

2D/3D Profile Sensor

MLZL131 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.



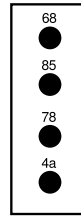
Technical Data

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 (blue)
Wavelength	450 nm
Laser Class (EN 60825-1)	2M
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 _b = 24 V)	330 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	2210383-000
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)	184,47 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

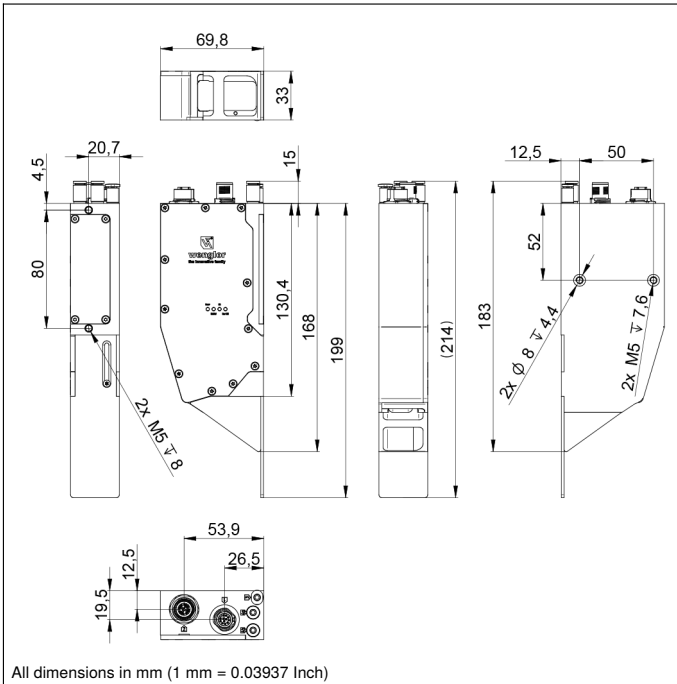
Complementary Products

Control Unit	
Software	
Switch EHSS001	
ZLSE012 protective screen retainer	

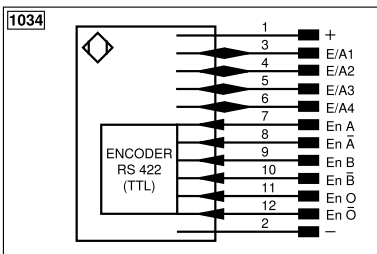
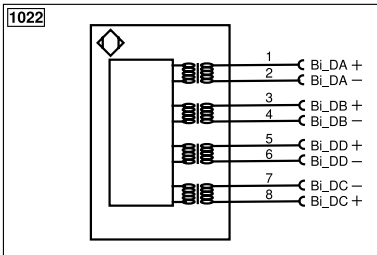
Ctrl. Panel

A22


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



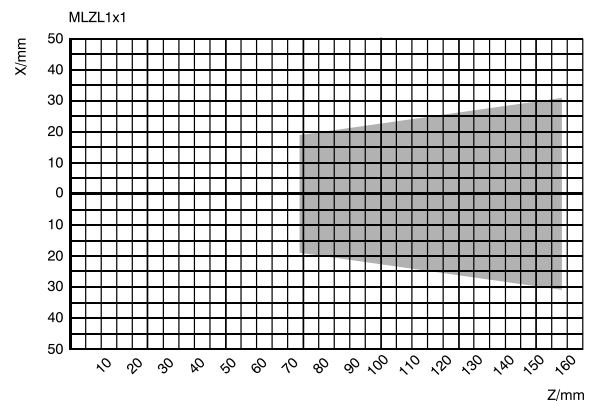
All dimensions in mm (1 mm = 0.03937 Inch)



Legend

+	Supply Voltage +	nc	Not connected	EN _{RS422}	Encoder B/B̄ (TTL)
-	Supply Voltage 0 V	U	Test Input	ENA	Encoder A
~	Supply Voltage (AC Voltage)	Ū	Test Input inverted	EN _B	Encoder B
A	Switching Output (NO)	W	Trigger Input	AMIN	Digital output MIN
Ā	Switching Output (NC)	W-	Ground for the Trigger Input	AMAX	Digital output MAX
V	Contamination/Error Output (NO)	O	Analog Output	AOK	Digital output OK
V̄	Contamination/Error Output (NC)	O-	Ground for the Analog Output	SY In	Synchronization In
E	Input (analog or digital)	BZ	Block Discharge	SY OUT	Synchronization OUT
T	Teach Input	Amv	Valve Output	OLT	Brightness output
Z	Time Delay (activation)	a	Valve Control Output +	M	Maintenance
S	Shielding	b	Valve Control Output 0 V	rsv	Reserved
RxD	Interface Receive Path	SY	Synchronization	Wire Colors according to DIN IEC 60757	
TxD	Interface Send Path	SY-	Ground for the Synchronization	BK	Black
RDY	Ready	E+	Receiver-Line	BN	Brown
GND	Ground	S+	Emitter-Line	RD	Red
CL	Clock	±	Grounding	OG	Orange
E/A	Output/Input programmable	SnR	Switching Distance Reduction	YE	Yellow
⊗	IO-Link	Rx+/-	Ethernet Receive Path	GN	Green
PoE	Power over Ethernet	Tx+/-	Ethernet Send Path	BU	Blue
IN	Safety Input	Bus	Interfaces-Bus A(+)/B(-)	VT	Violet
OSSD	Safety Output	La	Emitted Light disengageable	GY	Grey
Signal	Signal Output	Mag	Magnet activation	WH	White
BI_D+/-	Ethernet Gigabit bidirect. data line (A-D)	RES	Input confirmation	PK	Pink
EN _{RS422}	Encoder 0-pulse 0/0̄ (TTL)	EDM	Contact Monitoring	GNYE	Green/Yellow
PT	Platinum measuring resistor	EN _{AR5422}	Encoder A/Ā (TTL)		

Measuring field X, Z



Z = Working distance

X = Measuring Range

