Specifications:
TECDIS 2138 B

TECDIS 2138 B is a standalone ECDIS computer.

It is type-approved according to IMO regulations, allowing paperless navigation[1].

The expandable design makes it a great choice for demanding ECDIS installations, including TECDIS TCS (Track Control System) and NAUT-OSV or NAUT-AW certified vessels.

Standards compliance

TECDIS 2138 B conforms to the following standards:

Regulation (EU) 2017/306:	Item No. MED/4.30
SOLAS 74 as amended	Regulations V/18, V/19 & X/3
IMO Resolutions	A.694(17) MSC.36(63) MSC.97(73) MSC.191(79) MSC.232(82) MSC.302(87) SN.1/Circ.266
IEC Standards	Performance testing – IEC 61174 (2015) Performance testing, presentation – IEC 62288 (2014) Environmental testing – IEC 60945 (2002) Serial interface testing – IEC 61162 (2010)

General specifications

Usable Charts	S-57 ed.3 S-63 (including Primar and AVCS) CM-93/3 (C-Map ENC / ENC+ / CAES / Professional+[2])
Display	Separate purchase (from compatible displays listed below)
Operating system	Windows 7 32-bit, English
Processor	Intel Core i5 4570S – 2.9 GHz Quad Core
Chipset	Intel Q87
Memory (RAM)	4 GB
Storage	120 GB SSD (approximately 85 GB free)

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[1] Paperless navigation requires a dual ECDIS installation.

[2] C-Map Professional+ is not an official chart service, it does however provide world scale charts

Compatible Displays

Manufacturer	Unit name	Unit size
Hatteland Display	JH 19T14MMD	19”
	JH 20T17MMD	20”
	JH 23T12MMD	23”
	JH 23T14MMD	23”
	JH 19T03 BOAA	19”
	HD 19T21 MMD	19”
	HD 24T21 MMD	24” Wide
	HD 26T21 MMD	26” Wide

Manufacturer	Unit name	Unit size
Furuno	MU-201CE	20”
	MU-231CE	23”
ISIC	DuraMon 19	19”
	DuraMon 26	26” Wide

Display of data

Own Ship:	GPS Position, COG, HDG, SOG, STW
Route:	Active route name, DTG, ETA, and CTS-, DTG-, TTG to selected WP
ARPA targets:	BRG, DIST, COG, SOG, POS User selectable: ARPA Target color, ARPA target track color, «Save» ARPA target track.
Others:	EBL, VRM, EBL list, Parallel index lines, Cursor position, True or relative cursor bearing
Maritime Calculation	Can calculate Range/Bearing to or from a position, with Rhumb-line or Great Circle routes, distances selectable in meters or NM. TTG, ETA, datum conversion
Route navigation monitoring	Off track, Waypoint, Arrival, Grounding, Depth
Alarms	Off track, Index Lane, Channel limit, Waypoint approach, Depth, Non ENC dangers, Restricted Areas, Cautions Ares, Possible danger, Standby mode
Other Functions	Night/Day presentation, ARPA-/radar target and -bearing display #1, ARPA-/radar target and -bearing display #2, MOB, SAR, Log book w/replay functionality, docking Conning display, Tooltip, three User defined chart presentation, easy transfer of installed configuration to replacement cold standby unit, easy screen dump facility when in navigation mode.

Other features

Autopilot output	Output of: APB, RMB, RMC,RTE
Presentation Modes	Type approval for installation with Raytheon Anschütz NP 5500 autopilot
Radar Overlay (option)	Display of radar echoes from any Furuno radar
Seismic streamers (option)	Streamer configuration with up to 24 streamers displayed graphically in chart.
1-click chart loading	Available for charts from the following providers: Navtor ChartCo Nautisk Forlag
Navtex (option)	Connects to all Navtex receivers sending in the NRX format. You can display navtex messages with position references.
Weather overlay (option)	Advanced weather overlay feature using top quality commercial maritime weather forecast data available as a subscription service from C-Map.
Piracy overlay (option)	Piracy Information is available as an overlay on top of C-MAP charts in OceanView. The C-Map OceanView navigation planning tool visualizes information to help navigators and operators identify, understand and manage risks posed by maritime crime.
AIO overlay	Show Temporary and Preliminary Notices as an overlay on the chart, with the Admiralty Information Overlay (AIO) service by UKHO.

