DTM4 TANK MONITOR
DTM8 TANK MONITOR
DTM12 TANK MONITOR

INSTALLATION AND OPERATION MANUAL

SAFETY INSTRUCTIONS

WARNING: When using this device, always exercise basic safety precautions, including the following:

- Read all instructions before installation or use.
- Never connect this device to any electrical circuit with other than 12 or 24 volt Direct Current or exceed the amperage draw listed below.
- Never install the indicator panel in an atmosphere with potentially flammable or explosive vapors.
- Never install the probe cap with float switches into a tank that contains anything other than fresh, gray or black water.

CAUTION: Dropping or rough handling of float switches may result in damage.

FEATURES

DTM4   DTM8   DTM12

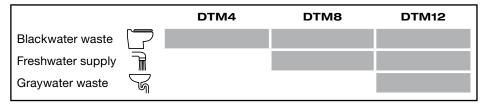Probe Cap

Adjustable Stems

Float Switches

Tank Monitor Systems

Dometic Tank Monitor Systems permit remote sensing of liquid levels in black or gray waste water, or potable freshwater tanks. Three float switches, which activate a set of four lights, are installed in the desired tank. One float activates a "Full" light when the liquid is within 2 inches (51 mm) of the top inside surface of the tank. The other float switches are mounted on adjustable stems and can be positioned to within 2 inches of the tank bottom. The stems are semi-flexible and flex with the sloshing of the tank contents. One float can be positioned to sense when the tank is empty and the others to sense when the tank is 1/4 or 1/2 full, depending on the application.

Tank Monitor Application Chart

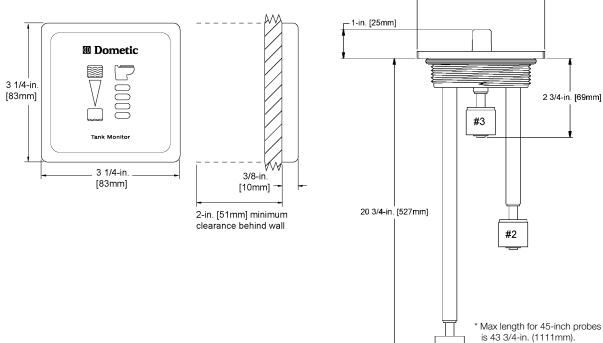|		DTM4	DTM8	DTM12
Blackwater waste		�	�	�
Freshwater supply			�	�
Graywater waste				�

FEATURES (continued)

- Four lighted level indicators for each tank application. One light is always "on" to indicate system power.
- Flexible probe design eliminates false readings from fouled float switches.
- Available probe lengths fit tanks up to 22 inches (559 mm) or 45 inches (1143 mm) in depth.
- Panel complements bathroom decor. International symbology eliminates confusion.
- Installs in any rigid tank with optional 3-inch NPT mounting flange.
- Each system operates on either 12 or 24 VDC.
- Probe cap provides clean-out fitting for easy access to tank interior.
- Vent hose connection in probe cap (if applicable) permits connection of 5/8-inch (16 mm) vent hose.
- Optional shut-down relay plugs into circuit board to shut down toilet system when gray or black water waste tank is full (DTM4 model only).
- Only one level light on at a time to eliminate confusion and save battery power.
- CE approved for electromagnetic compatibility.

SPECIFICATIONS

Electrical Current Draw

12 VDC	DTM4	DTM8	DTM12
Without shut-down relay	0.008 A	0.016 A	0.024 A
With shut-down relay	0.145 A	N/A	N/A
24 VDC	**DTM4**	**DTM8**	**DTM12**
Without shut-down relay	0.004 A	0.008 A	0.012 A
With shut-down relay	0.090 A	N/A	N/A

Dimensions

3 1/4-in. [83mm]

3 1/4-in. [83mm]

3/8-in. [10mm]

2-in. [51mm] minimum clearance behind wall

Dometic

Tank Monitor

4 3/8-in. dia. [111mm]

1-in. [25mm]

2 3/4-in. [69mm]

#3

#2

#1

20 3/4-in. [527mm]

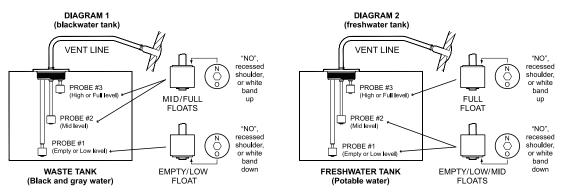* Max length for 45-inch probes is 43 3/4-in. (1111mm).

