

Deeprey

Chartplotter Installation Manual

MFD12 • MFD16

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Deeprey Research Ltd



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Audience This manual is intended for marine electronics installers, dealers, boatyard technicians, and competent owner-installers. It covers the physical installation, wiring, and external-equipment integration of the Deeprey MFD12 and MFD16 chartplotter hardware. Operation of the navigation software is documented separately in the *Deeprey Chartplotter User Manual*.

Governing language In the event of any discrepancy between translations, the English-language version of this manual shall prevail.

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About this manual

Purpose and audience

This is the Installation Manual for the Deeprey MFD12 and MFD16 chartplotters. It is written for marine electronics installers, dealers, boatyard technicians, and competent owner-installers. It covers the physical installation of the hardware: mounting, wiring, NMEA2000 connection, external equipment integration, environmental specifications, and outline drawings.

Models covered

This manual applies to the following two models, and to no other Deeprey product:

- **MFD12** --- 12.1 inch chartplotter, one Ethernet port, no video output.
- **MFD16** --- 15.6 inch chartplotter, two Ethernet ports, one HDMI output.

Both models run the same navigation software and share the same mounting, wiring, and NMEA2000 arrangements. Where a procedure or specification differs between them, the model name is stated explicitly. Instructions given for "the chartplotter" apply to both.



Note The model code printed on the rear compliance label is DP121M for the MFD12 and DP156M for the MFD16. See [Chapter 11](#).

Related documentation

Operation of the navigation software --- charts, waypoints, navigation, radar, sonar, AIS, weather, and so on --- is documented in a separate book, the *Deeprey Chartplotter User Manual*. Where this manual touches on a topic owned by the User Manual (touch gestures, brightness, system control panel, regulatory text), the relevant User Manual chapter is cross-referenced rather than restated here.

How this manual is organised

- [Chapter 2](#) (Safety) --- physical-device hazards. Read first.
- [Chapter 3](#) (What's in the box) --- standard and optional supply.
- [Chapter 4](#) (Mounting) --- choosing a location, bracket mount, flush mount.
- [Chapter 5](#) (Wiring and connectors) --- rear-panel interface, 10POS COM cable, power, grounding.
- [Chapter 6](#) (NMEA2000) --- network rules, connector pinout, supported PGNs.
- [Chapter 7](#) (External equipment) --- radar, sonar, IP cameras, GNSS, Wi-Fi.
- [Chapter 8](#) (First power-up) --- what to expect when DC is first applied.
- [Chapter 9](#) (Technical specifications) --- display, compute, I/O, GNSS, power, mechanical, environmental.
- [Chapter 10](#) (Outline drawings) --- dimensioned mechanical drawings.
- [Chapter 11](#) (Compliance markings) --- where to find regulatory labels on the housing.

Conventions

Three styles of safety callout are used throughout this manual:



Danger

Danger boxes mark hazards that can cause serious injury or death if ignored.



Warning

Warning boxes mark hazards that can cause personal injury or equipment damage if ignored.



Note

Note boxes carry tips, cross-references, and useful background. They do not mark hazards.

Document version

Version 1.0, April 2026. First edition, covering the MFD12 and MFD16.

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Safety



Danger Read this chapter completely before installing or servicing the chartplotter. Failure to observe these safety warnings may result in injury, death, or damage to equipment.

Physical-device hazards

The following warnings apply to the physical handling and installation of the display unit. Observe each one during installation and any subsequent maintenance.



Warning **Use the proper fuse.** Use of an incorrect fuse can result in a serious accident or in equipment failure.



Warning **Never disassemble or modify the equipment.** Fire, electrical shock, or personal injury can result. There are no user-serviceable parts inside.



Warning **Never remove the rear cover.** High voltage is present inside the unit. Touching live components can cause electrical shock. In case of malfunction, contact your dealer.



Danger **Immediately turn off the power at the switchboard if water leaks into the equipment.** Continuing to operate the unit can result in fire or electrical shock.



Danger **Immediately turn off the power at the switchboard if the equipment emits smoke or fire.** Continuing to operate the unit can result in further fire or electrical shock. Contact your dealer.



Warning **Do not place liquid-filled containers on the equipment.** Fire or electrical shock can occur if liquid spills into the unit.



Warning **Do not operate the equipment with wet hands.** Electrical shock can result.

Cleaning, handling, and EMI

The chartplotter has a glass capacitive touch screen. Observe the following during installation, cleaning, and operation.

- A large amount of water on the screen can cause slow or false touch response. Wipe the screen dry before use.
- Tap the screen with your fingertips only. Do not use sharp objects (needles, pens, fingernails) or stylus pens; they can scratch the panel.
- Tapping the screen with gloved fingers may cause improper operation.
- Do not place objects on the screen during operation. Touch input may behave incorrectly if anything other than a fingertip is in contact with the surface.
- Keep the equipment away from radio antennas, fluorescent lights, solenoid valves, and other strong electrical-noise sources to prevent false-touch events caused by EMI.
- The display panel is glass. If the panel is cracked or damaged, do not touch it or attempt to repair it yourself. Damage caused by improper handling voids the warranty.

Cross-reference: software-safety topics

 **Note** Warnings about navigation aid use, electronic chart accuracy, sonar transducer safety with divers and swimmers, radar radiation safety, and night-mode brightness transitions are documented in Chapter 2 (Safety Information) of the *Deepry Chartplotter User Manual*. Those topics are owned by the User Manual and are not duplicated here.

 **Note** Regulatory and legal text --- FCC, CE, UKCA, IC, RoHS, WEEE, REACH, EULA, warranty, and copyright --- is in Chapter 19 (Regulatory & Legal Notices) of the *Deepry Chartplotter User Manual*. The location of the corresponding markings on the housing is shown in [Chapter 11](#) of this manual.

What's in the box

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What's in the box

Check that all standard items listed below are present and undamaged before beginning installation. If any item is missing, contact your dealer.

Standard supply

Item	Qty	Remarks
Display unit	1	
Mounting bracket	1	
Bracket knob	4	
Power supply	1	
Flush-mount bracket set	1	
Flush-mount gasket	1	
Sun cover	1	
Installation Manual	1	This document

Optional supply

The following accessories are sold separately. Order codes are listed in [Chapter 9](#).

Item	Remarks
Multi-functional cable	10POS COM cable --- breaks out two NMEA0183 channels and audio outputs (see Chapter 5)
NMEA2000 drop cable	For connection to an existing NMEA2000 backbone
NMEA2000 T-connector	For attaching the chartplotter to the bus
NMEA2000 starter kit	Backbone, terminators, drop cables, and power-tap for new installations

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Mounting

The chartplotter can be installed using either a swing-bracket mount or a flush mount in a panel. Read the entire chapter before you begin: the mounting location and the mount type determine the constraints on every subsequent installation step.

Choosing a mounting location

When you select a mounting location, observe the following:

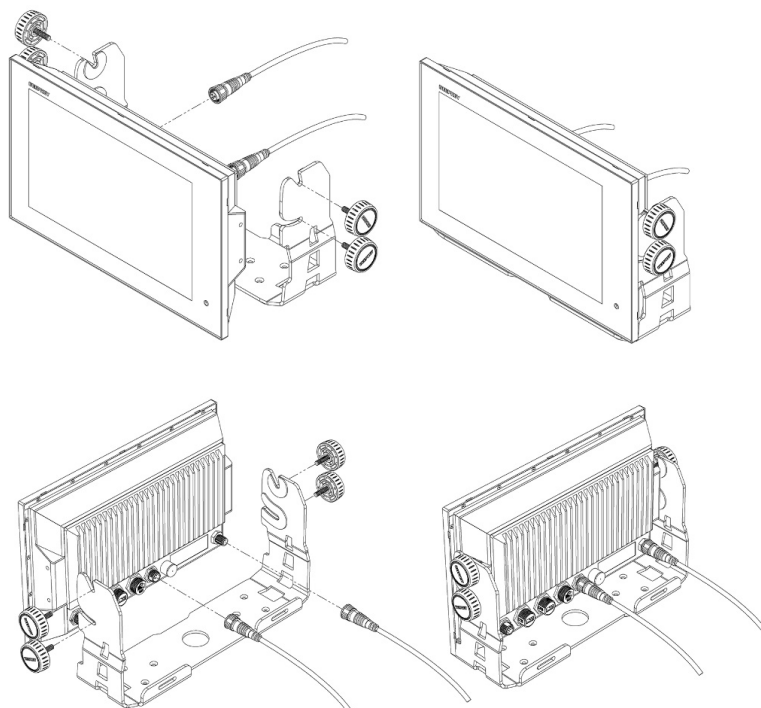
- Mount the equipment where shock and vibration are minimal.
- Keep the equipment away from sources of electromagnetic interference such as motors, generators, alternators, and high-current cable runs.
- The ambient temperature at the mounting location must be between -15°C and $+45^{\circ}\text{C}$.
- The relative humidity must not exceed 91 % at 40°C .
- Locate the equipment away from engine exhaust pipes and exhaust ports.
- The mounting location must be well ventilated. Do not enclose the unit in a sealed compartment.
- Allow access for routine maintenance and inspection. Leave servicing space around the equipment as shown in the outline drawings in [Chapter 10](#).
- Do not mount the equipment overhead.
- A magnetic compass is affected if the equipment is placed too close to it. Maintain the compass-safe distance specified in [Chapter 9](#).



