MEASUREMENT INSTRUMENTS FOR RAILWAY TRANSPORT

RAILWAY WHEEL PROFILE GAUGE — IKP Series

The laser profilometer is designed for measuring

- flange thickness, slope and height, rim/tire thickness,
- full profile scanning and analyze of wheel rolling surface,
- maintaining of electronic wear data base,
- control of tolerances and sorting in the course of checkup, examination, repair and formation of railway wheel sets.

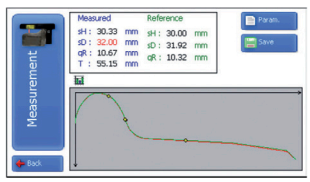
The device is supplied with database and software package for wheel sets wear data storage and processing.

Measurements are made directly on rolling stock without wheel set roll-out.

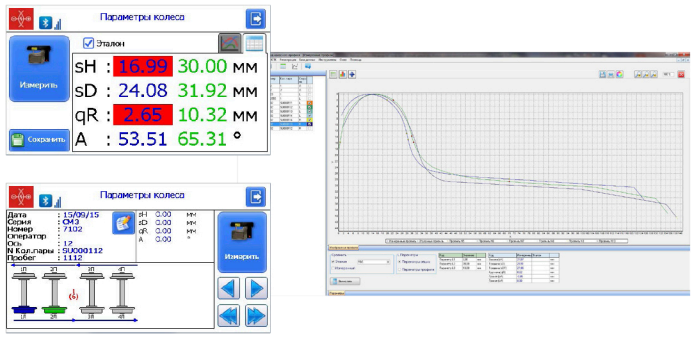
Parameter	Value
Measurement range flange heigh, mm	20...45
-"- flange thickness, mm	20...50
-"- flange slope, mm	1...15
-"- rim thickness, mm	36...100 (30...90)
-"- diameter (calculation method), mm	400...1400
Measurement error flange height, mm	± 0,03
-"- flange thickness, mm	± 0,03
-"- flange slope, mm	± 0,1
-"- rim thickness, mm	± 0,1
-"- diameter, mm	± 0,1
Discreteness of indication all parameters, mm	0,01
Profile measurement range, mm	145
Discreteness of the profile formation, not worse than, mm	0,025 (5800 points for profile)
Measurement time, s	adaptive, depending on surface quality, 4 average
Power supply (laser scanning module)	3,7V, Li-ion rechargeable battery 5400mAh for standard IKP and 2400mAh for Short and SShort
The number of measurements that can be taken before battery recharge is not less than	5000 for standard IKP and 2200 for Short and Super-short
Laser module battery life time	5 million measurement cycles
Power supply (PDA)	3,7V Li-polymer battery 3300mAh
PDA memory capacity	100 000 measurements
Interface between laser scanning module and PDA	Bluetooth
Working temperature range, °C	-20...+50
Enclosure rating	IP42 or IP64

PDA is intended for control of the laser scanning module, data reception from the scanning module, indication of measurement result, parameter input and data storage.

Operator mounts the laser scanning module onto the wheel to be measured. Having received a command from PDA or PC, the laser module performs non-contact scanning of the wheel surface.



IKP-5 SOFTWARE

MAIN FEATURES

- User-Friendly Interface;
- Flexible setting of measured Parameters of the Wheel Flange;
- The list of Calculated Parameters:
  - Flange Height, Thickness and Slope,
  - Wear parameters (Vertical, Horizontal and Angular Wear, Hollow, Difference of Diameters, Even/Uneven Wear),
  - Angular Profile Parameters,
  - Rim Width and Thickness,
  - Wheel Diameter,
  - Wheel Defects (Slides and Cavities),
  - Special Flange Parameters of the Tram Wheel and etc.;
- Setting of displayed Identification Parameters of the Wheelset. I.e., you can select only required parameters (number, series, operator, mileage, and etc.) for displaying on the screen;
- Simple Calibration Procedure: it performs automatically by clicking one button;
- The possibility to compare several Saved Profiles;
- The possibility to align Measured Profile manually (by buttons) relative to the reference with saving;
- Possibility to save several Bluetooth-devices in the PDA memory and then to select the required one from the list. I.e. You save addresses of several IKP and after that you need only to select the required one from the list without a necessity of searching procedure (the same is for IMR and IDK);
- Possibility to connect PDA to PC as an External Storage Device (alternative of ActiveSync).