INSTALLATION

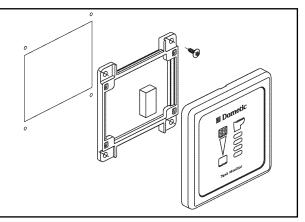### Adjustable Tank Probe Cap

1. The tank probe cap is designed for a 3-inch FPT opening. Order part number 230272 if tank is made of rigid material and is not a SeaLand holding tank.

2. Loosen compression nuts on adjustable probes and install the cap into the tank. Slide the #1 probe down until the float touches the bottom of the tank. Tighten #1 compression nut and mark the probe at the top of the nut with a pen or pencil. Do not cut the probe's tubing at this mark. Loosen the compression nut, slide the probe up, and carefully cut the #1 probe's tubing 1-5/8 inch (41.3mm) below the mark without damaging the switch wires. 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.

3. Remove cap from tank and adjust the #2 probe for 1/2 full level for gray and black water tanks or 1/4 full level for freshwater tanks. Tighten the compression nut and cut the probe's tubing off 3/8-inch (9.5mm) above the compression nut without damaging the switch wires. Slip the black wire cover onto the top of the stem.

4. To make the #1 float switch activate the "Empty" light, the float must be positioned with the recessed shoulder, white band, or the letters "NO" at the bottom. Remove the C-clip from the switch body, flip the float 180 degrees, and replace the C-clip. (See Diagram #1.)

5. The #2 float switch can activate the "Mid" light on black and gray water tanks and activate the "Low" light on freshwater tanks. The recessed shoulder, white band, or the letters "NO" should be facing up for black and gray water tanks and down for freshwater tanks. (See Diagram #2.)

6. Route 18-gauge stranded copper wire from the indicator panel to the level indicator cap. Use quick-disconnect terminals on float switch wires to prevent twisting wires when removing the cap. With cap removed from the tank, connect the wires according to the wiring diagram and test the floats by moving them up and down. Disconnect the wires and install the cap with the O-ring into the tank, then reconnect the wires.

7. For caps with vents, route 5/8-inch vent hose from the through-hull fitting to the vent connection on the level indicator cap. Use stainless steel hose clamps to secure the vent hose connection.

DIAGRAM 1
(blackwater tank)
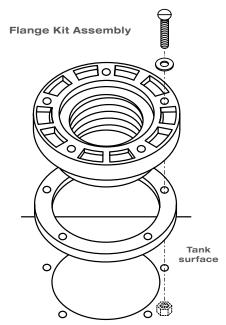
DIAGRAM 2
(freshwater tank)

Monitor Panel

1. Select a mounting location away from direct contact with water and oil. Dry locations in the bathroom, salon or galley are most desirable.

2. Confirm clearances for the panel and wire connections behind walls, hull liner or bulkhead.

3. Cut out mounting holes (see template for panel and fastener hole locations.)

4. Do not mount the circuit panel until wiring is routed and properly connected.

5. Route wires following the appropriate wiring diagram for black, gray or fresh water applications.

6. Include wires for optional electrical accessories that may be part of the installation and shown in separate wiring diagrams.

7. Install the circuit panel with the four #6 fasteners provided. Make sure to install with the "UP" arrow pointing in the proper direction.

8. Push the panel cover onto the circuit panel until it snaps into place.

INSTALLATION (continued)

Universal Tank Flange Kit (optional)

1. Find and mark the top center of the tank.
2. Cut a 4 1/16-inch diameter hole in the top center of the tank.
3. Slip the flange into the hole and mark the location of the five mounting holes.
4. Drill the five mounting holes with a 1/4-inch drill bit.
5. Remove the flange, clean all oils, grease and dirt from the mounting surface and allow to dry.
6. Apply liberal amounts of silicone rubber adhesive to the mounting surface and the underside of the flange.
7. Insert the gasket into the flange and align with the five mounting holes.
8. Secure the flange with the screws, nuts and washers provided.
9. Install the probe cap and, if applicable, secure the 5/8-inch vent hose to the vent fitting with a stainless steel hose clamp.

Flange Kit Assembly

Tank surface

Shut-down Relay (optional – applies to DTM4 only)

CAUTION: VERIFY THAT RELAY IS CORRECT VOLTAGE FOR SYSTEM (12VDC requires P/N 600341292 and 24VDC requires P/N 600342490).

