

# 3D Sensor

## MLAS202

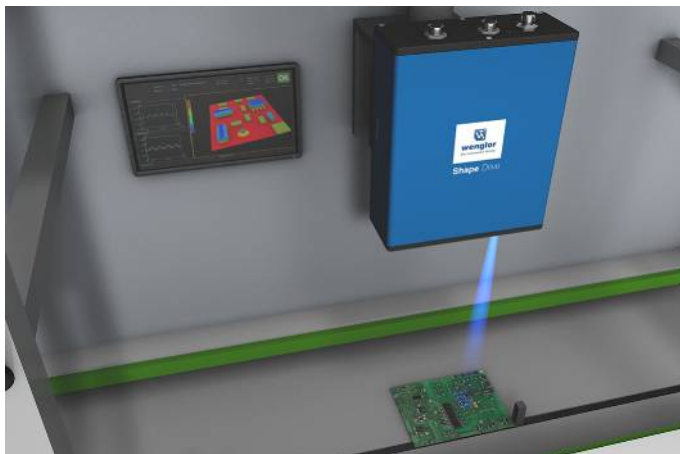
Part Number

ShapeDrive



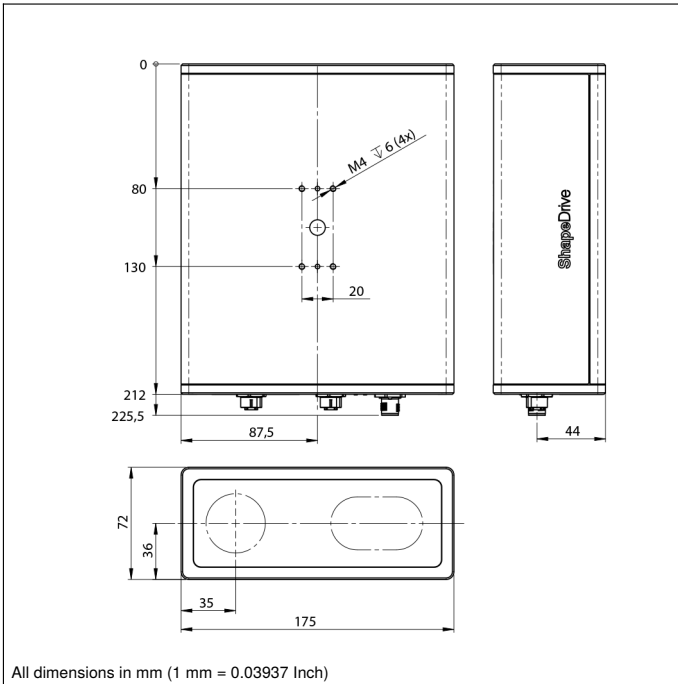
- 10 Gbit/s interface for high speed data transfer
- 12 MP resolution
- Short recording times of up to 0.44 s

ShapeDrive MLAS 3D Sensors are distinguished by high precision for minimal measuring volumes. The ten models in this series are available in two performance classes with camera resolutions of 5 and 12 megapixels. All ShapeDrive sensors are ideally suited for use in industrial environments thanks to the rugged IP65 housing. With its 10 Gigabit Ethernet interface and five measuring ranges in each performance class, ShapeDrive is also distinguished by great diversity and high speed.



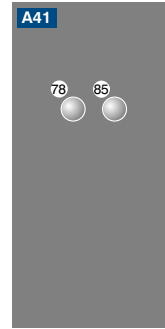
### Technical Data

Optical Data	
Working range Z	255...295 mm
Measuring range Z	40 mm
Measuring range X	60 mm
Measuring range Y	40 mm
Resolution Z	5 $\mu$ m
Resolution X/Y	16 $\mu$ m
Camera Resolution	4096 x 3000 Pixel
Light Source	LED (blue)
Wavelength	460 nm
Service Life (T = +25 °C)	20000 h
Risk Group (EN 62471)	2
Max. Ambient Light	5000 Lux
Electrical Data	
Supply Voltage	18...30 V DC
Max. Current Consumption (U <sub>b</sub> = 24 V)	3,5 A
Recording duration	0,44...2,15 s
Temperature Range	0...35 °C
Storage temperature	-5...70 °C
Short Circuit Protection	yes
Reverse Polarity Protection	yes
Interface	Ethernet TCP/IP
Baud Rate	100 Mbit/s
Baud Rate (10 GbE)	10 Gbit/s
Protection Class	III
Mechanical Data	
Housing Material	Aluminium; Plastic
Degree of Protection	IP65
Connection	M12 x 1; 12-pin
Type of Connection Ethernet	M12 x 1; 8-pin, X-cod.
Optic Cover	Plastic
Weight	2500 g
Web server	yes
Connection Diagram No.	238   1022
Control Panel No.	A41
Suitable Connection Equipment No.	50   87
Suitable Mounting Technology No.	343

