

2D/3D Profile Sensor

MLWL233

LASER

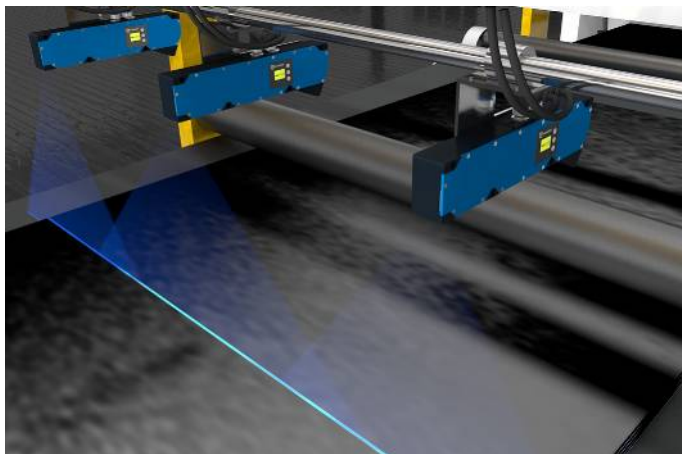
weCat3D

Part Number



- Blue light for applications on metal, organic or semi-transparent materials
- Optimized profile quality thanks to HDR function
- Precise measuring range resolution X (> 2000 measuring points)
- Up to 12 million measuring points per second

2D/3D Profile Sensors project a laser line onto the object to be detected and generate an accurate, linearized height profile with an internal camera which is set up at a triangulation angle. Thanks to its uniform, open interface, the weCat3D series can be incorporated by means of the DLL program library or the GigE Vision standard without an additional control unit. Alternatively, wenglor offers its own software packages for implementing your application.



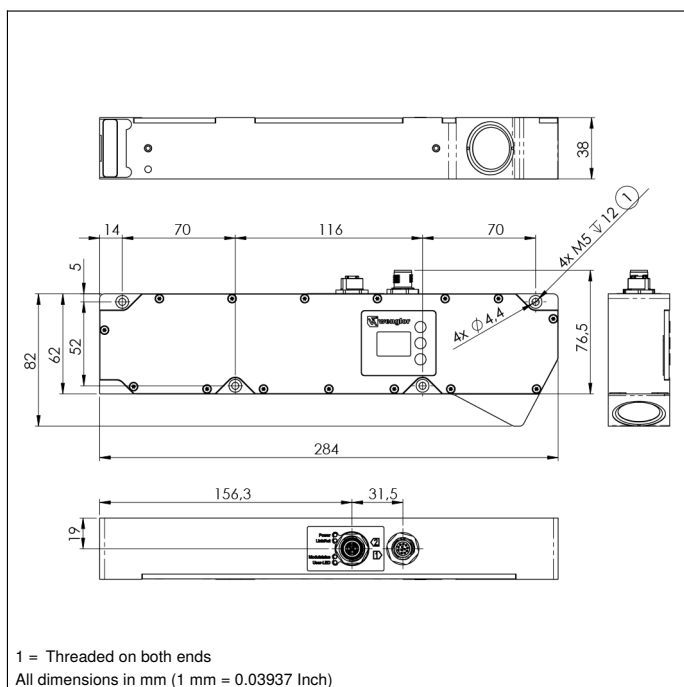
Technical Data

Optical Data	
Working range Z	300...1000 mm
Measuring range Z	700 mm
Measuring range X	280...830 mm
Linearity Deviation	175 µm
Resolution Z	27...162 µm
Resolution X	181...446 µm
Light Source	Laser (blue)
Wavelength	405 nm
Laser Class (EN 60825-1)	2M
Max. Ambient Light	5000 Lux
Electrical Data	
Supply Voltage	18...30 V DC
Current Consumption (Ub = 24 V)	300 mA
Measuring Rate	175...6000 /s
Subsampling	350...6000 /s
Temperature Range	0...45 °C
Storage temperature	-20...70 °C
Inputs/Outputs	4
Switching Output Voltage Drop	< 1,5 V
Switching Output/Switching Current	100 mA
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Overload Protection	yes
Interface	Ethernet TCP/IP
Baud Rate	100/1000 Mbit/s
Protection Class	III
FDA Accession Number	1710273-000
Mechanical Data	
Housing Material	Aluminum
Degree of Protection	IP67
Connection	M12 × 1; 12-pin
Type of Connection Ethernet	M12 × 1; 8-pin, X-cod.
Optic Cover	Glass
Weight	1120 g
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	152,93 a
Web server	yes
Configurable as PNP/NPN/Push-Pull	☒
Switchable to NC/NO	☒
Connection Diagram No.	1022 1034
Control Panel No.	X2 A22
Suitable Connection Equipment No.	50 87
Suitable Mounting Technology No.	343

