

# 2D/3D Profile Sensor

## OPT3015

### LASER

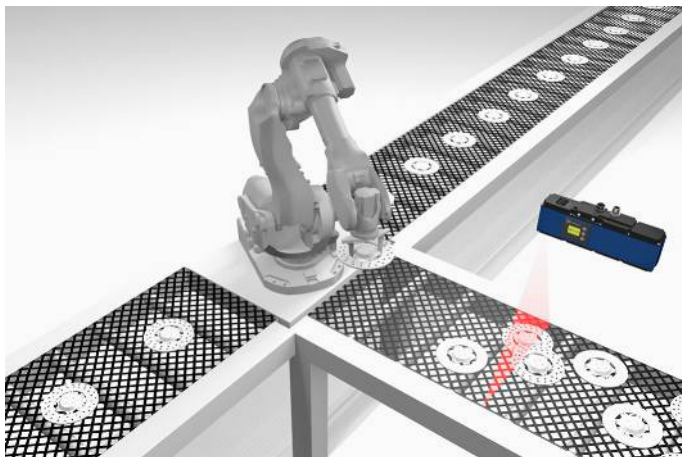
weCat3D

Part Number



- Compact, lightweight design – even suitable for robot applications
- Precise resolution of visual field width X (> 1200 measuring points)
- Up to 3.6 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.



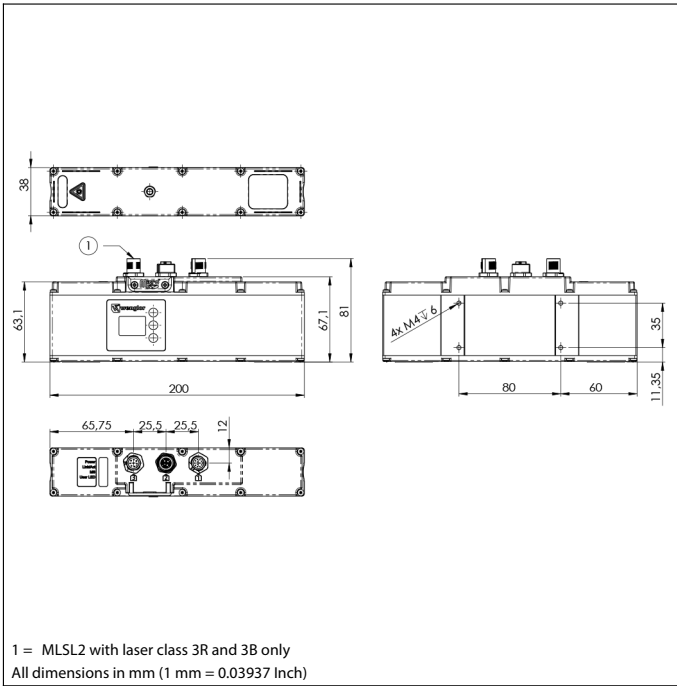
### Technical Data

Optical Data	
Working range Z	300...1500 mm
Measuring range Z	1200 mm
Visual field width X	250...1350 mm
Linearity Deviation	600 µm
Resolution Z	60...990 µm
Resolution X	270...1170 µm
Light Source	Laser (red)
Wave Length	660 nm
Service Life (T = +25 °C)	20000 h
Laser Class (EN 60825-1)	3R
Max. Ambient Light	5000 Lux
Electrical Data	
Supply Voltage	18...30 V DC
Current Consumption (U <sub>b</sub> = 24 V)	300 mA
Measuring Rate	200...4000 /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	1710964-000
Mechanical Data	
Housing Material	Aluminium; Plastic
Degree of Protection	IP67
Connection	M12 × 1; 12-pin
Type of Connection Ethernet	M12 × 1; 8-pin, X-cod.
Connection: external 24 V laser circuit	M12 × 1; 8-pin
Optic Cover	Plastic
Weight	550 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> <b>1025</b>
Control Panel No.	<b>X2</b> <b>A26</b>
Suitable Connection Technology No.	<b>50</b> <b>87</b> <b>89</b>
Suitable Mounting Technology No.	<b>343</b>

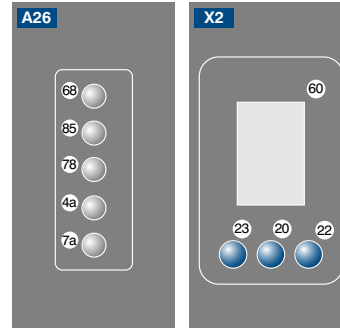
Display brightness may decrease with age. This does not result in any impairment of the sensor function.

