

**user manual level switch
type NGS 050..., NGS 150..., NGS 250...**

safety instructions !!!

intended use of the product

- The sensor has been designed exclusively for the intended use described here or in the data sheet and may only be used in this way.
- The technical specifications contained in these operating instructions must be observed.
- Improper handling or operation of the device outside of its technical specifications requires the device to be taken out of service immediately and an inspection by promesstec.
- When the device is transported from a cold into a warm environment, the formation of condensation may result in the device malfunctioning.
- Before putting it back into operation, wait for the device temperature and the room temperature to equalise.

The manufacturer shall not be liable for claims of any type based on operation contrary to the intended use!!

staff qualification

Improper handling can result in considerable personal injury and damage to equipment. The activities described in these operating instructions may only be carried out by skilled staff who have the appropriate qualifications. For installation and starting of the sensor, the relevant regulations and directives of the country and the norms must be observed. Especially during installation of the sensor, it is possible, depending on the use, to come into contact with aggressive media. The safety instructions must be observed. There will be danger to life if live parts are touched. Electrical installation and commissioning may only be carried out by qualified and skilled personnel.

special hazards

Residual media in and on dismantled devices can result in a risk to personnel, the environment and equipment. Sufficient precautionary measures must be taken here. Do not use the instruments in safety or emergency stop devices. Incorrect application or operation of the instrument can lead to injuries. Depending on the application, aggressive media with extreme temperatures and high pressure or vacuum may be present at the instrument in the event of a fault. We recommend installing and removing the device only at ambient temperature and in a pressureless mode.

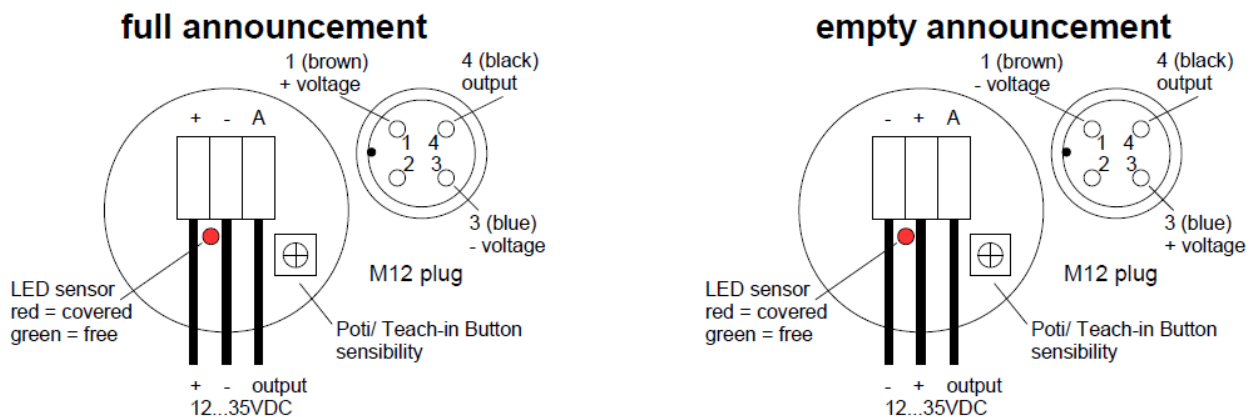
hazards when operating the device

Our devices have a very high protection class when properly mounted and installed. When cleaning your system with high-pressure cleaners, steam cleaners etc., make sure that both the cover and the cable screw or M12 connector are not directly exposed to the pressure jet. If the temperature falls below the dew point, condensation may form in the connection chamber of the device. In such extreme applications, contact our sales and technical support before commissioning.

level measurement

commissioning execution Teach-in button

electrical connection



setting the sensitivity

Setting the sensitivity of the level switch is normally not required.

But in the following cases we recommend adjusting the sensitivity:

- for very low dielectric-constant value media (for example, fruit juice concentrates, sugar solutions, edible oils and other liquids with little or no water content),
- for viscous and adhesive media ,
- if they do not achieve a reliable switching behavior with the factory setting.

In order to be able to perform a successful teach-in, please observe the following instructions:

Variant 1: Teach-in when the level switch is installed:

- 1 Make sure that the PEEK tip of the level switch, when installed, is completely covered by the medium to be detected.
- 2 The supply voltage of the level switch is applied.
- 3 Press the Teach-in button and keep it pressed for approx. 3 seconds.
- 4 Teach-in is performed and normally the LED probe is lit red (i.e. sensor is covered).
- 5 The sensitivity setting is retained even after the supply voltage has been switched off and can be repeated at any time according to this diagram.

