

## MD1000D SERIES LASER DISTANCE METERS

### Powerful Class I Long Range ToF Laser Distance Meter Fast 20 kHz measuring rate with built in display and keypad



#### General Characteristics:

- Totally safe Class I Laser
- Ranges of up to 800 m and fast 20 KHz update rate
- High accuracy, high resolution and high measuring rate
- Laser Pointer for the adjustment
- Interfaces: Serial: RS-232/RS-422 and SSI  
Analog: 4..20 mA  
Profibus DP  
2x digital outputs
- Active dynamic control
- Modern lightweight robustness
- Simple configuration via 4 keys and display or remotely via provided configuration software
- Complete S7 Profibus function block included
- Close-up range blanking for front glass dirt/dust suppression
- Rain filter blanking
- Internal device temperature read out via interface
- Keyable Visible Targeting Laser for easy adjustment
- Easy 4 electrical plug connection

#### Short description:

The MD1000D Series of Laser Distance Meters measure via ToF (Time of Flight) technology over distances of up to 800m off reflector panels and upto 110m off natural targets. With their large measuring range these devices can be used in many different industries and for a large variety of tasks.

These Sensors transmit via extremely short multiple light pulses, then measure the running time of these pulses to the object and back, thus computing from this the distance.

The measuring data is sent serially over dual RS232/RS422 and SSI Interface as well as a programmable analogue 4 - 20 mA output. Furthermore, a Profibus DP interface is available. Two further switching outputs are provided that can be configured in logic and band width.

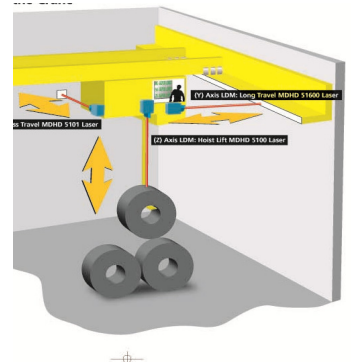
The application range is evaluated via internal microprocessor to provide high accuracy by controllable averaging as well as accommodating high-dynamic movement rate. Specific distances can be defined as threshold trip levels initiated by either rising or falling values.

The MD1000D-R Laser Distance Meters are the ideal solution for crane control, especially for high speed long travel of up to 800m with its fast 20 KHz measuring rate. Furthermore, with its narrow 2 mrad diverging beam accommodates crane crabbing, yet does not require large reflector panels.

The MD1000D-T Laser Distance Meter with its 2 mrad diverging beam and fast measuring rate is well suited for measuring off product on the move at distances of upto 110m dependant on surface nature.

#### Typical Applications:

- Positioning of cranes
- Collision Avoidance
- Positioning of Automated Vehicles
- Measurement & positioning of Product



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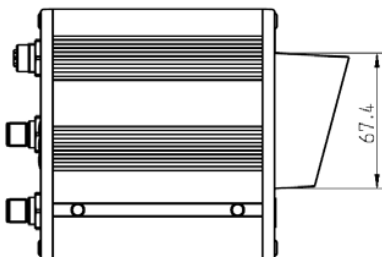
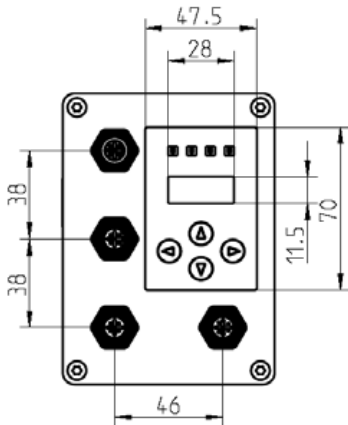
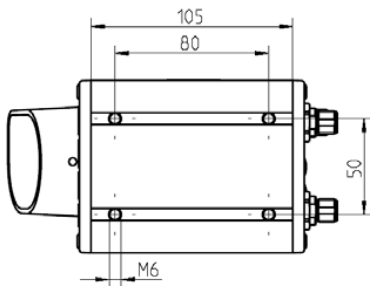
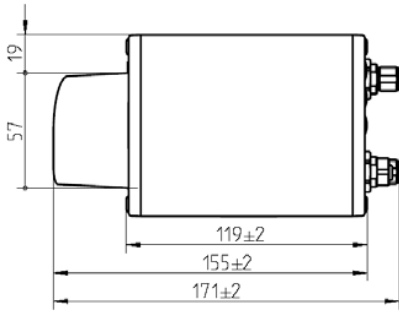
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## MODULOC® Laser Technology

### Technical Data for MD1000-D

| Specification                                            | MD1000D-R               | MD1000D-T                                                                  |
|----------------------------------------------------------|-------------------------|----------------------------------------------------------------------------|
| <b>Interfaces:</b><br>RS232/422 and SSI                  | ✓                       | ✓                                                                          |
| 4-20mA                                                   | ✓                       | ✓                                                                          |
| Profibus DP                                              | ✓                       | ✓                                                                          |
| Digital Outputs 2xPNP In/Out                             | E1, E2                  | E1, E2                                                                     |
| Reflection Foil Range                                    | 1....500m               | N/a                                                                        |
| HR Plastic Reflector Range                               | 1....800m               | N/a                                                                        |
| Natural Surface Range                                    | N/a                     | White target 1 ... 110m<br>Grey target 1 ... 55m<br>Black Target 1 ... 30m |
| <b>Reproducibility:</b>                                  | < 0.5mm                 | White ± 1-2mm<br>Grey/Black ± 2-3mm                                        |
| <b>Measuring Rate:</b>                                   | 20kHz                   | 20kHz                                                                      |
| <b>Resolution:</b>                                       | 0.1mm adjustable        | 0.1mm adjustable                                                           |
| <b>Laser Class:</b><br>Measuring Laser                   | Class 1 (905nm)         | Class 1 (905nm)                                                            |
| Laser Pointer:                                           | Class 2 (660nm)         | Class 2 (660nm)                                                            |
| <b>Divergence:</b><br>Measuring Laser:                   | 2 mrad<br>100cm at 500m | 6 mrad<br>15cm at 20m                                                      |
| Laser Pointer:                                           | 1 mrad                  | 1 mrad                                                                     |
| <b>Measuring Beam Size:</b>                              | Ø 1000mm at 500m        | Ø 150mm at 20m                                                             |
| <b>Distance Output</b>                                   | ACSII-T-ext             | ACSII-T-ext                                                                |
| <b>Display / Controls:</b><br>Function Indicator 4 LEDs  | ✓                       | ✓                                                                          |
| Control Pad (4 keys)<br>for parameterisation             | ✓                       | ✓                                                                          |
| Backlit Display for value display and parameter settings | ✓                       | ✓                                                                          |
| <b>Electrical Supply:</b><br>Voltage:                    | 18 to 30 VDC            | 18 to 30 VDC                                                               |
| Current:                                                 | 0.25 A (24V)            | 0.25 A (24V)                                                               |
| <b>Environmental Protection Class:</b>                   | IP65                    | IP65                                                                       |
| <b>Shock and Vibration:</b>                              | IP65                    | IP65                                                                       |
| <b>Temperature Range:</b><br>Operation:                  | -10°C +55°C             | 10°C +55°C                                                                 |
| Storage:                                                 | -30°C upto +70°C        | -30°C upto +70°C                                                           |
| <b>Weight:</b>                                           | 1.5 kg                  | 1.5kg                                                                      |



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Control Systems

We reserve the right to alter specifications without prior notice. Specifications without tolerances are typical values.

Your Local Area Representative:

