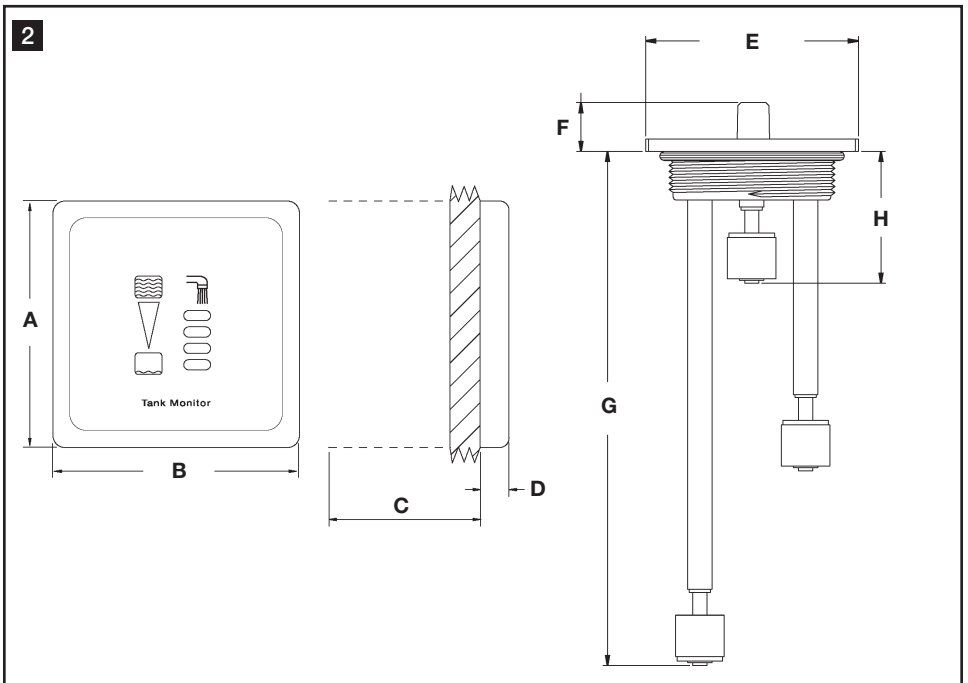
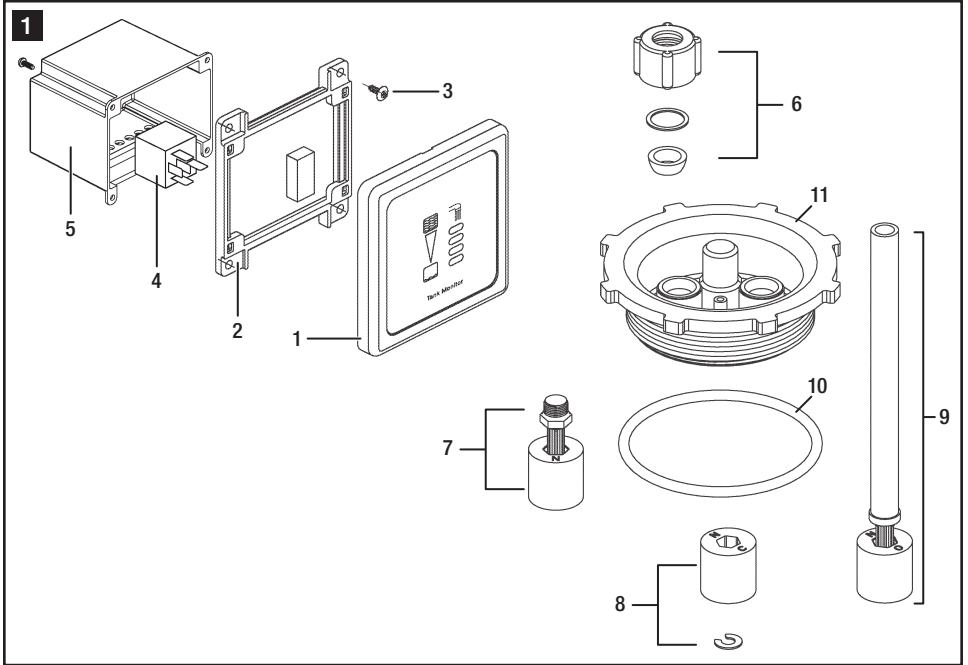
