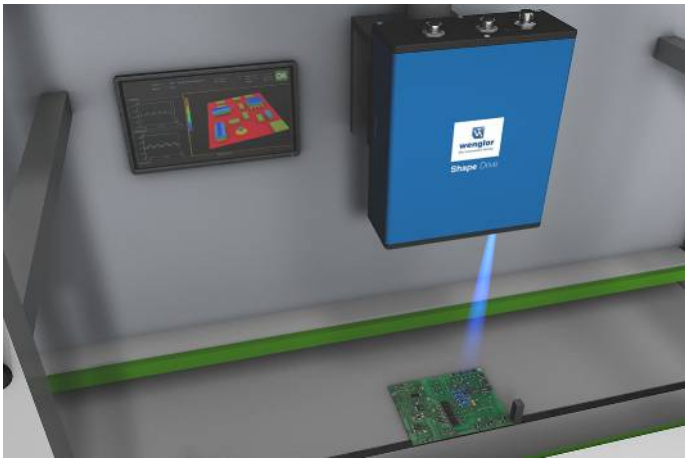
MLAS102

Part Number

ShapeDrive

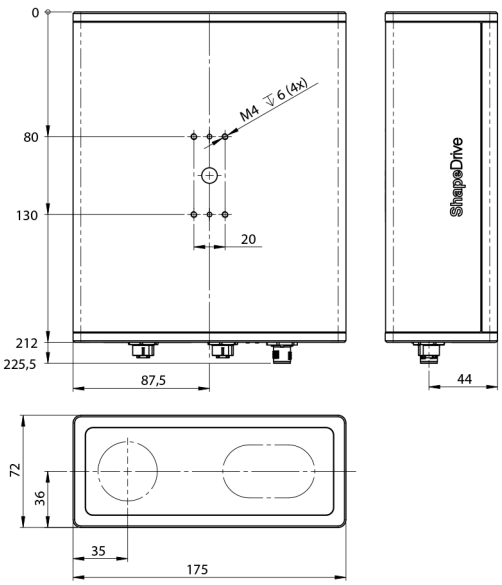
- **10 Gbit/s interface for high speed data transfer**
- **5 MP resolution**
- **Short recording times of up to 0.35 s**

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.



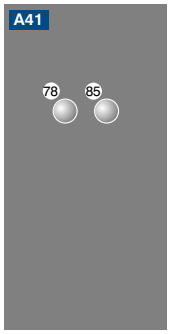
Technical Data

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 µm
Resolution X/Y	35 µm
Camera Resolution	2448 × 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 (Ub = 24 V)	3,5 A
Recording duration	0,35...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 × 1; 12-pin
Type of Connection Ethernet	M12 × 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

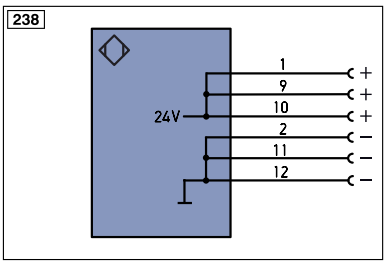


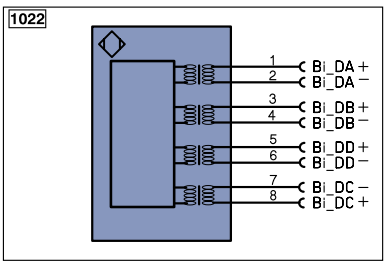
All dimensions in mm (1 mm = 0.03937 Inch)

Ctrl. Panel



78 = Module status
85 = Link/Act LED





Legend

+	Supply Voltage +		
–	Supply Voltage 0 V		
~	Supply Voltage (AC Voltage)		
A	Switching Output	(NO)	
Ā	Switching Output	(NC)	
V	Contamination/Error Output	(NO)	
V̄	Contamination/Error Output	(NC)	
E	Input (analog or digital)		
T	Teach Input		
Z	Time Delay (activation)		
S	Shielding		
RxD	Interface Receive Path		
TxD	Interface Send Path		
RDY	Ready		
GND	Ground		
CL	Clock		
E/A	Output/Input programmable		
	IO-Link		
PoE	Power over Ethernet		
IN	Safety Input		
OSSD	Safety Output		
Signal	Signal Output		
Bi_D+/-	Ethernet Gigabit bidirect. data line (A-D)		
EN0 RS422	Encoder 0-pulse 0-0̄ (TTL)		

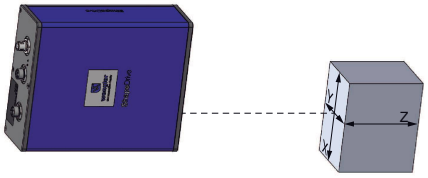
PT	Platinum measuring resistor
nc	not connected
U	Test Input
Ū	Test Input inverted
W	Trigger Input
W–	Ground for the Trigger Input
O	Analog Output
O–	Ground for the Analog Output
BZ	Block Discharge
AW	Valve Output
a	Valve Control Output +
b	Valve Control Output 0 V
SY	Synchronization
SY–	Ground for the Synchronization
E+	Receiver-Line
S+	Emitter-Line
⏚	Grounding
SnR	Switching Distance Reduction
Rx+/–	Ethernet Receive Path
Tx+/–	Ethernet Send Path
Bus	Interfaces-Bus A(+)/B(–)
La	Emitted Light disengageable
Mag	Magnet activation
RES	Input confirmation
EDM	Contactor Monitoring

ENA RS422	Encoder A/Ā (TTL)
ENB RS422	Encoder B/B̄ (TTL)
ENA	Encoder A
ENB	Encoder B
AMIN	Digital output MIN
AMAX	Digital output MAX
AOK	Digital output OK
SY In	Synchronization In
SY OUT	Synchronization OUT
OLT	Brightness output
M	Maintenance
rsv	reserved

Wire Colors according to 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 Volume



Specifications are subject to change without notice