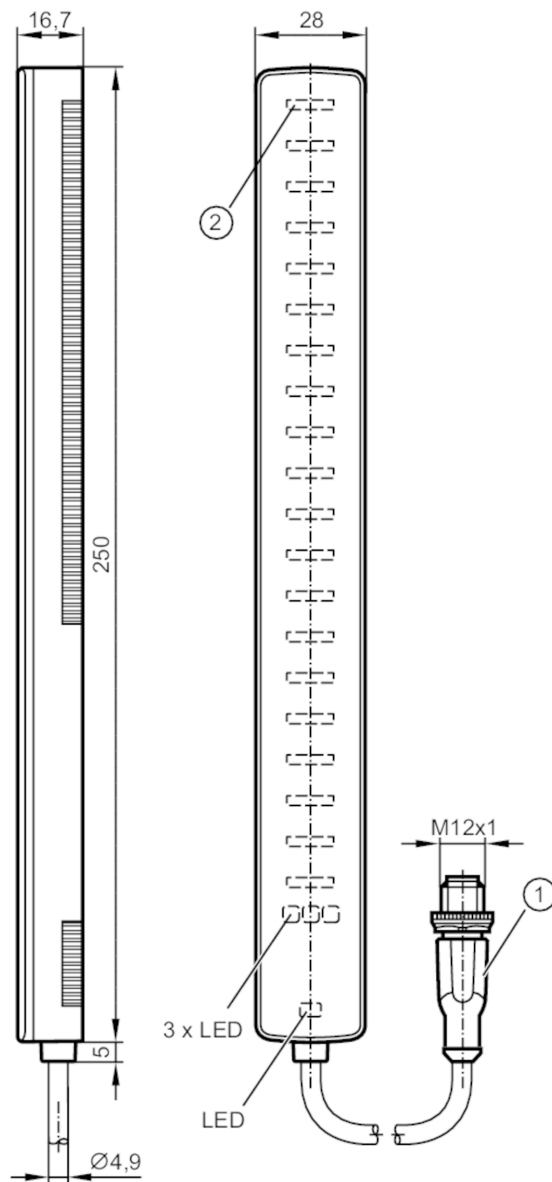


# KQ1001



## Continuous level sensor

KQ-5xxxNFPKG/IO/0,1M/US



- 1 connector
- 2 LED bar graph



### Product characteristics

Electrical design	PNP/NPN; (configurable)
Communication interface	IO-Link
Dimensions [mm]	250 x 28 x 16.7

### Application

Application	Continuous level measurement behind non-metallic and non-conductive surfaces
Media	dry bulk material; aqueous solutions; oils
Cannot be used for	very adhesive media

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Electrical data	
Operating voltage [V]	10...30 DC; (IO-Link: 18...30 DC)
Current consumption [mA]	< 50
Protection class	III
Reverse polarity protection	yes
Max. power-on delay time [ms]	1300
Measuring principle	capacitive
Inputs / outputs	
Number of inputs and outputs	Number of digital outputs: 3
Outputs	
Electrical design	PNP/NPN; (configurable)
Number of digital outputs	3
Permanent current rating of switching output DC [mA]	200
Max. resistance switching output [ $\Omega$ ]	8
Short-circuit protection	yes
Type of short-circuit protection	yes (non-latching)
Overload protection	yes
Monitoring range	
Measuring range [mm]	< 200
Measuring/setting range	
Detection range [mm]	228
Set point SP [%]	5...95
Reset point rP [%]	4...94
In steps of [%]	1
Accuracy / deviations	
Repeatability [% of the final value]	2
Offset deviation [% of the final value]	4
Resolution [% of the final value]	1
Linearity deviation [% of the final value]	1
Reaction times	
Response time [ms]	1300
Software / programming	
Parameter setting options	Damping; hysteresis / window; fault indication; Diagnostic function; Sensitivity; internal temperature; limitation of measuring range; adjustable switching delay; zero-point calibration; direction of installation; LEDs can be deactivated
Interfaces	
Communication interface	IO-Link
Transmission type	COM2 (38,4 kBaud)
IO-Link revision	1.1

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SDCI standard	IEC 61131-9	
Profiles	Digital Measuring Sensor Profile, Common Profile	
SIO mode	yes	
Required master port class	A	
Process data analog	1	
Process data binary	3	
Min. process cycle time [ms]	9.6	
IO-Link process data (cyclical)	<b>Function</b>	<b>bit length</b>
	process value	16
	exponent	8
	device status	4
	binary switching information	3
IO-Link functions (acyclical)	direction of installation; limitation of sensor elements; Sensitivity; minimum recognition threshold; Performance in case of a fault; error delay; Damping; LED mode; switch-on cycle counter; operating hours counter; switching cycles counter; min./max. process value; internal temperature; min./max. internal temperature; diagnostic data level	
Supported DeviceIDs	<b>Type of operation</b>	<b>DeviceID</b>
	default	924
Note	For further information please see the IODD PDF file at "Downloads"	

### Operating conditions

Applications	DIN EN 60654-1 application class B2	
Ambient temperature [°C]	-20...80	
Storage temperature [°C]	-25...85	
Protection	IP 65	

### Tests / approvals

EMC	DIN EN 61000-6-4 30 - 230 MHz	40 dB $\mu$ V/m QP / 10 m distance
	230 - 1 GHz	47 dB $\mu$ V/m QP / 10 m distance
	DIN EN 61000-4-2	$\pm$ 25 kV AD / $\pm$ 25 kV CD
	DIN EN 61000-4-3	80 MHz - / 1 GHz 10 V/m
	DIN EN 61000-4-4	$\pm$ 2.5 kV / 5 kHz
		$\pm$ 2.5 kV / 100 kHz
	DIN EN 61000-4-6	10 V
Shock resistance	EN 60068-2-27	15 g 11 ms
Vibration resistance	EN 60068-2-6	5 g (10...2000 Hz)
MTTF [years]	290.43	
UL approval	Ta	-25...60 °C
	Enclosure type	Type 1
	voltage supply	Limited Voltage/Current
	UL approval number	D006
	File number UL	E174191

### Mechanical data

Weight [g]	377.5	
Dimensions [mm]	250 x 28 x 16.7	
Material	PBT; PC;	

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## Continuous level sensor

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### Displays / operating elements

Display	Power	1 x LED, green
	Switching status	3 x LED, yellow
	Function	20 x LED, green

### Accessories

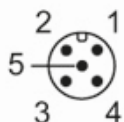
Items supplied	adhesive tape: 1 x 23 mm x 240 mm
Accessories (optional)	Mounting adapter: 2, E12675
	Mounting adapter: 2, E12676
	Fixing strap: 5, E10880
	adhesive tape: 10, E12677

### Remarks

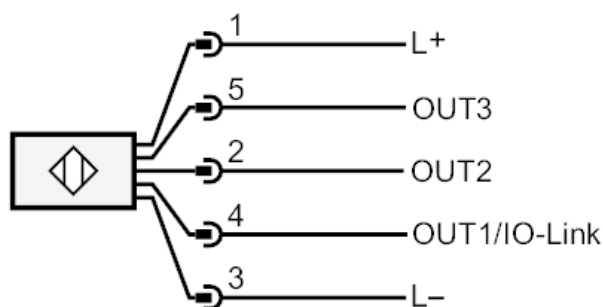
Remarks	When used on IO-Link class B masters, switching outputs OUT2, OUT3 must be turned off
Pack quantity	1 pcs.

### Electrical connection

Connector: 1 x M12; coding: A



### Connection



### Electrical connection - plug

Cable: 0.1 m, PUR