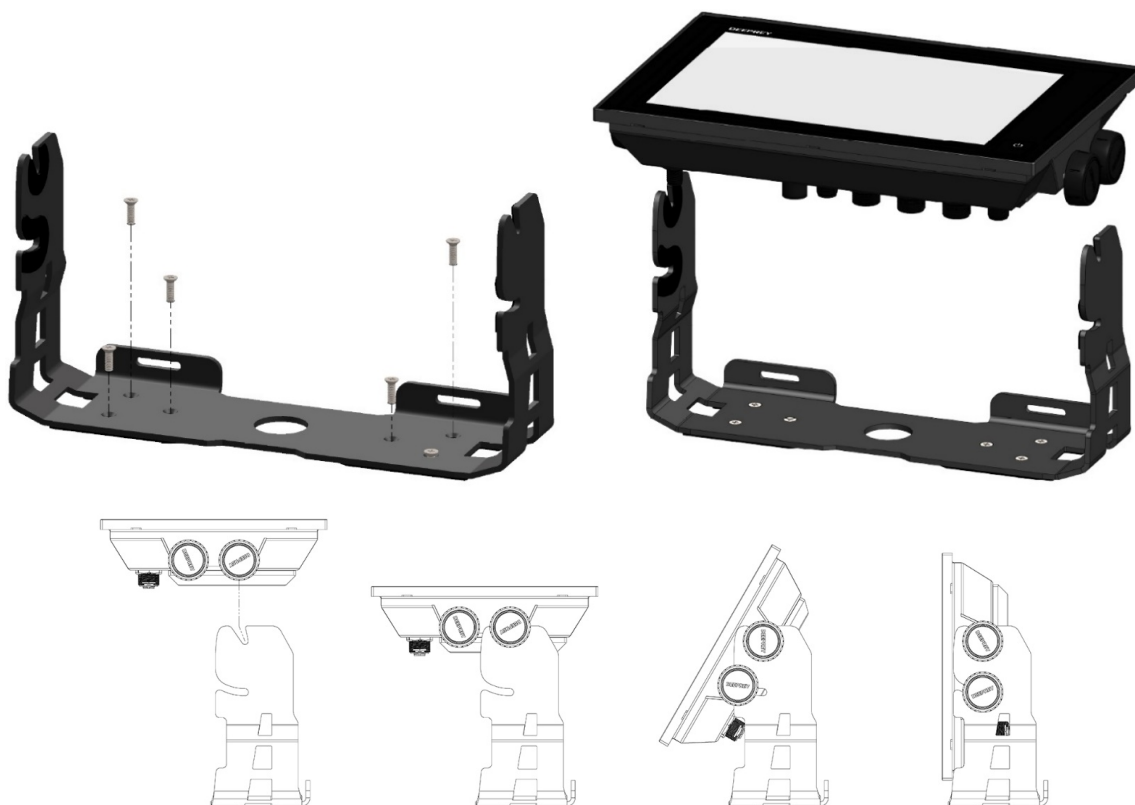
Warning The mounting surface must be flat and rigid enough to support the unit's weight under the vibration and shock loads of normal vessel operation. Inadequate mounting may cause panel cracking or unit detachment during use.

Bracket mount

Use the bracket mount when you can attach the unit to an above-console or above-dash surface and want the option to tilt the display, swing it aside, or remove it from the bracket.



1. Fix the bracket to the mounting location with the supplied self-tapping screws (M5 × 15, 4 or 6 pieces).
2. Place the display unit face-down on a soft, clean surface. Hand-tighten the bracket knobs until approximately 10 mm of clearance remains on each side, so that the display unit can still be set into the bracket.
3. Lower the display unit into the bracket. Adjust the tilt angle, then tighten both bracket knobs securely by hand.

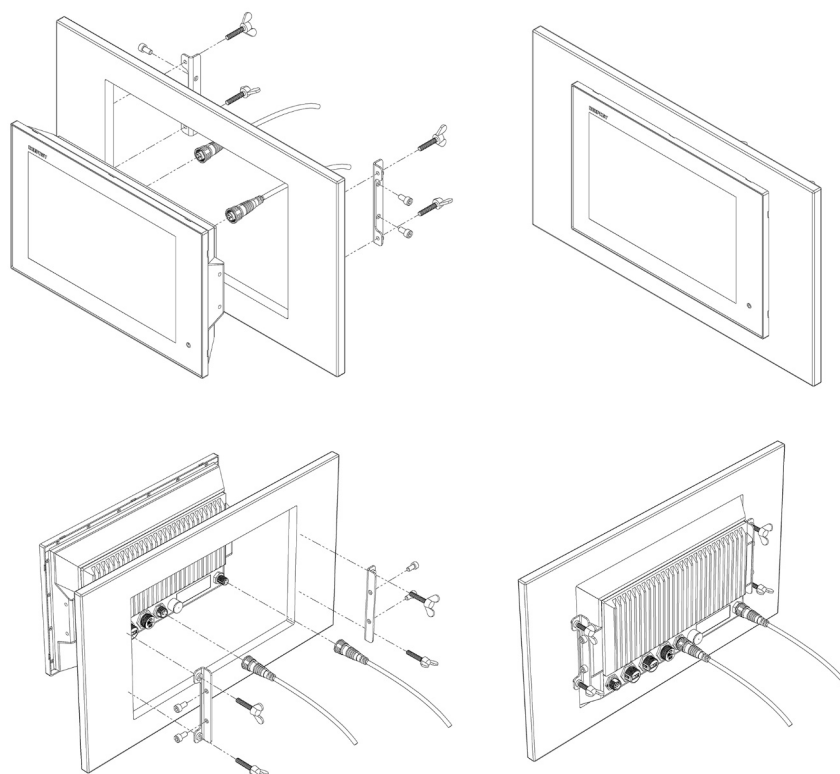


Note Hand-tighten the bracket knobs only. Using a tool to over-tighten the knobs can damage the bracket threads or distort the display housing.

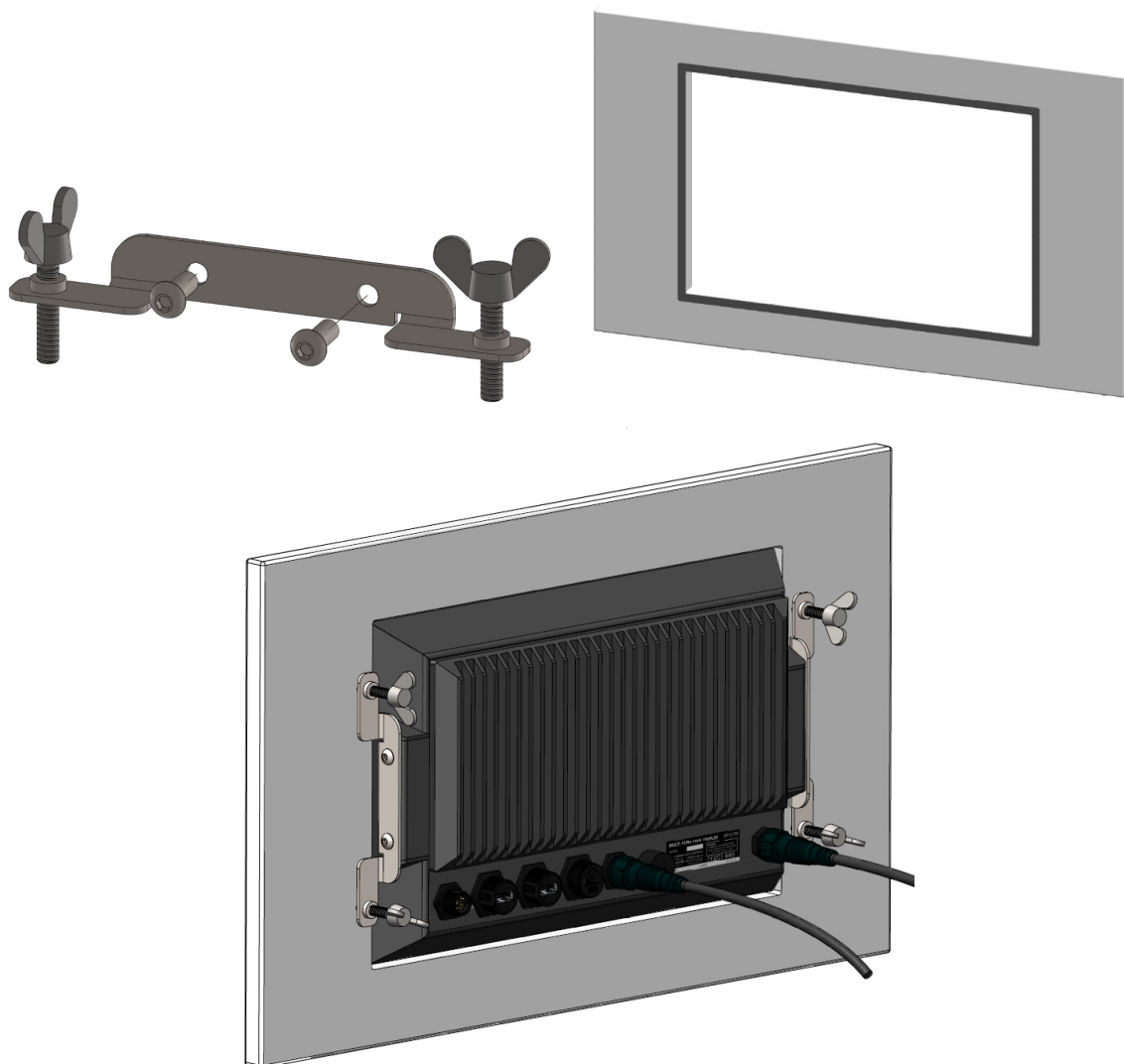
Flush mount

Use the flush mount when you want the display set into a panel, fascia, or console with the bezel sitting flush against the surrounding surface.

Warning The flush-mount surface must be flat, even, and free of curvature. Improper mounting may damage the display panel and is not covered by the warranty.



1. Thread the wing bolts into the two flush-mount brackets.
2. Confirm that the mounting surface is flat. Mark and cut the mounting opening using the cutout template supplied for your chartplotter model.
3. Apply the supplied gasket along the edges of the mounting opening, or to the rear face of the display unit.
4. Connect all cables to the rear of the unit *before* fitting the unit into the opening.
5. Insert the display unit into the mounting opening. Fit the flush-mount brackets to the rear of the unit and secure them with the supplied bolts (4 pieces). Hand-tighten the four wing bolts on the flush-mount brackets until the gasket contacts the panel evenly all the way around.



Note Connect all cables before fitting the unit into a flush-mount cutout. Once the unit is installed, rear-side access for cable connection is restricted and may not be possible without removing the unit again.

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Wiring and connectors

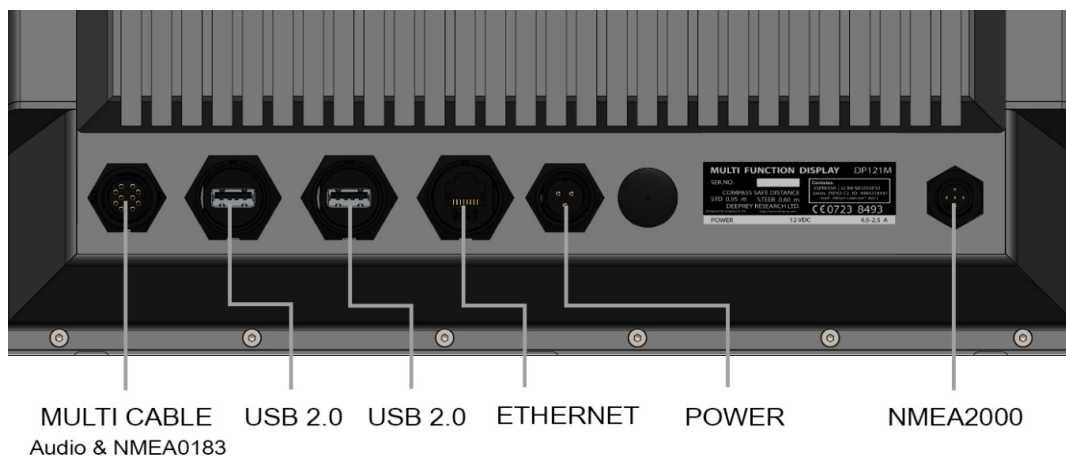


Warning Disconnect the vessel's main DC supply before making or altering any wiring connection to the chartplotter. Observe the correct polarity and use the specified fuse rating --- see Section 5.3.

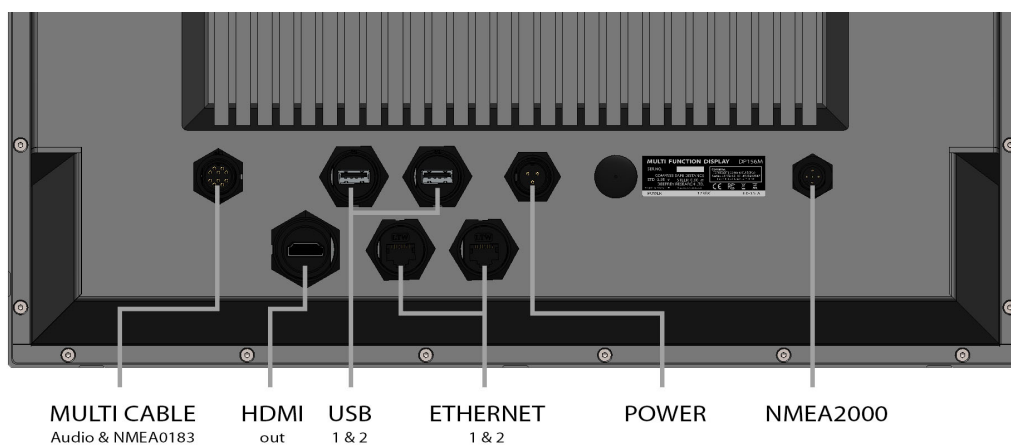
Rear-panel interface

The chartplotter presents its connectors on the rear of the housing. The rear-panel layout differs between the two models.

The MFD12 (12.1 inch) has two USB 2.0 ports and one Ethernet port:



The MFD16 (15.6 inch) has two USB 2.0 ports, two Ethernet ports, and one HDMI output:

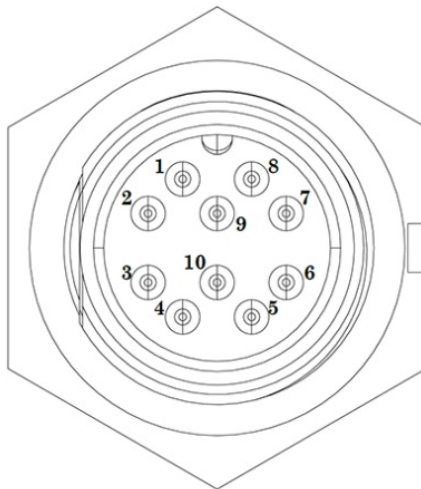


Note Cover unused connectors with the supplied protective caps. Plug and unplug all cables carefully to avoid damaging the connectors and contacts.

