

**LOWRANCE**

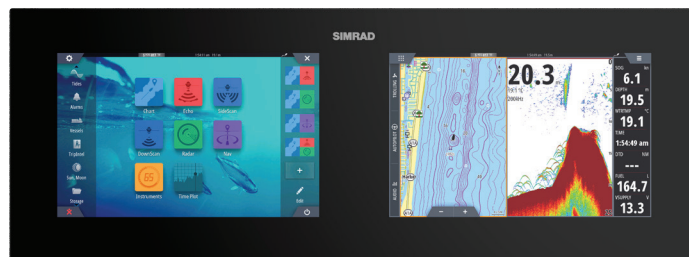
**SIMRAD**

**B&G**

# Information Display

## System Design Guidelines

ENGLISH





# Preface

As Navico is continuously improving this product, we retain the right to make changes to the product at any time which may not be reflected in this version of the manual. Please contact your nearest distributor if you require any further assistance.

It is the owner's sole responsibility to install and use the instrument and transducers in a manner that will not cause accidents, personal injury or property damage. The user of this product is solely responsible for observing safe boating practices.

NAVICO HOLDING AS AND ITS SUBSIDIARIES, BRANCHES AND AFFILIATES DISCLAIM ALL LIABILITY FOR ANY USE OF THIS PRODUCT IN A WAY THAT MAY CAUSE ACCIDENTS, DAMAGE OR THAT MAY VIOLATE THE LAW.

## Governing Language

This statement, any instruction manuals, user guides and other information relating to the product (Documentation) may be translated to, or has been translated from, another language (Translation). In the event of any conflict between any Translation of the Documentation, the English language version of the Documentation will be the official version of the Documentation. This manual represents the product as at the time of printing. Navico Holding AS and its subsidiaries, branches and affiliates reserve the right to make changes to specifications without notice.

## Copyright

Copyright © 2019 Navico Holding AS.

## Warranty

The warranty card is supplied as a separate document. In case of any queries, refer to the brand web site of your display or system:

[www.lowrance.com](http://www.lowrance.com)

[www.simrad-yachting.com](http://www.simrad-yachting.com)

[www.bandg.com](http://www.bandg.com)

## Compliance Statements

### Europe

Navico declare under our sole responsibility that the product conforms with the requirements of:

- Integration hub: CE under RED 2014/53/EU
- Display module: CE under EMC Directive 2014/30/EU

The relevant declaration of conformity is available in the product's section at the following website:

[www.lowrance.com](http://www.lowrance.com)

[www.simrad-yachting.com](http://www.simrad-yachting.com)

[www.bandg.com](http://www.bandg.com)

### *Countries of intended use in the EU*

AT - Austria

BE - Belgium

BG - Bulgaria

CY - Cyprus

CZ - Czech Republic

DK - Denmark

EE - Estonia

FI - Finland

FR - France

LI - Liechtenstein

LT - Lithuania

LU - Luxembourg

MT - Malta

NL - Netherlands

NO - Norway

PL - Poland

PT - Portugal

RO - Romania

DE - Germany	SK - Slovak Republic
GR - Greece	SI - Slovenia
HU - Hungary	ES - Spain
IS - Iceland	SE - Sweden
IE - Ireland	CH - Switzerland
IT - Italy	TR - Turkey
LV - Latvia	UK - United Kingdom

### United States of America

Navico declare under our sole responsibility that the product conforms with the requirements of:

- Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



**Warning:** The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

- **Note:** This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna
  - Increase the separation between the equipment and receiver
  - Connect the equipment into an outlet on a circuit different from that of the receiver
  - Consult the dealer or an experienced technician for help

### Industry Canada

This device complies with Industry Canada's license-exempt RSSs. Operation is subject to the following two conditions: (1) This device may not cause interference; and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et. (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Industry Canada Statement: Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

## **Australia and New Zealand**

Navico declare under our sole responsibility that the product conforms with the requirements of:

- Level 2 devices of the Radiocommunications (Electromagnetic Compatibility) standard 2017
- Radiocommunications (Short Range Devices) Standards 2014

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- Lowrance® is a registered trademark of Navico Holding AS.
- Simrad® is used by license from Kongsberg.
- B&G® is a registered trademark of Navico Holding AS.

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# 1

## Introduction

### About this manual

This document is used to aid the boat builder in designing the Information Display system. The document covers a range of standard Information Display systems and also guidelines for creating customized Information Display dashes.

Important text that requires special attention from the reader is emphasized as follows:

→ **Note:** Used to draw the reader's attention to a comment or some important information.

**Warning:** Used when it is necessary to warn personnel that they should proceed carefully to prevent risk of injury and/or damage to equipment/personnel.

