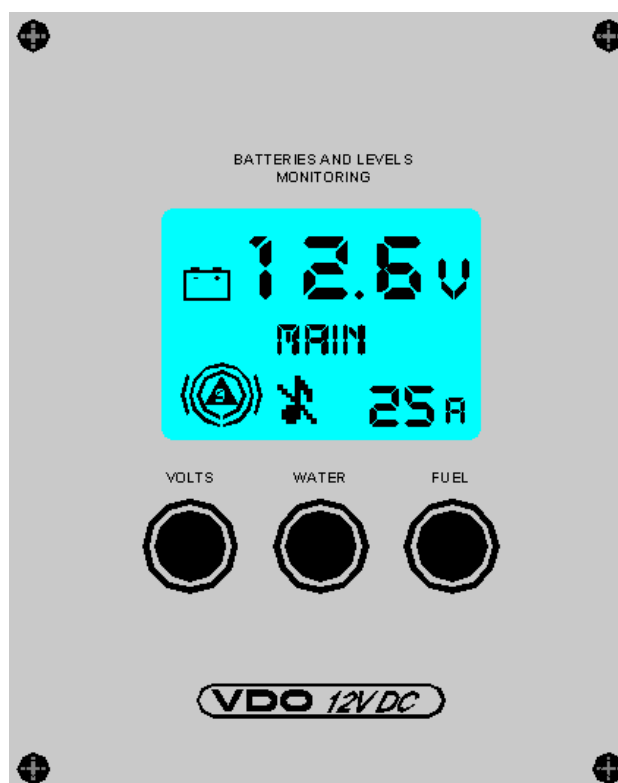


# Multifonction display

Batteries, water and fuel levels



Bénéteau specific model

User Manual

**SIEMENS VDO**

<b>Batteries &amp; Levels Display</b> <b>User Manual</b> <b>Siemens VDO</b>	<b>Version</b>	<b>Updated on</b>	<b>Révision Index : 000</b> <b>Editor : Hervé JOUET</b> <b>Page - 2 / 14 -</b>
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## 1. INTRODUCTION

Please read this manual before using your display unit. Familiarise yourself with all the functions described. This is particularly important for effective management of your batteries and water or fuel levels. Section 4 "Getting started" gives a general overview of the most important functions that you need to know to use your display unit. Read section 3 "Settings" first of all, to ensure that your batteries and tanks are correctly connected. You will also find additional information in section 5 "Details of the different displays".

The keys are displayed in this manual in capital letters, e.g. **VOLT**. The menu instructions are displayed in bold characters, the key sequence is shown by a + symbol between each instruction.

### 1.1 Operating principle

This display unit is a piece of equipment specially designed to allow you to manage your batteries, fresh water, wastewater and fuel tanks as efficiently as possible. It gives easy access to all the available information. Monitoring the levels provides comfort and safety on board.

### 1.2 Use

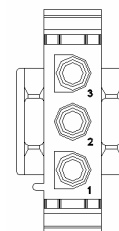
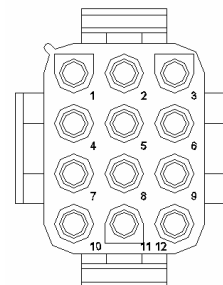
The display is controlled using 3 touch keys. Each of them gives either direct access to a function or to a setting sub-menu. Use is therefore intuitive.

## 2. CONNECTION

Connection of the supply and the various measurement inputs is via the 15 contact connector located at the back of the display unit (connection via 2 male TYCO AMP MATE -N-LOK 350 736-1 and 350 766-1pin header). For details of the connections, see section 7 "Technical specifications"

1	- 50 mV SHUNT 100A
2	N° 1 FUEL TANK SENSOR
3	N° 1 WATER TANK SENSOR
4	+ 50 mV SHUNT 100A
5	N° 2 FUEL TANK SENSOR
6	N° 2 WATER TANK SENSOR
7	NOT IN USE
8	SUPPLY + 12V WATER LEVEL TRANSMITTERS
9	N° 3 WATER TANK SENSOR
10	+ 12V ENGINE BATTERY
11	+ 12V AUXILIARY BATTERY
12	N° 4 WATER TANK SENSOR

3	+ DISPLAY LIGHTING CONTROL
2	+ 12V MAIN BATTERY (DISPLAY SUPPLY)
1	- BATTERIES (COMMON)



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### 3. GETTING STARTED

This section provides some fundamental information to get you started.

