

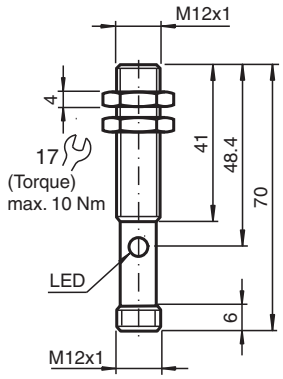
Ultrasonic sensor

UBH60/30-12GM-U-V1

- Thickness measurement with analog output 0 ... 10 V
- Automatic compensation of the reference distance, deactivateable
- Extremely narrow projection cone
- Short response time

Single head system

Dimensions



Technical Data

General specifications		
Measuring range		object thickness (d) : 0 ... 30 mm
Dead band		0 ... 15 mm
Reference distance	h	50 ... 60 mm
Standard target plate		10 mm x 10 mm
Transducer frequency		approx. 850 kHz
Response delay		approx. 12 ms
Indicators/operating means		
LED yellow		solid: object in evaluation range
LED red		solid red: Error red, flashing: program function, object not detected
Electrical specifications		
Operating voltage	U_B	15 ... 30 V DC , ripple 10 %$_{SS}$
No-load supply current	I_0	≤ 30 mA
Time delay before availability	t_v	≤ 200 ms
Input		
Input type		1 funtion input 0-level: -$U_B$or unwired 1-level: +4 V ... +U_B input impedance: > 4.7 kΩ
Output		

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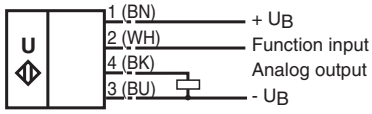
Technical Data

Output type	1 analog output 0 ... 10 V
Resolution	0.17 mm
Deviation of the characteristic curve	± 1 % of full-scale value
Repeat accuracy	± 0.5 % of full-scale value
Load impedance	> 1 kOhm
Compliance with standards and directives	
Standard conformity	
Standards	EN IEC 60947-5-2:2020 IEC 60947-5-2:2019 EN 60947-5-7:2003 IEC 60947-5-7:2003
Approvals and certificates	
UL approval	cULus Listed, Class 2 Power Source
CCC approval	CCC approval / marking not required for products rated ≤36 V
Ambient conditions	
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications	
Connection type	Connector plug M12 x 1 , 4-pin
Degree of protection	IP67
Material	
Housing	brass, nickel-plated
Transducer	epoxy resin/hollow glass sphere mixture; foam polyurethane, cover PBT
Mass	25 g
Dimensions	
Length	70 mm
Diameter	12 mm

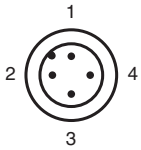
Connection Assignment

Standard symbol/Connections:



Core colors in accordance with EN 60947-5-2.

Connection Assignment



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Connection Assignment

Wire colors in accordance with EN 60947-5-2

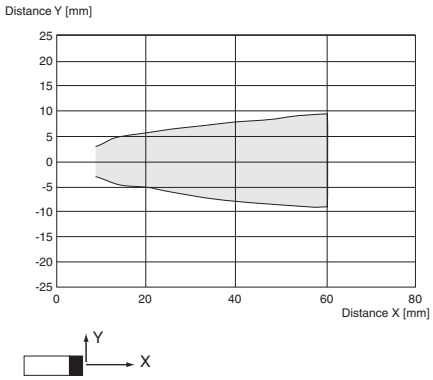
1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Installation Conditions

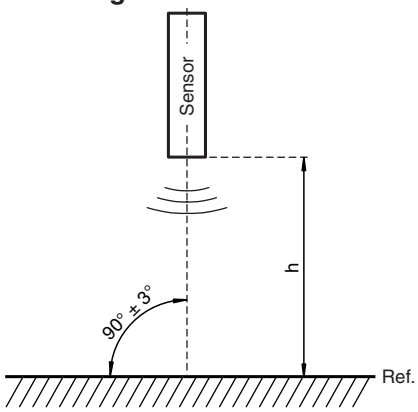
If the sensor is installed at places where the environment temperature can fall below 0 °C, for the sensors fixation, one of the mounting flanges BF 12, BF 12-F or BF 5-30 must be used. In case of direct mounting of the sensor in a through hole, it has to be fixed at the middle of the housing thread.

Characteristic Curve

Characteristic response curve



Mounting



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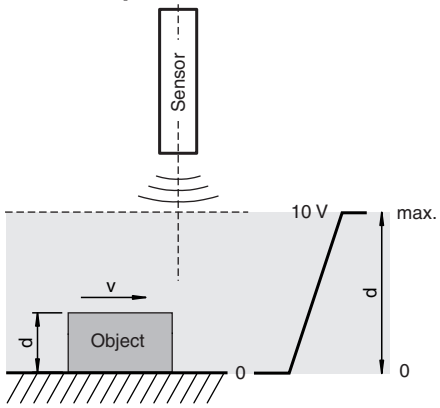
Characteristic Curve

Normal operation



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