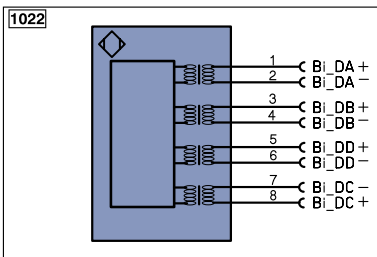
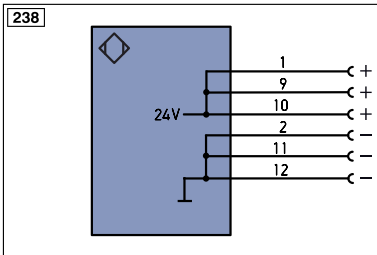


All dimensions in mm (1 mm = 0.03937 Inch)

### Ctrl. Panel



78 = Module status  
85 = Link/Act LED



### Legend

<b>+</b> Supply Voltage +	<b>nc</b> not connected	<b>EN<sub>A</sub>ES42Z</b> Encoder A/Ā (TTL)
<b>-</b> Supply Voltage 0 V	<b>U</b> Test Input	<b>EN<sub>B</sub>ES42Z</b> Encoder B/B̄ (TTL)
<b>~</b> Supply Voltage (AC Voltage)	<b>Ū</b> Test Input inverted	<b>EN<sub>A</sub></b> Encoder A
<b>A</b> Switching Output (NO)	<b>W</b> Trigger Input	<b>EN<sub>B</sub></b> Encoder B
<b>Ā</b> Switching Output (NC)	<b>W-</b> Ground for the Trigger Input	<b>A<sub>MIN</sub></b> Digital output MIN
<b>V</b> Contamination/Error Output (NO)	<b>O</b> Analog Output	<b>A<sub>MAX</sub></b> Digital output MAX
<b>V̄</b> Contamination/Error Output (NC)	<b>O-</b> Ground for the Analog Output	<b>A<sub>OK</sub></b> Digital output OK
<b>E</b> Input (analog or digital)	<b>BZ</b> Block Discharge	<b>SY<sub>IN</sub></b> Synchronization In
<b>T</b> Teach Input	<b>AW<sub>V</sub></b> Valve Output	<b>SY<sub>OUT</sub></b> Synchronization OUT
<b>Z</b> Time Delay (activation)	<b>a</b> Valve Control Output +	<b>OL<sub>T</sub></b> Brightness output
<b>S</b> Shielding	<b>b</b> Valve Control Output 0 V	<b>M</b> Maintenance reserved
<b>RxD</b> Interface Receive Path	<b>SY</b> Synchronization	<b>rsv</b> reserved
<b>TxD</b> Interface Send Path	<b>SY-</b> Ground for the Synchronization	Wire Colors according to IEC 60757
<b>RDY</b> Ready	<b>E+</b> Receiver-Line	<b>BK</b> Black
<b>GND</b> Ground	<b>S+</b> Emitter-Line	<b>BN</b> Brown
<b>CL</b> Clock	<b>±</b> Grounding	<b>RD</b> Red
<b>E/A</b> Output/Input programmable	<b>S<sub>n</sub>R</b> Switching Distance Reduction	<b>OG</b> Orange
<b>IO-Link</b>	<b>Rx+/-</b> Ethernet Receive Path	<b>YE</b> Yellow
<b>PoE</b> Power over Ethernet	<b>Tx+/-</b> Ethernet Send Path	<b>GN</b> Green
<b>IN</b> Safety Input	<b>Bus</b> Interfaces-Bus A(+)/B(-)	<b>BU</b> Blue
<b>OSSD</b> Safety Output	<b>L<sub>a</sub></b> Emitted Light disengageable	<b>VT</b> Violet
<b>Signal</b> Signal Output	<b>Mag</b> Magnet activation	<b>GY</b> Grey
<b>Bi<sub>-D</sub>+/-</b> Ethernet Gigabit bidirect. data line (A-D)	<b>RES</b> Input confirmation	<b>WH</b> White
<b>EN<sub>0</sub>ES42Z</b> Encoder 0-pulse 0-0̄ (TTL)	<b>EDM</b> Contactor Monitoring	<b>PK</b> Pink
		<b>GN<sub>YE</sub></b> Green/Yellow

### Measuring Volume

