

UM30-2 Ultrasonic Sensors

Detection with many advantages and now with EasyTouch



SICK
Sensor Intelligence.

UM30-2 ultrasonic sensors – flexible to use, even easier to operate with EasyTouch

No matter how dusty: The ultrasonic proximity sensors remain largely unaffected by foreign matter in the air, fog, vapour and dirt. Even the background suppression is perfect. That's what you call focussing on the essentials.

UM30-2



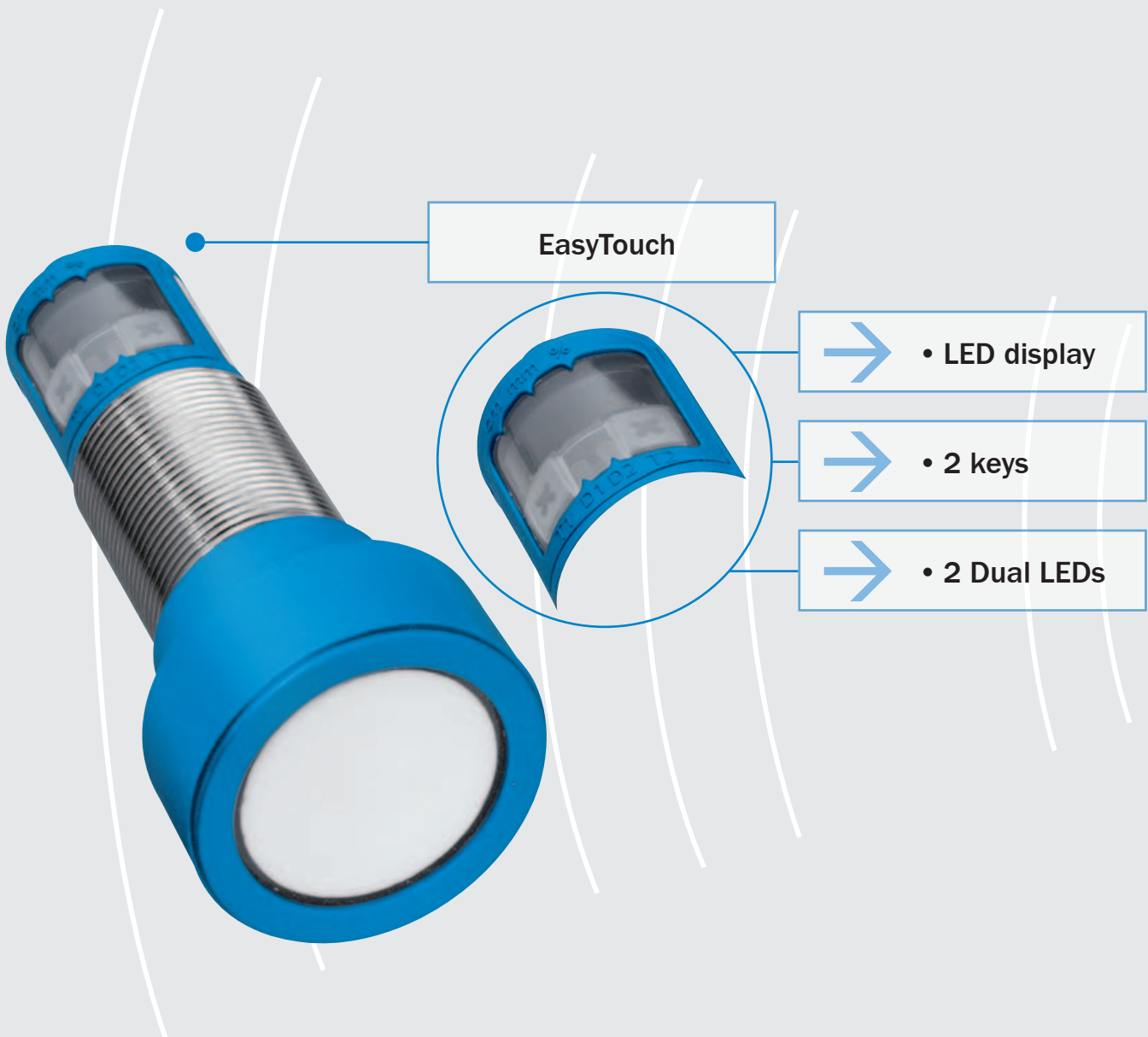
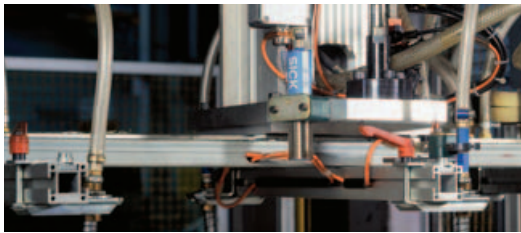
Proven sensor technology with innovative “EasyTouch” control panel

