

Amberg Survey Basic GRP 1000



The configuration consists of

- Premium hardware GRP 1000
- High-performance software Amberg Survey Basic
- Robust and guaranteed precision thanks to GRP Fidelity
- First-class customer support

Amberg Survey is integral part of the Amberg Technologies application modules Slab Track, Tamping and Clearance.

Technical Data GRP 1000 for Amberg Survey Basic

System configuration		Cont. system accuracy	
Gauge (mm)	1000, 1067, 1435, 1520/24, 1600, 1668/76	Gauge	+/- 0.3 mm
TGS FX		Superelevation - stop&go mode - kinematic mode	+/- 0.5 mm +/- 1.0 mm
Gauge - for nominal gauges	- 25 mm to + 65 mm	Positioning	
Superelevation (Cant) - at 1435 mm	+/- 260 mm (+/- 10°)	Leica total stations - motorised, ATR - radio modem	TS30 TPS1200 TPS2000
Sensor performance		Leica GPS	GPS1200
Track geometry measurement (Position, Gauge, Superelevation)		Power supply	
Measurement stop&go - duration	TPS: 5 s GPS: 1 s	TGS FX – sensors	Leica GEB171, battery, rechargeable
Measurement kinematic - data frequency	TPS: 7 Hz GPS: 10 Hz	Battery life*)	> 8 h
System accuracy		Panasonic control computer	Panasonic Li-Ion battery, rechargeable
Determination of track position and height*)		Battery life*)	> 4 h
GRP with total station (TPS) - stop&go mode - kinematic mode	Pos./Height: +/- 1 mm +/- 5 mm	*) Depending on conditions.	
GRP with GPS - with reference station	Position: +/- 20 mm Height: +/- 40 mm	Environmental specifications	
*) Typical project accuracy. Depending on e.g. atmospheric conditions, control point quality, positioning sensor and project conditions.		Working temperature range	-10° to +50° C
		Humidity - non-condensing	< 80 %
		System weight	
		GRP 1000 - ready to measure - incl. battery and computer	27 kg

System use and typical system performance

Survey applications	
Typical project applications	- As-built surveys for documentation and planning of railway line refurbishment and upgrading - Track as-built data acquisition for subsequent analyses and utilisation
System use	- Open track - Light rail - Industrial tracks
Typical surveying performance	
Track survey with total station	800 – 1200 m/h
Track survey with GPS - GPS receiver and reference station necessary	3000 m/h
As-built data (export)	
Supporting data interfaces - further formats on request	- ASCII - DXF - LandXML
System approval	
Unlimited electro-magnetic compatibility (PET wheels)	Approvals from: - Network Rail (UK) - Deutsche Bahn (DE) - ÖBB (AT) - RFI (IT) - etc.
Amberg Survey reference extract	
Ambergs' Survey solution has proven its high performance all over the world. Demanding projects have been successfully realised e.g. in Belgium, Germany, The Netherlands, Italy, Spain, Greece.	

Amberg Survey Basic

Amberg Rail 2.0

Amberg Survey

Map your line. Highly efficient system for as-built surveying of existing railway lines including powerful interfacing for selective data transfer to other applications and subsequent analyses.

Project data management

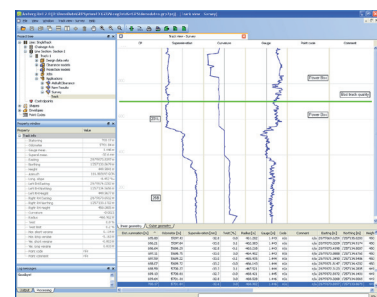
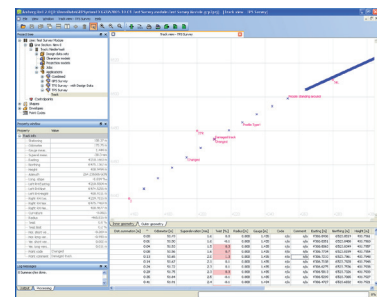
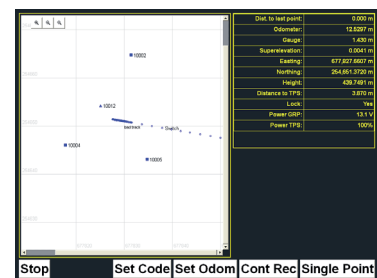
- Line dedicated project data management as basis for structured inventory surveys, data processing and data transfer.
- Individual definition of coding schemes.
- Project cockpit for preparation of efficient and easy practicable fieldwork.

Surveying

- Powerful and integrated acquisition of current track coordinates and corresponding track parameter (gauge, superelevation).
- Direct assignment of codes and comments to single measurements as basis for efficient post-processing.
- Reliable control of ongoing measured values and progress of measurement.

Data evaluation

- Automatic analysis and merging of single measuring sections.
- Calculation of additional parameter e.g. versines, curvature, slope, twist and detailed track axis according to pre-defined reference parameter.
- Structured data export using the code information in LandXML, DXF and ASCII format, e.g. for further processing in Bentley Rail Track.
- Direct interface for further utilisation in other Amberg Rail applications.



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