# 2D/3D Profile Sensor

## MLWL125 LASER

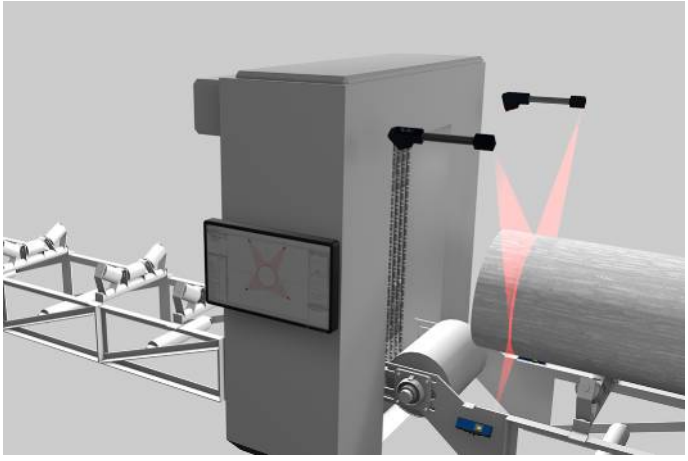
Part Number

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

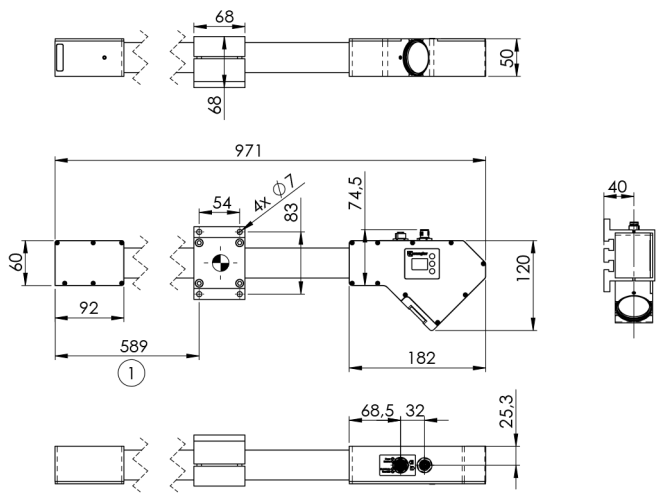
| | |
|---|---|
| **Optical Data** | |
| Working range Z | 600...1400 mm |
| Measuring range Z | 800 mm |
| Measuring range X | 450...720 mm |
| Linearity Deviation | 200 µm |
| Resolution Z | 28...67 µm |
| Resolution X | 235...361 µm |
| Light Source | Laser (red) |
| Wavelength | 660 nm |
| Laser 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 | 1710274-000 |
| **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 | 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.

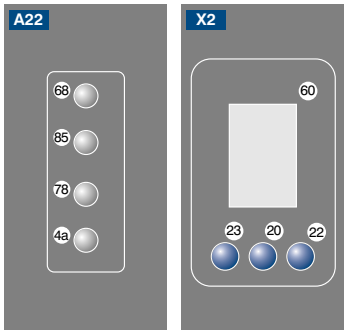
## Complementary Products

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



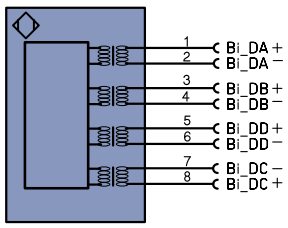

1 = Recommended mounting position based on the sensor's center of gravity
All dimensions in mm (1 mm = 0.03937 Inch)

## Ctrl. Panel

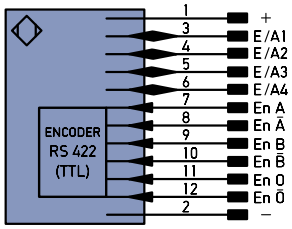



20 = Enter Button
22 = UP Button
23 = Down Button
4a = User LED
60 = Display
68 = Supply Voltage Indicator
78 = Module status
85 = Link/Act LED

1022




1034




### Legend

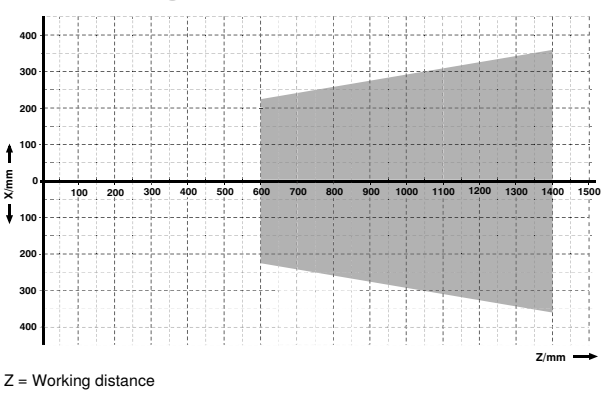
| | |
|---|---|
| + | Supply Voltage + |
| – | Supply Voltage 0 V |
| ~ | Supply Voltage (AC Voltage) |
| A | Switching Output (NO) |
| Ā | Switching Output (NC) |
| V | Contamination/Error Output (NO) |
| V̄ | Contamination/Error Output (NC) |
| E | Input (analog or digital) |
| T | Teach Input |
| Z | Time Delay (activation) |
| S | Shielding |
| RxD | Interface Receive Path |
| TxD | Interface Send Path |
| RDY | Ready |
| GND | Ground |
| CL | Clock |
| E/A | Output/Input programmable |
| | IO-Link |
| PoE | Power over Ethernet |
| IN | Safety Input |
| OSSD | Safety Output |
| Signal | Signal Output |
| Bi_D+/- | Ethernet Gigabit bidirect. data line (A-D) |
| EN0 RS422 | Encoder 0-pulse 0-0̄ (TTL) |
| PT | Platinum measuring resistor |
| nc | not connected |
| U | Test Input |
| Ū | Test Input inverted |
| W | Trigger Input |
| W– | Ground for the Trigger Input |
| O | Analog Output |
| O– | Ground for the Analog Output |
| BZ | Block Discharge |
| AMV | 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 |
| Rx+/– | Ethernet Receive Path |
| Tx+/– | Ethernet Send Path |
| Bus | Interfaces-Bus A(+)/B(–) |
| La | Emitted Light disengageable |
| Mag | Magnet activation |
| RES | Input confirmation |
| EDM | Contactor Monitoring |
| ENA RS422 | Encoder A/Ā (TTL) |
| ENB RS422 | Encoder B/B̄ (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

MLWL1x5




Z = Working distance
X = Measuring Range

Specifications are subject to change without notice