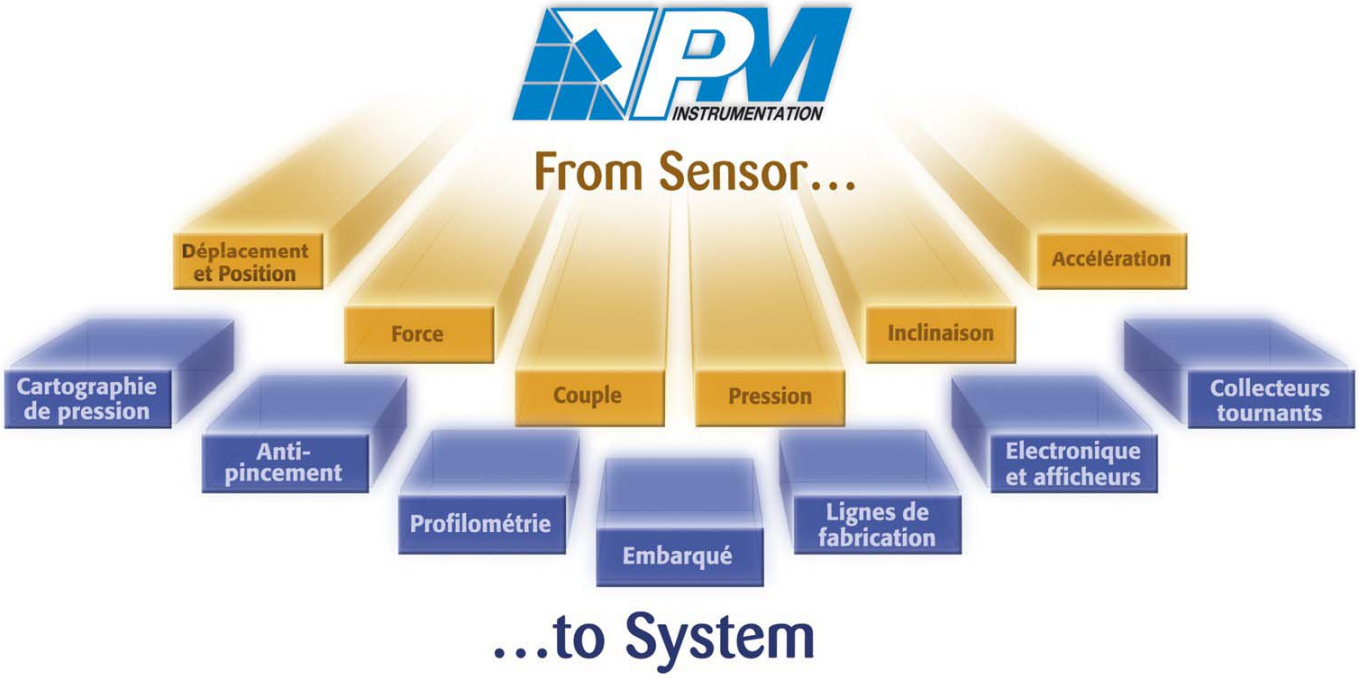

PM INSTRUMENTATION *, 59 rue Emile Deschanel 92400 Courbevoie - France tel : 01 46 91 93 30*
Email : contact@pm-instrumentation.com Web : www.pm-instrumentation.com

Position sans contact : mesure d'épaisseur de caoutchouc

SLS Sensor System - A high performance and affordable laser sensor system for online, calendered rubber sheet thickness measurement.

- Suitable for all grades and colours of nand synthetic rubber sheet, rubberizfabrics and cord.
- Sensors fully protected by a rugged housing with optional air purge and heat shield.
- Integrated PC104+ controller with optional enclosure and user interface.
- <0.02mm measurement accuracy.
- Easily retrofitted and interfaced to new and existing calenders.
- Simple to set up, calibrate, operate and maintain.

Improving rubber sheet quality

The SLS Sensor System from Sigmavision provides unrivalled value for online measurement of sheet thickness in rubber calendering processes. Whilst many system suppliers focus on highly complex (and expensive) traversing sensor systems, Sigmavision has developed a range of reliable, fixed mounted sensor solutions with powerful control algorithms that are affordable by all manufacturers, large or small. This approach delivers optimum system performance at the lowest price. The benefits to our customers are to:

Minimise raw material wastage.

. Improve set up times and process yield.

. Improve product quality and consistency.

Flexibility and reliability

The SLS Sensor System can be configured according to customer need and the control of calendering parameters. The simplest configuration measures rubber skin thickness at a single, fixed point using the calender bowl as a measurement reference. Similarly total ply thickness can be measured using a guide roller as a fixed reference. Alternatively a differential measurement using twin sensors can be made for total ply thickness where a suitable guide roller is unavailable or where ply vibration does not allow the use of a fixed reference.

Alternative configurations are possible by adding further sensors to provide thickness measurements at different positions across the calender and finished ply width. Sensors may be added using an RS-485 multi-drop configuration or using dedicated RS-422 links for streaming data at the full sampling frequency. Detection of errors and deviations from the allowable tolerances allow immediate correction automatically, using real-time control signals for left / right tilt or roll speed, or by manual intervention.

At the heart of each system is the Selcom SLS5000 laser sensor which has been used in >3,000 rubber and tyre manufacturing applications and therefore provides total assurance in terms of performance and reliability.

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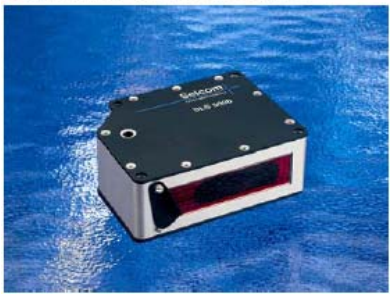
Tyre and rubber Calendered sheet thickness

Selcom SLS5000 sensor



- High speed, 16,000 Hz measurement rate
- Real time control of laser intensity to eliminate errors due to surface texture, reflectivity and colour.
- Range of sensor stand off positions and measurement ranges
- Compact, light weight sensor for improved access.
- Rugged industrial housing.
- Resolution to 0.005mm.

Controller

- Compact controller for easy integration into existing enclosures.
- Suitable for rubber skin and total ply thickness measurement.
- Fixed reference or differential thickness measurements.
- Multi-drop cable configuration for multiple measurement points across sheet width.
- Simple to calibrate and operate.
- Analogue and digital interfaces.
- Optional free standing industrial enclose and TFT display.

Spécifications techniques :

Selcom SLS5000 sensors	Laser class:	3R or 3B (IEC), visible
	Stand off:	50mm to 200mm
	Measurement range:	20mm to 70mm
	Weight:	1.1Kg
	Dimensions:	135mm x 105mm x 51mm
	Protection class:	IP65
	Sampling frequency:	16 kHz
	Operating temperature:	0-50 °C
	Options:	Air purge and heat shield
Controller	Processor:	PC104+, 300MHz
	Power supply:	230V AC
	Sensor inputs:	RS-485 multi-drop configuration: no limit Streaming RS-422: 4 sensors per PC
	Application software:	Data filtering, averaging, post processing
		Calibration and thickness calculation
	System accuracy:	<0.02mm (excluding fixed reference eccentricity)
	Communication:	Analogue or digital interfaces
	Dimensions:	76mm x 127mm x 152mm
	Options:	Rittal cabinet 600mm x 600mm x 300mm
		Door mounted TFT display and user interface

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