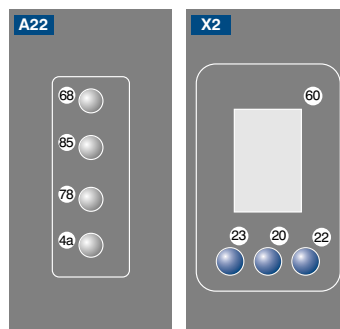
Display brightness may decrease with age. This does not result in any impairment of the sensor function.

Complementary Products

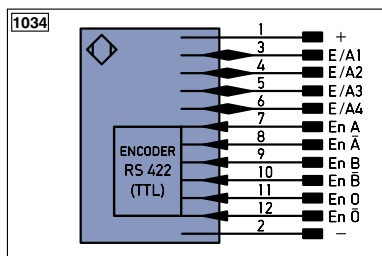
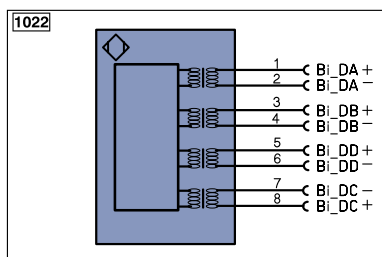
Control Unit
Cooling Unit ZLWK006
Protective Screen Retainer ZLWS006
Software
Switch EHSS001



Ctrl. Panel



- 20 = Enter Button
- 22 = UP Button
- 23 = Down Button
- 4a = User LED
- 60 = Display
- 68 = Supply Voltage Indicator
- 78 = Module status
- 85 = Link/Act LED



Legend

+ Supply Voltage +	PT Platinum measuring resistor	ENAR5422 Encoder A/Ā (TTL)
- Supply Voltage 0 V	nc not connected	ENBR5422 Encoder B/B̄ (TTL)
~ Supply Voltage (AC Voltage)	U Test Input	ENa Encoder A
A Switching Output (NO)	Ū Test Input inverted	ENb Encoder B
Ā Switching Output (NC)	W Trigger Input	AMIN Digital output MIN
V Contamination/Error Output (NO)	W- Ground for the Trigger Input	AMAX Digital output MAX
Ū Contamination/Error Output (NC)	O Analog Output	AOK Digital output OK
E Input (analog or digital)	O- Ground for the Analog Output	SY_in Synchronization In
T Teach Input	BZ Block Discharge	SY_OUT Synchronization OUT
Z Time Delay (activation)	AWV Valve Output	OLt Brightness output
S Shielding	a Valve Control Output +	M Maintenance
RxD Interface Receive Path	b Valve Control Output 0 V	rsv reserved
TxD Interface Send Path	SY Synchronization	Wire Colors according to IEC 60757
RDY Ready	SY- Ground for the Synchronization	BK Black
GND Ground	E+ Receiver-Line	BN Brown
CL Clock	S+ Emitter-Line	RD Red
E/A Output/Input programmable	± Grounding	OG Orange
IO-Link	SnR Switching Distance Reduction	YE Yellow
PoE Power over Ethernet	Rx+/- Ethernet Receive Path	GN Green
IN Safety Input	Tx+/- Ethernet Send Path	BU Blue
OSSD Safety Output	Bus Interfaces-Bus A(+)/B(-)	VT Violet
Signal Signal Output	La Emitted Light disengageable	GY Grey
Bi_D+/- Ethernet Gigabit bidirect. data line (A-D)	Mag Magnet activation	WH White
EN0r5422 Encoder 0-pulse 0-0 (TTL)	RES Input confirmation	PK Pink
	EDM Contactor Monitoring	GNYE Green/Yellow

Measuring field X, Z

