

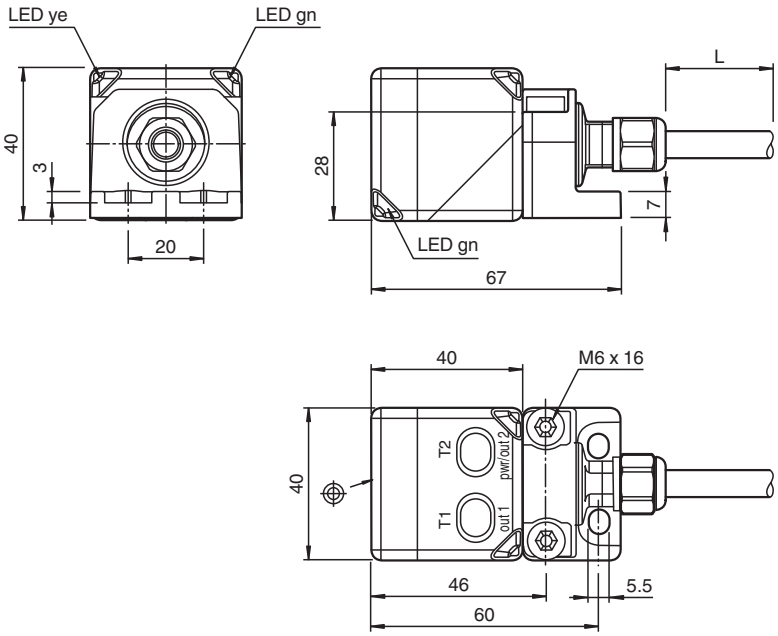
Ultrasonic sensor

UC500-L2M-E6-T-2M

- Extended temperature range
- Cable connection
- Rugged metal base
- Sensor head bidirectional and rotatable
- Function indicators visible from all directions
- Selectable sound lobe width
- Programmable

Single head system

Dimensions



Technical Data

General specifications		
Sensing range		35 ... 500 mm
Adjustment range		50 ... 500 mm
Dead band		0 ... 35 mm
Standard target plate		100 mm x 100 mm
Transducer frequency		approx. 380 kHz
Nominal ratings		
Response delay		minimum: 20 ms factory setting: 55 ms
Time delay before availability	t_v	≤ 1600 ms
Indicators/operating means		
LED green		Operating display
LED yellow 1		switching state switch output 1

Release date: 2025-06-24 Date of issue: 2025-06-24 Filename: 299130_eng.pdf

Technical Data

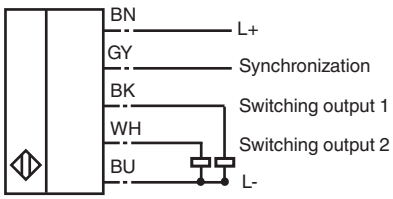
LED yellow 2		switching state switch output 2
LED red		error
Electrical specifications		
Operating voltage	U_B	10 ... 30 V DC , ripple 10 $\%_{SS}$
No-load supply current	I_0	≤ 50 mA
Interface		
Interface type		Serial interface (programming adapter required) 9600 BPS, no parity, 8 data bits, 1 stop bit
Input/Output		
Input/output type		1 synchronization connection, bidirectional
0 Level		0 ... 1 V
1 Level		4 V ... U_B
Input impedance		> 12 kΩ
Output current		< 12 mA
Pulse length		0.5 ... 300 ms (level 1)
Pulse interval		≥ 14 ms (level 0)
Synchronization frequency		
Common mode operation		≤ 70 Hz
Multiplex operation		≤ 90 Hz / n , n = number of sensors , n ≤ 10 (factory setting: n = 5)
Output		
Output type		2 switch outputs PNP, NO/NC, programmable
Rated operating current	I_e	200 mA , short-circuit/overload protected
Voltage drop	U_d	≤ 2 V
Repeat accuracy		≤ 0.1 % of full-scale value
Switching frequency	f	≤ 14 Hz
Range hysteresis	H	programmable , preset to 1 mm
Temperature influence		< 1.5 % of full-scale value
Compliance with standards and directives		
Standard conformity		
Standards		EN IEC 60947-5-2:2020 IEC 60947-5-2:2019
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		-40 ... 70 °C (-40 ... 158 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications		
Connection type		cable , 5-pin
Degree of protection		IP67
Material		
Housing		PA-GF35
Cable		PUR
Transducer		epoxy resin/hollow glass sphere mixture; polyurethane foam
Cable		
Sheath diameter		7.25 mm
Bending radius		> 37.3 mm , fixed installation > 74.7 mm , movable installation
Core cross section		5 x 0.82 mm^2
Length	L	2 m
Mass		345 g
Dimensions		
Height		40 mm