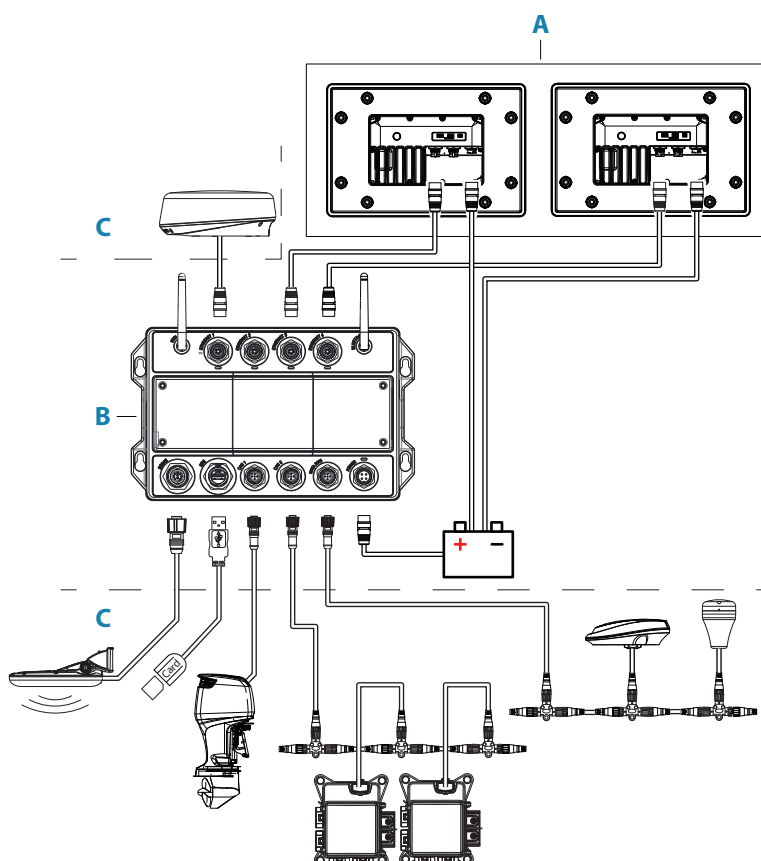
### Information Display system

The Information Display system consists of:

- Bonded glass smart display (Information Display)  
Single or multiple Smart Displays bonded to a single glass.

- Integration Hub

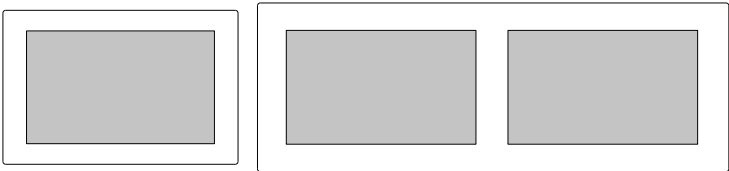
The hub allows for connecting various vessel equipment to the Information Display system.



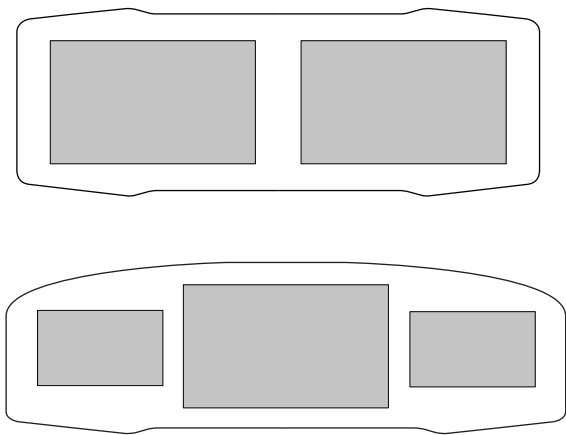
- A Bonded glass smart display
- B Integration hub
- C Accessories and optional equipment

This document covers the range of standard displays and also describes guidelines for customized setup. The glass is not only a lens for the display(s) but also makes up the dashboard surface.

The standard setup consists of a single or dual screen configuration. Both 9" and 12" screens are available.



Custom display setups can consist of various sizes and shapes to suit the vessel dash.



Branding options

Available brands are:

**SIMRAD    LOWRANCE    B&G**

Brand logo	Width		Height	
	mm	inches	mm	inches
Simrad	35.5	1.40	8	0.31
Lowrance	57.0	2.24		
B&G	42.0	1.65		

The logo text is white color, and will be placed on the top-center of the display.



