



LD A LASER DISTANCE METER



- ◆ **Long Range, non contact 2D profile measurement**
- ◆ **Range >40M on dark, natural targets**
- ◆ **Range >100m on light, natural targets**
- ◆ **High accuracy, resolution and measurement rate**
- ◆ **Integrated processor with intelligent and indefinable data evaluation for object measurement**
- ◆ **Computer interfaces RS232 and RS422; CanBUS, Interface optional**
- ◆ **Self-test function**
- ◆ **Robust design**
- ◆ **Easy installation with user orientated software**
- ◆ **Installable in any direction**

Product Family

LD A is a member of the Digital Laser Sensor family. The LD A offers a compact design for two dimensional (2D) measurement applications over long distances.

Measurement may be made onto natural targets at distances of 100m and onto co-operative targets (e.g., 3M foil) to more than 300M

Other sensors that are part of the LD family:

- ◆ LD M short range, high accuracy and resolution
- ◆ LD R measurement onto reflector, high accuracy
- ◆ D 2DL 3°, linear scan with high angular resolution for precise position measurement

Applications LD A

General	Profile measurement with more than 100m radius
Materials	Object measurement regarding form and volume, loads, container
Crane Control	Profile measurement of goods, collision avoidance, docking of AGV, trucks and chassis
Container Terminal	Stack profile measurement, object projection
Survey	Length, width, height, level and position of objects and surroundings
Mining	Measurement of Cavern

Description LD A

The LD A scanner uses the time-of-flight measurement method to calculate target range and couples the range measurement with an angle measurement to create a polar co-ordinate position. A complete circular profile is created as the LD A head rotates a full 360° at a 10 Hz rate.

As an option, the LD A contains an integrated DSP processor allowing online profile evaluation and interfacing over a special Can Bus I/F. The DSP can be programmed to support form, volume and movement applications.

The LD A covers an area within a 40m radius onto dark targets (e.g., dark walls of a tunnel) and 100m onto light targets over an angular range of upto 360°. If the application requires the sensor to self-test, the angular range is limited to 300° to allow a 60° internal self-test check area.

Ordering Information:

A: for "Long Range" measurement on natural targets

MODULOC[®] Technology - The Total Sensor Solution

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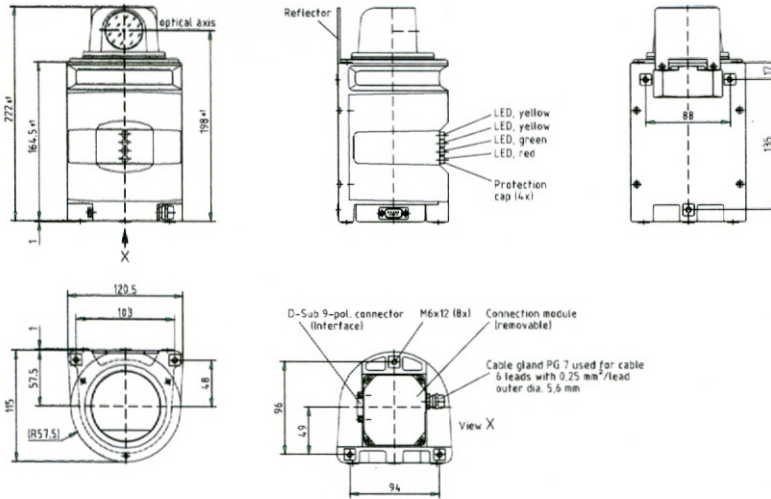
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LD A DIMENSIONS



PIN OUT CONNECTIONS

Terminal Block

1.	24+	External Supply
2.	24-	External Supply
3.	Level 1	Switch
4.	Level 1	Switch
5.	Level 2	Switch
6.	Level 2	Switch

DB9

1.	Lin+	Link in +
2.	RXD	RS232
3.	TXD	RS232
4.	Lout+	Link out +
5.	GND	Signal Ground
6.	Lin-	Link in -
7.	Can-L	Can low
8.	Can-H	Can high
9.	Lout-	Link out -

TECHNICAL DATA

Distance Measurement	To reflectance of 1.8%	<15m	E.g., car reflector
	To reflectance of 20%	50m	
	To reflectance of 90%	100m	
	To cooperative reflector		
	Resolution	4mm	
	Repeatability	3cm (1 signal)	
Angle Measurement	Range	360°	With self text function 300°
	Resolution Encoder	0.07°	
	Angular Step Width	0.25°	
Scan Data	Scan frequency	10 Hz	Revolutions/second
	Pulse/Grad	4	Measured at 5m range
	Overlapping	2-times	
Measurement Source	Laser diode	905 nm	Invisible, eye safe radiation
	Divergence of beam	5 mrad	
	Pulse Repetition Frequency	14,400 Hz	
	Laser Safety Class	1	
Interface	RS232	9600-18200 Baud	User selectable
	RS422	10 Mbaud	Inmos Link
	Switch output	2x2 optically isolated	2x switch, 1, 2 x switch 3
	CANBUS, ARCNET		optional

Function display	LED1	Red	Malfunction
	LED2	Green	Function OK
	LED3	Yellow	Switch 1
	LED4	Yellow	Switch 2
Electrical Data	Power Supply	18-30 VDC	Intern galvanic isolated
	Supply Current	1A, @ 24 VDC	

Optical Data	Scan level alignment	0.25°	With regard mounting points
Environment	Operation Temperature	-10°C to 50°C	Condensation must be avoided
	Storage Temp	-20°C to 80°C	
	Protection Class	IP54	
	Shock, Vibration	IEC 68	
Mechanical Data	EMV	IEC 801	Industrial Standard
	Weight	3.2 kgs	Industrial Standard
	Size	115x120.5x222mm	
	Casing	Casted aluminium	

Scope of Delivery

Sensor, operation manual, set of screws

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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:

