Product description

The HPS+ sensor measures the level in a vessel in up to 6 bar overpressure contactless. The G1 and G2 threaded pipe end permits the mounting and sealing of the sensor in a flange of the vessel. At the analogue output a signal proportional to the level is created and the pre-switched output is set according to the adjusted detect distance.

The surfaces of the ultrasonic transducers of the HPS sensors are protected by a PTFE film (Teflon film) and sealed with a FFKM O-ring against the sensor housing. Therefore the surface of the ultrasonic transducer can be cleaned from cakings or spots.

The sensor automatically detects the load put to the analogue output and switches to current output or voltage output respectively.

All settings are done with two push-buttons and a three-digit LED-display (TouchControl).

Light emitting diodes (three-colour LEDs) indicate all operation conditions.

Choosing between rising and falling output characteristic as well as output function NOC and NCC is possible.

The sensors are not considered as safety equipment and may not be used to ensure human or machine safety!

The HPS+ sensors indicate a blind zone, in which the distance cannot be measured. The operating range indicates the distance of the sensor that can be applied in normal atmospheric pressure with sufficient function reserve.

Important instructions for assembly and application

All employee and plant safety-relevant measures must be taken prior to assembly, start-up or maintenance work (see operation manual for the entire plant and the operator instruction of the plant).

The sensors are not considered as safety equipment and may not be used to ensure human or machine safety!

The HPS+ sensors indicate a blind zone, in which the distance cannot be measured. The operating range indicates the distance of the sensor that can be applied in normal atmospheric pressure with sufficient function reserve.

Assembly instructions

► Select the sensor at the installation location.
► If necessary seal the sensor with the enclosed FFKM O-ring (34 x 2,5 mm or 60 x 4 mm) against the flange.
► Plug in the connector cable to the M 12 connector.

Set the parameters of the sensor manually or use the Teach-in procedure to adjust the detect points.

Set sensor parameters alternatively numerically using LED-display...

Start here

Press T1 and T2 simultaneously for about 3 s until welcome message has passed

HELLO

Pro

T1 + T2

Set detect distance in mm or cm

T1 + T2

For single detect point press T2 until » - - - « is displayed

T1 + T2

For window mode operation set far detect point in mm or cm

T1 + T2

Choose » U « for NCC or » U « for NOC

T1 + T2

Set detect distance in mm or cm

T1 + T2

Set sensor-close window margin in mm or cm

T1 + T2

Set sensor-distant window margin in mm or cm

Note

In operation in overpressure it is recommended to adjust the sensitivity of the hps+ sensor: choose the parameter A14 in the Add-on menu and set it to sensitivity E2 for atmospheric pressure from 1 to 3 bar or to sensitivity E3 for atmospheric pressure > 3 bar.

HPS+ sensors have internal temperature compensation. Because the sensors heat up on their own, the temperature compensation reaches its optimum working point after approx. 30 minutes of operation.

If an object is within the set window margins of the analogue output, then LED D1 lights up green, if the object is outside the window margins, then LED D1 lights up red.

The load put to the analogue output is detected automatically when turning supply voltage on.

During normal mode operation, a yellow LED D2 signals that the switched output has connected.

During normal mode operation, the measured distance value is displayed on the LED-indicator in mm. Alternatively a percentage scale may be set in the add-on menu. In this connection 0% and 100% correspond to the set window margins of the analogue output.

During Teach-in mode, the hysteresis loops are set back to factory settings.

If no objects are placed within the detection zone the LED-indicator shows » - - - «.

If no push-buttons are pressed for 20 seconds during parameter setting mode the made changes are stored and the sensor returns to normal mode operation.

Show parameters

Tapping push-button T1 shortly during normal mode operation shows »PAR« on the LED-display. Each time you tap push-button T1 the actual settings of the analogue output and the switched output are shown.
...or with the Teach-in procedure

Useful additional functions in Add-on menu (for experienced users only, settings not required for standard applications)

Start here

Press T1 and T2 simultaneously for about 13 s until «Add» is shown in the LED-display

Key lock and factory setting

Activate/deactivate TouchControl

Reset to factory setting

Turn supply voltage OFF

Turn supply voltage OFF

While pressing T1 turn supply voltage ON until «on» or «off» is displayed

To activate or deactivate press T1

Release T1 before turning supply voltage OFF

To activate or deactivate press T1

Normal mode operation

Normal mode operation

Adjust detect point

Place object at position

Press T2 until «End» is shown

Current measuring value

Press T2 until «End» is shown

Press T2 until countdown passed from n=8 to n=0 and NOC or NCC symbol is displayed

Press T2 until countdown passed from n=8 to n=0 and «End» is displayed

Press T1 until «End» is shown

Press T1 until «Add» is shown

Press T1 and T2 simultaneously for about 13 s

Press T1 until »Add« is shown in the LED-display

Press T1 and T2 simultaneously until »Add« is shown in the LED-display

While pressing T1 turn supply voltage ON until «on» or «off» is displayed

To activate or deactivate press T1

Release T1 before turning supply voltage OFF

To activate or deactivate press T1

Activate/deactivate TouchControl

Reset to factory setting

Turn supply voltage OFF

Turn supply voltage OFF