



# UM18-20014

UM18 Double Sheet Detector

ULTRASONIC SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
UM18-20014	6037880

Other models and accessories → [www.sick.com/UM18\\_Double\\_Sheet\\_Detector](http://www.sick.com/UM18_Double_Sheet_Detector)

### Detailed technical data

#### Mechanics/electronics

<b>Supply voltage <math>V_s</math></b>	DC 20 V ... 30 V <sup>1)</sup>
<b>Power consumption</b>	≤ 1.35 W <sup>2)</sup>
<b>Initialization time</b>	< 300 ms
<b>Design</b>	Cylindrical
<b>Housing material</b>	Nickel-plated brass
<b>Connection type</b>	Connection cable: 5-wire, 2 m, PVC Sender: cable with connector, 2-pin, 1 m, PVC Receiver: cable with male connector, 2-pin, 1.2 m, PVC
<b>Indication</b>	1 x dual LED
<b>Weight</b>	280 g <sup>3)</sup>
<b>Enclosure rating</b>	IP67 <sup>4)</sup>

<sup>1)</sup> Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A.

<sup>2)</sup> Without load.

<sup>3)</sup> Incl. cable.

<sup>4)</sup> Connector of connection cable between sender and receiver complies with IP20.

#### Performance

<b>Installation distance</b>	37 mm ... 43 mm
<b>Target</b>	Natural objects
<b>Resolution</b>	Double sheets not completely glued together
<b>Ultrasonic frequency (typical)</b>	400 kHz
<b>Blind zone</b>	7 mm ... 7 mm (from sender and receiver)
<b>Permissible angle deviation</b>	± 45° perpendicular to sheet
<b>Detectable material</b>	Paper with grammages: 20 g/m <sup>2</sup> ... 1,200 g/m <sup>2</sup> Metal-laminated sheets and films: ≤ 0.4 mm Self-adhesive films, metal sheets: ≤ 0.3 mm Corrugated cardboard: single wall F, N and G flute sizes: <sup>1)</sup>

<sup>1)</sup> Approximate values: should be qualified in the application.

## Interfaces

<b>Digital output</b>	Number	2 <sup>1)</sup>
	Type	NPN
	Function	Q <sub>1</sub> : switching output double sheet, Q <sub>2</sub> : switching output mis-fed sheet, normally closed
	Maximum output current I <sub>A</sub>	≤ 500 mA
<b>Off delay</b>		10 ms
<b>Control input</b>		1 x

<sup>1)</sup> Output Q short-circuit protected.

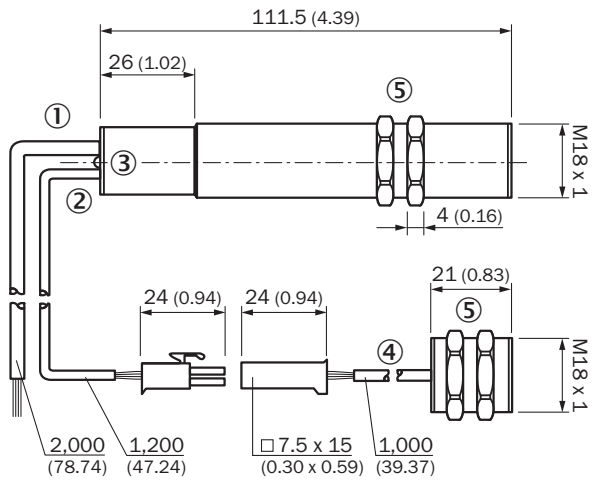
## Ambient data

<b>Ambient temperature operation</b>	+5 °C ... +60 °C
<b>Ambient storage temperature</b>	-40 °C ... +85 °C

## Classifications

<b>ECl@ss 5.0</b>	27270803
<b>ECl@ss 5.1.4</b>	27270803
<b>ECl@ss 6.0</b>	27270803
<b>ECl@ss 6.2</b>	27270803
<b>ECl@ss 7.0</b>	27270803
<b>ECl@ss 8.0</b>	27270803
<b>ECl@ss 8.1</b>	27270803
<b>ECl@ss 9.0</b>	27270803
<b>ETIM 5.0</b>	EC001824
<b>ETIM 6.0</b>	EC001824
<b>UNSPSC 16.0901</b>	39121528

### Dimensional drawing (Dimensions in mm (inch))



All dimensions in mm (inch)

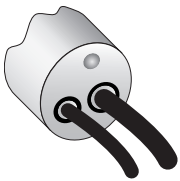
- ① Connection cable: 5-wire, 2 m, PVC
- ② Receiver: cable with male connector, 2-pin, 1.2 m, PVC
- ③ Status indicator of the digital outputs
- ④ Sender: cable with connector, 2-pin, 1 m, PVC
- ⑤ Mounting nuts, SW 24 mm

### Connection type

Connection type sender

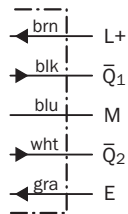


Connection type receiver



### Connection diagram

Connection diagram receiver








### Adjustment possible



- ① Connection cable: 5-wire, 2 m, PVC
- ② Receiver: cable with male connector, 2-pin, 1.2 m, PVC
- ③ Status indicator of the digital outputs

### Recommended accessories

Other models and accessories → [www.sick.com/UM18\\_Double\\_Sheet\\_Detector](http://www.sick.com/UM18_Double_Sheet_Detector)

	Brief description	Type	Part no.
<b>Universal bar clamp systems</b>			
	Plate H for universal clamp bracket, steel, zinc coated, Universal clamp (2022726), mounting hardware	BEF-KHS-H01	2022465
<b>Mounting brackets and plates</b>			
	Mounting plate for M18 sensors, steel, zinc coated, without mounting hardware	BEF-WG-M18	5321870
	Mounting bracket for M18 sensors, steel, zinc coated, without mounting hardware	BEF-WN-M18	5308446
<b>Terminal and alignment brackets</b>			
	Mounting bracket with ball-and-socket, plastic, mounting hardware included	BEF-WN-M18-ST02	5312973
	Clamping block for round sensors M18, with fixed stop, plastic (PA12), glass-fiber reinforced, mounting hardware included	BEF-KHF-M18	2051482

### Recommended services

Additional services → [www.sick.com/UM18\\_Double\\_Sheet\\_Detector](http://www.sick.com/UM18_Double_Sheet_Detector)

	Type	Part no.
Warranty extensions		
<ul style="list-style-type: none"><li>• <b>Product area:</b> Identification solutions, machine vision, Distance sensors, Detection and ranging solutions</li><li>• <b>Range of services:</b> The services correspond to the scope of the statutory manufacturer warranty (SICK general terms and conditions of purchase), Long-term protection for calculable lump sum.</li><li>• <b>Duration:</b> Five-year warranty from date of purchase.</li></ul>	Five-year extended warranty	1680671

## SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

## WORLDWIDE PRESENCE:

Contacts and other locations –[www.sick.com](http://www.sick.com)