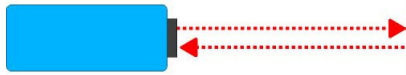




Technical data LARA



The spot 1D Laser Measurement System LARA, developed by Z+F, is the basis for different applications and has two distance ranges:



Laser measurement system	LARA 25200	LARA 53500
Ambiguity interval:	25.2 m	53.5 m
Min. range:	1.0 m	1.0 m
Resolution 16 Bit Range:	1.0 mm/lsb	1.0 mm/lsb
Resolution 15 Bit Intensity:	32,767 lsb	32,767 lsb
Data acquisition rate:	≤ 625,000 px/sec.	≤ 500,000 px/sec.
Linearity error: ¹⁾	≤ 3 mm	≤ 5 mm
Range noise at 10 m: ^{1) 2)}		
> Reflectivity 20% (dark grey):	≤ 1.6 mm rms	≤ 2.4 mm rms
> Reflectivity 100% (white):	≤ 1.0 mm rms	≤ 1.5 mm rms
Range noise at 25 m: ^{1) 2)}		
> Reflectivity 20% (dark grey):	≤ 4.4 mm rms	≤ 6.5 mm rms
> Reflectivity 100% (white):	≤ 1.8 mm rms	≤ 2.7 mm rms
Range drift over temp. (0–40 °C): ¹⁾	≤ 1 mm	≤ 2 mm
<i>Optical transceiver</i>		
Laser output power (CW):	23 mW	32 mW
Laser wavelength:	780 nm	
Beam divergence:	0.22 mrad	
Beam diameter at 1 m distance:	3 mm circular	
Laser safety class:	3R (DIN EN 60825-1)	
Min. 3R security distance:	1.0 m	2.0 m
<i>Miscellaneous</i>		
Ambient conditions:		
> Calibrated temperature range:	0–40 °C	
> Humidity:	non-condensing	
> Target reflectivity:	no retro-reflectors	
> Illumination:	all conditions from darkness to daylight	

Z+F Measurement Systems

Localized Systems LARA (1D):	<ul style="list-style-type: none"> > Z+F 2D and 3D measurement systems are based upon the LARA 1D laser system > Application: Operational area: long-term measurement
Profile Systems PROFILER (2D):	<ul style="list-style-type: none"> > LARA with 1D deflection of the laser beam > Applications: landscape and infrastructure (examples of use: surveying of railways, tunnels, streets etc.) > The scanner will be installed on a carrier (train, vehicle etc.) and scans in 2D whilst moving in the 3rd dimension
Imaging Systems IMAGER (3D):	<ul style="list-style-type: none"> > LARA with 2D deflection of the laser beam > Applications: digital factory planning (e.g. automotive), plant revamp (e.g. process industry), architecture, cultural heritage, virtual reality

Z+F Group

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¹⁾ detailed explanation on demand – please contact info@zf-laser.com

²⁾ data acquisition rate: 125,000 px/sec.