



ELD L A

360° Laser scanner

Features	Product Family
<ul style="list-style-type: none"> • Long range, non contact 2D profile measurement • Range > 40 m on dark, natural targets • Range > 100 m on light, natural targets • High accuracy, resolution and measuring rate • Integrated processor with intelligent and parameterizable data evaluation for object measurement • Computer interfaces RS232 and RS422; CAN BUS interface optional • Self-test function • Robust design • Easy installation with user-oriented software in any mounting position 	<p>ELD L A is a member of the LADAR DIDITAL sensor family that features compact design and application oriented 2-D measuring technology.</p> <p>The range on natural surfaces is up to 100 m. When using reflectors it is possible to enlarge the range up to more than 300 m.</p>

Applications ELD L A

General	Profile measurement over more than 100 m radius
Materials	Object measurement relating to form and volume, loads, containers
Crane control	Profile measurement of goods, distance clearance protection, docking of AGV and trucks
Container Terminal	Stack profile measurement, object protection
Survey	Length, width, height, level and position of objects and environment
Mining	Measurement of cavern

Description ELD L A

For recording 2D profiles, the close environment is scanned with an IR laser beam. The ELD L sends extremely short light pulses, measures the run time of these pulses to the object and back and calculates the distance from it, measures the angle of the sent pulses and produces 10 times per second a profile picture of the environment including all objects within the sensor range. The 2D profiles or reflector positions can be retrieved by a special interface.

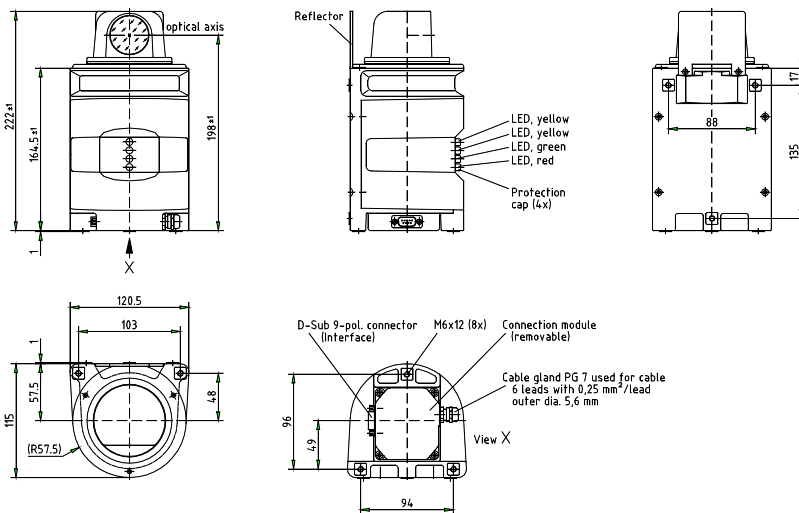
For online-processing of the reflector positions or profiles (e.g. for the interpretation of the environment) they are converted in an optionally integrated DSP. This further processing is application specific and aims at calculating forms, volumes, movements and further characteristics of objects and to hand over to an interface for technical measurement applications. This interface is CAN BUS.

Ordering Information:

A: For „Long Range“ measurement on natural targets

Article no.: ELD L A

Dimensional drawing ELD L A



Connecting terminals

Terminal Block:

1. 24 +: External supply
2. 24 -: External supply
3. Threshold 1: Switch
4. Threshold 1: Switch
5. Threshold 2: Switch
6. Threshold 2: Switch

DB 9:

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 ELD L A

Distance measurement	Range	< 15 m	Reflection: 1.8% ¹⁾
	Range	50 m	Reflection: 20% ¹⁾
	Range	100 m	Reflection: 90% ¹⁾
	Range with reflector	300 m	e.g. car backlight
	Resolution	4 mm	
	Repeatability	3 cm (1 sigma)	range of reflection 2-90%
Angle measurement	Range	360°	with self-test function 300°
	Resolution encoder	0.07°	
	Angular step width	0.25°	
Scan data	Scan frequency	10 Hz	Rotations/second
	Pulse/Grade	4	
	Overlapping (5m)	2-times	
Measurement source	Laser diode	905 nm	
	Divergency	5 mrad	
	Pulse refresh rate	14.400 Hz	
	Laser safety class	1	Inherent eye-safe
Interface	RS 232	9600-19200 Baud	user selectable
	RS 422	10 Mbaud	ARCNET
	Switch outputs	2 x 2, optically isolated	2 x threshold 1, 2 x threshold 2
	CANBUS		optional
Function display	LED 1	red	Malfunction
	LED 2	green	Function OK
	LED 3	yellow	Threshold 1
	LED 4	yellow	Threshold 2
Electrical data	Power supply	18 – 30 VDC	Intern galvanic isolated
	Supply current	1 A, @ 24 VDC	
Optical data	Scan level alignment	0.25°	relating to mounting points
Environment	Operation temperature	0°C to 40°C	Bedewing has to be avoided
	Storage temperature	-20°C to 80°C	
Mechanical data	Protection class	IP 40	
	Shock, Vibration	IEC 68	Industrial standard
	EMV	IEC 801	Industrial standard
	Weight	3.2 kg	
	Size LxWxH	115 x 120.5 x 222 [mm]	
	Housing	aluminum die-casting	

¹⁾ depending on target size

Scope of delivery ELD L A

Sensor, operating instructions, fastening screws

Sales information ELD L A

The manufacturer reserves the rights to alter specification without prior notice. Data without tolerances are typical values.
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