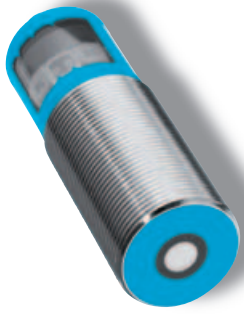
Even easier to operate – all adjustments are made using 2 keys and the three-digit LED display. Even better feedback – tri-colour LEDs for optimum display of all operating conditions. Even faster adjustment – Teach-in or numeric adjustment via LED display.

Short, medium or long range? The UM30-2 is available with five scanning distances: For short ranges, the minimum scanning distance starts at 30 mm and for long range applications, the operating distance extends to 6000 mm.

UM30-2 units are equipped with a binary switching output and an analogue output. Depending on the task, objects can be easily detected and the distance measured.

Ultrasonic sensors from SICK accurately detect objects and distances. The sound has its own world – with ultrasonic sensors offering clear advantages in many industrial sensor applications.



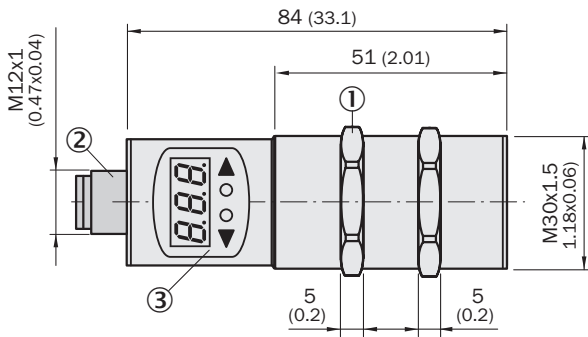


- High measuring accuracy using time-of-flight measurement
- Colour-independent (even glass and clear film are detected)
- Display for quick and flexible sensor adjustment
- Insensitive to dust, dirt and fog
- Also with combined analogue and digital output
- Operating scanning range up to 6000 mm

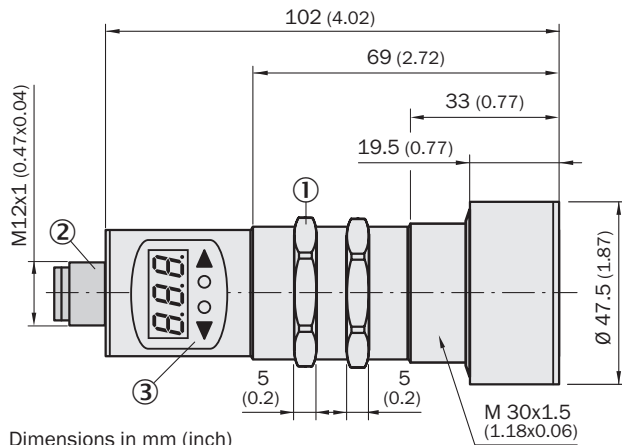
Dimensional drawing

UM30	211	11	
UM30	212	11	
UM30	213	11	

UM30	214	11	
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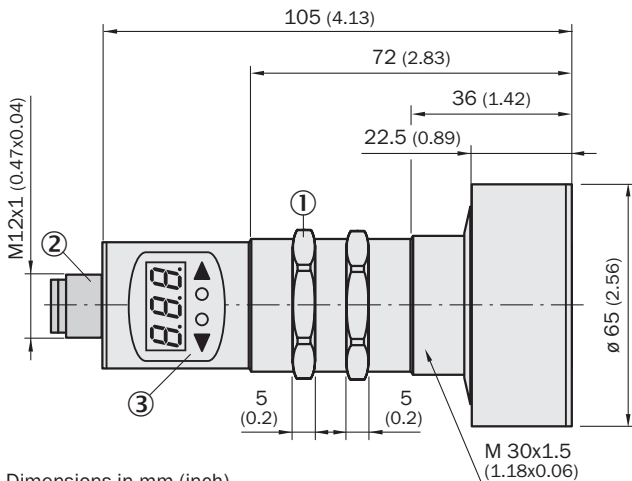


