DOMETIC

STABILIZATION
GYROSCOPIC STABILIZER

DG3

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California Prop 65

⚠ WARNING

Handling recreational marine vessel parts can expose you to chemicals such us phthalates and lead, which can cause cancer and reproductive harm. To minimize exposure, service the vessel outdoors or in a well-ventilated area, wear gloves, and wash your hands. For more information see www.P65Warnings.ca.gov/marine-vessel-parts.

English

1 Important notes

Please read these instructions carefully and follow all instructions, guidelines, and warnings included in this product manual in order to ensure that you install, use, and maintain the product properly at all times. These instructions MUST stay with this product.

By using the product, you hereby confirm that you have read all instructions, guidelines, and warnings carefully and that you understand and agree to abide by the terms and conditions as set forth herein. You agree to use this product only for the intended purpose and application and in accordance with the instructions, guidelines, and warnings as set forth in this product manual as well as in accordance with all applicable laws and regulations. A failure to read and follow the instructions and warnings set forth herein may result in an injury to yourself and others, damage to your product or damage to other property in the vicinity. This product manual, including the instructions, guidelines, and warnings, and related documentation, may be subject to changes and updates. For up-to-date product information, please visit documents.dometic.com.

2 Related documents

Find the full operating manual online at qr.dometic.com/bg5QLG. If your printed copy of the operating manual is missing or damaged, email marinesupport@dometic.com to request a replacement.

3 Explanation of symbols

A signal word will identify safety messages and property damage messages, and also will indicate the degree or level of hazard seriousness.

DANGER!
Indicates a hazardous situation that, if not avoided, will result in death or serious injury.

WARNING!
Indicates a hazardous situation that, if not avoided, could result in death or serious injury.

CAUTION!
Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

NOTICE!
Indicates a situation that, if not avoided, could result in property damage.

4 Safety instructions

NOTE The terms gyroscopic stabilizer and gyro are used interchangeably in this manual.

DANGER! Risk of property damage, serious injury, or death
Lifting operations are dangerous. Failure to observe this warning may lead to a falling load, which may cause crush injuries and/or death.

- Use only the recommended load spreader to lift the gyro.
- Check that the load spreader is securely fastened to the lift points on the gyro sphere.
- The hoist and lifting hook must be rated for the load listed on the load spreader.
- Inspect all lift equipment regularly. Replace any part that shows evidence of wear or damage.
- Keep all personnel clear of the load and the destination during lift operations.
- Never leave the load suspended while unattended.

WARNING! Pinch point hazard
Moving parts can crush and cut.

- Keep covers in place.
- Keep hands clear while operating.
- Confirm flywheel is stationary and disconnect power before removing covers for maintenance.

WARNING! Risk of serious injury or death, structural damage, and equipment failure
The gyroscopic stabilizer uses high strength and specially coated fasteners for all structural components and throughout the device. Fasteners not supplied by Dometic may fail, which could result in the separation of the gyroscopic stabilizer from the boat, leading to damage to the boat, serious injury and/or death.

- Never substitute fasteners on the gyroscopic stabilizer.
- Any replacement of fasteners must be done by an authorized technician, using only Dometic-supplied fasteners.

WARNING! Risk of property damage, injury, or death
The safe installation of electrical equipment, plumbing systems, and other marine systems are governed by standards published by ABYC, ISO, and other organizations.

- The installer is responsible for knowing which safety standards apply in their jurisdiction.
- Installation must comply with applicable safety standards.

WARNING! Risk of injury

- Read and understand all instructions supplied with the equipment before starting the installation or using the equipment.
- Disconnect all power to the gyro, including the dedicated 48 V battery, before working on the equipment.
- Provide sufficient space for safe installation, removal, and maintenance.

4.1 Gyro safety decals

The gyro is supplied with decals that warn of safety hazards, reproduced here for reference. In the event a decal is damaged or otherwise illegible, contact Dometic for a replacement. Contact information can be found in Warranty on page 25

1

DG3 GYRO
12V / 24V / 48V

DOMETIC
dometic.com

MEMBER ABYC

CE Ignition Protected
SAE J1171, ISO 8846:1990

⚠ WARNING

Improper installation and/or maintenance may result in property damage, personal injury and/or death.

Prior to every use:

- Verify all mounting fasteners are secure.
- Inspect mounting structure for signs of damage.

Installation, use and maintenance:

- Refer to instructions for installation guidelines.
- Do not operate gyro with any cover removed.
- Read and comply with safety and operating guidelines prior to use.
- Do not operate gyro if any component is not in proper working condition.
- Perform maintenance in accordance with instructions.
- Ensure all electrical connections are secure and free from corrosion.
- Ensure all plumbing connections are secure and leak free.

2

⚠ WARNING

Pinch point hazard – moving parts can crush and cut.
Improper installation may result in property damage, personal injury and/or death.

- Refer to instructions for installation guidelines.
- Read and comply with safety and operating guidelines prior to use.
- Use only Dometic spreader bar part # 103009 to lift product.
- Ensure lifting equipment is rated appropriately and safe lifting procedures are followed.
- Only trained persons shall perform maintenance or service on this product.

NOTICE

- Product weight 580LB [263KG].
- Remove spreader bar and reinstall top cover before operating unit.
- Do not operate product with covers removed.
- Do not service product until flywheel is stationary and power is disconnected.

SAFETY NOTES

Before first operation:

- Confirm clearances around product meet installation guidelines.
- Confirm electrical connections are secure and compliant with ABYC standards.
- Confirm plumbing connections are secure and leak free.
- Confirm fasteners are secure and tightened according to installation guidelines.

3

⚠ WARNING

Pinch point hazard – moving parts can crush and cut.

- Keep covers in place.
- Keep hands clear while operating.
- Confirm flywheel is stationary and disconnect power before servicing.

5 Target groups

The mechanical and electrical installation and setup of the device must be performed by a qualified technician who has demonstrated skill and knowledge related to the construction and operation of marine equipment and installations, and who is familiar with the applicable regulations of the country in which the equipment is to be installed and/or used, and has received safety training to identify and avoid the hazards involved.

6 Intended use

The gyroscopic stabilizer is intended to be used to improve the comfort of boat and yacht users by decreasing the roll motion caused by waves. The gyroscopic stabilizer is not intended to correct instability resulting from operation in sea conditions beyond the vessel's design limits or from poor hull design. The gyroscopic stabilizer is not suitable for use in land vehicles or when the boat is out of the water.

This product is only suitable for the intended purpose and application in accordance with these instructions.

This manual provides information that is necessary for proper installation and/or operation of the product. Poor installation and/or improper operation or maintenance will result in unsatisfactory performance and a possible failure.

The manufacturer accepts no liability for any injury or damage to the product resulting from:

- Incorrect installation, assembly or connection, including excess voltage
- Incorrect maintenance or use of spare parts other than original spare parts provided by the manufacturer
- Alterations to the product without express permission from the manufacturer
- Use for purposes other than those described in this manual

Dometic reserves the right to change product appearance and product specifications.

7 Technical description

The gyroscopic stabilizer (gyro) uses the principles of rotational motion and angular momentum to decrease the roll motion of a boat or yacht, improving stability and comfort for passengers and crew.

At the core of the gyroscopic stabilizer is a high-speed flywheel mounted within a gimbal system, which rotates around an axis perpendicular to the boat centerline. When the boat rolls, the stabilizer's control system senses the motion and rotates the gimbal, which applies a torque opposite the direction of the boat's roll. This dynamic counteraction reduces the roll motion and results in a smoother ride.

The gyro can be operated in the following ways:

- The touch pad on the gyro cover.
- A control screen on a multi-function display (MFD).

7.1 Component identification

Familiarize yourself with the main components of the gyroscopic stabilizer, shown in Fig. 4 on page 6.

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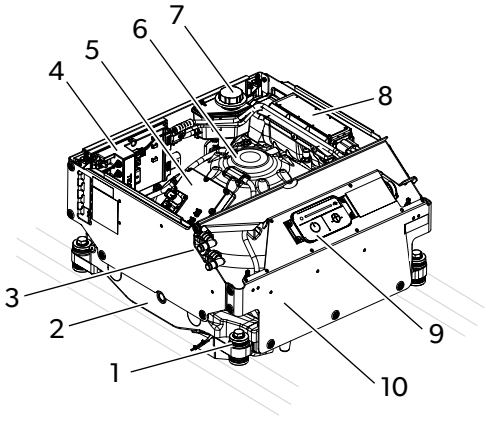

No.	Description
1	Mounting fastener (x4)
2	Frame assembly
3	Heat exchanger and raw-water connections to cooling system
4	GCU (gyro control unit)
5	HCU (hemisphere control unit)
6	Flywheel and spin motor (inside enclosure)
7	Coolant tank and fill cap
8	Precession actuator and PCU (precession control unit)
9	Touch pad (control panel)
10	Protective covers (five panels)

There are several accessory components that are part of the installed gyroscopic stabilizer system, shown in Fig. 5 on page 7.

