AMBERG SLAB TRACK IMS 1000 / 3000

PRECISE SLAB TRACK ACCEPTANCE WITH MAXIMUM EFFICIENCY

The Amberg Slab Track IMS 1000 / 3000 system enables fast and precise acceptance of slab track installations. Continuous IMU-based measurement delivers complete, high-accuracy track geometry data in a single pass. Proven on major high-speed projects, including extensive use across China's high-speed network, it provides reliable documentation of as-built track position, gauge, and cant for acceptance and quality verification.

Hardware Configurations

- **IMS 1000:** Total Station + IMU on Trolley. Combines total station positioning with continuous IMU-based trajectory measurement for fast, precise data capture.
- **IMS 3000:** Profiler FX + IMU on Trolley. Uses lateral single control point measurement via Profiler FX with integrated IMU for absolute positioning and continuous geometry acquisition.
- *Note: For highest accuracy slab track adjustment workflows, refer to the Amberg Slab Track GRP 1000 datasheet.*

Slab Track Adjustment Workflow

- **Setup & Positioning:** Precise IMU trajectory tied to control points via lateral measurement. Supports single-control point mode (IMS 1000 & IMS 3000) or multi-control mode (IMS 1000).
- **Continuous Measurement:** IMU and sensors record track geometry continuously using best-in-class inertial technology.
- **Real-Time Feedback:** Deviation values for horizontal, vertical, gauge, and cant displayed live during measurement.
- **Data Processing & Deliverables:** Merge runs, review results, and generate acceptance reports with numerical and graphical outputs.

Amberg Rail Software – Slab Track Module

- Integrated field and office workflow for slab track adjustment and acceptance
- Real-time deviation display with intuitive, sleeper-based feedback
- Streamlined data management and processing
- Dedicated slab track reporting tools in Amberg Rail support both adjustment and acceptance workflows

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SYSTEM PERFORMANCE AND TECHNICAL DATA

System [1] [2]		
	IMS 1000	**IMS 3000**
Gauge [mm]	1000, 1067, 1220, 1372, 1435, 1495, 1520/1524, 1600, 1668/1676	
Control point measuring device	Total station on trolley	Amberg Profiler 120 FX
Weight [kg] (re 1435 mm gauge, AMU 2030)	43.5	40.9
Gauge measurement		
Range [mm] (re nominal gauges)	-25 to +65	
Accuracy [mm]	±0.3	
Cant measurement		
Range [mm] (re 1435 mm gauge, range ±10°)	±260	
Accuracy [mm]	±0.5	
Track position measurement		
Track position accuracy [mm]	Single CP: ±2 Multi CP: ±1	Single CP: ±3
Trolley battery		
Type	Amberg GBS 3010 Li-Ion, rechargeable	
Operating time [h]	>8	
Field computer battery		
Type	Panasonic FZ-G2 compatible	
Operating time [h]	>4	
Environmental specifications		
Working temperature range [°C]	-10 to +50	
Humidity [%] (non-condensing)	<80	

Performance on track [1]		
	IMS 1000	**IMS 3000**
Typical track survey speed [m/h] (re CP interval: 60 m)	Single CP: 2500 Multi CP: 1000	Single CP: 2500
Max track survey speed [m/h] (re CP interval: 60 m)	Single CP: 4000 Multi CP: 1500	Single CP: 4000

AMU models			
Repeat accuracy @	**1030P**	**2030**	**2010**
60 m CP interval [mm]	±0.8	±1	±3
120 m CP interval [mm]	±1.5	±2	±6
300 m CP interval [mm]	±3	±5	±20

Amberg Profiler 120 FX [2]	
Measuring range [m]	<30
Distance measuring accuracy @ 5 m [mm]	1

Positioning sensors & accessories			
	Leica	**Topcon**	**Sokkia**
Total station (≤1")	TS15/16, TS30, TS50/60, MS50/60	GT-1500/1200, MS AXII	iX-1500/1200, NET AXII
Prism	Round, Mini, 360, 360 Mini, Mini Zero, Tape	Prism-2, ATP1	AP01, ATP1
GNSS receiver	GPS1200, GS10/14/15/16/18	HiPer VR, HR	–

Slab track operations	
Typical track applications	High-speed lines, light rail, metro/urban lines, tunnel refurbishment projects, industrial tracks
Slab track installation	Compatible with construction methods such as Rheda 2000, Iron-Horse, and others
Tunout installation	Suitable for turnout systems, including solutions with structural gauge enlargement (e.g. FAKOP®). Compatible with systems from BWG, Cogifer, and others
Documentation & acceptance	Supports acceptance and documentation of common slab track systems, including Bögl System, J-Slab, Rheda 2000, Iron-Horse, Züblin, and more

System approvals
CE Conformity
EN 61326-1:2013, EN 61000-6-2:2005, EN 61000-6-4:2007/A1:2011, EN 60825-1:2014, EN 13848-4, EN 13977:2011, Directives 2014/30/EU, Directives 2014/35/EU, Directives 2011/65/EU
GRP System FX approvals from
Network Rail / London Underground (UK), Deutsche Bahn (DE), SBB (CH), SNCF (FR), ÖBB (AT), RFI (IT), Adif (ES), ProRail (NL), Infrabel (BE)

1) Typical performance may vary depending on project conditions.
2) Results depend on factors such as control point density, control point quality, and overall project conditions.

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