GeoTEL

Geodézie Telemetrie Elektronika s.r.o.

TRACK MEASURING DEVICE

GG-05

Track measuring device

Universal Track System

One system for all track applications

- ONLINE MODE - total station and TMD GG-05 with rugged PC (evaluation and display data directly on the job site - in the field) - SLAB TRACK application

- OFFLINE MODE - Simple mode only with TS and TMD GG-05 (postprocessing evaluation) - survey, maintenance, monitoring ..

SLAB TRACK APPLICATION

Identify and inspect track positions to millimetre tolerances – with the integrated surveying solution for the construction and maintenance of slab track

TAMPING APPLICATION

Mobile surveying solution identifies track position errors as basis for installation and maintenance of track ballast. Independent of time and space, precise and efficient, the survey data are subsequently utilised in the tamping machine

SURVEY

As-built surveying of existing railway lines, all rail topographic and layout works are easy executed by PS total station with EasySURV and Magnet software

SYSTEM PARAMETERS

Gauge

Gauge (mm)	1000 mm (basic module) + 66, 435, 520, 600, 668, on request less than 1000 mm
Range of measurements	- 25 mm to + 50 mm
Accuracy	± 0.2 mm

Cant (superelevation)

Range of measurement	±10⁰ (260 mm for gauge 1435 mm)
Accuracy	±0.4 mm
Tracking Distance	
Range of measurement	4500 m to the counter zero
Accuracy	± 0.5 mm

Positioning device performance

Track geometry measurement (Position, Gauge, Cant)

Duration:	
Stop&go measurement	TS: 2s (5 measurements) GNSS: 1s (optional)
Kinematic measurement	TS: in sec. (optional)
Step value	GNSS: in sec. (optional)

System accuracy

Determination of track position and height*)	
GG-05 with total station TOPCON PS	Pos./Height:
stop&go mode	±1mm (round prism, cross direction)
kinematic mode	± 3,5 mm
GG-05 with GNSS	Position: ± 20 mm
Own base station	Height: ± 30 mm

Physical

Working temperature range	-10⁰ to +40⁰ C
System weight	17 kg
Degree of protection	IP54
Communication ports	Serial port RS-232 Bluetooth class 2 Long Range Bluetooth modul (up 500m)
Power supply - removable battery	About 8 hours battery life
External battery charger	

*)Typical Job accuracy. Depending on atmospheric conditions, control point quality, type of positioning instrument and Job conditions.

Track measuring device

ON BOARD INDUSTRIAL CPU CONTROL UNIT

- Unique solution for digitizing and filtering data from senzors
- Calibration data measuring and storing
- Direct relative measurement and storing of internal truck parameters (gauge, cant, distance) with PDA
- Output to serial port, Bluetooth, USB flash memory from PC, TS, PDA

TYPICAL JOB PERFORMANCE

GG-05 system set up	3 min
Set up total station	10 min
Survey point track axis every	5 meter(optional)

Productivity with 1 total station – online mode

Single track	500 m/hour
Double track	750 m/hour

Productivity with 1 total station – offline mode

Single track	1000 m/hour
Double track	1500 m/hour

Productivity with 2 total stations	the 50% greater efficiency

Typical target distance (at average atmospheric conditions):

Slab track adjustment	to 130 m
Maintenance of ballast track	to 200 m

Tamping data formats	Plasser WinALC DosALC ASPATIC KRAB-SVA

SURVEY APPLICATION

PS total station is also possible to use as one man system	Rail Topographic Survey Control points measurement Lay out

STANDARD SET OF GG-05

GG-05 Rail TMD with
QSXA/PS Robotic Total Station
EasySURV Windows CE Software for TS
Rail PC office software
FC-25 control unit terminal

Optional:
Topcon 360° Prism
Transport car roof box
Rugged PC

OTHER PRODUCTS

TRACK GAUGE TG-03

Economical solution for measuring geometrical parameters and spatial center line of track

Track gauge is the distance between the running edges of the rails. Cant, the value of which is one of Rails increased compared to the other rail. Digital track gauge TG-03 is the third generation of the product that is used for the measuring of both geometrical parameters of tracks.

A change from previous versions is the integration of a new control unit equipped with a more powerful CPU and LCD display. Built-in program includes all the necessary tasks for measuring geometrical parameters of tracks (gauge and cant), operating sensor calibration and method of wireless communication with a total station. Measured values of gauge and cant are stored in the internal memory of the TG-03 with data transfer to a PC via USB memory.

ATHLETICS - SOFTWARE FOR TOPCON-SOKKIA WINDOWS TOTAL STATION

Athletics is a program for Windows CE total stations designed to measure athletic performance where it is necessary to measure length or height. The program can be integrated into Windows Topcon - Sokkia total stations such as GPT-7500, GPT-9000, QS series and the new OS, DS or PS series.
The Atlhetics program can be integrated into your Topcon-Sokkia total station with the Windows CE OS.

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