#### 3.1. The control keys

Only 3 control keys control the display.

##### **VOLT** key

- ? Gives direct access to information concerning the main battery.
- ? Press repeatedly to cycle information concerning the engine and auxiliary batteries.
- ? Press and hold for more than **2 sec.** to acknowledge a battery alarm.
- ? Press and hold for more than **2 sec** to access the **SETTINGS** menu.

##### **WATER** key

- ? Gives direct access to information concerning the 1<sup>st</sup> water tank.
- ? Press repeatedly to cycle information concerning the other water tanks.
- ? Press and hold for more than **2 sec.** to acknowledge a low level alarm.
- ? Press and hold for more than **2 sec** to access the **SETTINGS** menu.

##### **FUEL** key

- ? Gives direct access to information concerning the 1<sup>st</sup> fuel tank.
- ? Press repeatedly to cycle information concerning the other fuel tanks.
- ? Press and hold for more than **2 sec.** to acknowledge a low level alarm.
- ? Press and hold for more than **2 sec** to access the **SETTINGS** menu.

#### 3.2. Power up

The display unit is powered directly from the main battery supply. It thus switches on and off directly from its own supply without any specific switch.

#### 3.3. Start-up display

The display unit carries out a test routine on start-up.

All the 128 x 64 pixels light up and a short **0.5 sec.** beep sounds. The display shows for **3 sec.** the name and version number of the software and the Siemens VDO logo. This display is then replaced by the **DEFAULT** display representing the main battery.



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### 3.4. Settings menus

The display unit has a **SETTINGS** menu allowing the following settings to be adjusted. To access the settings menu, press and hold for more than **2 sec.** any of the 3 function keys, except the **WATER** key when the metered fresh water level is displayed.

#### BATTERY ALARMS

- ? Turns on/off the 3 audible battery alarms (default: **ON** at power up). Press briefly the **VOLT** key to toggle the battery alarm ON/OFF. In this case, any previously acknowledged alarm is triggered anew and should be acknowledged again.
- ? After **5 sec.** of inactivity, the display returns automatically to the **DEFAULT** display.

#### CONTRAST

- ? Adjusts the display contrast. Press briefly the **WATER** key to cycle up the value. When the maximum value is reached, the next press returns the display to the minimum value.
- ? After **5 sec.** of inactivity, the display returns automatically to the **DEFAULT** display.

#### BRIGHTNESS

- ? Adjusts the display brightness. Press briefly the **FUEL** key to cycle up the value. When the maximum value is reached, the next press returns the display to the minimum value.
- ? After **5 sec.** of inactivity, the display returns automatically to the **DEFAULT** display.

#### BACKLIGHTING

- ? The display has backlighting. By default, the backlighting is **OFF** and turns on automatically when a page is activated, It switches off again when the display goes into **POWER SAVING MODE**. However, it is dimmed to a permanent courtesy level in **POWER SAVING MODE** when the backlighting function of the associated panel is activated. Press briefly on any key in **POWER SAVING MODE** to activate the backlighting at **100%** of the preset brightness value while remaining on the current display.

#### LANGUAGES

- ? The display unit has a **LANGUAGE** menu allowing to select the desired language. Press and hold (≥ **2 sec.**) both the **VOLT** and **FUEL** keys to access the LANGUAGE menu. The default language is **FRANCAIS** (French) the other language is **ENGLISH**. Press briefly on any of the three keys to toggle between French and English.
- ? After **5 sec.** of inactivity, the display returns automatically to the **DEFAULT** display.



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### 3.5. Displaying different pages

- ? **MAIN:** displays the voltage and working consumption of the main battery (if shunt connected).
- ? **ENGINE:** displays the working voltage of the engine battery.
- ? **AUXILIARY:** displays the working voltage of the auxiliary battery.
- ? **FUEL 1:** displays the level of fuel tank 1.
- ? **FUEL 2:** displays the level of fuel tank 2.
- ? **FRESH WATER 1:** displays the level of fresh water tank 1.
- ? **FRESH WATER 2:** displays the level of fresh water tank 2.
- ? **FRESH WATER 3:** displays the level of fresh water tank 3.
- ? **FRESH WATER 4:** displays the level of fresh water tank 4.
- ? **Any battery or tank which is not connected will not be displayed.**
  - The validity threshold for the batteries is **5.00 V**, except for the main battery.
  - The validity threshold for a fresh water level is **0.50 V**
  - The validity threshold for a fuel level is **INFINITE**.

### 3.6. Default display

- ? **MAIN BATTERY:** displays the voltage and working consumption of the main battery (if shunt connected). This is the **DEFAULT** display on power up of the display.
- ? The 1<sup>st</sup> press on any key (**VOLT**, **WATER** or **FUEL**) turns the backlighting on.
- ? Press again to display the 1<sup>st</sup> page in the selected mode.
- ? Press again to display the 2<sup>nd</sup> page, and so on.
- ? Pressing on another function key moves on to another type of display with the same display procedure.
- ? The display remains backlit throughout the period of use.
- ? When a displayed battery function is inactive for more than **5 min**, the display switches to the **POWER SAVING MODE** and displays the **DEFAULT** page.
- ? When a displayed water or fuel level function is inactive for more than **15 sec.**, the display switches to the **POWER SAVING MODE** and displays the **DEFAULT** page.

### 3.7. Monitoring and Alarms

- ? **Continuous** monitoring is provided for the 3 batteries, and the 4 water tanks and 2 fuel tanks are monitored every **15 min**.
- ? Low alarm at **11.50 V** (main battery) and **12.00 V** (engine and auxiliary batteries) are indicated by a flashing icon and an audible signal (with a 1 minute timeout).
- ? High alarm at **14.75 V** (3 batteries) is indicated by a flashing icon and an audible signal (immediate).
- ? Press and hold the **VOLT** key for at least **2 sec.** to acknowledge the alarm. The icon stops flashing, the buzzer stops and the **crossed-out note** is displayed. Automatic acknowledgement of the 3 voltage alarms occurs when the voltage rises above **13.00 V** or falls under **14.50 V**.
- ? When the level on the 4 tanks is **≤ 25%** of capacity, the water level alarm is indicated by an icon (no audible alarm).
- ? Press and hold the **WATER** key for at least **2 sec.** to acknowledge the alarm. The icon stops flashing.
- ? When the level on the 2 tanks is **≤ 15%** of capacity, the fuel level alarm is indicated by an icon (no audible alarm).
- ? Press and hold the **FUEL** key for at least **2 sec.** to acknowledge the alarm. The icon stops flashing.
- ? A **figure (1-9)** is displayed in this icon indicates the number of alarms that are active.
- ? If a link is broken on an input while the alarm is active, the display disappears as does the visual and audible alarm.

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### 3.8. Alarm mode

? The page containing the alarm information is displayed with **PRIORITY** replacing the **DEFAULT** display. If there is more than one alarm, the priority pages are displayed in sequence at **5 sec.** intervals.

? Press and hold the key for more than **2 sec.** to acknowledge each alarm during the appropriate display. Once an alarm is acknowledged, the unit automatically returns to the **DEFAULT** display or displays the next alarm.

