SmartRay GmbH
is ISO 9001:2000
certified.

SmartRay

SmartRay 1000 series

The perfect solution for many industrial applications.

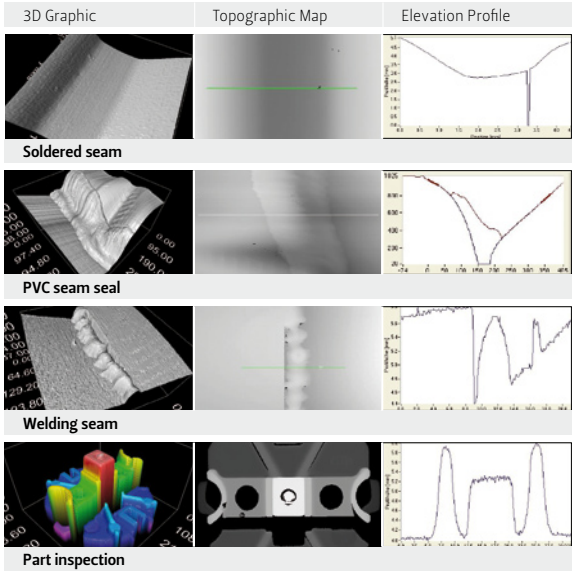
Characteristics

- 3D Vision Sensor
- 3D Shape Survey
- Laser Light Section
- High Power Spectrum
- Precision even with High Sample Rates
- Integrated Process Interface
- Embedded Real-Time System
- Flexible Architecture
- Compact Design
- Galvanically Separated Electronics

Automotive | Robotics | Photovoltaics | Packaging | Semiconductor | Pharma | Medicine | Food | Wood | Glass

Specifications

	SmartRay 1100	SmartRay 1200	SmartRay 1400
Lateral resolution	50 – 100 µm	50 – 100 µm	25 – 50 µm
Vertical resolution	10 µm	10 µm	5 µm
Horizontal range	15 mm / 50 mm	25 mm / 50 mm	25 mm / 50 mm
Vertical range	up to ± 20 mm	up to ± 20 mm	up to ± 20 mm
Standard working distance	60 mm	60 mm	60 mm
Sample rate (profiles)	up to 300 Hz	up to 4 kHz	up to 2 kHz
Laser	660 nm, 27 mW, 30° aperture angle		
Laser class	3R		
Protection class	IP65		
Interface	**General:** 24 V, galvanically separated		
Process interface	**Standard:** 100 mBit Ethernet, RS422		
	Inputs: IN0, IN1, IN2, IN3 (24 V)		
	Outputs: OUT0, OUT1 (24 V)		
Power supply	24 Volt +–20% , 3 W		
Environmental Conditions			
Temperature	Operating	5 – 35 °C	
	Transport	0 – 60 °C	
	Storage	0 – 60 °C	
Humidity	Operating	20 – 80 %	
	Transport	20 – 80 %	
	Storage	20 – 80 %	



STANDARD EQUIPMENT
- → Humidity sensor
- → Temperature sensor
- → Acceleration sensor (robots)
- → Remote maintenance via Ethernet possible
- → Update via Ethernet possible
- → Adjustable parameters
- → Calibrated

OPTIONAL FEATURES
- → Customer-specific working distance
- → Expanded temperature range
- → Protection class IP66
- → Retaining bracket
- → Daylight filter, band-pass filter
- → Stainless steel housing for food industry

SmartRay 1000 series sensors are high-performance 3D vision sensors in a small format. Different performance classes and a completely new sensor concept offer the perfect solution for many industrial applications. Patented methods provide top image quality for laser-based light-section sensor systems. SmartRay 1000 series sensors can be used in many application fields, including:

- → **Metrology**
- → **Seam inspections**
- → **Part inspections**
- → **Robot guidance**
- → **and much more**

In addition to their high performance, one of the main advantages of these sensors is their extremely compact design. State-of-the-art FPGA technology provides real-time processing that already takes place in the sensor. The sensors also feature many useful functions to accelerate image processing directly in the sensor.

The mechanical design convinces with its robustness; mechanical and electrical integration is made easy. Sensors of different performance classes are compatible with each other, making it possible to scale performance and effortlessly change over to another performance class, if required.

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