

**Product Information NCS-x1, NCS-x2, NCS-L-11, NCS-L-12**
**FOOD**

# Capacitive Limit Switch Food NCS


**Application/Specified usage**

- Limit detection of media with low or no water content like syrup, fruit concentrates, alcohols and oils with a dielectric constant  $\epsilon_r$  (Dk)  $\geq 2$

**Application examples**

- Limit detection in vessels (build-in position sidewise) or pipes
- High alarm in vessels and tanks with build-in position from top (type NCS-L)
- Empty alarm in vessels and tanks with build-in position from bottom (type NCS-L)
- Product monitoring in pipes
- Pump / dry running protection

**Hygienic design/Process connection**

- Hygienic process connection with CLEANadapt
- Conforming to 3-A Sanitary Standard
- All wetted materials are FDA-conform
- Sensor completely made of stainless steel, sensor tip made of PEEK
- Complete overview of process connections: see order code
- The Anderson-Negele CLEANadapt system offers a flow-optimized, hygienic and easily sterilizable installation solution for sensors.

**Features**

- CIP-/SIP-cleaning up to 143 °C / maximum 120 minutes
- Independent of the conductivity
- NCS-L: Insensitive to foam and adherence, reliable at pasty media
- Short response time ( $< 1$  s)
- Reversible output (full / empty active)
- Heated electronic to avoid condensation
- Simulation of sensor status possible

**Options/Accessories**

- LED state indicator with inspection window lid
- Version with spacer (option H) for isolated vessels or permanent process temperatures up to 143 °C (available for NCS-x1 and NCS-x2)
- NPN output (Open Collector)
- M12-plug and matching cable assembly
- Heating element switched off for extension of the temperature range

**Measuring principle**

The capacity of a capacitor is affected by 3 factors: **Distance** and **size of the electrodes** as well as the kind of **medium** between the electrodes. Using the capacitive sensors only the kind of medium is of interest.

The electrode of the sensor and surface of tank can be seen as capacitor, the medium as dielectric fluid. Caused by the higher Dk-value of the medium compared to air the capacity increases if the sensor is covered with the medium. The change of capacity is evaluated by electronics and converted into a corresponding switching order. This functional principle requires that the sensor tip is completely covered with medium. That way the sensor is insensitive to foam and adhesences.

**Authorizations**

**NCS-01**

**NCS-12**

**NCS-L-11/50**

**NCS-L-11/150**

**Measuring principle**
