



## Technical Data Z+F PROFILER 5002



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 and can be fitted alternatively for two distance ranges:

### Laser measurement system

Ambiguity interval:	53.5 m
Min. range:	1.0 m
Resolution 16 Bit Range:	1.0 mm/lb
Mx. data acquisition rate:	≤ 500,000 pixel/sec.
Typical data acquisition rate:	125,000 pixel/sec.
Linearity error: <sup>1</sup>	≤ 5 mm
Range noise at 10 m: <sup>1 2</sup>	
> Reflectivity 20% (dark grey):	≤ 2.4 mm rms
> Reflectivity 100% (white):	≤ 1.5 mm rms
Range noise at 25 m: <sup>1 2</sup>	
> Reflectivity 20% (dark grey):	≤ 6.5 mm rms
> Reflectivity 100% (white):	≤ 2.7 mm rms
Range drift over temp. (0–40°C):	negligible due to internal reference

### Optical transceiver

Laser output power (CW):	23 mW (rot)
Beam divergence:	0.22 mrad
Beam diameter at 1 m distance:	3 mm circular
Laser safety class:	3R (ISO EN 60825-1)

### Deflection unit

Field of view vertical:	310°
Resolution vertical:	0.018°
Accuracy vertical: <sup>1</sup>	+/- 0.02° rms
Max. scanning speed vertical:	1,980 U/min
Typ. Scanning time:	0.033 sec./profile

### Miscellaneous

Data interface:	
> Max. output data rate:	5 MB/sec.
> Host interface:	IEEE1394 ("Firewire"/"I-Link")
Power supply:	
> Input voltage:	24V DC (scanner)   90–260V AC (power unit)
Power consumption (total):	50-70W
Ambient conditions:	
> Calibrated temperature range:	0–40°C
> Humidity:	non-condensing
> Target reflectivity:	no retro-reflectors
> Illumination:	all conditions from darkness to daylight

### Systemübersicht

No. (n) of profiles (rotations) per sec.	n ≤ 30
No. (p) of pixels per 360° profile:	p ≤ 20,000
Lateral distance of profiles (Helix):	s = v / n (v = Geschwindigkeit Trägerfahrzeug in m/s)
Scanning window:	310° vertical
Storing files and data:	Laptop, file size depending of number of points per profile

<sup>1)</sup> DETAILIERTE ERLÄUTERUNG AUF ANFRAGE – BITTE KONTAKTIEREN SIE [INFO@ZF-LASER.COM](mailto:INFO@ZF-LASER.COM) <sup>2)</sup> DATENRATE: 125 000 PIXEL/SEK.