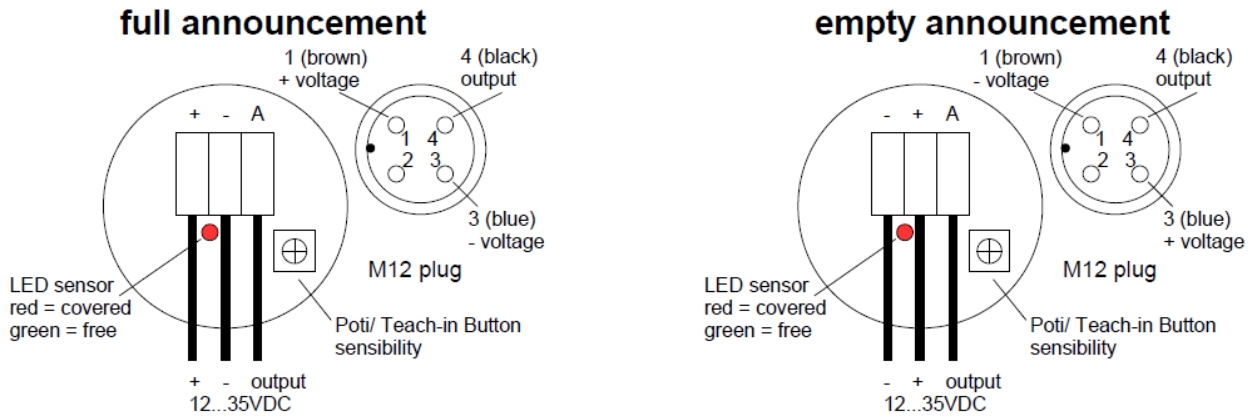
Variant 2: Teach-in when the level switch is removed:

- 1 Use a container (cup or similar) filled with the medium to be detected (at least 100ml).
- 2 Screw a hygienic weld-in sleeve from promesstec onto the level switch.
- 3 Apply the level switch to the supply voltage (12-35VDC).
- 4 Dip the level switch with the tip into the medium until the end of the weld-in sleeve is completely covered by the medium.
- 5 Press the teach-in button (when immersed) and hold it down for about 3 seconds.
- 6 The teach-in has been carried out and normally the LED probe is red when immersed and green when it is submerged.
- 7 The sensitivity setting is retained even after the supply voltage has been switched off and can be repeated at any time according to this diagram.

level measurement

commissioning execution potentiometer

electrical connection



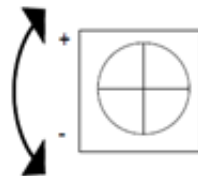
setting the sensitivity

Setting the sensitivity of the level switch is normally not required.

But in the following cases we recommend adjusting the sensitivity:

- for very low dielectric-constant value media (for example, fruit juice concentrates, sugar solutions, edible oils and other liquids with little or no water content),
- for viscous and adhesive media,
- or if they do not achieve a reliable switching behavior with the factory setting.

- 1 Use a container (cup or similar) filled with the medium to be detected (at least 100ml).
- 2 Screw a hygienic weld-in sleeve from promesstec onto the level switch. Dip the electrode rod approx. 10mm into the medium.
- 3 If the LED already lights up red, turn the sensitivity trimmer to the left until the LED lights up green.
- 4 With the electrode rod immersed (approx. 10 mm), turn the sensitivity trimmer to the right until the LED jumps to red.
- 5 Insert and dip electrode rod several times and check function (immersed: the LED lights up red; emerged: the LED lights up green)
- 6 The switching function must always be checked again when installed and readjusted if necessary!



By turning the sensitivity trimmer in the + direction you will get a higher switching sensitivity, this is necessary for media with little or no water content, e.g. fruit juice concentrate, sugar solutions and edible oils.

By turning the sensitivity trimmer in the direction of - you get a lower switching sensitivity, this may be necessary for adhering or foaming media.

level measurement

mounting instructions !!!

mechanical installation

- only use promesstec welding sleeves and process connections for adaptation to your process. This is the only way we can guarantee you a clean and aseptic measuring point.
- our weld-in sleeves are provided with a marking. When properly installed, this is the position of the cable screw or the M12 connector.
- the sensor seals with the PEEK head on the sealing surface of the welding sleeve. Please note the **max. torque of 15-20Nm**. Otherwise, the sealing surface will be deformed.
- due to the measuring principle, we need a good connection between the metallic threads of the sensor and the welding sleeve for a proper function of the sensor. Never use isolating sealants such as Teflon tape or similar during mounting of the sensor.

electrical mounting

- feed the connection cable through the cable screw and install the individual wires on the terminals.
- tighten the cable screw until there is a positive connection between the rubber grommet and the connection cable.
- close the screw cap so that it makes a positive connection with the seal in the connection head.

important information !!!

return and repair

The promesstec sensors have a modular design. This allows us to repair and overhaul defective devices. To do this, send the device to promesstec. You will find a return form with the information to be provided on our homepage under "technical information".

disposal of the devices

Dispose of devices, components and packaging in an environmentally friendly manner in accordance with the waste treatment and disposal regulations typical for the country. Pay attention to waste separation and the recycling of high-quality materials such as stainless steel, etc.

further documentation

These operating manual and the datasheets can be found as a file on our homepage under the respective devices. The documentation is available in German as well as in English. Other languages are available on request. Additional information such as characteristic curves of temperature sensors etc. can be found on our homepage under

