

Instruction manual

2282 Guided float switch



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Observe instruction manual

The instruction manual is part of the product and an important element within the safety concept.

- ▶ Read and observe the instruction manual.
- ▶ Always have the instruction manual available at the product.
- ▶ Pass on the instruction manual to all subsequent users of the product.

1 Intended use

Float switch 2282 is used to monitor the level of liquids to which the materials used are resistant and which are compliant with the specified medium density.

2 About this document

This document contains all necessary information for the installation, operation, and maintenance of the product.

3 Safety and responsibility

- ▶ Only use the product as intended, see intended use.
- ▶ Do not use the product if it is damaged or faulty. Throw out the product immediately if it is damaged.
- ▶ Make sure that the piping system has been installed professionally and that it is inspected regularly.
- ▶ The product must only be installed by persons who have the required training, knowledge, and experience.
- ▶ Regularly train personnel on all questions pertaining to the locally accepted regulations on occupational safety and environmental protection, especially on pressure-retaining pipelines.

The personnel is responsible for the following measures:

- ▶ Know, understand and follow the instruction manual and the advices therein.

4 Delivery contents

- ▶ 2282 Guided float switch
- ▶ Instruction Manual

5 Transport and storage

- ▶ Protect the product against external force during transport (impact, stroke, vibrations, etc.).
- ▶ Transport and/or store the product in unopened, undamaged original packaging.
- ▶ Protect the product from dust, dirt, moisture as well as heat and ultraviolet radiation.
- ▶ Ensure that the product has not been damaged by either mechanical or thermal influences.
- ▶ Check the product for transport damage before assembly.

6 Function

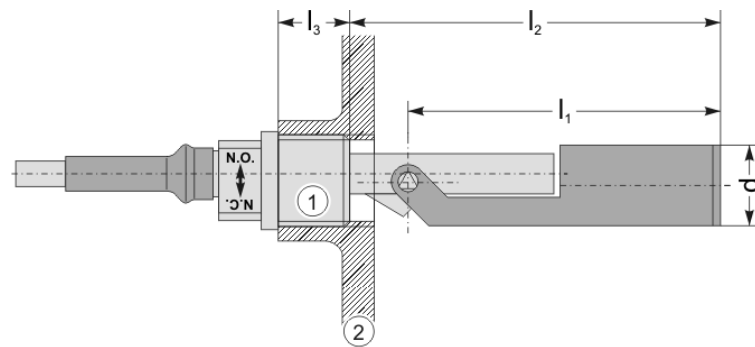
Float switch 2282 is designed to enable economical monitoring of liquids in tanks. It is available in two different plastic versions, both of which have two different attachments for several application options. Further advantages are its maintenance-free design, compact size, and the high switching capacity of the reed contacts.

- ▶ The float switch is installed horizontally in the tank.
- ▶ The plastic float switch has a welded-in magnet and moves up and down on a hinge to monitor the level of liquid in the tank.
- ▶ In the end position, the welded-in magnet actuates the embedded, potential-free reed contact.
- ▶ The mounting position determines whether the normally open/normally closed switching function is applied. This can be altered by turning the product 180°.

7 Technical Data

Category	Value	
Material	2282-P-XXX	Polypropylene (PP)
Enclosure and float	2282-V-XXX	Polyvinylidene fluoride (PVDF)
Thread	2282-X-XXB	G ½
	2282-X-XXN	½ NPT
Maximum temperature	PP version	80°C
	PVDF version	100°C
Maximum pressure	10 bar	
Mounting position	Horizontal, ±30° from the horizontal	
Contact	NO/NC contact as per mounting position	
Electrical connection	PVC cable, 2-wire, with AWG 20 stranded wire	
	PVC cable, DIN plug	
Maximum switching values	230 V _{AC/DC}	Max. 40 VA, max. 2 A
Resistance	Max. 80 mΩ	
Maximum dielectric strength	400 V _{DC} /1 s	
Medium density	PP version	>0.6 kg/dm ³
	PVDF version	>0.95 kg/dm ³
Protection rating	IP68	

8 Dimensions



l ₁	68 mm	l ₃	15 mm	1	G ½ or ½-14 NPT
l ₂	81 mm	d	∅ 17.5 mm	2	Tank wall

9 Installation

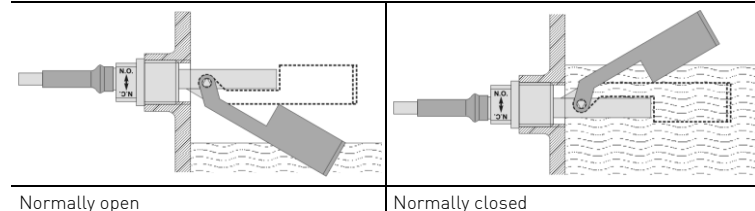
Checking the installation conditions

- ▶ No free-floating solids or ferritic parts are present in the liquid, as these can cause the float switch to malfunction.
- ▶ If the liquid contains sediment or particulate matter, appropriate precautions must be taken to keep these away from the float switch.
- ▶ Are the maximum working pressure and maximum temperature values being observed?

Checking the mounting position

- ▶ The float switch must be able to move freely along the entire path length.
- ▶ It should not touch either the walls, bottom, or lid of the tank.
- ▶ Ensure that there is no turbulence from inlet valves or agitators.
- ▶ If possible, install the product in an easily accessible position. This makes subsequent maintenance and replacement work easier.
- ▶ The product should be installed horizontally.
- ▶ Check whether the product has been installed in the normally open or normally closed position.

Mounting position



Installing the float switch mechanically

- ▶ The float switch cable must not be connected.
- ▶ Make sure that the thread in the tank is free of contamination.
- ▶ Carefully insert the float switch into the opening and turn it several revolutions by hand.
- ▶ With a maximum torque of 4 Nm, tighten the float switch until the flattened side edges are as vertical as possible.
- ▶ Check whether the correct mounting position (NO/NC) has been achieved.
- ▶ Check whether the connection is tight.
- ▶ In the event of a leak, remove the sensor again completely and remount it using additional sealing materials (e.g., PTFE tape).

13 Disclaimer

The technical data are not binding. They neither constitute expressly warranted characteristics nor guaranteed properties nor a guaranteed durability. They are subject to modification. Our General Terms of Sale apply.

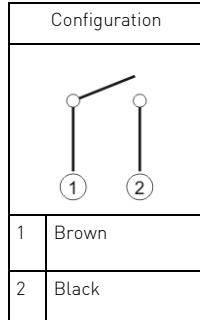
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Connecting the float switch electrically

The float switch is insulated, therefore a separate grounding wire is not required.

- ▶ Ensure that the voltage values for the float switch correspond to those for the system.
- ▶ Make sure that the supply cable is de-energized.
- ▶ Connect the connection cable for the float switch to the supply cable.
- ▶ Connect external devices.
 - The float switch is operational once the supply voltage has been switched on.
- ▶ You can check that the switching output is working correctly by manually raising and lowering the float.



10 Ordering information

Art. no.	Type	Designation
159 300 260	2282-P-60B	PP enclosure, DIN plug, ½" BSP
159 300 261	2282-P-6CB	PP enclosure, cable, ½" BSP
159 300 262	2282-V-60B	PVDF enclosure, DIN plug, ½" BSP
159 300 263	2282-V-6CB	PVDF enclosure, cable ½" BSP
159 300 264	2282-P-60N	PP enclosure, DIN plug, ½" NPT
159 300 265	2282-P-6CN	PP enclosure, cable, ½" NPT
159 300 266	2282-V-60N	PVDF enclosure, DIN plug, ½" NPT
159 300 267	2282-V-6CN	PVDF enclosure, cable, ½" NPT

11 Dismantling

- ▶ Make sure that the connection cable is de-energized and can be freely rotated.
- ▶ Make sure that the tank is depressurized and has been drained to a level that is at least below that of the sensor mounting position.



Media that is detrimental to people's health and the environmental may escape!

Risk of personal injury or damage to the environment caused by these media.

- ▶ Wear the prescribed protective clothing.
- ▶ Collect any media that escapes and dispose of it in accordance with local regulations. Consult the safety data sheet.

12 Disposal

- ▶ Before disposing of the different materials, separate them into recyclables, normal waste, and special waste.
- ▶ Comply with local legal regulations and provisions when recycling or disposing of the product, the individual components, and the packaging.
- ▶ Comply with national regulations, standards, and guidelines.



Parts of the product may be contaminated with media that are harmful to health and the environment meaning that simple cleaning is not sufficient!

Risk of personal injury and damage to the environment caused by these media.

Prior to disposing of the product:

- ▶ Collect leaking media and dispose of it according to the local regulations. Consult the safety data sheet.
- ▶ Neutralize any media residue that is present in the product.
- ▶ Separate materials (plastics, metals, etc.) and dispose of them according to the local regulations.



A product marked with this symbol must be sent for separate collection of electrical and electronic devices.
If you have questions regarding the disposal of the product, please contact your national GF Piping Systems representative.