

Capacitive Limit Switch Food NCS



Application/Specified usage

- Limit detection of levels with low or no water content like sugar, fruit concentrates, starches and oils with a dielectric constant $\epsilon_r \geq 10$ or 2

Application examples

- Level detection in vessels/faults in position detection in pipes
- High alarm in vessels and tanks with float in position floating (type NCS-1)
- Empty alarm in vessels and tanks with float in position from bottom (type NCS-1)
- Produce monitoring in pipes
- Pump-off by emptying product

Hygienic design/Process connection

- Hygienic process connection with CIP/MSDcap
- Conformity to 3-A Sanitary Standard
- All contact materials are FDA compliant
- Seals completely made of stainless steel, except the seals of PEEK
- Complete overview of process connections per cable code
- The Anderson-Negele CIP/MSDcap system offers a clean optimized, hygienic and easily-maintainable installation solution for sensors.

Features

- CIP / MSO cleaning up to 140 °C / maximum 2.0 bar/30psi
- Independent of the conductivity
- NCS-1: Immersion in front and reference, reliable at gassy media
- Short response time 0-1 s
- Reversible output (fail / empty action)
- Neutral detection to avoid contamination
- Simulation of sensor status possible

Optional accessories

- CIP / MSO ball valve with long-life stainless steel
- Seals with special topology (PEEK) tested in vessels at pressure (process connections up to 1.6 bar) (available for NCS-01 and NCS-02)
- MSDcap (type 1) reference
- MSO plug and mounting cable assembly
- Heating element (optional) for extension of the temperature range

Measuring principle

The capacity of a capacitor is affected by 3 factors: Distance and area of the plates as well as the dielectric medium between the electrodes. Using the capacitive sensor only the kind of medium is of interest.

The electrode (the sensor and the face of float) can be seen as capacitor, the medium as dielectric fluid. Consequently the higher the value of the medium (capacitive dielectric constant) the more is covered with the medium. The change of capacity is evaluated by electronics and presents then a corresponding switching action. This non-contact principle requires that the sensor tip is completely covered with medium. That way the sensor is insensitive to foam and adherences.

Authorizations



NCS-01



NCS-02



NCS-0-01



NCS-0-02



Measuring principle

