

2D/3D Profile Sensor

MLWL172

LASER

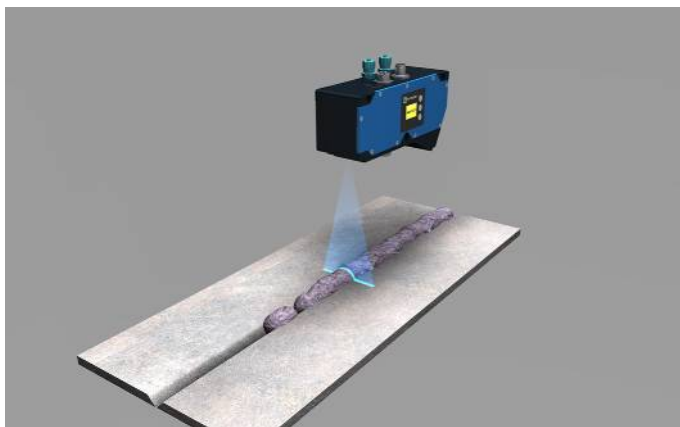
weCat3D

Part Number



- Blue light for applications on metal, organic or semi-transparent materials
- Increased resistance to extraneous light and high speed
- 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.



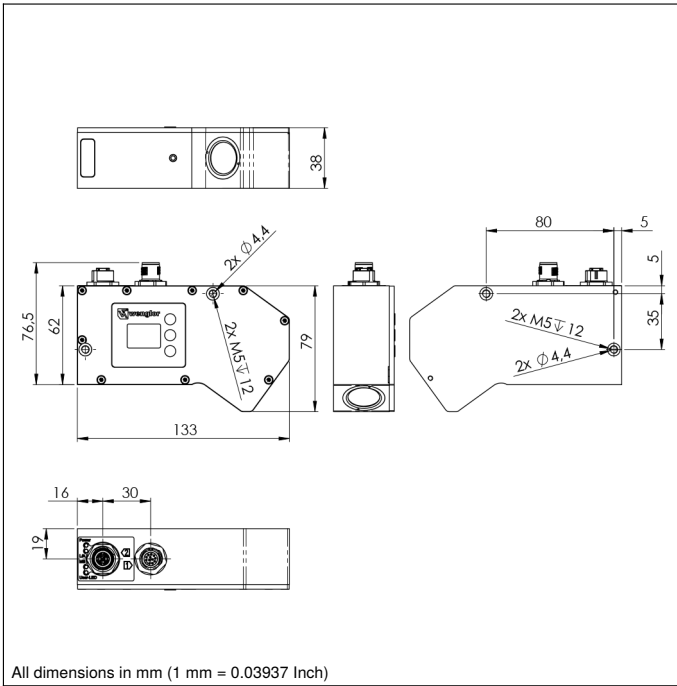
Technical Data

Optical Data	
Working range Z	83...213 mm
Measuring range Z	130 mm
Measuring range X	50...110 mm
Linearity Deviation	32,5 µm
Resolution Z	3,2...14 µm
Resolution X	26...55 µm
Light Source	Laser (blue)
Wavelength	450 nm
Service Life (T = +25 °C)	20000 h
Laser Class (EN 60825-1)	3B
Max. Ambient Light	5000 Lux
Electrical Data	
Supply Voltage	18...30 V DC
Current Consumption (U _b = 24 V)	1000 mA
Measuring Rate	175...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	1710277-000
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	570 g
Web server	yes
Configurable as PNP/NPN/Push-Pull	<input checked="" type="checkbox"/>
Switchable to NC/NO	<input checked="" type="checkbox"/>
Connection Diagram No.	1022 1023
Control Panel No.	X2 A22
Suitable Connection Equipment No.	50 87
Suitable Mounting Technology No.	343

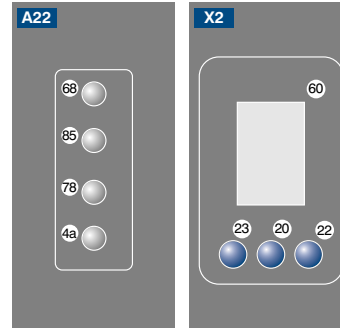
Display brightness may decrease with age. This does not result in any impairment of the sensor function.

