

2D/3D Profile Sensor

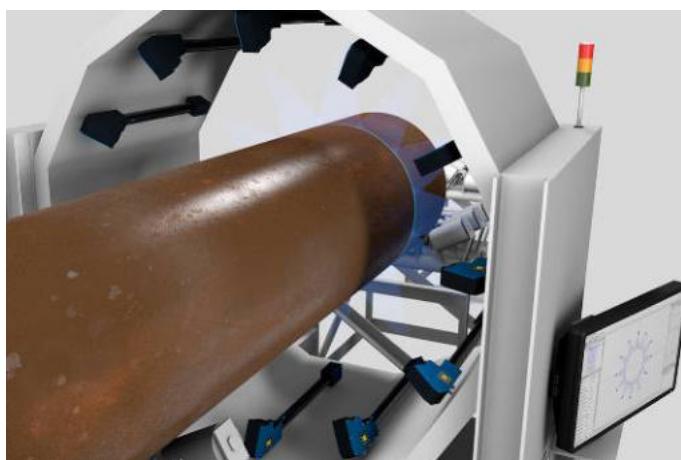
MLWL175 LASER

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.



weCat3D

Technical Data

Optical Data

Working range Z	600...1400 mm
Measuring range Z	800 mm
Measuring range X	450...720 mm
Linearity Deviation	200 µm
Resolution Z	28...67 µm
Resolution X	235...361 µm
Light Source	Laser (blue)
Wavelength	450 nm
Laser Class (EN 60825-1)	3B
Max. Ambient Light	5000 Lux

Electrical Data

Supply Voltage	18...30 V DC
Current Consumption (Ub = 24 V)	1000 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	1710277-000

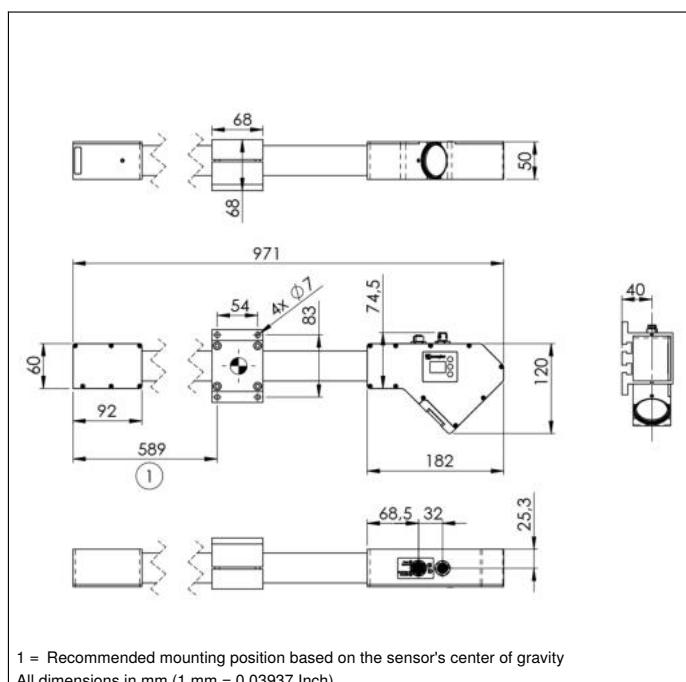
Mechanical Data

Housing Material	Aluminum
Degree of Protection	IP67
Connection	M12 x 1; 12-pin
Type of Connection Ethernet	M12 x 1; 8-pin, X-cod.
Optic Cover	Glass
Weight	2780 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

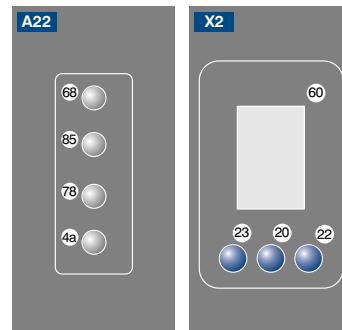
Display brightness may decrease with age. This does not result in any impairment of the sensor function.

Complementary Products

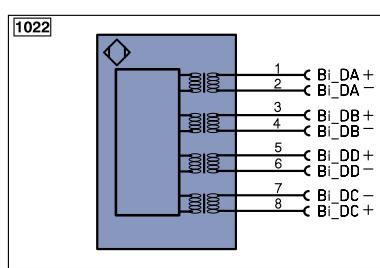
Control Unit
Cooling Unit ZLWK003
Protective Screen Retainer ZLWS003
Software
Switch EHSS001



Ctrl. Panel

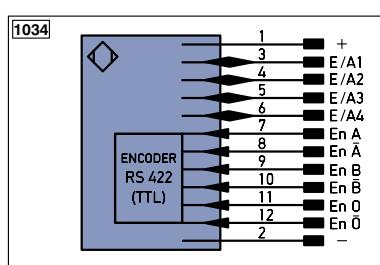


20 = Enter Button
 22 = UP Button
 23 = Down Button
 4a = User LED
 60 = Display
 68 = Supply Voltage Indicator
 78 = Module status
 85 = Link/Act LED



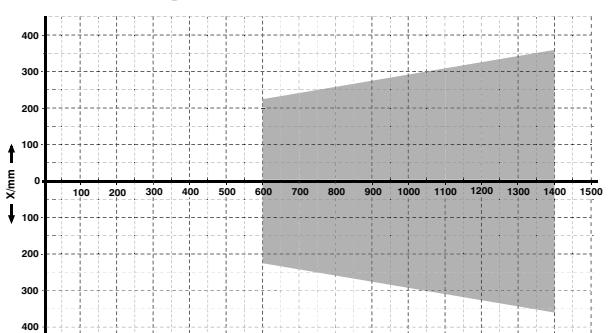
Legend

PT	Platinum measuring resistor
nc	not connected
U	Test Input
Ü	Test Input inverted
W	Trigger Input
W-	Ground for the Trigger Input
O	Analog Output
O-	Ground for the Analog Output
BZ	Block Discharge
Awv	Valve Output
a	Valve Control Output +
b	Valve Control Output 0 V
SY	Synchronization
SY-	Ground for the Synchronization
E+	Receiver-Line
S+	Emitter-Line
±	Grounding
SnR	Switching Distance Reduction
RxD	Interface Receive Path
TxD	Interface Send Path
RDY	Ready
GND	Ground
CL	Clock
E/A	Output/Input programmable
IO-Link	IO-Link
PoE	Power over Ethernet
IN	Safety Input
OSD	Safety Output
Signal	Signal Output
BL-D	Ethernet Gigabit bidirec. data line (A-D)
EN0RS422	Encoder 0-pulse 0-0 (TTL)
Encoder A/Ā (TTL)	ENARS422
Encoder B/Ā (TTL)	ENBRS422
Encoder A	ENA
Encoder B	ENB
Digital output MIN	AMIN
Digital output MAX	AMAX
Digital output OK	AOK
Synchronization In	SY IN
Synchronization OUT	SY OUT
Brightness output	OLT
Maintenance	M
reserved	rsv
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

MLWL1x5



Z = Working distance

X = Measuring Range

