

# 2D/3D Profile Sensor

## MLSL121

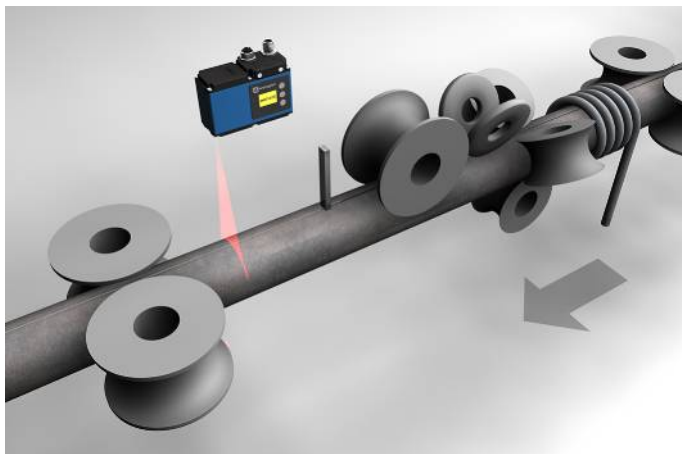
Part Number

weCat3D



- Compact, lightweight design – even suitable for robot applications
- Precise measuring range resolution 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	72...108 mm
Measuring range Z	36 mm
Measuring range X	27...34 mm
Linearity Deviation	18 $\mu$ m
Resolution Z	3,3...5,2 $\mu$ m
Resolution X	22...28 $\mu$ m
Light Source	Laser (red)
Wavelength	660 nm
Service Life (T = +25 °C)	20000 h
Laser Class (EN 60825-1)	2

Environmental conditions	
Temperature Range	0...45 °C
Storage temperature	-20...70 °C
Max. Ambient Light	5000 Lux
EMC	DIN EN 61000-6-2; 61000-6-4
Shock resistance per DIN IEC 68-2-27	30 g / 11 ms
Vibration resistance per DIN IEC 60068-2-6	6 g (10...55 Hz)
Atmospheric humidity	5...95%, non-condensing

Electrical Data	
Supply Voltage	18...30 V DC
Current Consumption (U <sub>b</sub> = 24 V)	300 mA
Measuring Rate	200...4000 /s
Subsampling	800...4000 /s
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
Transmission rate	100/1000 Mbit/s
Protection Class	III
FDA Accession Number	1610451-003

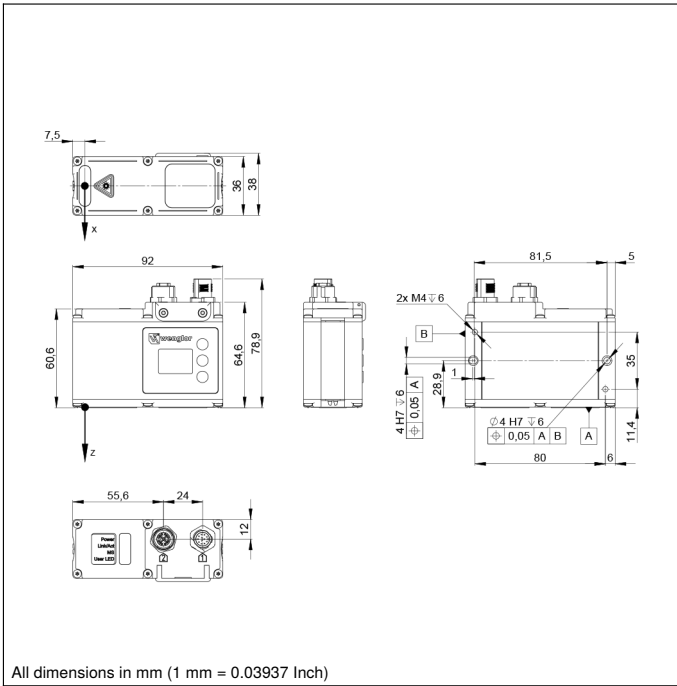
Mechanical Data	
Setting Method	Web server
Housing Material	Aluminum, powder-coated
Housing Material	Plastic, ABS
Degree of Protection	IP67
UL Enclosure Type	1
Connection	M12 x 1; 12-pin
Type of Connection Ethernet	M12 x 1; 8-pin, X-cod.
Optic Cover	Plastic, PMMA
PWIS-free	yes

