

# 2D/3D Profile Sensor

## MLWL101 LASER

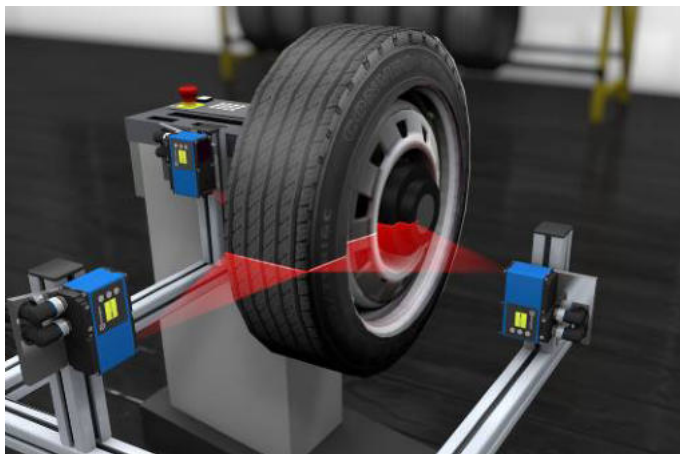
Part Number

weCat3D



- 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.



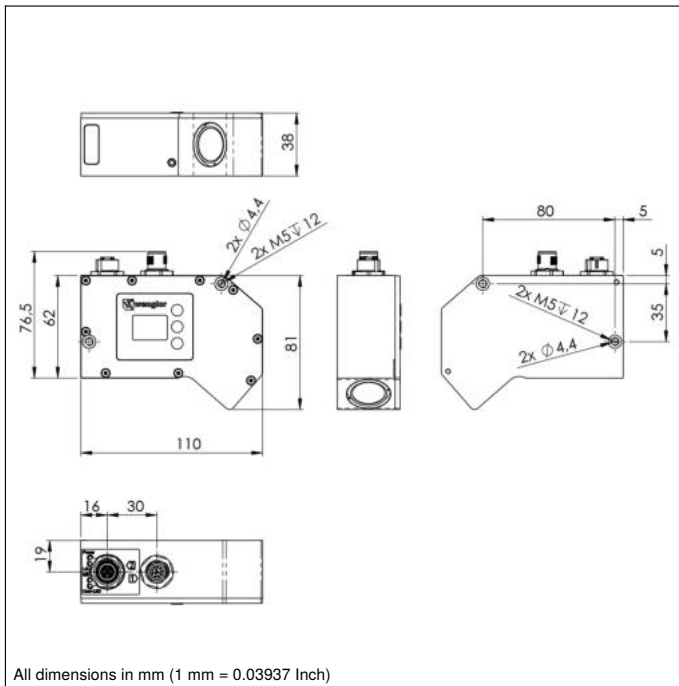
### Technical Data

Optical Data	
Working range Z	70...130 mm
Measuring range Z	60 mm
Measuring range X	30...52 mm
Linearity Deviation	15 µm
Resolution Z	2...4,9 µm
Resolution X	17...26 µm
Light Source	Laser (red)
Wavelength	660 nm
Laser Class (EN 60825-1)	1M
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	1610573-000
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	480 g
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.

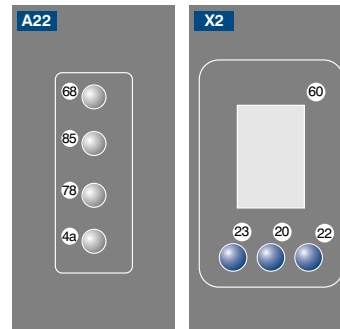
### Complementary Products

Control Unit
Cooling Unit ZLWK001
Protective Screen Retainer ZLWS001
Software
Switch EHSS001

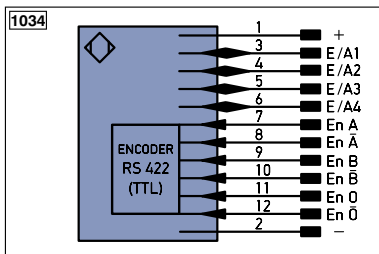
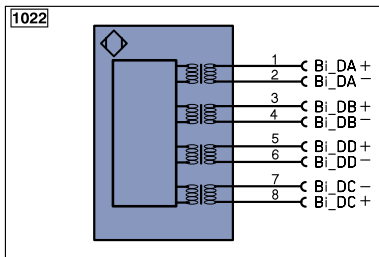


All dimensions in mm (1 mm = 0.03937 Inch)

## Ctrl. Panel



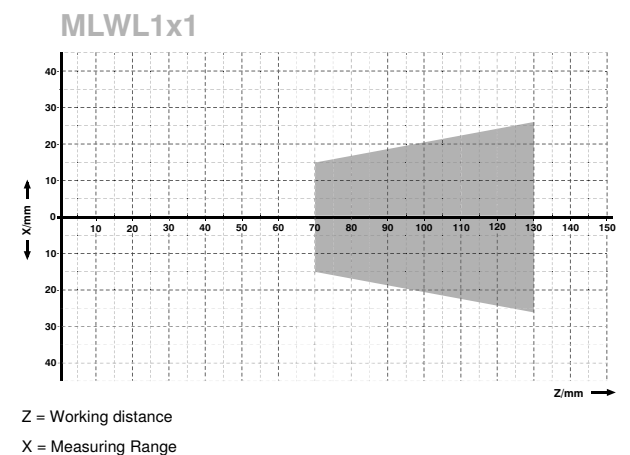
20 = Enter Button  
22 = UP Button  
23 = Down Button  
4a = User LED  
60 = Display  
68 = Supply Voltage Indicator  
78 = Module status  
85 = Link/Act LED



## Legend

+	Supply Voltage +	PT	Platinum measuring resistor	ENAR5422	Encoder A/Ä (TTL)
-	Supply Voltage 0 V	nc	not connected	ENB5422	Encoder B/B̄ (TTL)
~	Supply Voltage (AC Voltage)	U	Test Input	ENa	Encoder A
A	Switching Output (NO)	U	Test Input inverted	ENb	Encoder B
Ä	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
V̄	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	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
EN0.5422	Encoder 0-pulse 0-0 (TTL)	RES	Input confirmation	PK	Pink
		EDM	Contact Monitoring	GNYE	Green/Yellow

## Measuring field X, Z



Z = Working distance  
X = Measuring Range