### Complementary Products

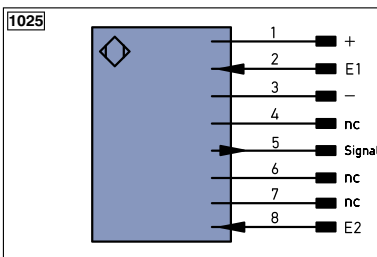
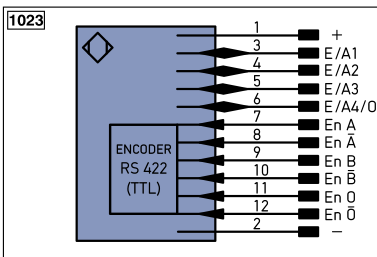
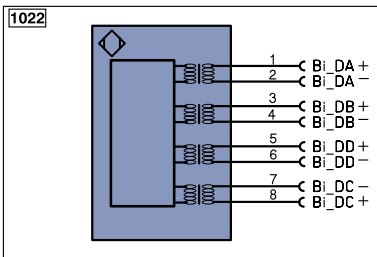
Control Unit	
Cooling Unit ZLSK001	
Protective Screen Retainer ZLSS002	
Software	
Switch ZAC45FN01	



### Ctrl. Panel

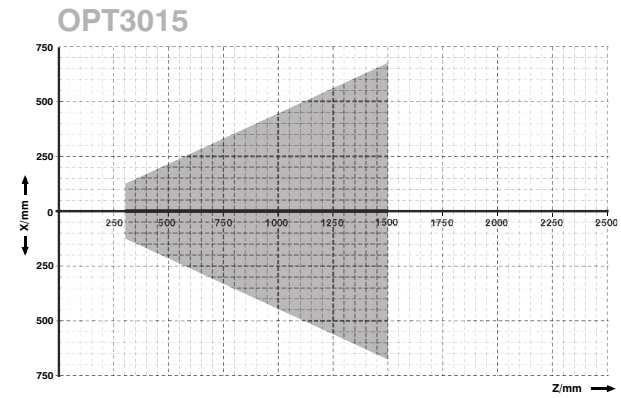


- 20 = Enter Button
- 22 = UP Button
- 23 = Down Button
- 4a = User LED
- 60 = Display
- 68 = Supply Voltage Indicator
- 78 = Module status
- 7a = Laser (MLSL2 with laser class 3R and 3B only)
- 85 = Link/Act LED



Legend		Wire Colors according to DIN IEC 757	
+	Supply Voltage +	BK	Black
-	Supply Voltage 0 V	BN	Brown
~	Supply Voltage (AC Voltage)	RD	Red
A	Switching Output (NO)	OG	Orange
A-bar	Switching Output (NC)	YE	Yellow
V	Contamination/Error Output (NO)	GN	Green
V-bar	Contamination/Error Output (NC)	BU	Blue
E	Input (analog or digital)	VT	Violet
T	Teach Input	GY	Grey
Z	Time Delay (activation)	WH	White
S	Shielding	PK	Pink
RxD	Interface Receive Path	GNYE	Green/Yellow
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		
OSSD	Safety Output		
Signal	Signal Output		
Bi_D+/-	Ethernet Gigabit bidirect. data line (A-D)		
EN0-5A2Z	Encoder 0-pulse 0-0 (TTL)		
PT	Platinum measuring resistor		
nc	not connected		
U	Test Input		
U-bar	Test Input inverted		
W	Trigger Input		
O	Analog Output		
O-bar	Ground for the Analog Output		
BZ	Block Discharge		
AWV	Valve Output		
a	Valve Control Output +		
b	Valve Control Output 0 V		
SY	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	Contactur Monitoring		
ENAR5A2Z	Encoder A/A-bar (TTL)		
ENBR5A2Z	Encoder B/B-bar (TTL)		

### Visual Field X, Z



Z = Working distance  
 X = Visual field width

