



## MDHD600 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 up to 600M off High Gain Reflective Foil, up to 800M off HR Plastic Reflector and up to 1200M off High Gain Triple Glass Prism.**
- **Close-up range blanking for lens dirt & dust suppression.**

### MDHD600 Features

- Non-contact distance measurement
- High precision, high resolution and high measuring rate.
- Robust compact industrial design
- Single, multiple or mean average measurement
- Dual digital switching outputs for zone protection
- Standard Interface: RS232/RS422 & Analog
- Intelligent LDM incorporating continuous self test
- Configuration software included
- 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:

- ELDP10 for measurements to a reflector panel at distances over 80M or to natural surfaces up to 15M.
- MDHD100 for measurements to a reflector panel at distances up to 800M or to natural surfaces up to 155M.

### Typical Applications

- General** Distance measurement with a reflector or triple prism.  
**Material Handling** Positioning of Automated Storage/Retrieval Systems and other material handling vehicles.  
**Crane Control** Positioning of cranes & crane trolleys on X, Y and Z axis.  
**Collision Avoidance** Distance safety warning between vehicle and reflective target.

### ELDP Description

The MDHD600 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 1200 meters. The MDHD600 transmits ultra-short light pulses at the rate of 5000 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 MDHD600 is equipped with a powerful micro-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 switching outputs & LEDs. These thresholds & outputs are programmable via a RS232 or RS422 connection to a computer or a PLC. The MDHD600 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

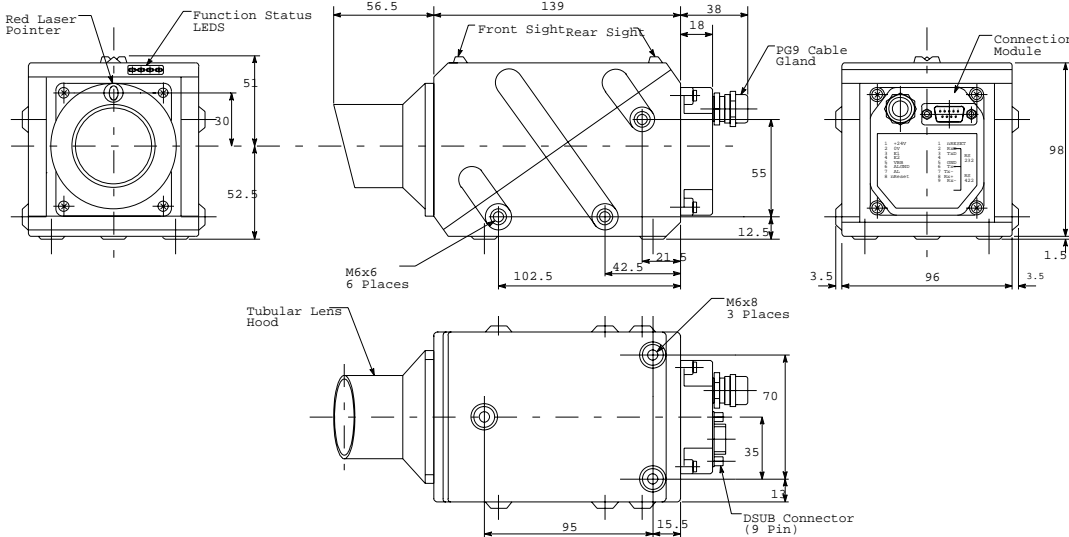
#### MODULOC Control Systems Ltd.

Wheathamstead, Hertfordshire, AL4 8SB United Kingdom  
Phone: +44 (0)845 873 6501 FAX: +44 (0)158 283 1980  
E-Mail: sales@moduloc-intl.com Website: www.moduloc-intl.com

#### MODULOC Control Systems, Inc.

500 Garden City Drive. Suite 2B, Monroeville, PA 15146 USA  
Phone: 412-824-1260 FAX: 412-824-8890  
E-Mail: sales@moduloc-usa.com Website: www.moduloc-usa.com

## MDHD600 DIMENSIONS



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

## MDHD600 Technical Info

Working Range	High Gain Reflective Foil	0.5 to 600M (1.6 to 1968FT) <sup>2)</sup>	using High Gain Reflective Foil
	High Gain HR Plastic Reflectors	0.5 to 800M (1.6 to 2625FT) <sup>2) 3)</sup>	using High Gain HR Plastic Reflectors <sup>3)</sup>
	High Gain Triple Glass Prisms	0.5 to 1200M (1.6 to 3937FT) <sup>2) 3)</sup>	using High Gain Triple Glass Prisms <sup>3)</sup>
Relative Accuracy	Repeatability <sup>1)</sup>	+/- 2mm <sup>1)</sup>	Temperature drift 0.3mm/K
Laser Data	Measurements per second	5000	
	Measurement Output	up to 1 ms	For N>1 Moving average time higher
	Measuring Laser	Safety Class I	EN 60825-1:2001, CDRH
	Laser Divergence	5 mrad	
	Light Spot Diameter	7cm/52cm	At 10M/100M
	Red Laser Pointer	Safety Class II	Operates Via serial interface
	Measuring Mode options	Continuous Standard	Single Value & Moving Average
Outputs	Serial Interface (electrically isolated)	RS232 or RS422	ASCII Text or Binary Code
	Optional Interface:	PROFIBUS DP	
	Analog (electrically isolated)	4-20mA (Programmable)	0.3%, Start and Stop
	Switching Output (electrically isolated)	Dual NPN (E1, E2)	Threshold, direction and hysteresis
	Display	4 LED's	Status Function Display
Power supply	18 - 30 VDC Isolated	0.25A @24VDC	Electrically Isolated
Environmental	Enclosure Protection Class	IP65	Aluminum Housing, 1.3kg
	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)

<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.

<sup>2)</sup> When close up range blanking is activated the minimum increases to 2M.

<sup>3)</sup> Increased Range is attained by the use of the appropriate sized High Gain Reflective Foil plus the addition of High Gain HR Plastic Reflectors or High Gain Triple Glass Prisms.

## MODULOC Technology - The Total Laser Solution

**MODULOC**  
Control Systems

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

Your Local Sales Representative:



Bulletin No. MC-MDHD600-09-01  
January 2009

## 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 Output   |
| 7. Tx-    | RS422 Output   |
| 8. Rx+    | RS422 Input    |
| 9. Rx-    | RS422 Input    |