10POS COM cable (multi-functional cable)

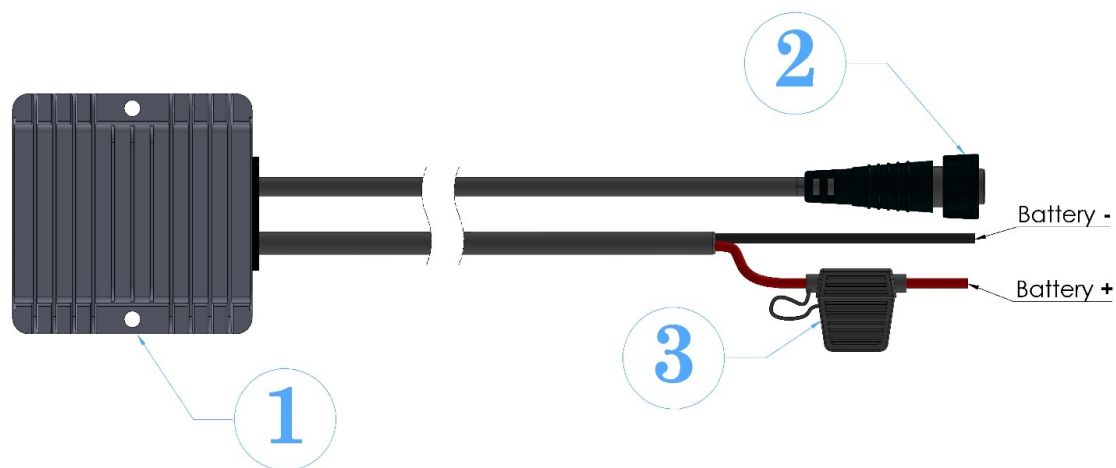
The optional 10POS COM cable breaks out two NMEA0183 serial channels and an audio output from a single 10-pin connector on the rear of the unit. Use this cable to connect external NMEA0183 instruments or, where supported, an external powered speaker.

Pin	Signal	Wire colour	Type	Function
1	TX_01	Black	RS-232	NMEA0183 channel 1 transmit
2	RX_01	Brown	RS-232	NMEA0183 channel 1 receive
3	TX_02	Red	RS-232	NMEA0183 channel 2 transmit
4	RX_02	Orange	RS-232	NMEA0183 channel 2 receive
5	AUD L+	Yellow	Audio	Left audio output, positive
6	AUD L–	Green	Audio	Left audio output, negative
7	AUD R+	Blue	Audio	Right audio output, positive
8	AUD R–	Gray	Audio	Right audio output, negative
9	GND_01	White	Ground	NMEA0183 channel 1 ground
10	GND_02	Pink	Ground	NMEA0183 channel 2 ground

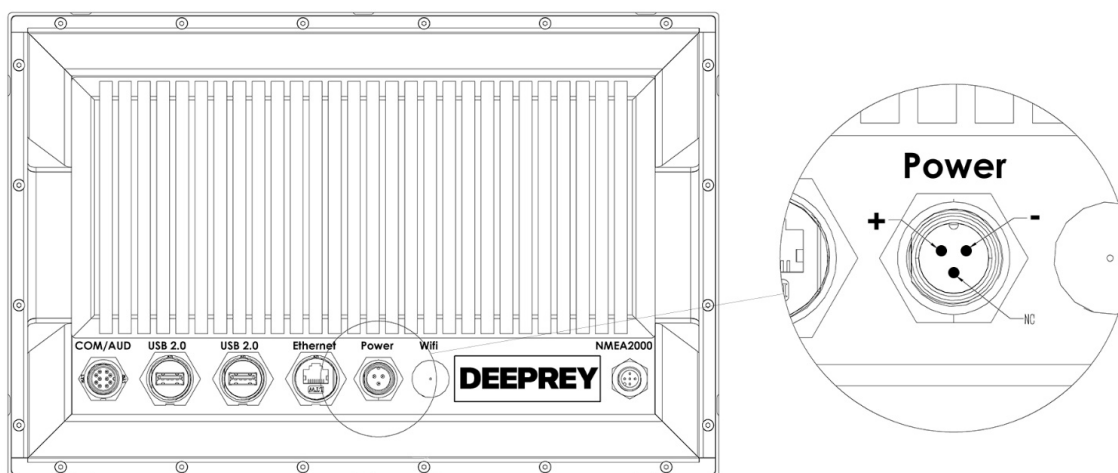


Power connection

1. Locate the power cable supplied with the chartplotter.
2. Connect the power cable to the power input on the rear of the unit.
3. Route the other end of the power cable to the vessel's DC supply (12 V or 24 V DC). Secure the cable along its run and protect it from chafing and damage.
4. Connect the power cable to the supply, observing the correct polarity: red to positive, black to negative.



The numbered components in the diagram are: **1** DC stabiliser, **2** power connector, **3** fuse (10 A).



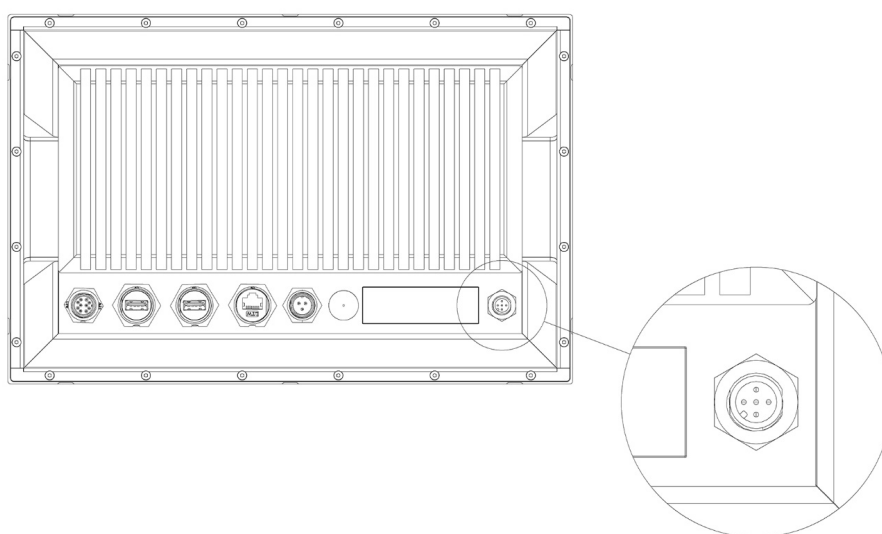
Warning Never connect the chartplotter directly to the vessel battery without an appropriately rated in-line fuse on the positive line. Use of an incorrect fuse can damage the equipment or cause cable fire in the event of a short circuit.

Grounding

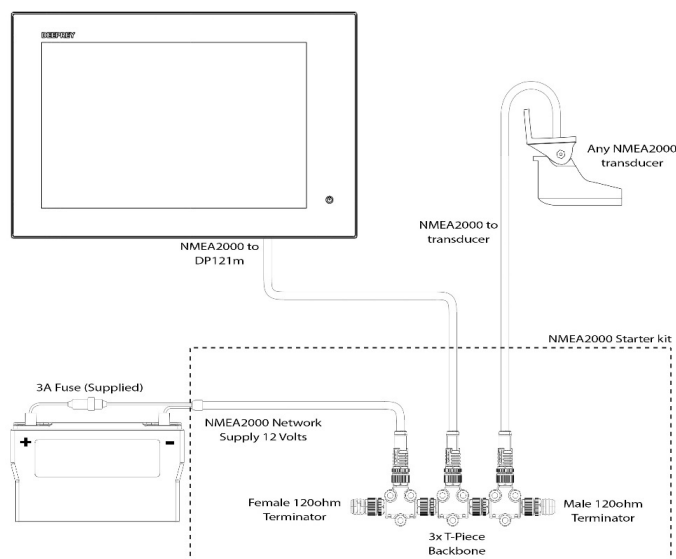
Ground the chartplotter according to ABYC E-11 or the equivalent local marine electrical standard. See Chapter 2 "Electrical safety guidelines" of the *Deeprey Chartplotter User Manual* for the underlying rule. Use a single ground reference for the unit to avoid ground loops on the connected NMEA2000 bus and on attached NMEA0183 instruments.

NMEA2000

The chartplotter attaches to a powered, terminated NMEA2000 backbone via a single drop cable and T-connector. Once attached, the unit consumes navigation, AIS, engine, and environmental data from other devices on the bus, and transmits navigation data for an autopilot while a route is active. [Section 6.3](#) lists exactly what is received and transmitted.



Network connection



Minimal Equipment Installation Example 1: A Schematic Illustration

- The bus must have a dedicated NMEA2000 power source and 120 Ω termination resistors at both physical ends.
- The bus power feed must be 12 V DC. A 24 V DC backbone feed is not supported. This is the NMEA2000 network's own power supply, and is separate from the chartplotter's DC supply, which accepts 12 V or 24 V --- see [Section 5.3](#).
- Use a fuse on the bus power feed, sized per the NMEA2000 backbone-power specification.
- Drop-cable length and total bus length must comply with the NMEA2000 specification.

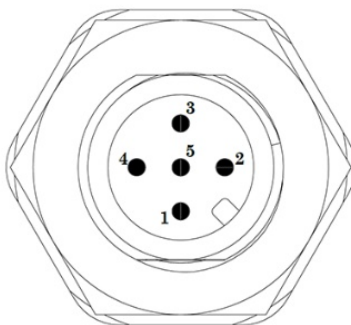


Warning Use the proper fuse on the NMEA2000 power feed. Use of an incorrect fuse can damage the equipment.

Connector pin definition

The chartplotter uses a standard 5-pin Micro-C NMEA2000 connector.

Pin	Signal	Wire colour	Function
1	Shield	Black	Ground reference and shielding
2	VCC	Red	Power supply for the NMEA2000 network
3	Ground	Black	Signal ground reference
4	CAN_H	White	High signal of the CAN bus
5	CAN_L	Blue	Low signal of the CAN bus



Supported data

The chartplotter is primarily a consumer of NMEA2000 data: it reads navigation, AIS, engine, and environmental data from other devices on the bus and presents it in the navigation software. It transmits a small set of PGNs --- bus housekeeping at all times, and navigation output while a route or waypoint is active.

The tables below list the PGNs and NMEA0183 sentences handled by the current software build.

NMEA2000 PGN (receive)

PGN	Description
126992	System Time
127245	Rudder
127250	Vessel Heading
127257	Attitude (roll and pitch)
127258	Magnetic Variation
127488	Engine Parameters, Rapid Update
127489	Engine Parameters, Dynamic
128259	Speed, Water Referenced
128267	Water Depth
128275	Distance Log
128777	Anchor Windlass Operating Status
129025	Position, Rapid Update
129026	COG & SOG, Rapid Update
129029	GNSS Position Data
129038	AIS Class A Position Report
129039	AIS Class B Position Report
129041	AIS Aids to Navigation (AtoN) Report
129540	GNSS Satellites in View
129793	AIS UTC and Date Report
129794	AIS Class A Static and Voyage Related Data
129809	AIS Class B ``CS" Static Data Report, Part A
129810	AIS Class B ``CS" Static Data Report, Part B
130306	Wind Data
130310	Environmental Parameters (<i>deprecated</i>)
130312	Temperature (<i>deprecated</i>)
130313	Humidity (<i>deprecated</i>)
130314	Actual Pressure

NMEA2000 PGN (transmit)

PGN	Description	When transmitted
060928	ISO Address Claim	On joining the bus, and during address negotiation
126996	Product Information	On joining the bus, and on request
129283	Cross Track Error	While a route or waypoint is active
129284	Navigation Data	While a route or waypoint is active
129285	Navigation --- Route/Waypoint Information	While a route or waypoint is active

The three navigation PGNs are what an NMEA2000 autopilot consumes to steer to an active waypoint. They are transmitted only while a route or waypoint is active.

NMEA0183 supported sentences

The 10POS COM cable provides two NMEA0183 channels (see [Section 5.2](#)). The following sentences are handled.

Sentence	Description	Direction
AIVDM, AIVDO	AIS VHF datalink message, other and own vessel	Receive
DBT	Depth below transducer	Receive
DPT	Depth	Receive
GGA	Global positioning system fix data	Receive
GLL	Geographic position, latitude/longitude	Receive
GSV	GNSS satellites in view	Receive
HDG	Heading, deviation and variation	Receive
HDM	Heading, magnetic	Receive
HDT	Heading, true	Receive
MDA	Meteorological composite	Receive
MTA	Air temperature	Receive
MTW	Water temperature	Receive
MWD	Wind direction and speed	Receive
MWV	Wind speed and angle	Receive
RSA	Rudder sensor angle	Receive
VHW	Water speed and heading	Receive
VTG	Course over ground and ground speed	Receive
VWR	Relative wind speed and angle	Receive
VWT	True wind speed and angle	Receive
XDR	Transducer measurements	Receive
ZDA	Time and date	Receive
RMC	Recommended minimum specific GNSS data	Receive and transmit
RMB	Recommended minimum navigation information	Transmit
APB	Autopilot sentence ``B"	Transmit
XTE	Cross track error, measured	Transmit

RMB and RMC are transmitted continuously whenever an NMEA0183 connection is configured for output; with no route active they carry null navigation values. APB and XTE are transmitted only while a route or waypoint is active.

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External equipment connections

The chartplotter integrates directly with marine radar, sonar transducers, and IP cameras. No external interface box or converter is required. This chapter covers the physical-install side of those integrations: which connector to use on the rear panel ([Section 5.1](#)), what cable, what addressing, and any vessel-side considerations such as antenna placement and grounding. Operation of each feature is documented in the corresponding chapters of the *Deepry Chartplotter User Manual*.

Marine radar (Ethernet)

The chartplotter supports several radar scanner models from Garmin, Navico, and Raymarine over Ethernet. The full compatibility list is given in Chapter 10 (Radar) of the *Deepry Chartplotter User Manual*. Connect the radar to an Ethernet port on the rear panel (see [Section 5.1](#)) using the cable assembly supplied by the radar vendor; no adapters are required. The scanner is detected automatically. On the MFD16, the second Ethernet port keeps the radar on its own segment while another Ethernet device --- a sonar transducer, an IP camera, or a vessel network --- uses the first. Fit an Ethernet switch wherever more Ethernet devices are installed than there are ports: always on the MFD12 if the vessel carries both radar and sonar, and on the MFD16 from the third device onwards.



Note Vendor-specific addressing details (DHCP versus static, VLAN, multicast group) are handled automatically and are not user-configurable. Refer to Chapter 10 (Radar) of the *Deepry Chartplotter User Manual* for radar operation.



Warning The radar scanner is powered separately from the chartplotter. Follow the scanner manufacturer's installation manual for scanner mounting, power, and grounding. Maintain the manufacturer-specified safe distance from the antenna while transmitting.

Sonar transducer (Ethernet)

The chartplotter supports the Airmar Integrated Chirp (AIC) transducer family: the IC-TM90M (transom-mount), the IC-P90M (Tilted Element thru-hull), and the 1 kW IC-B190M (Tilted Element thru-hull). All sounder electronics are contained in the transducer housing, so no separate sounder module is fitted. The full compatibility list and per-model specifications are given in Chapter 12 (Sonar) of the *Deepry Chartplotter User Manual*.

A 10 m (33 ft) cable exits the transducer and terminates in a 7-pin connector. The supplied Y-cable adapter mates with it and breaks out into two legs:

- **Data** --- an RJ45 Ethernet plug. Connect it to an Ethernet port on the chartplotter (see [Section 5.1](#)), or to an Ethernet switch where the port is shared with radar or an IP camera. The transducer is detected automatically.

- **Power** --- flying leads for a separate DC feed. The transducer is *not* powered by the chartplotter. Supply 10.5--16 VDC for the IC-TM90M and IC-P90M, or 10.5--30 VDC for the IC-B190M, on a fused circuit sized per the transducer's installation guide.

Vessel-side considerations:

- Mount the transducer per the manufacturer's installation guide. Fairing blocks and deadrise offset determine usable bottom-tracking depth --- the thru-hull models are supplied with 0°, 12°, or 20° offsets to suit the hull.
- Route the transducer cable away from sources of electrical noise (engine ignition leads, alternators, bilge pumps).
- Connect the transducer at the rear of the unit before installing the unit in a flush-mount cutout (see [Chapter 4](#)).
- Maintain the compass-safe distance for the transducer cable run.