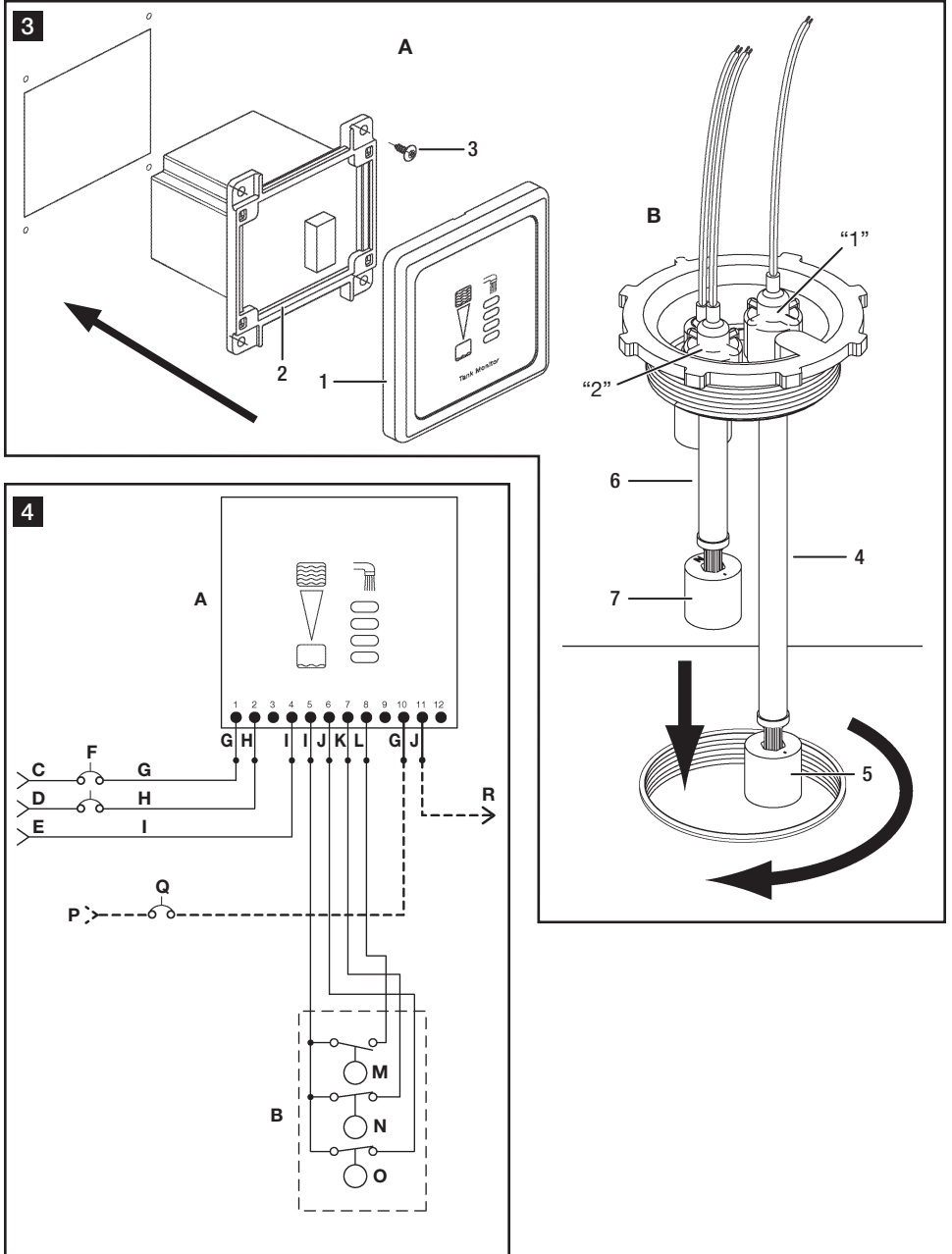




DTMF04
Freshwater
Tank Monitor



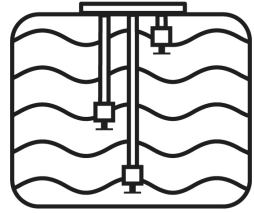
Dometic Freshwater Tank Monitor



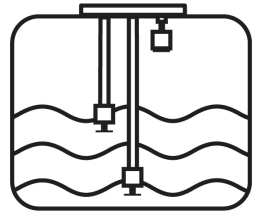
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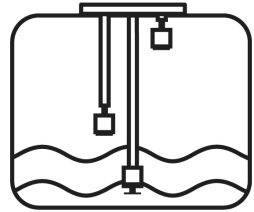
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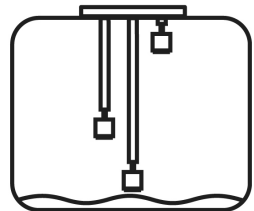
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3



4



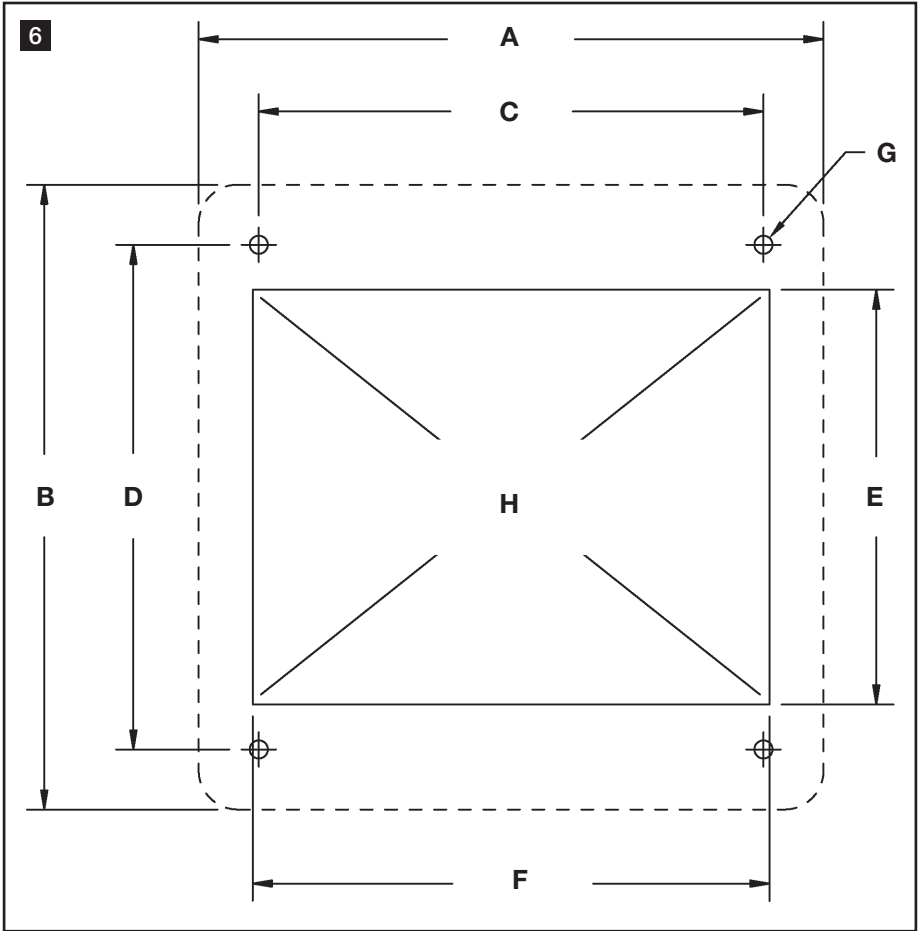


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1 Notes on using the manual



Caution!

Safety Instruction: Failure to observe this instruction can cause material damage and impair the function of the device.



Note

Supplementary information for operating the device.

fig. **2** A, page 2 : This refers to an element in an illustration. In this example, item A in figure 2 on page 2.

2 General safety instructions

The manufacturer will not be held liable for claims for damage resulting from the following:

- Faulty installation or connection
- Damage to the unit from mechanical influences, misuse or abuse
- Alterations to the unit without express written permission from the manufacturer
- Use for purposes other than those described in this manual

3 Intended use

3.1 OPTION 1: DTMF04 tank monitor

DTMF04 Freshwater Tank Monitor provides electronic monitoring of the liquid level inside a freshwater tank. Three float switches in the tank activate a set of four lights on an indicator panel. The lights indicate Empty, Low, Mid and Full levels. The Full level indicates when the liquid level is within 51 mm (2 in.) of the top of the tank. The other float switches are connected to adjustable probe stems which can be positioned according to the tank height and the desired indicator panel readings.

3.2 OPTION 2: DTMF04 tank monitor with “Empty Tank” shut-down relay

When the optional “Empty Tank” Shut-down Relay (available separately) is connected to the DTMF04 panel, and the tank reaches the Empty level, the relay shuts off power to the freshwater pump. This prevents the pump from running when the tank is dry, which could lead to pump burn-out and damage. The relay handles a maximum electrical current of 30 amps.

3.3 Features

“Power on” indicator. One Tank Monitor panel light is always lit to assure system operation.

Long-lasting, foul-proof tank probes. Semi-flexible probe stems move with tank contents to reduce stress. Integral sensor delay prevents false readings.

Probe cap fits freshwater tanks equipped with 76 mm (3 in.) NPT opening in top of tank. For tanks up to 56 cm (22 in.) deep. Flexible probes can be adjusted to fit many tank sizes.

12 or 24 V DC operation.

4 Components (fig. 1, page 2)

Ref	Description	Item Number (North America / Europe)
1	DTMF04 panel cover - black DTMF04 panel cover - white	385311664 / 860003853116641 385311665 / 860003853116658
2	DTMF04 circuit panel/mounting frame	385311666 / 860003853116666
3	#6 fastener	385311612 / 860003853116120
4	“Empty Tank” shut-down relay (available separately)	385311579 / 860003853115791 – 12 V DC 385311580 / 860003853115809 – 24 V DC
5	Circuit panel housing	385311616 / 860003853116161
6	Compression nut kit	385310258 / 860003853102583
7	Float/stem kit	385230268 / 860003852302689
8	Float/lock ring kit	385311103 / 860003853111030
9	Flexible probe kit	385230930 / 860003852309304
10	O-ring	385311250 / 860003853112509
11	Probe cap/O-ring kit with vent Probe cap/O-ring kit without vent	385311671 / 860003853116716 385311617 / 860003853116179

5 Specifications

5.1 Materials

Panel frame and mounting frame: ABS
Probe cap: PVC

Panel surface: Polycarbonate resin
Floats: Nitrile rubber ebonite

5.2 Electrical Current Draw

System Voltage		Amp
12 V DC	without shut-down relay	0.008
	with shut-down relay	0.145
24 V DC	without shut-down relay	0.004
	with shut-down relay	0.090

Circuit breaker or fuse required for DTMF04 panel:
1 amp

Maximum shut-down relay rating for freshwater pump:
30 amps

Specifications subject to change without notice.

5.3 Dimensions (fig. 2, page 2)

Ref.	Dimension
A	83 mm / 3.25 in.
B	83 mm / 3.25 in.
C	51 mm / 2 in. clearance behind wall
D	10 mm / 0.38 in.

Ref.	Dimension
E	111 mm / 4.375 in.
F	25 mm / 1.0 in. (if applicable)
G	527 mm / 20.75 in.
H	69 mm / 2.75 in.

5.4 Approvals

ISO 8846; EMC Directive 2004/108/EC; CE approved for electromagnetic compatibility

6 Installation

6.1 Tank Monitor Panel (fig. 3 A, page 2)



Caution!

Do not install DTMF04 panel in an atmosphere with potentially flammable or explosive vapors.

1. Select panel location away from direct contact with water and oil.
2. Confirm clearance for wire connections behind wall, hull liner or bulkhead.
3. Using control panel template (fig. 6, page 5), cut out panel access hole (E, F) and drill fastener holes (G).
4. With electrical power off, route 18-gauge stranded copper wire from power source, through circuit breaker or fuse (not provided), to panel location. Route additional wire according to diagram (fig. 4, page 3 – see wiring diagram key below), depending on your application, to panel location. Make sure wires extend out through access hole.
5. Make proper wiring connections to wires extending from bottom of circuit panel (fig. 3 A 2, page 3).
6. Remove panel cover (fig. 3 A 1, page 3) from circuit panel/mounting frame (A 2), if necessary, by carefully pulling them apart.
7. Install mounting frame to wall with four fasteners (fig. 3 A 3).
8. Push panel cover onto mounting frame until it locks.

DTMF04 Panel Template Dimensions (fig. 6, page 5)

Ref.	Dimension
A	83 mm / 3.25 in.
B	83 mm / 3.25 in.
C	67 mm / 2.63 in.
D	67 mm / 2.63 in.
E	55 mm / 2.16 in.
F	68 mm / 2.69 in.
G	2 mm / 0.10 in. dia.
H	Cut-out area. Allow 51 mm / 2 in. clearance behind wall.

6.2 “Empty Tank” Shut-down Relay (optional accessory) (fig. 1 4, page 2)

1. At step 4 (above), route and connect 14-gauge stranded copper wires according to wiring diagram (fig. 4, page 3) and wiring diagram key (see section 6.4).
2. Remove circuit panel housing from circuit panel (fig. 1 5, page 2), and insert “Empty Tank” shut-down relay into receptacle on back of circuit panel. Re-attach circuit panel housing.

6.3 Probe Cap (fig. 3 B, page 2)



Caution!

Do not install probe cap in fuel tank. Never install Dometic probe cap with float switches into a tank that contains anything other than fresh water, gray water or waste water.

- Loosen compression nuts on adjustable probes and install probe cap into tank. Following numbers printed on top of probe cap, slide the “1” probe (fig. 3 B 4, page 3) down until the float touches the bottom of the tank. Tighten “1” compression nut and mark the probe tube at the top of the nut. **Do not cut** the probe tube at this mark. Loosen the compression nut, slide the probe up, and carefully cut the “1” probe tube 42 mm (1.625 inches) below the mark without damaging the wires inside the tube. Pull the wires through the black wire cover and push the probe down into the compression nut until the black wire cover touches the compression nut. The recessed shoulder of the float, or the letters “NO”, should be facing down (B 5).
- Remove probe cap from tank and adjust the “2” probe (fig. 3 B 6, page 3) for one-half full level for freshwater tank. Tighten the compression nut and cut the probe tube off 10 mm (0.375 inch) above the compression nut without damaging the wires. Slip the black wire cover onto the top of the tube. The recessed shoulder of the float, or the letters “NO”, should be facing down (B 7).
- Route 18-gauge stranded copper wires from monitor panel and DC ground source to the probe cap. Use quick-disconnect terminals on float switch wires to prevent twisting wires when removing the cap. With cap removed from tank, connect the wires according to the wiring diagram (fig. 4, page 3), turn on electrical power to system, and test the floats by moving them up and down and monitoring the DTMF04 panel. Disconnect the wires and install the probe cap and O-ring into the tank. Reconnect the wires.

6.4 Key to DTMF04 system wiring (fig. 4, page 3)

Ref.	Description
A	DTMF04 indicator panel
B	Freshwater tank
C	12 V DC
D	24 V DC
E	V DC ground
F	1-amp circuit breaker or fuse
G	Red
H	Blue
I	Black
J	Green

Ref.	Description
K	Yellow
L	Orange
M	Full level probe
N	Mid level probe
O	Low/Empty level probe
P	12 or 24 V DC
Q	Water pump circuit breaker or fuse
R	+ V DC to freshwater pump

Notes:

- Dashed line indicates 14 gauge or larger stranded copper wire is required.
- Other wire can be 18 gauge stranded copper wire or larger.

7 Operation

7.1 OPTION 1: DTMF04 tank monitor only (fig. 5, page 4)

1. When contents inside freshwater tank rises to the highest level float switch (1), the green “Full” indicator light of the Dometic Tank Monitor panel is on.
2. When tank contents drops below the highest level float switch (2), but is above the middle level float switch, the yellow “Mid” light turns on, and the “Full” light turns off.
3. When tank contents drops below the middle level float (3), but is above the lowest level float switch, the amber “Low” light turns on, and the “Mid” light turns off.
4. When tank contents drops to the lowest level float (4), the red “Empty” light turns on, indicating that the tank needs refilled with water. The water pump should not be used until the freshwater tank is refilled to avoid potential damage that may occur to the pump.

7.2 OPTION 2: DTMF04 tank monitor with “empty tank” shut-down relay (fig. 6, page 4)

1. When the Dometic Freshwater Tank Monitor panel reads “Empty” (4), electrical power to the water pump will be automatically turned off to prevent possible damage to the pump.
2. Electrical power is restored to the water pump when the “Empty” level indicator light turns off during refill of the freshwater tank.

8 Warranty and product liability

North America

Manufacturer’s One-Year Limited Warranty

Dometic Corporation warrants to the original purchaser only that this product, if used for personal, family or household purposes, is free from defects in material and workmanship for a period of one year from the date of purchase.

If this Dometic product is placed in commercial or business use, it will be warranted to the original purchaser only to be free of defects in material and workmanship for a period of ninety (90) days from the date of purchase.

Dometic reserves the right to replace or repair any part of this product that proves, upon inspection by Dometic, to be defective in material or workmanship. All labor and transportation costs or charges incidental to warranty service are to be borne by the purchaser-user.

EXCLUSIONS

IN NO EVENT SHALL DOMETIC BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, FOR DAMAGES RESULTING FROM IMPROPER INSTALLATION, OR FOR DAMAGES CAUSED BY NEGLIGENCE, ABUSE, ALTERATION OR USE OF UNAUTHORIZED COMPONENTS. ALL IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, ARE LIMITED TO A PERIOD OF ONE YEAR FROM DATE OF PURCHASE.

IMPLIED WARRANTIES

No person is authorized to change, add to, or create any warranty or obligation other than that set forth herein. Implied warranties, including those of merchantability and fitness for a particular purpose, are limited to one (1) year from the date of purchase for products used for personal, family or household purposes, and ninety (90) days from the date of purchase for products placed in commercial or business use.

OTHER RIGHTS

Some states do not allow limitations on the duration of an implied warranty and some states do not allow exclusions or limitations regarding incidental or consequential damages; so, the above limitations may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

To obtain warranty service, first contact your local dealer from whom you purchased this product or go to <http://www.dometic.com> for a dealer near you.

Europe:**Warranty and Customer Service**

Warranty arrangements are in accordance with EC Directive 44/1999/CE and the normal conditions applicable for the country concerned. For warranty or other service, please contact our Dometic Service department listed elsewhere in this manual. Any damage due to improper use is not covered by the warranty.

The warranty does not cover any modifications to the product or the use of non-original Dometic parts; the warranty does not apply if the installation and operating instructions are not adhered to and no liability shall be entertained.

Product Liability

Product liability of Dometic Group and its subsidiary companies does not include damages which may arise from: faulty operation; improper alterations or intervention in the equipment; adverse effects from the environment which may impact the equipment itself or the direct vicinity of the equipment or persons in the area.

To obtain warranty service, first contact your local dealer from whom you purchased this product or go to <http://www.dometic.com> for a dealer near you.

9 Customer service

There is a strong, worldwide network to assist in servicing and maintaining your toilet system. For the Authorized Service Center near you, please call from 8:00 a.m. to 5:00 p.m. (ET) Monday through Friday.

You may also contact or have your local dealer contact the Parts Distributor nearest you for quick response to your replacement parts needs. They carry a complete inventory for the Dometic product line.

Telephone:	1 800-321-9886	U.S.A. and Canada
	330-439-5550	International
Fax:	330-496-3097	U.S.A. and Canada
	330-439-5567	International
Web sites:	http://www.Dometic.com	
	http://www.DometicSanitation.com	



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