

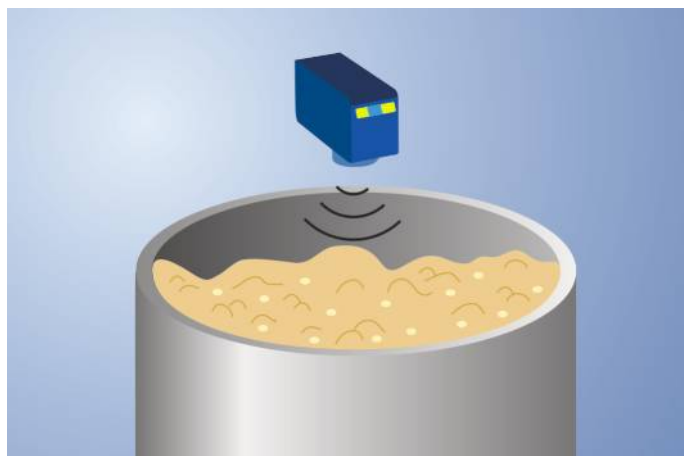
# Distance Sensor

## U1KT004



- Antivalent switching output
- Miniature design
- Ready for Industrie 4.0 with IO-Link version 1.1
- Reflex and through-beam operation mode are possible

These ultrasonic sensors evaluate the sound reflected from the object. They are capable of detecting almost any object, regardless of material and condition. As such, they are especially well suited for monitoring fill levels of liquids and bulk goods and for detecting transparent objects. The measured value can be read out via IO-Link, and the sensor can be adapted as needed to the application. The sensor can be used in reflex mode operation and as an ultrasonic through-beam sensor.



### Ultrasonic Data

Working range, reflex sensor	30...400 mm
Working range, through-beam sensor	30...800 mm
Setting Range	30...400 mm
Reproducibility maximum	4 mm
Linearity Deviation	4 mm
Resolution	0,5 mm
Ultrasonic Frequency	325 kHz
Opening Angle	< 12 °
Service Life (T = +25 °C)	100000 h
Switching Hysteresis	1 % *

### Electrical Data

Supply Voltage	18...30 V DC
Current Consumption (U <sub>b</sub> = 24 V)	< 20 mA
Switching frequency, reflex sensor	30 Hz
Switching frequency, through-beam sensor	70 Hz
Response time, reflex sensor	17 ms
Response time, through-beam sensor	8 ms
Temperature Range	-30...60 °C
Number of Switching Outputs	2
Switching Output Voltage Drop	< 2,5 V
Switching Output/Switching Current	100 mA
Synchronous Mode	up to 40 sensors
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Lockable	yes
Interface	IO-Link V1.1
Data Storage	yes
Protection Class	III

### Mechanical Data

Setting Method	Teach-In
Housing Material	Plastic, PC
Housing Material	Plastic, PC+ABS
Sensing face	Epoxy resin/glass bubble mixture
Sensing face	Plastic, PC+ABS
Sensing face	Plastic, PU
Degree of Protection	IP68
Connection	M8 × 1; 4-pin

### Safety-relevant Data

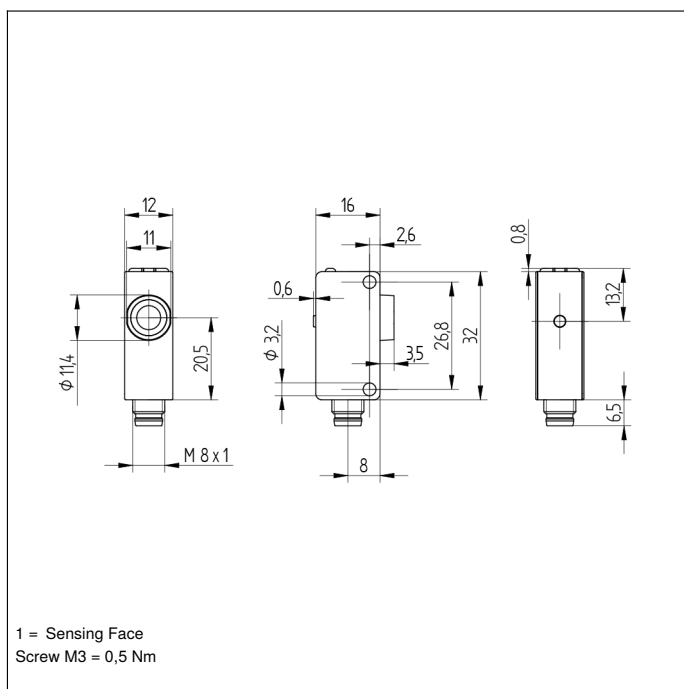
MTTFd (EN ISO 13849-1)	1106,71 a
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PNP NO	●
Programmable error output	●
IO-Link	●
Connection Diagram No.	<b>373</b>
Control Panel No.	<b>A23</b>
Suitable Connection Equipment No.	<b>7</b>
Suitable Mounting Technology No.	<b>400</b>

\* Referring to the switching distance, at least 2 mm.

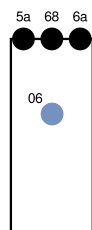
### Complementary Products

IO-Link Master
Software

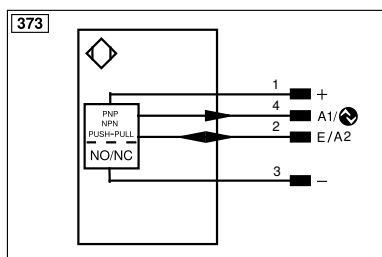


## Ctrl. Panel

A 23

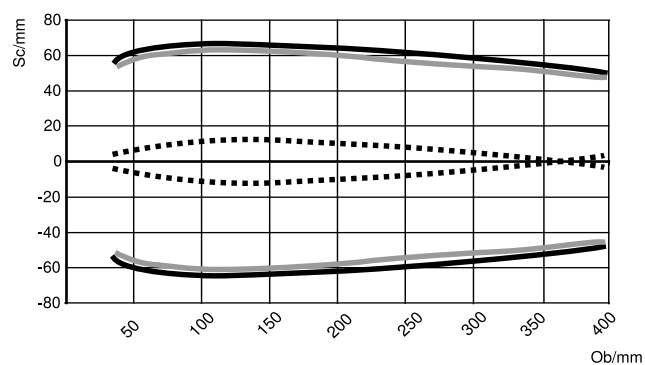


06 = Teach Button  
5a = Switching Status Indicator, A1  
68 = supply voltage indicator  
6a = Switching Status Indicator, A2



## Characteristic response curve

Characteristic curves show the position of the center or the front edge of the measured object (100 x 100 mm plate) at the time of switching.  
U1KT



Ob = Object  
Sc = Sonic cone width

— Standard sonic cone  
(center of the measured  
object)  
- - - Narrow sonic cone  
(center of the measured  
object)  
... Standard sonic cone  
(front edge of the  
measured object)