1. Insert a small screwdriver behind the top or bottom slot of the panel cover and pry it outward. Remove panel cover from circuit panel.
2. Remove the four mounting fasteners and pull the circuit panel out of the wall or hull liner, exposing the wiring connections.
3. Insert the shut-down relay into the socket on the back of the circuit panel.
4. Reinstall the circuit panel to the wall.
5. Route the additional wires (use 12 or 14 gauge stranded copper) to wires 10 and 11 on pigtail to interrupt power for the toilet system. (See shut-down relay wiring diagram for application details.)
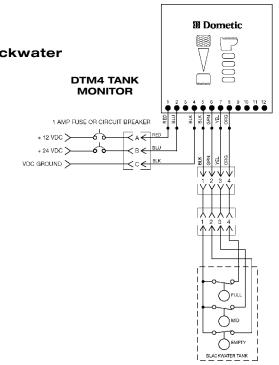6. Turn on power and test circuit.
7. Complete installation to wall.

WIRING DIAGRAMS

DTM4 Tank Monitor System for Blackwater Waste Tank

USE 18GA. OR LARGER STRANDED COPPER WIRE.

IF OPTIONAL "TANK FULL" SHUT-DOWN RELAY IS INSTALLED, PINS 10 AND 11 REQUIRE 14GA. OR LARGER STRANDED COPPER WIRE.

BLACKWATER TANK NOTE: RECESSED SHOULDER, THE WHITE BAND, OR THE LETTERS "N-O" OF THE "EMPTY" FLOAT ARE DOWNWARD.

DTM4 TANK MONITOR
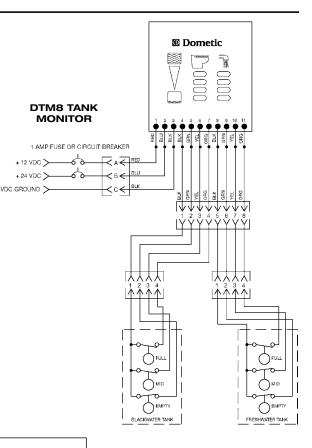
Dometic *SeaLand*

WIRING DIAGRAMS (continued)

DTM8 Tank Monitor System for Blackwater and Freshwater Tanks

USE 18GA. OR LARGER STRANDED COPPER WIRE.

BLACKWATER TANK NOTE: RECESSED SHOULDER, THE WHITE BAND, OR THE LETTERS "N-O" OF THE "EMPTY" FLOAT ARE DOWNWARD.
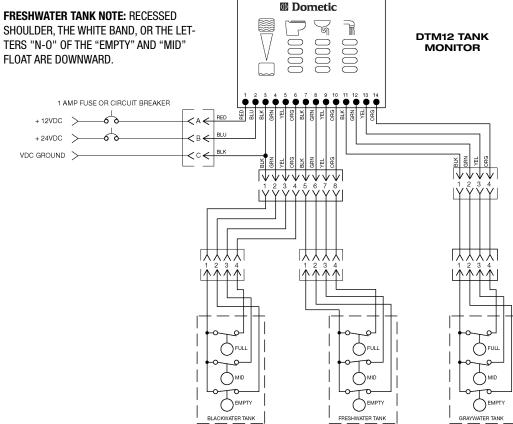
FRESHWATER TANK NOTE: RECESSED SHOULDER, THE WHITE BAND, OR THE LETTERS "N-O" OF THE "EMPTY" AND "MID" FLOAT ARE DOWNWARD.

DTM12 Tank Monitor System for Blackwater and Graywater Tanks, and Freshwater Tank

USE 18GA. OR LARGER STRANDED COPPER WIRE.

BLACKWATER AND GRAYWATER TANK NOTE: RECESSED SHOULDER, THE WHITE BAND, OR THE LETTERS "N-O" OF THE "EMPTY" FLOAT ARE DOWNWARD.

FRESHWATER TANK NOTE: RECESSED SHOULDER, THE WHITE BAND, OR THE LETTERS "N-O" OF THE "EMPTY" AND "MID" FLOAT ARE DOWNWARD.

WIRING DIAGRAMS (continued)

Shut-down Relay with DTM4 Tank Monitor System

USE 12 OR 14 GAUGE STRANDED COPPER WIRE ON PINS 10 AND 11.

