PaintChecker
Lab

The PaintChecker Lab is a small, stationary tabletop instrument with a high-performance power supply for continuous operation in the lab.

Like the other OptiSense PaintChecker models the Lab devices accurately measure wet, powdery and solid coatings on metallic and non-metallic substrates without touching the surface.

HIGHLIGHTS

- Contactless photothermal process for many material combinations
- Small measuring spot to accurately check small parts, corners and edges
- The sensor ist separated from the desktop unit to easily access hard-to-reach areas
- High-performance power supply for continuous operation in the lab
- USB interface to connect to PC and notebook
- Operation, data visualization and evaluation via intuitive OS Manager software
- Easy data export to Microsoft Office

PaintChecker Lab *Laser*

The OptiSense Lab laser models are used for a wide range of coatings on metallic and non-metallic substrates. With their tiny measuring spot the slim laser sensors are particularly suitable for coating thickness testing on delicate small parts, corners and edges.
A special version with an extra short working distance allows to measure in very confined spaces or on coatings containing high amounts of metal. All OptiSense laser models are eye-safe thanks to the patented LARES® technology.

PaintChecker Lab *LED-R*

LED sensors feature a larger measuring spot making them ideal for freehand measurements on rough surfaces. The LED-R model is particularly suited for components made of plastic or rubber. The sensor head of all OptiSense Lab models is detached from the control unit and connected with a flexible cable.

The desktop controller is conveniently placed close to the operating PC while the lightweight, ergonomically designed sensor can be guided precisely and effortlessly to the component without touching or damaging the sensitive coating.

PaintChecker Lab *LED-B*

The PaintChecker Lab LED-B is designed for contactless testing of freshly applied powder coatings prior to burn-in. It measures the still soft powder layer independent of color and type on substrate such as metal, wood, glass or plastic. The shrinkage during burn-in is taken into account.

Simple measurements in the lab with the small desktop unit allow the powder application to be optimized in such a way that the very cost-intensive rework, especially with large components, can be avoided.

Technical Data | PaintChecker Lab Sensors				
Model	**Pen-1.6**	**Pen-3.5**	**Gun-R**	**Gun-B**
Order number	S21-0700-001	S21-0700-002	S21-0600-003	S21-0600-001
Design	Laser, pen-shape		LED, pistol-shape	
Measurement range	1 - 1000 µm			
Measurement rate	max. 0.5 Hz			
Measurement time	250 - 1000 ms		250 - 2000 ms	
Duty Cycle	33 %			
Max. On-time	1s			
Operating mode	pulsed operation			
Resolution	1 % of reading (typical)			
Accuracy	3 % of reading (typical)			
Measuring distance from lens	16 mm	35 mm	33 mm	
Distance tolerance	± 1 mm	± 2.5 mm	± 3 mm	
Angular tolerance	± 15 °			
Size of measuring field Ø	0.2 mm	0.3 mm	1 mm	
Optical power	650 mJ		750 mJ	250 mJ
Wavelength	1470 nm		980 nm	365 nm
Laser class	1M		Risk 1	Risk 3
Eye safety	yes			
Dimensions (L x W x H)	130 x Ø25 mm		Gun: 163 x 99 x 49,5 mm Cube: 50 x 51,6 x 55 mm	
Weight	50 g		Gun: 225 g | Cube: 280 g	
IP Code	IP 50			
Standards	DIN EN 15042-2			
Control unit	Lab-Laser		Lab-R	Lab-B

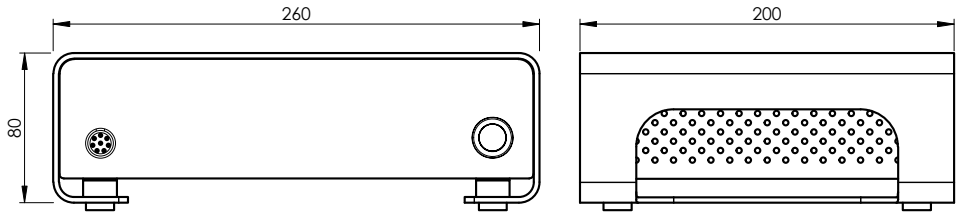
Security Redefined
LARES® -technology

OptiSense LARES® stands for **LA**ser **R**adiation **E**ye **S**afety and is the intelligent solution to ever-increasing requirements in the field of person and eye protection, which set the strictest standards, especially when handling lasers. Thanks to our patented LARES® technology, operators, machinery and environment at the manufacturing and processing location are reliably protected.
All sensors with the LARES® logo are eye-safe. They can be used directly and without any restrictions in almost all areas of application and can be operated without any technical protection measures.

