Product Information NCS-11...-L60, NCS-L-11...-L60 **FOOD**

Capacitive level switch NCS for double-walled or insulated tanks

CLEANadapt

Application/Specified usage

- Point level detection of liquids with a dielectric constant (DC) $\varepsilon_r \geq 20$ in double-walled or insulated tanks

Application examples

- Point level detection of liquids in vessels (sideways build-in position)
- Full 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)
- Pump/dry running protection

Hygienic design/Process connection

- Hygienic process connection with CLEANadapt
- All wetted materials are FDA-conform
- Sensor completely made of stainless steel, sensor tip of PEEK/stainless steel
- The Anderson-Negele CLEANadapt system offers a flow-optimized, hygienic and easily sterilizable installation solution for sensors.

Features

- CIP/SIP cleaning at up to 143 °C/max. 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 as switching state indicator with inspection window lid
- NPN output (Open Collector)
- M12 connector and fitting preassembled cable
- Heating element switched off for extension of the temperature range

Measuring principle

Details on the functional principle can be found in the product information „NCS-x1-x2-L-xx“ or „NCS-x1P_NCS-x2P“.

Accessories

EMZ-132-L60	Weld-in sleeve 60 mm
ESD-132/L60	Welding mandrel for 60 mm sleeve

Conventional usage

- Not suitable for applications in explosive areas.
- Not suitable for applications in security-relevant equipments (SIL).

Authorizations

FDA

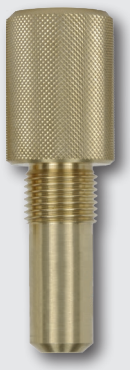
NCS-11/...-L60

NCS-L-11/...-L60

NCS-L-11/...-L60

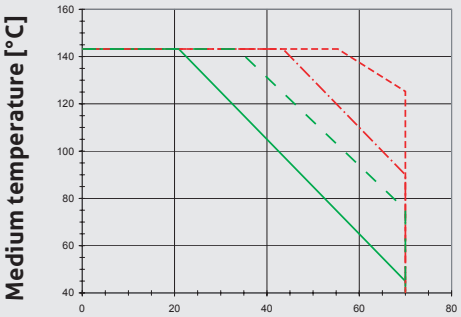
EMZ-132/L60

ESD-132/L60



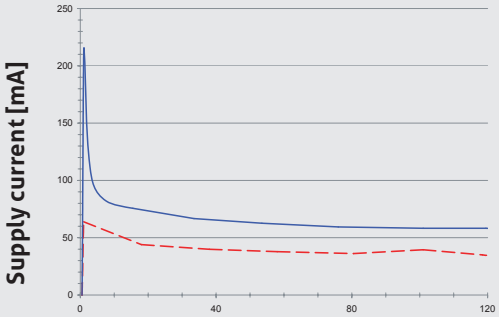
Specification		
Process connection	Thread Tightening torque	M12 x 1.5, G1/2" CLEANadapt, combined with Negele weld-in sleeve EMZ-132/L60 Max. 5...10 Nm
Materials	Connection head Connection piece Spacer Sensor tip NCS-1x Sensor tip NCS-L-1x	Stainless steel 1.4301 (AISI 304) Stainless steel 1.4305 Stainless steel 1.4305 PEEK (FDA approval number 21CFR 177.2415) Stainless steel 1.4404
Surface quality		$R_a \leq 0.8$ µm
Weight		Approx. 550 g
Operating pressure		Max. 10 bar
Electrical connection	Cable gland Cable connection	M16 x 1.5 (PG) M12 connector 1.4301 (AISI 304), 4-pins
Protection class		IP69 K (with cable connection) IP67 (with cable gland)
Power supply		16...32 V DC (see graphic)
Output	 Optional	PNP (active 50 mA, short-circuit-proof) NPN (max. 50 mA, short-circuit-proof)
Switching function	Adjustable using supply polarity	High active (sensor wetted: 'high') Low active (sensor free: 'high')
Status indicator		LED
Measuring range		DC ≥ 20
Switching threshold		Switching threshold adjustable in steps DC = 20...DC = 70

Temperature range



Constant temperature limit with heater
Overtemperature (60 min) with heater
Constant temperature limit without heater
Overtemperature (60 min) without heater

Supply/Power input



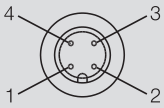
U_b = 24 V, T_u = 20 °C
U_b = 33 V, T_u = -15 °C

U_b: Supply voltage
T_u: Ambient temperature

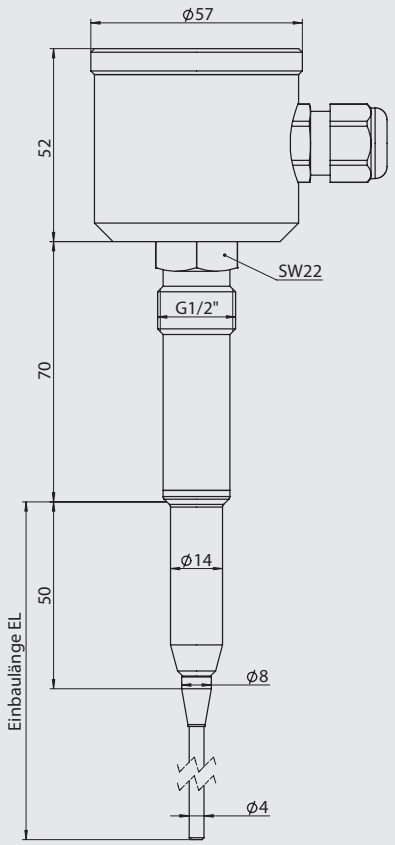
Electrical connection: terminal strip

Terminal strip	Full indicator	Empty indicator
	1: +24 V DC 2: 0 V 3: Output	1: 0 V 2: +24 V DC 3: Output

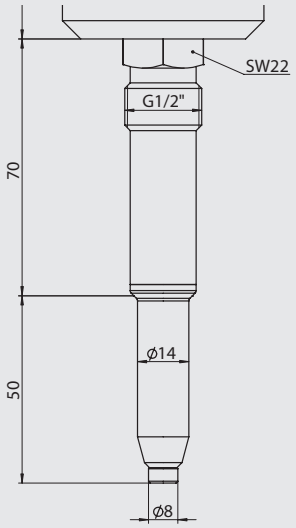
Electrical connection: M12 connector

M12 connector	Full indicator	Empty indicator
	1: +24 V DC 2: Not connected 3: 0 V 4: Output	1: 0 V 2: Not connected 3: +24 V DC 4: Output

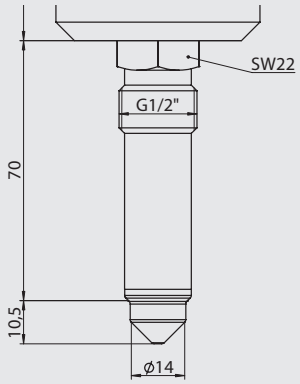
NCS-L-11...-L60



NCS-L-11/50...-L60



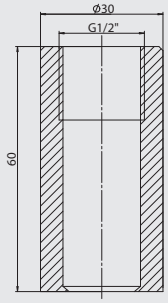
NCS-11...-L60



Mechanical connection/Installation instructions

- For all types of NCS, use the Negele weld-in sleeve EMZ-132/L60 to ensure reliable functioning of the measurement location.
- Note the maximum permissible tightening torque of 10 Nm when installing.
- To ensure that CLEANadapt weld-in sleeves are correctly installed, use a suitable welding mandrel. Follow the weld-in and installation instructions in the CLEANadapt product information.
- Do not use insulating sealants such as PTFE (Teflon) or similar.

EMZ-132/L60



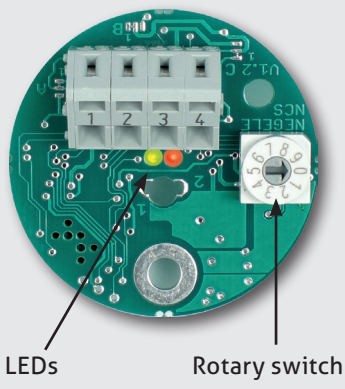
Belated shortage of sensor rod

Sensor length can be shortened by up to 50 mm.
Thereby immersion length needed for switching can vary after cut down.
These is about 5 mm at watery media.

LED status display

Sensor tip	NCS-11...-L60 NCS-L-11...-L60
Covered	
Not covered	

Electronics NCS-11, NCS-L-11



Adjustment of threshold with rotary switch

Switch position	DC value ≥ 20 NCS-11 NCS-L-11
0	Output off
1	Output on
2	20
3	25
4	30
5	35
6	40
7	50
8	60
9	70

Transport/Storage

- No outdoor storage
- Store in an area that is dry and dust-free
- Do not expose to corrosive media
- Protect against solar radiation
- Avoid mechanical shock and vibration
- Storage temperature 0...40 °C
- Relative humidity max. 80%

Reshipment

- Sensors and process connection must be clean and must not be contaminated with hazardous media and/or heat-conductive paste. Note the cleaning information!
- To avoid damage of the equipment, use suitable transport packaging only.

Standards and guidelines

- Compliance with the applicable regulations and directives is mandatory.

Cleaning/Maintenance

- When using a pressure washer, do not point the nozzle directly at the electrical connections.

Note on CE

- Applicable directives:
  Electromagnetic Compatibility Directive 2014/30/EU
- Compliance with the applicable EU directives is identified by the CE label on the product.
- The operating company is responsible for complying with the guidelines applicable to the entire installation.

Disposal

- Electrical devices should not be disposed of with household trash. They must be recycled in accordance with national laws and regulations.
- Take the device directly to a specialized recycling company and do not use municipal collection points.

Order code

NCS-11 (Standard sensor, submersion depth 11 mm, process connection CLEANadapt G1/2" hygienic)
NCS-L-11 (Sensor for submersion depth up to 200 mm, process connection CLEANadapt G1/2" hygienic)

Installation length EL (only selectable with NCS-L-11)

50	(Installation length 50 mm)
100	(Installation length 100 mm)
150	(Installation length 150 mm)
200	(Installation length 200 mm)

Please note the instructions on shortening the rod on page 3.

Output type

PNP	(Standard, active 24 V DC)
NPN	(NPN)

Temperature version

X	(Standard: for process temperatures up to 100 °C; CIP/SIP 143 °C/120 min)
D	(deactivated heater at higher ambient temperature)

Status-LED

X	(not visible)
KF	(Inspection window in lid, LED visible)
KKF	(Inspection window in lid with cone)

Electrical connection

X	(Cable gland M16 x 1.5)
M12	(M12 connector)

Special version for double-walled tanks

-L60	(Sleeve height = 60 mm)

NCS-11 /	**/**	**PNP /**	**X /**	**KF /**	**M12 /**	**-L60**

50065 / 1.2 / 2019-07-09 / SD / EU

NEGELE MESSTECHNIK GMBH
Raiffeisenweg 7
87743 Egg an der Guenz

Phone +49 (0) 83 33 . 92 04 - 0
Fax +49 (0) 83 33 . 92 04 - 49
sales@anderson-negele.com

Tech. Support:
support@anderson-negele.com
Phone +49 (0) 83 33 . 92 04 - 720