is essential to ship owners, ship managers, and crew. Our training solutions are easy to use, intuitive, and user-friendly and are in accordance with IMO requirements for type-specific ECDIS familiarization training. You will therefore find Danelec ECDIS training to be the most user-friendly and easy to learn training solution in the industry.

The combination of our ECDIS knowledge and our instructional expertise will allow you to become familiar with our systems as efficiently as possible and lets you transfer that knowledge onto your crew.

- **Classroom training**
- **Online / Computer Based Training (CBT)**
- **On-board / on-site training**
- **Train-the-Trainer (option)**



Danelec's Global Presence

With several offices around the world as well as over 600 factory-trained personnel in more than 50 countries worldwide, you can be confident Danelec will be able to meet your needs and requirements quickly, reliably and cost-efficiently.

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