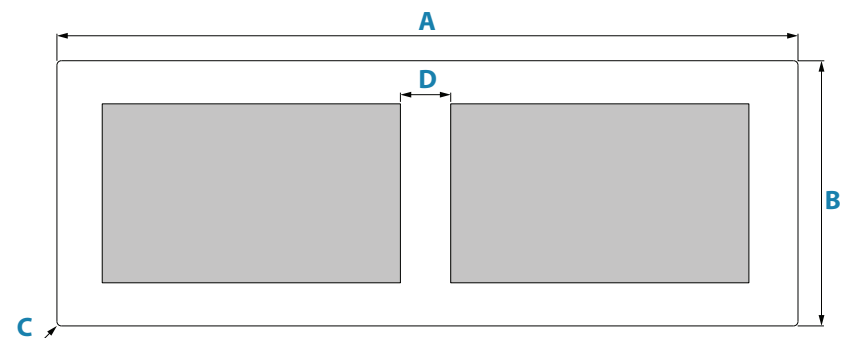
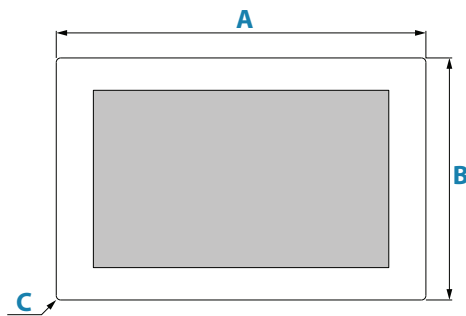


# 2

## Standard glass

Standard rectangular glass is available in two sizes for single and dual displays. The glass thickness is 3.2 mm (0.12").

Configuration	A		B		C		D	
	mm	inch	mm	inch	mm	inch	mm	inch
Single 9"	252	9.92	165	6.50	3.0	0.12	N/A	N/A
Single 12"	322	12.68	220	8.66			N/A	N/A
Dual 9"	548.5	21.58	199.5	7.83			63.5	2.50
Dual 12"	686	27.01	254.5	10.02			68.9	2.71



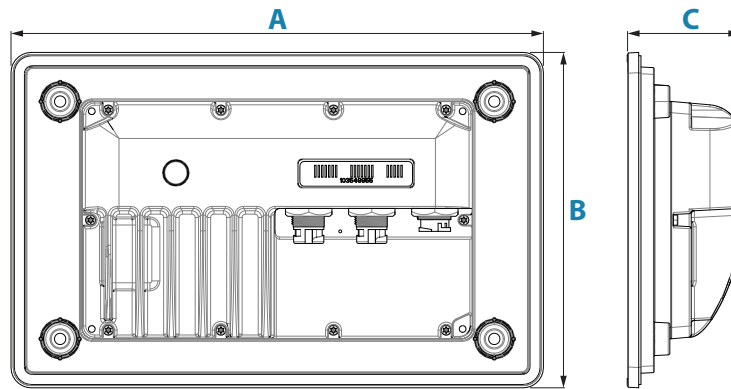
- A** Width
- B** Height
- C** Corner radius
- D** Gap between LCD visual/active area

→ **Note:** For standard glass mounting, we recommend the Dash Pocket-Frame mounting option. Refer to "Mounting methods" on page 16.

## Smart Display module sizes (not including any glass overhang)

Smart Display modules not including any glass overhang have the following dimensions:

Size	A		B		C	
	mm	inch	mm	inch	mm	inch
9"	236.5	9.31	149	5.91	50.5	1.99
12"	305	12.01	204	8.03	58.0	2.28



- A** Width
- B** Height
- C** Total depth without glass (the glass is 3.2 mm (0.12") thick)

# 3

## Custom glass

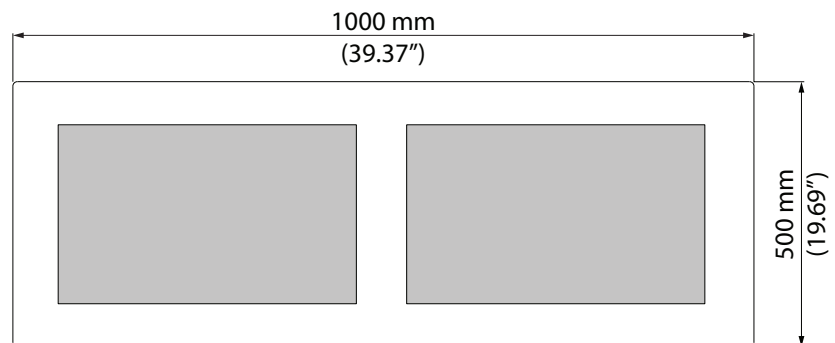
Custom glass can be rectangular or different shapes to suit the vessel dash.