Dimensions in mm (inch)

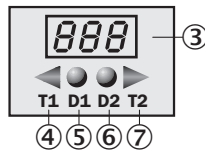


Dimensions in mm (inch)

UM30	215	11	
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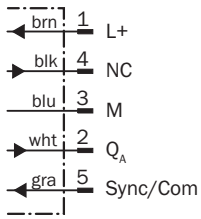
Dimensions in mm (inch)



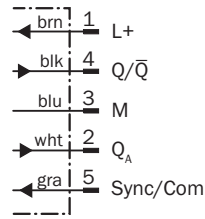
- ① Fastening nuts, width across 36 mm
- ② Connection plug M12
- ③ Control and display panel
- ④ Setting key 1
- ⑤ LED 1
- ⑥ Setting key 2
- ⑦ LED 2

Connection types, M12, 5-pin

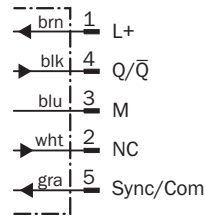
UM30 - 21x 11 3



UM30 - 21x 11 8

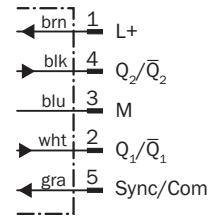


UM30 - 21x 11 1



UM30 - 21x 11 5

UM30 - 21x 11 2



UM30 - 21x 11 4

General technical data

Resolution	0.18 mm
Reproducibility	± 0.15 %
Accuracy ¹⁾	≤ 2 %
Supply voltage V _s	9 ... 30 V DC
Residual ripple	± 10 %
Current consumption ²⁾	≤ 80 mA
Time delay before availability	< 300 ms
Connection type	M12, 5-pin
Enclosure rating	IP 67
Ambient temperature	Operation -25 °C ... +70 °C Storage -40 °C ... +85 °C
Material	Housing: Nickel-plated brass, PBT, TPU; Ultrasonic transducer: Polyurethane foam, glass epoxy resin

¹⁾ Temperature compensation (can be switched off):
≤ 2 % temperature compensation/
0,17 %/°K without temperature compensation

²⁾ Limit values

Pre-selection list by measuring range

UM30 - 21x	11	3	Operating distance (max. scanning distance)	Response time	Switching frequency	Hysteresis	Ultrasonic frequency	Weight
UM30 - 211			30 ... 250 mm (350)	50 ms	11 Hz	3 mm	Approx. 320 kHz	150 g
UM30 - 212			60 ... 350 mm (600)	70 ms	8 Hz	5 mm	Approx. 400 kHz	150 g
UM30 - 213			200 ... 1300 mm (2000)	110 ms	6 Hz	20 mm	Approx. 200 kHz	150 g
UM30 - 214			350 ... 3400 mm (5000)	180 ms	3 Hz	50 mm	Approx. 120 kHz	210 g
UM30 - 215			600 ... 6000 mm (8000)	240 ms	2 Hz	100 mm	Approx. 80 kHz	270 g

Technical data specific to type incl. order information

UM30 - 211	3	Operating distance (max. scanning distance)	Response time	Switching frequency	Hysteresis	Ultrasonic frequency	Weight	
UM30 - 211			30 ... 250 mm (350)	50 ms	11 Hz	3 mm	Approx. 320 kHz	150 g
Type	Order no.	In- & outputs	Outputs & interfaces ^{1) 2) 3)}					
UM30-211111	6037660	PNP	Q1					
UM30-211112	6037664	PNP	Q1, Q2					
UM30-211118	6036921	PNP	Q1, 4 ... 20 mA, 0 ... 10 V					
UM30-211115	6037669	NPN	Q1					
UM30-211114	6037674	NPN	Q1, Q2					
UM30-211113	6036916	N/A	4 ... 20 mA, 0 ... 10V					

