

PORTFOLIO FOR THE FOREST AND WOOD INDUSTRY

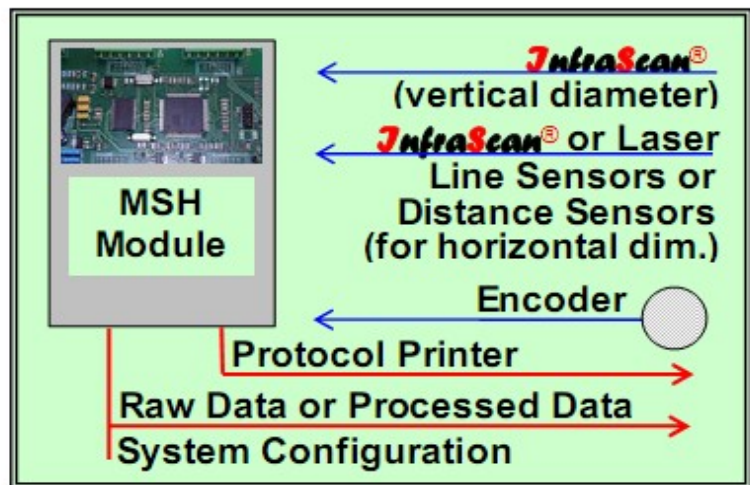


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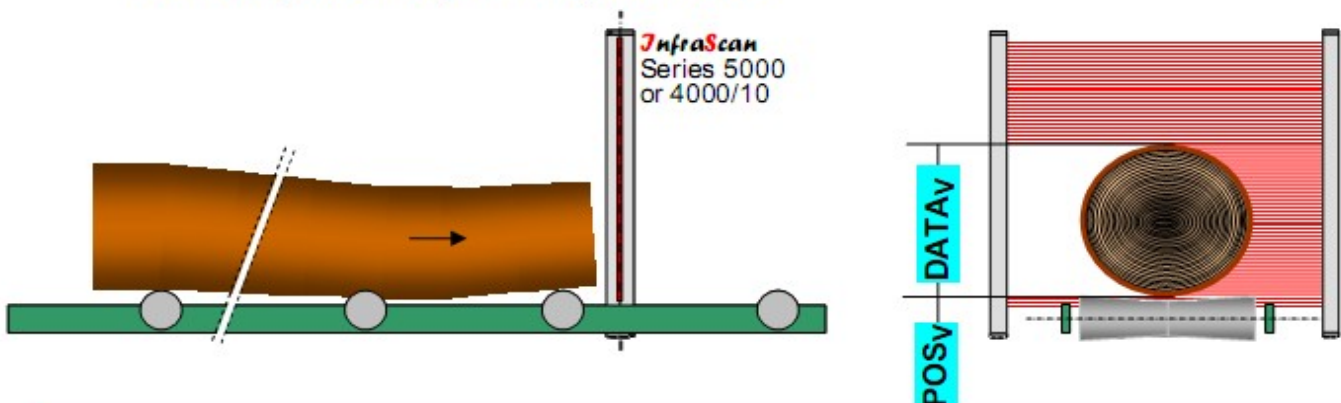
Infrared Light Curtain Log Profiling Systems MSH

Each of the Measuring Systems has central Module, which controls and combines the various sensor inputs with the encoder signals and outputs the DATA.

Inputs/Outputs of
MSH (computer) Module:

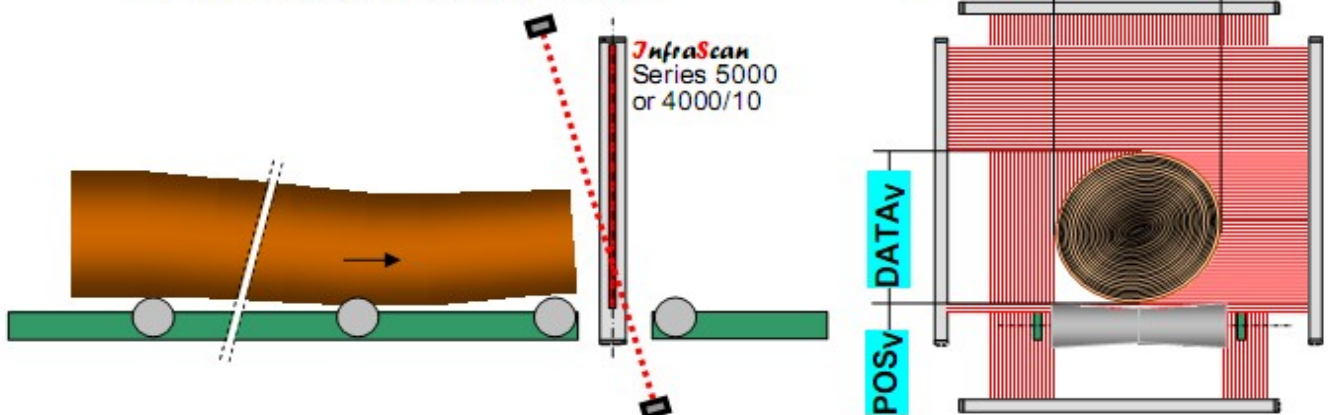


1. **MSH-1**: Shadowing Principle – 1 Axis
For non-split conveyors – large diameters