### Advantage with customized glass:

- Ability to specify more than one LCD display
- Shape can be rectangular or custom
- Better dash appearance
- Different look compared to other boat builders

→ **Note:** Customized glass designs will be subject to a non-recurring engineering fee (NRE).

### Maximum glass size



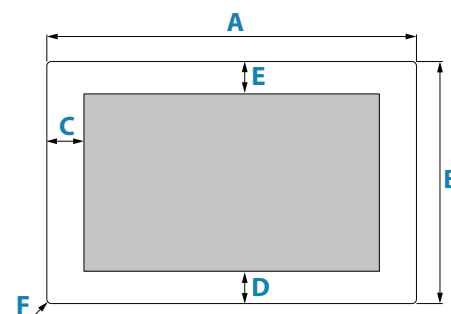
### Minimum glass sizes

#### Single display pocket and bracket mounting

Size	A		B		C	
	mm	inch	mm	inch	mm	inch
9"	238	9.37	151	5.95	20	0.79
12"	308	12.13	206	8.11	23	0.91

Size	D		E		F	
	mm	inch	mm	inch	mm	inch
9"	23	0.91	16	0.63	0 - 10	0 - 0.39
12"	23	0.91	20	0.79		



- A** Width
- B** Height
- C** Distance between glass side edge and active area

- D** Distance between glass bottom edge and active area
- E** Distance between glass top edge and active area
- F** Corner radius, min - max

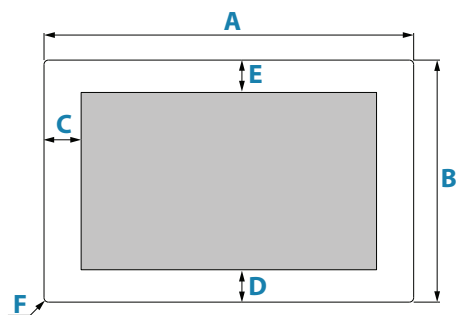
### Single display dual lock mounting

For mounting by adhering from rear glass edges (assumes 8 mm glass width for adhering).  
Corner radius 0 mm - 17 mm.

Size	A		B		C	
	mm	inch	mm	inch	mm	inch
9"	252	9.92	165	6.50	27	1.06
12"	322	12.68	220	8.66	30	1.18

Size	D		E		F	
	mm	inch	mm	inch	mm	inch
9"	30	1.18	23	0.91	0 - 17	0 - 0.67
12"	30	1.18	27	1.06		



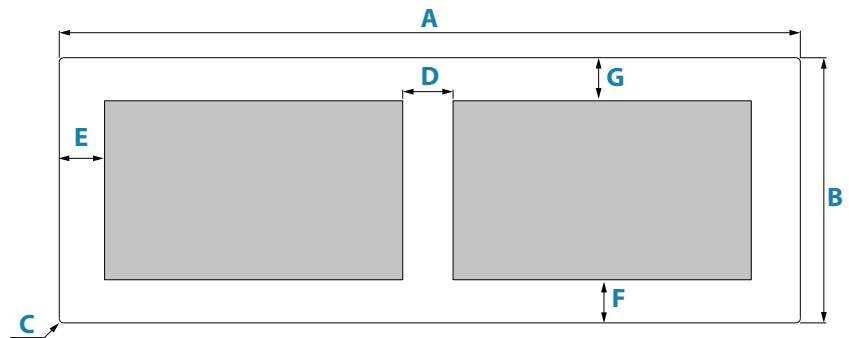
- A** Width
- B** Height
- C** Distance between glass side edge and active area
- D** Distance between glass bottom edge and active area
- E** Distance between glass top edge and active area
- F** Corner radius, min - max

## Dual display pocket and bracket mounting

Size	A		B		C	
	mm	inch	mm	inch	mm	inch
9"	490	19.29	165	6.50	0 - 5	0 - 0.2
12"	629	24.76	220	8.67		

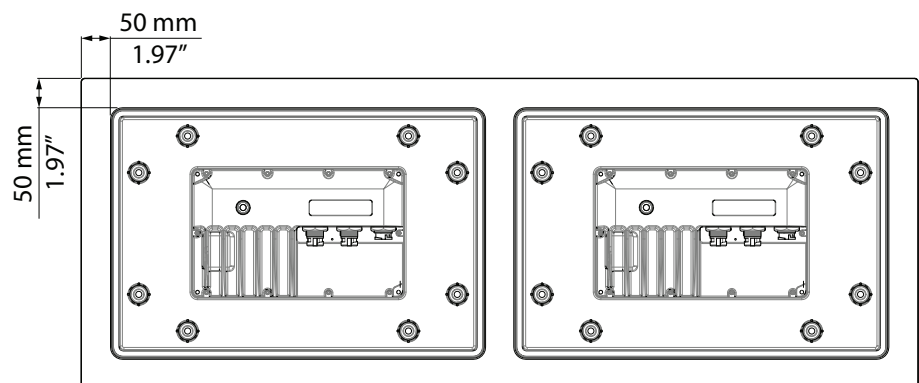
Size	D		E		F		G	
	mm	inch	mm	inch	mm	inch	mm	inch
9"	39	1.54	27	1.06	30	1.18	23	0.91
12"	46	1.82	30	1.18	30	1.18	27	1.06



