

# 3D Sensor

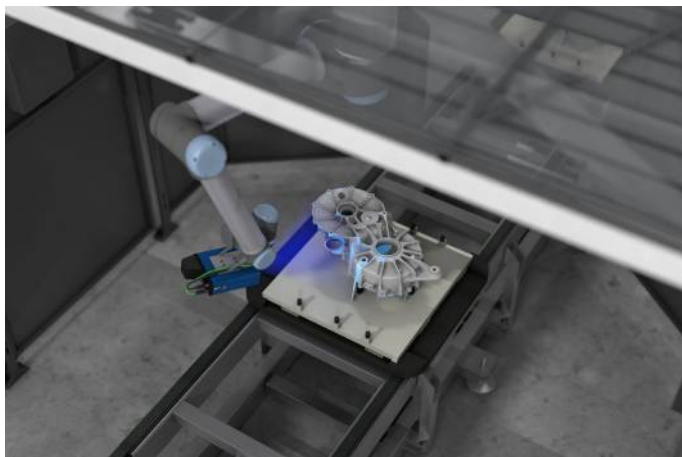
## MLAS112

Part Number



- 5 MP resolution
- Easy integration via SDK or GigE Vision
- High point cloud quality with up to four 3D point clouds per second
- Integrated 3D point cloud calculation

ShapeDrive MLAS 3D sensors are distinguished by high precision for minimal measuring volumes. The six variants included in the ShapeDrive MLAS series are available in two performance classes with camera resolutions of 5 and 12 megapixels. The robust design makes the MLAS sensors suitable for use in industrial environments. With its fast Ethernet interface and three measuring ranges in each performance class, ShapeDrive G4 is distinguished by great diversity and high speed.

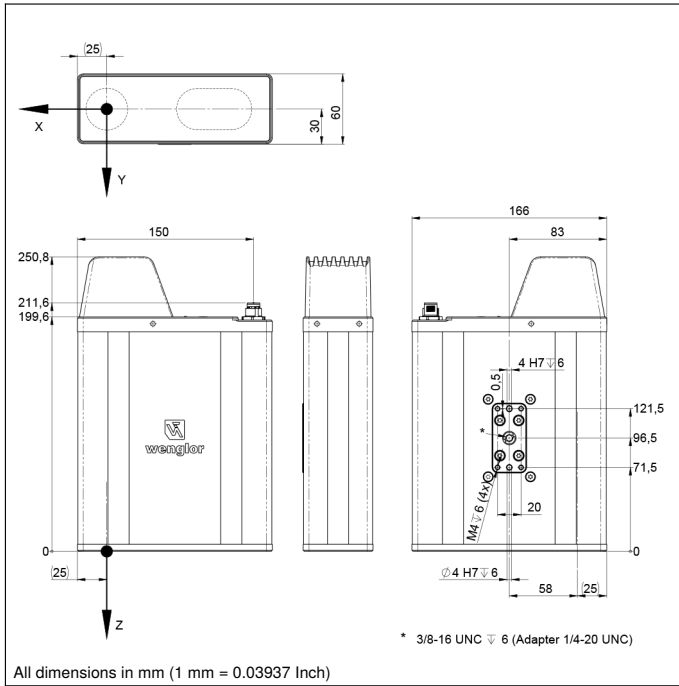


### Technical Data

Optical Data	
Working range Z	300...340 mm
Measuring range Z	40 mm
Measuring range X	60 mm
Measuring range Y	48 mm
Resolution Z	3...4 $\mu\text{m}$
Resolution X/Y	30...34 $\mu\text{m}$
Camera Resolution	5 MP
Light Source	LED (blue)
Wavelength	457 nm
Service Life (T = +25 °C)	20000 h
Risk Group (EN 62471)	2
Environmental conditions	
Ambient temperature	0...40 °C
Storage temperature	-5...70 °C
Max. Ambient Light	5000 Lux
EMC	DIN EN 61000-6-2; 61000-6-4
Electrical Data	
Supply Voltage	18...30 V DC
Max. Current Consumption (U <sub>b</sub> = 24 V)	2,5 A
Acquisition time	0,22...0,5 s
Inputs/Outputs	4
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Interface	Ethernet TCP/IP
Transmission speed	1...10 Gbit/s
Protection Class	III
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.
Optic Cover	Plastic
Weight	1945 g
Safety-relevant Data	
MTTFd (EN ISO 13849-1)	71,35 a
Web server	yes
Connection Diagram No.	<b>251</b>   <b>1022</b>
Control Panel No.	<b>A22</b>
Suitable Connection Equipment No.	<b>50</b>   <b>87</b>
Suitable Mounting Technology No.	<b>343</b>

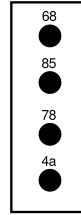
### Complementary Products

ZNNC002 Adapter

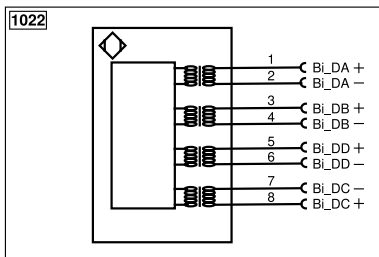
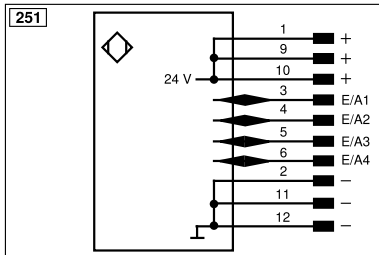


## Ctrl. Panel

**A22**



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



Legend					
+	Supply Voltage +	nc	Not connected	EN <sub>RS422</sub>	Encoder B/B̄ (TTL)
-	Supply Voltage 0 V	U	Test Input	ENA	Encoder A
~	Supply Voltage (AC Voltage)	Ū	Test Input inverted	EN <sub>B</sub>	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	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 <sub>RS422</sub>	Encoder 0-pulse 0/0̄ (TTL)	EDM	Contact Monitoring	GNYE	Green/Yellow
PT	Platinum measuring resistor	EN <sub>RS422</sub>	Encoder A/Ā (TTL)		