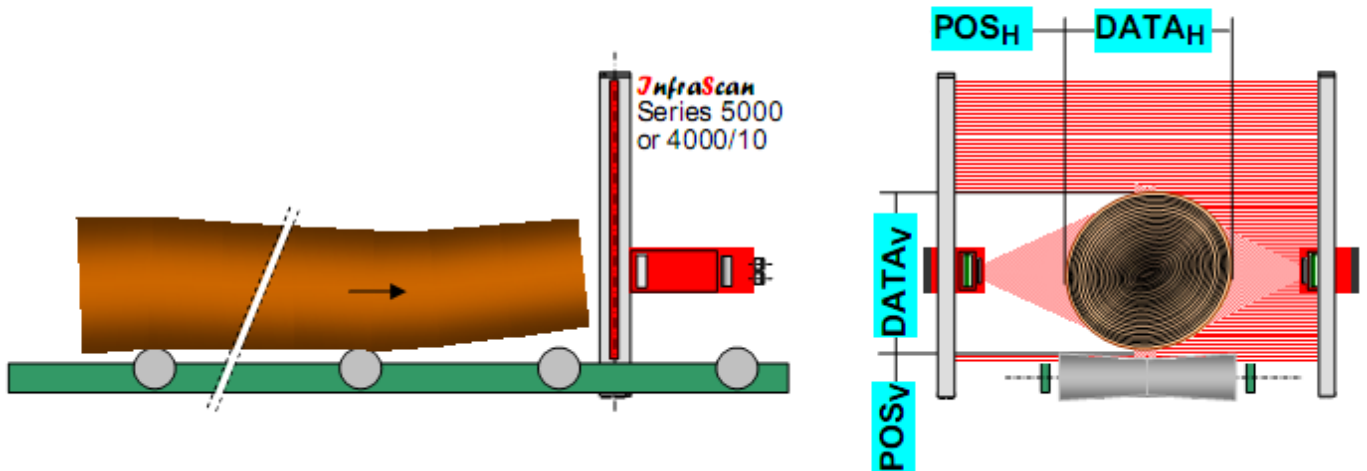
Data output: Position and size of vertical diameters (Raw Data).

2. **MSH-2**: Shadowing principle – 2 Axes
For split conveyors - large diameters



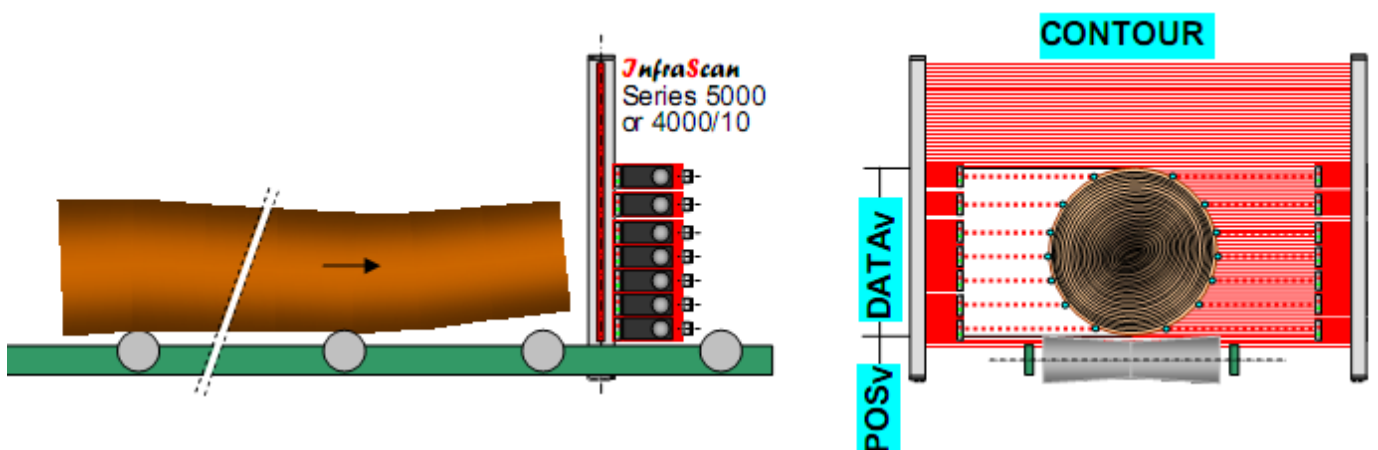
Data output: Position and size of vertical and horizontal diameters (Raw Data).

3. **MSH-2-LPS**: Combination of shadowing principle and Line Sensors– 2 Axes
Suitable for **non-split conveyors** and diameters of up to 400 mm



Data Outputs: Position and size of vertical and horizontal diameters
Position and size of vertical and horizontal diameters in the centre of the log length (according to the rules of the Office of Weights and Measures).