HW Connections

No. of serial ports	1x RS 232 (non-isolated) 1x RS422/485 (non-isolated) 8x NMEA RS422 (with phoenix 5-pin connectors)
Monitor	1x DVI-D (digital only) 1x DVI-I (analog + digital) 1x DP (Displayport)
Ethernet	4x 10/100/1000 Mbps (RJ-45)
USB ports	4x USB 2.0 ports (2 in front) 2x USB 3.0 ports

Port description

Position 1	IEC 61162-1 (Ed. 3.0) (GNS, GGA, GLL, RMC)
Position 2:	IP or IEC 61162-1 (Ed. 3.0) (GNS, GGA, GLL, RMC, VDO)
COG/SOG1:	IEC 61162-1 (Ed. 3.0) (VTG, RMC, OSD, VDO)
COG/SOG1:	IP or IEC 61162-1 (Ed. 3.0) (VTG, RMC, OSD, VDO)
Heading 1:	IEC 61162-1 (Ed. 3.0) (HDT, OSD, VHW, VDO, THS)
Heading 2:	IP or IEC 61162-1 (Ed. 3.0) (HDT, OSD, VHW, VDO, THS)
Water speed:	IP or IEC 61162-1 (Ed. 3.0) (VHW, OSD, VBW)
Radar ARPA 1:	IP or IEC 61162-1 (Ed. 3.0) (TTM)
Radar ARPA 2:	IP or IEC 61162-1 (Ed. 3.0) (TTM)
Radar cursor 1:	IP or IEC 61162-1 (Ed. 3.0) (RSD)
Radar cursor 2:	IP or IEC 61162-1 (Ed. 3.0) (RSD)
AIS (In- and output:	IP or IEC 61162-1 (Ed. 3.0) (AIxxx)
Depth:	IP or IEC 61162-1 (Ed. 3.0) (DPT, DBT)
Rel. wind:	IP or IEC 61162-1 (Ed. 3.0) (MWV)
Route:	IP or IEC 61162-1 (Ed. 3.0) (WPL + RTE)
Alarm ctrl. (In- and output)	Proprietary protocol (TELKO) or IEC 61162-1 (Ed. 3.0) (ALR + ACK)
Navtex	IP or IEC 61162-1 (Ed. 3.0) (NRX)
Search	IEC 61162-1 (Ed. 3.0) (FLIR)
Option 1	IP, IEC 61162-1 (Ed. 3.0) or Proprietary
Option 2	IP, IEC 61162-1 (Ed. 3.0) or Proprietary
Option 3	IP, IEC 61162-1 (Ed. 3.0) or Proprietary
Option 4	IP, IEC 61162-1 (Ed. 3.0) or Proprietary
Printer:	USB port printer connection only

Power Supply

Voltage	115 to 230 VAC, 47 ~ 63 Hz
Power cons. max	330W
Power cons. typ.	70W

Equipment List

Standard

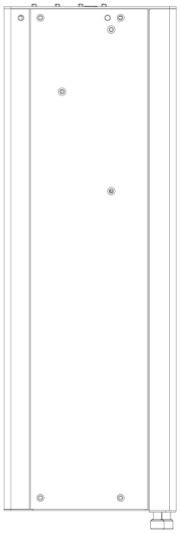
1. Computer, HT C02 HJ TEC
2. TECDIS code plug (attached to the computer's rear panel)
3. Accessories Box
    a. User Manual, HT C02 Hatteland Display, Computer
    b. TECDIS Installation Manual
    c. TECDIS User Guide
    d. Mounting brackets incl. screws
    e. CD-bag
        i. Driver CD for computer and Hatteland display
        ii. Chart database DVD C-Map Professional+
        iii. Chart database DVD C-Map CAES
        iv. TECDIS Service Key, CD
        v. TECDIS Service Key, USB memory stick.
    f. AC power cables 220 VAC/50Hz euro type F and 115 VAC/60Hz US type B power cable
4. Cherry G84-4100LCMGB-2 keyboard
5. Logitech Trackman Marble ELK, mouse
6. Declaration of Conformity

