danelec
MARINE

DM800 ECDIS
Electronic Chart Display & Information System

A Revolution in Shipboard Service

Servicing and repairing shipboard electronics can be time consuming and expensive. There are the complicated logistics of scheduling a service call and finding a properly trained technician – sometimes from a remote port. Then there is the question of whether the technicians have the correct spare parts on hand and can complete the repairs in time to meet the ship's sailing schedule.

Now there is a way to save time and money, while eliminating in-port delays, thanks to the new **S**oft**W**are **A**dvanced **P**rotection (SWAP) solution from Danelec. With SWAP technology™, all system software and configuration, as well as programming data, is automatically saved on a hot-swappable memory card that can easily be removed from the old unit and inserted into the new Danelec unit. Relocating the repair from ship to shore saves hours of time in re-installing software and re-programming the unit.

The Traditional Way

In a typical service scenario, the technicians board the ship, troubleshoot the problem and determine what spares are needed to make the repair. If the parts are not available locally, they must be ordered. Depending on the system, port state control authorities may prevent the ship's departure until the repairs are made, resulting in expensive demurrage and port costs.
If the ship is allowed to sail, the spares must be delivered to its next port, requiring another expensive service call to complete the repairs.

The Danelec Way

The SWAP solution is quick and easy:
•	When a Danelec-trained technician reports to the ship for a service call, he arrives with a replacement unit in hand
•	The technician removes the memory card from the old unit
•	He switches out the old unit with the replacement unit
•	Inserts the memory card into the new unit
•	Then he takes the old unit to shore for repair

The Benefits are Invaluable

SWAP technology™:
•	**Saves time** by enabling onboard repairs to be accomplished in a matter of hours, not days
•	**Saves money** by reducing man hours for service calls
•	**Protects valuable shipboard data** on a hot-swappable memory card
•	**Keeps ships on schedule**, eliminating in-port delays for repairs

Danelec's SWAP technology™ is nothing short of revolutionary, and our global network and 24/7 service mean that technicians arrive quickly – with the equipment you need. The entire process is completed in one service call in just a few hours.
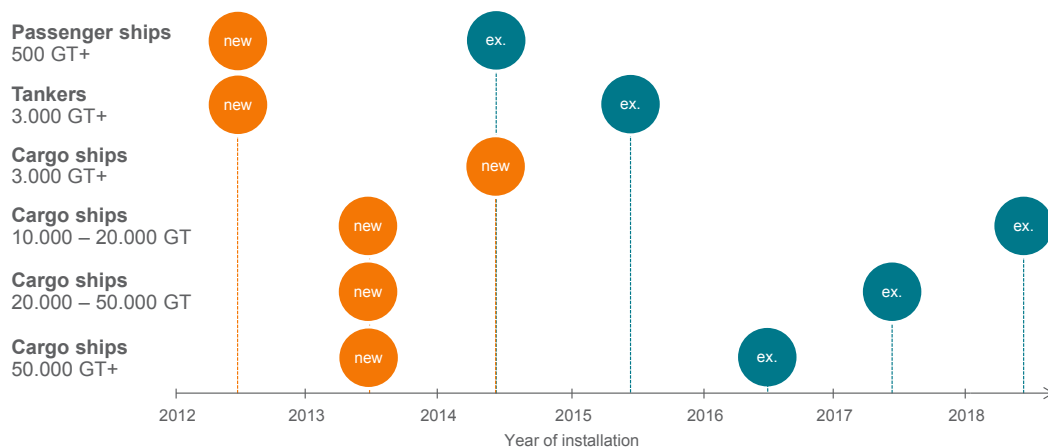
That's the Danelec difference...

Electronic Chart Display and Information System

An Electronic Chart Display and Information System (ECDIS) is a computer based navigation system used as an alternative to paper navigation charts. Integrating a variety of real time information, it is an automated decision aid, capable of continuously determining a vessel's position in relation to land, charted objects, navigation aids and unseen hazards.

The ECDIS includes electronic navigational charts (ENC) and integrates information from the Global Positioning System (GPS), speed log, gyro and potentially other navigational sensors, such as e.g. radar, fathometer and automatic identification systems (AIS).

Ships engaged on international voyages are by IMO's Maritime Safety Committee regulations of 2009 required to be fitted with ECDIS and approved back-up system according to flag state approach and according to the below timetable:

	2012	2013	2014	2015	2016	2017	2018
Passenger ships 500 GT+	new		ex.				
Tankers 3.000 GT+	new			ex.			
Cargo ships 3.000 GT+			new				
Cargo ships 10.000 – 20.000 GT		new					ex.
Cargo ships 20.000 – 50.000 GT		new				ex.	
Cargo ships 50.000 GT+		new			ex.		

Year of installation

Danelec Marine ECDIS Range

The Danelec Marine ECDIS range is designed based on valuable feedback from ship owners and long time users of ECDIS products. Inspired by customer needs, the innovative Danelec Marine ECDIS range is developed to meet the specific requirements of the maritime industry.