- A** Width
- B** Height
- C** Corner radius
- D** Gap between LCD visual/active area

## Maximum glass edge

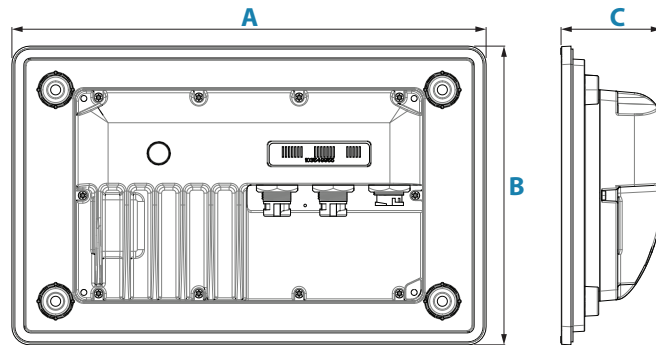
The maximum free glass distance (from the display housing edge to the glass edge) shall be 50 mm in all sizes.



## Smart Display module sizes (not including any glass overhang)

Smart Display modules not including any glass overhang have the following dimensions:

Size	A		B		C	
	mm	inch	mm	inch	mm	inch
9"	236.5	9.31	149	5.91	50.5	1.99
12"	305	12.01	204	8.03	58.0	2.28



- A** Module width
- B** Module height
- C** Module depth

# 4

## Information Display modules

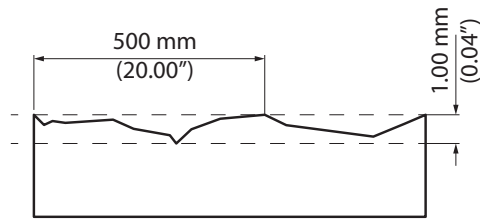
### Mounting guidelines

#### General

Enclosures should be dry and well ventilated. In small enclosures, it may be required to fit forced cooling. Leave sufficient clearance to connect all relevant cables.

#### Dash flatness

The surface the Information Display attaches to must be flat, with no more than 1 mm (0.04") deviation from a theoretical flat plane over a distance of 500 mm (20"). This is to avoid the glass and LCD's being distorted when installed in the vessel.

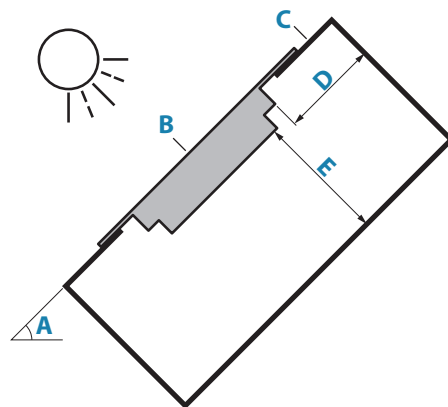


#### Thermal considerations

→ **Note:** White materials will be around 8°C (14°F) cooler than black materials in direct sunlight.

**Warning:** Inadequate ventilation and subsequent overheating of the unit may cause unreliable operation and reduced service life. Exposing the unit to conditions that exceeds the specifications could invalidate your warranty.

- Ensure adequate separation between products that generate heat
- Ensure reasonable airspace around the Information Display, minimum 150 mm (5.91") at rear (**E**) and 75 mm (2.95") at top/bottom/sides (**D**) is recommended.
- If the Information Display is mounted in an angle (**A**) of less than 45°, ensure that the air temperature inside the enclosure does not exceed 35°C (95°F) with no air flow, or 45°C (113°F) with forced airflow (minimum air velocity across the back of the unit 1 m/s (3.3 fts)).



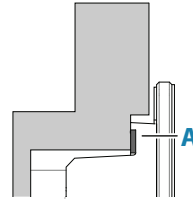
- A** Installation angle
- B** Information Display
- C** Dashboard enclosure
- D** 75 mm (2.95") minimum free space to top, bottom and sides
- E** 150 mm (5.91") minimum free space at the rear

### Sun cover

It is recommended the Information Display is protected from the sun when the unit is not in use. Sun covers are not supplied by Navico.