Release date: 2025-06-24 Date of issue: 2025-06-24 Filename: 299130_eng.pdf

Technical Data

Width		40 mm
Length		40 mm
Factory settings		
Output 1		near switch point: 50 mm far switch point: 500 mm Output mode: Window mode output behavior: NO contact
Output 2		near switch point: 100 mm far switch point: 250 mm Output mode: Window mode output behavior: NO contact
Beam width		wide
Evaluation procedure		averaging (MxN) M = 5 N = 2
General information		
Supplementary information		Switch settings of the external programming adapter: "output load": pull-down "output logic": inv

Connection Assignment

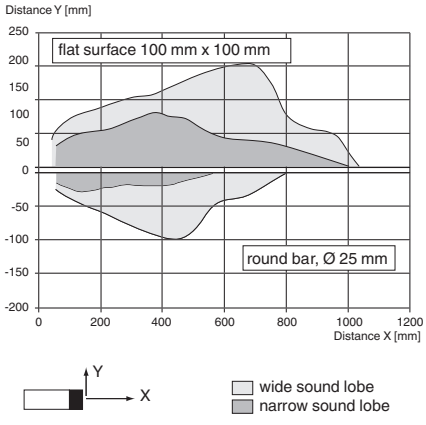


Wire colors in accordance with EN 60947-5-2

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

Characteristic Curve

Characteristic response curve

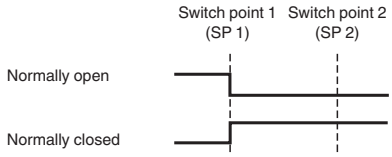


Release date: 2025-06-24 Date of issue: 2025-06-24 Filename: 299130_eng.pdf

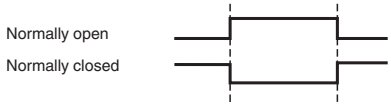
Characteristic Curve

Switching output modes

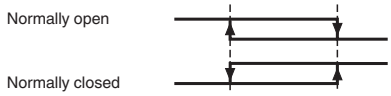
1. Switch point mode



2. Window mode



3. Hysteresis mode



Release date: 2025-06-24 Date of issue: 2025-06-24 Filename: 299130_eng.pdf

Commissioning

Adjustment possibilities

The sensor is equipped with 2 switching outputs with 2 programmable switch points each. The programming of the switch points, the output mode, the output logic and the beam width can be done in two different ways:

- Using the sensor's programming buttons
- Using the sensor's serial interface. This method requires an external programming adapter and the corresponding software. You will find the download link for the software at www.pepperl-fuchs.com on the product page of the sensor.

Synchronization

The sensor features a synchronization input for suppressing ultrasonic mutual interference ("crosstalk"). The following synchronization modes are available:

1. Automatic multiplex mode
2. Automatic master slave common mode
3. Externally controlled synchronization

Further Documentation

For information on programming via programming buttons and synchronisation you may refer to the commissioning instruction.

Release date: 2025-06-24 Date of issue: 2025-06-24 Filename: 299130_eng.pdf