By receiving precise information about the position of the ship, the ECDIS can help make navigation easy and significantly improves safety at sea. The system includes intuitive route planning functions, ensuring optimal navigation routes, which in turn can lead to reduced fuel consumption.

- ▶ Precise real time positioning and route monitoring including information from interfaced sensors
- ▶ Advanced route planning function
- ▶ Radar overlay with on screen radar control
- ▶ Recording and playback of voyage
- ▶ Easy chart update via internet, email or DVD
- ▶ Audio and visual alarm functions
- ▶ Intuitive menu structure for easy operation with "built-in" user manual and online help

Danelec Marine ECDIS products are Wheelmark approved by DNV and meet the performance requirements of IMO and IEC.

FACT SHEET

Console

Dimensions	Specifications
W: 64 cm	AC Power (110V-230V)
H: 145 cm	Complete ECDIS console, with:
D: 74 cm	ECDIS Main Unit, monitor and keyboard with trackball
W: 128 kg	

ECDIS Main Unit

Dimensions	Specifications
W: 35 cm	AC Power (110V-230V)
H: 29 cm	Built-in DVD drive
D: 21 cm	Interfaces: 12 serial channels,
W: 7.5 kg	4 Ethernet interfaces, 8 USB, DVI / VGA

19.0" Monitor

Dimensions	Specifications
(with hinge)	
W: 41.4 cm	AC Power (110V-230V)
H: 37.7 cm	Inputs: DVI-I, VGA,
D: 10.3 cm	Composite video, S-Video
W: 7.9 kg	Waterproof: IP64 (when installed in console)

24" Monitor widescreen

Dimensions	Specifications
(with hinge)	
W: 57.4 cm	AC Power (110V-230V)
H: 37.6 cm	Inputs: DVI-I, VGA,
D: 10.3 cm	Composite video, S-Video
W: 9.9 kg	Waterproof: IP64 (when installed in console)

27" Monitor widescreen

Dimensions	Specifications
(with hinge)	
W: 63.2 cm	AC Power (110V-230V)
H: 41 cm	Inputs: DVI-I, VGA,
D: 10.3 cm	Composite video, S-Video
W: 10.7 kg	Waterproof: IP64 (when installed in console)

Keyboard for table mount

	Specifications
W: 48 cm	50 mm trackball
50 mm	Black epoxy resin ball
H: 22 cm	Power: from USB
D: 6 cm	
W: 3.5 kg	

Keyboard for panel mount

Dimensions	Specifications
W: 17 cm	2" Dura Trackball
H: 1.5 cm	Black epoxy resin ball
D: 7.5 cm	Power: from USB
W: 3.5 kg	

Solid · Safe · Simple

Highlights

Danelec Marine ECDIS products are best-in-class in user-friendliness and are the most robust ECDIS products in the market.

Extreme reliability
► ECDIS specific computer, developed for maritime use
► Designed with no moving parts and a solid-state harddisk

Cost-effective
► Easy to install and designed to minimize service time and operations cost
► Helps optimize navigation, reduce risk, save valuable time and can reduce fuel consumption
► Pay-as-you-go chart option

Service friendly
► Designed with SWAP technology™ which makes servicing easy
► Due to the simplicity of the system, spare parts can easily be replaced by the ship's own crew
► Supported by Danelec Marine's worldwide service network

Intuitive and user-friendly
► Intuitive interface and logic menu structure
► Built in user manual and online help
► Easy update of sea charts, minimizing cost and time involved
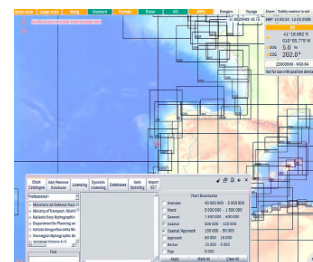
Ideal for retrofit installation
► Compact and flexible construction designed for quick and easy installation on existing ships
► Well suited for all types of ships
► Can easily integrate with relevant information sources, like GPS and radar

Electronic Sea Charts

Danelec Marine ECDIS products provide the professional mariner with a powerful navigation solution with vital voyage information.

The electronic sea chart solutions are extremely intuitive and user-friendly, and meet the increasing demands for both secure optimization and safety, while improving and simplifying work on the bridge.

Danelec Marine ECDIS solution supports chart distribution in both ENC and SENC format.

ECDIS Familiarization Training
Danelec offers ECDIS type specific training both as class room training and as computer based training (CBT).

ECDIS type specific class room training is offered in all major markets by qualified training centres.
Please consult our website for more information.

ECDIS computer based training is offered to all users. Training can be conducted off-line and does not require Internet access. Please consult your distributor for more information.

![danelec MARINE]

Worldwide Network

Our customers are based all over the world. This is why you find our certified service and sales representatives in more than 50 countries. Our unparalleled worldwide network ensures timesaving and cost effective installations and maintenance. Whenever you need it – wherever you need it.

Danelec Systems – Solid • Safe • Simple

Solid Product Design
•	High quality application-specific product design
•	10-year service guarantee

Safe Support
•	Worldwide service network
•	24/7 worldwide service

Simple Installation and Maintenance
•	Remote access
•	SWAP technology™

Solid · Safe · Simple