### Dash seal

Each display has a foam seal (A). The foam seal prevents water ingression.



No additional seal is required for bracket, dash pocket-frame and dual lock mounting.

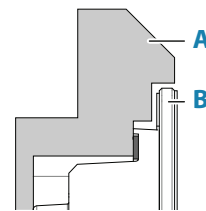
## Mounting methods

### Pocket versus exposed glass installation

There are two options to install the glass. Both of them can be used with all three mounting methods.

#### Pocket installation

The glass (B) is recessed into the dashboard (A).



Advantages:

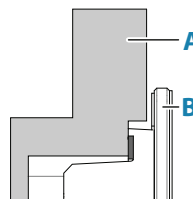
- Lower risk of glass being damaged

Disadvantages:

- Water/ice accumulation risk in pocket
- Dust/dirt accumulation risk in pocket
- Potential fit/tolerances issues

#### Exposed glass edges

The glass (B) is placed over dashboard (A).



Advantages:

- No water/ice accumulation risk.
- No dust/dirt accumulation risk.
- No fit/tolerances issues.



Disadvantages:

- There is a risk of cracking the entire glass due to an impact on corners or edges.

### Dash bracket mount

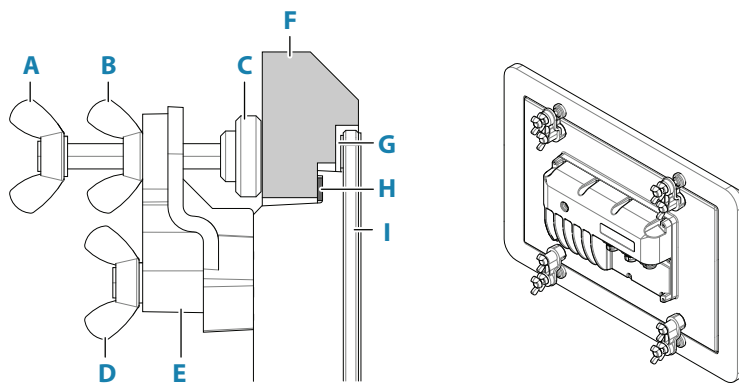
Advantages:

- Allows use of the smallest glass size
- Friendly for service - easy to remove
- Does not require adhesive to seal (foam seal included)
- No stress is being applied to the glass, product is held by the display module plastic housing

Disadvantages:

- Requires access to the inside of dash during assembly
- Each bracket has 6 separate components

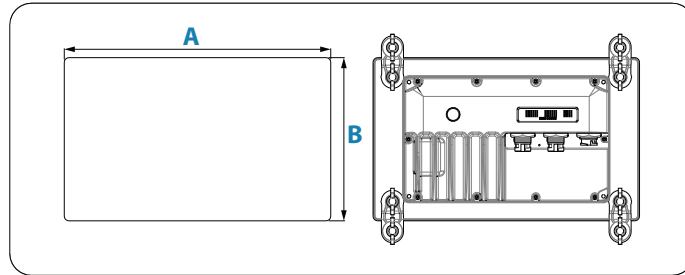
Clamping force must only be applied to the Information Display enclosure. After installation, there should be a small gap (**F**) between the dash and the Information Display glass.



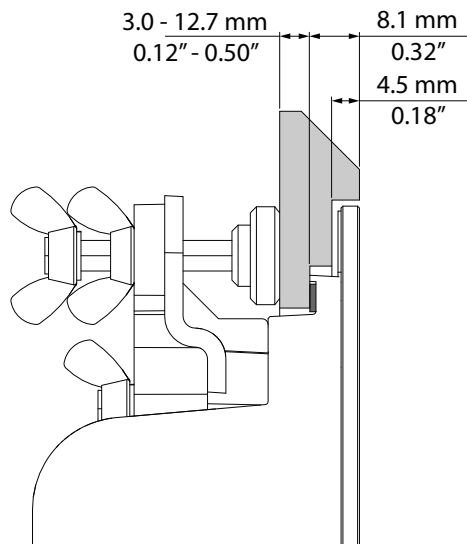
- A** Wing screw to fix product
- B** Wing nut to lock and prevent from loosening
- C** Bracket foot
- D** Wing screw to fix the bracket on the Smart Display module
- E** Bracket body
- F** Boat bulkhead/dash
- G** Gap between Information Display glass and dash
- H** Foam seal
- I** Information Display glass and Smart Display module(s)

### Mounting cutout size

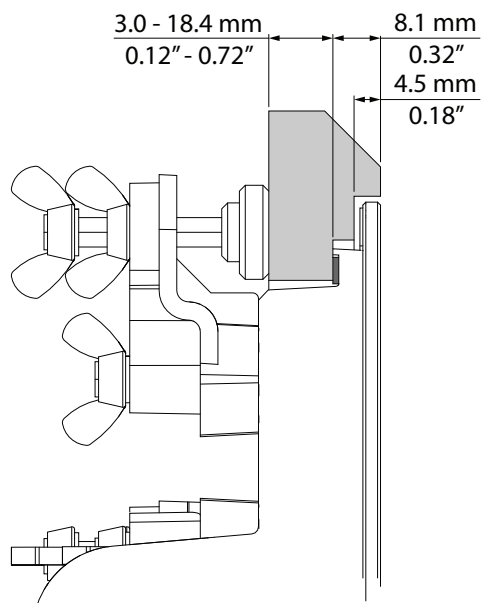
Size	A		B	
	mm	inch	mm	inch
9"	224.7	8.84	137.2	5.40
12"	301.2	11.85	202.7	7.98



### 9" display dash steps



### 12" display dash steps



## Dash pocket-frame mounting

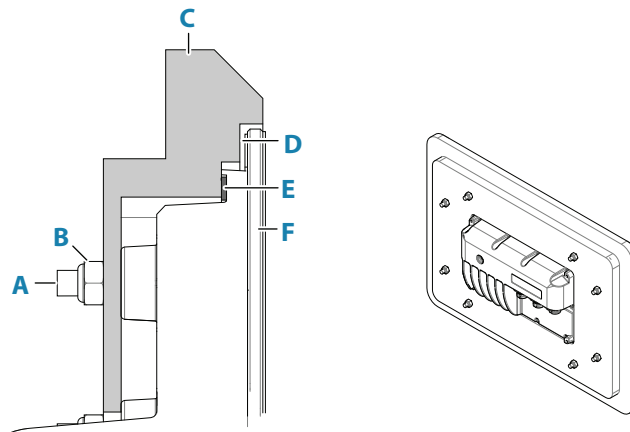
Advantages:

- Allows use of the smallest glass size
- Friendly for service - easy to remove
- Does not require adhesive to seal (foam seal included)
- No stress is being applied to the glass - product is held by plastic housing

Disadvantages:

- Requires access to the inside of dash to assemble
- Boat builder has to machine several pockets in a dash

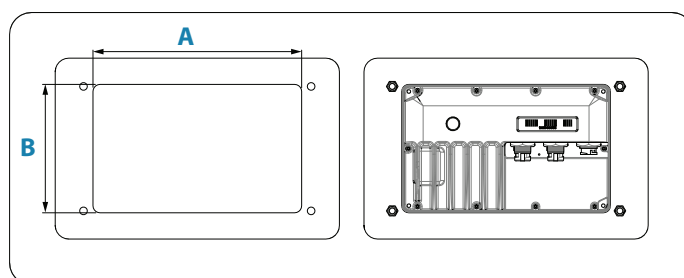
Clamping force must only be applied to the Information Display enclosure. After installation, there should be a small gap (**D**) between the dash and the Information Display glass.



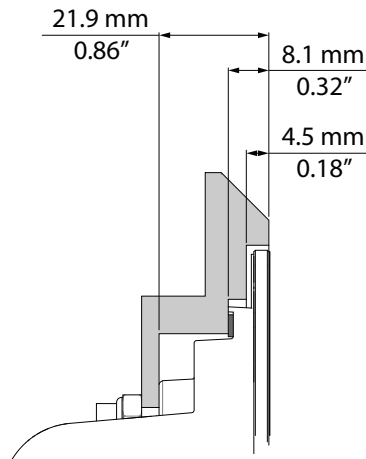
- A** M5 threaded rod
- B** M5 nut/locking nut
- C** Boat bulkhead/dash
- D** Gap between Information Display glass and dash
- E** Foam seal
- F** Information Display glass and Smart Display module(s)

### Mounting cutout size

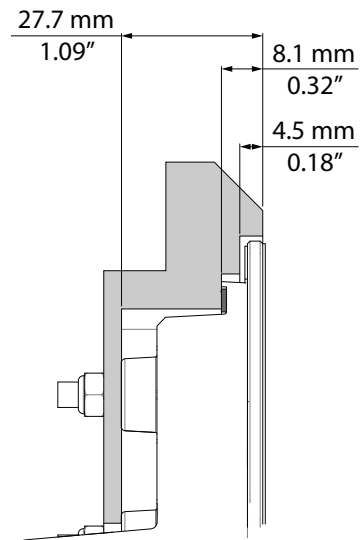
Size	A		B	
	mm	inch	mm	inch
9"	176.7	6.96	108.7	4.28
12"				



