

# 3D Sensor

## MLAS102

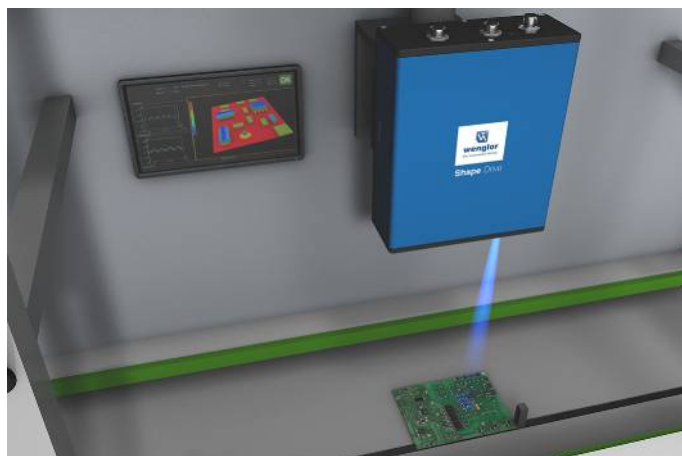
Part Number

ShapeDrive



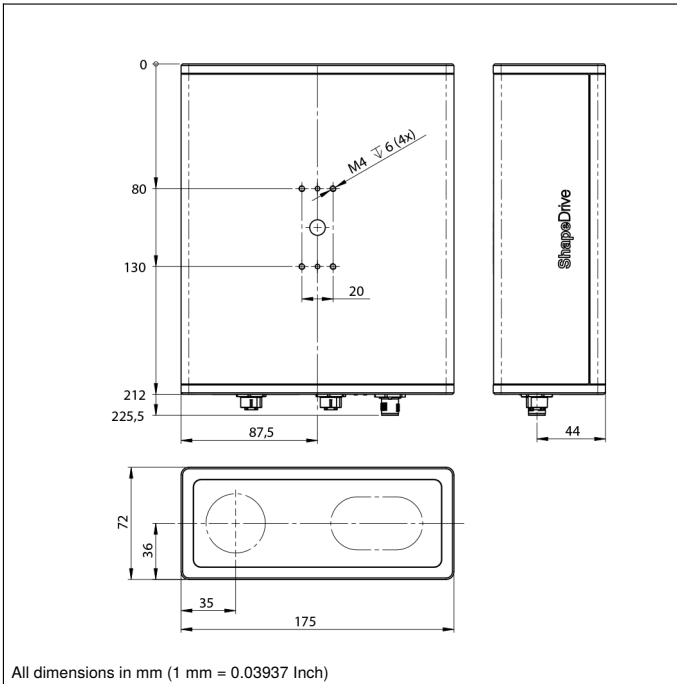
- 10 Gbit/s interface for high speed data transfer
- 5 MP resolution
- Short recording times of up to 0.188 s

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.

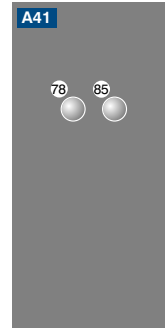


### Technical Data

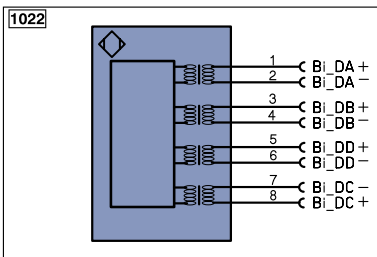
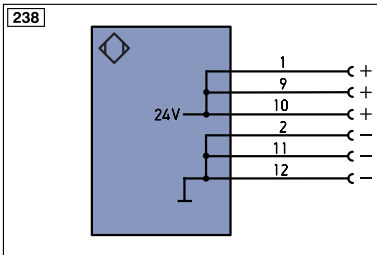
Optical Data	
Working range Z	300...340 mm
Measuring range Z	40 mm
Measuring range X	60 mm
Measuring range Y	48 mm
Resolution Z	6 $\mu$ m
Resolution X/Y	25 $\mu$ m
Camera Resolution	2448 x 2048 Pixel
Light Source	LED (blue)
Wavelength	460 nm
Service Life (T = +25 °C)	20000 h
Risk Group (EN 62471)	2
Max. 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	0,188...0,61 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



### Ctrl. Panel



78 = Module status  
85 = Link/Act LED



### Legend

+	Supply Voltage +	PT	Platinum measuring resistor	ENa	Encoder A
-	Supply Voltage 0 V	nc	not connected	ENb	Encoder B
~	Supply Voltage (AC Voltage)	U	Test Input	AMIN	Digital output MIN
A	Switching Output (NO)	U	Test Input inverted	AMAX	Digital output MAX
Ā	Switching Output (NC)	W	Trigger Input	AOK	Digital output OK
V	Contamination/Error Output (NO)	O	Analog Output	SY In	Synchronization In
ṽ	Contamination/Error Output (NC)	O-	Ground for the Analog Output	SY OUT	Synchronization OUT
E	Input (analog or digital)	BZ	Block Discharge	Ort	Brightness output
T	Teach Input	Aw	Valve Output	M	Maintenance
Z	Time Delay (activation)	a	Valve Control Output +	rsv	reserved
S	Shielding	b	Valve Control Output 0 V		
RxD	Interface Receive Path	SY	Synchronization		
TxD	Interface Send Path	E+	Receiver-Line		
RDY	Ready	S+	Emitter-Line		
GND	Ground	≡	Grounding		
CL	Clock	SnR	Switching Distance Reduction		
E/A	Output/Input programmable	Rx+/-	Ethernet Receive Path		
IO-Link	IO-Link	Tx+/-	Ethernet Send Path		
PoE	Power over Ethernet	Bus	Interfaces-Bus A(+)/B(-)		
IN	Safety Input	La	Emitted Light disengageable		
OSSD	Safety Output	Mag	Magnet activation		
Signal	Signal Output	RES	Input confirmation		
Bi_D+/-	Ethernet Gigabit bidirect. data line (A-D)	EDM	Contactur Monitoring		
EN0r542z	Encoder 0-pulse 0-0 (TTL)	ENAr542z	Encoder A/Ā (TTL)		
		ENBr542z	Encoder B/B̄ (TTL)		

### Wire Colors according to DIN IEC 757

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 Volume