Complementary Products

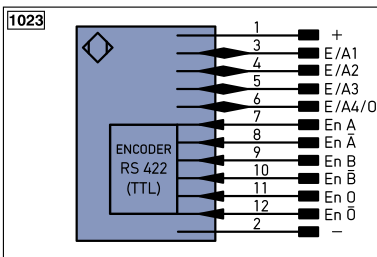
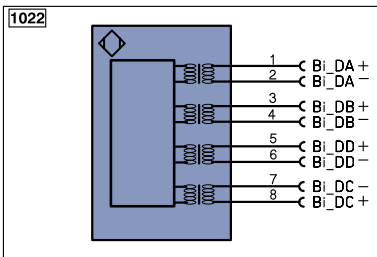
Control Unit	
Cooling Unit ZLWK002	
Protective Screen Retainer ZLWS002	
Software	
Switch ZAC45FN01	



All dimensions in mm (1 mm = 0.03937 Inch)

Ctrl. Panel


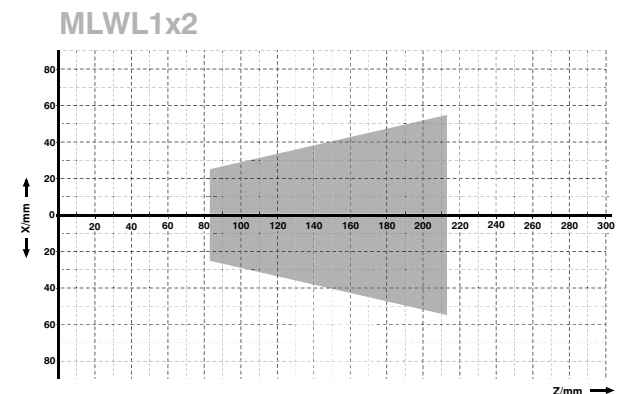
- 20 = Enter Button
- 22 = UP Button
- 23 = Down Button
- 4a = User LED
- 60 = Display
- 68 = Supply Voltage Indicator
- 78 = Module status
- 85 = Link/Act LED


Legend

+ Supply Voltage +	PT Platinum measuring resistor	ENa Encoder A
- Supply Voltage 0 V	nc not connected	ENb Encoder B
~ Supply Voltage (AC Voltage)	U Test Input	AMIN Digital output MIN
A Switching Output (NO)	U Test Input inverted	AMAX Digital output MAX
A-bar Switching Output (NC)	W Trigger Input	AOK Digital output OK
V Contamination/Error Output (NO)	O Analog Output	SY In Synchronization In
V-bar Contamination/Error Output (NC)	O- Ground for the Analog Output	SY OUT Synchronization OUT
E Input (analog or digital)	BZ Block Discharge	0.Lt Brightness output
T Teach Input	AWV Valve Output	M Maintenance
Z Time Delay (activation)	a Valve Control Output +	rsv reserved
S Shielding	b Valve Control Output 0 V	
RxD Interface Receive Path	SY Synchronization	
TxD Interface Send Path	E+ Receiver-Line	
RDY Ready	S+ Emitter-Line	
GND Ground	≠ Grounding	
CL Clock	SnR Switching Distance Reduction	
E/A Output/Input programmable	Rx+/- Ethernet Receive Path	
IO-Link	Tx+/- Ethernet Send Path	
PoE Power over Ethernet	Bus Interfaces-Bus A(+)/B(-)	
IN Safety Input	La Emitted Light disengageable	
OSSD Safety Output	Mag Magnet activation	
Signal Signal Output	RES Input confirmation	
Bi_D+/- Ethernet Gigabit bidirect. data line (A-D)	EDM Contactor Monitoring	
EN0 r542z Encoder 0-pulse 0-0 (TTL)	ENr542z Encoder A/A-bar (TTL)	
	ENr542z Encoder B/B-bar (TTL)	

Wire Colors according to DIN IEC 757

BK Black
BN Brown
RD Red
OG Orange
YE Yellow
GN Green
BU Blue
VT Violet
GY Grey
WH White
PK Pink
GNYE Green/Yellow

Measuring field X, Z


Z = Working distance
 X = Measuring Range