¹⁾ PNP: V_s = -2 V, I_{max} = 200 mA/
NPN: -V_s = +2 V, I_{max} = 200 mA
²⁾ Outputs short-circuit protected

³⁾ Automatic switching between voltage and current outputs dependent on load
4 ... 20 mA: R_L ≤ 500 Ω, V_s ≥ 20 V/
R_L ≤ 100 Ω, V_s ≥ 12 V
0...10 V: R_L ≥ 100 kΩ, V_s ≥ 15 V

UM30-2 Ultrasonic sensor

UM30 - 212	60 ... 350 mm (600)	70 ms	8 Hz	5 mm	Approx. 400 kHz	150 g
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Type	Order no.	In- & outputs	Outputs & interfaces ^{1) 2) 3)}
UM30-212111	6037661	PNP	Q1
UM30-212112	6037665	PNP	Q1, Q2
UM30-212118	6036922	PNP	Q1, 4 ... 20 mA, 0 ... 10 V
UM30-212115	6037670	NPN	Q1
UM30-212114	6037675	NPN	Q1, Q2
UM30-212113	6036917	N/A	4 ... 20 mA, 0 ... 10 V

UM30 - 213	200 ... 1300 mm (2000)	110 ms	6 Hz	20 mm	Approx. 200 kHz	150 g
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Type	Order no.	In- & outputs	Outputs & interfaces ^{1) 2) 3)}
UM30-213111	6037537	PNP	Q1
UM30-213112	6037666	PNP	Q1, Q2
UM30-213118	6036923	PNP	Q1, 4 ... 20 mA, 0 ... 10 V
UM30-213115	6037671	NPN	Q1
UM30-213114	6037676	NPN	Q1, Q2
UM30-213113	6036918	N/A	4 ... 20 mA, 0 ... 10 V

UM30 - 214	350 ... 3400 mm (5000)	180 ms	3 Hz	50 mm	Approx. 120 kHz	210 g
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Type	Order no.	In- & outputs	Outputs & interfaces ^{1) 2) 3)}
UM30-214111	6037662	PNP	Q1
UM30-214112	6037667	PNP	Q1, Q2
UM30-214118	6036924	PNP	Q1, 4 ... 20 mA, 0 ... 10 V
UM30-214115	6037672	NPN	Q1
UM30-214114	6037677	NPN	Q1, Q2
UM30-214113	6036919	N/A	4 ... 20 mA, 0 ... 10V

UM30 - 215	600 ... 6000 mm (8000)	240 ms	2 Hz	100 mm	Approx. 80 kHz	270 g
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Type	Order no.	In- & outputs	Outputs & interfaces ^{1) 2) 3)}
UM30-215111	6037663	PNP	Q1
UM30-215112	6037668	PNP	Q1, Q2
UM30-215118	6036925	PNP	Q1, 4 ... 20 mA, 0 ... 10 V
UM30-215115	6037673	NPN	Q1
UM30-215114	6037678	NPN	Q1, Q2
UM30-215113	6036920	N/A	4 ... 20 mA, 0 ... 10 V

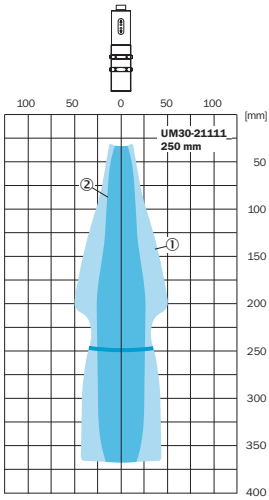
¹⁾ PNP: $V_s \geq 2V$, $I_{max} = 200\text{ mA}$
 NPN: $-V_s \geq 2V$, $I_{max} = 200\text{ mA}$

²⁾ Outputs short-circuit protected

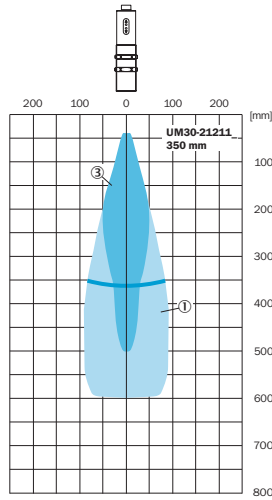
³⁾ Automatic switching between voltage and current outputs dependent on load
 4 ... 20 mA: $R_L \leq 500\ \Omega$, $V_s \geq 20\text{ V}$
 $R_L \leq 100\ \Omega$, $V_s \geq 12\text{ V}$
 0...10 V: $R_L \geq 100\text{ k}\Omega$, $V_s \geq 15\text{ V}$

Detection ranges

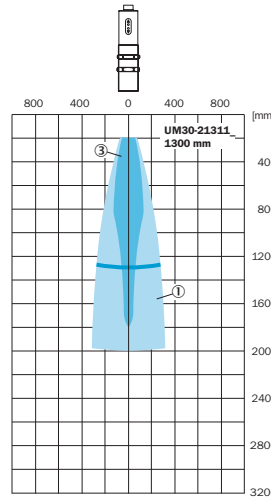
UM30 - 211 11



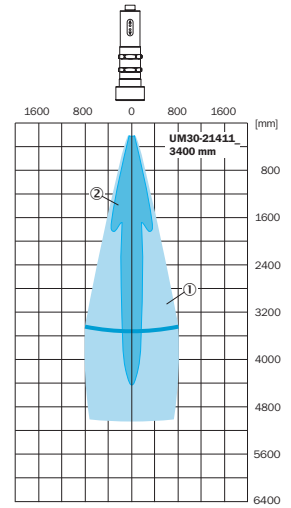
UM30 - 212 11



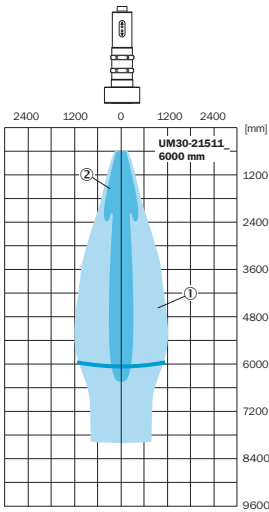
UM30 - 213 11



UM30 - 214 11



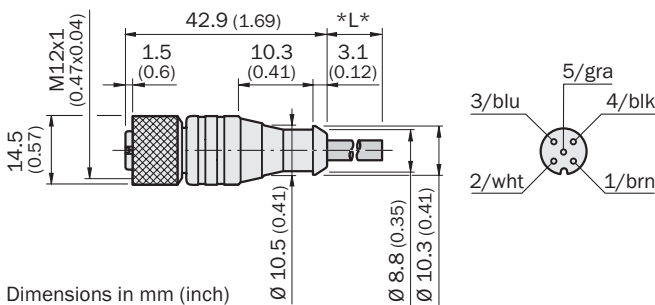
UM30 - 215 11



- ① Aligned plate 500 x 500 mm
- ② Pipe diameter 10 mm
- ③ Pipe diameter 27 mm

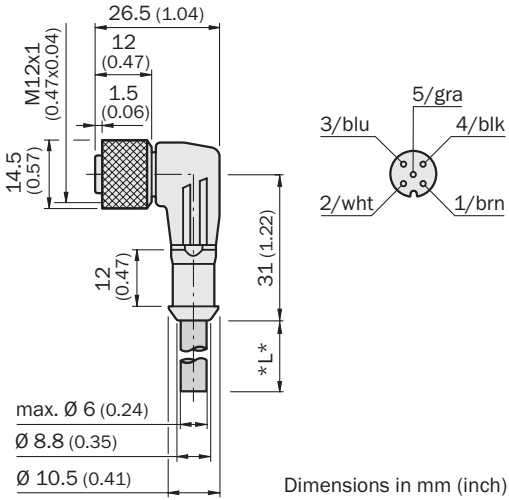
Cables and connectors

Type	Order no.	Description
DOL-1205-G02M	6008899	Female connector, M12, 5-pin, straight, 2 m, PVC
DOL-1205-G05M	6009868	Female connector, M12, 5-pin, straight, 5 m, PVC
DOL-1205-G10M	6010544	Female connector, M12, 5-pin, straight, 10 m, PVC