## 4. DETAILS OF THE DIFFERENT DISPLAYS

### 4.1. BATTERY mode

- ? The battery voltage display is as follows: at the top the voltage value is displayed in volts with a resolution of **0.1 V** (e.g. 12.6 V). The name of the battery concerned is displayed in the middle. The alarm icon, as appropriate, is displayed at the bottom left and on the right the value in amperes of the current consumption with a resolution of **1 A** (e.g. 25 A).
- ? Press and hold for at least **2 sec.** the **VOLT** key to acknowledge the audible alarm. The flashing icon becomes fixed as long as the alarm is active. A **crossed out note** appears beside the icon indicating that the alarm has been acknowledged. The display **no longer takes priority** and returns to the **DEFAULT** display mode (or displays the next alarm).
- ? Automatic acknowledgement of any of the 3 voltage alarms occurs as soon as the voltage rises above **13.00 V** or falls under **14.50 V**. The icon disappears or the number marked inside it decreases in value, and the **crossed out note** disappears from the display concerned. When the battery voltage goes over or under the thresholds again, the visual and audible alarms will be reactivated.



### 4.2. FRESH WATER LEVEL mode

- ? At the top of a wastewater level display, a horizontal bar graph, graduated in **1/4s**, shows **100%** of the capacity, with a resolution of **5 %**. The name of the tank is displayed in the middle. The alarm icon is displayed, as appropriate, at the bottom left.
- ? Press and hold for at least **2 sec.** the **WATER** key to acknowledge each of these 4 alarms during the appropriate display. The display **no longer takes priority** and returns to the **DEFAULT** display mode (or displays the next alarm).
- ? Press and hold for more than 2 sec. the **WATER** key to acknowledge each of the 4 alarms, during the appropriate display. The display **no longer takes priority** and returns to the **DEFAULT** display mode.





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### 4.3. FUEL LEVEL mode

? At the top of a fuel level display, a horizontal bar graph, graduated in **1/4s**, shows **100%** of the capacity, with a resolution of **5 %**. The name of the tank is displayed in the middle. The alarm icon is displayed, as appropriate, at the bottom left.

? Press and hold for at least **2 sec.** the **FUEL** key to acknowledge each of these 2 alarms during the appropriate display. The display **no longer takes priority** and returns to the **DEFAULT** display mode



## 5. TRANSLATIONS OF THE DIFFERENT HEADINGS

### French :

BORD  
 MOTEUR  
 AUXILIAIRE  
 EAU DOUCE (from 1 to 4)  
 EAUX USEES (from 1 to 4)  
 CARBURANT (from 1 to 2)  
 REGLAGES  
 ALARMES BATTERIES  
 CONTRASTE  
 LUMINOSITE  
 LANGAGE  
 FRANCAIS  
 ENGLISH

