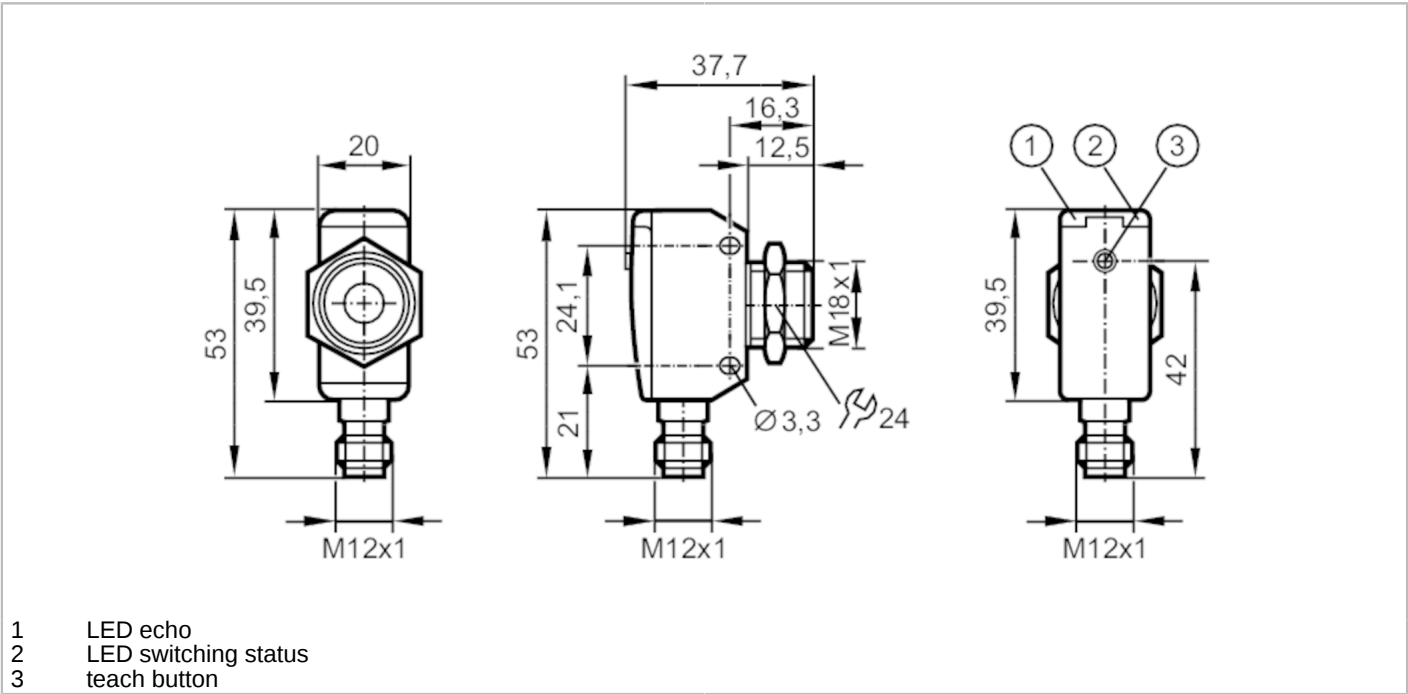




Ultrasonic sensor

UGQ00300F1KG/US



Product characteristics	
Electrical design	NPN
Output function	normally open / normally closed; (parameterisable)
Sensing range [mm]	40...300; (Target: 100 x 100 mm)
Housing	rectangular with M18 thread
Dimensions [mm]	53 x 20 x 37.7
Electrical data	
Operating voltage [V]	10...30 DC; ("supply class 2" to cULus)
Current consumption [mA]	< 35
Protection class	III
Reverse polarity protection	yes
Power-on delay time [s]	< 0.3
Converter frequency [kHz]	300
Inputs / outputs	
Number of inputs and outputs	Number of digital outputs: 1; Number of analogue outputs: 1
Outputs	
Total number of outputs	2
Output signal	switching signal; analogue signal
Electrical design	NPN
Number of digital outputs	1
Output function	normally open / normally closed; (parameterisable)
Max. voltage drop switching output DC [V]	2.2
Permanent current rating of switching output DC [mA]	100



Ultrasonic sensor

UGQ00300F1KG/US

Switching frequency DC	[Hz]	8
Number of analogue outputs		1
Analogue current output	[mA]	4...20
Max. load	[Ω]	500
Short-circuit protection		yes
Overload protection		yes

Detection zone

Sensing range	[mm]	40...300; (Target: 100 x 100 mm)
Blind zone	[mm]	40
Angle of aperture cylindrical	[°]	15; (±2)
Detection range hysteresis	[mm]	< 1
Max. deviation from the 90° angle sensor/object	[°]	± 4

Accuracy / deviations

Temperature compensation		yes
Hysteresis	[%]	< 1
Switch point drift	[%]	-5...5
Linearity error of analogue output	[%]	≤ 1
Repeatability		1 %
Resolution	[mm]	2
Notes on the accuracy / deviation		The indicated values are reached after a warm-up time of min. 20 minutes

Response times

Response time	[ms]	< 450; (analogue output)
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Operating conditions

Ambient temperature	[°C]	-20...70
Storage temperature	[°C]	-30...80
Protection		IP 67

Tests / approvals

EMC	EN 61000-4-2 ESD	4 kV CD / 8 kV AD
	EN 61000-4-3 HF radiated	3 V/m
	EN 61000-4-4 Burst	2 kV
	EN 61000-4-6 HF conducted	3 V
	EN 55011	Class A
Vibration resistance	EN 60068-2-6 Fc	(10-55) Hz 1 mm amplitude, oscillation period 5 min., 30 min. per axis at resonance or 55 Hz
Shock resistance	EN 60068-2-27 Ea	30 g 11 ms half-sine; 3 shocks each in every direction of the 3 coordinate axes
MTTF	[years]	191
UL approval	Ta	-20...70 °C
	power supply	Class 2
	File number UL	E174191

Mechanical data

Weight	[g]	98.5
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UGT586



Ultrasonic sensor

UGQ00300F1KG/US

Housing	rectangular with M18 thread	
Dimensions [mm]	53 x 20 x 37.7	
Thread designation	M18 x 1	
Materials	stainless steel (630/1.4542/17-4 PH); PBT; PA; epoxy glass ceramics	
Tightening torque [Nm]	50	

Displays / operating elements

Display	switching status	1 x LED, yellow
	echo	1 x LED, green
Teach function	yes	

Accessories

Items supplied	lock nuts: 1, stainless steel
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Remarks

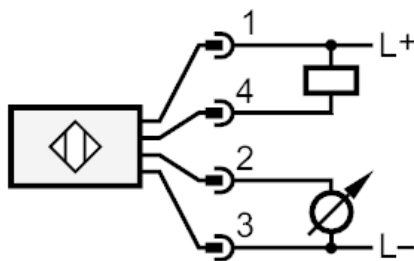
Remarks	operating voltage "supply class 2" according to cULus
Pack quantity	1 pcs.

Electrical connection

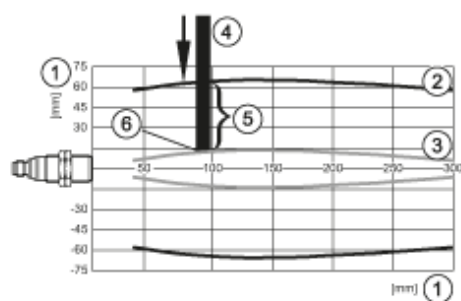
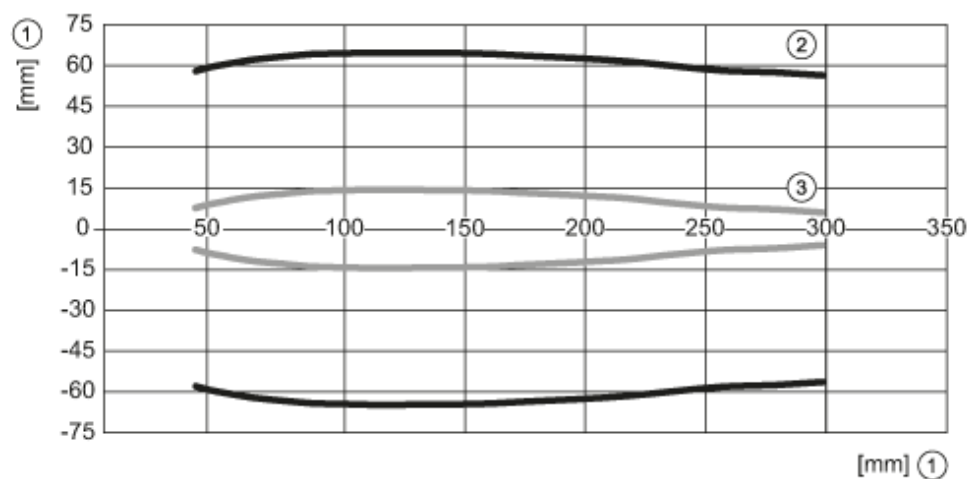
Connector: 1 x M12; coding: A



Connection



Diagrams and graphs



- 1: distance
- 2: Detection zone
- 3: switch-on/switch-off graph
- 4: Target 100 x 100 mm
- 5: 50% of the target in the detection zone
- 6: switch point