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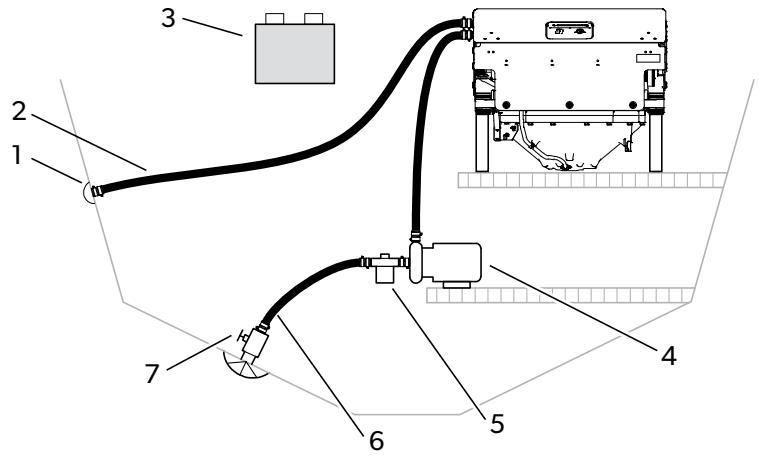


No.	Description	No.	Description
1	Raw water overboard drain	**5**	Raw water strainer
2	Raw water discharge hose	**6**	Raw water intake hose
3	Dedicated 48 V battery	**7**	Raw water seacock
4	Raw water pump		

8 Power requirements

The gyro has two power sources:

- House battery, 12 V or 24 V
- Dedicated battery, 48 V

House battery requirements

The gyroscopic stabilizer places added demand on the house power system. You will need to consider:

- Increased current draw. The gyro power consumption is listed in Technical data on page 26. Calculate the current draw of all components at maximum load and ensure the house battery has sufficient capacity.
- The run time on battery alone. The run time will depend on the capacity (in Ah) of the house bank and the average current draw of all connected devices. Divide the house bank capacity (Ah) by the total average current draw (A) to get an estimated run time.

The gyro configuration tool at qr.dometic.com/bg8d8d offers a power load worksheet that will help to properly size the house bank.

If the house bank can supply the required current, and the estimated run time will meet the owner's expectations, additional battery capacity is not needed. To ensure the best user experience, however, Dometic recommends you add battery capacity as shown in Table 1: Recommended additional battery capacity on page 8.

Capacity can be added in two ways:

1. Add to the existing house battery bank with the same battery chemistry.
2. Add an isolated bank specifically for the gyro. This will require another charging system.

NOTE Lithium battery chemistry is recommended. Lithium batteries provide a consistent voltage throughout the discharge cycle.

Table 1: Recommended additional battery capacity

Voltage	Additional battery capacity
12 V	200 Ah
24 V	100 Ah

WARNING! Risk of battery damage and/or fire

- If installing a lithium house battery, follow the manufacturer's requirements for charging systems. Failure to do so can result in battery damage, which can lead to a fire.
- Use only lithium batteries that comply with ABYC E-13, ISO 23625, or lithium battery standards adopted by your jurisdiction for marine use.

Dedicated 48 V battery

The gyro uses a dedicated 48 V battery to greatly reduce spin-up time, while not drawing from house power. The battery also reduces spin-down time by recapturing the flywheel's energy. The battery communicates to the gyro via the battery communication port on the gyro control unit (GCU).

NOTE

- Only use the provided battery — do not substitute
- Do not power any other devices from the dedicated battery.
- Mount as near to the gyro as possible (less than 20 ft (609.6 cm))
- Connect the battery as shown in Wiring and network connections on page 17

9 Planning and vessel preparation

9.1 Selecting the gyro installation location

The gyro installation location should be carefully selected with the following in mind:

- Access for installation and removal
- Access for maintenance
- Clearance for the sphere rotation zone
- Clearance above any standing water
- The spacing between stringers must meet the minimum requirement in the customer interface drawing
- The touch pad must be accessible to the operator
- The touch pad must face forward or aft
- The gyro location should include space for mounting the dedicated 48 V battery
- The gyro must be mounted aft of amidship

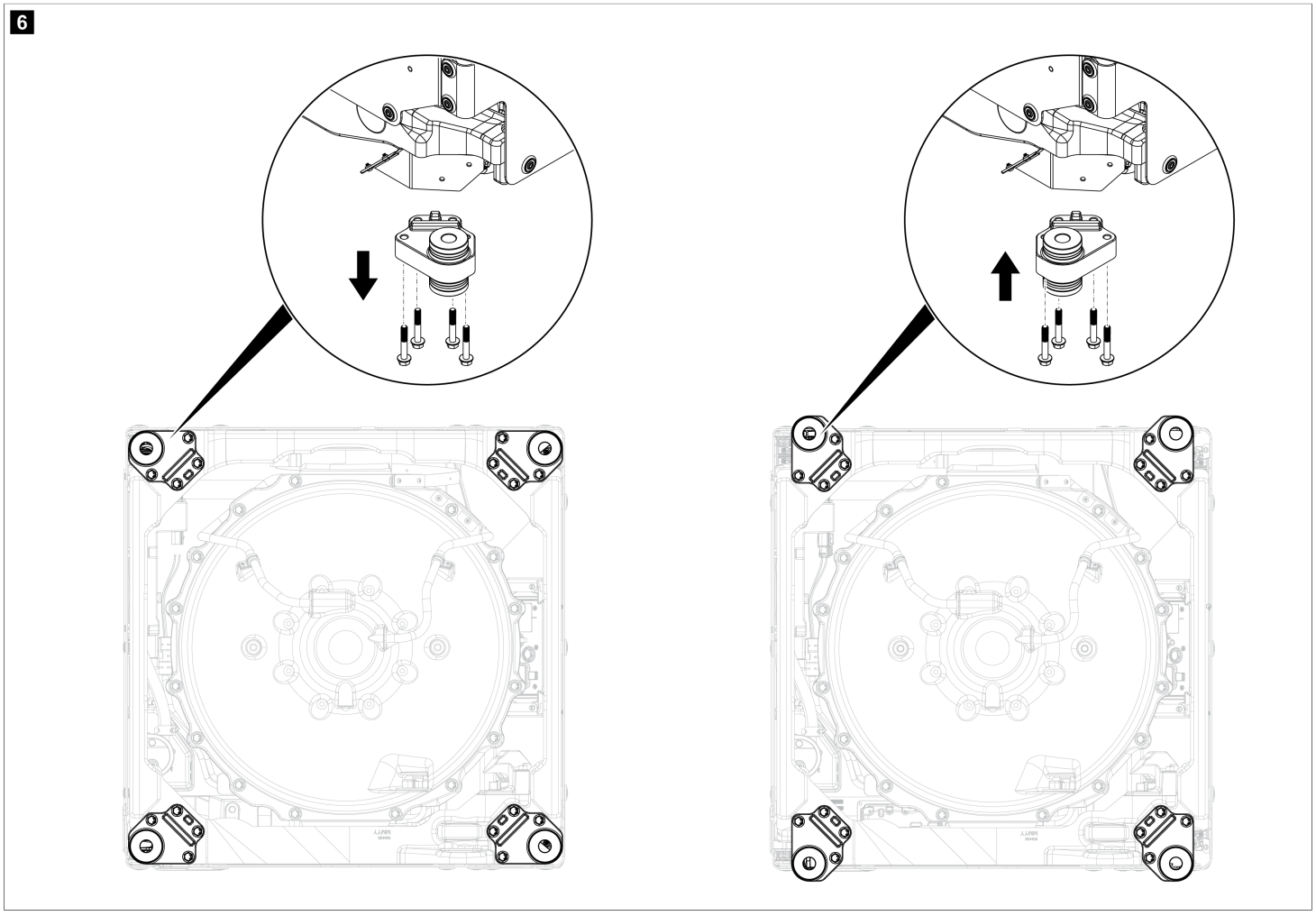
9.1.1 Alternate mounting pattern

The gyro offers an alternate, wider, mounting pattern from its crated footprint. If the alternate pattern is required:

1. Use the load spreader to lift the gyro a short height above the crate or mounting location. See Gyro installation on page 11 for lifting instructions.
2. Place sturdy wood blocks under three of the feet and under the frame member beside the fourth foot, taking care to keep them clear of any parts below the frame.
3. Slowly lower the gyro onto the blocks. Check that the gyro is well supported and stable. Add any extra support required.
4. Remove the four bolts holding the unsupported foot in place.
5. Turn the foot over, orient the alignment feature, and re-install. Torque the bolts to 30 Nm (22.13 ft·lb).
6. Repeat steps 1 to 5 for each foot.

NOTE The alternate mounting pattern does not need to be used for all four feet. Changing the foot orientation can be useful if one or more of the mounting holes is out of position.

6



9.2 Verification of the hull/stringer structure

WARNING! Risk of propery damage, injury, or death
The gyroscopic stabilizer exerts large forces on the boat's structure. Failure of the structure can cause damage to the boat and the gyro and may lead to detachment of the gyro from the boat's structure, which could lead to injury or death.
The structure to which the gyro is mounted must be confirmed to be of sufficient strength and structural integrity to withstand the forces exerted by the gyro.

NOTE Dometic is not responsible for verifying the structural integrity of the boat or stringer surface intended for the installation of the gyro.

NOTE Dometic is not responsible for any damage or injury caused by the failure to follow these guidelines.

For retrofit applications:

- Structural integrity calculations must be contracted by a third party. Resources are available through Dometic Application Engineering.
- Dometic recommends that the installer obtain a vessel survey to verify that the hull and electrical systems are in good working order before installing the gyro.

For new boats that are designed to accept a gyro:

- Verify that the mounting specifications are met and that the sphere rotation zone is not obstructed.
- Verify the installation holes have a minimum thread engagement of 25.4 mm (1 in) and proper thread pattern M16 x 2.0.