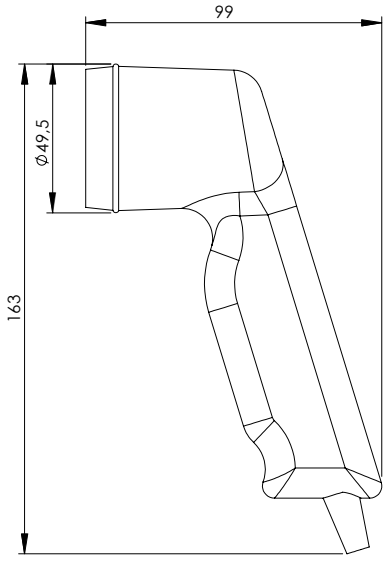
The designation of a laser protection supervisor, which is mandatory for laser radiation hazardous to eyes, and the briefing and instructing the operating personnel, which must be properly documented, can thus be omitted with.

Technical Data | PaintChecker Lab Control Unit			
Model	Lab-Laser	Lab-R	Lab-B
Order number	C22-02-03	C22-02-02	C22-02-01
Design	Desktop device, Aluminum enclosure with rubber feet		
Operating Voltage	100 - 230 V AC, 50 - 60 Hz		
Power dissipation	60 W		
Interface	PC: USB		
Dimensions (L x W x H)	260 x 200 x 80 mm		
Weight	1900 g		
Standards	DIN EN 15042-2		

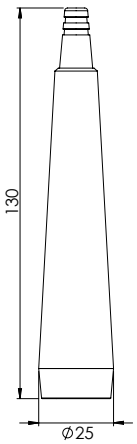
Drawing | PaintChecker Lab Controller and Sensors



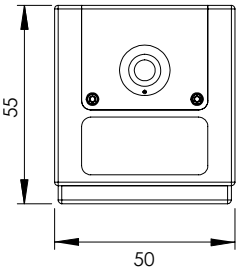
Controller



Gun-R, Gun-B



Pen



Cube-R, Cube-B

Delivery Contents | Accessories

Delivery Contents

- Sensor with connecting cable
- Control unit
- Software OS Manager
- Instruction manual (digital)
- Sturdy hard case
- Type-1 reference standard
- Power cord
- USB cable

Accessories

- Calibrations for special applications
- Tripod

The pen sensor of the PaintChecker Lab in its parking position with an integrated Type-1 reference standard.

Application Matrix | PaintChecker Lab						
Substrate	**Coating**	**Coating Condition**	**Laser 1.6**	**Laser 3.5**	**LED-R**	**LED-B**
Metal	CDC	dry	■	■		
	Pigmented paint	wet / dry	■	■	■	■
	Clear coat	wet / powdered	■	■	■	■
	UV paint	wet / cured	■	■	■	■
	Zinc dust	dry	■	■		
	Bonding agent	wet / cured	■	■	■	■
	Powder coating	powdered			■	■
	Adhesive	wet / dry	■	■	■	■
	Rubber coating	dry	■	■	■	■
Rubber	Bonded coating	dry	■	■	■	
	Adhesive	wet / cured	■	■	■	■
Ceramic	Pigmented paint	dry	■	■	■	■
	Powder slurry	pre-dried	■	■	■	■
	Conductive paste	pre-dried	■	■	■	■
Glass	Pigmented paint	wet / dry	■	■	■	■
	Bonding agent	pre-dried	■	■	■	■
	Conductive paste	pre-dried	■	■	■	■
Plastic	Bonding agent	wet / dry	■	■	■	■
	Laser paint	dry	■	■	■	■
	Clear coat	wet / dry	■	■	■	■
	Powder coating	powdered			■	■
	Rubber coating	dry	■	■	■	■

Note: Some material combinations require special applications, which OptiSense offers.

Available from:

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OptiSense is certified according to DIN EN ISO 9001:2015
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