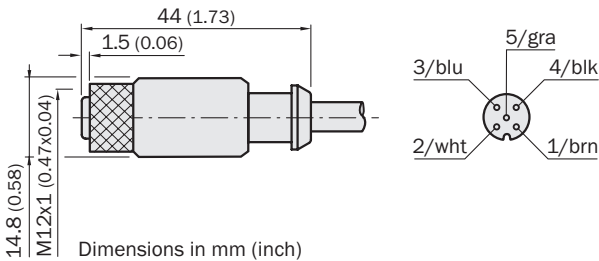


UM30-2 Ultrasonic sensor

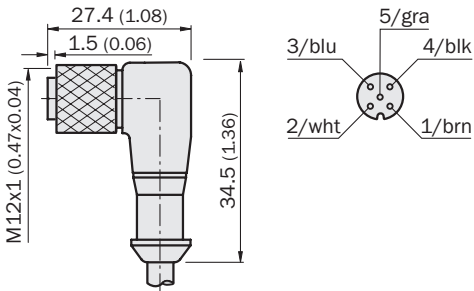
Type	Order no.	Description
DOL-1205-W02M	6008900	Female connector, M12, 5-pin, angled, 2 m, PVC
DOL-1205-W05M	6008869	Female connector, M12, 5-pin, angled, 5 m, PVC
DOL-1205-W10M	6010542	Female connector, M12, 5-pin, angled, 10 m, PVC



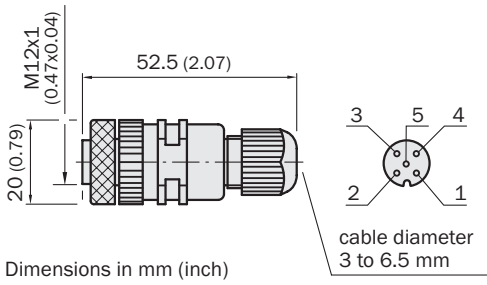
Type	Order no.	Description
DOL-1205-G02MC	6025906	Female connector, M12, 5-pin, straight, 2 m, PUR halogenfree
DOL-1205-G05MC	6025907	Female connector, M12, 5-pin, straight, 5 m, PUR halogenfree
DOL-1205-G10MC	6025908	Female connector, M12, 5-pin, straight, 10 m, PUR halogenfree



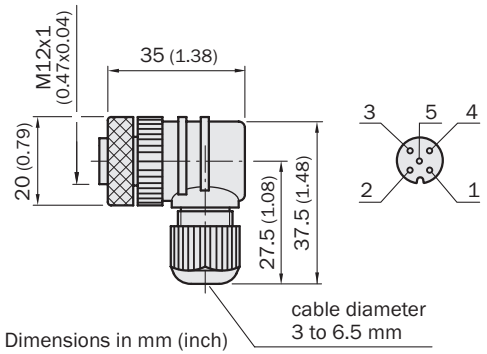
Type	Order no.	Description
DOL-1205-W02MC	6025909	Female connector, M12, 5-pin, angled, 2 m, PUR halogenfree
DOL-1205-W05MC	6025910	Female connector, M12, 5-pin, angled, 5 m, PUR halogenfree
DOL-1205-W10MC	6025911	Female connector, M12, 5-pin, angled, 10 m, PUR halogenfree



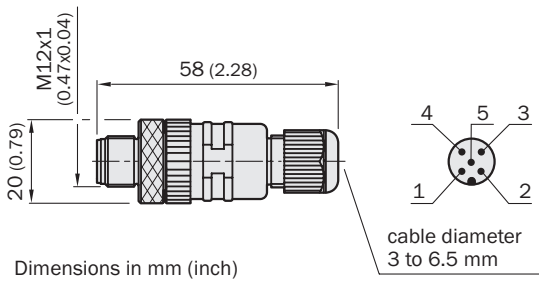
Type	Order no.	Description
DOS-1205-G	6009719	Female connector, M12, 5-pin, straight



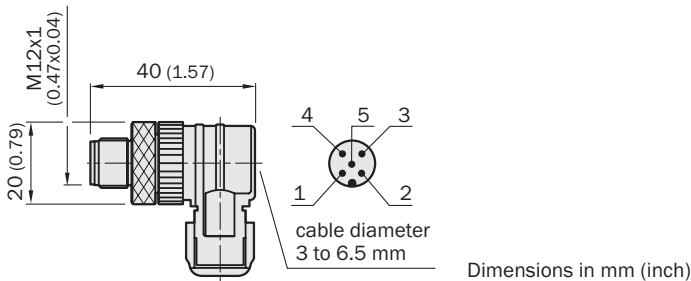
Type	Order no.	Description
DOS-1205-W	6009720	Female connector, M12, 5-pin, angled



Type	Order no.	Description
STE-1205-G	6022083	Male connector, M12, 5-pin, straight

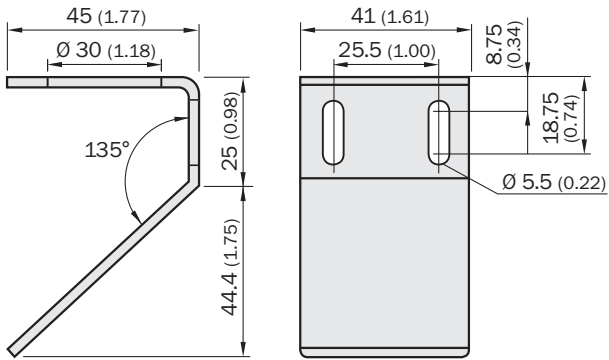


Type	Order no.	Description
STE-1205-W	6022082	Male connector, M12, 5-pin, angled



Miscellaneous

Type	Order no.	Description
Sound deflector	5312916	Sound deflector for UM30-211xx, -212xx and -213xx



Dimensions in mm (inch)

Australia

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

Belgium/Luxembourg

Phone +32 (0)2 466 55 66
E-Mail info@sick.be

Brasil

Phone +55 11 3215-4900
E-Mail sac@sick.com.br

Česká Republika

Phone +420 2 57 91 18 50
E-Mail sick@sick.cz

China

Phone +852-2763 6966
E-Mail ghk@sick.com.hk

Danmark

Phone +45 45 82 64 00
E-Mail sick@sick.dk

Deutschland

Phone +49 211 5301-250
E-Mail info@sick.de

España

Phone +34 93 480 31 00
E-Mail info@sick.es

France

Phone +33 1 64 62 35 00
E-Mail info@sick.fr

Great Britain

Phone +44 (0)1727 831121
E-Mail info@sick.co.uk

India

Phone +91-22-4033 8333
E-Mail info@sick-india.com

Israel

Phone +972-4-999-0590
E-Mail info@sick-sensors.com

Italia

Phone +39 02 27 43 41
E-Mail info@sick.it

Japan

Phone +81 (0)3 3358 1341
E-Mail support@sick.jp

Nederlands

Phone +31 (0)30 229 25 44
E-Mail info@sick.nl

Norge

Phone +47 67 81 50 00
E-Mail austefjord@sick.no

Österreich

Phone +43 (0)22 36 62 28 8-0
E-Mail office@sick.at

Polska

Phone +48 22 837 40 50
E-Mail info@sick.pl

Republic of Korea

Phone +82-2 786 6321/4
E-Mail kang@sickkorea.net

Republika Slovenija

Phone +386 (0)1-47 69 990
E-Mail office@sick.si

România

Phone +40 356 171 120
E-Mail office@sick.ro

Russia

Phone +7 495 775 05 34
E-Mail info@sick-automation.ru

Schweiz

Phone +41 41 619 29 39
E-Mail contact@sick.ch

Singapore

Phone +65 6744 3732
E-Mail admin@sicksgp.com.sg

Suomi

Phone +358-9-25 15 800
E-Mail sick@sick.fi

Sverige

Phone +46 10 110 10 00
E-Mail info@sick.se

Taiwan

Phone +886 2 2375-6288
E-Mail sickgrc@ms6.hinet.net

Türkiye

Phone +90 216 587 74 00
E-Mail info@sick.com.tr

USA/Canada/México

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

More representatives and agencies
in all major industrial nations at
www.sick.com