

## Technical data sheet

### Capacitive sensor

Part no.: 50135803

LCS-1M30T-N30PNO-K020T

#### Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Circuit diagrams
- Operation and display
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Figure can vary



## Technical data

### Basic data

Series	LCS-1
Switching distance $S_n$	2 ... 30 mm
Assured switching distance	30 mm

### Characteristic parameters

MTTF	262 years
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### Electrical data

Protective circuit	Polarity reversal protection
	Short circuit protected

#### Performance data

Supply voltage $U_B$	10 ... 35 V, DC
Residual ripple	0 ... 10 %, From $U_B$
Open-circuit current	18 mA
Temperature drift, max. (in % of $S_r$ )	15 %
Repeatability, max. (in % of $S_r$ )	2 %
Rated operating current	300 mA

#### Outputs

Number of digital switching outputs	1 Piece(s)
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#### Switching outputs

Type	Digital switching output
Voltage type	DC

#### Switching output 1

Assignment	Connection 1, conductor 2
Switching element	Transistor, PNP
Switching principle	NO (normally open)

### Timing

Switching frequency	100 Hz
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### Connection

Number of connections	1 Piece(s)
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#### Connection 1

Function	Signal OUT
	Voltage supply
Type of connection	Cable
Cable length	2,000 mm
Sheathing material	PTFE
Number of conductors	3 -wire
Wire cross section	0.2 mm <sup>2</sup>

### Mechanical data

Design	Cylindrical
Thread size	M30 x 1.5 mm
Dimension (Ø x L)	30 mm x 72 mm
Type of installation	Non-embedded
Housing material	Plastic
Plastic housing	Teflon (PTFE)
Sensing face material	Plastic, Teflon (PTFE)
Cover material	Plastic, Teflon (PTFE)
Net weight	142 g

### Operation and display

Type of display	LED
Number of LEDs	1 Piece(s)
Operational controls	Multiturn potentiometer (20 turns)
Function of the operational control	Sensitivity adjustment
Switching distance, adjustable	Yes

### Environmental data

Ambient temperature, operation	-30 ... 70 °C
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### Certifications

Degree of protection	IP 67
Protection class	III
Certifications	c UL US
Standards applied	IEC 60947-5-2

### Correction factors

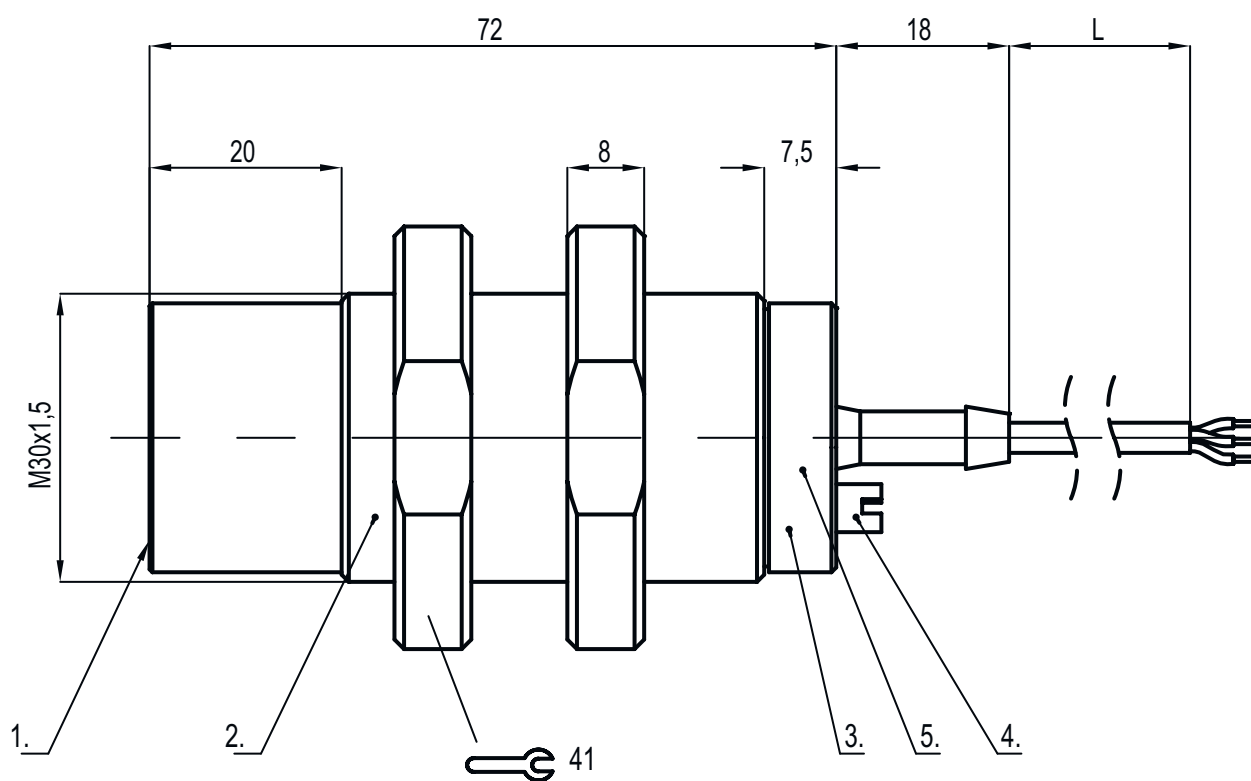
Acetone	0.75
Acrylic resin	0.1 ... 0.25
Alcohol	0.85
Ammonia	0.7 ... 0.85
Aniline	0.4
Gasoline	0.1
Celluloid	0.15
Liquid chlorine	0.1
Ebonite	0.15
Epoxy resin	0.15 ... 0.35
Crude oil	0.05
Ethanol	0.85
Ethylene glycol	0.93
Freon R22 and 502 (liquid)	0.35
Grain	0.15 ... 0.3
Glass	0.2 ... 0.55
Glycerin	0.98
Rubber	0.15 ... 0.9
Wood, wet	0.6 ... 0.85
Wood, dry	0.1 ... 0.4
Carbon dioxide	0
Air	0
Marble	0.5
Flour	0.05
Melamine resin	0.25 ... 0.55
Milk powder	0.2
Nylon	0.2 ... 0.3
Oil-containing paper	0.25
Paper	0.1
Polyamide	0.3
Polyester resin	0.15 ... 0.5
Pressboard	0.1 ... 0.3
PTFE	0.1
Quartz glass	0.2
Salt	0.35
Sand	0.15 ... 0.3
Water	1
Cement dust	0.25
Sugar	0.15

