

# 2D/3D Profile Sensor

## MLWL274

## LASER

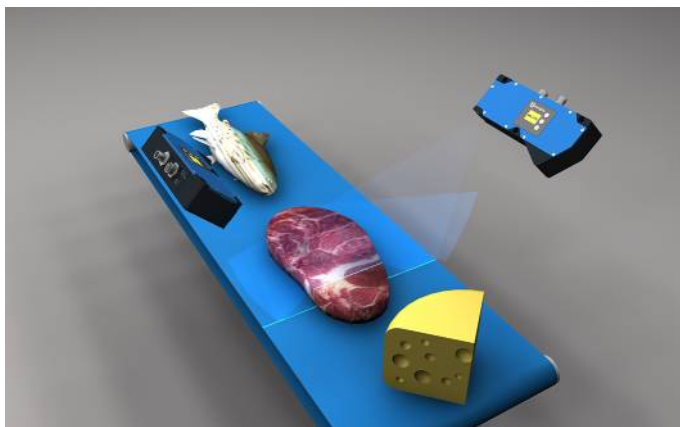
weCat3D

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.



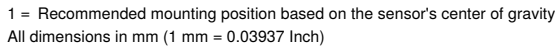
### Technical Data

| Optical Data                       |                                     |
|------------------------------------|-------------------------------------|
| Working range Z                    | 600...2000 mm                       |
| Measuring range Z                  | 1400 mm                             |
| Measuring range X                  | 440...1300 mm                       |
| Linearity Deviation                | 350 µm                              |
| Resolution Z                       | 39...289 µm                         |
| Resolution X                       | 251...683 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 (Ub = 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                             | 2350 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>1023</b>             |
| Control Panel No.                  | <b>X2</b> <b>A22</b>                |
| Suitable Connection Equipment No.  | <b>50</b> <b>87</b>                 |

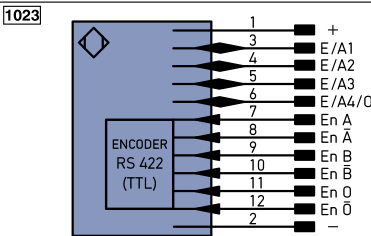
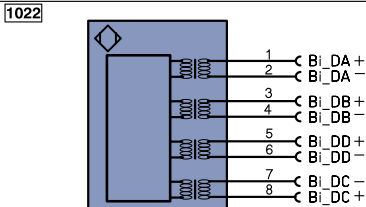
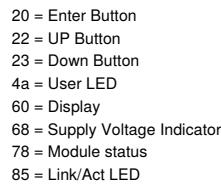
Display brightness may decrease with age. This does not result in any impairment of the sensor function.

### Complementary Products


|                                    |
|------------------------------------|
| Control Unit                       |
| Cooling Unit ZLWK003               |
| Protective Screen Retainer ZLWS003 |
| Software                           |
| Switch ZAC45FN01                   |



### Ctrl. Panel



Legend

|   |  |          |                              |
|---|--|----------|------------------------------|
| +   | Supply Voltage +                           | nc       | not connected                |
| –   | Supply Voltage 0 V                         | U        | Test Input                   |
| ~   | Supply Voltage (AC Voltage)                | Ū        | Test Input inverted          |
| A   | Switching Output (NO)                      | W        | Trigger Input                |
| Ā   | Switching Output (NC)                      | O        | Analog Output                |
| V   | Contamination/Error Output (NO)            | O–       | Ground for the Analog Output |
| Ė   | Contamination/Error Output (NC)            | BZ       | Block Discharge              |
| E   | Input (analog or digital)                  | AWV      | Valve Output                 |
| T   | Teach Input                                | a        | Valve Control Output +       |
| Z   | Time Delay (activation)                    | b        | Valve Control Output 0 V     |
| S   | Shielding                                  | SY       | Synchronization              |
| RxD   | Interface Receive Path                     | E+       | Receiver-Line                |
| TxD   | Interface Send Path                        | S+       | Emitter-Line                 |
| RDY   | Ready                                      | ⊕        | Grounding                    |
| GND   | Ground                                     | SnR      | Switching Distance Reduction |
| CL  | Clock                                      | Rx+/-    | Ethernet Receive Path        |
| E/A   | Output/Input programmable                  | Tx+/-    | Ethernet Send Path           |
|  | IO-Link                                    | Bus      | Interfaces-Bus A(+)B(-)      |
| PoE   | Power over Ethernet                        | La       | Emitted Light disengageable  |
| IN  | Safety Input                               | Mag      | Magnet activation            |
| SSD   | Safety Output                              | RES      | Input confirmation           |
| Signal  | Signal Output                              | EDM      | Connector Monitoring         |
| BL-D/-  | Ethernet Gigabit bidirect. data line (A-D) | ENAR5422 | Encoder A/Ā (TTL)            |
| EN0R5422  | Encoder 0-pulse 0-0 (TTL)                  | ENBR5422 | Encoder B/B̄ (TTL)           |

|                   |                     |
|-------------------|---------------------|
| EN <sub>A</sub>   | Encoder A           |
| EN <sub>B</sub>   | Encoder B           |
| AMIN              | Digital output MIN  |
| AMAX              | Digital output MAX  |
| AOK               | Digital output OK   |
| SY <sub>IN</sub>  | Synchronization In  |
| SY <sub>OUT</sub> | Synchronization OUT |
| OLT               | Brightness output   |
| M                 | Maintenance         |
| RSV               | reserved            |

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

