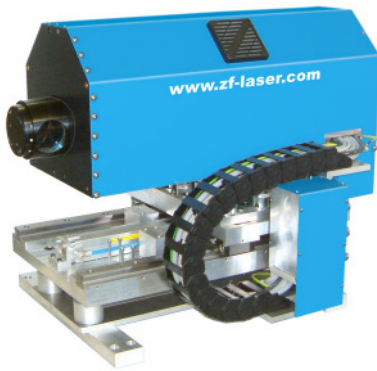




Technical data PROFILER



PROFILER 5002



PROFILER 6000-300



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:

<i>Laser measurement system</i>		<i>LARA 25200</i>	<i>LARA 53500</i>
Ambiguity interval:		25.2 m	53.5 m
Min. range:		1.0 m	1.0 m
Resolution 16 Bit Range:		1.0 mm/lb	1.0 mm/lb
Data acquisition rate:		≤ 625,000 px/sec.	≤ 500,000 px/sec.
Typical data acquisition rate:		125,000 px/sec.	125,000 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) 3)}		≤ 1 mm	≤ 2 mm
<i>Optical transceiver</i>			
Laser output power (CW):		23 mW (red)	
Beam divergence:		0.22 mrad	
Beam diameter at 1 m distance:		3 mm circular	
Laser safety class:		3R (DIN EN 60825-1)	
<i>Deflection unit</i>		<i>PROFILER 5002</i>	<i>PROFILER 6000-300</i>
Field of view vertical:		310°	360°
Resolution vertical:		0.018°	0.18°
Accuracy vertical: ¹⁾		+/- 0.02° rms	+/- 0.18° rms
Max. scanning speed vertical:		1,980 rpm	18,000 rpm
Scanning time:		0.033 sec./profile	0.0033 sec./profile
<i>Miscellaneous</i>			
Data interface:		5 MB/sec.	
> Max. output data rate:		IEEE1394 ("Firewire"/"I-Link")	
> Host interface:			
Power supply:		24V DC (scanner) 90–260V AC (power unit)	
> Input voltage:			
> Power consumption (total):		50–70 W	up to 2 kW
Ambient conditions:		0–40 °C	
> Calibrated temperature range:		non-condensing	
> Humidity:		no retro-reflectors	
> Target reflectivity:		all conditions from darkness to daylight	
> Illumination:			
<i>System overview</i>			
Application:		<ul style="list-style-type: none"> > Detailed surveying of road, track and equipment etc. > Surveying of complete networks, especially railway networks 	
System description:		Portable Instrument, approx. 30 x 18 x 35 cm (w x d x h), 13 kg	3 single scanners and a computer network, integrated in carrier vehicle, approx. 3 x 35 kg
No. (n) of profiles (rotations) per sec.:		n ≤ 30	n ≤ 3 x 300
No. (p) of pixels per 360° profile:		p = 625,000 / n	
		p ≤ 20,000	p ≤ 10,000
Lateral distance of profiles (Helix):		s = v / n (v = speed of carrier vehicle in m/s)	
Scanning window		310° vertical	360° vertical
Storing files and data		Laptop, file size depending of number of points per profile	Industrial network of PCs, data volume approx. 45 GB per hour

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

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

³⁾ negligible for PROFILER 5002 due to internal reference



Range of Z+F services



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
Product advantages:	<ul style="list-style-type: none"> > High resolution (different resolution levels possible) > Large scanning distance of up to 53.5 m (radius) > All around scanning with a max. field of view of 360° horizontal by 310° vertical (focus on smaller field of view also possible) > High scanning speed (approx. 2 min. for complete scan) > Easy data processing and handling with the included software > High voltage (120 V / 230 V) or battery operation (24 V) > Interface IEEE 1394 ("Firewire"/"I-Link") enables data interchange with a conventional industrial laptop > High mobility due to low weight and compact construction
Full service:	<ul style="list-style-type: none"> > Sale of complete systems > Sale of hardware and software separately > Hardware and software development contracts for clients > Joint development software programmes > Full support for product sales > Provision of laser scanning and modelling services
Z+F Group	
Headquarters:	<p>Zoller+Fröhlich GmbH Simoniusstr. 22 · D-88239 Wangen i.A. Phone: +49-7522-9308-0 · Fax: +49-7522-9308-52 info@zf-laser.com · www.zf-laser.com</p>
GB:	<p>Z+F UK Ltd. Derwent House · Unit 9, Clarence Ave. · Trafford Park · GB-Manchester M17 1QS Phone: +44-161-869-0450 · Fax: +44-161-869-0451 info@zf-uk.com · www.zf-uk.com</p>
USA:	<p>Z+F USA, Inc. 1 Library Place, Suite 203 · USA-Duquesne, PA 15110 Phone: +1-412-469-9210 · Fax: +1-412-469-9211 info@zf-usa.com · www.zf-usa.com</p>