WITH RELAY INSTALLED AND DTM4 MODEL WIRED FOR A BLACKWATER TANK, THE "FULL" FLOAT SWITCH WILL SHUT OFF ELECTRICAL POWER TO THE TOILET SYSTEM.

Consult toilet system specifications for proper fusing or circuit breaker size. Do not exceed 30 amps.
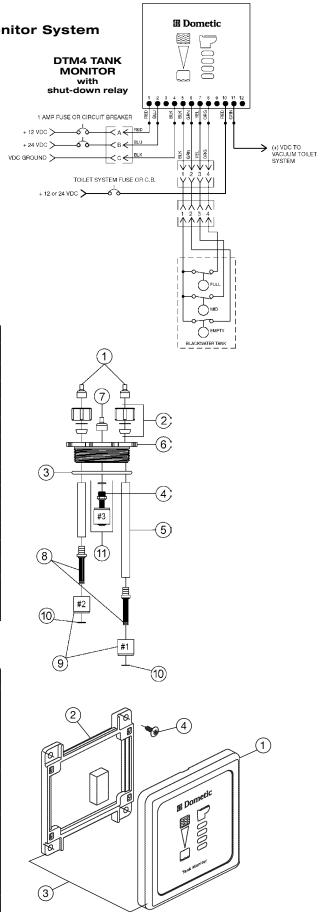

PARTS LISTS

Probe Cap

Item	Part No.	Description
1	600342260	Wire cover, pull-tab cap
2	385310258	Compression nut/washer kit
3	600347587	O-ring cap
4	600340425	Reed switch stem (threaded)
5	600342238	Polyethylene tubing
6	600342114	Adjustable probe cap with vent
	600342115	Adjustable probe cap without vent
7	600342262	Wire cover, pull-tab cap
8	600343657	Reed switch stem (barbed)
9	600340423	Reed float
10	600340424	Ring clip
11	600230268	Float stem kit (incl. 4, 9, 10)
12	385230930	Probe kit (incl. 5, 8, 9, 10)

NOTE: If replacing float switch assembly (item 4), use O-ring and tighten switch to 8-10 inch-lbs. Overtightening is not necessary and may damage parts.

Monitor Panel

Item	Part No.	Description
1	385311477	DTM4 panel cover, black
	385311478	DTM4 panel cover, white
	385311479	DTM8 panel cover, black
	385311480	DTM8 panel cover, white
	385311481	DTM12 panel cover, black
	385311482	DTM12 panel cover, white
2	385311483	DTM4 circuit panel (incl. 4)
	385311484	DTM8 circuit panel (incl. 4)
	385311485	DTM12 circuit panel (incl. 4)
3	313604401	DTM4 panel/circuit ass'y, black
	313604411	DTM4 panel/circuit ass'y, white
	313608401	DTM8 panel/circuit ass'y, black
	313608411	DTM8 panel/circuit ass'y, white
	313612401	DTM12 panel/circuit ass'y, black
	313612411	DTM12 panel/circuit ass'y, white
4	600340488	#6 fastener

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 NEGLECT, 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.

® Registered; ™ Trademark of Dometic Corporation
© Dometic Corporation
600345620   10/08

Dometic is a customer-driven, world-leading provider of innovative leisure products for the caravan, motorhome and marine markets. Dometic offers a complete range of air conditioners, refrigerators, awnings, cookers, sanitation systems, lighting, windows, doors and other equipment that makes leisure life more comfortable away from home.

Dometic also provides refrigerators for specific use in hotel rooms, offices and for storage of medical products and wine. Dometic's products are sold in almost 100 countries and are produced mainly in Dometic's own production facilities around the world. Dometic has more than 4,400 employees.

Dometic *Sealand*

13128 SR 226 | PO BOX 38 | BIG PRAIRIE, OHIO 44611 USA | PHONE +1 330 496 3211 | TELEFAX +1 330 496 3097
www.DometicSanitation.com

8

INSTALLATION TEMPLATE – MONITOR PANEL

Use this template with Dometic Monitor Panel installation instructions on page 4.

3 1/4-in.
[83mm]

2 5/8-in.
[67mm]

3/32-in. [2mm]
pilot hole
for #6 fasteners
(4 locations)

3 1/4-in.
[83mm]

2 5/8-in.
[67mm]

CUT-OUT AREA

2 5/32-in.
[55mm]

2 11/16-in.
[68mm]