4. **MSH-2-LDS**: Combination of shadowing principle and Laser Distance Sensors
Suitable for **non-split conveyors** and diameters of up to 700 mm

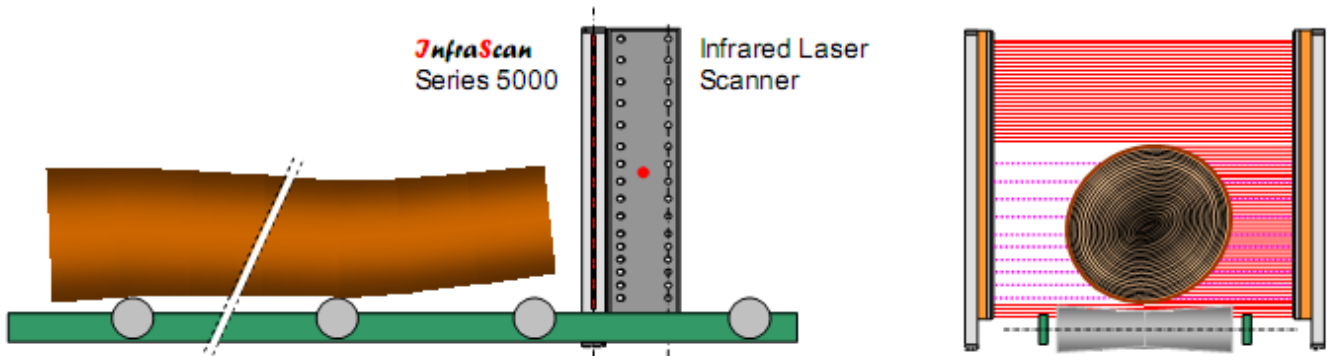


Data Outputs: Position and size of vertical diameters and Laser Sensor measuring points for calculating the **contour** of the log (Raw Data).
Position and size of the **smallest** diameter pairs.
Position and size of the **smallest** diameter pairs in the centre of the log length (according to the rules of the Office of Weights and Measures).

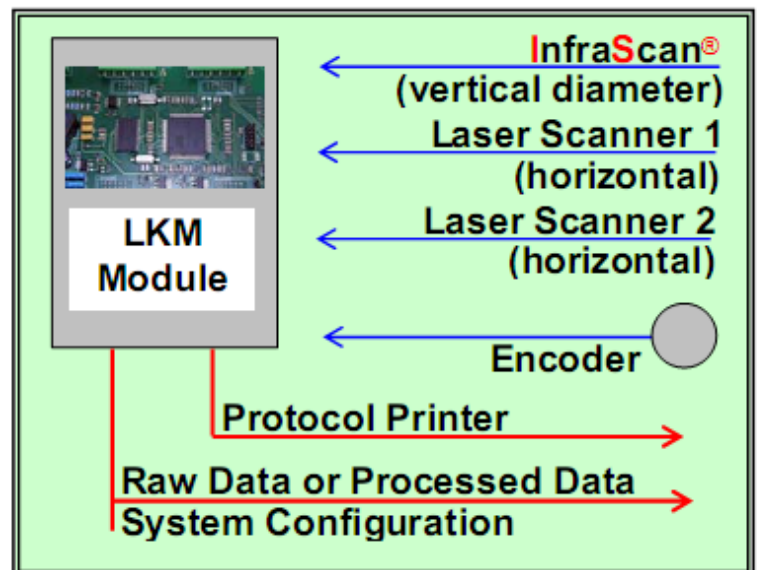
Infrared Laser Contour Log Profiling Systems

5. LKM-700 to 1400

- 1 **InfraScan**® for vertical diameter,
 - 2 LK Scanners for horizontal diameter and contour measuring.
- Suitable for **not split conveyors** – large diameters
Extremely insensitive against ambient light



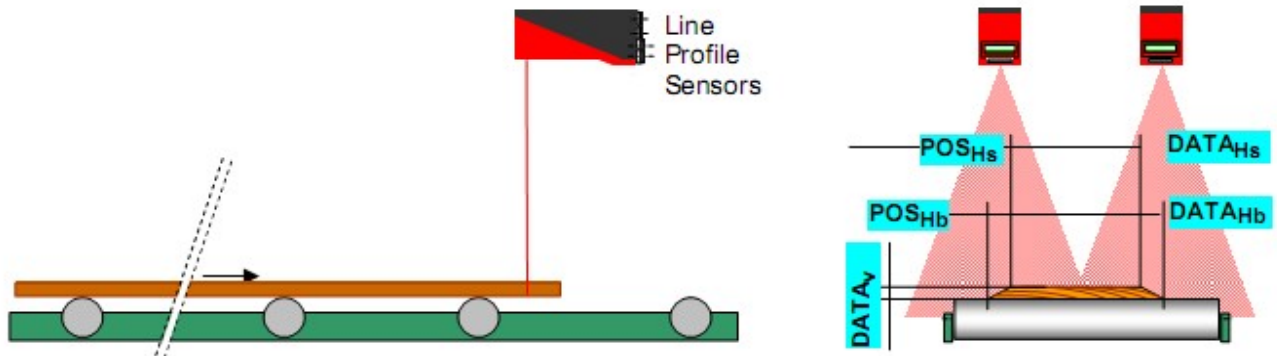
Inputs/Outputs of
LKM (computer) Module:



Data Outputs: Position and size of vertical diameters and Laser Scanner measuring points for calculating the contour of the log (Raw Data).
Position and size of vertical and horizontal diameters.
Position and size of vertical and horizontal diameters in the centre of the log length (according to the rules of the Office of Weights and Measures).
Position and size of the **smallest** diameter pairs.
Position and size of the **smallest** diameter pairs in the centre of the log length (according to the rules of the Office of Weights and Measures).

Infrared Light Curtain and Line Sensor Board Profiling Systems

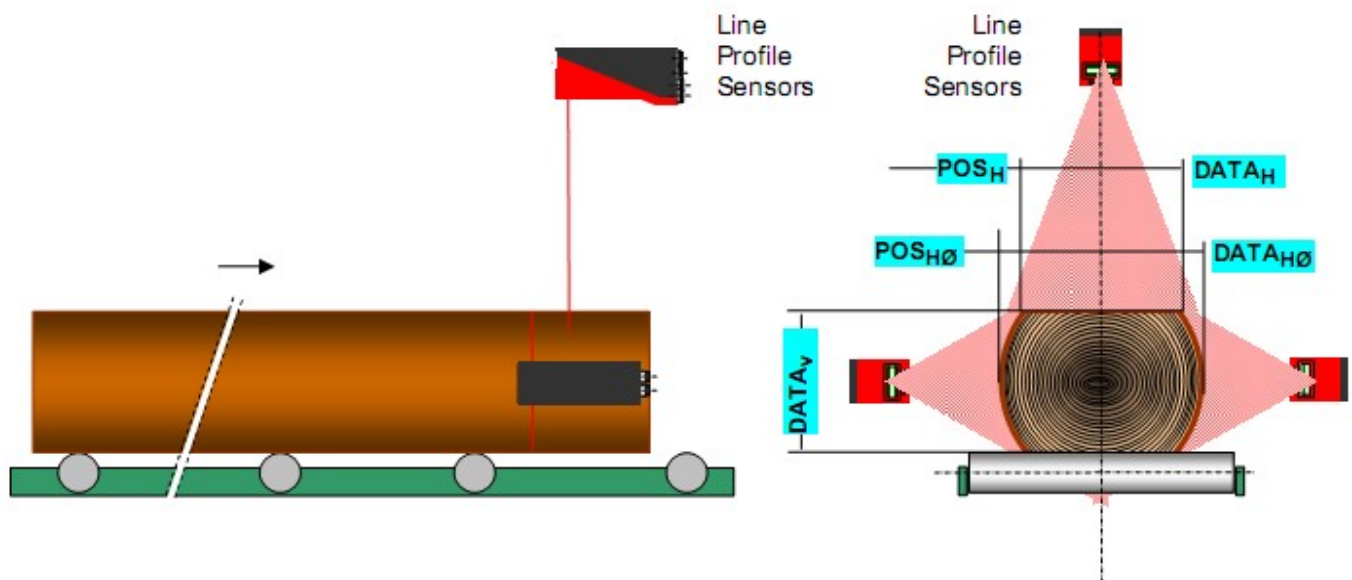
6. **BPS-600**: Infrared Boards Surface Profiling System
Boards are moving longitudinally



Data Outputs: Position and size of horizontal flat surface.
 Position and size of board,
 Thickness of board

Line Sensor Cant Profiling Systems

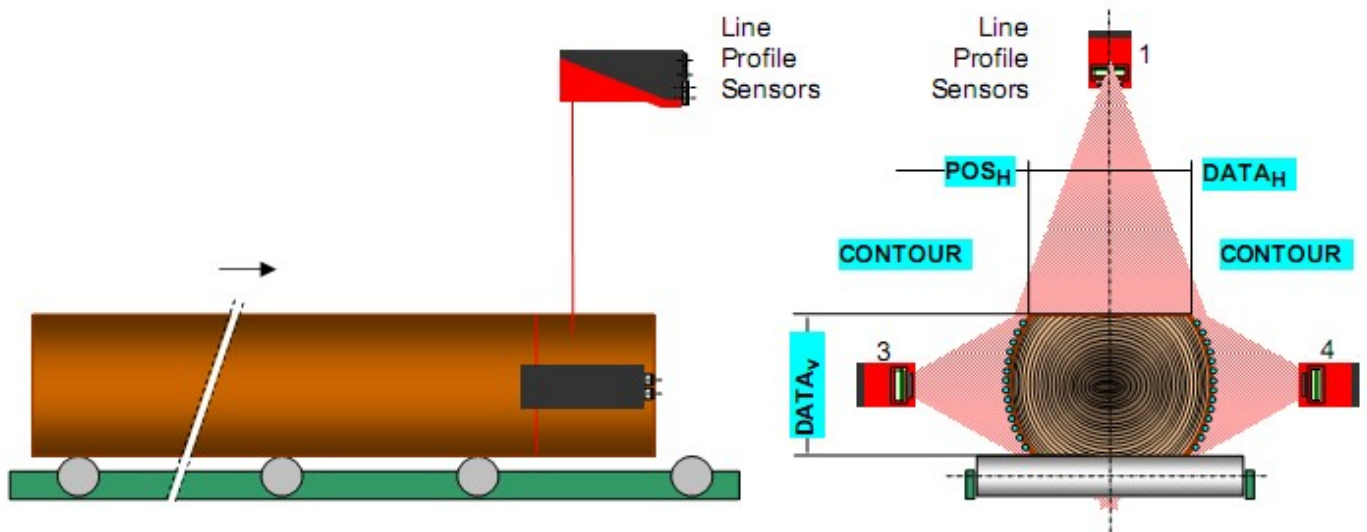
7. **MPS-600**: Infrared Module Surface Profiling System
Modules are moving longitudinally
 Modules can be measured from top and bottom.



Data Outputs: Position and size of horizontal TOP flat surface
 or TOP and BOTTOM flat surface
 Position and size of cant,
 Height of cant

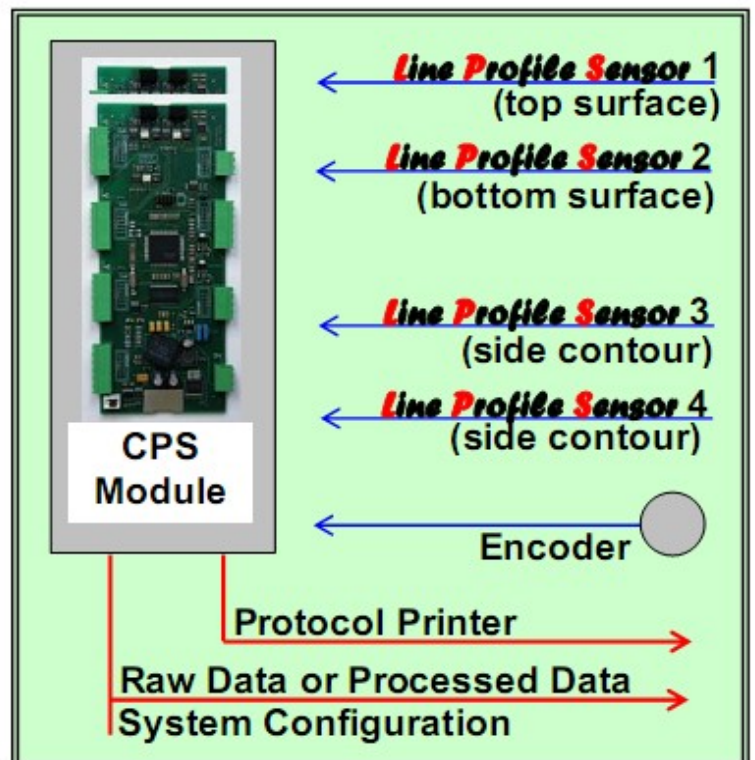
Line Sensor Cant Contour Profiling Systems

8. SCP-600: Infrared Module Surface and Contour Profiling System



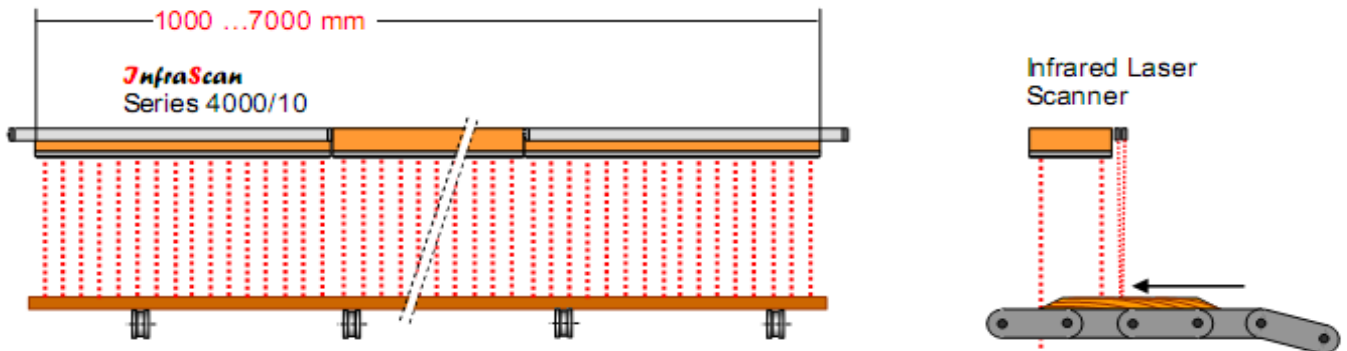
Data Outputs: Position and size of horizontal TOP flat surface
or TOP and BOTTOM flat surface
Contour of cant,
Height of cant

Inputs/Outputs of
Cant Profiling System
Cant Contour Profiling System
CPS and CCPS Modules:



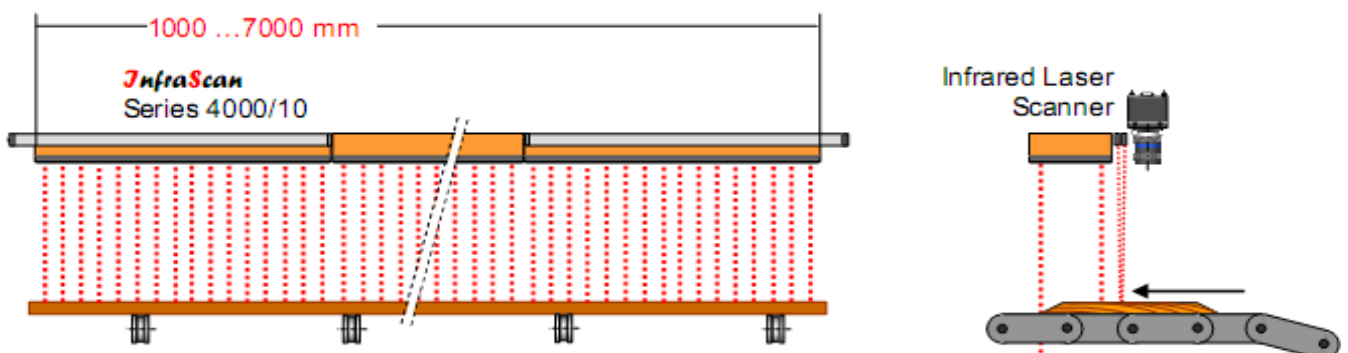
Infrared Laser Board Profiling Systems for Lateral Movement

9. **LBP-1000**: Infrared Board Profiling System
Boards are moving laterally, consisting of up to 7 Laser Board Scanners (1000 mm sections)¹, and **InfraScan**® Series 4000/10 for length measuring.



Data Outputs: Position and size of horizontal flat surfaces (Raw Data), i.e. 4 corner points per measuring point (16 measuring points per 1 m section).
Resolution: Vertical ± 0.5 mm, horizontal 1 mm at 60 m/min travelling speed (1000 measurements/second), length ± 5 mm.

10. **LBQ-1000**: Infrared Board Profiling System
Boards are moving laterally, consisting of up to 7 Laser Board Scanners (1000 mm sections)¹, **InfraScan**® Series 4000/10 for length measuring and Camera Systems for **Quality Inspection**.

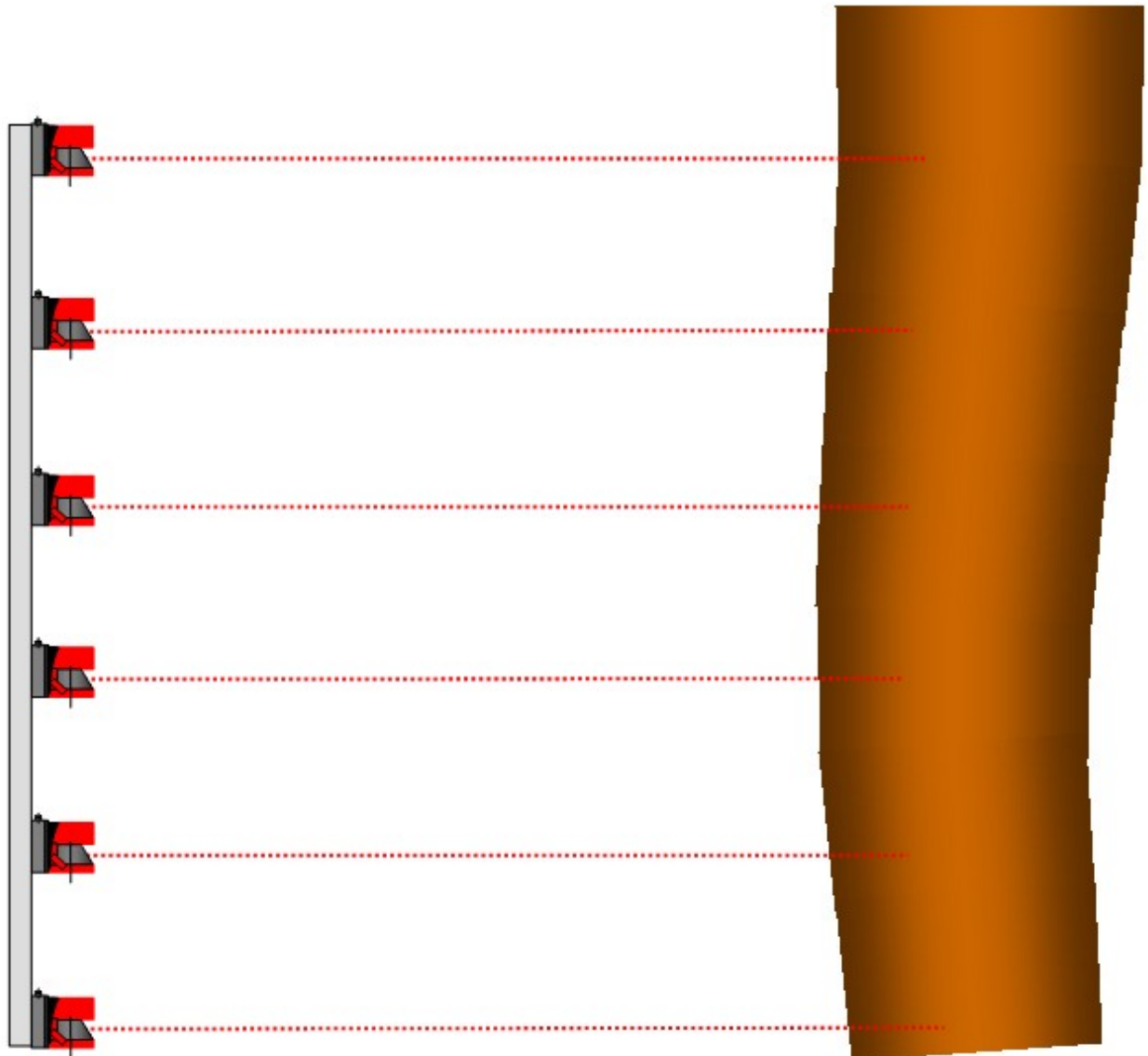
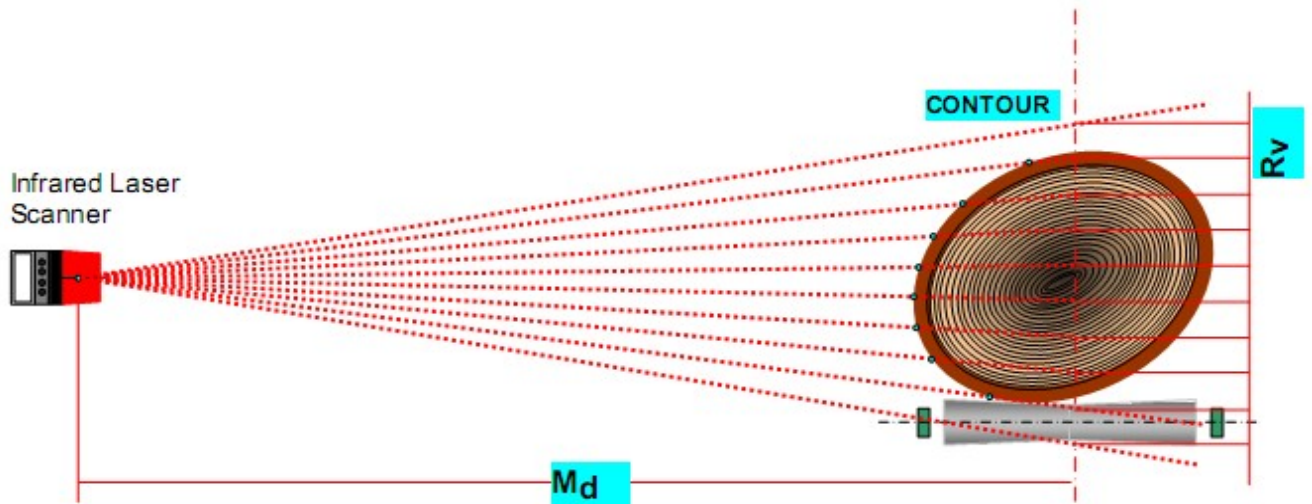


Data Outputs: As described above. For quality inspection features see detailed description when available. This is only preliminary information.

¹ Made by H-Sensortechnik

Multiple Infrared Laser Log Profiling System

11. **MLP-500**: Infrared Log Profiling System for Turning Logs.

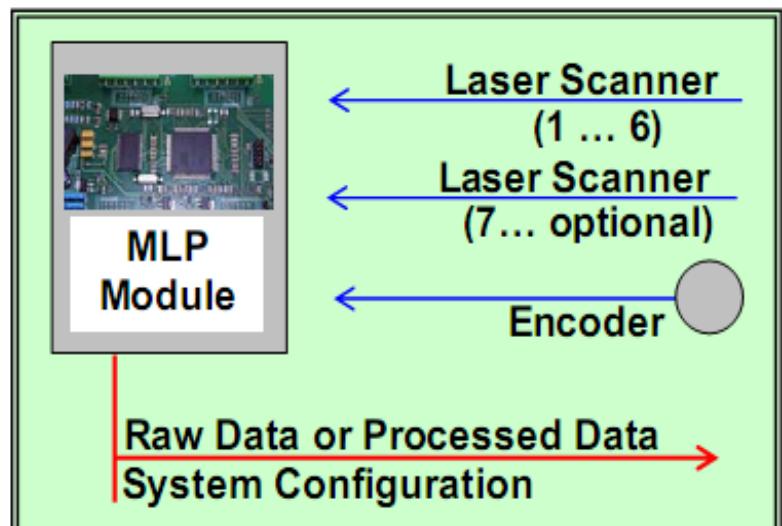


Relation between measuring distance and vertical resolution

Measuring distance M_d [mm]	Resolution R_v [mm]	Object detected [mm]	Resolution R_h [mm]	Max. deviation single mmt. max. [mm]*	Average accuracy [mm] max.	cycle time [ms]
1432	9.0	>15	5	±15	±8	40
1590	10.0	>15	5	±15	±8	40
2020	12.7 (1/2")	>15	5	±15	±8	40
2230	14.0	>20	5	±15	±8	40
2390	15.0	>20	5	±15	±8	40
2545	16.0	>20	5	±15	±8	40
2700	17.0	>25	5	±15	±8	40
2860	18.0	>25	5	±15	±8	40
3020	19.0	>25	5	±15	±8	40
3180	20.0	>30	5	±15	±8	40
3500	22.0	>30	5	±15	±8	40
3800	24.0	>30	5	±15	±8	40
4040	25.4 (1")	>35	5	±15	±8	40

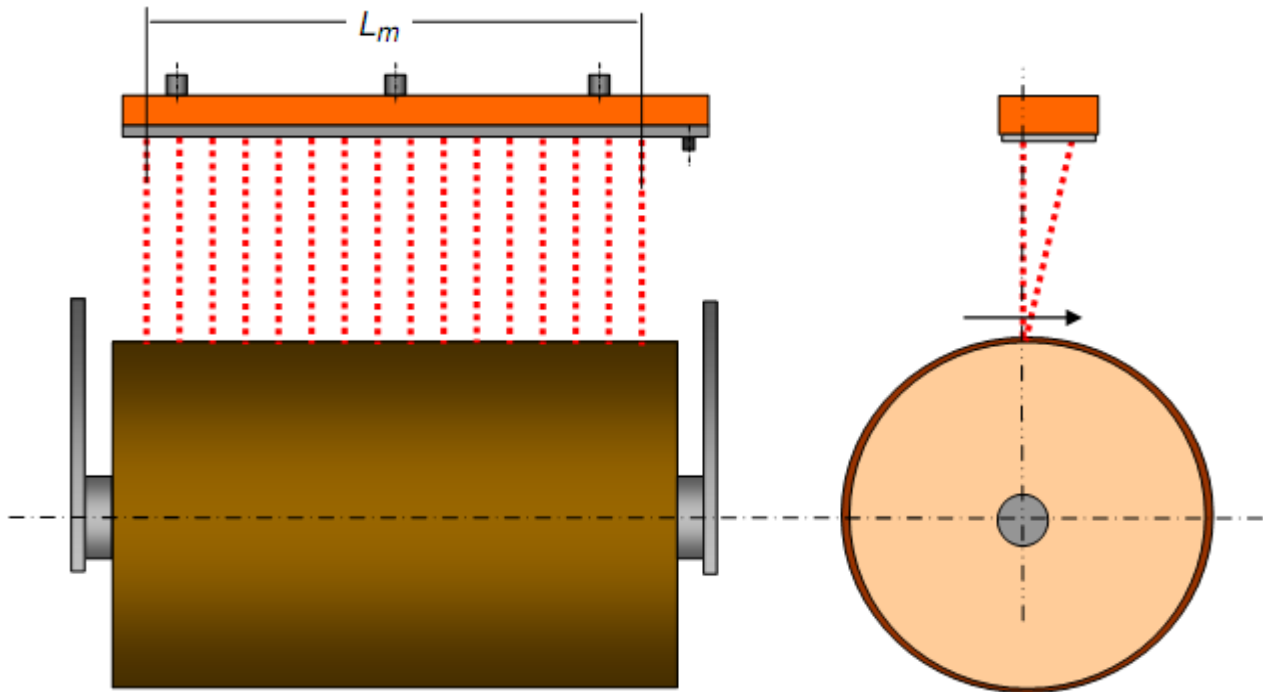
Data Outputs: Contour of log (Raw Data), one side

Inputs/Outputs of
MLP-500:



Infrared Laser Longitudinal Log Profiling System

12. **LPS-600**: Infrared Log Profiling System for Turning Logs.



Data Outputs: Distance to log for 16 measuring points (or multiples of 16), at angles determined by an encoder (Raw Data).
Resolution: ± 1 mm.

Inputs/Outputs of
LPS (computer) Module:

