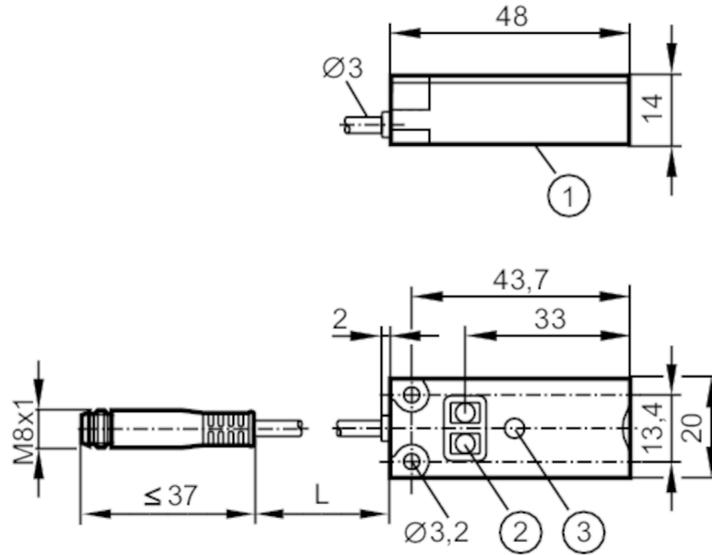


# KQ6003



## Capacitive sensor

KQ-3120NFAKG/2T/0,04M/AS



- 1 sensing face
- 2 Programming buttons
- 3 LED



### Product characteristics

Electrical design	PNP/NPN; (Automatic load detection PNP/NPN)
Output function	normally open / closed; (selectable)
Sensing range [mm]	12
Communication interface	IO-Link
Housing	rectangular
Dimensions [mm]	20 x 14 x 48

### Application

Installation	detection through non-metallic container wall or on bypass pipes
Media	dry bulk material; liquids

### Electrical data

Operating voltage [V]	10...30 DC
Current consumption [mA]	< 17
Protection class	III
Reverse polarity protection	yes
Measuring principle	capacitive

### Outputs

Electrical design	PNP/NPN; (Automatic load detection PNP/NPN)
Output function	normally open / closed; (selectable)
Max. voltage drop switching output DC [V]	2.5
Permanent current rating of switching output DC [mA]	100
Switching frequency DC [Hz]	10
Short-circuit protection	yes

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## Capacitive sensor

KQ-3120NFAKG/2T/0,04M/AS

Type of short-circuit protection	yes (non-latching)	
Overload protection	yes	
<b>Monitoring range</b>		
Sensing range [mm]	12	
Real sensing range Sr [mm]	12 ± 10 %	
<b>Accuracy / deviations</b>		
Hysteresis [% of Sr]	1...15	
Switch-point drift [% of Sr]	-20...20	
<b>Interfaces</b>		
Communication interface	IO-Link	
Transmission type	COM1 (4,8 kBaud)	
IO-Link revision	1.1	
SDCI standard	IEC 61131-9 CDV	
Profiles	Smart Sensor - SSP 0	Generic Profiled Sensor
	Function	Multiple switching signal
	Function	Process data variable
	Function	Teach channel
SIO mode	yes	
Min. process cycle time [ms]	100.8	
Supported DeviceIDs	<b>Type of operation</b>	<b>DeviceID</b>
	default	371
<b>Operating conditions</b>		
Ambient temperature [°C]	-25...80	
Protection	IP 65; IP 67; IP 69K	
<b>Tests / approvals</b>		
EMC	EN 61000-4-2 ESD	8 kV AD
	EN 61000-4-3 HF radiated	10 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-6 HF conducted	3 V
	EN 55011	class B
Shock resistance	EN 60068-2-27	30 g 6 shocks / 11 ms half-sine (x, y, z)
Vibration resistance	EN 60068-2-6	(10...55 Hz) / 1 mm amplitude, vibration duration 5 min., 30 min. per axis with resonance or 55 Hz
MTTF [years]	623	
UL approval	Ta	-25...80 °C
	Enclosure type	Type 1
	voltage supply	Limited Voltage/Current
<b>Mechanical data</b>		
Weight [g]	25.2	
Housing	rectangular	
Mounting	non-flush mountable	
Dimensions [mm]	20 x 14 x 48	
Material	housing: PBT reinforced glass-fiber; Pushbuttons: TPE-U; cover: PC reinforced glass-fiber	

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## Capacitive sensor

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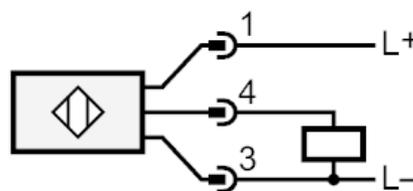
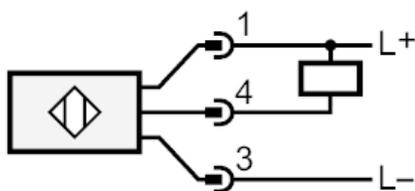
Displays / operating elements		
Display	Switching status	1 x LED, yellow
Teach function		yes
Electronic lock		yes

Remarks	
Pack quantity	1 pcs.

### Electrical connection - plug

Cable: 0.04 m, PVC; 3 x 0.14 mm<sup>2</sup>

Connector: 1 x M8; coding: A



4: OUT / IO-Link  
Automatic load detection PNP/NPN  
when using a resistive load < 20 k $\Omega$