



For further information on the ROMDAS road measurement system please visit [www.romdas.com](http://www.romdas.com)

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**ROMDAS**  
Manufactured by  
Data Collection Ltd.  
New Zealand

*providers of innovative technology for  
measuring and managing roads*

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## ROMDAS—TPL v3 Transverse Profile Logger

### Features

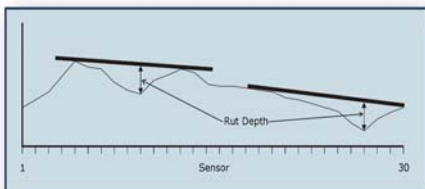
#### Ultrasonic Version

The ROMDAS Transverse Profile Logger version 3 (TPL ver.3) is used to measure the transverse profile (i.e. across the lane) utilising 17 high quality Ultrasonic sensors and 4 side throw lasers. Compared to most laser based Rut Bar units the TPL ver.3 offers a higher number of contact points to provide high quality transverse profiles equal to laser based units which have fewer points of contact. ROMDAS software then analyses the profiles to calculate the extent of wheel path rutting under a theoretical straight edge.

The ultrasonic TPL ver.3 is one of the most cost effective and efficient ways of collecting rut depth data available in the market today.

#### Laser Version—New!

Due to requests from our customers we now offer a full laser based version of the TPL ver.3. We have upgraded our proven design by replacing the ultrasonic sensors with new single point lasers. This laser version offers the height accuracy of laser based equipment and also maintains much of its robustness and cost-effective price. This version outputs an industry standard 13 point transverse profile.



The figure above illustrates using a theoretical 1.2 m straight edge (per wheel path) to calculate rutting from a TPL transverse profile.

### Operation

The ROMDAS® TPL ver.3 is an add-on module to a central ROMDAS system. It can be operated in conjunction with other add-on modules for collection of a wide variety of datasets simultaneously.

The user defines a sampling interval for the transverse profile measurements (e.g. 1 metre) and the PC sends a signal to the TPL to take a measurement at these pre-defined intervals. During surveying the unit requires little to no input from operators.





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## ROMDAS—TPL v3 Transverse Profile Logger

### Components

The TPL ver.3 is comprised of rugged ultrasonic sensors or single point lasers and an on-board controller in an aluminium housing. There is a 2.2 m main section, with side throw lasers to measure beyond the width of the vehicle.

The sensors are spaced at set intervals of 125mm for Ultrasonic or 250mm for Laser. Sensors measure the distance from the sensor to the pavement with an accuracy, based on static testing, of +0.2 mm for Ultrasonic or +0.05mm for Lasers. Status LEDs on each sensor give a visible indication of measurements for diagnostics and setup.

### Installation

The TPL does not require a specialised vehicle, it only requires a strong mounting to be welded onto the front of the survey vehicle. Once the mounting is ready, installation of the TPL will take less than one hour. The TPL can also be removed from the vehicle when not in use in a matter of minutes.

### Data Processing

The rut depth is defined as the maximum vertical distance between the straight edge and the pavement.

The transverse profiles collected by the TPL v3 are analysed in the ROMDAS software to determine the rut depth under the straight edge for both the left and right wheel paths. The straight edge length is user-definable between 1.0 to 3.0 m in 0.1 m increments.



### Technical Specifications

	<i>Ultrasonic Version</i>	<i>Laser Version</i>
<b>Sensor Type</b>	Ultrasonic	Laser (Class 3B)
<b>Scan Rate</b>	100 Hz	10 kHz
<b>Number of Sensors (Points of Contact)</b>	23	13
<b>Sensor Spacing</b>	125 mm	250 mm
<b>Sensor Resolution</b>	+/- 0.2 mm	+/- 0.05 mm
<b>Standoff</b>	300 mm	300 mm
<b>Range</b>	285 mm	250 mm
<b>File Format</b>	Post Processed Microsoft Access MDB File	Post Processed Microsoft Access MDB File
<b>PC Connection</b>	Ethernet	Ethernet
<b>Environment</b>	IP68	IP68
<b>Weight</b>	25 Kg	20 Kg
<b>Unit Width</b>	2.2 m	2.2 m