9.3 Thread insert installation

Aluminum structural members must be prepared with helical thread inserts (such as Heli-Coil®) for the gyro mounting bolts. Insert requirements:

- Thread: M16 × 2.0
- Length: minimum 25 mm
- Material: stainless steel

Tools required:

- Drill marking template, Dometic part no. 103026 (sold separately)
- Transfer punch, ¼ inch (you cannot use a metric equivalent with this template)
- Drill
- Vertical drilling fixture
- Drill bit (size per thread insert manufacturer)
- Thread tap (size per thread insert manufacturer)

Procedure:

1. Set the drill marking template in the intended mounting location. Clamp the template in place to prevent movement as you mark the hole locations.

   NOTE The template is designed for marking the standard mounting footprint. If you are using the alternate mounting pattern, you will need to plan and mark out the drill pattern manually.

2. Mark each hole location with the transfer punch.
3. Once the locations are marked, remove the template and check that the marks are not too close to the edge of the structural members. Observe the minimum dimension specified by the manufacturer of the threaded insert and adjust the template location if necessary.

   Tip: If you need to re-mark the locations, use a felt-tip marker to clearly indicate which marks you intend to use.

4. Before drilling, double-check the marked locations with the template.
5. Use a vertical drilling fixture to drill the holes to the minimum depth specified by the thread insert manufacturer. The holes must be perpendicular to the mounting surface.
6. Clean the holes of any debris.
7. Tap the holes to the size and depth required by the thread insert manufacturer.
8. Install the thread inserts per the manufacturer's instructions.

10 Gyro installation

DANGER! Risk of property damage, serious injury, or death
Lifting operations are dangerous. Failure to observe this warning may lead to a falling load, which may cause crush injuries and/or death.

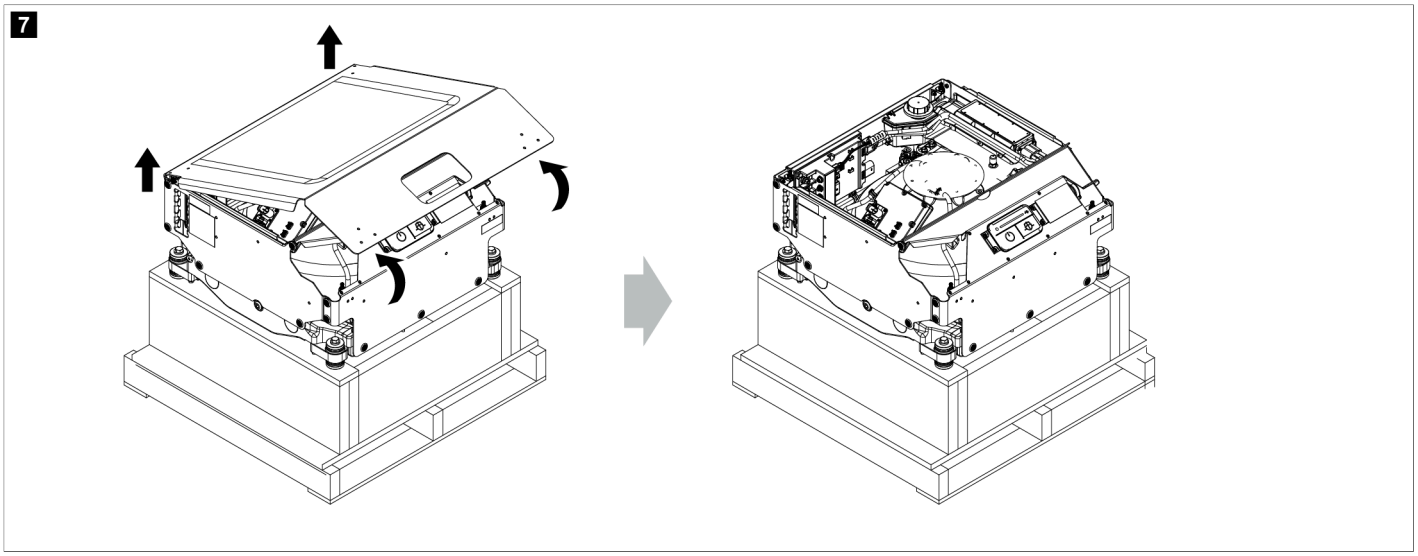
- Use only the recommended load spreader to lift the gyro.
- Check that the load spreader is securely fastened to the lift points on the gyro sphere.
- The hoist and lifting hook must be rated for the load listed on the load spreader.
- Inspect all lift equipment regularly. Replace any part that shows evidence of wear or damage.
- Keep all personnel clear of the load and the destination during lift operations.
- Never leave the load suspended while unattended.

WARNING! Risk of serious injury or death, structural damage, and equipment failure
The gyroscopic stabilizer uses high strength and specially coated fasteners for all structural components and throughout the device. Fasteners not supplied by Dometic may fail, which could result in the separation of the gyroscopic stabilizer from the boat, leading to damage to the boat, serious injury and/or death.

- Never substitute fasteners on the gyroscopic stabilizer.
- Any replacement of fasteners must be done by an authorized technician, using only Dometic-supplied fasteners.

Before you begin, make sure that the gyro installation location is clean, cleared of any debris, and ready to accept the gyro. Plan your lift and make sure the path is clear of any obstacles.

1. Remove the top cover of the gyro by pulling up the front two corners, then tilting the cover back to release the back sockets.



2. Attach the load spreader (Dometic part no. 103009) to the gyro with the supplied fasteners. Torque the fasteners to 16 Nm (141.61 in·lb).

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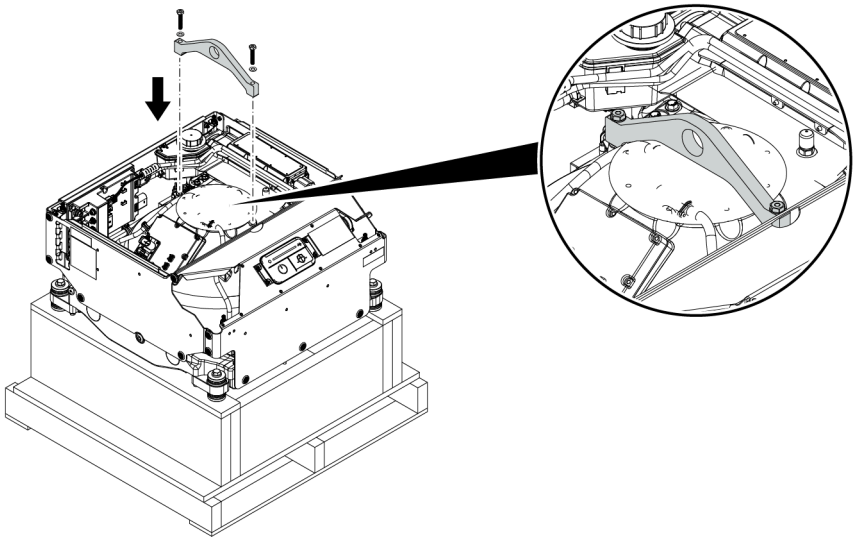
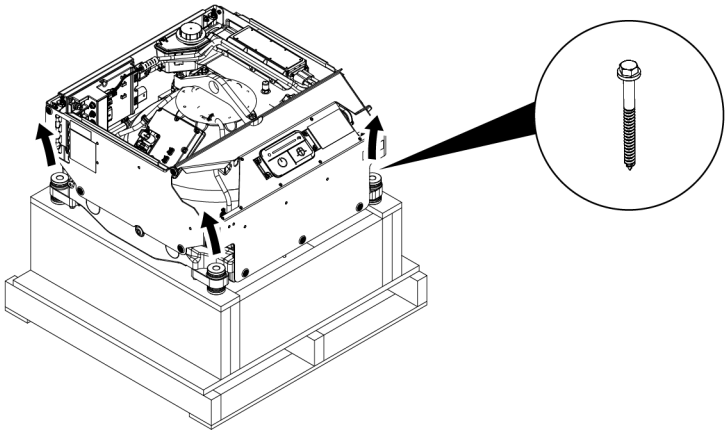


3. Attach an appropriately rated lifting strap or crane hook to the load spreader eyelet.
4. Remove the four bolts securing the gyro to the crate and discard. (Do NOT reuse the crate mounting hardware.)

9



5. Lift the gyro using appropriately rated lifting equipment.
6. Slowly lower the gyro onto the intended installation location. The touch pad can be used as a reference for alignment, and must face forward or aft when the gyro is installed.
7. Verify that all four mounting holes are aligned before removing the lifting equipment.
8. Remove the load spreader. Store the spreader and fasteners in a safe place for re-use.
9. Apply a marine-grade (metal free) anti-seize to the supplied M16 mounting bolts and install through the mounting feet with the supplied wedge-lock washers. Torque bolts to 183 Nm (134.97 ft·lb).

NOTE The wedge-lock washers come glued together in pairs. If the pair has separated in during shipping: each washer has cam faces on one side and serrations on the other. Install the washers so that the cam faces are oriented towards each other and nested together. You should not see any gaps between the cam faces before tightening the bolts.

10. At all four mounting feet, use a paint pen to draw a witness line across and down the fastener head, over the wedge-lock washer, to the mounting foot. The boat operator will use these witness marks to verify the fasteners are secure during pre-trip inspections.

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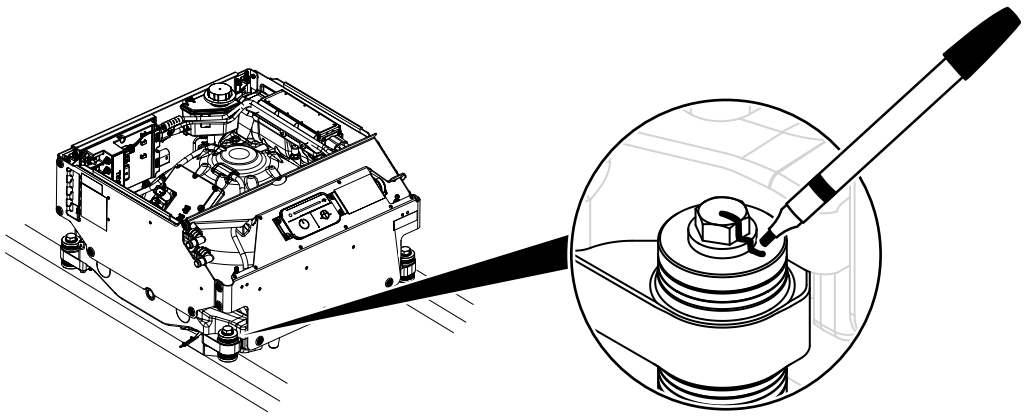
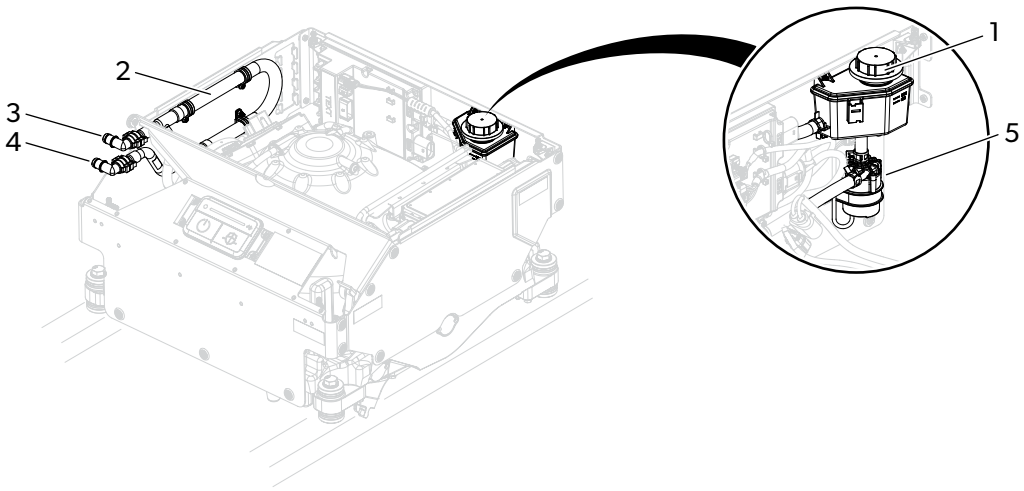


11 Raw water system installation

The gyro is shipped with the internal closed loop cooling circuit filled and ready for use. Only a quick confirmation of coolant level is required — if the coolant level is not within the MIN and MAX level marks, contact Dometic.

The external part of the cooling system — the raw water system — is installed separately and connected to the gyro heat exchanger. The following sections describe the planning and installation process for this system.

11



No.	Description	No.	Description
1	Coolant tank	**4**	Raw water inlet
2	Heat exchanger	**5**	Coolant pump
3	Raw water outlet		

11.1 Raw water system planning

NOTE Proper planning can save time and reduce the risk of damage to the gyro or boat. Please take the time to carefully review this section before purchasing and installing components in the raw water cooling system.

Overview

Identification of components and description of operation:

1. The raw water pump (**4**) draws cold raw water in through the intake thru-hull fitting (**9**) and the raw water seacock (**8**).
2. The water passes through the strainer (**6**) , which filters debris from the water.
3. The pump circulates the water through the gyro (**3**) heat exchanger, absorbing heat from the internal coolant loop.

4. The warm raw water is discharged from the overboard drain (**1**).

The arrows (**7**) and (**2**) illustrate the direction of water flow through the raw water coolant circuit.

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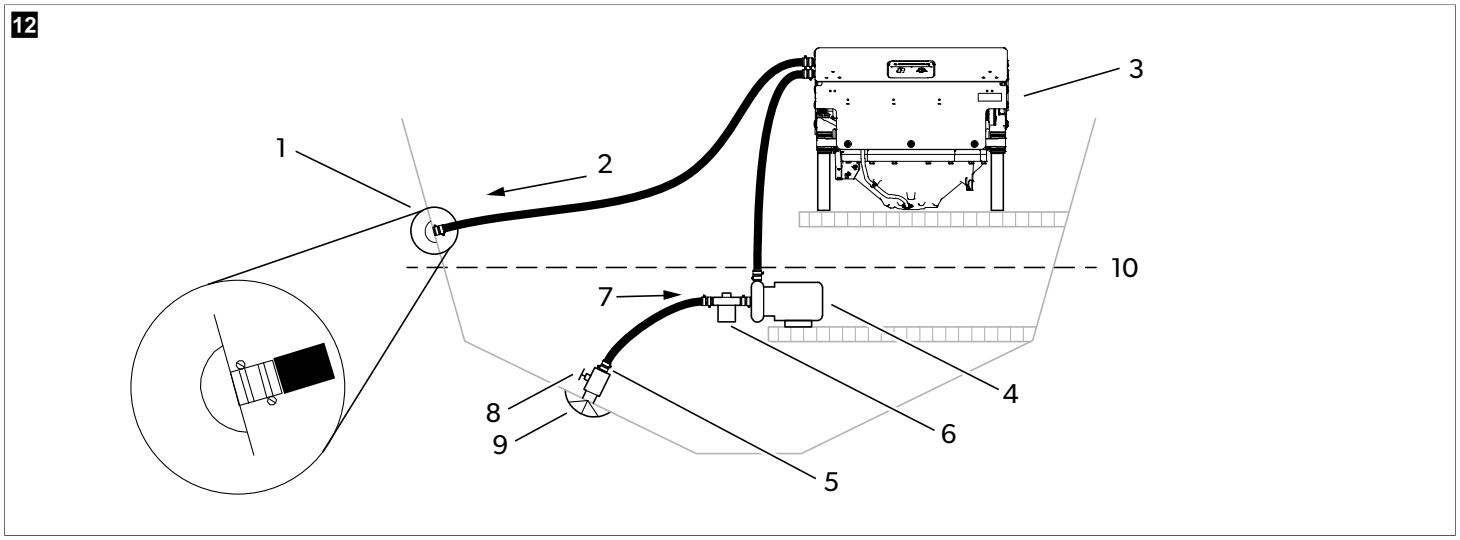

No.	Description	No.	Description
1	Raw water overboard drain	**7**	Cold raw water intake flow
2	Warm raw water discharge flow	**8**	Raw water seacock
3	Gyro	**9**	Intake thru-hull fitting
4	Raw water pump	**10**	Waterline
5	Hose clamps		
6	Raw water strainer		

Parts required

The Dometic gyro is supplied with:

- Raw water pump (**4**)
- Raw water strainer (**6**)
- Barbed quick disconnect fittings for hose connections to the heat exchanger

The installer must supply:

- One scoop-style thru-hull fitting, minimum ¾ in. nominal (**9**)
- One full flow seacock, minimum ¾ in. nominal (**8**)
- One overboard drain thru-hull fitting, minimum ¾ in. nominal (**1**)
- Reinforced marine hose, ¾ in. ID, length as required
- ¾ in. nominal barbed hose fittings as required
- Stainless steel hose clamps as required (**5**)
- Plumber's tape or liquid thread sealant as required

NOTE The metric equivalent to ¾ in. is DN20.

Optional: the installer may supply a larger strainer than the one supplied with the gyro. A larger strainer requires less frequent cleaning when the boat is operated in water with floating weeds and debris. If a strainer is supplied:

- Use a strainer with barbed fittings for ¾ in. hose
- The strainer should have a transparent bowl for easy visual inspection
- The strainer must be capable of the flow rate listed in Technical data on page 26
- If the boat requires regular winterizing, use a strainer with a top entry port for easy filling with antifreeze

Installation requirements

Consider the following when planning the installation and hose routing:

- Installation must comply with relevant ABYC, ISO, or other local standards.
- Use only reinforced marine hose.
- Hose connections below the waterline must be double clamped. Dometic recommends double clamping connections above the waterline as well.
- Hoses must not have kinks, loops, or high spots where air can become trapped.
- The hoses can exit either side of the gyro. See Hose routing and gyro connections on page 15
- The raw water pump must have a dedicated thru-hull or a dedicated connection to a sea chest.
- The raw water pump is self-priming and does not need to be mounted below the waterline.
- Install the intake thru-hull fitting as far below the waterline as possible.
- No fitting in the system should be smaller than the pump inlet.
- The strainer requires regular inspection and cleaning. Take note when choosing a mounting location.
- The overboard drain should discharge at, or just above, the waterline and towards the rear of the boat. This reduces spray while underway and minimizes visible watermarks on the boat.
- Avoid 90° elbow fittings as much as possible. Each elbow is equivalent to 76.2 cm (30 in) of hose and an elbow on the pump outlet is equivalent to 6 m (19.7 ft) of hose.
- Seal all threaded connections with plumber's tape or thread sealant.

WARNING! Risk of property damage, injury, or death

Failure of thru-hull fittings or incorrect installation of thru-hull fittings may lead to water ingress and the possible submersion of the vessel, leading to property damage, injury, or death.

- › Specify and install thru-hull fittings according to ABYC H-27, ISO 9093, or an equivalent standard adopted by your jurisdiction.
- › Use marine grade sealant designed for underwater use.
- › Follow the installation instructions provided by the thru-hull fitting manufacturer.

NOTICE! Non-warrantable property damage

- › Failure to follow these installation requirements may void the warranty.
- › Dometic is not responsible for any damage to the boat or gyro resulting from incorrect installation of any part of the raw water system.

11.1.1 Hose routing and gyro connections

Consider the following when planning and routing the gyro hose connections:

- Hoses can exit either side of the gyro, whichever works best for your installation.
- Use the provided quick connect fittings to attach the hoses to the heat exchanger.
- To reduce strain on the fittings, remove the quick connects from the heat exchanger in order to install the hoses.
- The quick connect fittings have a locking collet: slide the collet away from the heat exchanger to release the lock. Slide the collet toward the heat exchanger to lock the fittings in place.

NOTE The fittings must be locked before the gyro is put into service

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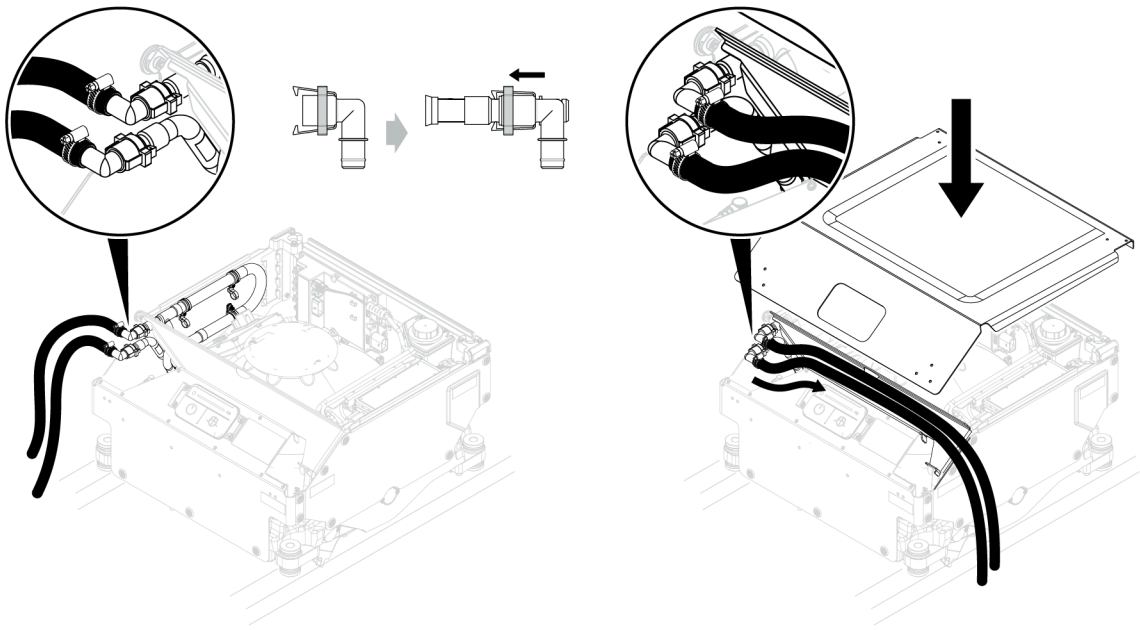

11.2 Installing the raw water system

WARNING! Risk of property damage, injury, or death

Failure of thru-hull fittings or incorrect installation of thru-hull fittings may lead to water ingress and the possible submersion of the vessel, leading to property damage, injury, or death.

- Specify and install thru-hull fittings according to ABYC H-27, ISO 9093, or an equivalent standard adopted by your jurisdiction.
- Use marine grade sealant designed for underwater use.
- Follow the installation instructions provided by the thru-hull fitting manufacturer.

NOTICE! Non-warrantable property damage

- Failure to follow these installation requirements may void the warranty.
- Dometic is not responsible for any damage to the boat or gyro resulting from incorrect installation of any part of the raw water system.

1. Install the intake thru-hull fitting as close to the keel and far below the waterline as possible.
2. Install the seacock to the intake thru-hull.
3. Install the overboard drain thru-hull fitting.
4. Install barbed hose fittings to the seacock and overboard drain.
5. Install the raw water pump.
6. Install the raw water strainer.
   a) Dometic-supplied strainer: mount the strainer directly to the raw water pump inlet.
   b) Installer-supplied strainer: mount the strainer according to the manufacturer's instructions. Make sure that the filter element and bowl are accessible for inspection and cleaning.
7. Install barbed fitting(s) to the strainer as necessary.
8. Make the hose connections. Slide four hose clamps over each hose before installing to the barbed fittings.
   a) Seacock to strainer inlet
   b) Strainer outlet to pump (not required if using the Dometic-supplied strainer)
   c) Pump to gyro heat exchanger (lower fitting)
   d) Heat exchanger (upper fitting) to overboard drain

9. Double-clamp all hose connections using two stainless steel clamps, reversing the clamps where possible.
10. Optional - if the vessel has a bonding system, connect all metallic parts in contact with raw water to the bonding system.

12 Wiring and network connections

Fig. 14 on page 17 shows the connections available on the Gyro Control Unit (GCU).

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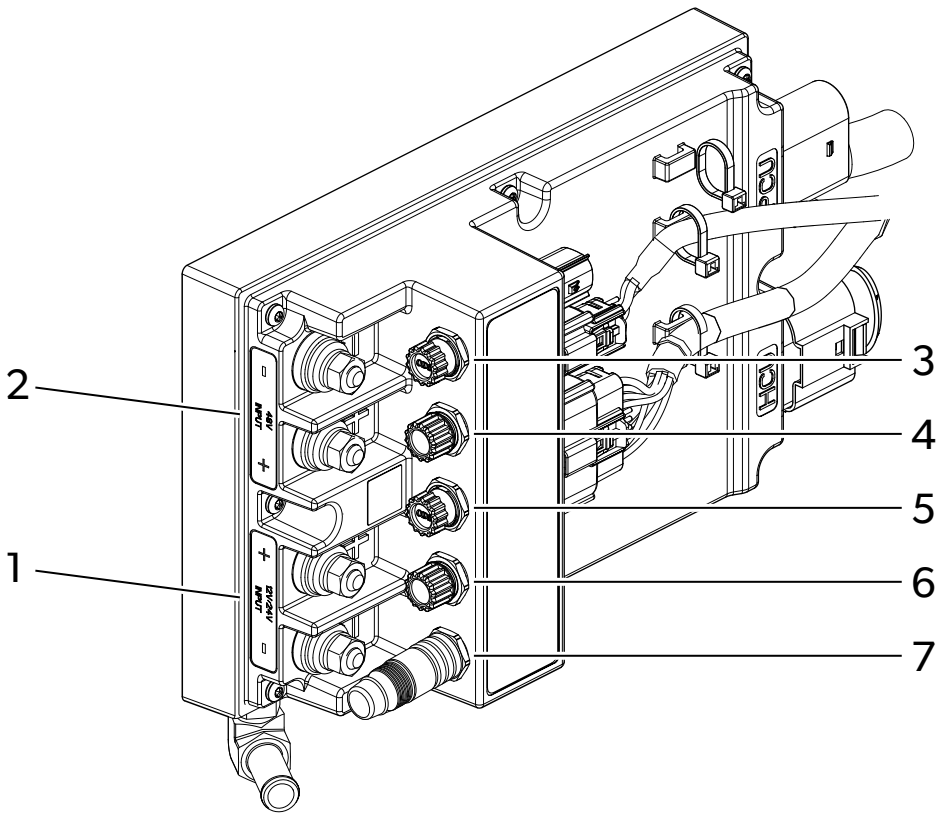

No.	Name	Description
1	12 V – 24 V input	House power terminals
2	48 V input	Dedicated 48 V battery terminals
3	Ethernet	Ethernet connection to MFD
4	Battery	Dedicated 48 V battery communication port
5	CAN 4	Diagnostic port
6	N2K	NMEA2000 network (for GPS and speed)
7	CAN 2	CAN 2 – Optimus Ride and Handling (future use). If CAN 2 is not used, the gyro ships with a pre-installed terminating resistor. Do not remove.

12.1 Planning the power wiring

Overview

Fig. 15 on page 18 shows the power connections to the gyro control unit (GCU).

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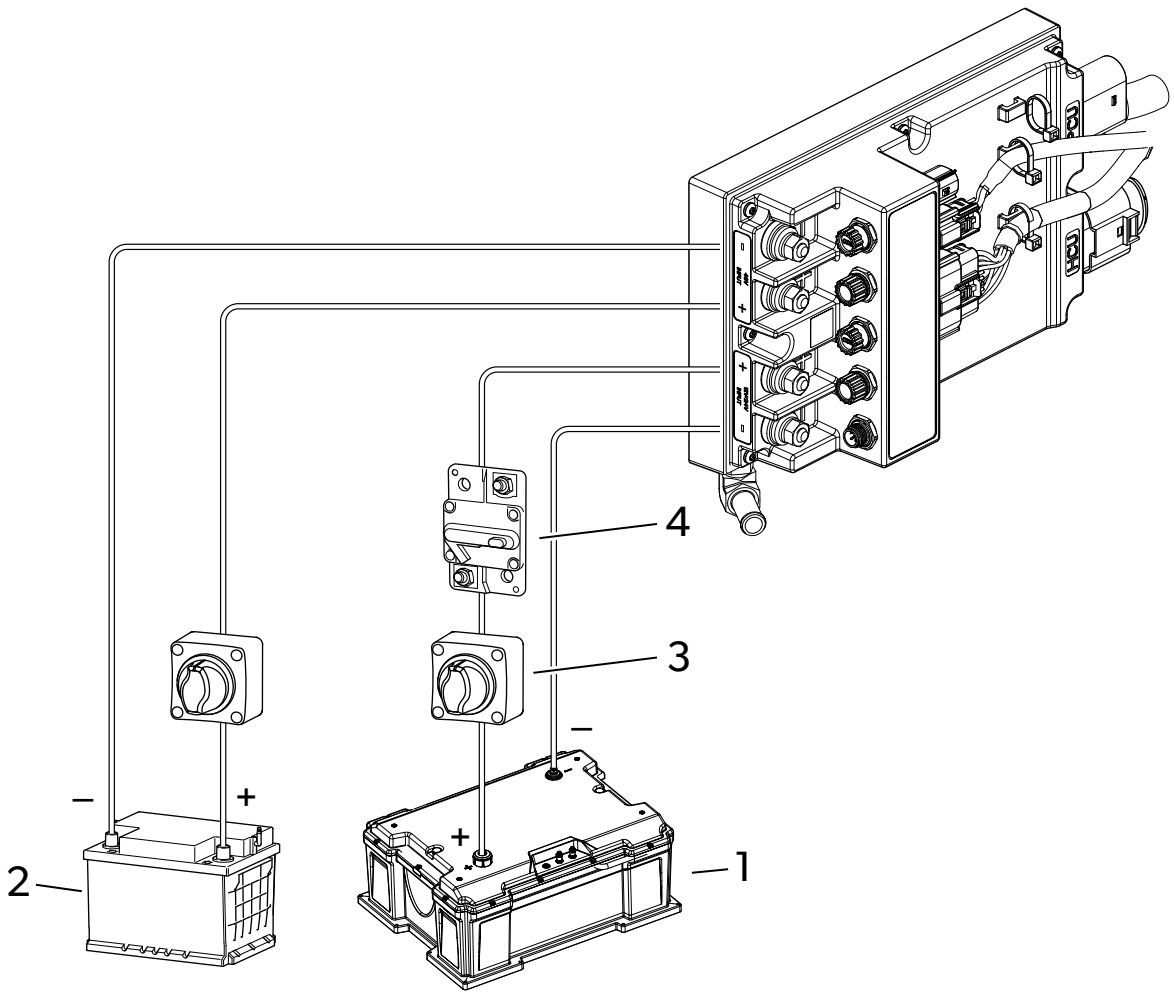


No.	Description	No.	Description
1	House battery bank	**3**	Battery switch
2	Dedicated 48 V battery	**4**	Circuit breaker

Parts required

WARNING! Risk of fire

› The house battery connection must be protected with a circuit breaker or fuse of an appropriate rating.

› The circuit breaker or fuse must be installed per ABYC E-11, ISO 13297, or an equivalent standard adopted by your jurisdiction.

NOTE The dedicated 48 V battery has integral overcurrent protection and a separate circuit breaker is not required.

NOTE ABYC E-11 requires a battery switch be installed inline on the dedicated 48 V battery. This switch should be left in the "on" position and should be used only as an emergency disconnect or while performing maintenance or service on the gyro.

The Dometic gyro is supplied with the dedicated 48 V battery (**2**) .

The installer must supply:

- House battery of sufficient capacity (**1**). See Power requirements on page 7
- Two marine battery switches rated for 48 V nominal, 300 A recommended (**3**)

- One marine circuit breaker (**4**), sized per Table 2: Required circuit breaker rating on page 19
- Marine wire/cable, sized per Table 3: House and dedicated 48 V battery connection wire gauges on page 19
- Wire lugs, ring terminals, and insulating boots as required

Table 2: Required circuit breaker rating

House battery voltage	Circuit breaker rating
12 VDC nominal	80 A
24 VDC nominal	40 A

Table 3: House and dedicated 48 V battery connection wire gauges

Wire length (one way distance)	**Minimum wire gauge**
12 VDC house	
1 ft (30.48 cm) – 10 ft (304.8 cm)	4 AWG (25 mm²)
10 ft (304.8 cm) – 17 ft (518.16 cm)	2 AWG (35 mm²)
18 ft (548.64 cm) – 22 ft (670.56 cm)	1 AWG (50 mm²)
23 ft (701.04 cm) – 30 ft (914.4 cm)	2/ 0 AWG (70 mm²)
24 VDC house	
1 ft (30.48 cm) – 10 ft (304.8 cm)	8 AWG (10 mm²)
10 ft (304.8 cm) – 20 ft (609.6 cm)	6 AWG (16 mm²)
20 ft (609.6 cm) – 30 ft (914.4 cm)	4 AWG (25 mm²)
48 VDC dedicated battery	
1 ft (30.48 cm) – 10 ft (304.8 cm)	8 AWG (10 mm²)
10 ft (304.8 cm) – 20 ft (609.6 cm)	6 AWG (16 mm²)

Installation requirements

Consider the following when planning the installation and wire routing:

- All wiring and power connections must comply with ABYC, ISO, or other standards adopted by your jurisdiction.
- Keep power wiring runs as short and direct as possible.
- ABYC E-11 and ISO 13297 require that the circuit breaker is installed within 7 in. (175 mm) of the power source. Some exceptions may exist — the installer is responsible for ensuring the installation meets the requirements.
- Use wire colors as required by the standard adopted by your jurisdiction.
- All wires should be strain-relieved to prevent stress on crimped or lugged connections.
- The house battery negative connection may be made to a negative bus but you must ensure the wire size from the bus to the battery is sufficient to handle the peak current of all devices connected to the bus.

WARNING! Risk of fire

Failure to follow these installation requirements may result in an electrical fire, which could cause injury or death, or damage to the gyro or boat.

› Follow the installation requirements described here and in the standards adopted by your jurisdiction.

› Dometic is not responsible for any damage to the boat or gyro resulting from power wiring installation that does not comply with these requirements.

12.2 Power connections

1. Use 5/16 in. (8 mm) lugs for the connection to the gyro control unit (GCU). Lug boots are not provided, but are recommended.
2. Connect the house power leads to the terminals of the GCU marked "12V/24V input."
3. Connect the dedicated 48 V battery leads to the terminals of the GCU marked "48V input."

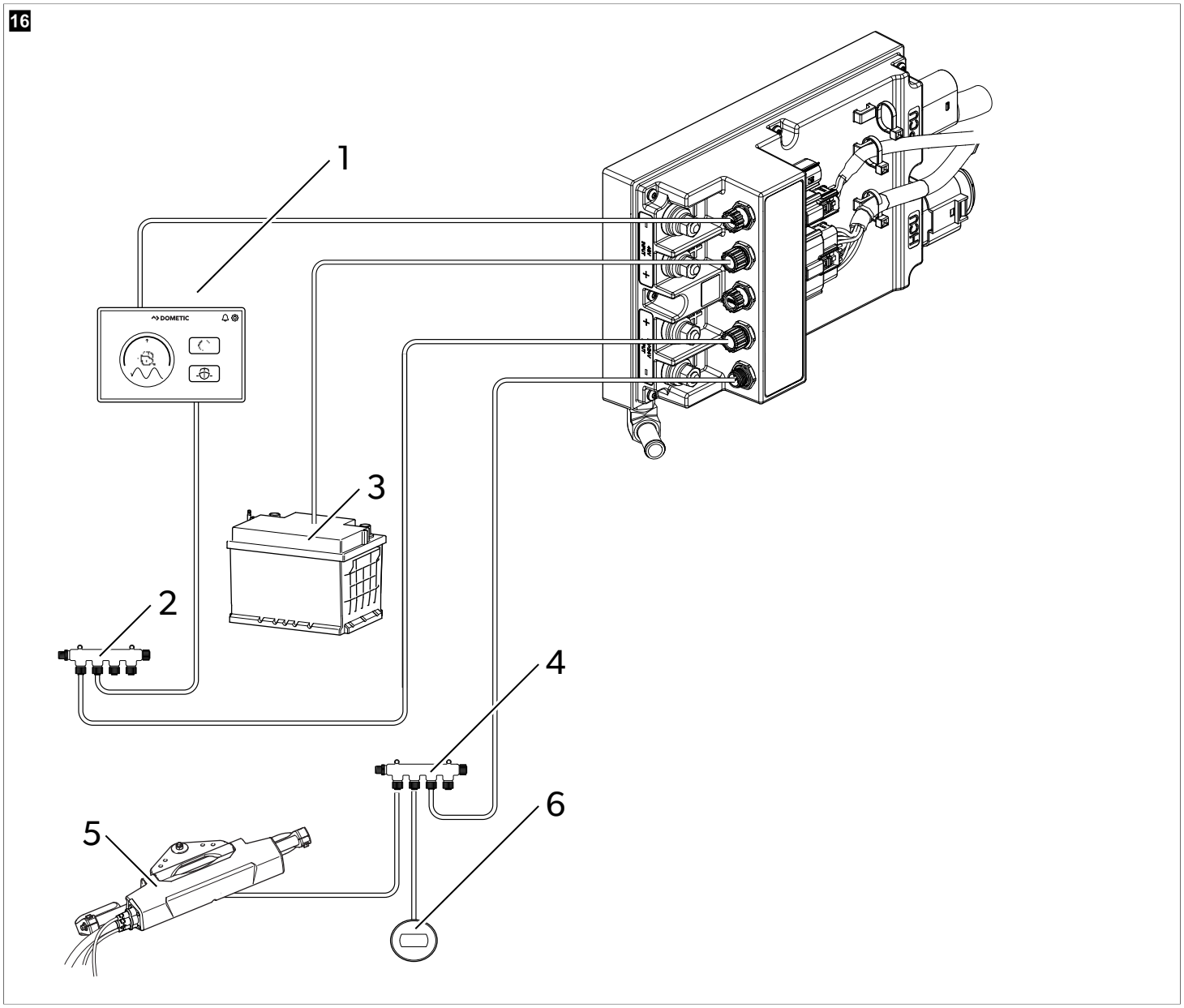
4. Tighten the nuts to the indicated torque on the GCU. (2.5 Nm – 3.5 Nm (22.13 in·lb – 30.98 in·lb)). Do not overtighten.
5. Use cable ties to secure the battery cables to the strain-relief tabs where the cables exit the gyro enclosure.

12.3 Network connections

Fig. 16 on page 20 shows the networks that connect to the GCU.
The ethernet and battery communications harnesses are available in different lengths to suit your installation. See Ethernet harnesses on page 21 and Battery communication harnesses on page 21 for available lengths.

› Check that you have the correct harness lengths.
› Route the harnesses from the GCU to their destination. Take care to protect the harness from physical damage, and secure the harness with tie-wraps at regular intervals.
› Harnesses must be strain-relieved at both ends to prevent stress on the connectors.

16



No.	Description
1	MFD (Ethernet cable may plug directly to MFD or to an ethernet hub)
2	NMEA2000 network hub

No.	Description
3	Dedicated 48 V battery
4	CAN 2 network hub (future integration; gyro ships with terminator installed in GCU port)
5	Optimus steering (future integration)
6	Adaptive trim tabs (future integration)

12.3.1 Ethernet harnesses

Table 4: Available ethernet harnesses

Length	Part number
3.7 m (12.0 ft)	CM42012
4.9 m (16.0 ft)	CM42016
6.1 m (20.0 ft)	CM42020
9 m (30.0 ft)	CM42030
15 m (50.0 ft)	CM42050

12.3.2 Battery communication harnesses

Table 5: Available battery communications harnesses

Length	Part number
1.8 m (6.0 ft)	CM41006
3.7 m (12.0 ft)	CM41012
4.9 m (16.0 ft)	CM41016
6.1 m (20.0 ft)	CM41020

12.4 Raw water pump connection

The raw water pump ships with a 2-pin connector pre-installed. Several harness lengths are available to connect the pump to the mating connector at the gyro.

Table 6: Raw water pump harnesses

Harness length	Part number
1.8 m (6.0 ft)	CM43006
3.7 m (12.0 ft)	CM43012
4.9 m (16.0 ft)	CM43016
6.1 m (20.0 ft)	CM43020
9.1 m (30.0 ft)	CM43030

1. At the pump, insert the harness plug into the mating connector until you hear a click.
2. Route the harness to the gyro. Take care to protect the harness from physical damage, and secure the harness with tie-wraps at regular intervals.
3. Connect the harness to the mating connector at the gyro.
4. Use tie-wraps to strain-relieve the harness connections at both ends.

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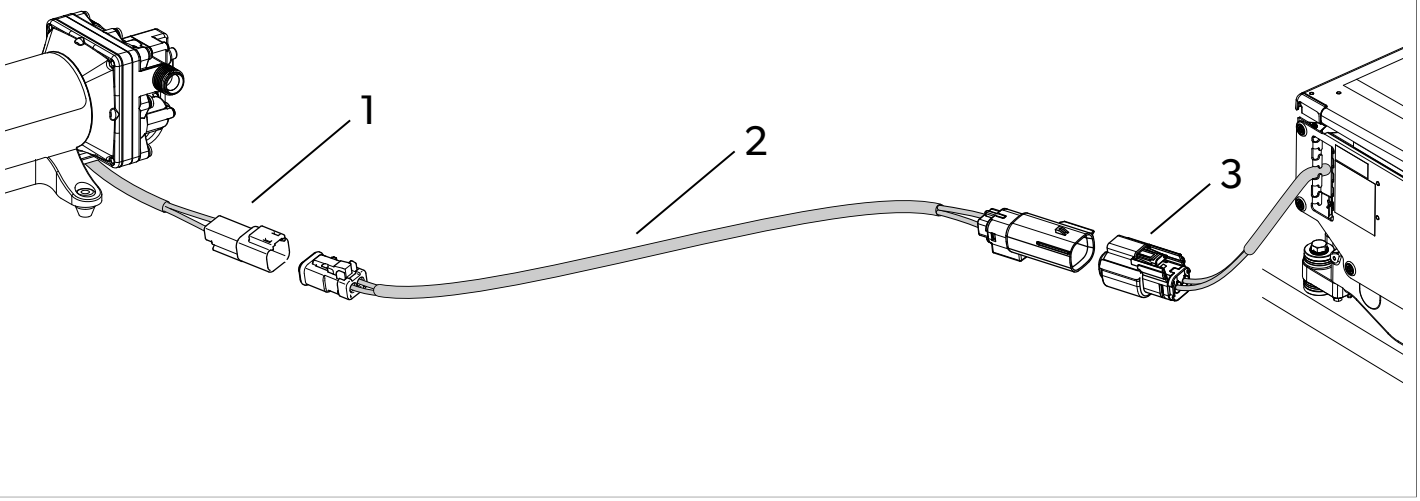

No.	Description	No.	Description
1	Pump connector	**3**	Gyro harness connector
2	Pump harness		

12.5 Trickle charge connection

The charge in the dedicated 48 V battery will drop during long-term storage. An optional connection can be made to trickle charge the battery from the house battery bank and ensure the gyro is operational when the boat is returned to use.

Notes:

- The trickle charger will draw about 500 mA to maintain the state of charge of the dedicated battery. Connect a battery charger to the house bank to prevent discharge of the house bank.
- You will need to supply a 3 A fuse and holder (or circuit breaker). An inline fuse holder is recommended.
- The trickle charge wire must be extended. The wire can be extended up to 20 ft (609.6 cm) with 16 AWG (1.5 mm^2) wire.
- Dometic recommends the use of sealed heat-shrink butt splices, such as Molex Perma-Seal. Non-sealed butt splices with adhesive-lined heat shrink tubing are also acceptable. The shrink tubing must extend at least 1 in (25.4 mm) past the end of the butt splice.

To install:

1. Cut the seal cap off of the trickle charger wire (orange).
2. Strip the charger lead wire and the extension wire according to the requirements of the butt splice manufacturer.
3. Splice the wires together with the butt splice and crimp per the manufacturer's instructions. Use a heat gun to heat-seal the butt splice or shrink tube.
4. Run the extension wire to a convenient always-on house connection (direct to the battery positive terminal, or to any always-on positive house bus on the boat).
5. Secure the extension wire within a rigging tube or tie-wrap the wire to existing rigging.
6. Install an inline fuse holder to the extension wire within 7 in. (175 mm) of the house bank connection (per ABYC E-11 and ISO 13297).
7. Connect the extension wire to the house connection with an appropriately sized terminal.
8. Label the extension wire at the house connection for identification.

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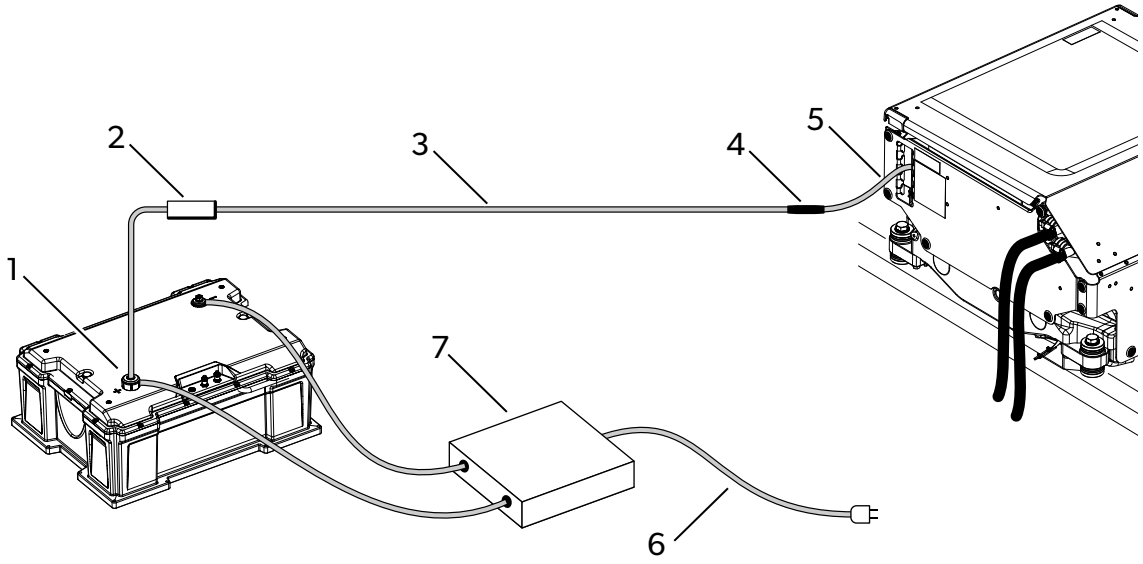

No.	Description	No.	Description
1	Always-on house positive connection	**5**	Wire from gyro harness
2	Fuse (3 A) and holder	**6**	AC power connection
3	Wire, 16 AWG (1.5 mm^2)	**7**	Battery charger
4	Butt splice and heat shrink tube		

12.6 Gyro bonding (optional)

If the boat has a bonding system, you can connect the gyro to the bonding bus using the bonding point on the gyro frame. The bonding point is located just below the cable entry point.

