

# 2D/3D Profile Sensor

## MLWL255 LASER

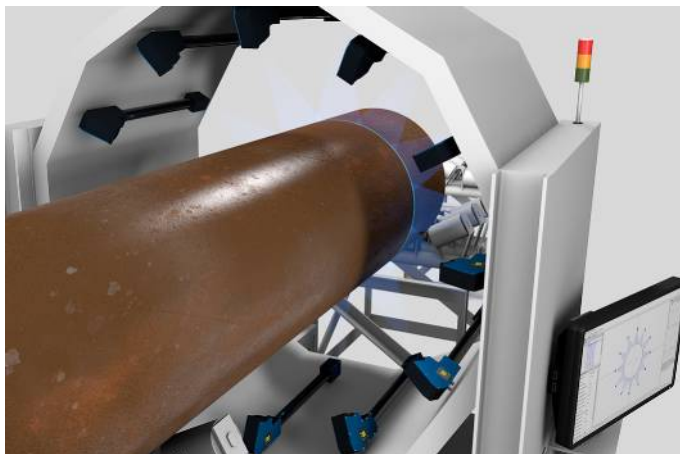
Part Number

weCat3D



- 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.



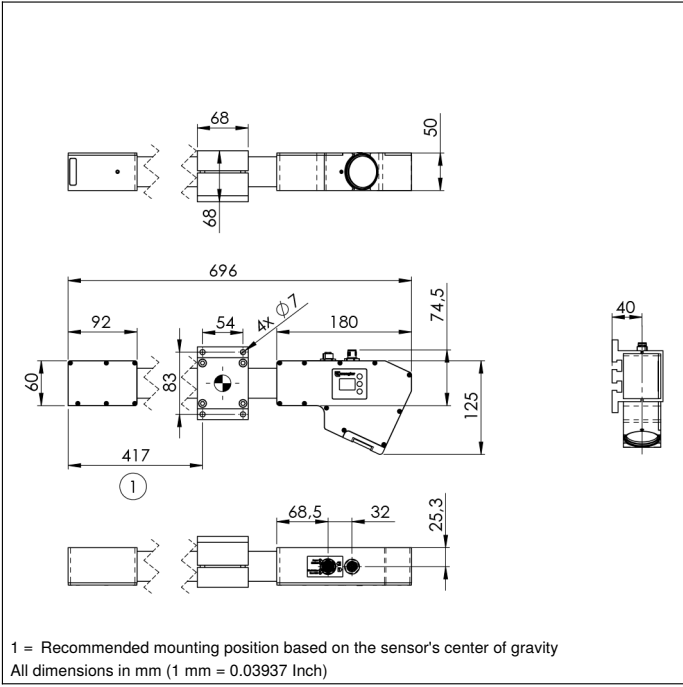
### Technical Data

Optical Data	
Working range Z	1000...2500 mm
Measuring range Z	1500 mm
Measuring range X	850...1300 mm
Linearity Deviation	375 µm
Resolution Z	92...439 µm
Resolution X	505...1095 µm
Light Source	Laser (blue)
Wavelength	405 nm
Laser Class (EN 60825-1)	3R
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	1710276-000
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	2620 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.	<b>1022</b> <b>1034</b>
Control Panel No.	<b>X2</b> <b>A22</b>
Suitable Connection Equipment No.	<b>50</b> <b>87</b>

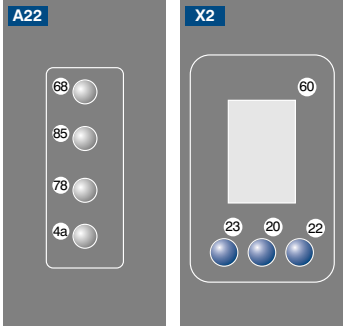
Display brightness may decrease with age. This does not result in any impairment of the sensor function.

### Complementary Products

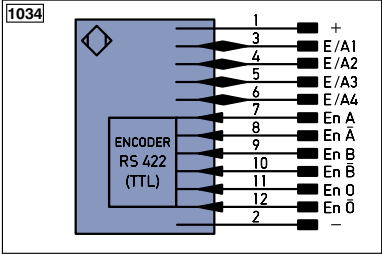
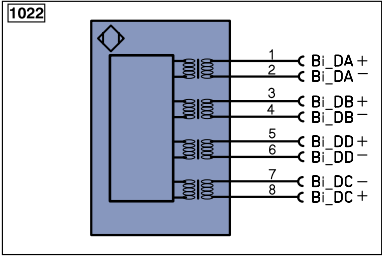
Control Unit
Cooling Unit ZLWK003
Protective Screen Retainer ZLWS003
Software
Switch EHSS001



### 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
-	Supply Voltage 0 V	nc	not connected
~	Supply Voltage (AC Voltage)	U	Test Input
A	Switching Output (NO)	U	Test Input inverted
Ä	Switching Output (NC)	W	Trigger Input
V	Contamination/Error Output (NO)	W-	Ground for the Trigger Input
V	Contamination/Error Output (NC)	O	Analog Output
E	Input (analog or digital)	O-	Ground for the Analog Output
T	Teach Input	BZ	Block Discharge
Z	Time Delay (activation)	AWV	Valve Output
S	Shielding	a	Valve Control Output +
RxD	Interface Receive Path	b	Valve Control Output 0 V
TxD	Interface Send Path	SY	Synchronization
RDY	Ready	SY-	Ground for the Synchronization
GND	Ground	E+	Receiver-Line
CL	Clock	S+	Emitter-Line
E/A	Output/Input programmable	±	Grounding
IO-Link	IO-Link	SnR	Switching Distance Reduction
PoE	Power over Ethernet	Rx+/-	Ethernet Receive Path
IN	Safety Input	Tx+/-	Ethernet Send Path
OSSD	Safety Output	Bus	Interfaces-Bus A(+)/B(-)
Signal	Signal Output	La	Emitted Light disengageable
Bi_D+/-	Ethernet Gigabit bidirect. data line (A-D)	Mag	Magnet activation
EN0 RS422	Encoder 0-pulse 0-0 (TTL)	RES	Input confirmation
		EDM	Contactur Monitoring

ENAR5422	Encoder A/Ä (TTL)
ENBR5422	Encoder B/B (TTL)
ENa	Encoder A
ENb	Encoder B
AMIN	Digital output MIN
AMAX	Digital output MAX
AOK	Digital output OK
SY in	Synchronization In
SY OUT	Synchronization OUT
OLT	Brightness output
M	Maintenance
rsv	reserved
Wire Colors according to IEC 60757	
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