### 9" display dash steps



### 12" display dash steps



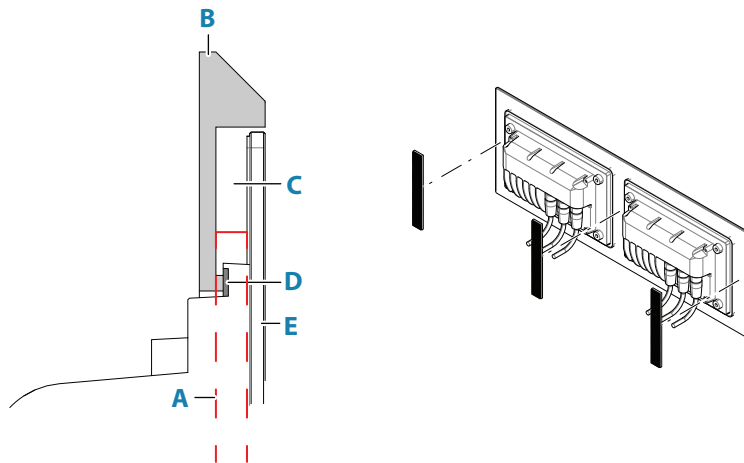
## Dual-Lock

Advantages:

- Does not require free space in the dash cavity corners or edge for fastening
- Does not require adhesive to seal (foam seal included)
- Friendly for service, not hard to remove

Disadvantages:

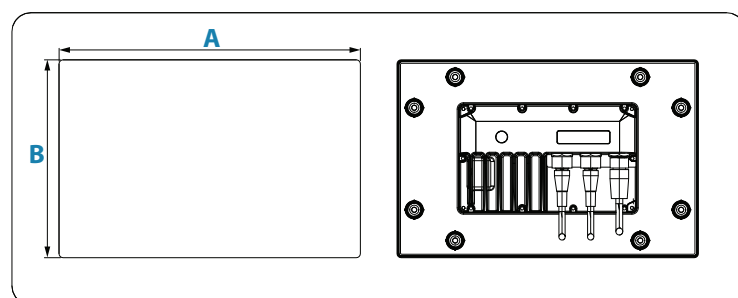
- Needs free space in the glass edges to attach the Dual-Lock strips. Smallest glass cannot be used
- Stress is being applied to the glass, product is attached by the glass, not the display module housing



- A** Dual-Lock strips
- B** Boat bulkhead/dash
- C** Gap between Information Display glass and dash
- D** Foam seal
- E** Information Display glass and Smart Display module(s)

### Mounting cutout size

Size	A		B	
	mm	inch	mm	inch
9"	252.7	9.95	138.2	5.44
12"	294.6	11.60	193.4	7.61

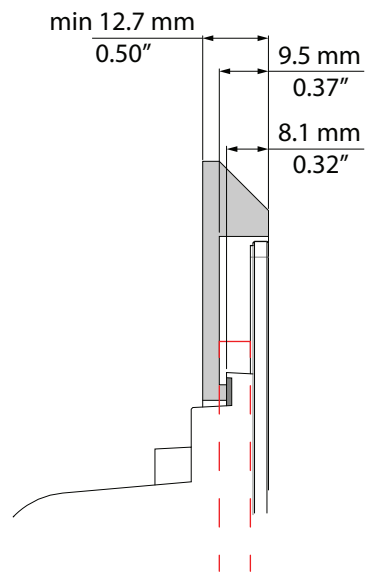


### Required Dual-Lock strips

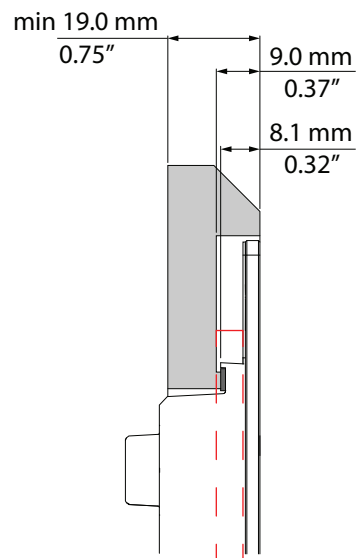
Configuration	Number of strips SJ3560 / SJ3562	Width of the strips		Length of the strips	
		mm	inches	mm	inches
Single 9"	2 / 2	19	3/4	140	5.5
Single 12"				165	6.5
Dual 9"	3 / 3			140	5.5
Dual 12"				219	8.6

→ **Note:** The Information Display will need to have enough glass overhang to place the Dual-Lock strips. Standard single 9" and Standard single 12" do not meet with this requirement.

### 9" display dash steps



### 12" display dash steps







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