

High Accuracy and Outstanding Repeatability with Very Compact Size



LR-S100 was developed to employ a new track geometry measuring method* which calculates 2.5m versine by using 2 points rail profile of 1.25m measurement beam detected by a gyroscope. It can achieve high accuracy and outstanding repeatability on measuring irregularities by dramatically minimizing the equipment size and weight. There is no cable connections among 3 assembling components, Measurement beam, Gauge beam, and Push-rod, of LR-S100, so that they are very easy to assemble and to disassemble in a short time. Additionally LR-S100 is only 13.7kg** light weight and compact body which enables one-man track geometry measuring tasks easily in occasions of transportation and removing from the track. You can monitor in real-time and record distance, velocity, longitudinal level, alignment, cross level, gauge, and twist at wireless connection Tablet PC to LR-S100. Design concept of LR-S100 track geometry measuring trolley is to reduce the work loads of track maintenances jobs.

(*Patented, **Standard-gauge model without Tablet PC.)

LR-S100 FEATURES

High accuracy and outstanding repeatability

New track geometry measuring method* employed at LR-S100 realizes high accuracy and outstanding repeatability even though its compact size comes from using 1.25m measurement beam.

(Example right shows 12 data overlay plot, Measurement beam on Left and Right, each 3 round tip)

Easy to assemble/disassemble, transportable

LR-S100 has implemented complete cable-less connections at assembling/disassembling 1.25m measurement beam, Gauge beam, and Push-rod and at measurement operations by using Tablet PC with wireless communications.

Minimized weight and compact size

New track geometry measuring method* also achieves to eliminate necessity of high-rigidity beam and high-accurate mechanism, then it results to minimize the weight and size (13.7kg: 1/3 of our conventional system, 1.25m beam: 1/2 of our conventional system)

Auto calibration

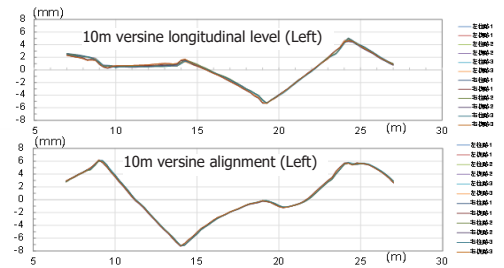
5 seconds stand-still before measurement enables automatically to calibrate LR-S100. Eliminating troublesome pre-settings such as, entering manual measurement values and exchanging left and right of trolley position at pre-runs.

Enhancing maintenance performance with minimizing moving parts

Moving parts are used only for measuring gauge and for measuring distance. Complete cable-less connection prevents from troubles at measuring operations caused by cable connection failure, connector loosening, and disconnection cables. Therefore LR-S100 extremely can enhance maintenance performances.

Employing new runaway prevention brake

Runaway prevention brake can be automatically engaged when an operator releases Push-rod to fall down. This "Fail-safe" mechanism can be released when the operator holds Push-rod upwards. There is no adjustment required on this mechanism. Brake shoe is forced to contact to the rail to prevent runaway along the rail of LR-S100.

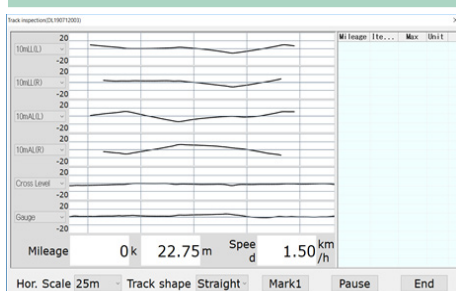


Easy to assemble, simply install Gauge beam and Push-rod to Measurement beam.



Brake shoe contacts the rail when Rush-rod falls down.

Real time monitoring and saving data to Wireless connection Tablet PC



Monitoring real time waveform of measurements

Waveform of 10m versine data can be monitored. Changing graph scales, mark point display, and exceeding values from Preset Track maintenance management values.

Current Mileage	0k	27.50m	
Speed	3.00km/h	Cross Level 0.97mm	
Gauge	0.70mm		
Mileage	0k	17.50m	
10mLL(L)	-3.88mm	10mLL(R)	-3.88mm
10mAL(L)	-1.50mm	10mAL(R)	1.50mm
Cross Level	0.97mm	Gauge	0.70mm
Twist	0.00mm		

Numerical monitor

Monitoring distance, velocity, 10m or 2.5m versine longitudinal level and alignment of left and right rails, cross level, gauge, and twist with numerical values.

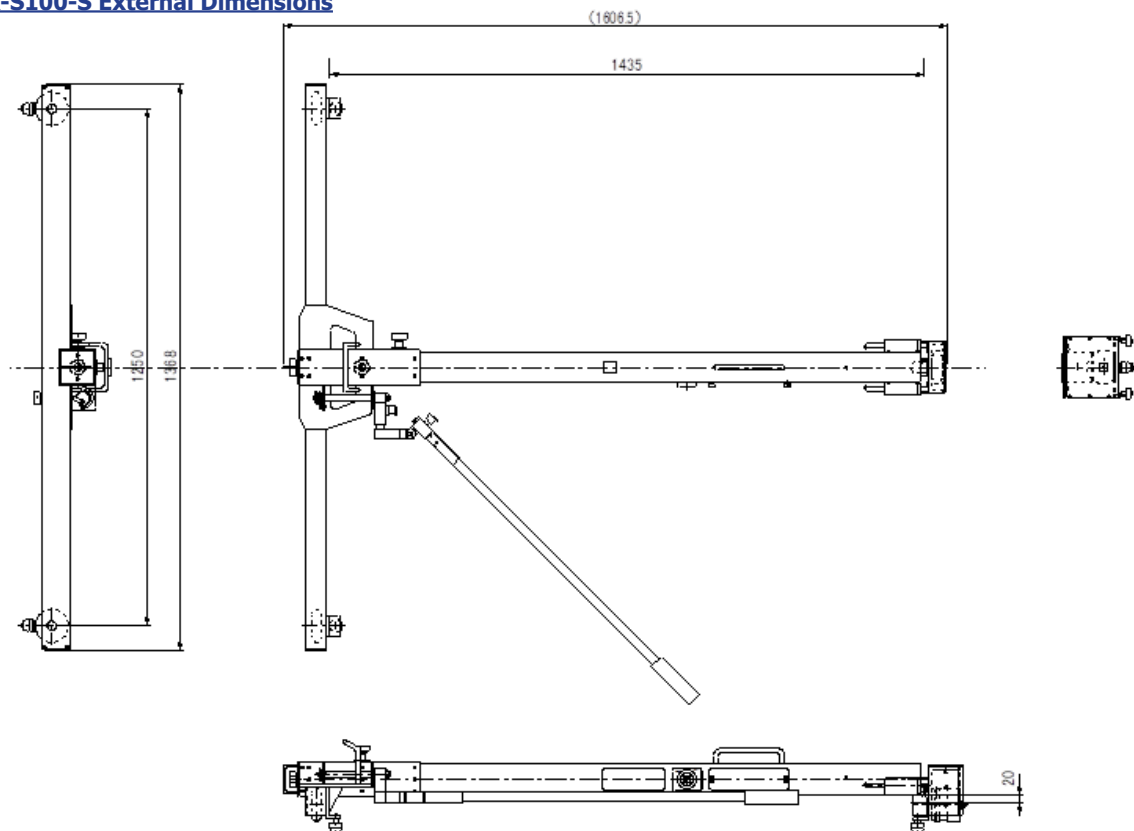
Report output

Report output of recorded data.

Specifications and External View

Item	Descriptions
Model No.	LR-S100-S: 1435mm standard-gauge model LR-S100-N: 1067mm narrow-gauge model LR-S100-S-SW: 1435mm standard-gauge and switch measurement model LR-S100-N-SW: 1067mm narrow-gauge and switch measurement model
Measurement Items	2.5m versine Longitudinal level (left and right), 2.5m versine Alignment (left and right), Cross level, Gauge, and Twist (2m, 2.5m, 5m) Mark memo Mark 1: Point, Mark 2: Curb
Max. Recording Points	Depends on a memory capacity of Tablet PC
Length of Measurement Beam	1.25m
Measurement Intervals	0.25m
Measurement Velocity	1 to 6km/h
Measurement Range	Longitudinal level +/-300mm Alignment +/-300mm Cross level +/-300mm Gauge LR-S100-S: 1415 to 1480mm LR-S100-N: 1047 to 1112mm Twist +/-300mm
Recording Data Format	CSV (Commas separated ASCII) (Future option: Binary data)
Types of Recording Data	2.5m, 10m versine longitudinal level (left and right) and alignment (left and right), Cross level, and Twist of each 0.25m
Base Line Compensation Function	Select this function to add base line compensation data of each recording data types to above data.
Interface	Comply to Bluetooth 2.1 and EDR
Isolation from Track	Among wheels and at Gauge beam
Protection Class	IP67 (LR-S100 main unit)
Operating Temperature Range	-10 degree C to +50 degree C
Dimensions	LR-S100-S: 1606.5(W) x 1368(D) x 212(H) mm LR-S100-N: 1238.5(W) x 1368(D) x 212(H) mm
Mass	LR-S100-S : 13.7kg (without Tablet PC) LR-S100-S-SW : 17.3kg (without Tablet PC) LR-S100-N : 13.4kg (without Tablet PC) LR-S100-N-SW : 17.0kg (without Tablet PC)
Power and Power Consumption	Operation by Rechargeable battery, Approximately 10 W Approximately 6 hours of operations of LR-S100 main unit.
Measurement Program	Works at Windows 10, settings, real-time display (waveform or numeric), data recordings
Model Common Standard Accessories	Tablet PC installed Measurement program, Charger for Tablet PC, Battery for main unit, Battery charger, USB cable for USB memory connection, Storage case, Instruction Manual, Test report
Options	Drip-proof tablet PC, 10-key pad

LR-S100-S External Dimensions



Feature and specifications are subject to change without notice
Company and product names herein are trademarks or registered trademarks of the holding companies.



Read Instruction manual carefully before your operations for safety reasons.

DEICY Corporation

9-2190 Shinmachi, Ome, Tokyo 198-0024

Japan

Phone: +81-(0)428-34-9863

E-mail: info@deicy.co.jp

Revision 06E As of September 2020 Copyright (C) 2020 DEICY Corporation All rights reserved.

