

# 2D/3D Profile Sensor

## MLWL152 LASER

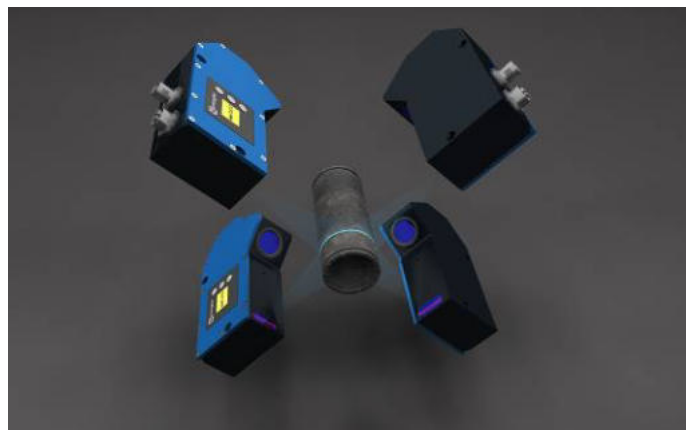
Part Number

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.



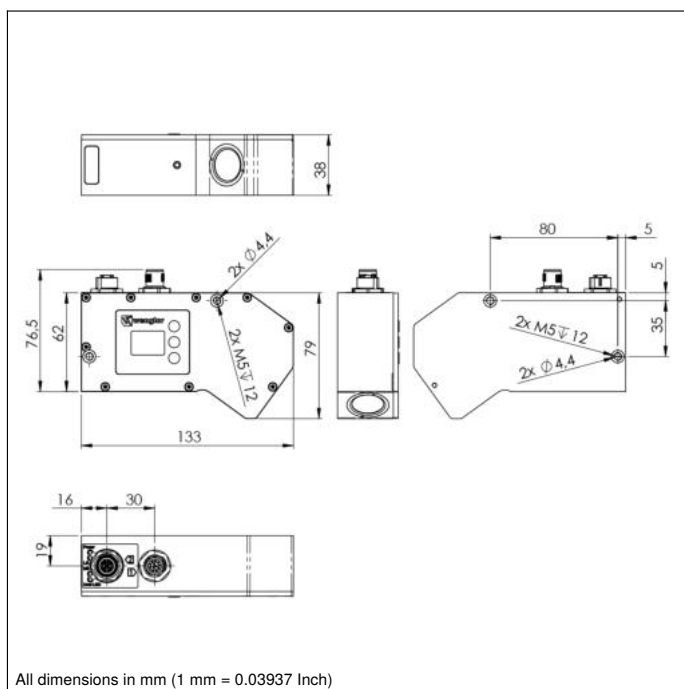
### Technical Data

| Optical Data                       |                        |
|------------------------------------|------------------------|
| Working range Z                    | 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                         | 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                             | 570 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.

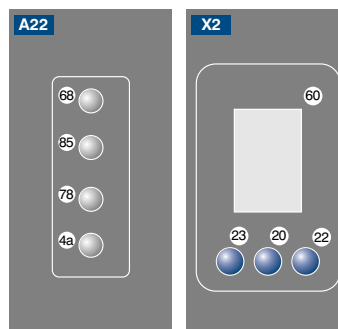
### Complementary Products

|                                    |
|------------------------------------|
| Control Unit                       |
| Cooling Unit ZLWK002               |
| Protective Screen Retainer ZLWS002 |
| Software                           |
| Switch EHSS001                     |

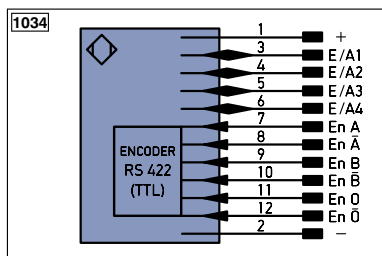
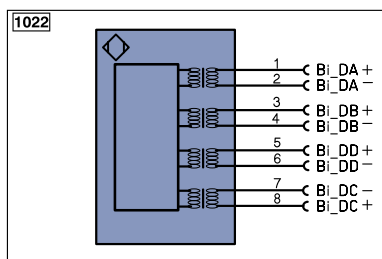


All dimensions in mm (1 mm = 0.03937 Inch)

## 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

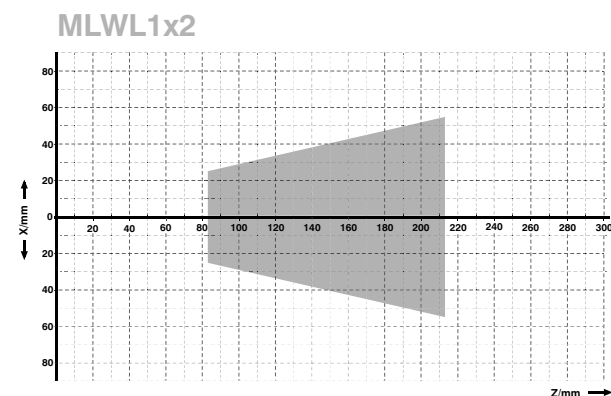


## Legend

|           |                                            |       |                                |
|-----------|--------------------------------------------|-------|--------------------------------|
| +         | Supply Voltage +                           | PT    | Platinum measuring resistor    |
| -         | 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   | Contact 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



Z = Working distance  
X = Measuring Range