> Attach the bonding wire to the frame with a ring terminal and an M6-1.0 screw.

13 Commissioning and testing

NOTE

All gyros ship disabled and require commissioning by a trained OEM or dealer using the Dometic Service App. All gyros must be commissioned before delivery to the user.

13.1 Initial power up

Before you start, download the Dometic Service App onto a mobile device and log in to your registered dealer/OEM account. The app is available for iOS and Android devices.

1. Turn on battery switches for both the gyro and the dedicated 48 V battery.
2. Check that the circuit breaker on the house power to the gyro is in the ON position.

˅ The system power LED indicator on the touch pad comes on solid white.

3. Turn on the MFD used for the gyro interface. If there is more than one MFD, any of them can be used.
4. Find the Dometic Gyro icon on the MFD and touch to open.

˅ The gyro interface screen opens on the MFD. Refer to the operating manual for information about using the interface.

5. In the service app, press **`Search nearby systems`** then select the gyro.
6. From the service app dashboard, select **`Commissioning`** > **`Start a new form`**.
7. Follow the steps to enter the vessel details, complete the installation checklist, and enable the gyro.

NOTE All items in the checklist must be checked off before you can proceed. Take advantage of these prompts to thoroughly check the installation and ensure the best possible delivery experience for the boat owner.

8. Finally, press **`Submit/Mail`**.

˅ The information in the form will be transmitted to Dometic and the warranty period will begin.

13.2 Sea trial

Dometic recommends a sea trial of the boat to test the gyroscopic stabilizer before the boat is handed off to the owner. At minimum, place the boat in water and confirm that the gyro starts and spins up without any faults.

WARNING! Risk of property damage, injury, or death
Read and understand all operating instructions and warnings in the gyro operating manual before operating the gyro.

› Turn on all sources of power to the gyro.
› Press the power button on the MFD or the touch pad. Confirm that the gyro starts spinning.
› Proceed to an area away from the dock and other boat traffic while the flywheel speeds up. If there is an area that you know has waves or boat wakes, that is a good place to test.
› When the display indicates the flywheel is at full speed, press the stabilize button on the MFD or the touch pad.
› Check the stabilization function. You should hear the precession actuator rotating the gimbal and the boat should have very little roll. If the water is calm, run the boat in a circle and position the boat broadside to the wake, or find wakes from other boats.
› Turn the gyro off and confirm that the flywheel slows quickly. If the system is regenerating correctly the flywheel should stop less than twenty minutes.
› Return to port. If the system reports no faults, the gyro is successfully installed.

14 Troubleshooting

The first step when there is a problem with the gyro is to check the gyro control screen on the MFD. A yellow or red dot in the notification icon indicates that there is an active fault. Touch the icon to open the fault page to see a list of all active faults. In some cases, potential remedies are shown with the fault.

Listed here are some common problems you may see with the gyro and some suggested remedies. If the remedies do not resolve the problem, take the boat to an authorized service facility for diagnosis and repair.

Problem	Possible cause	Suggested remedy
Gyro user interface is not available on the MFD	No house power to gyro.	Check that the gyro touch pad's system power LED indicator is on. If the LED is not on, check that the battery switch(es) and circuit breaker(s) are on.
	Ethernet cable is not connected.	Check that the ethernet cable is connected at the MFD or ethernet hub (if your boat is so equipped). With the gyro off and the house battery and 48 V battery switches in the off position, remove the top cover and check that the connector plugged into the GCU receptacle labeled "Ethernet" is fully seated.
Can't start the gyro	No house power to gyro.	Check that the gyro touch pad's system power LED indicator is on. If the LED is not on, check that the house battery switch and circuit breaker are on.
	No power from dedicated 48 V battery.	Check that the 48 V battery switch is on. Check the fuse on the 48 V battery. Do not attempt to replace a blown fuse. Take the boat to an authorized service facility for analysis.

Problem	Possible cause	Suggested remedy
House battery low voltage fault	House battery is not charging.	Make sure at least one engine is running. Check that the battery charging system is working, and that there are no loose connections in the charging circuit.
	House battery is not able to take a charge.	Have a marine technician test the battery.
Dedicated 48 V battery low voltage fault	Dedicated 48 V battery is not charging.	The battery is charged by the regenerative braking of the flywheel when the gyro is turned off. Make sure the 48 V battery switch is left in the on position when stopping the gyro so that the battery can recharge. Check that the connections between the gyro and the battery are not loose.
Gyro overheat fault	Raw water strainer is clogged.	Clean the raw water strainer.
	Raw water seacock is closed.	Open the seacock.
	Raw-water pump is not working.	Check that the pump is discharging water from the overboard outlet in the hull. If no water is coming out, seek service from a qualified marine technician.

15 Warranty

Refer to the sections below for information about warranty and warranty support in the US, Canada, and all other regions.

United States and Canada

Limited warranty available at qr.dometic.com/bfneEw.

If you have questions or to obtain a copy of the limited warranty free of charge, contact:

```
DOMETIC CORPORATION VANCOUVER
3831 NO. 6 ROAD
RICHMOND, BC, CANADA  V6V 1P6
1-800-730-4082
marinesupport@dometic.com
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Australia and New Zealand

Limited warranty available at qr.dometic.com/bfnePC. If you have questions or to obtain a copy of the limited warranty free of charge, contact:

```
DOMETIC AUSTRALIA PTY LTD
1 JOHN DUNCAN COURT
VARSITY LAKES, QLD, 4227
1800-212-121

DOMETIC NEW ZEALAND LTD
373 NEILSON STREET
PENROSE, AUCKLAND, 1061
+64 9 622 1490
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Australia only

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. The benefits provided to you as the consumer by this warranty are in addition to other rights and remedies available to you under the law.

New Zealand only
This warranty policy is subject to the conditions and guarantees which are mandatory as implied by the Consumer Guarantees Act 1993(NZ).

Local support
Please find local support at the following link address: dometic.com/dealer

All other regions
The statutory warranty period applies. If the product is defective, please contact the manufacturer's branch in your country (see dometic.com/dealer) or your retailer.

For repair and warranty processing, please include the following documents when you send in the device:

- A copy of the receipt with purchasing date
- A reason for the claim or description of the fault

Note that self-repair or nonprofessional repair can have safety consequences and might void the warranty.

16 Technical data

Mechanical	
Operating speed	4700 rpm
Angular momentum at operating speed	3000 Nm-s
Max stabilizing torque at operating speed	8000 Nm
Spin-up time to operating speed	16.5 minutes
Spin-up time to minimum stabilizing speed	9.5 minutes (2720 rpm)
Spin-down time	16.5 minutes with regeneration
Weight	580 lb (263.04 kg)
Envelope dimensions (L × W × H)	27.3 in (693.4 mm) × 27.3 (693.4) × 23 (584.2)
Dedicated 48 V battery (L × W × H)	10.2 in (259.1 mm) × 7.1 (180.3) × 10.8 (274.3)
Raw water supply to heat exchanger	2 (7.57) – 6 gpm (22.71 L/min)
Coolant	50/50 mixed long life automotive antifreeze (ethylene glycol based)
Electrical	
Operating power	250 – 750 W (depends on sea state)
DC power input	12 – 24 V ⎓ (nominal) with polarity protection and voltage auto-detection
Environmental	
Operating temperature	32°F (0°C) – 140°F (60°C)
Water ingress protection	IP67
Noise level, idle	72 dB
Radio devices	
Bluetooth declaration ID	D059143
FCC ID	2AC7Z-ESPS3WROOM1
IC certification number	21098-ESPS3WROOM1

16.1 Torque specifications
For reference, listed below are the torque specifications for select fasteners in the DG3 gyroscopic stabilizer.

WARNING! Risk of serious injury or death, structural damage, and equipment failure

The gyroscopic stabilizer uses high strength and specially coated fasteners for all structural components and throughout the device. Fasteners not supplied by Dometic may fail, which could result in the separation of the gyroscopic stabilizer from the boat, leading to damage to the boat, serious injury and/or death.

- Never substitute fasteners on the gyroscopic stabilizer.
- Any replacement of fasteners must be done by an authorized technician, using only Dometic-supplied fasteners.

Fastener	Torque specification
GCU power connection terminal nuts, M8, 13 mm hex	3 Nm (26.55 in·lb) ± 0.5 Nm (4.43 in·lb)
Gyro mounting bolts, M16, 24 mm hex	183 Nm (134.97 ft·lb) ± 7 Nm (61.96 in·lb)
Mounting feet to frame, M8, 13 mm hex	30 Nm (22.13 ft·lb) ± 2 Nm (17.70 in·lb)
Panel captive screws, M6, 5 mm hex key	3 Nm (26.55 in·lb) ± 0.3 Nm (2.66 in·lb)
All Torx T20 screws	2.2 Nm (19.47 in·lb) ± 0.1 Nm (0.89 in·lb)
All Torx T25 screws	5 Nm (44.25 in·lb) ± 0.2 Nm (1.77 in·lb)

DOMETIC

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dometic.com/dealer	**dometic.com/contact**	**dometic.com/sales-offices**

4445104757 Rev. A 2025-07-31

A complete list of Dometic companies, which comprise the Dometic Group, can be found in the public filings of:
DOMETIC GROUP AB • Hemvärnsgatan 15 • SE-17154 Solna • Sweden