### English :

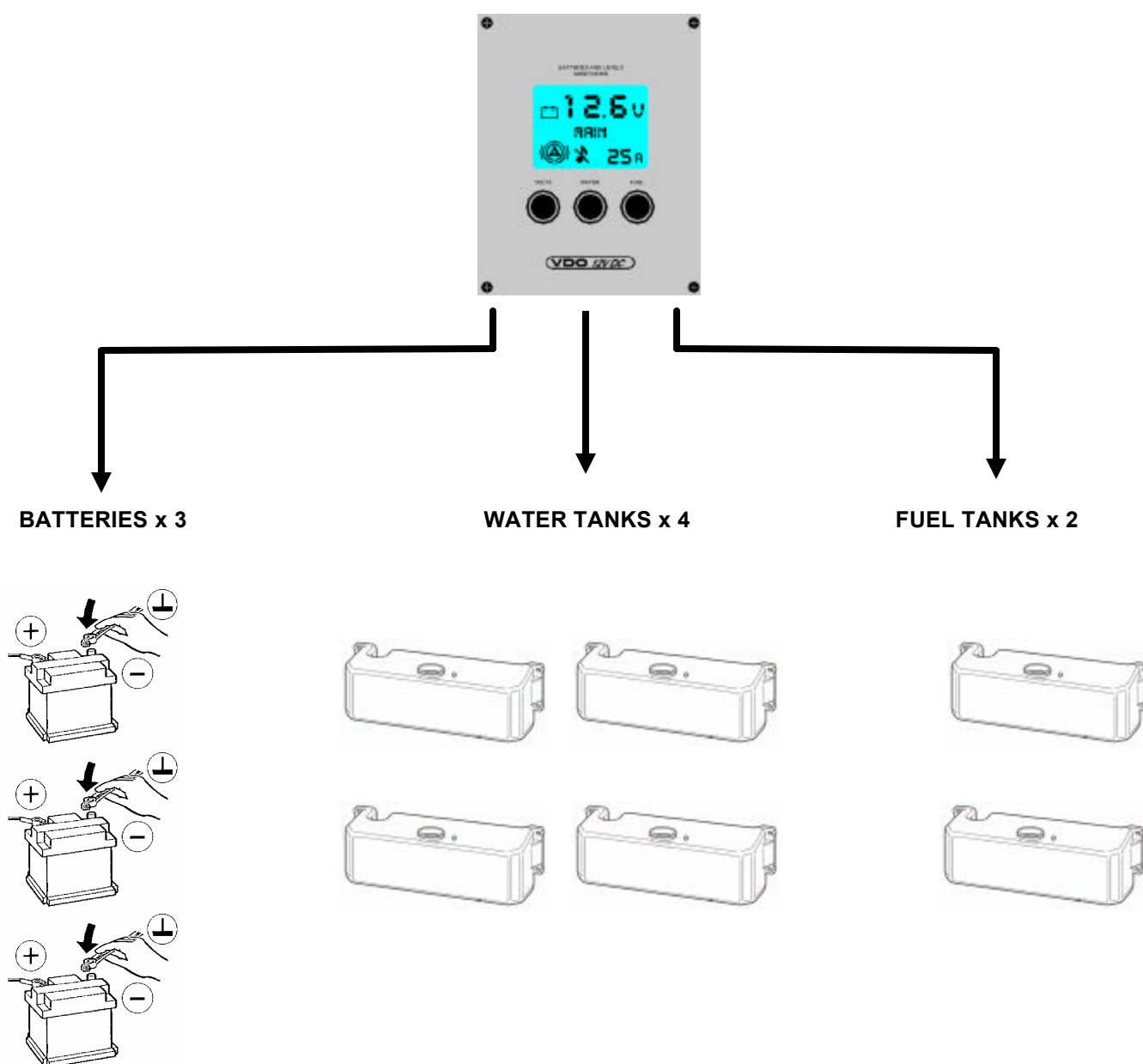
MAIN  
 ENGINE  
 AUXILIARY  
 FRESH WATER (from 1 to 4)  
 WASTE (from 1 to 4)  
 FUEL (from 1 to 2)  
 SETTINGS  
 BATTERIES ALARMS  
 CONTRAST  
 BRIGHTNESS  
 LANGUAGE  
 FRANCAIS  
 ENGLISH

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## 6. TECHNICAL SPECIFICATIONS

### 6.1. Features

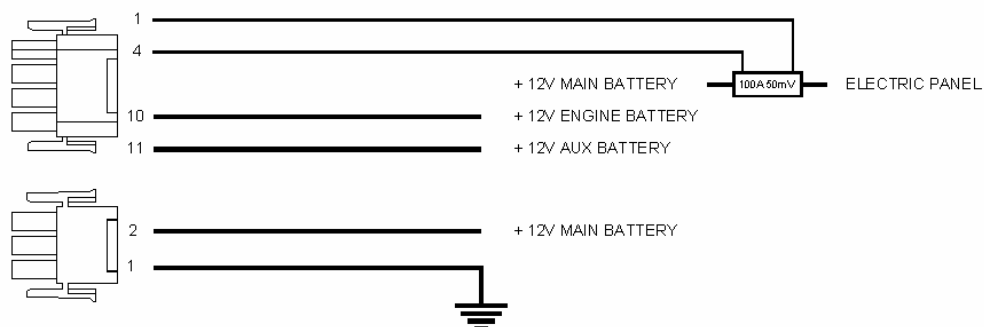
- ? Front panel: 150mm x 120mm.
- ? Monochrome graphic LCD with backlighting, 128x64 pixels (useable display: 56x38mm).
- ? Separate voltage indication for 3 different batteries (input +12 V DC, 8-16 volts)
- ? Indication of main battery consumption (input shunt 100A 50 mV)
- ? Indication of the water level for 4 tanks
- ? Indication of the fuel level for 2 tanks
- ? Monitoring of voltage and levels with preset thresholds
- ? Consumption of 70 mA in **POWER SAVING** mode and 150 mA when backlighting is 100% activated.



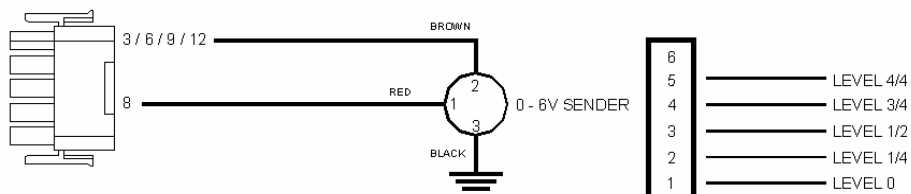
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## 6.2. Electrical connections

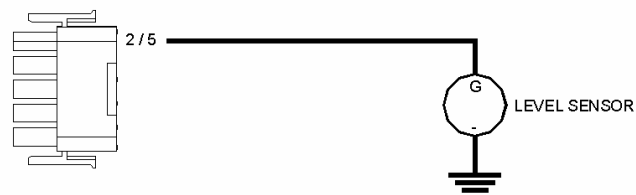
### 7.2.1. Batteries



### 7.2.2. Fresh water tanks



### 7.2.3. Fuel tanks



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## 7. ACCESSORIES

### 7.1. Fresh water level transmitter (Accessory)

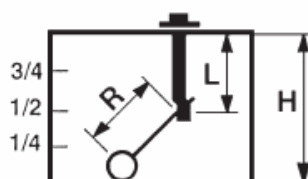
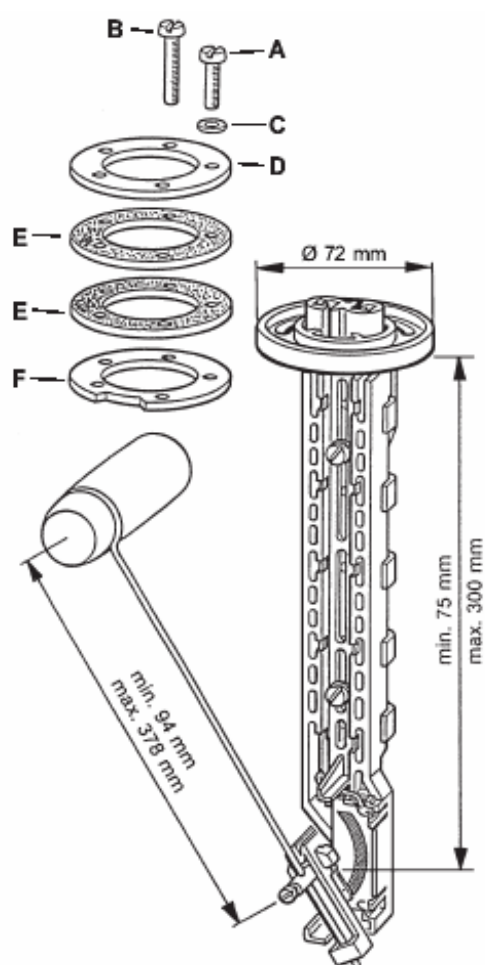
X11-100-000-007