Safety-relevant Data	
MTTFd (EN ISO 13849-1)	191,55 a

Push-Pull	●	
Connection Diagram No.	1022	1034
Control Panel No.	X2	A22
Suitable Connection Equipment No.	50	87
Suitable Mounting Technology No.	343	

### Complementary Products

Connection cables
Control Unit
Cooling Unit ZLSK001
EHSS001 Switch
Machine Vision Controller MVC
Protective Housing ZLSS003
Protective Screen Retainer ZLSS001
Software

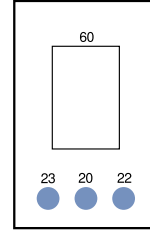


All dimensions in mm (1 mm = 0.03937 Inch)

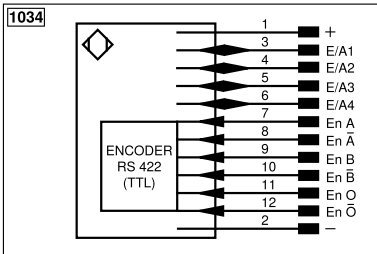
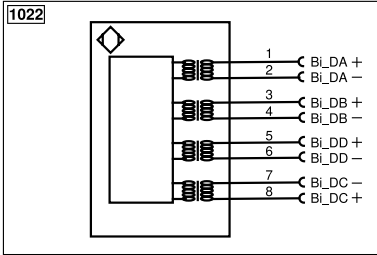
### Ctrl. Panel

A22

X2

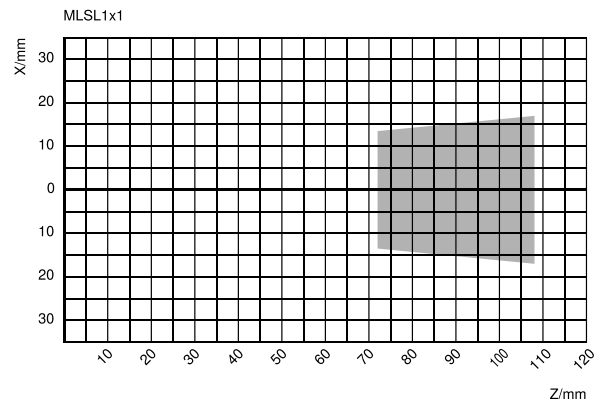


- 20 = Enter key
- 22 = Up key
- 23 = Down key
- 4a = User LED
- 60 = display
- 68 = Power LED
- 78 = Module status
- 85 = Link/Act LED



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-bar	Test Input inverted
A-bar	Switching Output (NC)	W	Trigger Input
V	Contamination/Error Output (NO)	W-	Ground for the Trigger Input
V-bar	Contamination/Error Output (NC)	O	Analog Output
E	Input (analog or digital)	O-	Ground for the Analog Output
T	Teach Input	BZ	Block Discharge
R	Reset input	Amv	Valve Output
Z	Time Delay (activation)	a	Valve Control Output +
S	Shielding	b	Valve Control Output 0 V
RxD	Interface Receive Path	SY	Synchronization
TxD	Interface Send Path	SY-	Ground for the Synchronization
RDY	Ready	E+	Receiver-Line
GND	Ground	S+	Emitter-Line
CL	Clock	≡	Grounding
E/A	Output/Input programmable	SnR	Switching Distance Reduction
IO-Link	IO-Link	Rx+/-	Ethernet Receive Path
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)
QSSD	Safety Output	La	Emitted Light disengageable
Signal	Signal Output	Mag	Magnet activation
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation
ENo RS422	Encoder 0-pulse 0/0 (TTL)	EDM	Contacting Monitoring
ENARS422	Encoder A/A (TTL)	ENBRS422	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	OUT	Brightness output
M	Maintenance	rsv	Reserved
Wire Colors according to DIN IEC 60757			
BK	Black	BN	Brown
RD	Red	OG	Orange
YE	Yellow	GN	Green
BU	Blue	VT	Violet
WH	White	GY	Grey
PK	Pink	WH	White
GNYE	Green/Yellow	PK	Pink

### Measuring field X, Z



Z = Working distance  
 X = Measuring Range

