

## UM 18 Ultrasonic sensor

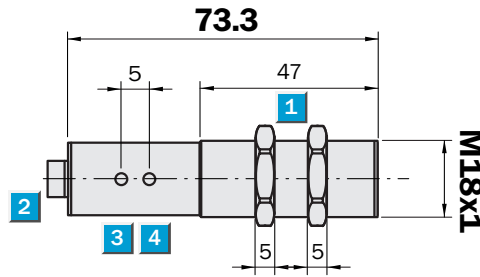


**Operating distance**  
30 ... 250 mm

**Ultrasonic sensor**

- Independent of material shape (also foils, glass, bottles)
- Synchronisation and temperature compensation
- Insensitive to dirt, dust and fog
- 1 switching output or 2 switching outputs (PNP or NPN) or analogue output
- Scanning mode and deflector mode

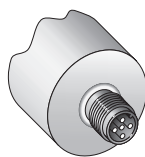
### Dimensional drawing



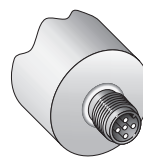
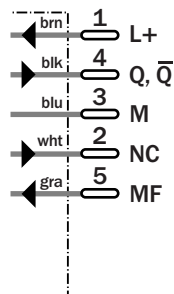
- 1** Locking nuts, 24 mm A/F
- 2** Connection plug M12
- 3** LED 1 (UM 18-51112, UM 18-51114, UM 18-11116 and UM 18-11117)
- 4** LED 2 (UM 18-51112, UM 18-51114, UM 18-11116 and UM 18-11117)

### Connection types

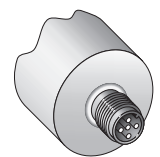
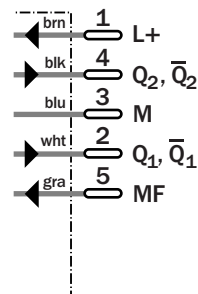
UM18-51111	UM18-51112	UM18-11116
UM18-51115	UM18-51114	UM18-11117



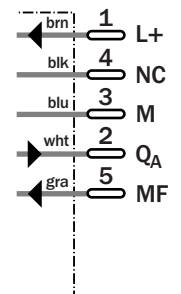
5-pin, M12



5-pin, M12



5-pin, M12



# UM 18 Ultrasonic sensor

Technical data		UM18-	51111	51112	51114	51115	11116	11117				
<b>Operating distance</b>	30 mm ... 250 mm (< 350 mm)											
<b>(maximum scanning distance)</b>												
Ultrasonic frequency	320 kHz											
Resolution	0.36 mm											
Reproducibility	typ. $\pm 0.15$ % of final value											
Accuracy	$\leq 2$ % of final value											
<b>Operating voltage</b>	$V_s = 10 \dots 30$ V DC											
Residual ripple	10 %											
Idle current consumption	$\leq 40$ mA											
Housing material sensor	Brass tube, nickel plated											
	Plastic parts: PBT											
	Ultrasonic converter: polyurethane foam, epoxy resin with glass content											
Enclosure rating to EN 60 529	IP 67											
Connection type	Plug M12, 5-pin											
Display elements	2 yellow LEDs											
Ambient temperature	Operating: $-25$ °C ... $+70$ °C Storage: $-40$ °C ... $+85$ °C											
Weight	65 g approx. (with 2 nuts)											
Control input MF	Teach-in											
Switching outputs PNP, invertable	1 x PNP <sup>1)</sup> 2 x PNP <sup>2)</sup>											
Switching outputs NPN, invertable	1 x NPN <sup>3)</sup> 2 x NPN <sup>4)</sup>											
Analogue output	4 ... 20 mA $R_L \leq 100 \Omega$ at $10 \text{ V} \leq V_s \leq 20 \text{ V}$ $R_L \leq 500 \Omega$ at $V_s \geq 20 \text{ V}$ 0 ... 10 V $R_L \geq 100 \text{ k}\Omega$ at $V_s \geq 15 \text{ V}$											
Temperature compensation	Yes											
Synchronisation option	Yes											
Functional display	Yes											
Scanning mode	Yes											
Object between sensor and background mode	Yes											
Switching hysteresis	2.0 mm $\pm 10$ %											
Switching frequency	15 Hz											
Response time	32 ms											
Standby delay	< 300 ms											

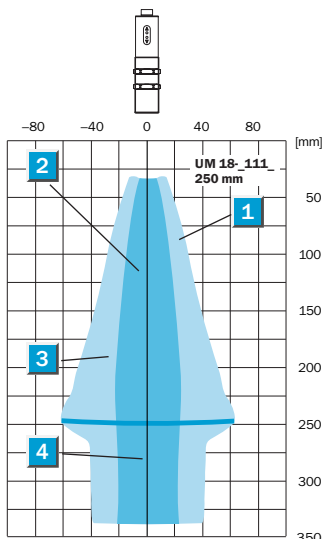
<sup>1)</sup> (L+) - 2 V,  $I_{\text{max}} = 500$  mA, short-circuit proof

<sup>2)</sup> (L+) - 2 V,  $I_{\text{max}} = 2 \times 500$  mA, short-circuit proof

<sup>3)</sup> M + 2 V,  $I_{\text{max}} = 500$  mA, short-circuit proof

<sup>4)</sup> M + 2 V,  $I_{\text{max}} = 2 \times 500$  mA, short-circuit proof

## Detection ranges



- 1** Aligned plate 500 x 500 mm<sup>2</sup>
- 2** Tube diameter 10 mm
- 3** Operating distance
- 4** Maximum scanning distance

## Order information

Type	Order no.
UM18-51111	6 028 965
UM18-51112	6 028 964
UM18-51114	6 028 973
UM18-51115	6 028 974
UM18-11116	6 029 507
UM18-11117	6 029 508

### Great Britain

Phone +44 (0)1727 83 11 21  
E-Mail: info@sick.co.uk

### USA

Phone +1(952) 941-6780  
tollfree +1-800-325-7425  
E-Mail: info@sickusa.com

### Australia

Phone +61 3 9497 4100  
tollfree +1800 33 48 02  
E-Mail: sales@sick.com.au

More representatives and agencies  
in all major industrial nations at  
[www.sick.com](http://www.sick.com)

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