



Technical data Z+F PROFILER 5006h



Z+F PROFILER, front view



Z+F PROFILER, side view

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:	0.4 m
Range resolution:	0.1 mm
Max. data acquisition rate:	1 016 727 pxl/sec.
Linearity error up to 50 m: 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):	2.6 mm rms
> Reflectivity 20% (dark grey):	1.5 mm rms
> Reflectivity 100% (white):	0.7 mm rms
Range noise at 50 m: ^{1,2,3}	
> Reflectivity 10% (black):	6.8 mm rms
> Reflectivity 20% (dark grey):	3.5 mm rms
> Reflectivity 100% (white):	1.8 mm rms
Range drift over temp. (-10 °C to 45 °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 (≥ 60 GB)
Data interface:	Ethernet / USB 2.0
Communication interface:	Ethernet
Integrated operation panel:	4 Lines, 6 Buttons
Power supply, Input voltage:	24V DC (Scanner) 90–260V AC (power unit)
Power consumption:	85 W max.
Battery life time:	2.5 h (ext. Battery TRAPP-15-24)
Ambient conditions:	
> Calibrated temperature:	-10 °C to 45 °C
> Storage temperature:	-20 °C to 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 412 mm	12 kg
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System Overview

Number of profiles per rotation:	n ≤ 100 rps
Points per 360°-Profile:	1 016 727 / 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., raw data, in High Power Mode

³ values extrapolated