## Technical data

Customs tariff number	85365019
eCl@ss 5.1.4	27270102
eCl@ss 8.0	27270102
eCl@ss 9.0	27270102
eCl@ss 10.0	27270102
eCl@ss 11.0	27270102
ETIM 5.0	EC002715
ETIM 6.0	EC002715
ETIM 7.0	EC002715

## Dimensioned drawings

All dimensions in millimeters



- |                  |                               |
|------------------|-------------------------------|
| 1 Active surface | 4 Potentiometer               |
| 2 Housing        | 5 Red LED, function indicator |
| 3 Cover          |                               |

# Electrical connection

## Connection 1

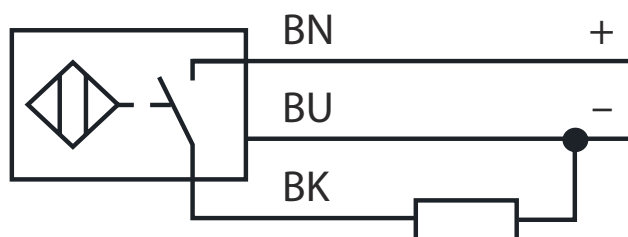
Function	Signal OUT
	Voltage supply
Type of connection	Cable
Cable length	2,000 mm
Sheathing material	PTFE
Number of conductors	3 -wire
Wire cross section	0.2 mm <sup>2</sup>

### Conductor color

### Conductor assignment

Brown	+10...35 V DC
Black	OUT
Blue	GND

## Circuit diagrams



## Operation and display

LED	Display	Meaning
1	Red, continuous light	Switching output/switching state

## Part number code

Part designation: LCS-ABBBC-DDDEFF-GHHHIJJ KK

LCS	<b>Operating principle</b> LCS: capacitive sensor
A	<b>Series</b> 1: series 1 "Extended" 2: series 2 "Advanced"
BBB	<b>Design</b> M12: series with M12 x 1 external thread M18: series with M18 x 1 external thread M30: series with M30 x 1.5 external thread Q40: series in cubic design, length 40 mm Q54: series in cubic design, length 54 mm
C	<b>Housing material</b> B: brass M: metal P: plastic/PBT T: PTFE

## Part number code

<b>DDD</b>	<b>Measurement range / type of installation</b> F03: typ. range limit 3.0 mm / embedded installation F04: typ. range limit 4.0 mm / embedded installation F05: typ. range limit 5.0 mm / embedded installation F06: typ. range limit 6.0 mm / embedded installation F08: typ. range limit 8.0 mm / embedded installation F10: typ. range limit 10.0 mm / embedded installation F15: typ. range limit 15.0 mm / embedded installation F20: typ. range limit 20.0 mm / embedded installation N06: typ. range limit 6.0 mm / non-embedded installation N08: typ. range limit 8.0 mm / non-embedded installation N15: typ. range limit 15.0 mm / non-embedded installation N25: typ. range limit 25.0 mm / non-embedded installation N30: typ. range limit 30.0 mm / non-embedded installation
<b>E</b>	<b>Output function</b> B: NC and NO contact N: NPN P: PNP
<b>FF</b>	<b>Switching</b> NC: normally closed contact NO: normally open contact NP: programmable
<b>G</b>	<b>Connection cable</b> K: cable n/a: no cable
<b>HHH</b>	<b>Cable length</b> 020: length 2,000 mm 003: length 300 mm n/a: no cable
<b>I</b>	<b>Cable material</b> P: PUR T: PTFE V: PVC
<b>JJJ</b>	<b>Electrical connection</b> M08: M8 connector, 3-pin M12: M12 connector, 4-pin (plug)
<b>KK</b>	<b>Special equipment</b> L: IO-Link interface T: teach-in n/a: no special equipment

Note	
	ⓘ A list with all available device types can be found on the Leuze website at <a href="http://www.leuze.com">www.leuze.com</a> .

## Notes

⚠ Observe intended use!	
	ⓘ This product is not a safety sensor and is not intended as personnel protection. ⓘ The product may only be put into operation by competent persons. ⓘ Only use the product in accordance with its intended use.