Warning Never touch the transducer face when the sonar is powered on. Switch the sonar off if divers or swimmers are within 7.6 m (25 ft) of the transducer.

IP cameras

The chartplotter displays RTSP streams from network-attached ONVIF IP cameras, with AI-assisted object detection and pan/tilt/zoom control where the camera supports it.

- Connect the camera to the same Ethernet network as the chartplotter. On the MFD16, the second Ethernet port can be dedicated to a small camera switch.
- Use a Power-over-Ethernet (PoE) injector or a PoE-capable switch if the camera does not have a separate power connection.
- Plan camera addressing (DHCP from a vessel-side router, or static) and credentials before installation. The camera is found by ONVIF discovery and its stream address obtained automatically, so only the username and password need to be entered on the chartplotter.
- Choose a camera that supports ONVIF. A camera that serves RTSP but does not implement ONVIF discovery cannot be added.
- A camera with pan, tilt, or zoom is controlled over ONVIF, so no separate control wiring is required.

Refer to Chapter 16 (Video) of the *Deepry Chartplotter User Manual* for in-app camera setup and operation.

GNSS antenna

The chartplotter includes an internal multi-constellation GNSS receiver (GPS + GLONASS), described in [Section 9.4](#). The internal antenna is designed to acquire a fix at any normal helm or dash mounting position with sky view. No external antenna is required for normal use.

Wi-Fi antenna

The chartplotter has built-in 2.4 GHz Wi-Fi for chart-update downloads, o-charts authorisation, and software updates. The unit is shipped with the Wi-Fi antenna in place; no external antenna or grounding is required for normal use. Network setup (SSID, password) is performed once from the system control panel; refer to Chapter 3 (Getting Started) of the *Deepry Chartplotter User Manual*.

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First power-up

Powering the unit on

The chartplotter boots automatically when DC power is applied to the rear power connector. No power-button press is required for first boot.

When power is first applied:

1. The screen remains dark for several seconds while the system initialises.
2. The Deeprey splash screen appears.
3. The navigation interface launches automatically and fills the screen.

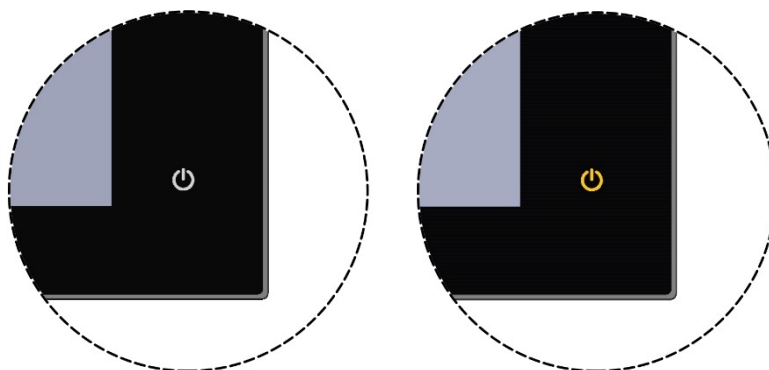
The unit is then ready to use. No login is required.



Note For first-time configuration of the navigation software --- Wi-Fi setup, chart import, instrument-bar customisation, waypoint creation, and so on --- refer to Chapter 3 (Getting Started) of the *Deeprey Chartplotter User Manual*.

Power button

Once the unit is running, the physical power button on the front bezel is used to put the unit into standby and to wake it again.



- When the unit is in standby, the power button illuminates orange.
- Touch the power button for two seconds to wake the unit; the orange LED turns off and the navigation interface returns.
- Touch the power button for two seconds while the unit is on to initiate a clean shutdown.



Warning Holding the power button for more than seven seconds forces an immediate hardware power-off without a clean shutdown. Use this only if the unit is unresponsive --- a forced power-off may interrupt write operations and corrupt configuration data.

If the unit does not start

If the unit does not boot when power is applied, check the following before contacting your dealer.

- Confirm that supply voltage at the rear connector is within tolerance (see [Chapter 9](#)).
- Confirm that the in-line fuse is intact.
- Confirm correct polarity (red wire to positive, black wire to negative).
- If supply voltage is present and correct but the screen remains dark for more than 60 seconds, contact Deeprey support. Do not attempt to disassemble the unit.

9

Technical specifications

Display

Feature	Value
Display size	MFD12: 12.1 inch MFD16: 15.6 inch
Brightness	1000 cd/m ² (sunlight readable)
Touchscreen	Projective capacitive, 10-point
Resolution	MFD12: 1280 × 800 MFD16: 1920 × 1080
Aspect ratio	MFD12: 16:10 MFD16: 16:9
Colour	16.7 M colours
Display mode	IPS, wide viewing angle

Compute

Feature	Value
CPU	Quad-core embedded x86 processor, up to 2.60 GHz
Memory	8 GB DDR4
Storage	256 GB SSD
Graphics	Integrated graphics
Audio	High-definition audio, two line-out channels (see Section 5.2)

Connectivity and I/O

Feature	Value
USB ports	2 × USB 2.0
Ethernet	MFD12: 1 × Gigabit MFD16: 2 × Gigabit
Video output	MFD12: none MFD16: 1 × HDMI
NMEA2000	1 × Micro-C, 5-pin (see Chapter 6)
NMEA0183	2 × RS-232, via 10POS COM cable (see Section 5.2)
Wi-Fi	2.4 GHz

Internal GNSS receiver

Feature	Value
Receiver type	Multi-constellation GNSS
Constellations	GPS + GLONASS
Talker IDs	\$GN, \$GP, \$GL
Sentences emitted	RMC, VTG, GGA, GSA, GSV, GLL
Connection to host	USB, via CH340 USB-to-serial bridge (USB vendor 1a86)
Host device path	/dev/ttyUSB0
Baud rate	9600
Protocol	NMEA 0183

Power

Feature	Value
Supply voltage	12 V DC nominal (10 V to 36 V with the Deeprey 6A2 power cable)
Typical current draw at 12 V	2.0 A
Maximum current draw at 12 V	4.5 A
Maximum power at 12 V	54 W
Recommended fuse	10 A in-line on the positive supply line

Mechanical

Feature	Value
Material	Aluminium alloy housing
Colour	Black
IP rating	IPX6 (front face)
Dimensions (W × H × D)	MFD12: 34.1 × 22.3 × 6.5 cm (13.4 × 8.7 × 2.4 in) MFD16: 42.6 × 25.4 × 6.5 cm (16.7 × 10.0 × 2.4 in)
Weight	MFD12: 4.5 kg (8.8 lb) MFD16: 5.5 kg (12.1 lb)
Mounting	Bracket or flush (see Chapter 4)

Environmental

Feature	Value
Operating temperature	−10 °C to +45 °C
Storage temperature	−20 °C to +80 °C
Relative humidity	5 % to 95 % at 40 °C, non-condensing
Vibration	5--500 Hz, 0.026 G ² /Hz, 2.16 Grms

Note IPX6 rating: protected against powerful jets of water --- water projected at all angles through a 12.5 mm nozzle at a flow rate of 100 L/min, at 100 kN/m² pressure, for 3 minutes from a distance of 3 metres. Suitable for heavy spray, driving rain, boat washing, and outdoor use in rough sea conditions.

10

Outline drawings

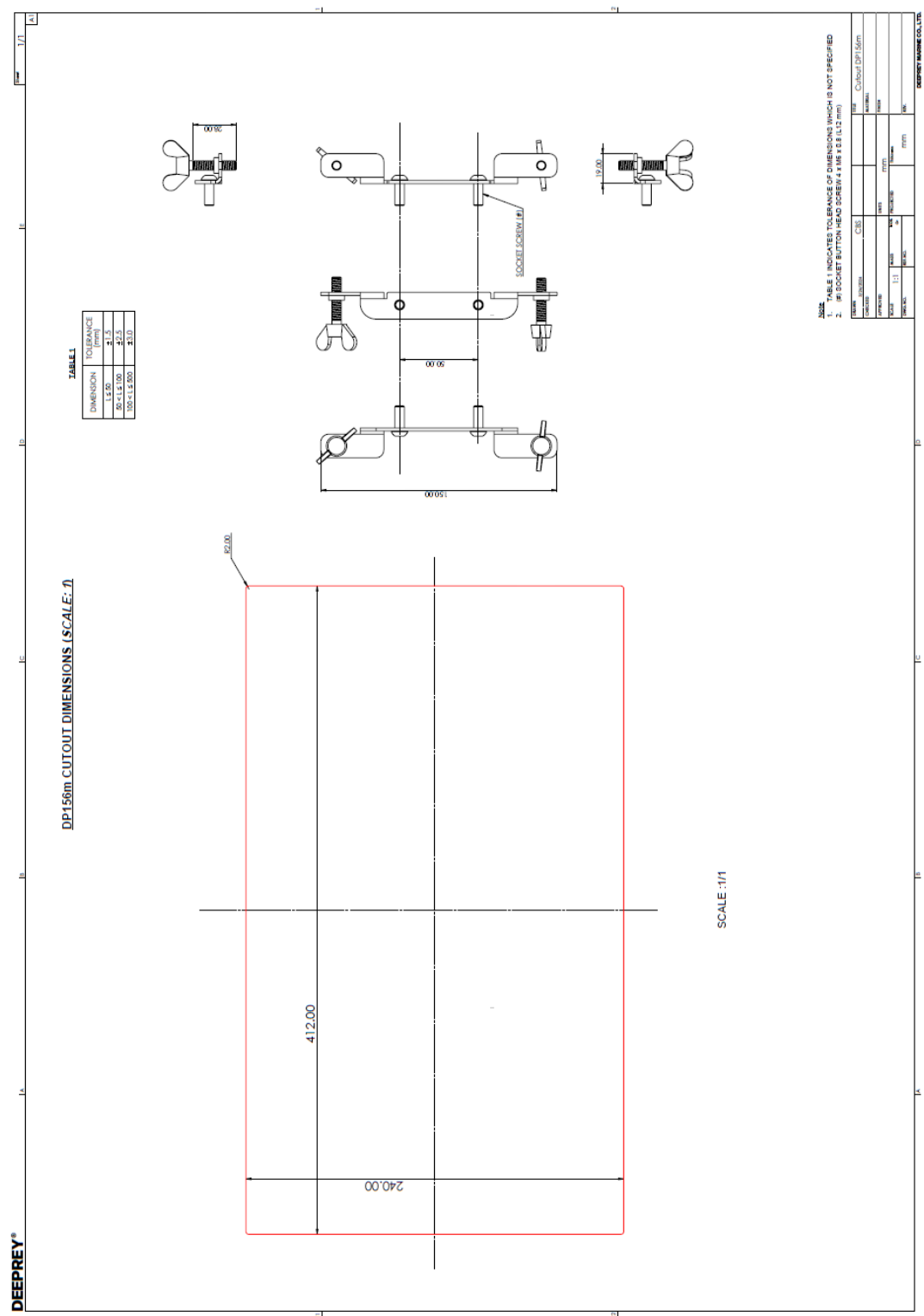
The drawings on the following pages give the dimensions of the chartplotter housing for mounting-cutout and clearance planning. Confirm the printed scale against any visible scale bar before using a drawing as a cutout template.

