



## ELDP10 LASER DISTANCE METER



- **Advanced totally safe Class I Laser for precise distance measurement.**
- **Powerful Micro-Processor with self diagnostics.**
- **Time-of-Flight Measurement Technique.**
- **Standard Interfaces include RS232/RS422 Serial, 4-20mA Analog and two digital switched outputs.**
- **Selectable visible Class II pulsed laser pointer for aiding alignment.**
- **Measurement Range of over 80M to a High Gain Reflector and up to 20M off Natural Surfaces.**

### Features

- Non-contact distance measurement
- High precision and resolution
- Fast measurement rate
- Robust compact industrial design
- Single, multiple or mean average measurement
- Dual digital outputs for zone protection
- Standard Interface: RS232/RS422 and Analog
- Intelligent LDM incorporating continuous self test
- Optional Network Interface: PROFIBUS DP
- Secondary Environmental Enclosures are available for additional protection for indoor, outdoor crane mounting and elevated temperature applications.

### MDHD Product Family

The MDHD Product Family consist of electro-optical range finders that feature compact design and application oriented measuring technology.

The range to natural surfaces is 155 M. When using reflectors or glass prisms the range increase up to 1200M.

### Other sensors that are part of the MDHD Product Family:

- MDHD100 for measurements to a reflector panel at distances over 800M or to natural surfaces up to 155M
- MDHD600 for measurements to a reflector panel at distances up to 600, and up to 1200M when using glass prism reflectors.

### Typical Applications

<b>Product Material</b>	Length, width, level and position of product.
<b>Material Handling</b>	Positioning of Automated Storage/Retrieval Systems and other handling vehicles.
<b>Metals Industry</b>	Measure/Position slab, billet, bloom or bar, automatic cutoff and coil diameter.
<b>Crane Control</b>	Positioning of cranes & crane trolleys on X, Y and Z axis.
<b>Collision Avoidance</b>	Distance safety warning between vehicle and reflective target.

### ELDP Description

The ELDP10 Laser Distance Meter operates via a unique pulsed time-of-flight (TOF) measurement technique and measures distances to reflectors in a working range of over 80 meters or to natural surfaces in a working range up to 15M. The ELDP10 transmits ultra-short light pulses at the rate of 1000 measurements per second, measures the TOF to the reflector and back to derive the distance and transmits this data information via an interface to a computer, PLC or an analog instrument.

The ELDP10 is equipped with a powerful m-Processor to handle a variety of measurement tasks and self diagnostics. By means of parameterized mean value calculation, high dynamic positioning tasks may be accomplished.

Two programmable threshold bands can be defined. Measurements below these thresholds are indicated via digital outputs & LED's. These thresholds & outputs are programmable via a RS232 or RS422 connection to a computer or a PLC. The ELDP10 is equipped with a switch selectable opto-coupled RS 232, RS422 & programmable analog interface as standard. Only one digital output is available if the analog interface is selected. An optional PROFIBUS DB Interface is also available.

## MODULOC Technology - The Total Laser Solution

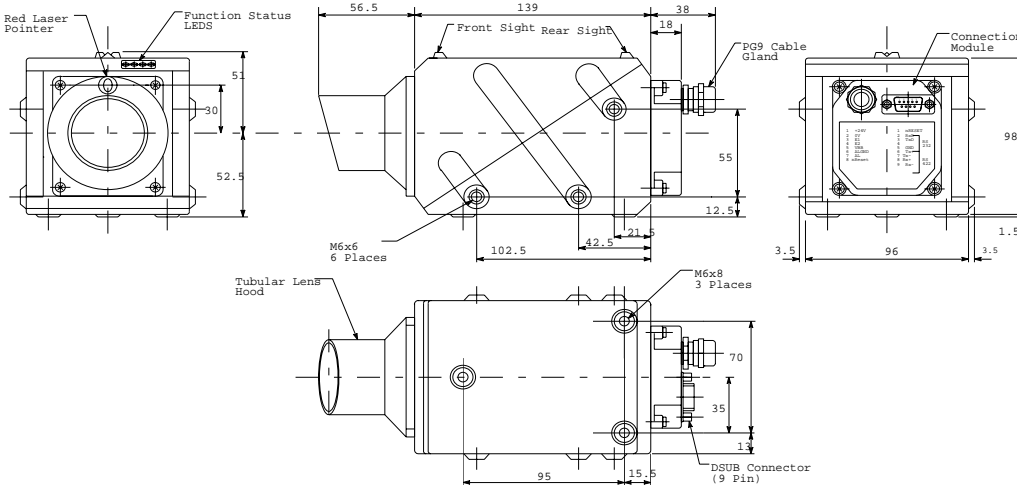
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## ELDP10 DIMENSIONS



## Pin Out Connections

### Screw Terminal Block:

- |           |                    |
|-----------|--------------------|
| 1. +24V:  | Supply (DC+)       |
| 2. GND:   | Supply ground      |
| 3. E1     | Switching output 1 |
| 4. E2     | Switching output 2 |
| 5. VBB    | E1, E2 Supply      |
| 6. ALGND  | Analog ground      |
| 7. AL     | Analog Output      |
| 8. nRESET | external RESET     |

### D-SUB 9 Connector:

- |           |                |
|-----------|----------------|
| 1. nRESET | external RESET |
| 2. RxD    | RS232 Input    |
| 3. TxD    | RS232 Output   |
| 4. NC     | Not used       |
| 5. GND    | RS232 ground   |
| 6. Tx+    | RS422 Input    |
| 7. Tx-    | RS422 Output   |
| 8. Rx+    | RS422 Input    |
| 9. Rx-    | RS422 Input    |

Secondary Environmental Enclosures are available for additional protection for indoor, outdoor crane mounted and elevated temperature applications.

## ELDP10 Technical Info

Typical Working Range off Product Surface (cold or hot up to 600°C) or Reflector	White (90%)	0.1 - 20 M (0.3 - 52 FT)	Light, good reflective target
	Gray (20%)	0.1 - 7.5 M (0.3 - 24.6 FT)	Dark reflective target (tree trunk)
	Black (5%)	0.1 - 3.7 M (0.3 - 12 FT)	Very Dark target (black rubber)
	High Gain Reflective Foil	0.5 - >80 M (1.6 - >262 FT)	High Gain Reflective Foil
Relative Accuracy	Repeatability <sup>1)</sup>	+/-1.5mm <sup>1)</sup>	1 Sigma, N infinite
Laser Data	Measurements per second	1000	
	Measurement output	up to 1 ms	For N>1 Moving average time higher
	Measuring Laser	Safety Class I	EN 60825-1
	Laser Divergence	5 mrad	
	Light Spot diameter	4.5cm/7cm/42cm	At 5M/10M/80M
	Red Laser Pointer	Safety Class II	Operates Via serial interface
	Measuring Mode settings	Single Value, Continuous & Moving Average	
Outputs	Interface (electrically isolated)	RS232 or RS422	Optional: PROFIBUS DP
	Analog (electrically isolated)	4-20mA	0.3%, Start and Stop Programmable
	Digital (electrically isolated)	Dual NPN (Programmable)	Threshold, direction and hysteresis
	Display	4 LED's	Status Function Display
Power supply	18 - 30 VDC Isolated	≤ 6W	Electrically Isolated
Environmental	Enclosure Protection Class	IP65	Aluminum Housing, 1.2kg
	Shock & Vibration Rating	IEC 68	
	Temperature Range	Operational: -10 to +55°C (14 to +131°F)	Storage: -25 to +70°C (-13 to +158°F)
Amplitude Control	Mechanical	Motorized attenuation wedge	error <5mm

<sup>1)</sup> Repeatability for typical devices under constant environmental conditions (approx. 20°C , 1013 mbar, same target) after at least 30 minutes power-on time.

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**MODULOC**  
Control Systems

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

Your Local Sales Representative:



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