- ? The transmitter receives information about the level from each fresh water tank. This has 5 plots, and transmits information in the form of 0 – 6 volts DC to the specific display inputs described above :
  - Closed 110 x 66 x 36 mm box with lugs and a moulded AMP FASTIN-FASTON 8 contact connector.
- ? Connection interface for connection of:
  - AMP FASTIN-FASTON 6 contact connector from the fresh water tank.
  - AMP FASTIN-FASTON 3 contact connector from the electric cabling

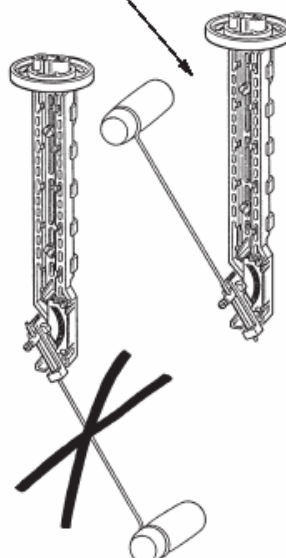


## 7.2. Level type fuel sensor (Accessory)

? 226 -801-015-001C from 150 to 600 mm depth.

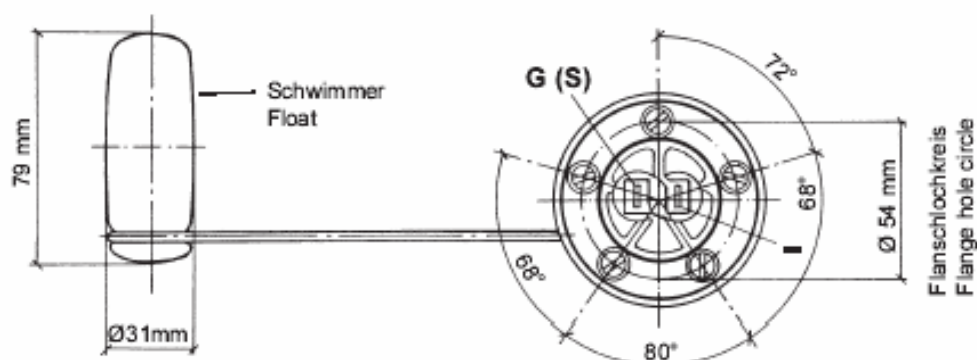


Einbaulage des Hebels:  
Lever mounting position:



mm

H	L	R	H	L	R
360	180	225	365	182,5	228
370	185	231	375	187,5	234
380	190	238	385	192,5	241
390	195	244	395	197,5	247
150	075	094	400	200	250
155	077,5	097	405	202,5	253
160	080	100	410	205	256
165	082,5	103	415	207,5	259
170	085	106	420	210	263
175	087,5	109	425	212,5	266
180	090	112	430	215	269
185	092,5	115	435	217,5	271
190	095	119	440	220	274
195	097,5	122	445	222,5	277
200	100	125	450	225	281
205	102,5	128	455	227,5	284
210	105	131	460	230	288
215	107,5	134	465	232,5	291
220	110	137	470	235	294
225	112,5	140	475	237,5	297
230	115	144	480	240	300
235	117,5	147	485	242,5	303
240	120	150	490	245	306
245	122,5	153	495	247,5	310
250	125	157	500	250	313
255	127,5	160	505	252,5	316
260	130	163	510	255	319
265	132,5	166	515	257,5	322
270	135	169	520	260	325
275	137,5	172	525	262,5	328
280	140	175	530	265	331
285	142,5	178	535	267,5	335
290	145	181	540	270	338
295	147,5	184	545	272,5	341
300	150	187	550	275	344
305	152,5	191	555	277,5	347
310	155	194	560	280	350
315	157,5	197	565	282,5	353
320	160	200	570	285	356
325	162,5	203	575	287,5	360
330	165	206	580	290	363
335	167,5	209	585	292,5	366
340	170	212	590	295	369
345	172,5	216	595	297,5	372
350	175	219	600	300	375
355	177,5	222	605	302,5	378



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