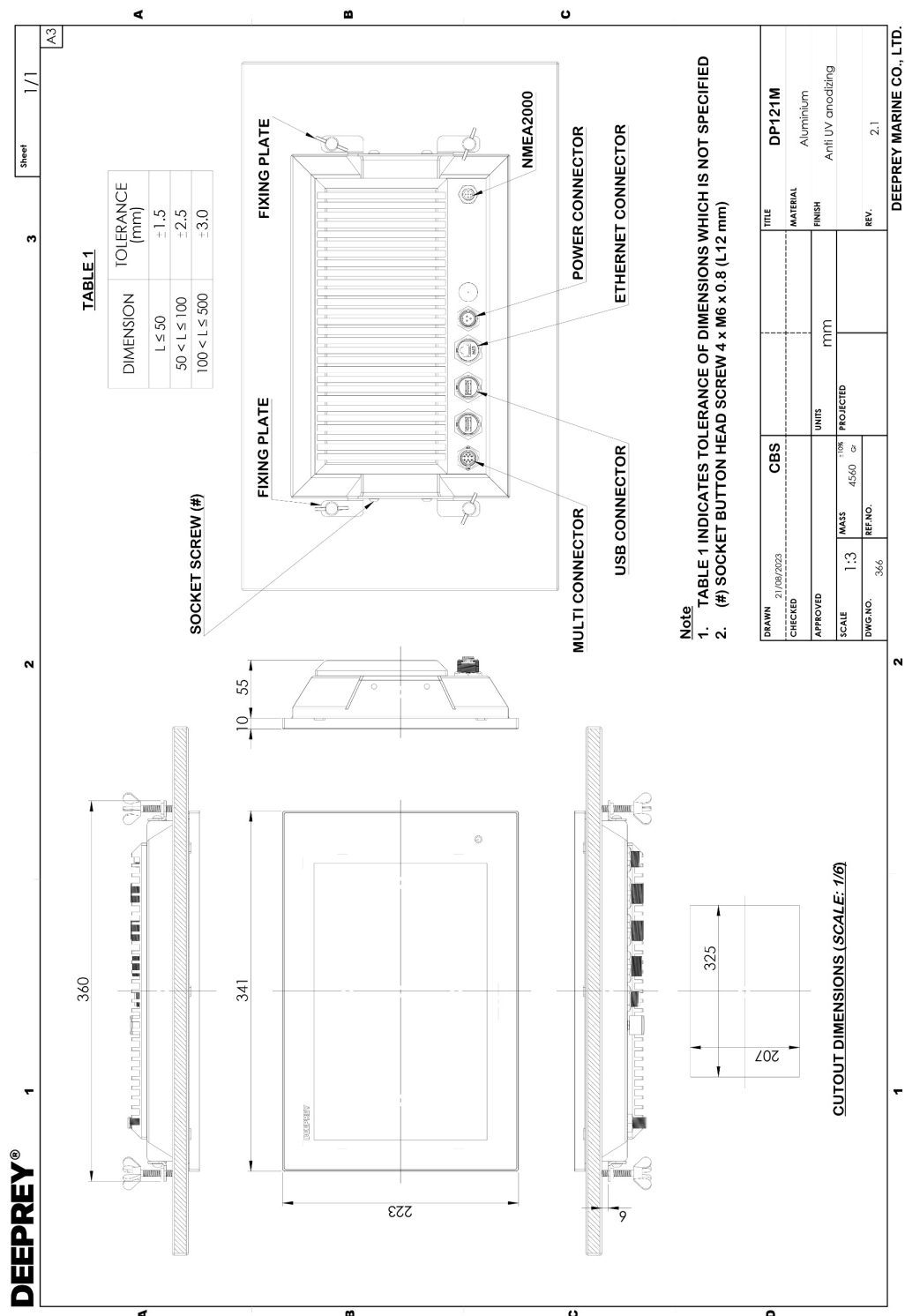


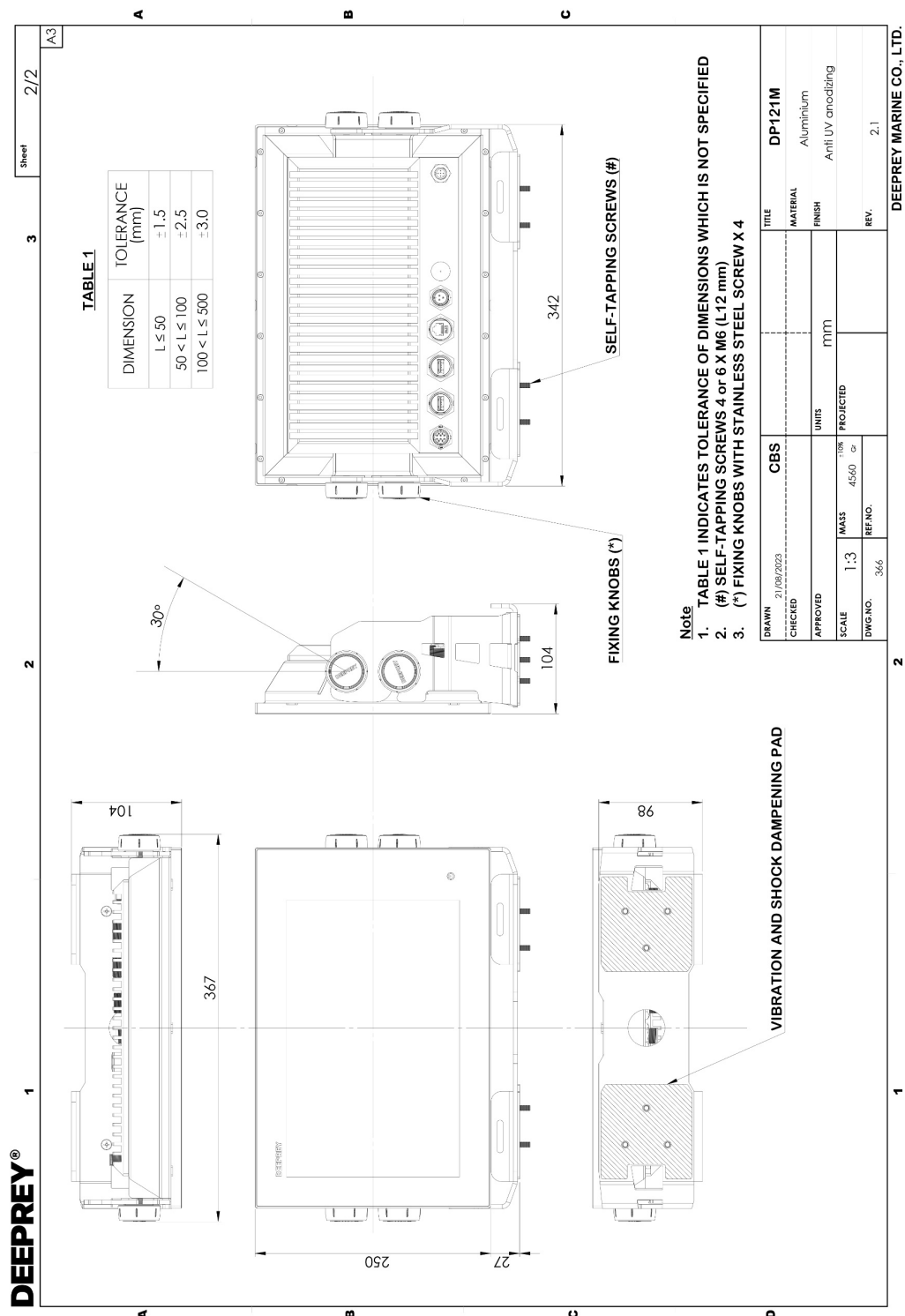
Warning

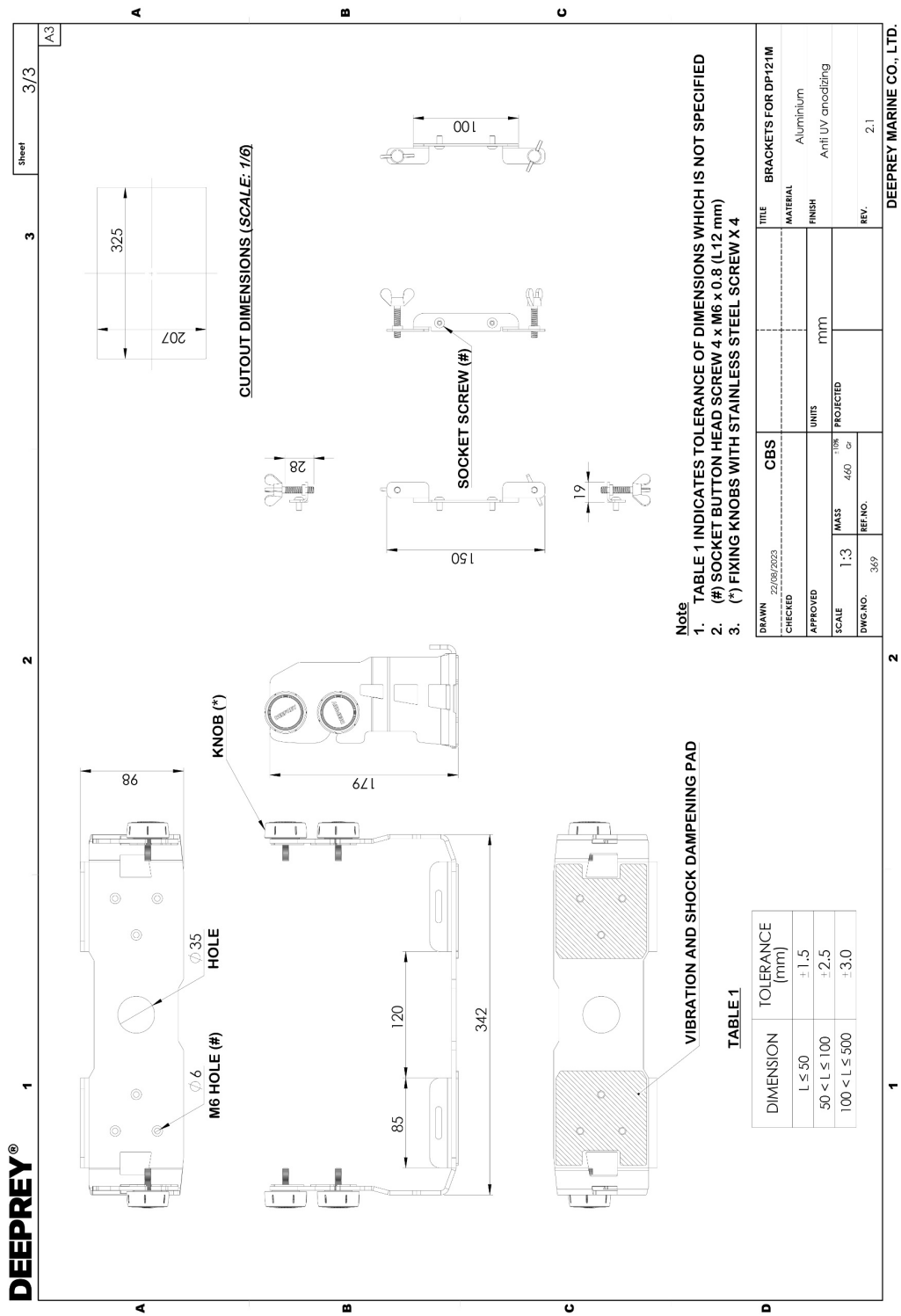
Print drivers can scale pages without notice. Always verify the printed scale before cutting a flush-mount opening; an oversized cutout cannot be undone.

Dimensioned outline









11

Compliance markings

The chartplotter carries a label on the rear of the housing showing all relevant compliance markings, the model number, and the unique serial number.

Where to find the markings

The compliance label is located on the rear of the housing, adjacent to the connector cluster. Once the unit is installed in a flush-mount cutout the label may not be visible without removing the unit; record the serial number before installation if it is needed for warranty registration or service-desk reference.

- **Model number** --- DP121M (MFD12) or DP156M (MFD16). The label carries the engineering model code; MFD12 and MFD16 are the corresponding commercial model names used throughout this manual.
- **Serial number** --- unique to each unit; required for warranty claims and dealer support.
- **CE marking** --- conformity with applicable European Union directives.
- **UKCA marking** --- conformity with applicable United Kingdom regulations.
- **FCC ID** --- United States compliance identifier (where applicable).
- **IC** --- Industry Canada compliance identifier (where applicable).
- **Crossed-bin WEEE symbol** --- end-of-life recycling notice.
- **Country of manufacture.**

Reading the serial number

The serial number is a unique identifier for each unit and is the primary reference for warranty registration, dealer support, and software-update tracking. Quote the serial number in any communication with Deeprey support.



Note The full regulatory text of each declaration --- CE, UKCA, FCC, IC, RoHS, WEEE, REACH --- and the limited hardware warranty are in Chapter 19 (Regulatory & Legal Notices) of the *Deeprey Chartplotter User Manual*. This chapter documents only the physical marking on the device.



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