

# 2D/3D Profile Sensor

## MLZL141 LASER

Part Number

weCat3D



- Compact and robust format (IP67)
- Easy integration
- High profile quality for high process reliability
- Integrated cooling/rinsing
- Optional integrated data evaluation for tracking point determination

Fully automated welding places great demands on quality and precision. Consequently, the correct position of the respective seam must be reliably detected before the welding process is started in the robot cell. Welding systems are equipped with innovative weCat3D 2D/3D profile sensors for the purpose of weld seam tracking.

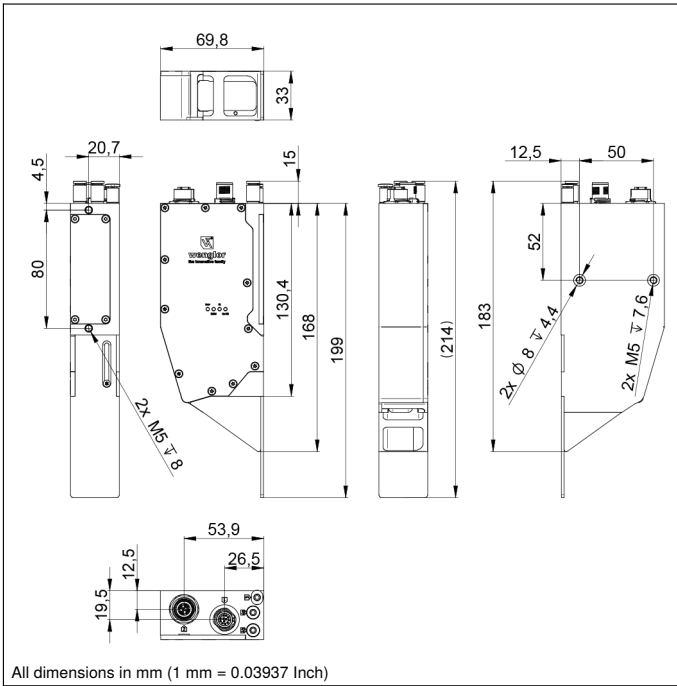


### Technical Data

Optical Data	
Working range Z	74...158 mm
Measuring range Z	84 mm
Measuring range X	38...62 mm
Linearity Deviation	65 µm
Resolution Z	8,3...32,5 µm
Resolution X	32...64 µm
Light Source	Laser (red)
Wavelength	690 nm
Laser Class (EN 60825-1)	3R
Environmental conditions	
Ambient temperature	0...45 °C
Storage temperature	-20...70 °C
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)
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
Baud Rate	100/1000 Mbit/s
Protection Class	III
FDA Accession Number	2210379-000
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	Plastic
Weight	560 g
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	186,11 a
Web server	yes
Scope of delivery	ZLSE010
Configurable as PNP/NPN/Push-Pull	●
Switchable to NC/NO	●
Push-Pull	●
Connection Diagram No.	1022   1034
Control Panel No.	A22
Suitable Connection Equipment No.	50   87
Suitable Mounting Technology No.	343

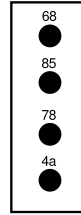
### Complementary Products

Control Unit	
Software	
Switch EHSS001	
ZLSE012 protective screen retainer	



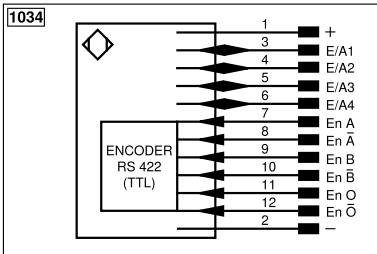
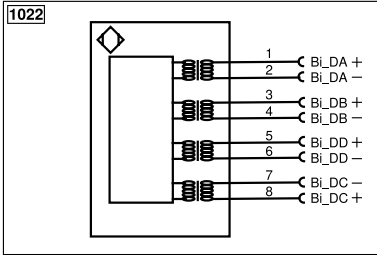
### Ctrl. Panel

A22



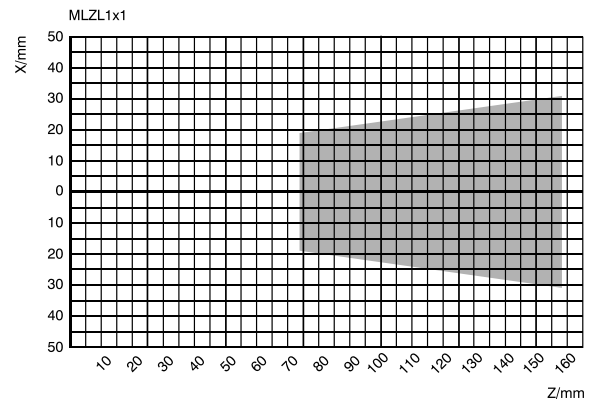
4a = User LED  
 68 = supply voltage indicator  
 78 = Module status  
 85 = Link/Act LED

All dimensions in mm (1 mm = 0.03937 Inch)



Legend			
+	Supply Voltage +	nc	Not connected
-	Supply Voltage 0 V	U	Test Input
~	Supply Voltage (AC Voltage)	Ü	Test Input inverted
A	Switching Output (NO)	W	Trigger Input
Ä	Switching Output (NC)	W-	Ground for the Trigger Input
V	Contamination/Error Output (NO)	O	Analog Output
ȳ	Contamination/Error Output (NC)	O-	Ground for the Analog Output
E	Input (analog or digital)	BZ	Block Discharge
T	Teach 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	Rx+/-	Ethernet Receive Path
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)
OSSD	Safety Output	La	Emitted Light disengageable
Signal	Signal Output	Mag	Magnet activation
BL_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation
ENo RS422	Encoder 0-pulse 0/0 (TTL)	EDM	Contactor Monitoring
PT	Platinum measuring resistor	ENARs422	Encoder A/Ä (TTL)
			Encoder B/B̄ (TTL)
			Encoder A
			Encoder B
			Digital output MIN
			Digital output MAX
			Digital output OK
			Synchronization In
			Synchronization OUT
			Brightness output
			Maintenance
			Reserved
			Wire Colors according to DIN 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