Options

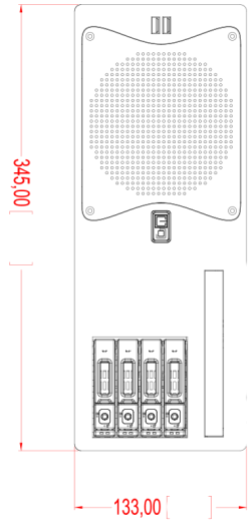
1. Telko Alarm Interface TEA-01
2. TECDIS Keypad, optional 19 key quick operation keyboard with custom keys
3. Alarm Speaker (Bracket mount) DNH HP-6 (required when display or control unit does not contain a buzzer)
4. Alarm Speaker (Flush mount) DNH HPS-6 (required when display or control unit does not contain a buzzer)
5. Conning Adapter analog interface CA-xxxx (configurable number of analog and digital inputs)
6. Conning software
7. Track Control System, TECDIS SW option programmed in code plug
8. Seismic streamers, TECDIS SW option programmed in code plug
9. Navtex, TECDIS SW option programmed in code plug
10. Weather overlay, TECDIS SW option programmed in code plug
11. Piracy overlay, TECDIS SW option programmed in code plug
12. Radar Overlay, TECDIS SW option programmed in code plug

Document revision history

2.0	04th January 2018	Second release – completely rewritten	Cato Haugland
3.0	02nd March 2018	Third release – updated I/O ports	Cato Haugland



SIDE VIEW



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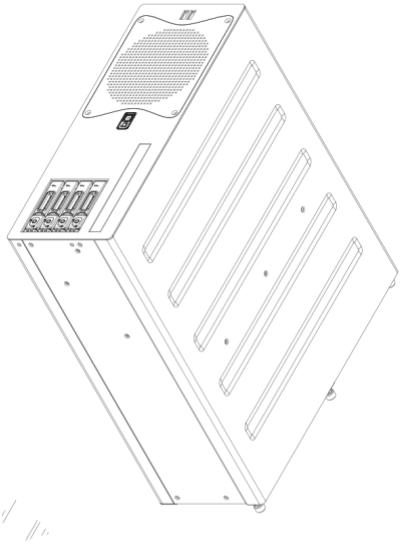

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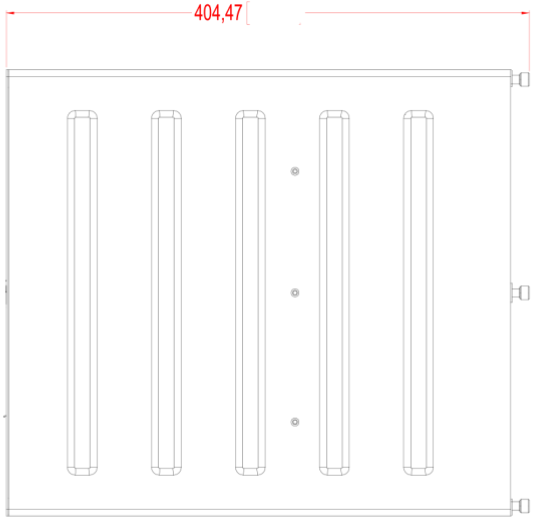
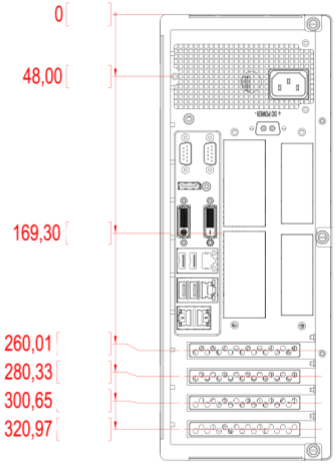


TOP VIEW



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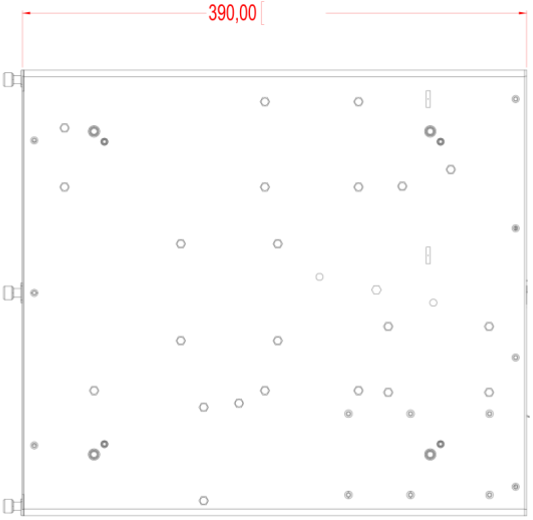

BOTTOM VIEW