# MLAS102

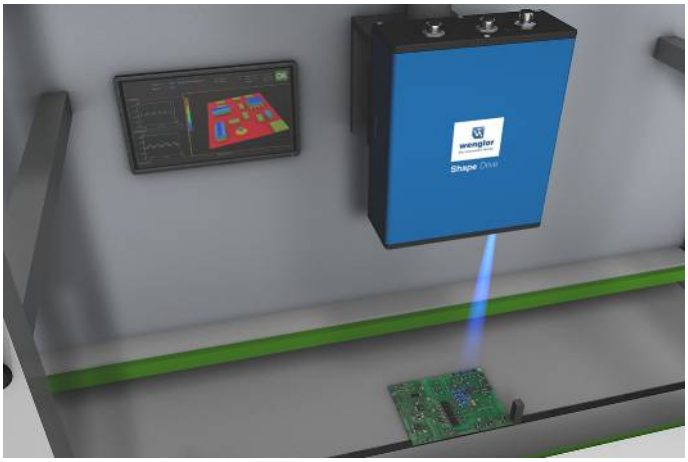
Part Number

ShapeDrive



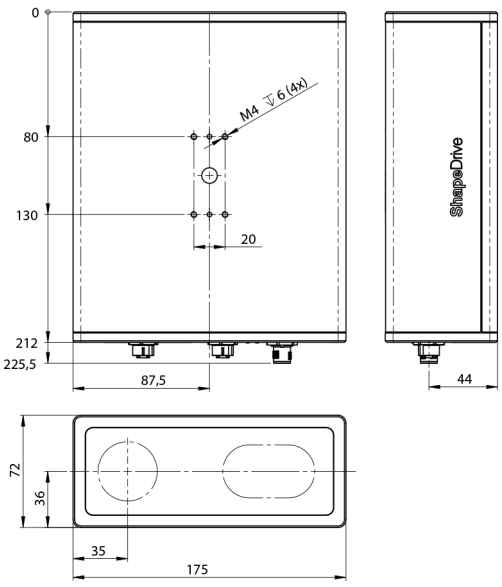

- **10 Gbit/s interface for high speed data transfer**
- **5 MP resolution**
- **Short recording times of up to 0.35 s**

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.



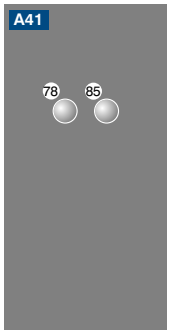
## Technical Data

| | |
|---|---|
| **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 |

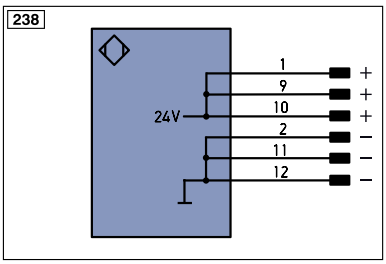


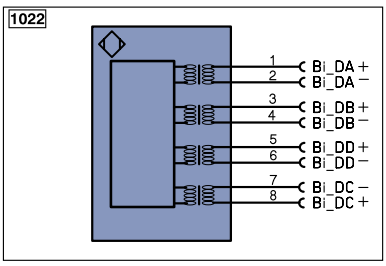

All dimensions in mm (1 mm = 0.03937 Inch)

## Ctrl. Panel




78 = Module status
85 = Link/Act LED




Legend

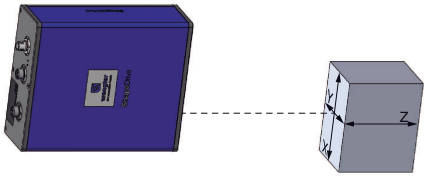
| | | | |
|---|---|---|---|
| + | Supply Voltage + | PT | Platinum measuring resistor |
| – | Supply Voltage 0 V | nc | not connected |
| ~ | Supply Voltage (AC Voltage) | U | Test Input |
| A | Switching Output (NO) | Ū | Test Input inverted |
| Ā | Switching Output (NC) | W | Trigger Input |
| V | Contamination/Error Output (NO) | W– | Ground for the Trigger Input |
| V̄ | Contamination/Error Output (NC) | O | Analog Output |
| E | Input (analog or digital) | O– | Ground for the Analog Output |
| T | Teach Input | BZ | Block Discharge |
| Z | Time Delay (activation) | AMV | Valve Output |
| S | Shielding | a | Valve Control Output + |
| RxD | Interface Receive Path | b | Valve Control Output 0 V |
| TxD | Interface Send Path | SY | Synchronization |
| RDY | Ready | SY– | Ground for the Synchronization |
| GND | Ground | E+ | Receiver-Line |
| CL | Clock | S+ | Emitter-Line |
| E/A | Output/Input programmable | ⏚ | Grounding |
| | IO-Link | SnR | Switching Distance Reduction |
| PoE | Power over Ethernet | Rx+/– | Ethernet Receive Path |
| IN | Safety Input | Tx+/– | Ethernet Send Path |
| OSSD | Safety Output | Bus | Interfaces-Bus A(+)/B(–) |
| Signal | Signal Output | La | Emitted Light disengageable |
| Bl_D+/- | Ethernet Gigabit bidirect. data line (A-D) | Mag | Magnet activation |
| EN0 RS422 | Encoder 0-pulse 0-0̄ (TTL) | 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