



The profiling Z+F 2D laser measurement systems are applicable in the fields of infrastructure and landscape (surveying of railways, tunnels, streets etc.). They are based upon the spot Z+F Laser Measurement System LARA.

Laser measurement system		
Ambiguity interval:	79 m	
Min. range:	1.0 m	
Range Resolution:	0.1 mm	
Data acquisition rate:	≤ 500 000 pxl / sec.	
Linearity error up to 50m: ¹	≤1 mm	
Range noise at 10 m: ^{1 2}		
> Reflectivity 10% (black):	1.2 mm rms	
> Reflectivity 20% (dark grey):	0.7 mm rms	
> Reflectivity 100% (white):	0.4 mm rms	
Range noise at 25 m: ^{1 2}		
> Reflectivity 10% (black):	3.0 mm rms	
> Reflectivity 20% (dark grey):	2.0 mm rms	
> Reflectivity 100% (white):	1.0 mm rms	
Range noise at 50 m: ^{1 2}		
> Reflectivity 10% (black):	7.5 mm rms	
> Reflectivity 20% (dark grey):	4.0 mm rms	
> Reflectivity 100% (white):	2.5 mm rms	
Range drift over temp. (0 – 40 °C):	negligible due to internal reference	
Optical transceiver		
Laser	visible	
Beam divergence:	0.22 mrad	
Beam diameter at 1 m distance:	3 mm circular	
Laser safety class:	3R (ISO EN 60825-1)	
Deflection unit		
System vertical:	Rotating mirror	
Field of view vertical:	310°	
Resolution vertical:	0.0088°	
Accuracy vertical: ¹	0.01° rms	
Max. scanning speed vertical:	≤ 100 rps	
Miscellaneous		
Data storage:	Internal HDD	
Data interface:	Ethernet / USB 2.0	
Communication interface:	Ethernet / Bluetooth	
Integrated operation panel:	4 Lines, 6 Buttons	
Power supply, Input voltage:	24V DC (scanner) 90–260V AC (power unit)	
Power consumption:	75 W	
Battery life time:	3 h (TRAPP-15-24)	
Ambient conditions:		
> Calibrated temperature:	0°C - 40°C	
> Storage temperature:	-20°C - 50°C	
> Humidity:	non-condensing	
> Target reflectivity:	no retro-reflectors	
> Illumination:	all conditions from darkness to daylight	
Dimensions and weights		
Scanner (w x d x h):	286 mm x 190 mm x 372 mm	12 kg
System Overview		
Number of profiles per rotation:	n ≤ 100 rps	
Points per 360° - Profile:	p = 500 000 / n	
Lateral distance between profiles:	s = v / n (v = velocity of the carrier vehicle in m/s)	

¹ DETAILED EXPLANATION ON DEMAND – PLEASE CONTACT INFO@ZF-LASER.COM ² DATA ACQUISITION RATE: 127 000 PXL/SEC.