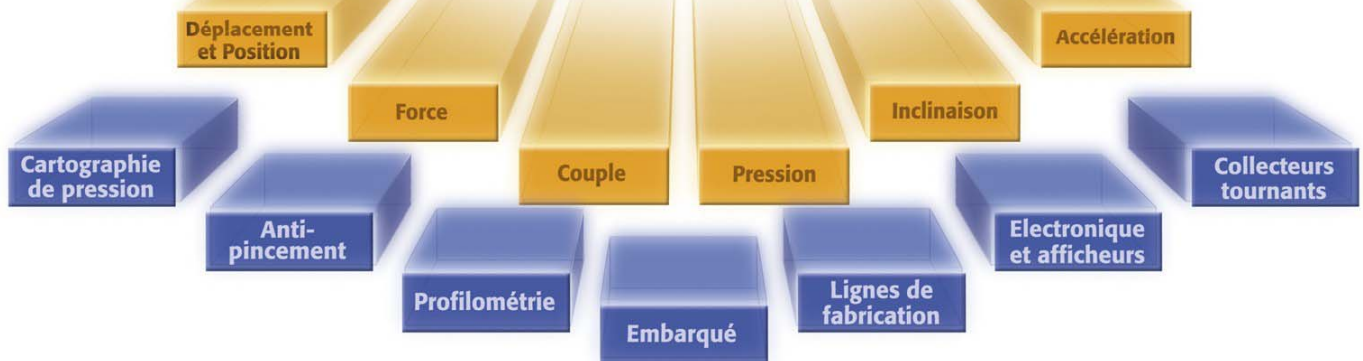


From Sensor...



...to System

Détection de ligne de soudage

Seam Finder 2 - A fast and affordable laser sensor system for weld seam finding and seam measurement.



- σ Suitable for all seam types and all welding processes
- σ Integrated PC104+ controller with optional enclosure and user interface
- σ Seam finding and measurement software
- σ Sensor fully protected with pneumatic shutter and cooling
- σ <0.1mm measurement accuracy
- σ Easily retrofitted and interfaced to new and existing welding robots
- σ Simple to set up, operate and maintain

Improving robot weld quality

Seam Finder 2 from Sigmavision provides unrivalled value for non contact, laser seam finding in robot welding applications to improve weld quality and decrease scrap and re-work often associated with off seam welding.

The principle of operation is simple; a single spot laser sensor, mounted on the welding robot, is driven over the weld seam. Measurements are then assembled by the PC104+ based controller to create a profile of the seam. The seam dimensions and position are then communicated to the robot controller over an analogue or serial interface. The entire cycle time is < 1 second. Key advantages of Seam Finder 2 over alternative laser systems include:

- σ High sensor stand off distance to improve welding torch access
- σ Application software for seam measurement, eg gap and sheet mismatch
- σ Extended vertical measurement range for seam depth and root gap measurement
- σ No measurement errors due to reflections in fillet joints and V grooves
- σ Controller unit may be fully integrated into an existing cabinet or supplied with a free standing industrial enclosure

Applications

Automotive: Car bodies, underbodies, door hinges, axels, exhausts, seat frames, fuel tanks.

Transportation and mobile machinery: Tractor, agricultural, earth moving and mining equipment assemblies. Train carriages and bogies, trucks and trailers.

Shipbuilding: Ship hull panels, submarine pressure vessels.

Containers and vessels: Shipping containers, road tankers, gas containers, pressure vessels, beer barrels, domestic hot water tanks.

Proven performance and reliability

Seam Finder 2 incorporates the compact Selcom SLS 2301 sensor that has proven performance and reliability with over 600 industrial installations worldwide.

Détection de ligne de soudage (suite)

Selcom SLS2301 sensor



- σ High speed, 16 kHz measurement rate
- σ Real time control of laser intensity for changes in surface reflectivity
- σ Compact, light weight sensor
- σ Rugged housing with air and water cooling
- σ Pneumatic shutter to protect optics
- σ 180mm or 300mm sensor stand off
- σ Resolution to <math><10\mu\text{m}</math>
- σ Suitable for feature finding and profiling eg edges, gaps, holes and for real time height positioning

Selcom SLS2301 sensor range

Sensor	Measurement range (mm)	Stand off (mm)	Resolution (mm)	Spot size (mm)	Linearity (mm)
SLS2301-26/180	26	180	0.0065	0.1	$\pm 0.1\%$ of MR
SLS2301-40/300	40	300	0.02	0.3	$\pm 0.1\%$ of MR

Technical specifications

Selcom SLS2301 Sensor	Laser class:	3R or 3B (IEC), visible
	Weight:	0.4Kg
	Dimensions:	95mm x 101mm x 25mm
	Cable length:	3m
	Protection class:	IP50
	Sampling frequency:	16 kHz
	Operating temperature:	0-50 °C
Controller	Processor:	PC104+, 300MHz
	Power supply:	230V AC
	Dimensions:	76mm x 127 x 152mm
	Application software:	Seam profiling and position measurement
	Search time:	< 1 second
	System accuracy:	<0.1mm
	Communication:	Analogue or digital interfaces
	Options:	Industrial enclosure 500mm x 500mm x 300mm Door mounted TFT display and user interface