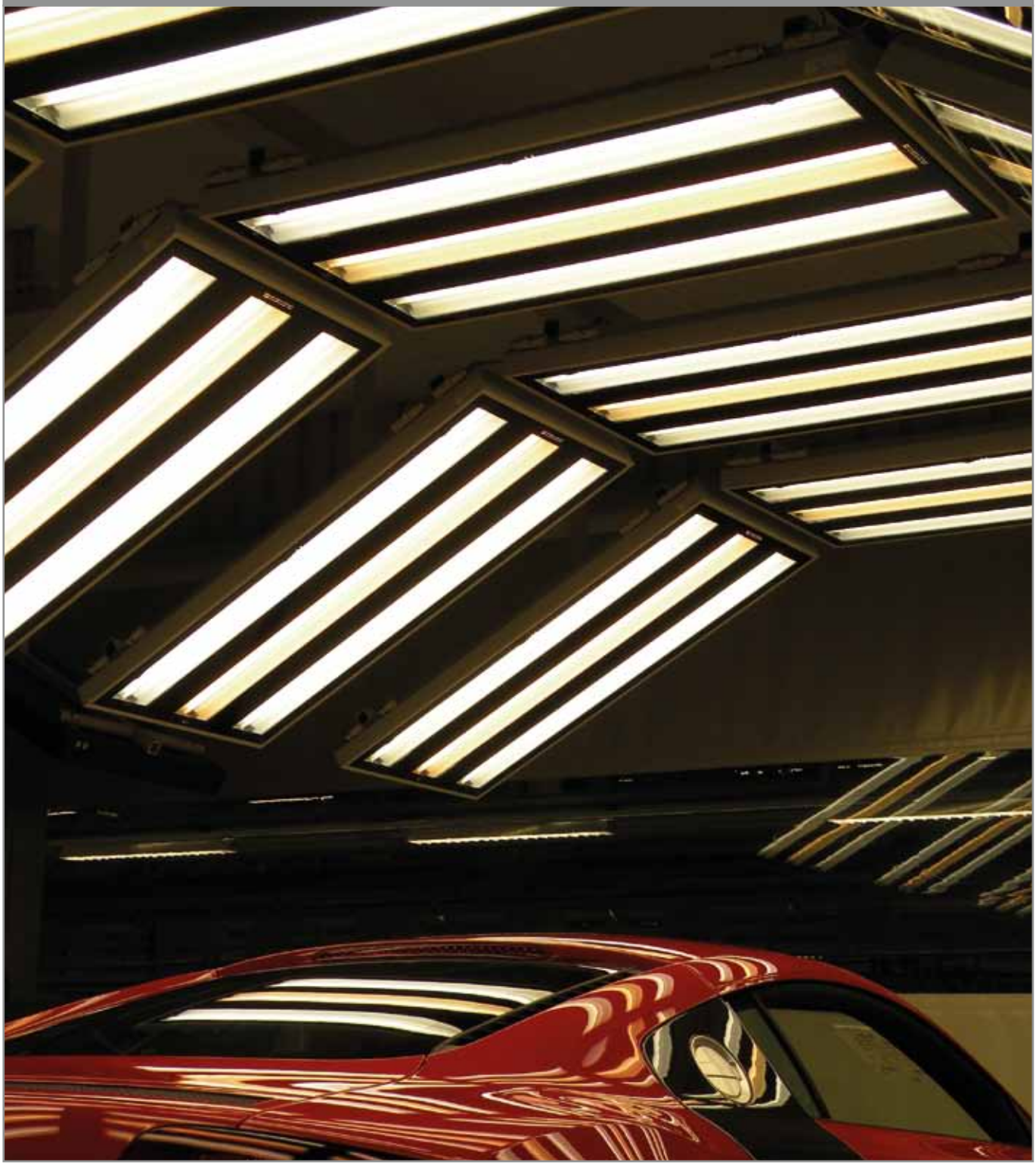
Oligo
surface controls
Innovative lighting technology
made in Germany

PRODUCT CATALOG 2019 | EN



OLIGO Lichttechnik GmbH - surface controls, Lange Felder 6, 19309 Lenzen - Germany

Content

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When it comes to the highest surface and color quality, visual control systems are essential. The „surface controls“ business area of OLIGO Lichttechnik GmbH focuses on cutting-edge technology and is the global leader for high-precision surface control and color matching systems.

Out technical staff at our Lenzen and Gersthofen sites develops, manufactures and distributes products that can be used in individual audit sites as well as for up to 150-meter light tunnel systems.

Using a patented optical method, light is projected at metal and painted surfaces in a targeted manner so that our visual systems, which focus on defect analysis, can detect every surface flaw and color error.

Whether its the tiniest inclusion, minimal irregularities in the paint applied or partial, barely noticeable differences in color matching - our company‘s ambition is clear: provide the highest quality of lighting technology and its on-site application.

Fig.: Headquarter in Lenzen, Brandenburg

Fig.: Technology Centre South in the Bavarian Gersthofen

Everything from a single source

OLIGO LichttechnikGmbH -surface controls considers itself your contact for lighting-technical consulting in advance, during and after installation of the systems or components.

Adjusted to your demands:

- Planning and concept
- Production of light-technical calculations and CAD drawings or visualization
- Production of assembly and installation plans
- Installation
- Training for correct use of the optics and their controllers

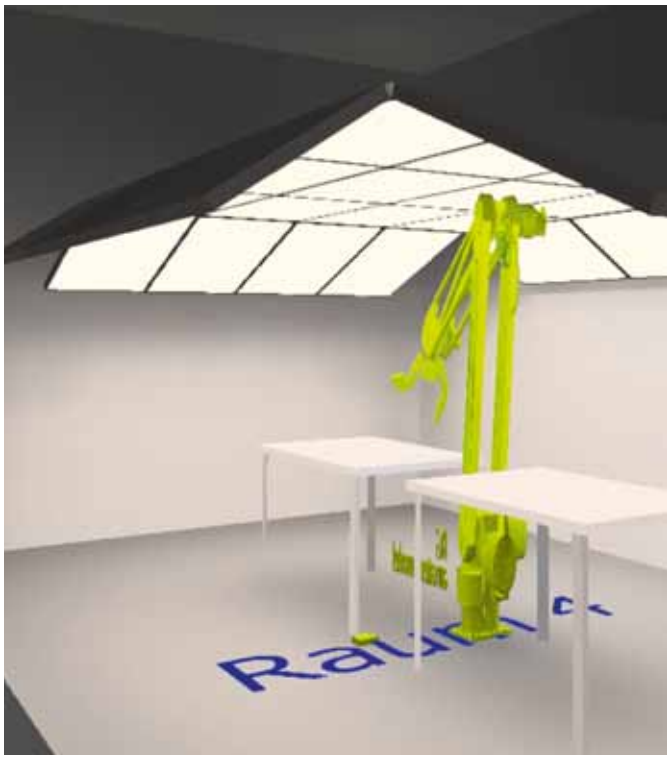


Fig.: Solutions exactly to customer requirements

Our certifications for maintenance of highest quality claims to material and processing:

- Quality managementsystem in accordance with DIN EN ISO9001
- Certified by TÜV-CERT
- Europe-wide ENEC-sign
- ETL-certification (Canada & USA)
- EAC certification

Fig.: Light tunnel in the top coat area

Fig.: Color matching cabin

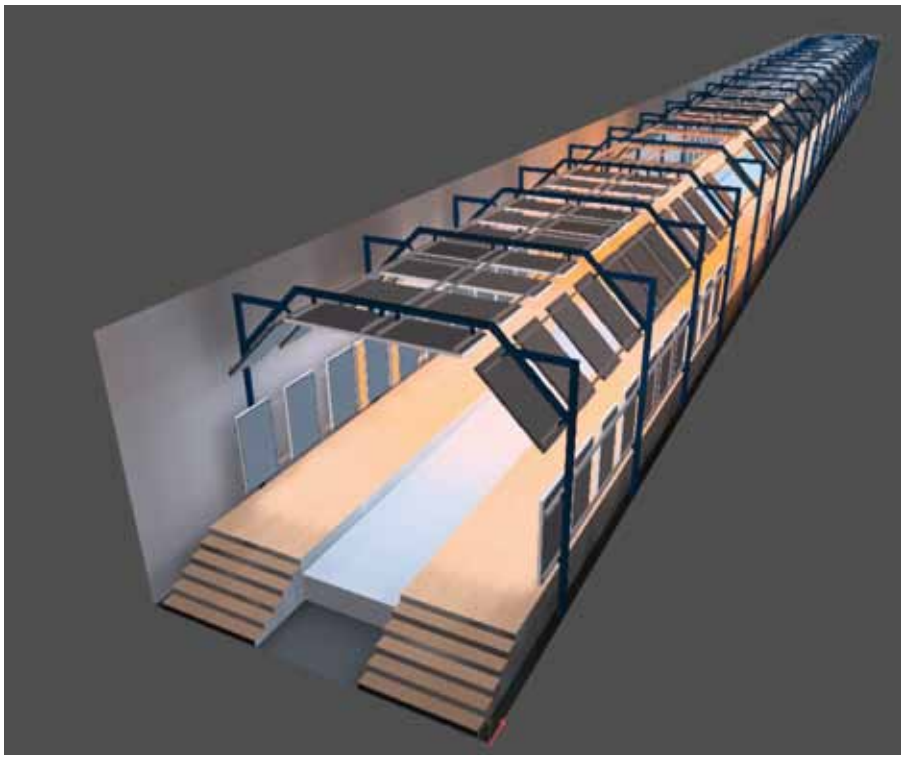
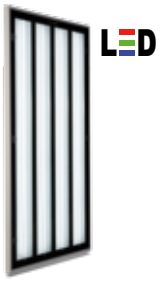
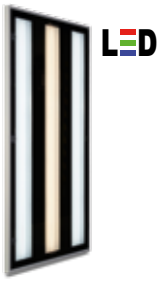


Fig.: Visualizations: project-related and individual

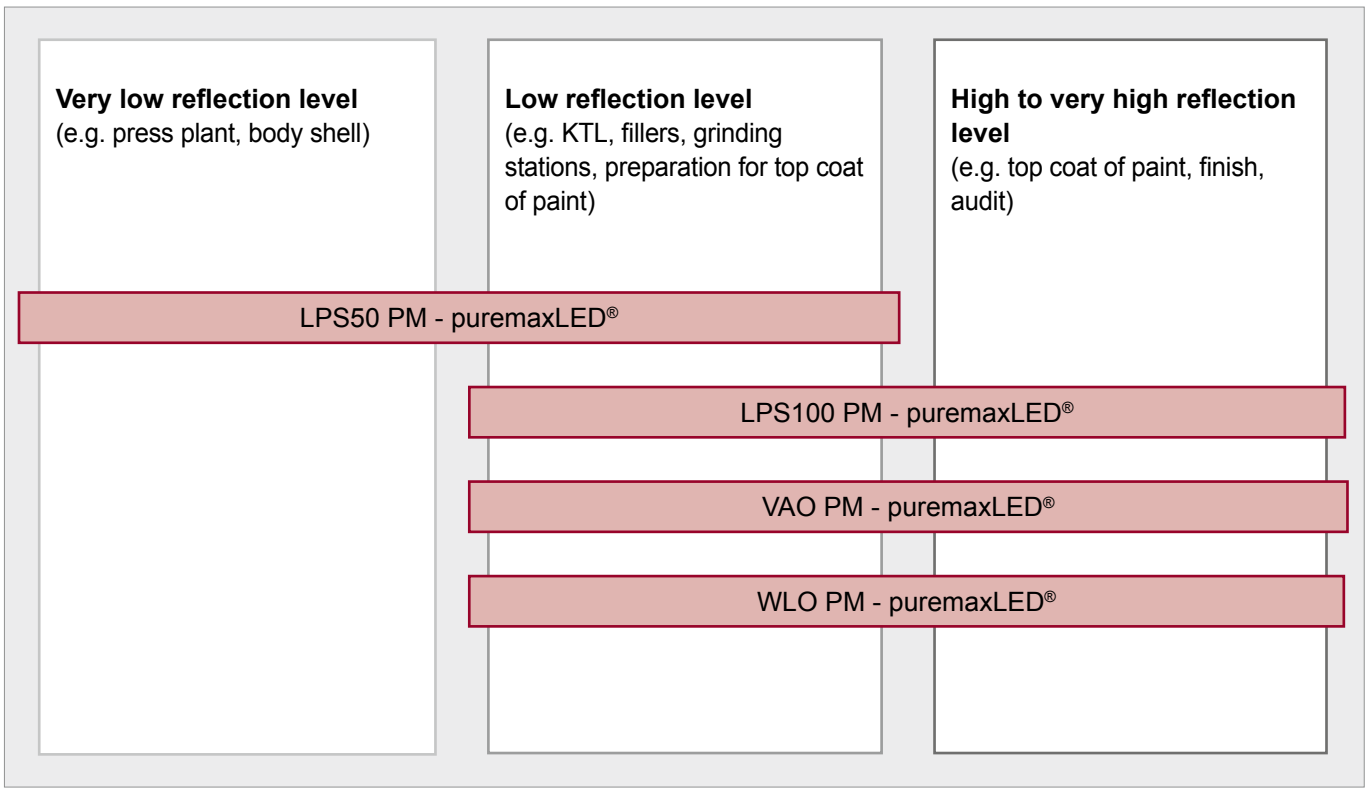
Fig.: Audit control site

Surface inspection with LED technology





	LPS50 PM	LPS100 PM	VAO PM	WLO PM
Shows the following defects and has the following special features	blisters, bubbles, dents, pits, scratches, paint runs, dirt	blisters, bubbles, dents, pits, scratches, paint runs, dirt	blisters, bubbles, dents, pits, scratches, paint runs, dirt, paint defects	blisters, bubbles, dents, pits, scratches, orange peel
page	10	12	14	16

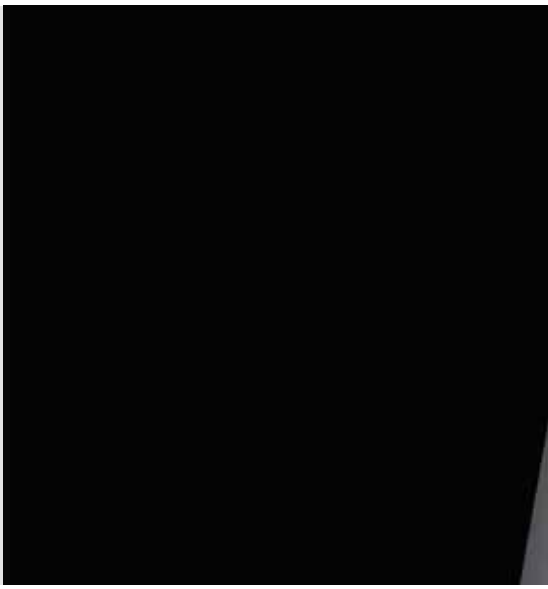


LPS50 PM - LPS50 puremaxLED®

BRILLIANT AND ENERGY EFFICIENT

The surface control optic LPS50 PM is used for surfaces with low to medium reflection and can be employed in all coating processes in the industry.

Suitable for the following areas, especially in the automotive sector: press plants, body shell areas, topcoat preparation and for cathodic dip painting/ filler grinding stations



Features

Assembly (According to the design version)	▪ 4 x LED lamps (included) ▪ 4 x 6,500 K
LED controller	▪ Electronic, digitally dimmable
Optic	▪ 4 x centrally arranged patented prism panes with plano-convex lens and black fields ▪ 4 x symmetrical reflectors, reflector chambers separated with regards to light
Housing	▪ Steel sheet ▪ RAL7035 powder coated
Front glass panel (lockable door)	▪ 6 mm one-panel safety glass according to EN 12150 ▪ Frameless design
Opening	▪ 3 x quick-lock systems
Bushing	▪ Harting plug system or direct clamping in junction box ▪ 3 m connection cable

Technical specifications

Permitted ambient temperature	+5°C to +35°C
Rated voltage	220-240 V, 50/60 Hz
Degree of protection	IP54
Protection class	I
UGR limit	≤18

Options

- With installation frame
- With mobile stand
- Additional lamp color temperatures
- Additional housing colors according to RAL
- Connection cable in other lengths

Quality criteria

- Photobiological safety (EN 62471): Risk group 1
- LABS-free
- CE label
- ENEC certification
- EAC certification


Blisters, bubbles


Dents


Pits


Scratches

Orange peel


Paint runs

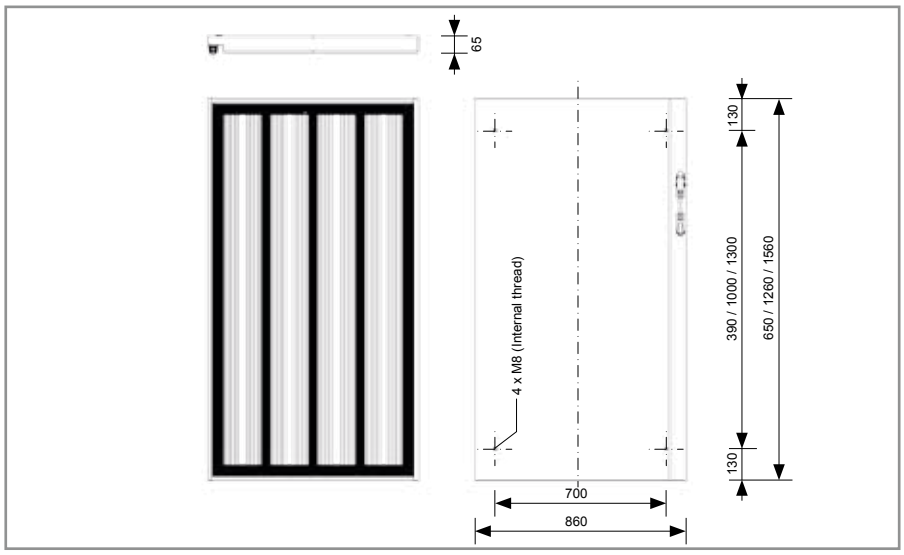

Paint defects


Dirt

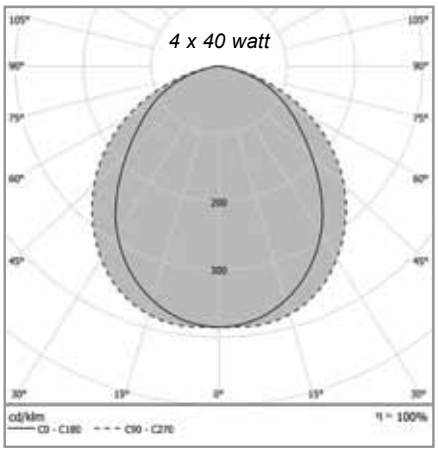
Voids

Color defects

LPS50 PM



Exterior and mounting dimensions of the LPS50 PM. All data in mm.



Light distribution curve of LPS50 PM (LPS50 puremaxLED®). This chart shows the light distribution curve of an LPS50 PM with 4 x 40 watt.

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg
L601LD401	4 x 25 watt	Harting connector system	high polish	860 x 1560 x 65	approx. 50.5
L601LD402	4 x 40 watt	Harting connector system	high polish	860 x 1560 x 65	approx. 52.0
L601LD403	4 x 20 watt	Harting connector system	high polish	860 x 1260 x 65	approx. 40.5
L601LD404	4 x 32 watt	Harting connector system	high polish	860 x 1260 x 65	approx. 41.5
L601LD405	4 x 10 watt	Harting connector system	high polish	860 x 650 x 65	approx. 23.0

*Additional design versions on page 77

LPS100 PM - LPS100 puremaxLED®

BRILLIANT AND ENERGY EFFICIENT

The surface control optic LPS100 PM is used for surfaces with medium to high reflection and can be employed in all coating processes in the industry.

Particularly in the automotive sector, it is suitable for: topcoat, assembly and audit sites

Features

Assembly (According to the design version)	▪ 3 x LED lamps (included) ▪ 2 x 6,500 K, 1 x 4,000 K
LED controller	▪ Electronic, digitally dimmable
Optic	▪ 3 x centrally arranged patented prism panes with plano-convex lens and black fields ▪ 3 x symmetrical reflectors, reflector chambers separated with regards to light
Housing	▪ Steel sheet ▪ RAL7035 powder coated
Front glass panel (lockable door)	▪ 6 mm one-panel safety glass according to EN 12150 ▪ Frameless design
Opening	▪ 3 x quick-lock systems
Bushing	▪ Harting plug system or direct clamping in junction box ▪ 3 m connection cable

Technical specifications

Permitted ambient temperature	+5°C to +35°C
Rated voltage	220-240 V, 50/60 Hz
Degree of protection	IP54
Protection class	I
UGR limit	≤17

Options

- With installation frame
- With mobile stand
- Additional lamp color temperatures
- Additional housing colors according to RAL
- Connection cable in other lengths

Quality criteria

- Photobiological safety (EN 62471): Risk group 1
- LABS-free
- CE label
- ENEC certification
- EAC certification


Blisters, bubbles


Dents


Pits


Scratches

Orange peel


Paint runs

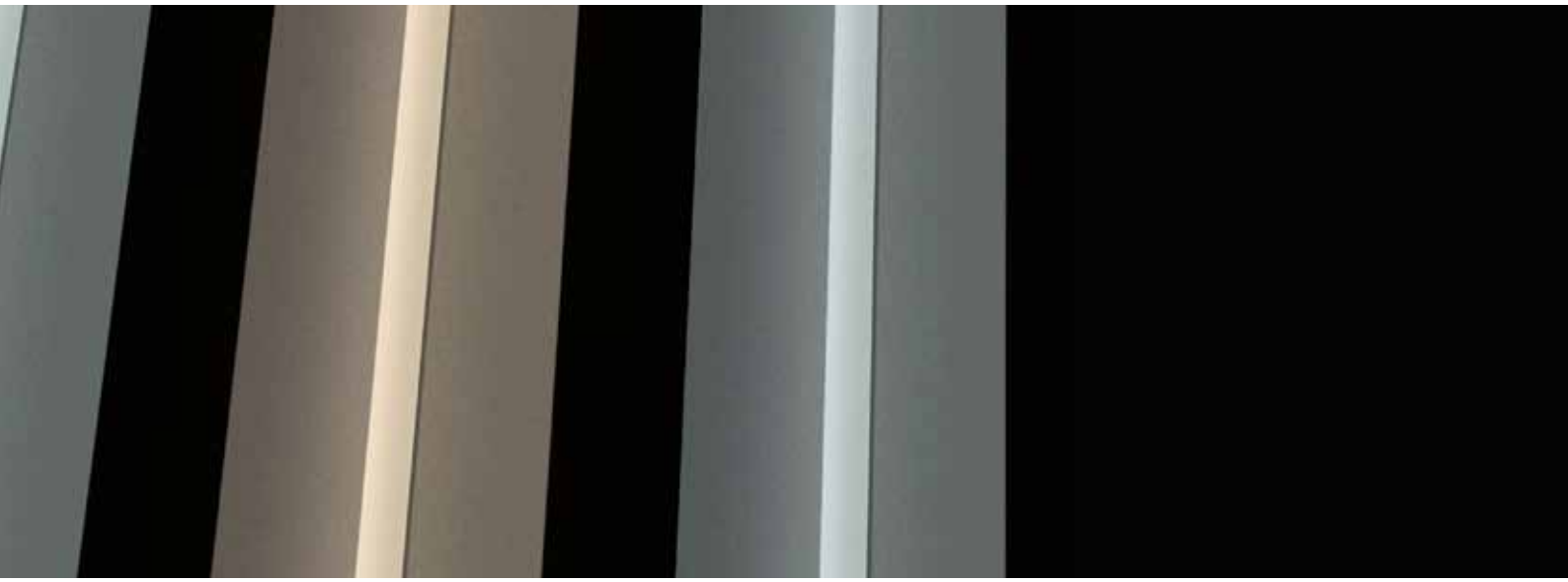

Paint defects

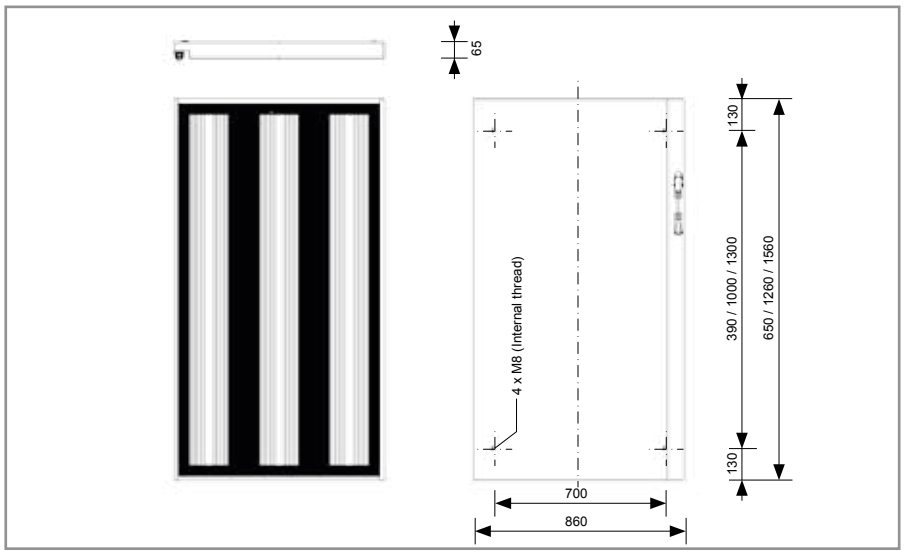

Dirt

Voids

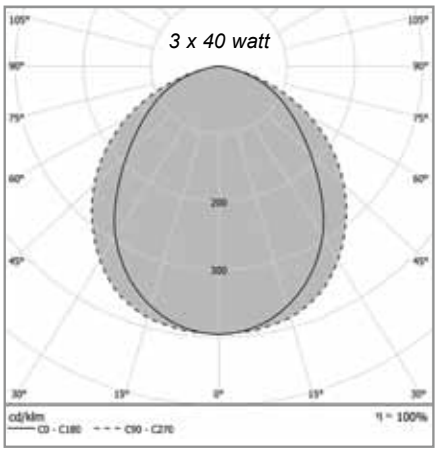
Color defects

LPS100 PM





Exterior and mounting dimensions of the LPS100 PM. All data in mm.



Light distribution curve of LPS100 PM (LPS100 puremaxLED®). This chart shows the light distribution curve of an LPS100 PM with 3 x 40 watt.

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg
L601LD301	3 x 25 watt	Harting connector system	high polish	860 x 1560 x 65	approx. 46.0
L601LD302	3 x 40 watt	Harting connector system	high polish	860 x 1560 x 65	approx. 47.5
L601LD303	3 x 20 watt	Harting connector system	high polish	860 x 1260 x 65	approx. 39.0
L601LD304	3 x 32 watt	Harting connector system	high polish	860 x 1260 x 65	approx. 40.0
L601LD305	3 x 10 watt	Harting connector system	high polish	860 x 650 x 65	approx. 22.0

*Additional design versions on page 77

VAO PM - VAO puremaxLED®

ENERGY EFFICIENCY WITH SLIMLINE DESIGN

The surface control optic VAO is used for surfaces with medium to high reflection and can be employed in all coating processes in the industry. It stands out with its slimline design.

Particularly in the automotive sector, it is suitable for: topcoat, assembly and audit sites

Features

Assembly (According to the design version)	▪ 1 x LED lamp (included) ▪ 1 x 6,500 K
LED controller	▪ Electronic, digitally dimmable
Optic	▪ 1 x centrally arranged patented prism pane with plano-convex lens ▪ 1 x symmetrical reflector
Housing	▪ Steel sheet ▪ RAL7035 powder coated
Front glass panel (lockable door)	▪ 6 mm one-panel safety glass according to EN 12150 ▪ Frameless design
Opening	▪ 3 x quick-lock systems
Bushing	▪ Harting plug system or direct clamping in junction box ▪ 3 m connection cable

Technical specifications

Permitted ambient temperature	+5°C to +35°C
Rated voltage	220-240 V, 50/60 Hz
Degree of protection	IP54
Protection class	I
UGR limit	≤17

Options

- With installation frame
- With mobile stand
- Additional lamp color temperatures
- Additional housing colors according to RAL
- Connection cable in other lengths

Quality criteria

- Photobiological safety (EN 62471): Risk group 1
- LABS-free
- CE label
- ENEC certification
- EAC certification


Blisters, bubbles


Dents


Pits


Scratches

Orange peel


Paint runs

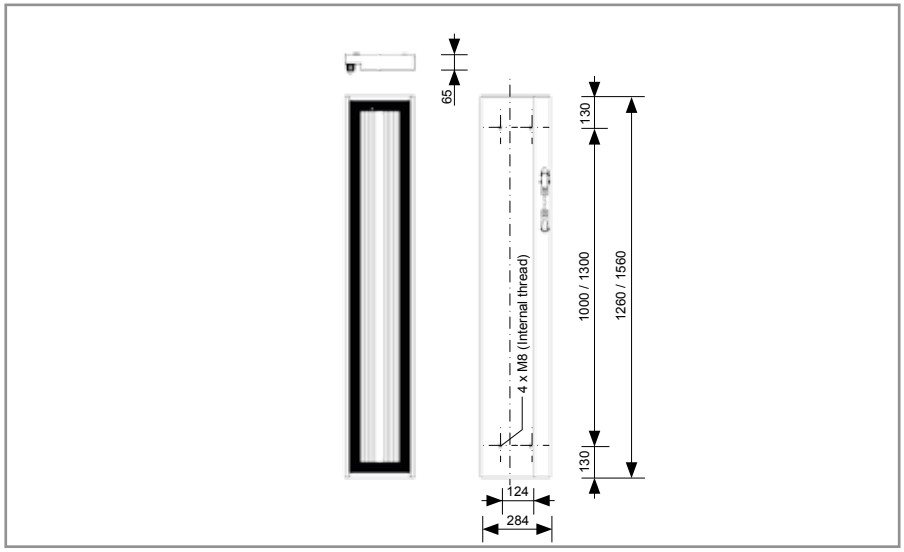

Paint defects


Dirt

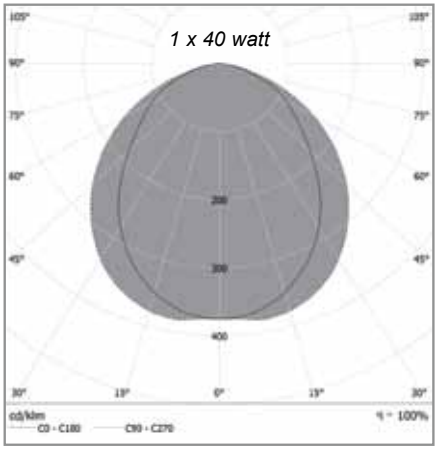
Voids

Color defects

VAO PM



Exterior and mounting dimensions of the VAO PM. All data in mm.



Light distribution curve of VAO PM (VAO puremaxLED®). This chart shows the light distribution curve of a VAO PM with 1 x 40 watt.

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg
L601LD321	1 x 25 watt	Harting connector system	high polish	284 x 1560 x 65	approx. 18.0
L601LD322	1 x 40 watt	Harting connector system	high polish	284 x 1560 x 65	approx. 18.0
L601LD323	1 x 20 watt	Harting connector system	high polish	284 x 1260 x 65	approx. 15.5
L601LD324	1 x 32 watt	Harting connector system	high polish	284 x 1260 x 65	approx. 15.5

*Additional design versions on page 77

WLO PM - WLO puremaxLED®

ENERGY EFFICIENT LIGHT WITH ENHANCED CONTRAST

The surface control optic WLO PM is used for surfaces with low to medium reflection and can be employed in all coating processes in the industry. It generates a high-contrast reflection image and is strongly shielded to reduce glare in a direct and lateral viewing direction.

Suitable for the following areas, especially in the automotive sector: press plants, topcoat preparation and finishing area

Features

Assembly (According to the design version)	▪ 4 x LED lamps (included) ▪ 4 x 6,500 K
LED controller	▪ Electronic, digitally dimmable
Optic	▪ 4 x centrally arranged patented prism panes with plano-convex lens and black fields ▪ 4 x symmetrical reflectors, reflector chambers separated with regards to light
Housing	▪ Steel sheet ▪ RAL7035 powder coated
Front glass panel (lockable door)	▪ 6 mm one-panel safety glass according to EN 12150 ▪ Frameless design
Opening	▪ 3 x quick-lock systems
Bushing	▪ Harting plug system or direct clamping in junction box ▪ 3 m connection cable

Technical specifications

Permitted ambient temperature	+5°C to +35°C
Rated voltage	220-240 V, 50/60 Hz
Degree of protection	IP54
Protection class	I
UGR limit	≤15

Options

- With installation frame
- With mobile stand
- Additional lamp color temperatures
- Additional housing colors according to RAL
- Connection cable in other lengths

Quality criteria

- Photobiological safety (EN 62471): Risk group 1
- LABS-free
- CE label
- ENEC certification
- EAC certification


Blisters, bubbles


Dents


Pits


Scratches


Orange peel


Paint runs

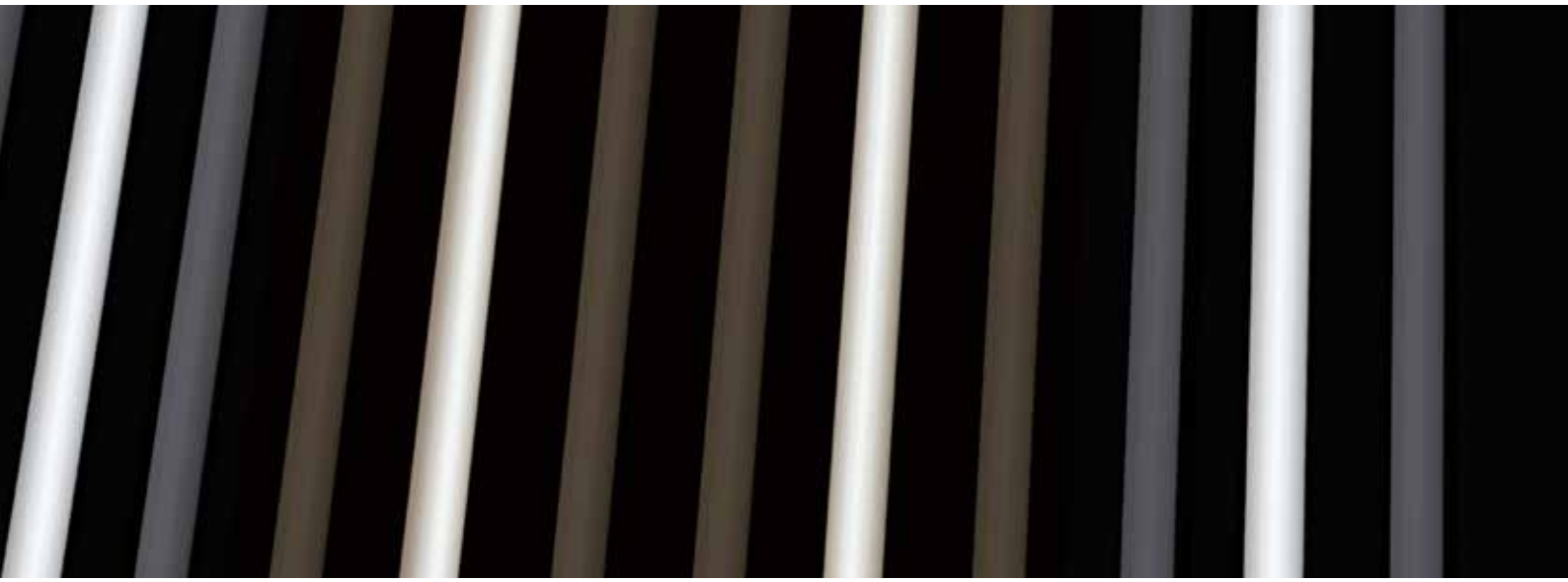

Paint defects

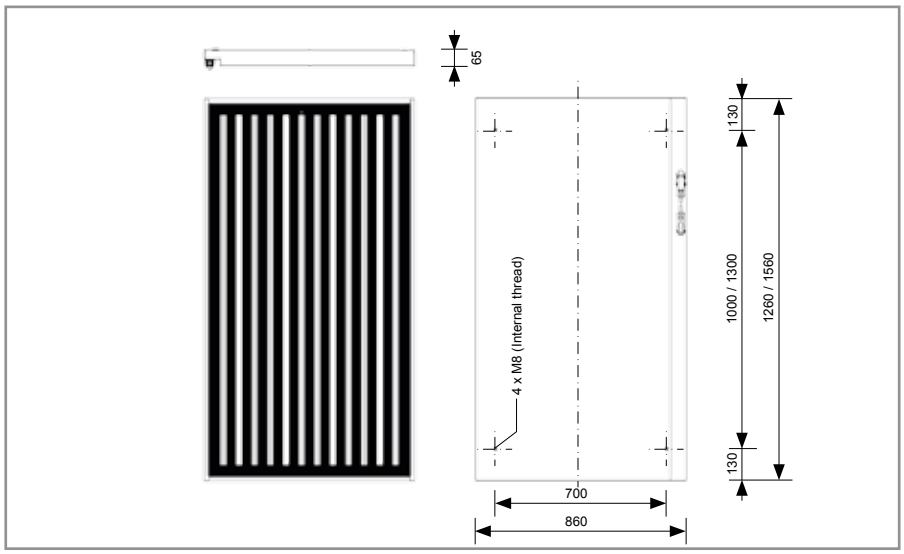

Dirt

Voids

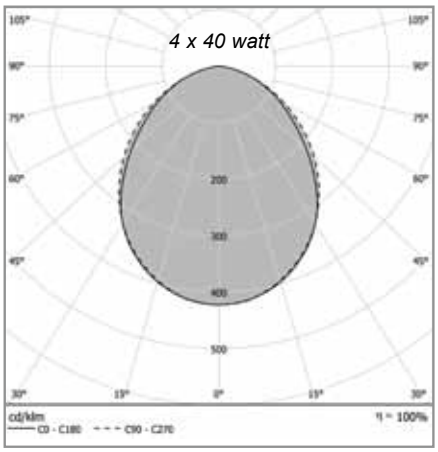
Color defects

WLO PM





Exterior and mounting dimensions of the WLO PM. All data in mm.



Light distribution curve of WLO PM (WLO puremaxLED®). This chart shows the light distribution curve of a WLO PM with 4 x 40 watt.

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg
L602LD401	4 x 25 watt	Harting connector system	high polish	860 x 1560 x 65	approx. 50.0
L602LD402	4 x 40 watt	Harting connector system	high polish	860 x 1560 x 65	approx. 52.0
L602LD403	4 x 20 watt	Harting connector system	high polish	860 x 1260 x 65	approx. 40.5
L602LD404	4 x 32 watt	Harting connector system	high polish	860 x 1260 x 65	approx. 41.5

	LPS50	LPS100
Shows the following defects and has the following special features	blisters, bubbles, dents, pits, scratches, paint runs, dirt	blisters, bubbles, dents, pits, scratches, paint runs, dirt
page	20	22

Surface inspection (T5/T8)

VAO

blisters, bubbles, dents, pits, scratches, paint runs, dirt Paint defects

WLO

blisters, bubbles, dents, pits, scratches, Orangenhaut, Paint defects

MRO

blisters, bubbles, dents, paint runs, dirt, color defects

LLO

blisters, bubbles, dents

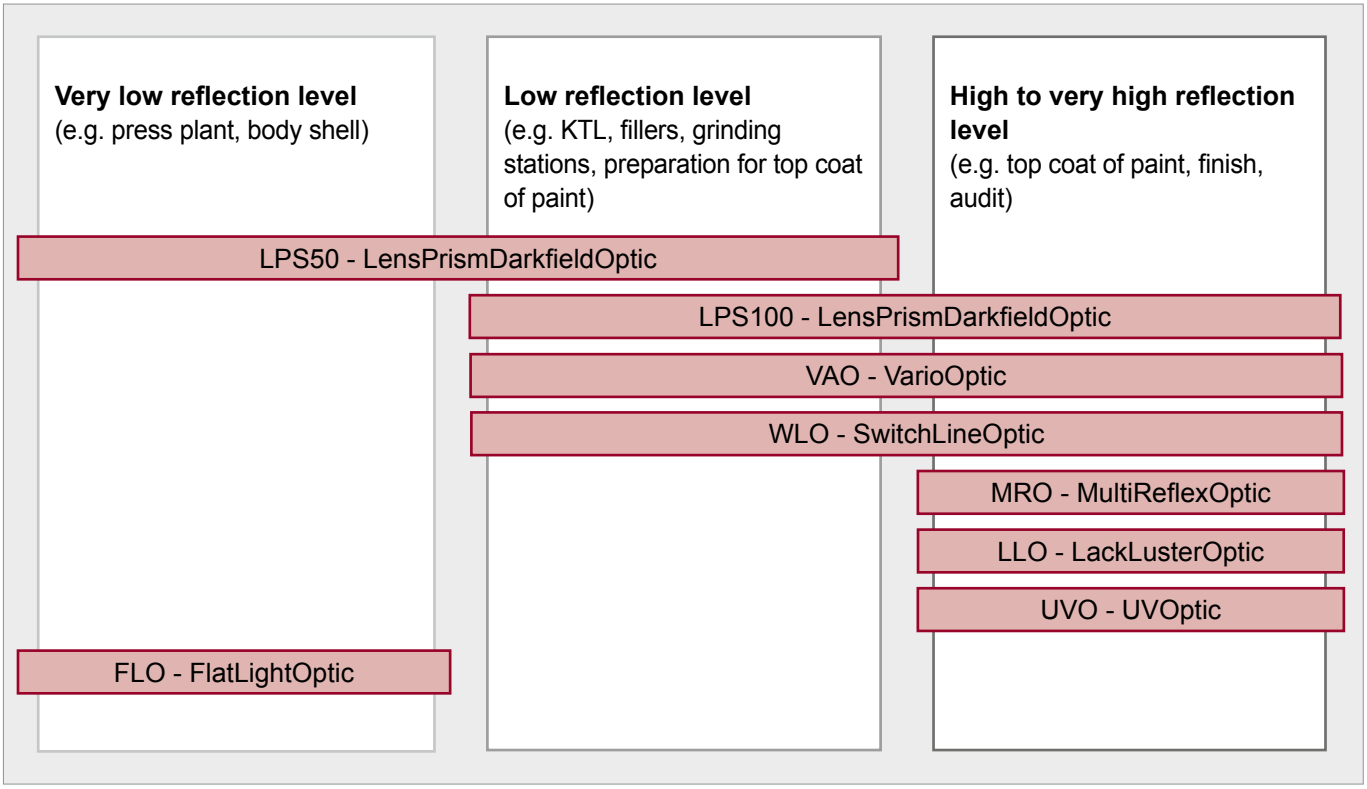
UVO

voids

FLO

blisters, bubbles, dents

24	26	28	30	32	34



LPS50 - LensPrismDarkfieldOptic

QUICK, RELIABLE AND CONSISTENT DEFECT DETECTION

The surface control optic LPS50 is used for surfaces with low to medium reflection and can be employed in all coating processes in the industry.

Suitable for the following areas, especially in the automotive sector: press plants, body shell, topcoat preparation, cathodic dip painting/filler grinding stations, audit sites and others areas...

Features

Assembly (According to the design version)	▪ 4 x luminescent lamps (included) ▪ 4 x 6,500K
Ballast	▪ Electronic, digitally dimmable
Optic	▪ 4 x centrally arranged patented prism panes with plano-convex lens and black fields ▪ 4 x symmetrical reflectors, reflector chambers separated with regards to light
Housing	▪ Steel sheet ▪ RAL7035 powder coated
Front glass panel (lockable door)	▪ 6 mm one-panel safety glass according to EN 12150 ▪ Frameless design
Opening	▪ 3 x quick-lock systems
Bushing	▪ Cable gland or direct clamping in junction box ▪ 4 m connection cable

Technical specifications

Permitted ambient temperature	+5°C to +35°C
Rated voltage	220-240 V, 50/60 Hz
Degree of protection	IP54
Protection class	I
UGR limit	≤17

Options

- With installation frame
- With mobile stand
- Additional lamp color temperatures
- Additional housing colors according to RAL
- Connection cable in other lengths

Quality criteria

- Photobiological safety (EN 62471): Risk group 0
- LABS-free
- CE label
- ENEC certification
- EAC certification


Blisters, bubbles


Dents


Pits


Scratches

Orange peel


Paint runs

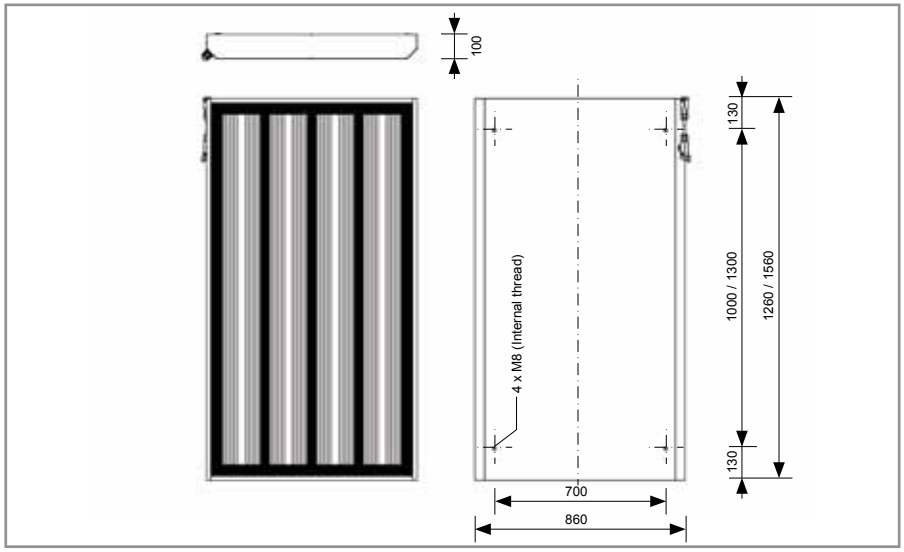

Paint defects


Dirt

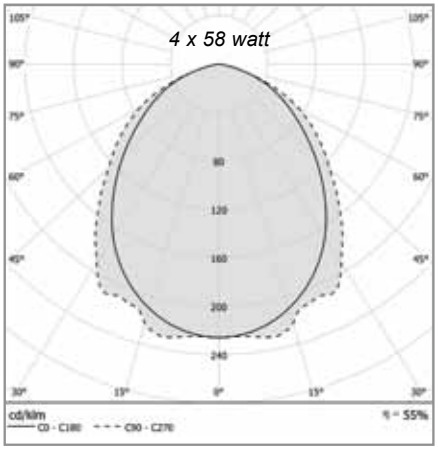
Voids

Color defects

LPS50



Exterior and mounting dimensions of the LPS50. All data in mm.



Light distribution curve of LPS50 (LensPrismDarkfieldOptic). This chart shows the light distribution curve of an LPS50 with 4 x 58 watt.

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg
L201AE001	4 x 58 watt	Harting connector system	white	860 x 1560 x 100	approx. 45.5
L201AE002	4 x 58 watt	Harting connector system	high polish	860 x 1560 x 100	approx. 45.5
L201AE003	4 x 36 watt	Harting connector system	white	860 x 1260 x 100	approx. 38.0
L201AE004	4 x 36 watt	Harting connector system	high polish	860 x 1260 x 100	approx. 38.0
L201AE005	4 x 80 watt	Harting connector system	white	860 x 1560 x 100	approx. 45.5
L201AE006	4 x 80 watt	Harting connector system	high polish	860 x 1560 x 100	approx. 45.5

*Additional design versions on page 77

LPS100 - LensPrismDarkfieldOptic

QUICK, RELIABLE AND CONSISTENT DEFECT DETECTION

The surface control optic LPS100 is used for surfaces with medium to high reflection and can be employed in all coating processes in the industry.

Particularly in the automotive sector, it is suitable for: topcoat, assembly and audit sites as well as other areas...

Features

Assembly (According to the design version)	▪ 3 x luminescent lamps (included) ▪ 2 x 6,500 K, 1 x 4,000 K
Ballast	▪ Electronic, digitally dimmable
Optic	▪ 3 x centrally arranged patented prism panes with plano-convex lens and black fields ▪ 3 x symmetrical reflectors, reflector chambers separated with regards to light
Housing	▪ Steel sheet ▪ RAL7035 powder coated
Front glass panel (lockable door)	▪ 6 mm one-panel safety glass according to EN 12150 ▪ Frameless design
Opening	▪ 3 x quick-lock systems
Bushing	▪ Cable gland or direct clamping in junction box ▪ 3 m connection cable

Technical specifications

Permitted ambient temperature	+5°C to +35°C
Rated voltage	220-240 V, 50/60 Hz
Degree of protection	IP54
Protection class	I
UGR limit	≤14

Options

- With installation frame
- With mobile stand
- Additional lamp color temperatures
- Additional housing colors according to RAL
- Connection cable in other lengths

Quality criteria

- Photobiological safety (EN 62471): Risk group 0
- LABS-free
- CE label
- ENEC certification
- EAC certification


Blisters, bubbles


Dents


Pits


Scratches

Orange peel


Paint runs

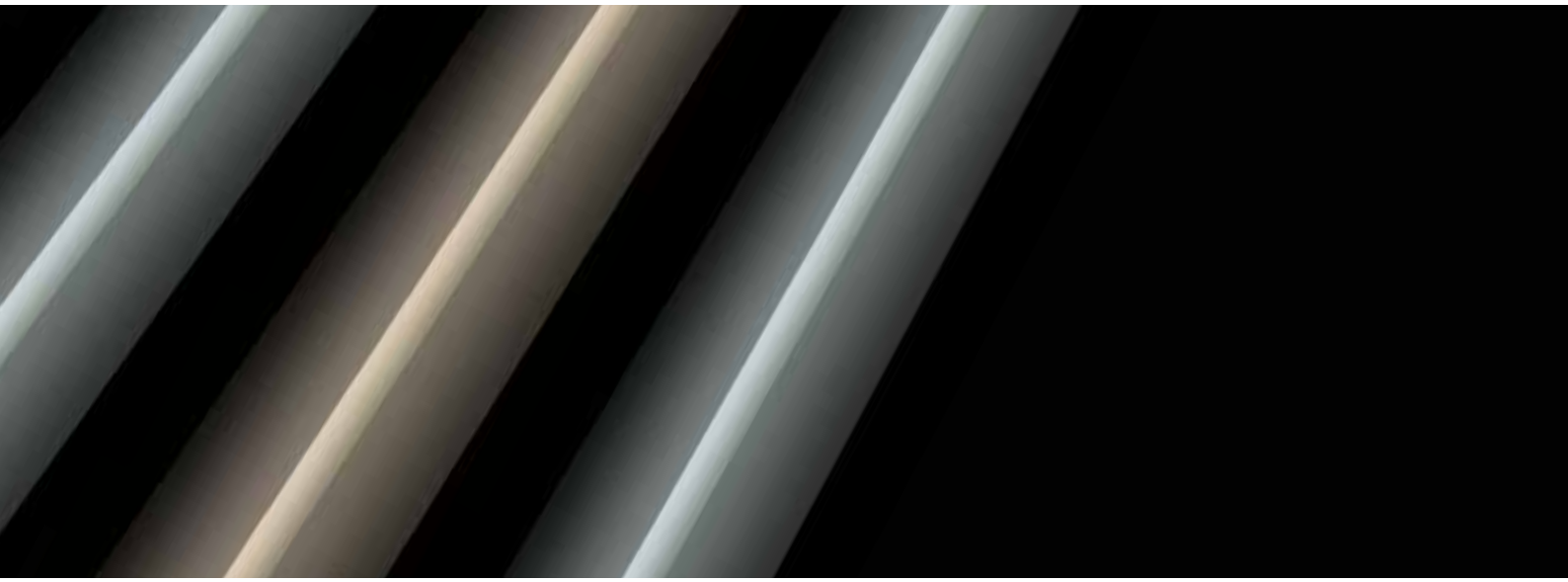

Paint defects

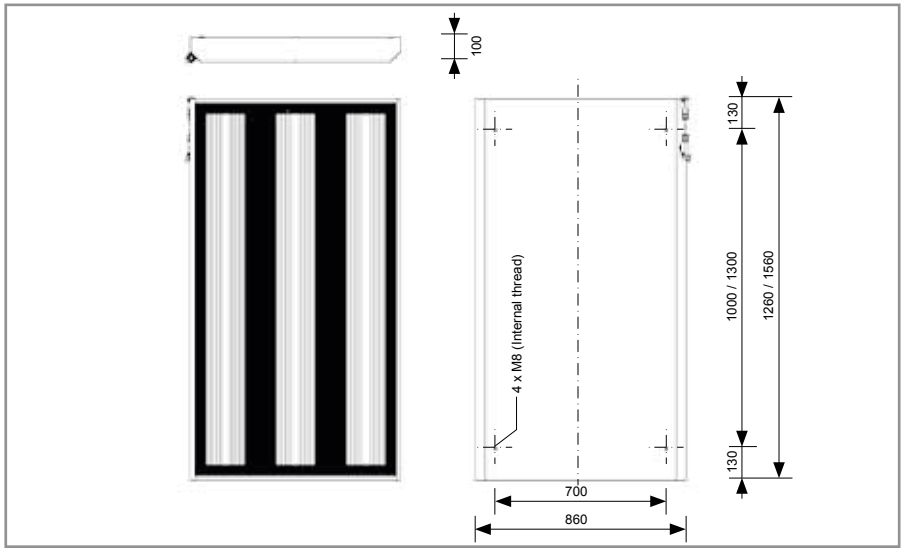

Dirt

Voids

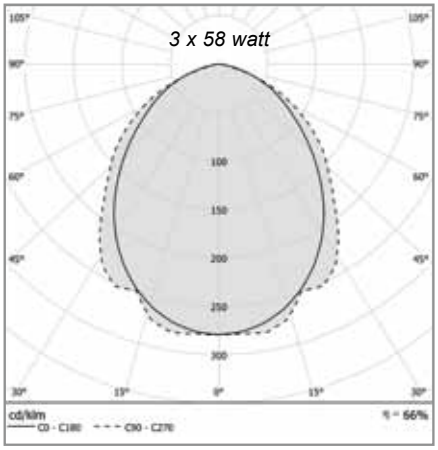
Color defects

LPS100





Exterior and mounting dimensions of the LPS100. All data in mm.



Light distribution curve of LPS100 (LensPrismDarkfieldOptic). This chart shows the light distribution curve of an LPS100 with 3 x 58 watt.

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg
L201AC001	3 x 58 watt	Harting connector system	white	860 x 1560 x 100	approx. 44.0
L201AC002	3 x 58 watt	Harting connector system	high polish	860 x 1560 x 100	approx. 44.0
L201AC003	3 x 36 watt	Harting connector system	white	860 x 1260 x 100	approx. 37.0
L201AC004	3 x 36 watt	Harting connector system	high polish	860 x 1260 x 100	approx. 37.0
L201AC005	3 x 80 watt	Harting connector system	white	860 x 1560 x 100	approx. 44.5
L201AC006	3 x 80 watt	Harting connector system	high polish	860 x 1560 x 100	approx. 44.5

*Additional design versions on page 77

VAO - VarioOptic

RELIABLE DEFECT DETECTION IN SLIMLINE DESIGN

The surface control optic VAO is used for surfaces with low to high reflection and can be employed in all coating processes in the industry.

Particularly in the automotive sector, it is suitable for: topcoat, assembly and audit sites, body shell, topcoat preparation and other processes...

Features

Assembly (According to the design version)	▪ 1 x luminescent lamp (included), 1 x 6,500 K or ▪ 2 x luminescent lamps (included), 2 x 6,500 K
Ballast	▪ Electronic, digitally dimmable
Optic	▪ 1 x centrally arranged patented prism pane with plano-convex lens ▪ 1 x symmetrical reflector, asymmetrical irradiation possible by adjusting mounting fixture
Housing	▪ Steel sheet ▪ RAL7035 powder coated
Front glass panel (lockable door)	▪ 6 mm one-panel safety glass according to EN 12150 ▪ Frameless design
Opening	▪ 3 x quick-lock systems
Bushing	▪ Cable gland or direct clamping in junction box ▪ 3 m connection cable

Technical specifications

Permitted ambient temperature	+5°C to +35°C
Rated voltage	220-240 V, 50/60 Hz
Degree of protection	IP54
Protection class	I
UGR limit	≤17

Options

- With installation frame
- With mobile stand
- Pivotal design version available
- Additional lamp color temperatures
- Additional housing colors according to RAL
- Connection cable in other lengths

Quality criteria

- Photobiological safety (EN 62471): Risk group 0
- LABS-free
- CE label
- ENEC certification
- EAC certification


Blisters, bubbles


Dents


Pits


Scratches

Orange peel


Paint runs

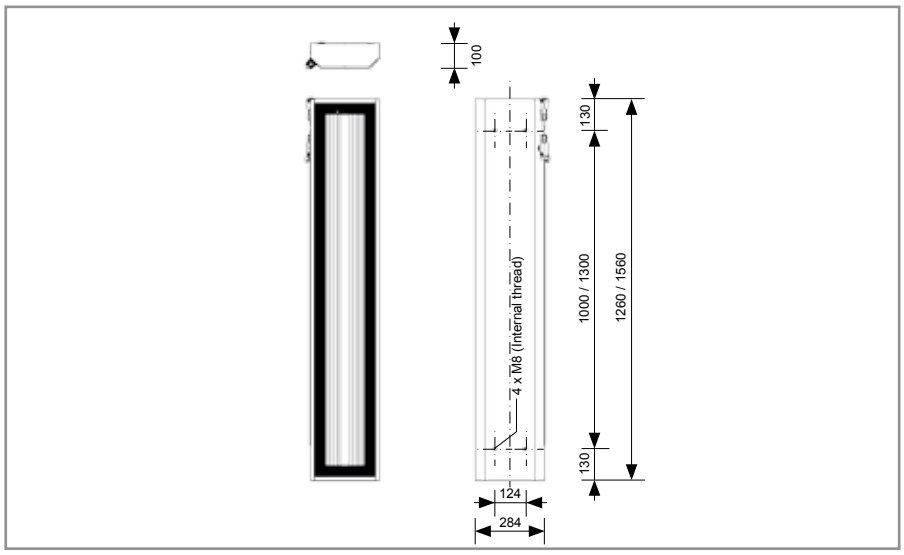

Paint defects


Dirt

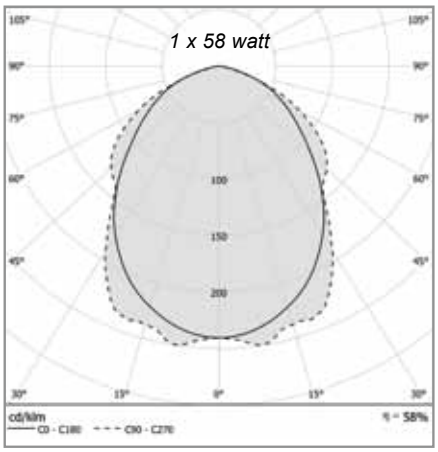
Voids

Color defects

VAO



Exterior and mounting dimensions of the VAO. All data in mm.



Light distribution curve of VAO (VarioOptic). This chart shows the light distribution curve of a VAO with 1 x 58 watt.

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg
L201AK001	2 x 58 watt	Harting connector system	white	284 x 1560 x 100	approx. 18.5
L201AK002	2 x 58 watt	Harting connector system	high polish	284 x 1560 x 100	approx. 18.5
L201AK003	2 x 36 watt	Harting connector system	white	284 x 1260 x 100	approx. 17.0
L201AK004	2 x 36 watt	Harting connector system	high polish	284 x 1260 x 100	approx. 17.0
L201AM001	1 x 58 watt	Harting connector system	white	284 x 1560 x 100	approx. 18.0
L201AM003	1 x 36 watt	Harting connector system	white	284 x 1260 x 100	approx. 16.5

*Additional design versions on page 77

WLO - SwitchLineOptic

LIGHT DEPENDENT ON VIEWING ANGLE WITH ENHANCED CONTRAST

The surface control optic WLO is used for surfaces with low to high reflection and can be employed in all coating processes in the industry. It generates a high-contrast reflection image and is strongly shielded to reduce glare in a direct and lateral viewing direction.

Suitable for the following areas, especially in the automotive sector: press plants, topcoat preparation, finishing area as well as other areas...

Features

Assembly (According to the design version)	▪ 4 x luminescent lamps (included) ▪ 2 x 6,500 K, 2 x 4,000 K
Ballast	▪ Electronic, digitally dimmable
Optic	▪ 4 x centrally arranged patented prism panes with plano-convex lens and black fields ▪ 4 x symmetrical reflectors, reflector chambers separated with regards to light
Housing	▪ Steel sheet ▪ RAL7035 powder coated
Front glass panel (lockable door)	▪ 6 mm one-panel safety glass according to EN 12150 ▪ Frameless design
Opening	▪ 3 x quick-lock systems
Bushing	▪ Cable gland or direct clamping in junction box ▪ 3 m connection cable

Technical specifications

Permitted ambient temperature	+5°C to +35°C
Rated voltage	220-240 V, 50/60 Hz
Degree of protection	IP54
Protection class	I
UGR limit	≤15

Options

- With installation frame
- With mobile stand
- Additional lamp color temperatures
- Additional housing colors according to RAL
- Connection cable in other lengths

Quality criteria

- Photobiological safety (EN 62471): Risk group 0
- LABS-free
- CE label
- ENEC certification
- EAC certification


Blisters, bubbles


Dents


Pits


Scratches


Orange peel


Paint runs

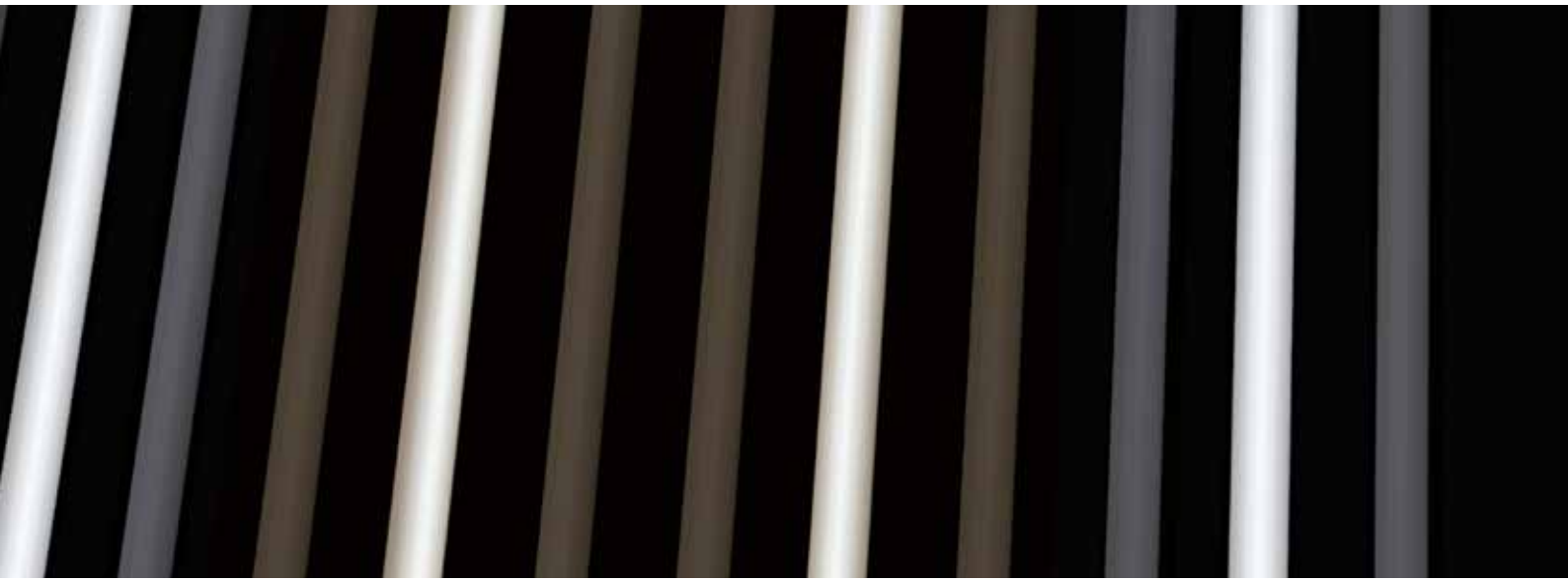

Paint defects

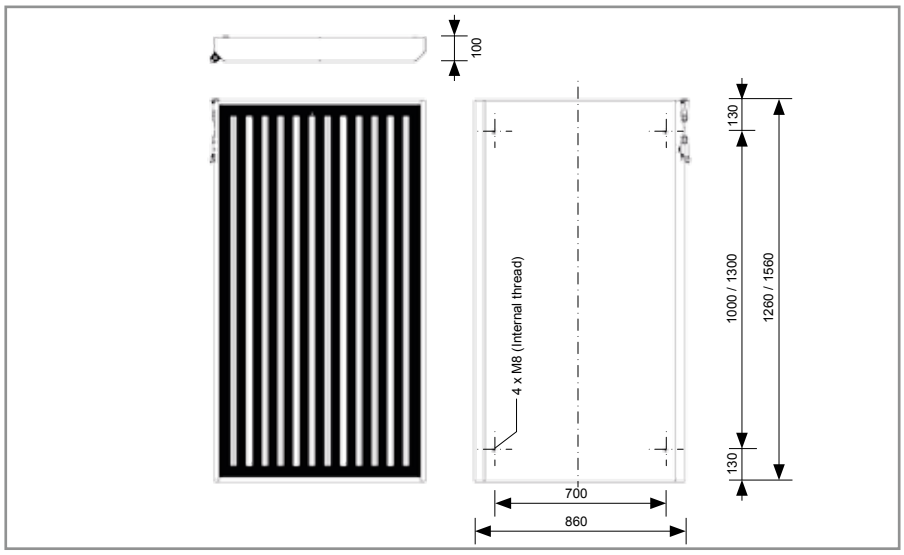

Dirt

Voids

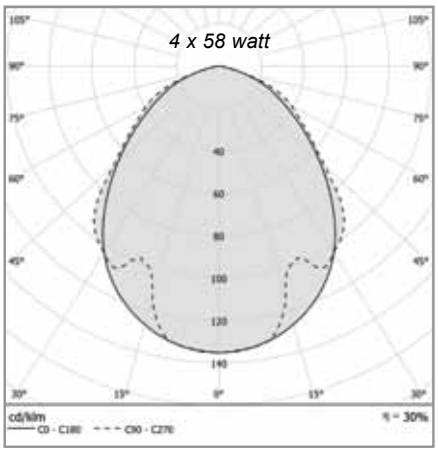
Color defects

WLO





Exterior and mounting dimensions of the WLO. All data in mm.



Light distribution curve of WLO (SwitchLineOptic). This chart shows the light distribution curve of a WLO with 4 x 58 watt.

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg
L202AC001	4 x 58 watt	Harting connector system	high polish	860 x 1560 x 100	approx. 45.5
L202AC003	4 x 80 watt	Harting connector system	high polish	860 x 1560 x 100	approx. 45.5
L202AC004	4 x 54 watt	Harting connector system	high polish	860 x 1260 x 100	approx. 38.5

MRO - MultiReflexOptic

SURFACE CONTROL WITH SIMULTANEOUS COLOR EVALUATION

The surface control optic MRO is used for controlling surfaces with high reflection and is conditionally suitable for color matching. It can be employed in all coating processes in the industry.

Particularly in the automotive sector, it is suitable for: topcoat, assembly and audit sites as well as other areas...

Features

Assembly (According to the design version)	▪ 4 x luminescent lamps (included) ▪ 2 x 2,700 K, 2 x 6,500 K
Ballast	▪ Electronic, digitally dimmable
Optic	▪ Asymmetrical high-polish reflectors with multi-level distribution
Housing	▪ Steel sheet ▪ RAL7035 powder coated ▪ Door frame RAL9005, powder coated
Front glass panel (lockable door)	▪ 4 mm one-panel safety glass according to EN 12150 ▪ In door frame
Opening	▪ 3 x quick-lock systems
Bushing	▪ Harting plug system or direct clamping in junction box ▪ 4 m connection cable

Technical specifications

Permitted ambient temperature	+5°C to +35°C
Rated voltage	220-240 V, 50/60 Hz
Degree of protection	IP54
Protection class	I
UGR limit	≤14

Options

- With mobile stand
- Additional lamp color temperatures
- Additional housing colors according to RAL
- Connection cable in other lengths

Quality criteria

- Photobiological safety (EN 62471): Risk group 0
- LABS-free
- CE label
- ENEC certification
- EAC certification


Blisters, bubbles


Dents

Pits

Scratches

Orange peel


Paint runs

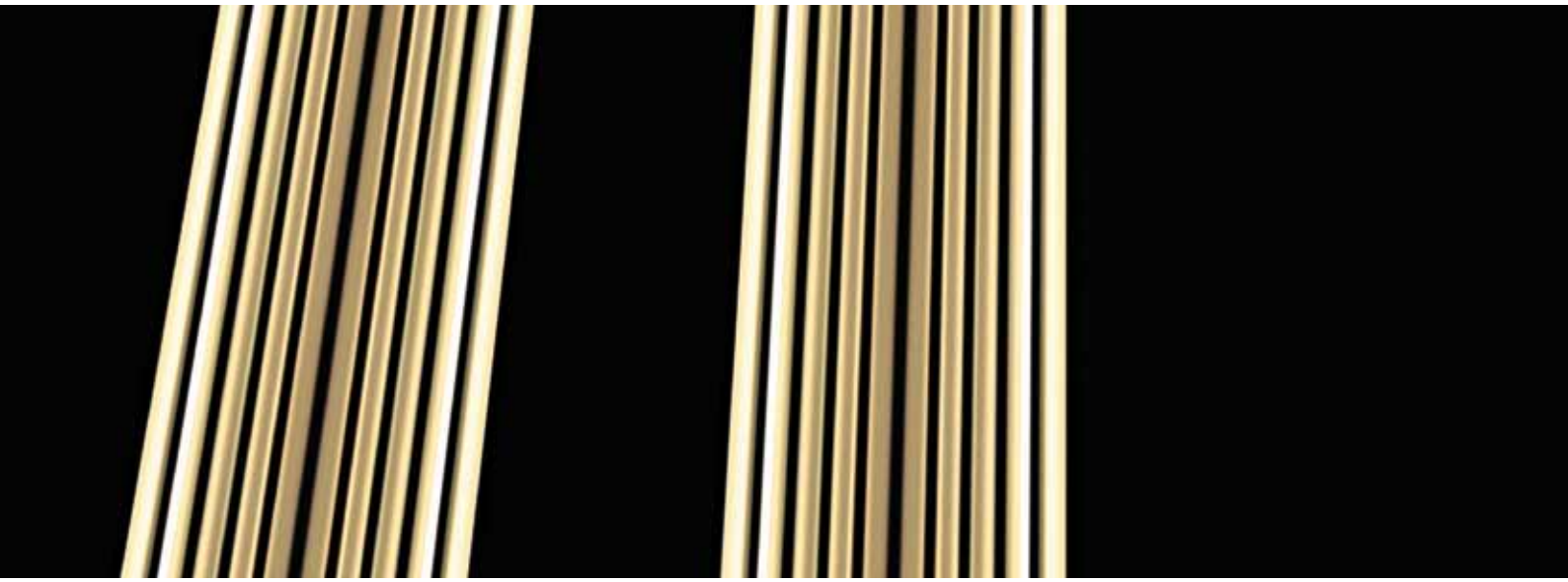

Paint defects

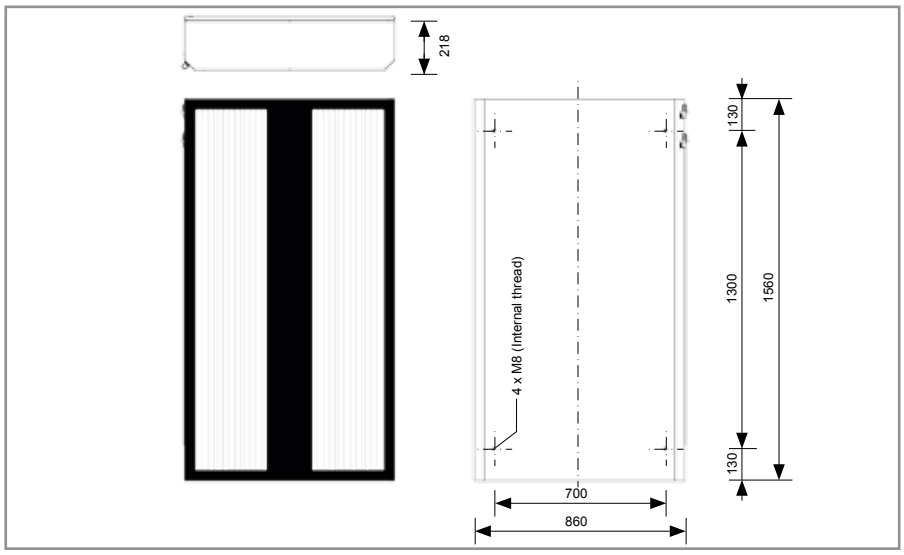

Dirt

Voids

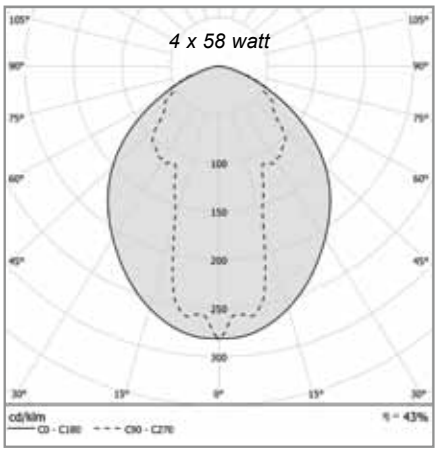

Color defects

MRO





Exterior and mounting dimensions of the MRO. All data in mm.



Light distribution curve of MRO (MultiReflex-Optic). This chart shows the light distribution curve of an MRO with 4 x 58 watt.

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg
L203AC001-14	4 x 58 watt	Cable gland	high polish	860 x 1560 x 218	approx. 56.0

LLO - LackLusterOptic

HIGH-POLISH SURFACES APPEAR MATT

The surface control optic LLO is used for controlling surfaces with high to very high reflection. It allows high-polish surfaces to appear matt. The LLO can be employed in all coating processes in the industry.

Particularly in the automotive sector, it is suitable for: body shell defects on painted parts

Features

Assembly (According to the design version)	▪ 2 x luminescent lamps (included) ▪ 2 x 6,500 K
Ballast	▪ Electronic, digitally dimmable
Optic	▪ 1 x white reflector, distribution across levels ▪ 1 x optical prism diffusor
Housing	▪ Steel sheet ▪ RAL7035 powder coated ▪ Door frame RAL9005, powder coated
Front glass panel (lockable door)	▪ 4 mm one-panel safety glass according to EN 12150 ▪ Opaline with special print optics ▪ In door frame
Opening	▪ 3 x quick-lock systems
Bushing	▪ Cable gland or direct clamping in junction box ▪ 4 m connection cable

Technical specifications

Permitted ambient temperature	+5°C to +35°C
Rated voltage	220-240 V, 50/60 Hz
Degree of protection	IP54
Protection class	I
UGR limit	≤9

Options

- With mobile stand
- Additional lamp color temperatures
- Additional housing colors according to RAL
- Connection cable in other lengths

Quality criteria

- Photobiological safety (EN 62471): Risk group 0
- LABS-free
- CE label
- ENEC certification
- EAC certification


Blisters, bubbles


Dents

Pits

Scratches

Orange peel


Paint runs

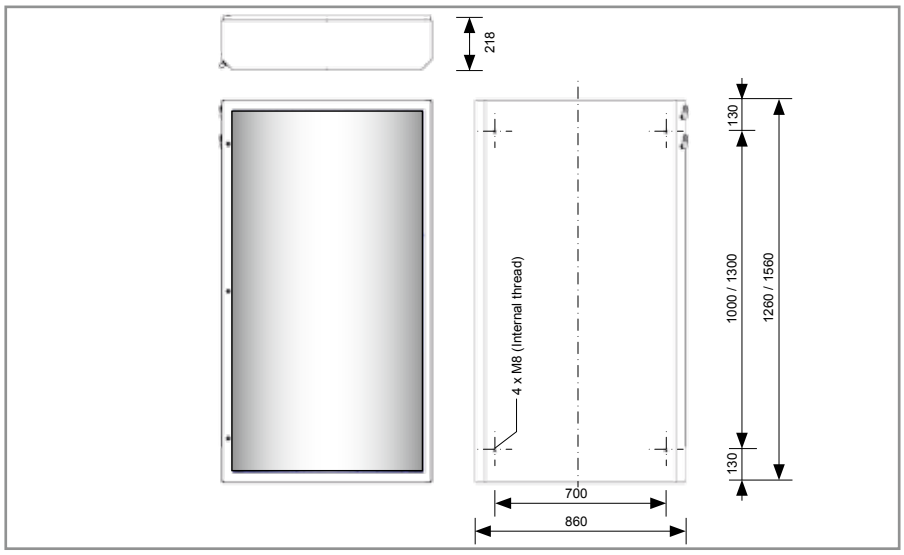

Paint defects


Dirt

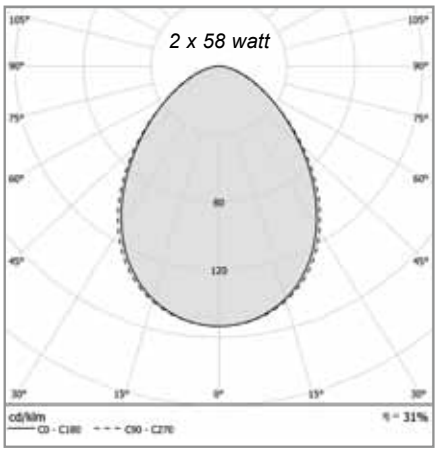
Voids

Color defects

LLO



Exterior and mounting dimensions of the LLO. All data in mm.



Light distribution curve of LLO (LackLusterOptic). This chart shows the light distribution curve of an LLO with 2 x 58 watt.

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg
L207AC003-14	2 x 58 watt	Harting connector system	white	860 x 1560 x 218	approx. 54.0
L207AC004-14	2 x 36 watt	Harting connector system	white	860 x 1260 x 218	approx. 46.5

UVO - UVOptic

FLORESCENCE OPTICS FOR EFFECT PAINTS, TEXTILES AND PLASTICS

The surface control optic UVO is used for surfaces with high reflection. White voids on surfaces are visible thanks to UV light.

Particularly in the automotive sector, it is suitable for: effect paints, textiles, plastics and other materials...

Features

Assembly (According to the design version)	▪ 1 x UV fluorescent lamp (included)
Ballast	▪ Electronic, digitally dimmable
Optic	▪ 1 x frequency-neutral diffuser ▪ 1 x symmetrical reflector, high polish
Housing	▪ Steel sheet ▪ RAL7035 powder coated
Front glass panel (lockable door)	▪ 6 mm one-panel safety glass according to EN 12150 ▪ Frameless design
Opening	▪ 3 x quick-lock systems
Bushing	▪ Cable gland or direct clamping in junction box ▪ 3 m connection cable

Technical specifications

Permitted ambient temperature	+5°C to +35°C
Rated voltage	220-240 V, 50/60 Hz
Degree of protection	IP54
Protection class	I
UGR limit	--

Options

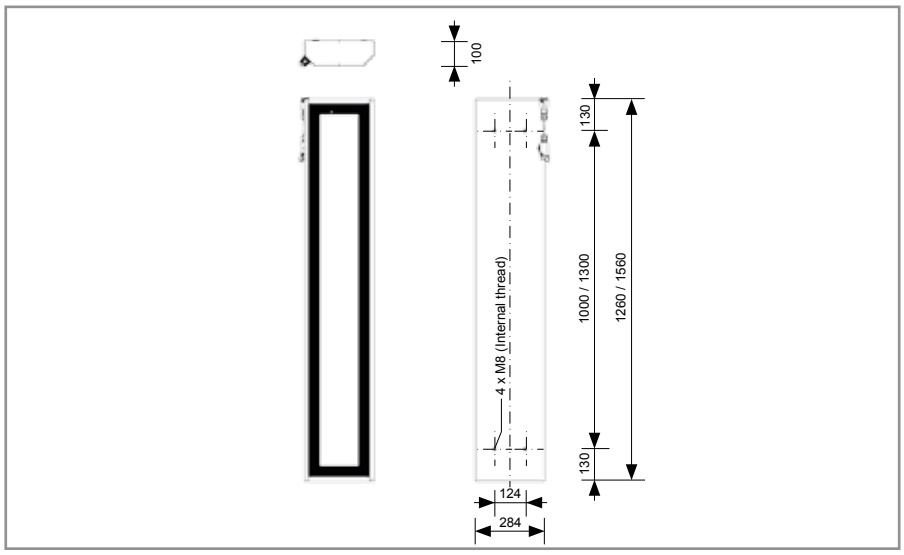
- With installation frame
- With mobile stand
- Additional housing colors according to RAL

Quality criteria

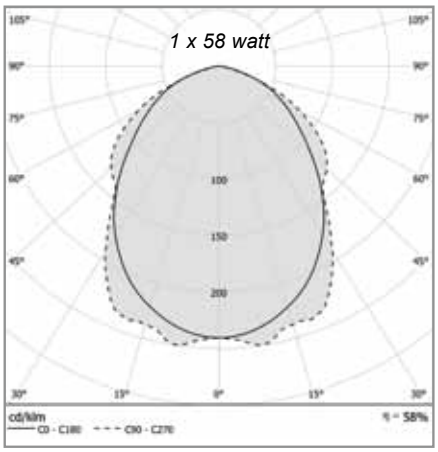
- Photobiological safety (EN 62471): Risk group 0
- LABS-free
- CE label
- ENEC certification
- EAC certification

Blisters, bubbles | Dents | Pits | Scratches | Orange peel | Paint runs | Paint defects | Dirt | **Voids** | Color defects

UVO



Exterior and mounting dimensions of the UVO. All data in mm.



Light distribution curve of UVO (UVOptic). This chart shows the light distribution curve of a UVO with 1 x 58 watt.

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg
L206AC002	1 x 36 watt	Harting connector system	high polish	284 x 1260 x 100	approx. 18.0
L206AC004	1 x 58 watt	Harting connector system	high polish	284 x 1560 x 100	approx. 16.5

FLO - FlatLightOptic

NARROW-BEAM OPTICS FOR TANGENTIAL ILLUMINATION

The surface control optic FLO is used for surfaces with low reflection and is particularly suitable for surface control in press plants.

Suitable for the following area, especially in the automotive sector: press plants

Features

Assembly (According to the design version)	▪ 1 x luminescent lamp (included) ▪ 1 x 6,500 K
Ballast	▪ Electronic, digitally dimmable
Optic	▪ Two-part optics and high-polish parabolic optic ▪ 1 x head mirror
Housing	▪ Steel sheet ▪ RAL7035 powder coated
Front glass panel (lockable door)	▪ 6 mm one-panel safety glass according to EN 12150 ▪ Frameless design
Opening	▪ 3 x quick-lock systems
Bushing	▪ Cable gland or direct clamping in junction box ▪ 3 m connection cable

Technical specifications

Permitted ambient temperature	+5°C to +35°C
Rated voltage	220-240 V, 50/60 Hz
Degree of protection	IP54
Protection class	I
UGR limit	0

Options

- With installation frame
- With mobile stand
- Pivotal design version available
- Additional lamp color temperatures
- Additional housing colors according to RAL

Quality criteria

- Photobiological safety (EN 62471): Risk group 0
- LABS-free
- CE label
- ENEC certification
- EAC certification


Blisters, bubbles


Dents

Pits

Scratches

Orange peel


Paint runs

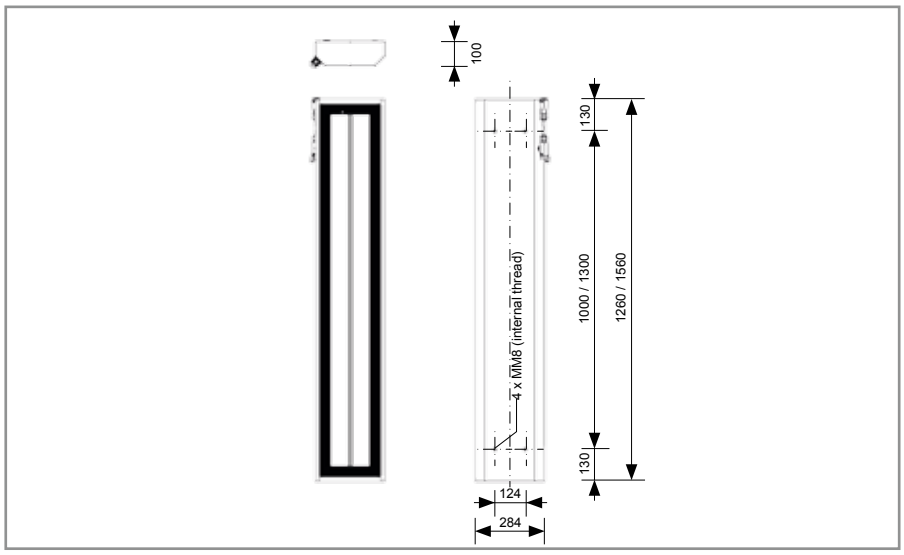

Paint defects


Dirt

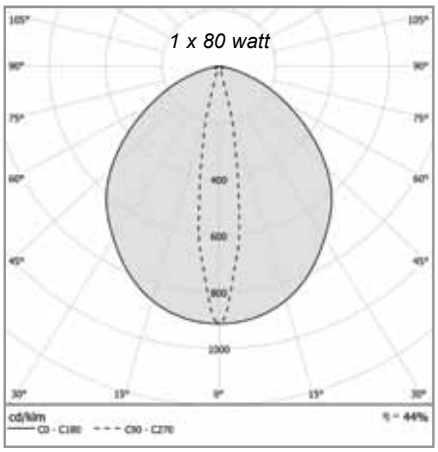
Voids

Color defects

FLO



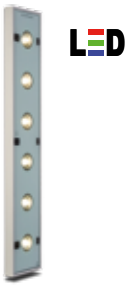
Exterior and mounting dimensions of the FLO. All data in mm.



Light distribution curve of FLO (FlatLightOptic). This chart shows the light distribution curve of an FLO with 1 x 80 watt.

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg
L209AC001	1 x 80 watt	Harting connector system	high polish	284 x 1560 x 100	approx. 18.0
L209AC002	1 x 54 watt	Harting connector system	high polish	284 x 1260 x 100	approx. 16.5

Sunlight simulation



	LEDSLO	LEDLPO	LPO
Shows the following defects and has the following special features	polishing defects, holograms, ultra-fine defects	polishing defects, holograms	polishing defects, holograms
page	38	40	42

Very low reflection level
(e.g. press plant, body shell)

Low reflection level
(e.g. KTL, fillers, grinding stations, preparation for top coat of paint)

High to very high reflection level
(e.g. top coat of paint, finish, audit)

LEDSLO - LED-SunLightOptic

LEDLPO - LED-LightPointOptic

LPO - LightPointOptic

LEDSLO - LED-SunLightOptic

SIMULATED, BRIGHT SUNLIGHT

The surface control optic LEDSLO is used for surfaces with high reflection and can be employed in all coating processes in the industry. It projects very focused, multi-point light on a surface (sunlight simulation). Ultra-fine defects are visible with LEDSLO.

Suitable for the following areas, especially in the automotive sector: topcoat preparation, finishing and audit sites

Features

Assembly (According to the design version)	▪ 6 x LED lamps (included)
LED controller	▪ Electronic, digitally dimmable
Housing	▪ Steel sheet ▪ RAL7035 powder coated
Front glass panel (lockable door)	▪ 6 mm one-panel safety glass according to EN 12150 with recessed outlet openings ▪ Frameless design
Opening	▪ 3 x quick-lock systems
Bushing	▪ Cable gland or direct clamping in junction box ▪ 3 m connection cable

Technical specifications

Permitted ambient temperature	+5°C to +35°C
Rated voltage	220-240 V, 50/60 Hz
Degree of protection	IP54
Protection class	I
UGR limit	≤19

Options

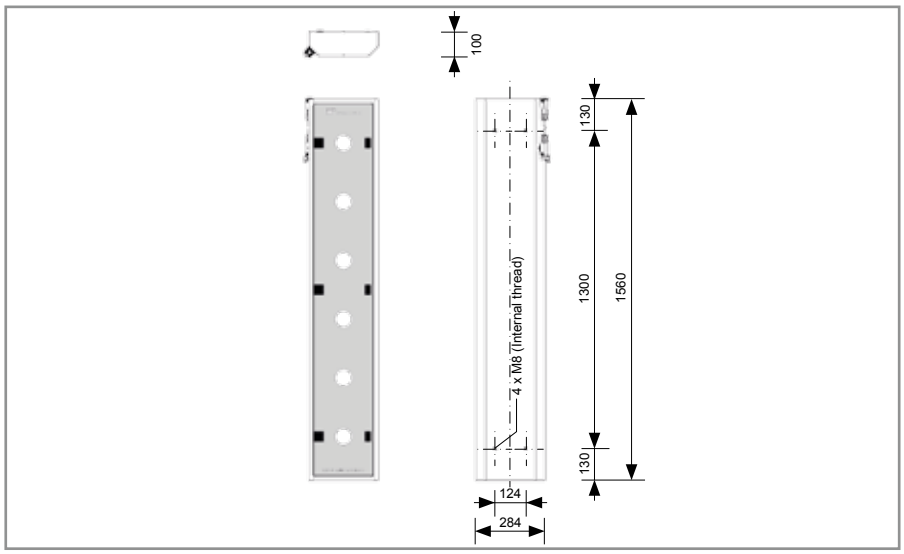
- As an attachment light
- With mobile stand
- Pivotal design version available
- Additional housing colors according to RAL

Quality criteria

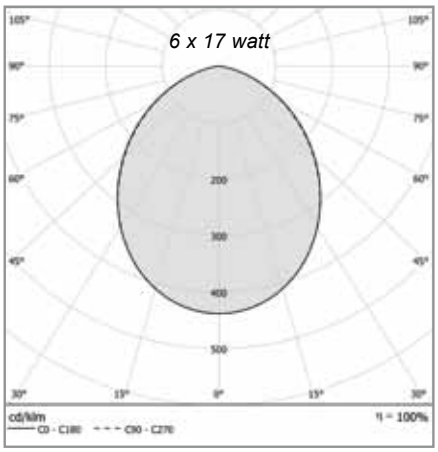
- Photobiological safety (EN 62471): Risk group 1
- LABS-free
- CE label

Polishing defects | Holograms | Ultra-fine defects

LEDSLO



Exterior and mounting dimensions of the LEDSLO. All data in mm.



Light distribution curve of LEDSLO (LED SunLightOptic). This chart shows the light distribution curve of an LEDSLO with 6 x 17 watt.

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg
L208AU302	6 x 17 watt	Harting connector system	yes	284 x 1560 x 100	approx. 20.5

LEDLPO - LED-LightPointOptic

ENERGY-EFFICIENT SIMULATED SUNLIGHT

The surface control optic LEDLPO is used for surfaces with high reflection and can be employed in all coating processes in the industry. It projects very focused, multi-point light on a surface (sunlight simulation). Possible surface defects and holograms are more visible.

Suitable for the following areas, especially in the automotive sector: topcoat preparation, finishing and audit sites

Features

Assembly (According to the design version)	▪ 6 x LED lamps (included)
LED controller	▪ Electronic, digitally dimmable
Optic	▪ Parabolic optics with aluminum reflectors
Housing	▪ Steel sheet ▪ RAL7035 powder coated
Front glass panel (lockable door)	▪ 6 mm one-panel safety glass according to EN 12150 with recessed outlet openings ▪ Frameless design
Opening	▪ 3 x quick-lock systems
Bushing	▪ Cable gland or direct clamping in junction box ▪ 3 m connection cable

Technical specifications

Permitted ambient temperature	+5°C to +35°C
Rated voltage	220-240 V, 50/60 Hz
Degree of protection	IP54
Protection class	I
UGR limit	≤16

Options

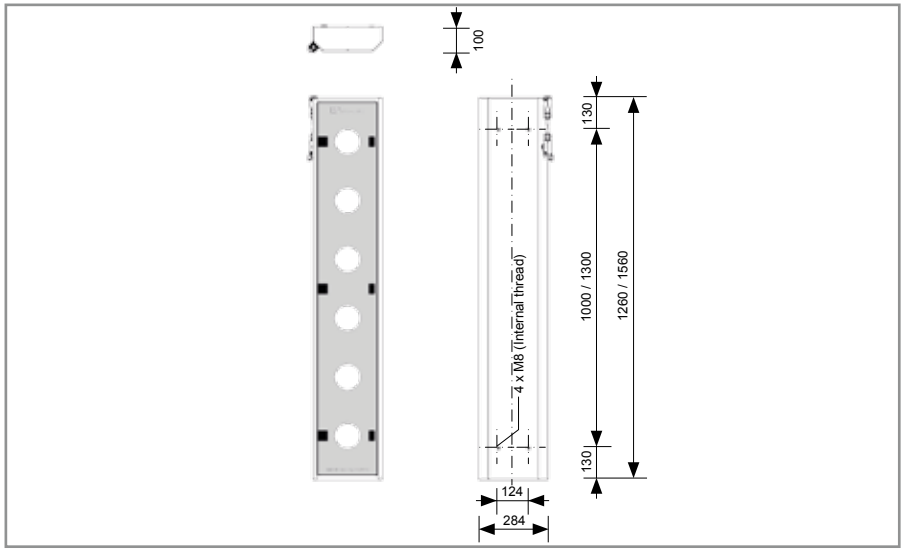
- As an attachment light
- With mobile stand
- Pivotal design version available
- Additional housing colors according to RAL

Quality criteria

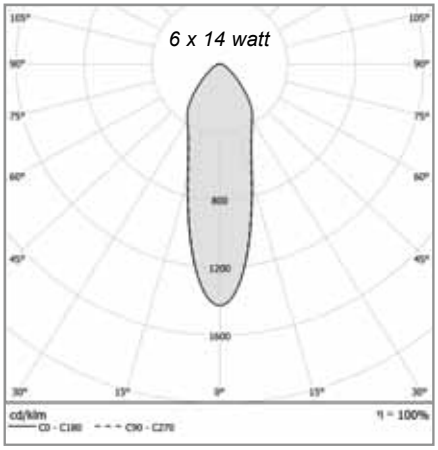
- Photobiological safety (EN 62471): Risk group 1
- LABS-free
- CE label

Polishing defects | Holograms | Ultra-fine defects

LEDLPO



Exterior and mounting dimensions of the LEDLPO. All data in mm.



Light distribution curve of LEDLPO (LED LightPointOptic). This chart shows the light distribution curve of an LEDLPO with 6 x 14 watt.

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg
L208AT003	5 x 14 watt	Harting connector system	yes	284 x 1260 x 100	approx. 21.5
L208AU001	6 x 14 watt	Harting connector system	yes	284 x 1560 x 100	approx. 23.0

LPO - LightPointOptic

SIMULATED SUNLIGHT FOR INSPECTION AND PROCESSING

The surface control optic LPO is used for surfaces with high reflection and can be employed in all coating processes in the industry. It projects very focused, multi-point light on a surface (sunlight simulation). Possible surface defects and holograms are more visible.

Suitable for the following areas, especially in the automotive sector: topcoat preparation, finishing and audit sites

≤7 UGR CE LABS FREE

Features

Assembly (According to the design version)	▪ 6 x Halogen lamp (included)
Ballast	▪ Electronic
Optic	▪ Parabolic optics with aluminum reflectors
Housing	▪ Steel sheet ▪ RAL7035 powder coated
Front glass panel (lockable door)	▪ 6 mm one-panel safety glass according to EN 12150 with recessed outlet openings ▪ Frameless design
Opening	▪ 3 x quick-lock systems
Bushing	▪ Cable gland or direct clamping in junction box ▪ 3 m connection cable

Technical specifications

Permitted ambient temperature	+5°C to +35°C
Rated voltage	220-240 V, 50/60 Hz
Degree of protection	IP54
Protection class	I
UGR limit	≤7

Options

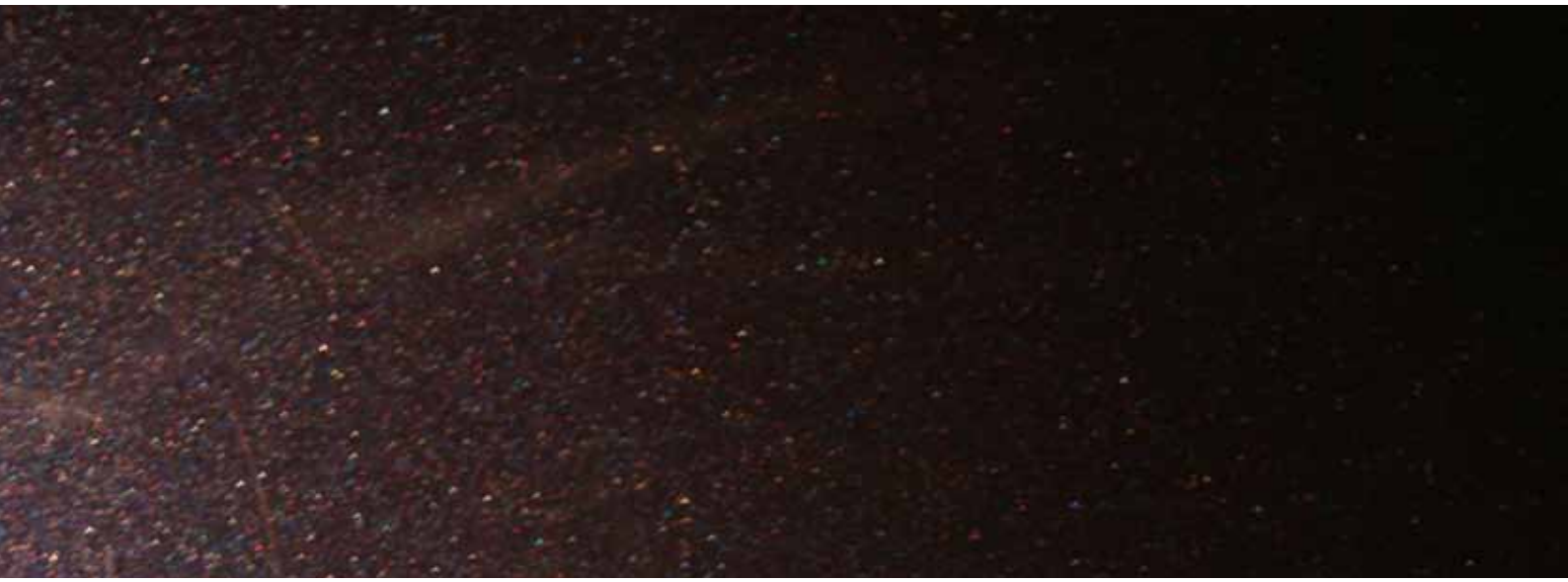
- As an attachment light
- With mobile stand
- Pivotal design version available
- Additional housing colors according to RAL

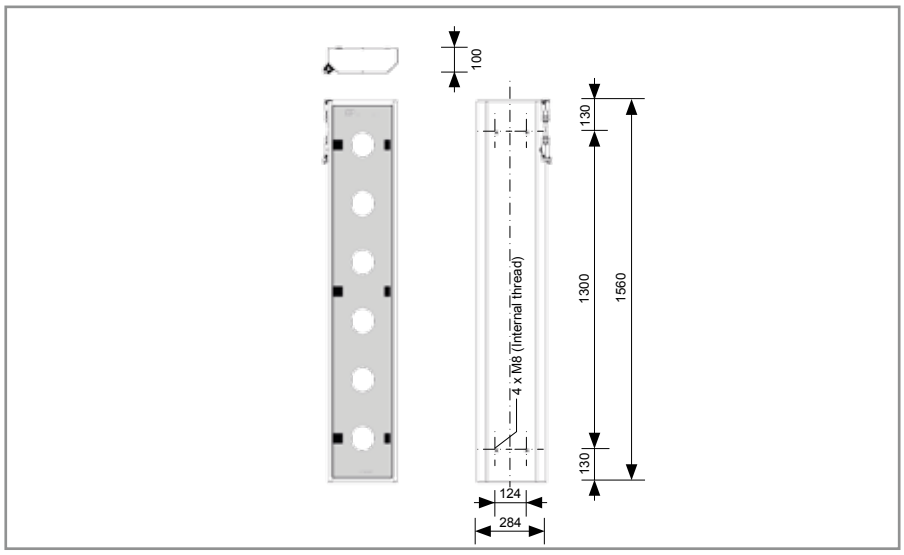
Quality criteria

- Photobiological safety (EN 62471): Risk group 1
- LABS-free
- CE label

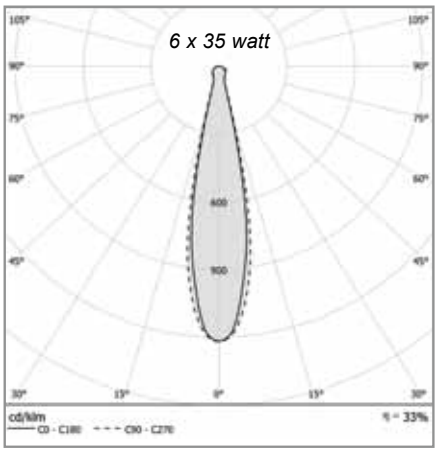
Polishing defects | Holograms | Ultra-fine defects

LPO





Exterior and mounting dimensions of the LPO. All data in mm.



Light distribution curve of LPO (LightPoint-Optic). This chart shows the light distribution curve of an LPO with 6 x 35 watt.

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg
L208AC005	6 x 35 watt	Harting connector system	no	284 x 1560 x 100	approx. 21.5
L208AM009	6 x 65 watt	Harting connector system	yes	284 x 1560 x 100	approx. 24.5

Color matching

	CCO
Features	Color matching
Shows the following defects and has the following special features	Color differences
page	46

Very low reflection level (e.g. press plant, body shell)	Low reflection level (e.g. KTL, fillers, grinding stations, preparation for top coat of paint)	High to very high reflection level (e.g. top coat of paint, finish, audit)
		CCO - ColorControlOptic

CCO - ColorControlOptic

STANDARDIZED LIGHT FOR DETECTING COLOR VARIATIONS

The CCO is used for color matching of painted surfaces. It can be used to simulate virtually all daylight situations, which enable color various of different components to become visible. Color control optic complies with DIN EN 60598-1 / 60598-2-1 and underwent BAM testing according to DIN 6173.
It is used in color matching booths, especially in the automotive sector. However, it is also used in color matching light laboratories, color matching tabletop booths and individual workstations.

Features

Assembly (According to the design version)	▪ 8 x luminescent lamps (included) ▪ 4 x 2,700 K, 4 x 6,500 K
Ballast	▪ Electronic, digitally dimmable
Optic	▪ 1 x frequency-neutral diffuser ▪ 1 x symmetrical large area reflector ▪ 1 x prism mixed light optics ▪ 2 x specially coated colored reflectors for adapting to the neutral spectrum on the windshield
Housing	▪ Steel sheet ▪ RAL7035 powder coated
Front glass panel (lockable door)	▪ 4 mm one-panel safety glass according to EN 12150 ▪ In door frame
Opening	▪ 3 x quick-lock systems
Bushing	▪ Cable gland or direct clamping in junction box ▪ 4 m connection cable

Technical specifications

Permitted ambient temperature	+5°C to +35°C
Rated voltage	220-240 V, 50/60 Hz
Degree of protection	IP54
Protection class	I
UGR limit	≤16

Options

- With mobile stand
- Additional lamp color temperatures
- Additional housing colors according to RAL

Quality criteria

- Photobiological safety (EN 62471): Risk group 0
- LABS-free
- CE label
- ENEC certification
- EAC certification

Blisters, bubbles

Dents

Pits

Scratches

Orange peel


Paint runs

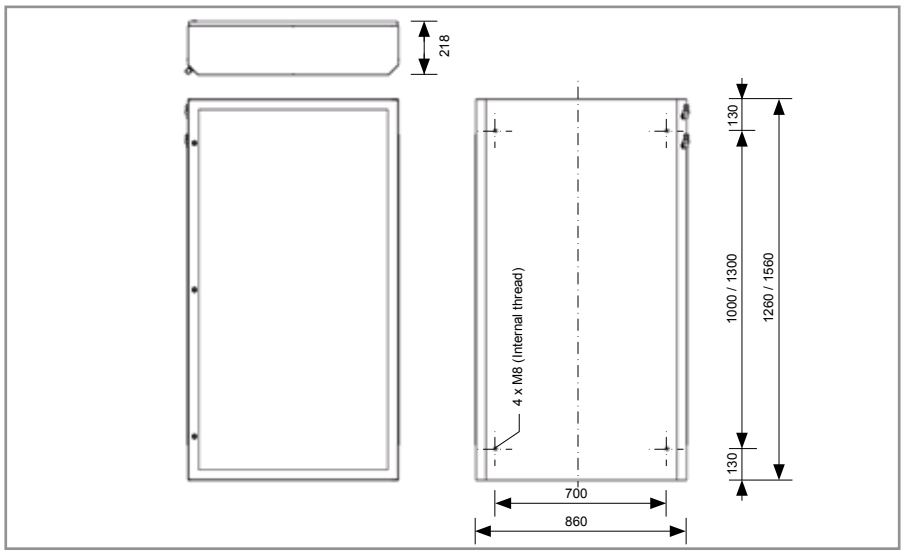

Paint defects


Dirt

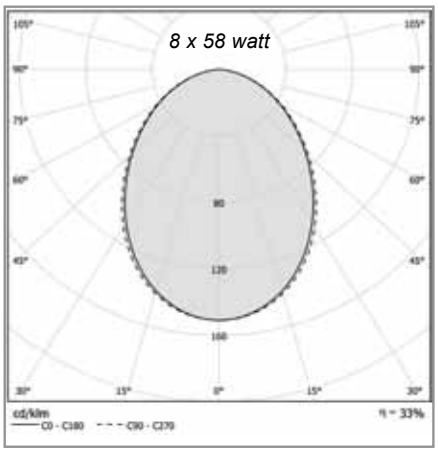
Voids


Color defects

CCO



Exterior and mounting dimensions of the CCO. All data in mm.



Light distribution curve of CCO (Color-ControlOptic). This chart shows the light distribution curve of a CCO with 8 x 58 watt.

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg
L205AC001-14	8 x 58 watt	Cable gland	with	860 x 1560 x 218	approx. 60.5
L205AC002-14	8 x 36 watt	Cable gland	with	860 x 1260 x 218	approx. 57.5

Workplace illumination

	ARO PM	ARO	OCO
Features	asymmetric lighting with LED technology	asymmetric lighting	homogeneous lighting
page	50	52	54

Very low reflection level
(e.g. press plant, body shell)

Low reflection level
(e.g. KTL, fillers, grinding stations, preparation for top coat of paint)

High to very high reflection level
(e.g. top coat of paint, finish, audit)

ARO PM - ARO puremaxLED®

ARO - AsymmetricReflexOptic

OCO - OpalControlOptic

ARO - ARO puremaxLED®

ASYMMETRICAL LED LIGHT FOR AMPLE ILLUMINATION

The ARO PM is used for surfaces with high reflection and is optimally suited for use in paint booths without explosion protection requirements.

Particularly in the automotive sector, it is suitable for: paint booths, topcoat preparation and other areas...

Features

Assembly (According to the design version)	▪ 3 x LED lamps (included) ▪ 3 x 6,500 K
Ballast	▪ Electronic, digitally dimmable
Optic	▪ 3 x asymmetrical reflectors
Housing	▪ Steel sheet ▪ RAL7035 powder coated
Front glass panel (lockable door)	▪ 6 mm one-panel safety glass according to EN 12150 ▪ Frameless design
Opening	▪ 3 x quick-lock systems
Bushing	▪ Harting plug system or direct clamping in junction box ▪ 3 m connection cable

Technical specifications

Permitted ambient temperature	+5°C to +35°C
Rated voltage	220-240 V, 50/60 Hz
Degree of protection	IP54
Protection class	I
UGR limit	--

Options

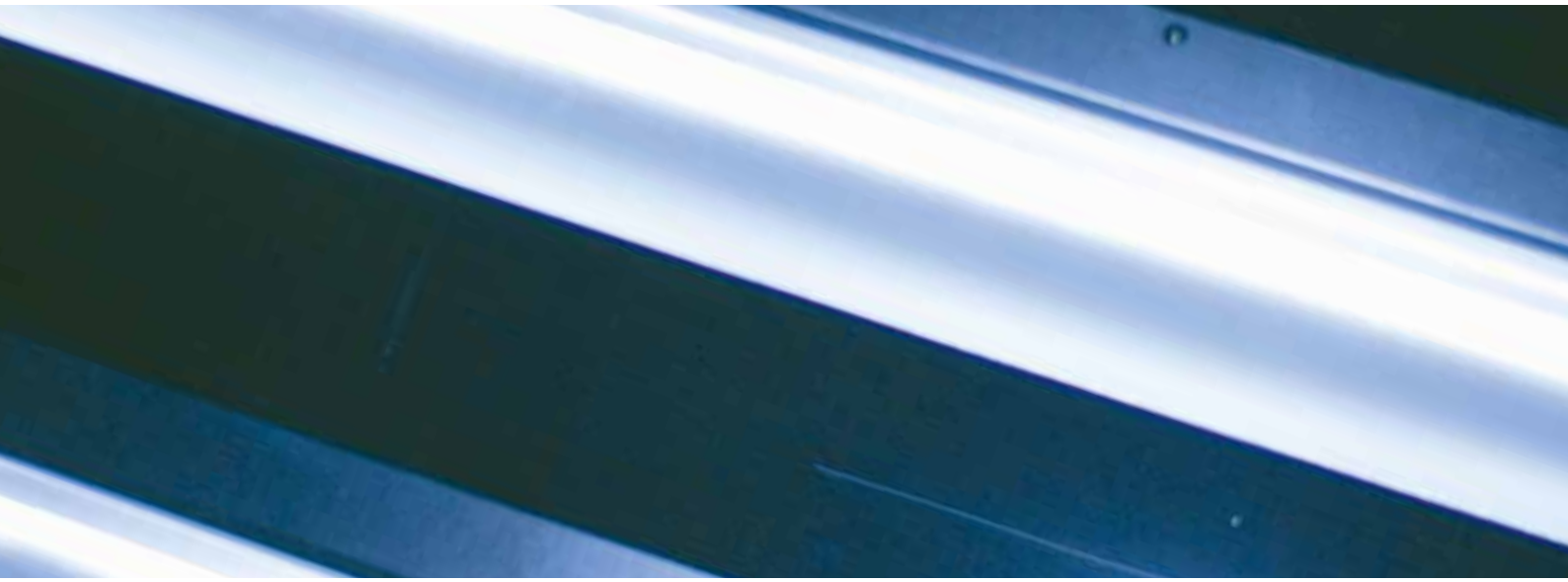
- With installation frame
- With mobile stand
- Additional lamp color temperatures
- Additional housing colors according to RAL
- Connection cable in other lengths

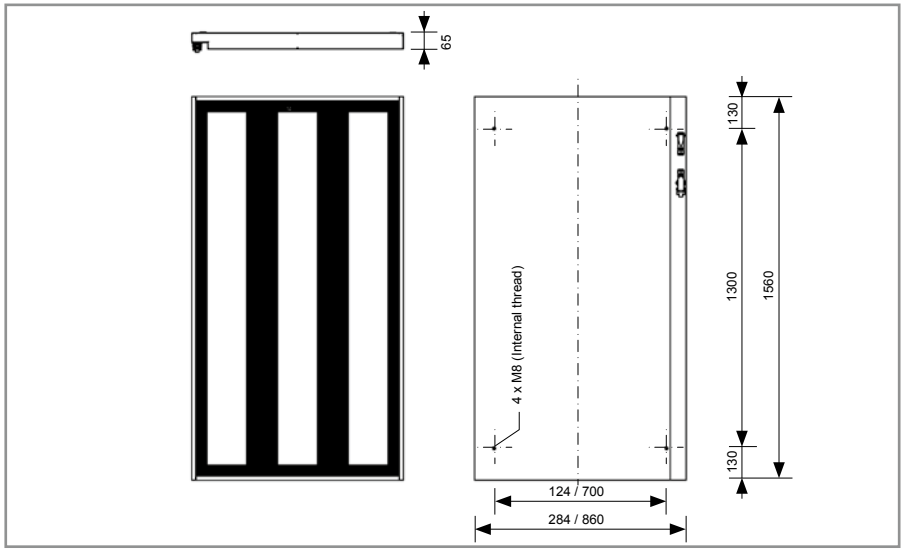
Quality criteria

- Photobiological safety (EN 62471): Risk group 1
- LABS-free
- CE label
- ENEC certification
- EAC certification

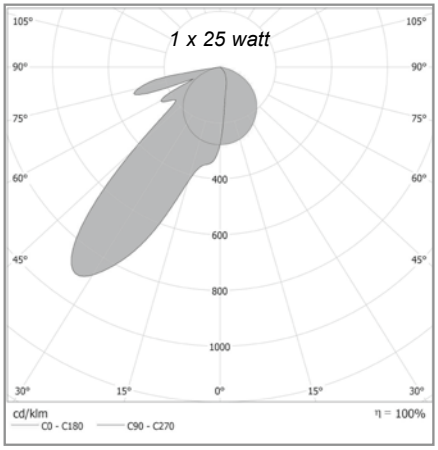
Asymmetrical Homogenous

ARO PM





Exterior and mounting dimensions of the ARO PM. All data in mm.



Light distribution curve of ARO PM (ARO puremaxLED®). This chart shows the light distribution curve of an ARO PM with 1 x 25 watt.

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg
L603LD301	3 x 25 watt	Harting connector system	high polish	860 x 1560 x 65	
L603LD321	1 x 25 watt	Harting connector system	high polish	284 x 1560 x 65	approx. 18.0

ARO - AsymmetricReflexOptic

ASYMMETRICAL LIGHT FOR AMPLE ILLUMINATION

The ARO is used for surfaces with high reflection and is optimally suited for use in paint booths without explosion protection requirements.

Particularly in the automotive sector, it is suitable for: paint booths, topcoat preparation and other areas...

Features

Assembly (According to the design version)	▪ 3 x luminescent lamps (included) ▪ 3 x 6,500 K
Ballast	▪ Electronic, digitally dimmable
Optic	▪ 3 x asymmetrical reflectors ▪ Reflector chambers separated with regards to light
Housing	▪ Steel sheet ▪ RAL7035 powder coated
Front glass panel (lockable door)	▪ 6 mm one-panel safety glass according to EN 12150 ▪ Frameless design
Opening	▪ 3 x quick-lock systems
Bushing	▪ Harting plug system or direct clamping in junction box ▪ 3 m connection cable

Technical specifications

Permitted ambient temperature	+5°C to +35°C
Rated voltage	220-240 V, 50/60 Hz
Degree of protection	IP54
Protection class	I
UGR limit	--

Options

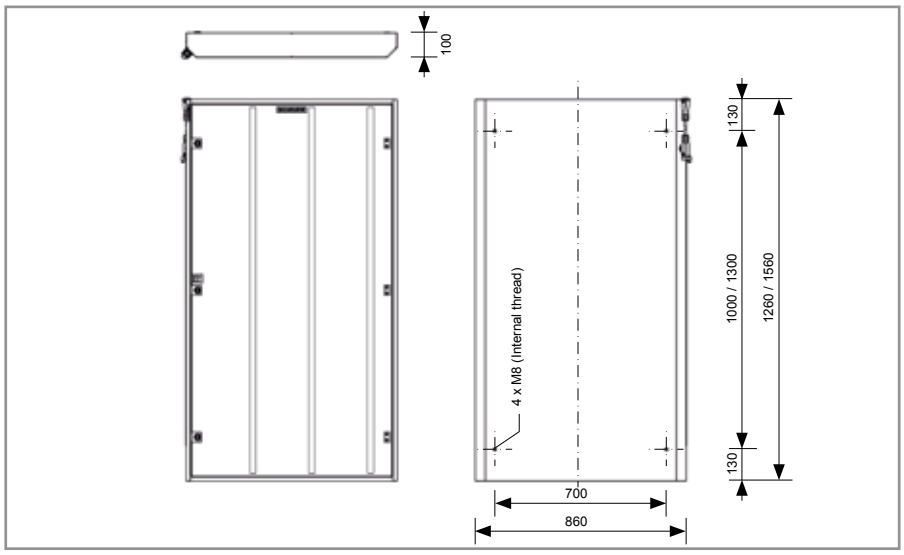
- With installation frame
- With mobile stand
- Additional lamp color temperatures
- Additional housing colors according to RAL
- Connection cable in other lengths

Quality criteria

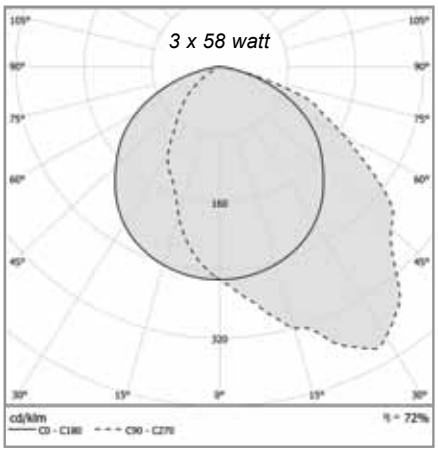
- Photobiological safety (EN 62471): Risk group 0
- LABS-free
- CE label
- ENEC certification
- EAC certification

Asymmetrical Homogenous

ARO



Exterior dimensions and mounting dimensions of ARO. All data in mm.



Light distribution curve of ARO (Asymmetric-ReflexOptic). This chart shows the light distribution curve of an ARO with 3 x 58 watt.

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg
L201AC030	3 x 58 watt	Harting connector system	high polish	860 x 1560 x 100	approx. 44.5
L201AC031	3 x 36 watt	Harting connector system	high polish	860 x 1260 x 100	approx. 37.0
L201AC032	3 x 80 watt	Harting connector system	high polish	860 x 1560 x 100	approx. 45.0
L201AC033	3 x 54 watt	Harting connector system	high polish	860 x 1260 x 100	approx. 37.5

*Additional design versions on page 77

OCO - OpalControlOptic

UNIFORM SURFACE ILLUMINATION

The OCO is used for controlling surfaces with high reflection and for uniformly illuminating surfaces.

Particularly in the automotive sector, it is suitable for: topcoat areas and assembly areas as well as individual workstations and other areas...

Features

Assembly (According to the design version)	▪ 3 x luminescent lamps (included) ▪ 3 x 6,500 K
Ballast	▪ Electronic, digitally dimmable
Optic	--
Housing	▪ Steel sheet ▪ RAL9010 powder coated
Front glass panel (lockable door)	▪ Opal glass ▪ 6 mm one-panel safety glass according to EN 12150 ▪ Frameless design
Opening	▪ 3 x quick-lock systems
Bushing	▪ Cable gland or direct clamping in junction box ▪ 3 m connection cable

Technical specifications

Permitted ambient temperature	+5°C to +35°C
Rated voltage	220-240 V, 50/60 Hz
Degree of protection	IP54
Protection class	I
UGR limit	≤15

Options

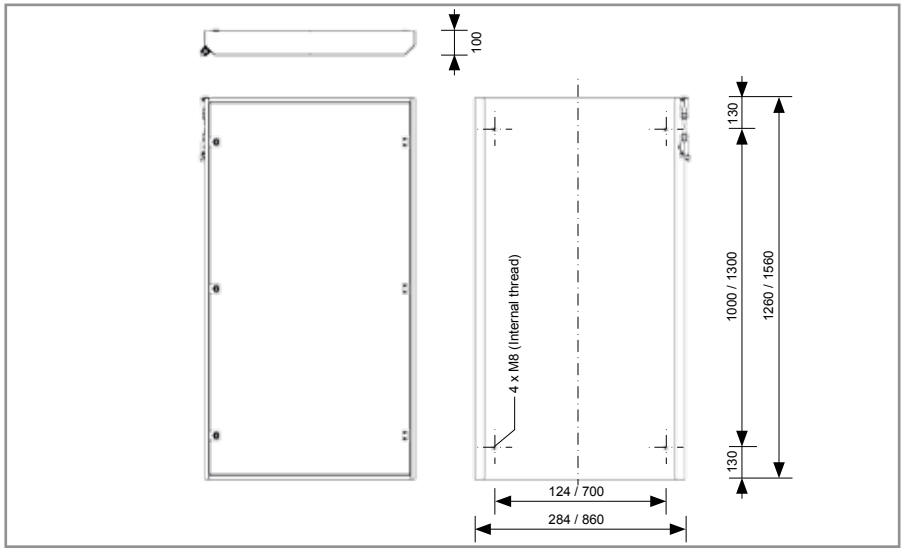
- With installation frame
- With mobile stand
- Additional lamp color temperatures
- Additional housing colors according to RAL
- Connection cable in other lengths

Quality criteria

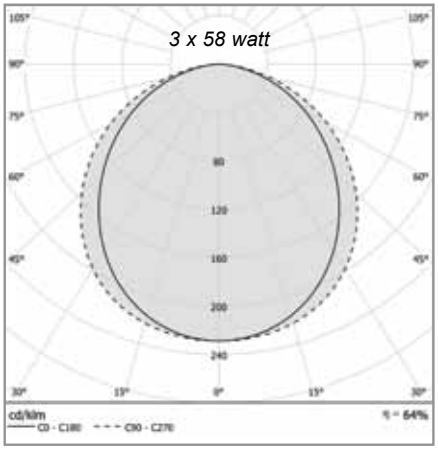
- Photobiological safety (EN 62471): Risk group 0
- LABS-free
- CE label
- ENEC certification
- EAC certification

Asymmetrical Homogenous

OCO



Exterior and mounting dimensions of the OCO. All data in mm.



Light distribution curve of OCO (Opal-ControlOptic). This chart shows the light distribution curve of an OCO with 3 x 58 watt.

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg
L102AC001	3 x 58 watt	Harting connector system	none	860 x 1560 x 100	approx. 40.0
L102AC003	3 x 36 watt	Harting connector system	none	860 x 1260 x 100	approx. 33.5

*Additional design versions on page 77

AST*alpha*

Features	Automatic controller with touchscreen
page	**58**

Controllers and accessories

					
HAST *alpha*	**HAST2.0**	**HST1.2**	**HAFST *alpha***	**HAFST2.0**	**Expansion module**
Semiautomatic controller with touchscreen	Semiautomatic controller	Manual controller	Semiautomatic color controller with touchscreen	Semiautomatic color controller	Expansion module for the AST *alpha* for more fixture rings
60	**62**	**64**	**66**	**68**	**70**

AST*alpha* - Automatic controller

FULLY AUTOMATIC BRIGHTNESS CONTROL OF LIGHTING SYSTEMS

The AST*alpha* with touchscreen is the latest generation of automatic controllers from OLIGO Lichttechnik GmbH – surface controls. It can be operated directly via the TFT touchscreen display. Equipped with a special sensor, surface brightness and band speed are detected and the lighting is adjusted automatically.

AST*alpha* is used in: audit sites, light booths, light tunnels and other areas

Features

Display	▪ 10.1“ VGA TFT display ▪ With fully integrated touchscreen
Interfaces	▪ 1 x Powerlink ▪ 1 x Ethernet 10/100 Mbit/s ▪ 2 x X2X Link Master ▪ 2 x USB 2.0
Outputs	▪ 24 DSI outputs (expandable to max. 72) ▪ Control up to 840 surface control optics

Technical specifications

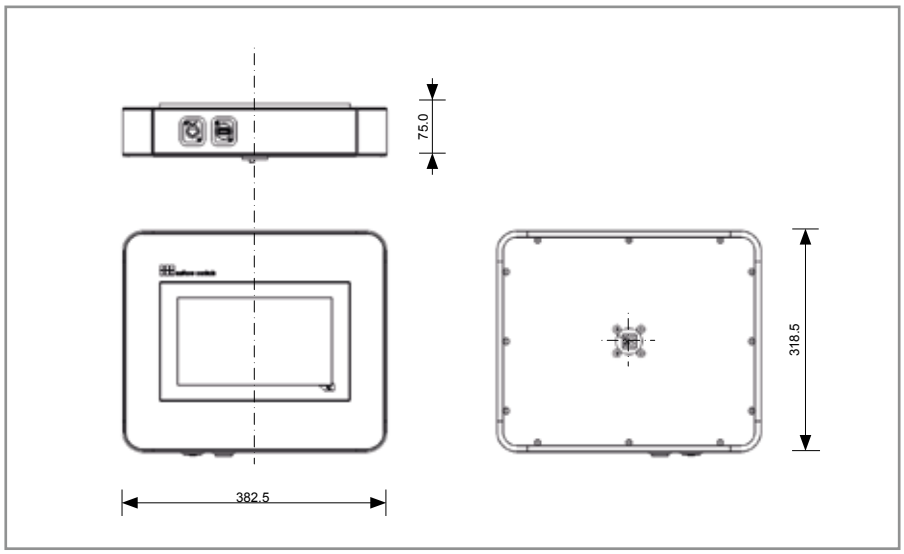
Permitted ambient temperature	+5°C to +35°C
Supply voltage	▪ Controller: 24 V DC ▪ Junction box: 100-240 V AC
Power consumption	20 watt
Frequency	50-60 Hz
Degree of protection	▪ Controller: IP54 ▪ Junction box: IP54
Protection class	I

Special information

- Fully automatic adjustment of the lighting intensity
- Easy and convenient to operate
- Minimal wiring
- Selection of various menu languages
- Automatic error code and error display

Quality criteria

- LABS-free
- CE label
- EAC certification
- Protected against shortcircuits and overload



Exterior and mounting dimensions AST*alpha*. *All data in mm.*

System components

- Automatic controller
- Junction box of the controller
- Brightness attachment
- Junction box for the brightness attachement
- Ultrasound sensor

Optional accessory

- Expansion module

Order number	System components	Dimensions in mm (WxHxD)	Housing material	Weight in kg
M307AS001AZ-EN	Automatic controller with touch-screen and analog band signal	382.5 x 318.5 x 75.0	Stainless steel	approx. 5.9
	incl. junction box of the controller	400 x 400 x 120	Steel sheet, RAL7035 powder coated	approx. 8.5
	incl. brightness attachment	300 x 150 x 80	Steel sheet, RAL7035 powder coated	approx. 3.6
	incl. junction box of the brightness attachment	400 x 200 x 120	Steel sheet, RAL7035 powder coated	approx. 3.6
	incl. ultrasound sensor	80 x 80 x 34	Acrylonitrile butadiene styrene (ABS)	approx. 0.2

HAST*alpha* - Semiautomatic controller

SEMIAUTOMATIC BRIGHTNESS CONTROL OF LIGHTING SYSTEMS

The HAST*alpha* with touchscreen is the latest generation of semiautomatic controllers from OLIGO Lichttechnik GmbH – surface controls. It can be operated directly via the TFT touchscreen display. With the touch of a finger, individual light groups in lighting systems can be created and light scenarios custom programmed.

HAST*alpha* is used in: audit sites, light booths, light tunnels, individual workstations and other areas...

Features

Display	▪ 10.1“ VGA TFT display ▪ With fully integrated touchscreen
Interfaces	▪ 1 x Powerlink ▪ 1 x Ethernet 10/100 Mbit/s ▪ 2 x X2X Link Master ▪ 2 x USB 2.0
Outputs	▪ 24 DSI outputs (70 elec. ballasts per channel) ▪ Control up to 840 surface control optics

Technical specifications

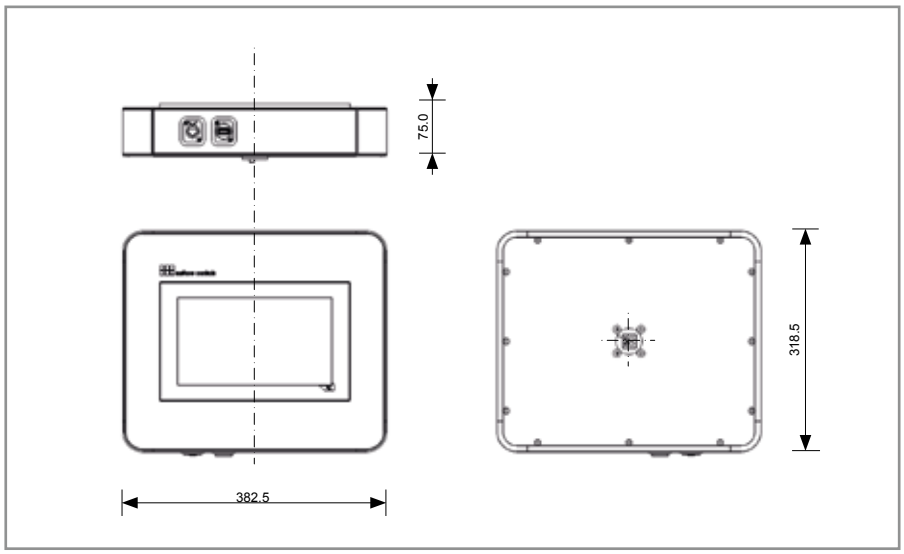
Permitted ambient temperature	+5°C to +35°C
Supply voltage	▪ Controller: 24 V DC ▪ Junction box: 100-240 V AC
Power consumption	20 watt
Frequency	50-60 Hz
Degree of protection	▪ Controller: IP54 ▪ Junction box: IP54
Protection class	I

Special information

- Easy and convenient to operate
- Minimal wiring
- Selection of various menu languages
- Automatic error code and error display

Quality criteria

- LABS-free
- CE label
- EAC certification
- Protected against shortcircuits and overload



Exterior and mounting dimensions of the HAST*alpha*. *All data in mm.*

System components

- Semiautomatic controller
- Junction box of the controller

Order number	System components	Dimensions in mm (WxHxD)	Housing material	Weight in kg
M307HA001AZ-EN	Semiautomatic controller with touchscreen	382.5 x 318.5 x 75.0	Stainless steel	approx. 5.9
	incl. junction box of the controller	400 x 400 x 120	Steel sheet, RAL7035 powder coated	approx. 8.5

HAST2.0 - Semiautomatic controller

SIMPLE PROGRAMMING OF LIGHT GROUPS AND LIGHT SCENARIOS

OLIGO surface control optics can be controlled using the semiautomatic controller HAST2.0. It enables the coordination of light scenarios and programmed light groups. The controller features function keys that can be specially assigned as well as a four-line, alphanumeric display for viewing status information (performance, energy, operating hours).
HAST2.0 is used in: audit sites, light booths, light tunnels, individual workstations and other areas...

Features

Display	▪ 4-line alphanumeric display ▪ 4 x 20 character LC display
Interfaces	▪ 1 x RS232
Outputs	▪ 14 DSI outputs (70 elec. ballasts per channel) ▪ Control up to 490 surface control optics
Inputs	▪ 4 digital inputs (Umax = 24 V) ▪ 6 analog inputs

Technical specifications

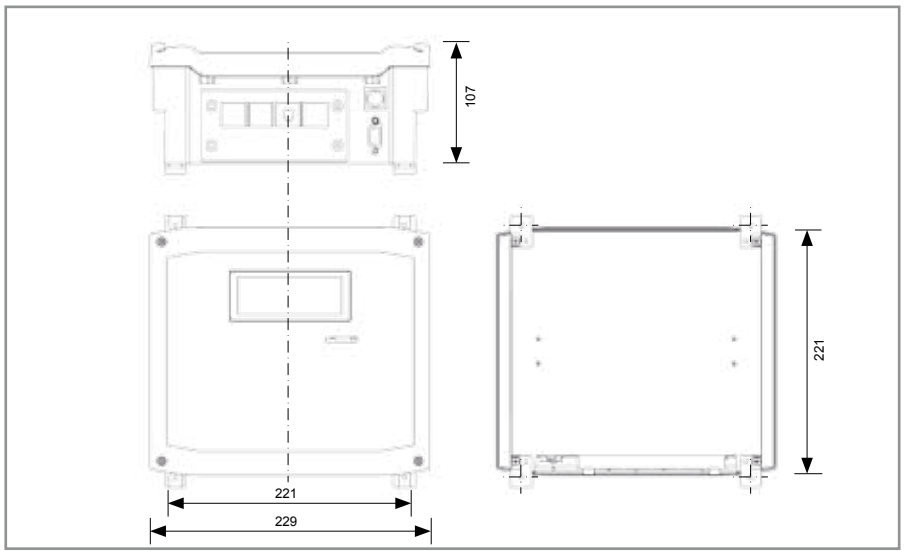
Permitted ambient temperature	+5°C to +35°C
Supply voltage	▪ Controller: 15 V DC ▪ Junction box: 100-240 V AC
Power consumption	10 watt
Frequency	50-60 Hz
Degree of protection	IP54
Protection class	I

Special information

- Easy and convenient to operate
- Minimal wiring
- Easy connection to remote control modules
- System expansion possible with system bus module
- Selection of various menu languages: DE, EN, FR

Quality criteria

- LABS-free
- CE label
- EAC certification
- Protected against shortcircuits and overload



Exterior and mounting dimensions of the HAST2.0. All data in mm.

System components

- Semiautomatic controller
- Junction box of the controller

Optional accessory

- Radio remote control

Order number	System components	Dimensions in mm (WxHxD)	Housing material	Weight in kg
M301HA001AZ-EN	Semiautomatic controller	229 x 221 x 107	Plastic	approx. 1.0
	incl. junction box of the controller	300 x 200 x 120	Steel sheet, RAL7035 powder coated	approx. 3.6

HST1.2 - Manual controller

INTUITIVE, MANUAL DIMMING

The hand controller HST1.2 is used to manually control OLIGO surface control optics. All common surface control optics can be controlled via a dial with a large, clearly legible scale.

HST1.2 is used in: short line areas, audit sites, light booths, light tunnels, individual workstations, moveable stands and other areas...

Features

Display	▪ Scale 0 - 100%
Interfaces	--
Outputs	▪ 4 DSI outputs (70 elec. ballasts per channel) ▪ Control up to 140 surface control optics
Inputs	--

Technical specifications

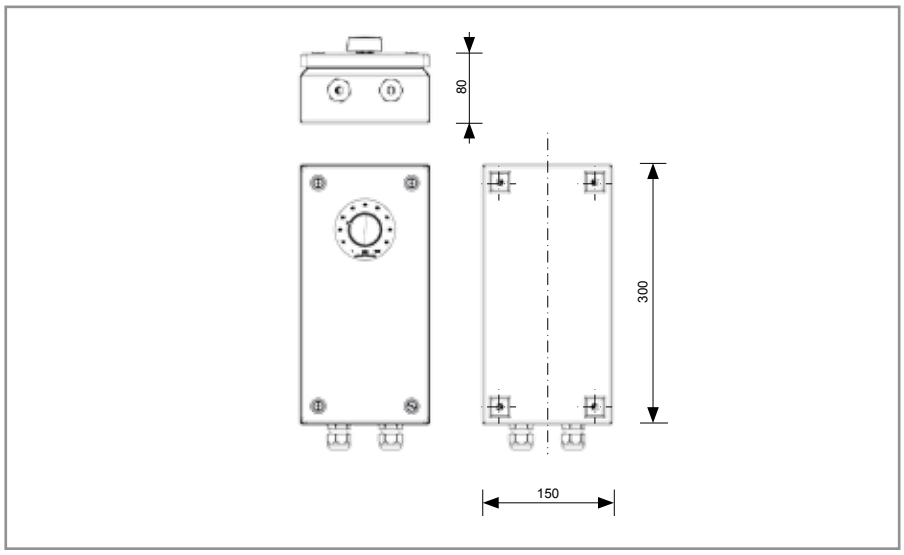
Permitted ambient temperature	+5°C to +35°C
Supply voltage	85-264 V AC
Power consumption	5 watt
Frequency	50-60 Hz
Degree of protection	IP54
Protection class	I

Special information

- Easy and convenient to operate
- Minimal wiring

Quality criteria

- LABS-free
- CE label
- EAC certification
- Protected against short-circuits



Exterior and mounting dimensions of the HST1.2. All data in mm.

System components

- Manual controller

Order number	System components	Dimensions in mm (WxHxD)	Housing material	Weight in kg
M301HD001AZ	Manual controller, DSI	150 x 300 x 80	Steel sheet, RAL7035 powder coated	approx. 2.4

HAFST*alpha* - Semiautomatic color controller

CONTROL INDIVIDUAL LIGHT GROUPS VIA A TOUCHSCREEN

The HAFST*alpha* is the latest generation of semiautomatic color controllers from OLIGO Lichttechnik GmbH – surface controls. Light scenarios and light groups can be quickly and conveniently programmed via a TFT touchscreen display. A large overview display of the color matching booth visualizes the settings made.

The HAFST*alpha* iis used in: color matching booths, color matching tabletop booths, color matching light laboratories

Features

Display	▪ 15.6“ Full-HD TFT display ▪ With fully integrated touchscreen
Interfaces	▪ 2 x Ethernet 10/100/1000
Outputs	▪ 24 DSI outputs ▪ Control of up to 420 color control optics
Inputs	--

Technical specifications

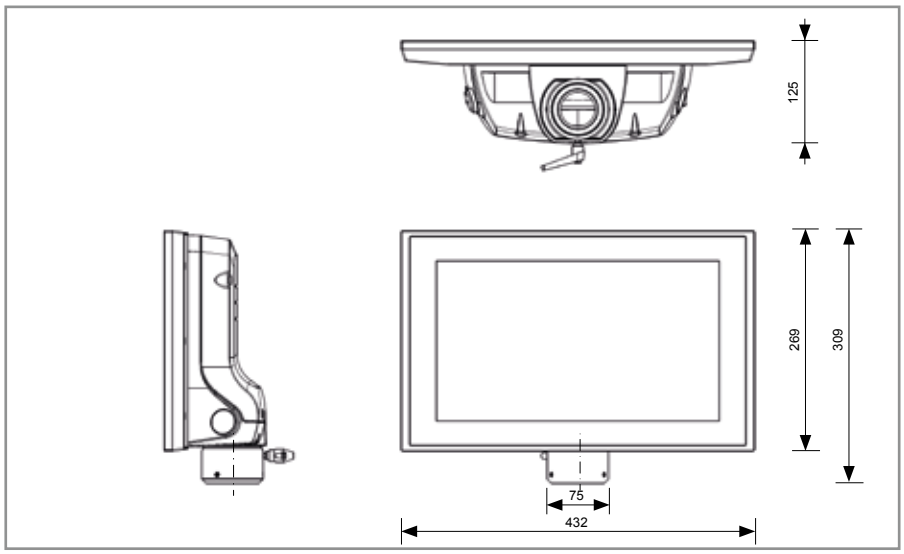
Permitted ambient temperature	+5°C to +35°C
Supply voltage	▪ Controller: 24 V DC ▪ Junction box: 100-240 V AC
Power consumption	50 watt
Frequency	50-60 Hz
Degree of protection	▪ Controller: IP65 ▪ Junction box: IP54
Protection class	I

Special information

- Easy and convenient to operate
- Minimal wiring
- Selection of various menu languages

Quality criteria

- LABS-free
- CE label
- EAC certification
- Protected against shortcircuits and overload



Exterior and mounting dimensions of the HAFST*alpha*. *All data in mm.*

System components

- Semiautomatic color controller
- Junction box of the controller
- Support arm system

Optional accessory

- Radio remote control

Order number	System components	Dimensions in mm (WxHxD)	Housing material	Weight in kg
M308HA001AZ-EN	Semiautomatic color controller with touchscreen	432 x 309 x 125	Aluminum, Painting: white aluminum (similar to RAL9006)	approx. 5.3
	incl. junction box of the controller	400 x 400 x 120	Steel sheet, RAL7035 powder coated	approx. 8.5
	incl. support arm system			

HAFST2.0 - Semiautomatic color controller

CONTROL LIGHT GROUPS WITH DIFFERENT LIGHT COLORS

The semiautomatic color controller HAFST2.0 can be used to manually control programmed light scenarios with different color temperatures. Light scenarios can be programmed or retrieved on site with the help of the semiautomatic color controller.

The HAFST2.0 is used in: color matching booths, color matching tabletop booths, color matching light laboratories, short line areas with MultiReflexOptics

Features

Display	▪ 4-line alphanumeric display ▪ 4 x 20 character LC display
Interfaces	▪ 1 x RS232
Outputs	▪ 14 DSI outputs ▪ 2 digital outputs (low side) ▪ Control of up to 245 color control optics
Inputs	▪ 4 digital inputs (Umax = 24 V)

Technical specifications

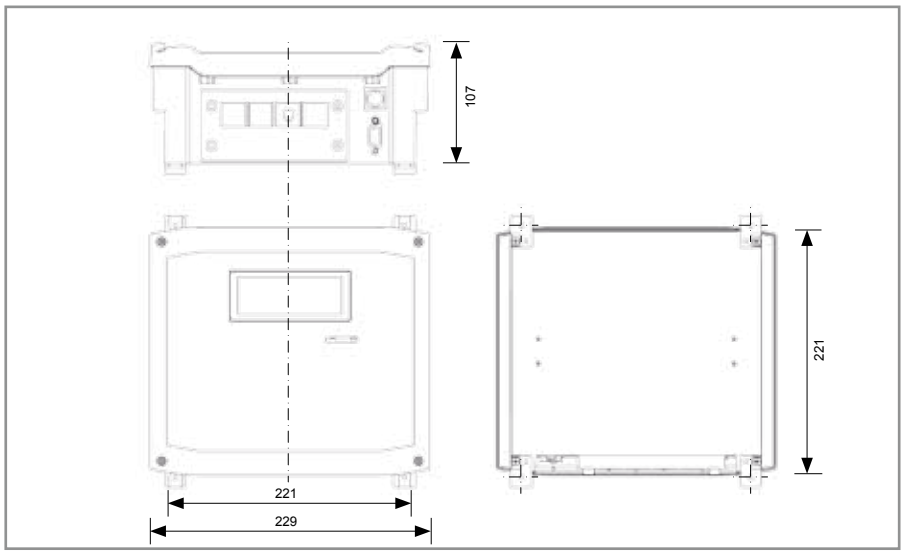
Permitted ambient temperature	+5°C to +35°C
Supply voltage	▪ Controller: 15 V DC ▪ Junction box: 100-240 V AC
Power consumption	10 watt
Frequency	50-60 Hz
Degree of protection	IP54
Protection class	I

Special information

- Easy and convenient to operate
- Minimal wiring
- Easy connection to remote control modules
- Setting fixed color temperatures according to DIN 6173 part 2 possible
- Selection of various menu languages: DE, EN, FR

Quality criteria

- LABS-free
- CE label
- EAC certification
- Protected against shortcircuits and overload



Exterior and mounting dimensions of the HAFST2.0. All data in mm.

System components

- Semiautomatic color controller
- Junction box of the controller

Optional accessory

- Radio remote control

Order number	System components	Dimensions in mm (WxHxD)	Housing material	Weight in kg
M302HA001AZ-EN	Semiautomatic color controller	229 x 221 x 107	Plastic	approx. 1.0
	incl. junction box of the controller	300 x 200 x 120	Steel sheet, RAL7035 powder coated	approx. 3.6

Expansion module

MORE FIXTURE RINGS, MORE CONTROL

The expansion module is available as an accessory for the automatic controller AST*alpha*. It can be used to control up to 24 additional fixture rings. However, a maximum of 2 expansion modules can be installed per controller (72 fixture rings).

The expansion module is used in: light tunnels

Features

Outputs	▪ 24 DSI outputs (70 elec. ballasts per channel) ▪ Control up to 840 surface control optics
Inputs	--

Special information

- Minimal wiring

Technical specifications

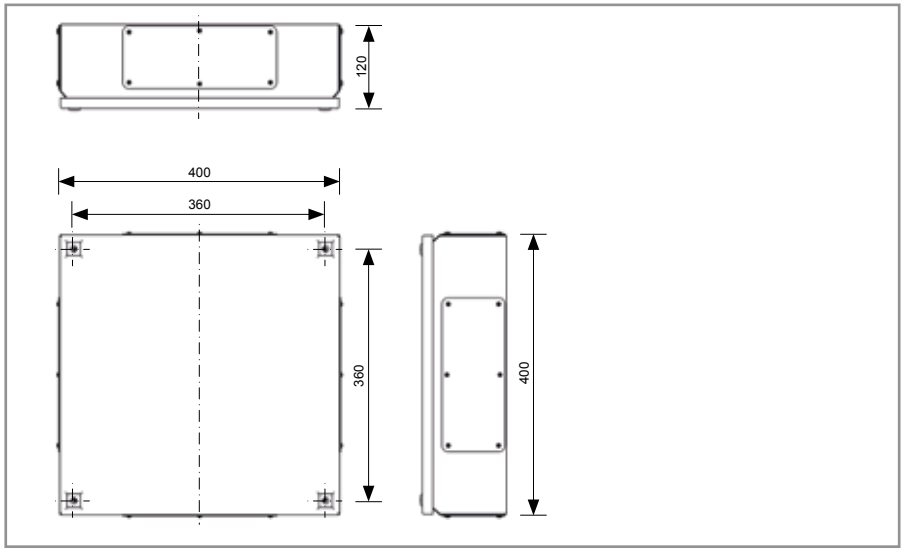
Permitted ambient temperature	+5°C to +35°C
Supply voltage	220-240 V AC
Power consumption	10 watt
Frequency	50-60 Hz
Degree of protection	IP54
Protection class	I

Quality criteria

- LABS-free
- CE label
- Protected against short-circuits

FULLY ASTalpha | SEMI HASTalpha | SEMI HAST2.0 | MANUAL HST1.2 | SEMI HAFSTalpha | SEMI HAST2.0 | + Accessories

Expansion module



Exterior and mounting dimensions of the expansion module. All data in mm.

Order number	System components	Dimensions in mm (WxHxD)	Housing material	Weight in kg
M304AS024AZ	Expansion module	400 x 400 x 120	Steel sheet, RAL7035 powder coated	approx. 8.5

Design versions

Mobile surface control

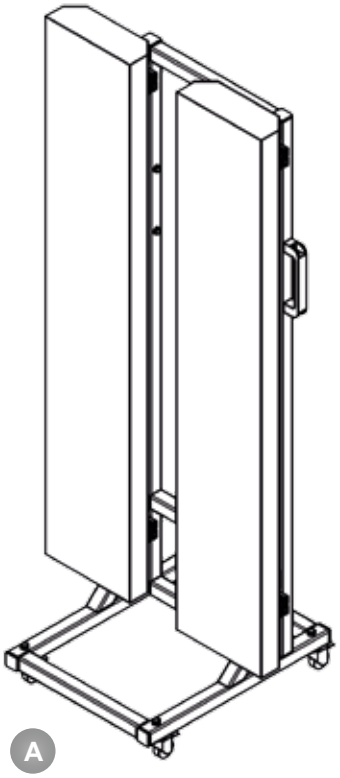
ROLLABLE, HEIGHT ADJUSTABLE, ROTATABLE (ACCORDING TO THE DESIGN VERSION)

Features

- Optionally as a steel construction or aluminum construction
- Mobility thanks to rubberized steering rollers
- Various design versions and combination options (more upon request)

According to the design version:

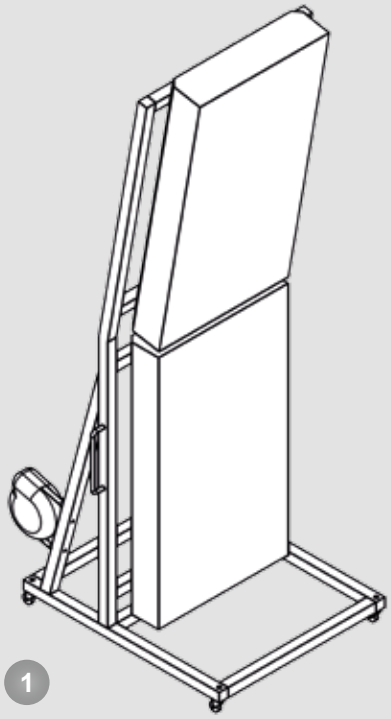
- Rotatable
- Pivotal
- Height adjustable
- Cable reel and push handles (optional)

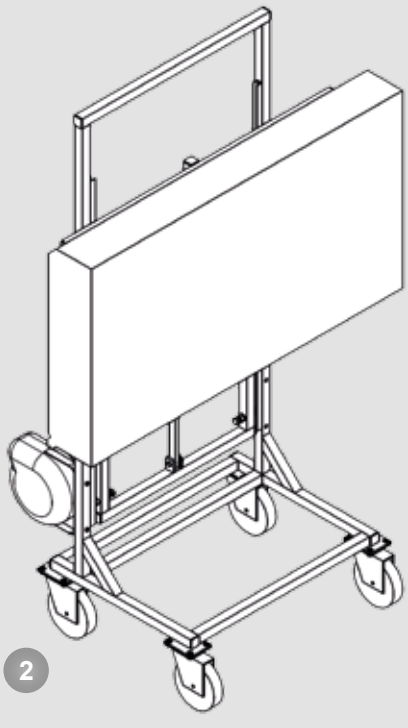


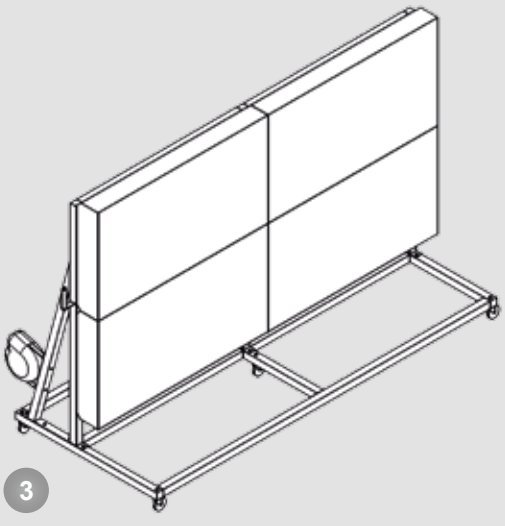
A
- Mobile stand on steering rollers for 2 surface control optics, rotatable

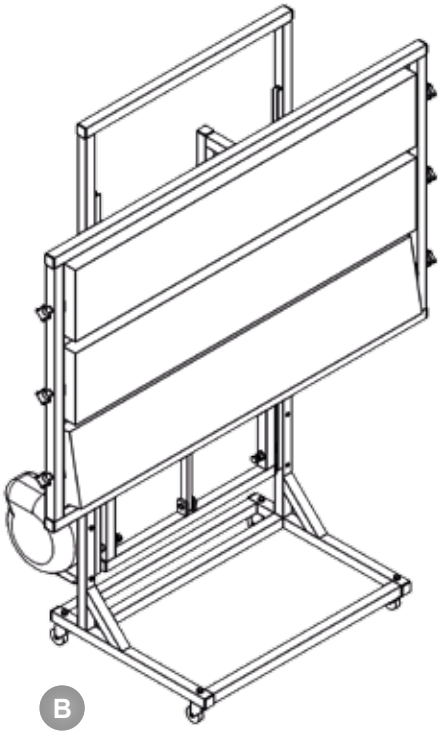
B
- Mobile stand on steering rollers for 3 surface control optics, pivotal

C
- Mobile stand on steering rollers for 6 surface control optics

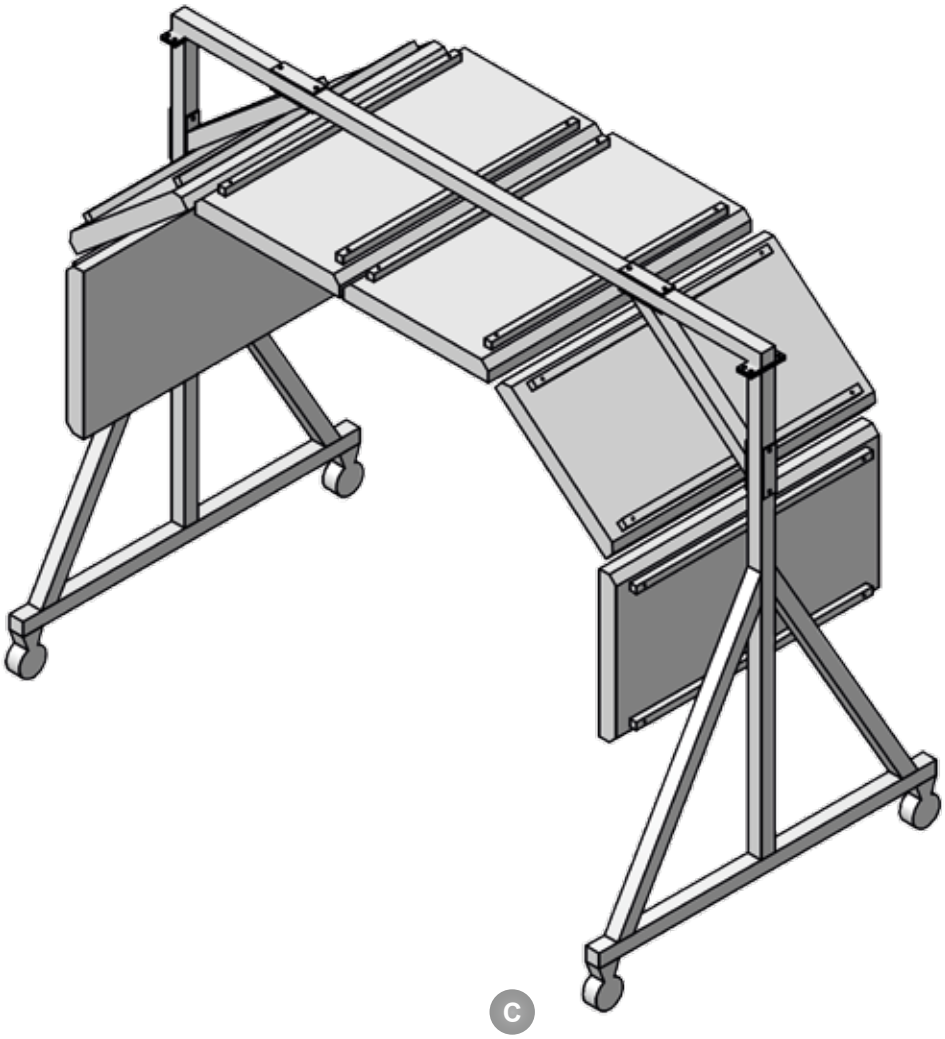




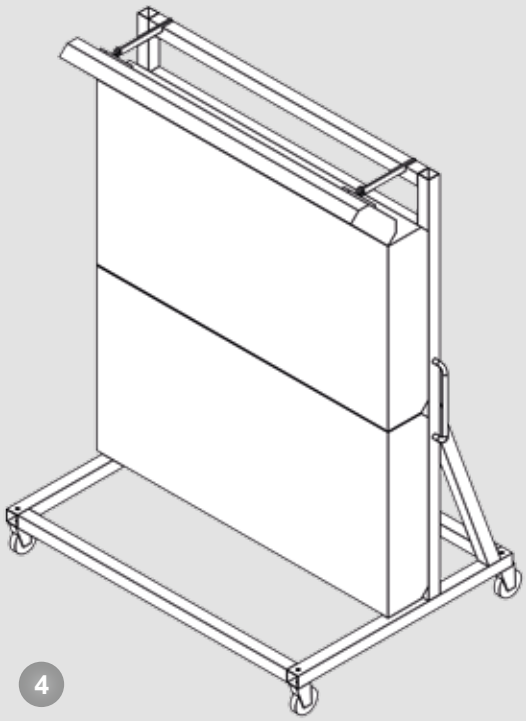




B



C



4

Mobile color matching

1
- Mobile stand on steering rollers for 2 color control optics
- Upper color control optic inclined
- Cable reel and push handles (optional)

2
- Mobile stand on steering rollers for 1 color control optic, rotatable, height adjustable
- Cable reel (optional)

3
- Mobile stand on rollers for 4 color control optics
- 5 steering rollers, rubberized roller tread (2 with double stop)
- Cable reel (optional)

4
- Mobile stand on steering rollers for 2 color control optics and 1 x sunlight simulation
- Cable reel and push handles (optional)

Order number catalog

LPS50 PM - LPS50 puremaxLED®

BRILLIANT AND ENERGY EFFICIENT

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg	Special information
L601LD354	4 x 12 watt	Harting connector system	high polish	930 x 705 x 65	approx. 20.0	with installation frame
L601LD401	4 x 25 watt	Harting connector system	high polish	860 x 1560 x 65	approx. 50.5	
L601LD402	4 x 40 watt	Harting connector system	high polish	860 x 1560 x 65	approx. 52.0	
L601LD403	4 x 20 watt	Harting connector system	high polish	860 x 1260 x 65	approx. 40.5	
L601LD404	4 x 32 watt	Harting connector system	high polish	860 x 1260 x 65	approx. 41.5	
L601LD472	4 x 40 watt	Harting connector system	high polish	930 x 1615 x 65		with installation frame

LPS100 PM - LPS100 puremaxLED®

BRILLIANT AND ENERGY EFFICIENT

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg	Special information
L601LD301	3 x 25 watt	Harting connector system	high polish	860 x 1560 x 65	approx. 46.0	
L601LD302	3 x 40 watt	Harting connector system	high polish	860 x 1560 x 65	approx. 47.5	
L601LD303	3 x 20 watt	Harting connector system	high polish	860 x 1260 x 65	approx. 39.0	
L601LD304	3 x 32 watt	Harting connector system	high polish	860 x 1260 x 65	approx. 40.0	
L601LD305	3 x 10 watt	Harting connector system	high polish	860 x 650 x 65	approx. 22.0	
L601LD351	3 x 25 watt	Harting connector system	high polish	860 x 1560 x 65	approx. 46.5	5 m connection cable
L601LD371	3 x 25 watt	Harting connector system	high polish	930 x 1615 x 65	approx. 52.0	with installation frame

VAO PM - VAO puremaxLED®

ENERGY EFFICIENCY WITH SLIMLINE DESIGN

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg	Special information
L601LD321	1 x 25 watt	Harting connector system	high polish	284 x 1560 x 65	approx. 18.0	
L601LD322	1 x 40 watt	Harting connector system	high polish	284 x 1560 x 65	approx. 18.0	
L601LD323	1 x 20 watt	Harting connector system	high polish	284 x 1260 x 65	approx. 15.5	
L601LD324	1 x 32 watt	Harting connector system	high polish	284 x 1260 x 65	approx. 15.5	
L601LD335	1 x 25 watt	Harting connector system	high polish	284 x 1560 x 65	approx. 18.5	pivotal
L601LD336	1 x 40 watt	Harting connector system	high polish	284 x 1560 x 65	approx. 18.5	pivotal
L601LD337	1 x 32 watt	Harting connector system	high polish	284 x 1260 x 65	approx. 16.0	pivotal
L601LD352	1 x 25 watt	Harting connector system	high polish	284 x 1560 x 65	approx. 18.5	5 m connection cable

WLO PM - WLO puremaxLED®

ENERGY EFFICIENT LIGHT WITH ENHANCED CONTRAST

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg	Special information
L602LD335	1 x 25 watt	Harting connector system	high polish	284 x 1560 x 65	approx. 18.5	pivotal
L602LD401	4 x 25 watt	Harting connector system	high polish	860 x 1560 x 65	approx. 50.0	
L602LD402	4 x 40 watt	Harting connector system	high polish	860 x 1560 x 65	approx. 52.0	
L602LD403	4 x 20 watt	Harting connector system	high polish	860 x 1260 x 65	approx. 40.5	
L602LD404	4 x 32 watt	Harting connector system	high polish	860 x 1260 x 65	approx. 41.5	

LPS50 - LensPrismDarkfieldOptic

QUICK, RELIABLE AND CONSISTENT DEFECT DETECTION

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg	Special information
L201AE001	4 x 58 watt	Harting connector system	white	860 x 1560 x 100	approx. 45.5	
L201AE002	4 x 58 watt	Harting connector system	high polish	860 x 1560 x 100	approx. 45.5	
L201AE003	4 x 36 watt	Harting connector system	white	860 x 1260 x 100	approx. 38.0	
L201AE004	4 x 36 watt	Harting connector system	high polish	860 x 1260 x 100	approx. 38.0	
L201AE005	4 x 80 watt	Harting connector system	white	860 x 1560 x 100	approx. 45.5	
L201AE006	4 x 80 watt	Harting connector system	high polish	860 x 1560 x 100	approx. 45.5	
L201AE007	4 x 54 watt	Harting connector system	white	860 x 1260 x 100	approx. 38.5	
L201AE008	4 x 54 watt	Harting connector system	high polish	860 x 1260 x 100	approx. 38.5	
L201AE021	4 x 58 watt	Harting connector system	white	860 x 1560 x 100	approx. 45.5	
L201AE145	4 x 58 watt	Harting connector system	white	860 x 1560 x 100	approx. 46.0	10 m connection cable
L201AE301	4 x 35 watt	Harting connector system	white	860 x 1560 x 100	approx. 45.5	
L201AE308	4 x 14 watt	Harting connector system	high polish	860 x 650 x 100	approx. 22.0	

LPS100 - LensPrismDarkfieldOptic

QUICK, RELIABLE AND CONSISTENT DEFECT DETECTION

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg	Special information
L201AC001	3 x 58 watt	Harting connector system	white	860 x 1560 x 100	approx. 44.0	
L201AC002	3 x 58 watt	Harting connector system	high polish	860 x 1560 x 100	approx. 44.0	
L201AC003	3 x 36 watt	Harting connector system	white	860 x 1260 x 100	approx. 37.0	
L201AC004	3 x 36 watt	Harting connector system	high polish	860 x 1260 x 100	approx. 37.0	
L201AC005	3 x 80 watt	Harting connector system	white	860 x 1560 x 100	approx. 44.5	
L201AC006	3 x 80 watt	Harting connector system	high polish	860 x 1560 x 100	approx. 44.5	
L201AC008	3 x 54 watt	Harting connector system	high polish	860 x 1260 x 100	approx. 37.5	
L201AC020	3 x 18 watt	Harting connector system	white	860 x 650 x 100	approx. 21.0	
L201AC101	3 x 58 watt	Harting connector system	white	930 x 1615 x 100	approx. 50.0	with installation frame
L201AC103	3 x 36 watt	Harting connector system	white	930 x 1315 x 100	approx. 42.0	with installation frame
L201AC105	3 x 80 watt	Harting connector system	white	930 x 1615 x 100	approx. 50.5	with installation frame
L201AC106	3 x 58 watt	Harting connector system	white	930 x 1615 x 100	approx. 50.5	with installation frame, 6 m connection cable
L201AC120	3 x 18 watt	Harting connector system	white	930 x 705 x 100	approx. 25.0	with installation frame
L201AC140	3 x 58 watt	Harting connector system	high polish	860 x 1560 x 100	approx. 44.0	5 m connection cable

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg	Special information
L201AC141	3 x 58 watt	Harting connector system	white	860 x 1560 x 100	approx. 44.5	6 m connection cable
L201AC142	3 x 58 watt	Harting connector system	white	860 x 1560 x 100	approx. 44.5	7 m connection cable
L201AC143	3 x 36 watt	Harting connector system	white	860 x 1260 x 100	approx. 37.5	7 m connection cable
L201AC301	3 x 35 watt	Harting connector system	white	860 x 1560 x 100	approx. 44.5	
L201AC302	3 x 35 watt	Harting connector system	high polish	860 x 1560 x 100	approx. 44.5	
L201AC303	3 x 28 watt	Harting connector system	white	860 x 1260 x 100	approx. 37.5	
L201AC304	3 x 28 watt	Harting connector system	high polish	860 x 1260 x 100	approx. 37.5	
L201AC305	3 x 25 watt	Harting connector system	white	860 x 1260 x 100	approx. 37.5	
L201AC306	3 x 25 watt	Harting connector system	high polish	860 x 1260 x 100	approx. 37.5	
L201AC307	3 x 14 watt	Harting connector system	white	860 x 650 x 100	approx. 21.5	
L201AC308	3 x 14 watt	Harting connector system	high polish	860 x 650 x 100	approx. 21.5	
L201AC311	3 x 35 watt	Harting connector system	white	860 x 1560 x 100	approx. 44.5	non-dimmable
L201AC401	3 x 49 watt	Harting connector system	high polish	860 x 1560 x 100	approx. 44.5	
L201AC405	3 x 49 watt	Harting connector system	white	860 x 1560 x 100	approx. 44.5	non-dimmable

VAO - VarioOptic

RELIABLE DEFECT DETECTION IN SLIMLINE DESIGN

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg	Special information
L201AK001	2 x 58 watt	Harting connector system	white	284 x 1560 x 100	approx. 18.5	
L201AK002	2 x 58 watt	Harting connector system	high polish	284 x 1560 x 100		
L201AK003	2 x 36 watt	Harting connector system	white	284 x 1260 x 100	approx. 17.0	
L201AK004	2 x 36 watt	Harting connector system	high polish	284 x 1260 x 100	approx. 17.0	
L201AK005	2 x 80 watt	Harting connector system	high polish	284 x 1560 x 100	approx. 18.5	
L201AK006	2 x 54 watt	Harting connector system	high polish	284 x 1260 x 100	approx. 17.0	
L201AK024	2 x 58 watt	Harting connector system	white	284 x 1560 x 100	approx. 18.5	pivotal
L201AK103	2 x 36 watt	Harting connector system	white	284 x 1260 x 100	approx. 20.5	with installation frame
L201AM001	1 x 58 watt	Harting connector system	white	284 x 1560 x 100	approx. 18.0	
L201AM003	1 x 36 watt	Harting connector system	white	284 x 1260 x 100	approx. 16.5	
L201AM006	1 x 80 watt	Harting connector system	high polish	284 x 1560 x 100	approx. 18.0	
L201AM007	1 x 54 watt	Harting connector system	white	284 x 1260 x 100	approx. 17.0	
L201AM008	1 x 54 watt	Harting connector system	high polish	284 x 1260 x 100	approx. 17.0	

WLO - SwitchLineOptic

LIGHT DEPENDENT ON VIEWING ANGLE WITH ENHANCED CONTRAST

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg	Special information
L202AC001	4 x 58 watt	Harting connector system	high polish	860 x 1560 x 100	approx. 45.5	
L202AC003	4 x 80 watt	Harting connector system	high polish	860 x 1560 x 100	approx. 45.5	
L202AC004	4 x 54 watt	Harting connector system	high polish	860 x 1260 x 100	approx. 38.5	

MRO - MultiReflexOptic

SURFACE CONTROL WITH SIMULTANEOUS COLOR EVALUATION

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg	Special information
L203AC001-14	4 x 58 watt	Cable gland	high polish	860 x 1560 x 218	approx. 56.0	

LLO - LackLusterOptic

HIGH-POLISH SURFACES APPEAR MATT

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg	Special information
L207AC003-14	2 x 58 watt	Harting connector system	white	860 x 1560 x 218	approx. 54.0	
L207AC004-14	2 x 36 watt	Harting connector system	white	860 x 1260 x 218	approx. 46.5	

UVO - UVOptic

FLORESCENCE OPTICS FOR EFFECT PAINTS, TEXTILES AND PLASTICS

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg	Special information
L206AC002	1 x 36 watt	Harting connector system	high polish	284 x 1260 x 100	approx. 18.0	
L206AC004	1 x 58 watt	Harting connector system	high polish	284 x 1560 x 100	approx. 16.5	

FLO - FlatLightOptic

NARROW-BEAM OPTICS FOR TANGENTIAL ILLUMINATION

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg	Special information
L209AC001	1 x 80 watt	Harting connector system	high polish	284 x 1560 x 100	approx. 17.5	
L209AC002	1 x 54 watt	Harting connector system	high polish	284 x 1260 x 100	approx. 16.5	

LEDSLO - LED-SunLightOptic

SIMULATED, BRIGHT SUNLIGHT

Order number	Lamps	Connection system	Dimmable	Dimensions in mm (WxHxD)	Weight in kg	Special information
L208AU302	6 x 17 watt	Harting connector system	yes	284 x 1560 x 100	approx. 20.5	

LEDLPO - LED-LightPointOptic

ENERGY-EFFICIENT SIMULATED SUNLIGHT

Order number	Lamps	Connection system	Dimmable	Dimensions in mm (WxHxD)	Weight in kg	Special information
L208AT003	5 x 14 watt	Harting connector system	yes	284 x 1260 x 100	approx. 21.5	
L208AU001	6 x 14 watt	Harting connector system	yes	284 x 1560 x 100		

LPO - LightPointOptic

SIMULATED SUNLIGHT FOR INSPECTION AND PROCESSING

Order number	Lamps	Connection system	Dimmable	Dimensions in mm (WxHxD)	Weight in kg	Special information
L208AC004	6 x 35 watt	Harting connector system	yes	284 x 1560 x 100		
L208AC005	6 x 35 watt	Harting connector system	no	284 x 1560 x 100	approx. 21.5	with back lighting
L208AM009	6 x 65 watt	Harting connector system	yes	284 x 1560 x 100	approx. 24.5	
L208AT003	5 x 14 watt	Harting connector system	yes	284 x 1260 x 100	approx. 21.5	

ARO PM - ARO puremaxLED®

ASYMMETRICAL LED LIGHT FOR AMPLE ILLUMINATION

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg	Special information
L603LD301	3 x 30 watt	Harting connector system	high polish	860 x 1560 x 65		
L603LD321	1 x 25 watt	Harting connector system	high polish	284 x 1560 x 65	approx. 18.0	

ARO - AsymmetricReflexOptic

ASYMMETRICAL LIGHT FOR AMPLE ILLUMINATION

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg	Special information
L201AC030	3 x 58 watt	Harting connector system	high polish	860 x 1560 x 100	approx. 44.5	
L201AC031	3 x 36 watt	Harting connector system	high polish	860 x 1260 x 100	approx. 37.0	
L201AC032	3 x 80 watt	Harting connector system	high polish	860 x 1560 x 100	approx. 45.0	
L201AC033	3 x 54 watt	Harting connector system	high polish	860 x 1260 x 100	approx. 37.5	
L201AC040	3 x 58 watt	Harting connector system	high polish	860 x 1560 x 100	approx. 24.5	without pane
L201AC041	3 x 36 watt	Harting connector system	high polish	860 x 1260 x 100	approx. 21.0	without pane
L201AC042	3 x 80 watt	Harting connector system	high polish	860 x 1560 x 100	approx. 25.0	without pane
L201AC043	3 x 54 watt	Harting connector system	high polish	860 x 1260 x 100	approx. 21.5	without pane
L201AC130	3 x 58 watt	Harting connector system	high polish	930 x 1615 x 100	approx. 50.5	with installation frame

OCO - OpalControlOptic

UNIFORM SURFACE ILLUMINATION

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg	Special information
L102AC001	3 x 58 watt	Harting connector system	none	860 x 1560 x 100	approx. 40.0	
L102AC003	3 x 36 watt	Harting connector system	none	860 x 1260 x 100	approx. 33.5	
L102AE011	4 x 58 watt	Harting connector system	none	860 x 1560 x 100	approx. 40.0	
L102AK001	2 x 58 watt	Harting connector system	none	284 x 1560 x 100	approx. 16.5	
L102AK002	2 x 58 watt	Harting connector system	white	284 x 1560 x 100	approx. 18.5	with lens prism pane
L102AK004	2 x 54 watt	Harting connector system	high polish	284 x 1260 x 100	approx. 17.0	
L102AK005	2 x 80 watt	Harting connector system	high polish	284 x 1560 x 100	approx. 18.5	

CCO - ColorControlOptic

STANDARDIZED LIGHT FOR DETECTING COLOR VARIATIONS

Order number	Lamps	Connection system	Reflector	Dimensions in mm (WxHxD)	Weight in kg	Special information
L205AC001-14	8 x 58 watt	Cable gland	with	860 x 1560 x 218	approx. 60.5	
L205AC002-14	8 x 36 watt	Cable gland	with	860 x 1260 x 218	approx. 57.5	

AST*alpha* - Automatic controller

FULLY AUTOMATIC BRIGHTNESS CONTROL OF LIGHTING SYSTEMS

Order number	System components	Dimensions in mm (WxHxD)	Housing material	Weight in kg
M307AS001AZ-EN	Automatic controller with touchscreen and analog band signal	328.5 x 318.5 x 75		approx. 5.9
	incl. junction box of the controller	400 x 400 x 120	Steel sheet, RAL7035 powder coated	approx. 8.5
	incl. brightness attachment	300 x 150 x 80	Steel sheet, RAL7035 powder coated	approx. 3.6
	incl. junction box of the brightness attachment	400 x 200 x 120	Steel sheet, RAL7035 powder coated	approx. 3.6
	incl. ultrasound sensor	80 x 80 x 34	Acrylonitrile butadiene styrene (ABS)	approx. 0.2

HAST*alpha* - Semiautomatic controller

SEMIAUTOMATIC BRIGHTNESS CONTROL OF LIGHTING SYSTEMS

Order number	System components	Dimensions in mm (WxHxD)	Housing material	Weight in kg
M307HA001AZ-EN	Semiautomatic controller with touchscreen	328.5 x 318.5 x 75		approx. 5.9
	incl. junction box of the controller	400 x 100 x 120	Steel sheet, RAL7035 powder coated	approx. 8.5

HAST2.0 - Semiautomatic controller

SIMPLE PROGRAMMING OF LIGHT GROUPS AND LIGHT SCENARIOS

Order number	System components	Dimensions in mm (WxHxD)	Housing material	Weight in kg
M301HA001AZ-EN	Semiautomatic controller	229 x 221 x 107	Plastic	approx. 1.0
	incl. junction box of the controller	300 x 200 x 120	Steel sheet, RAL7035 powder coated	approx. 3.6

HST1.2 - Manual controller

INTUITIVE, MANUAL DIMMING

Order number	System components	Dimensions in mm (WxHxD)	Housing material	Weight in kg
M301HD001AZ	Manual controller DSI	150 x 300 x 80	Steel sheet, RAL7035 powder coated	approx. 2.4

HAFST*alpha* - Semiautomatic color controller

CONTROL INDIVIDUAL LIGHT GROUPS VIA A TOUCHSCREEN

Order number	System components	Dimensions in mm (WxHxD)	Housing material	Weight in kg
M308HA001AZ-EN	Semiautomatic color controller with touch-screen	432 x 309 x 125	Aluminum, finish: white aluminum (similar to RAL9006)	approx. 5.3
	incl. junction box of the controller	400 x 400 x 120	Steel sheet, RAL7035 powder coated	approx. 8.5
	incl. support arm system			

HAFST2.0 - Semiautomatic color controller

CONTROL LIGHT GROUPS WITH DIFFERENT LIGHT COLORS

Order number	System components	Dimensions in mm (WxHxD)	Housing material	Weight in kg
M301HA001AZ-EN	Semiautomatic color controller	229 x 221 x 107	Plastic	approx. 1.0
	incl. junction box of the controller	300 x 200 x 120	Steel sheet, RAL7035 powder coated	approx. 3.6

Expansion module

MORE FIXTURE RINGS, MORE CONTROL

Order number	System components	Dimensions in mm (WxHxD)	Housing material	Weight in kg
M304AS024AZ	Expansion module	400 x 400 x 120	Steel sheet, RAL7035 powder coated	approx. 8.5

References

National (abstract)		
Adam Opel AG	Rüsselsheim	color matching
AGCO Fendt GmbH	Marktoberdorf, Asbach-Bäumenheim	audit
AKT altmärker Kunststoff-Technik GmbH	Gardelegen	surface inspection, surface audit
AUDI AG	Ingolstadt, Neckarsulm	body shell, top coat of paint, audit site, audit, color matching
BauschLinnemann GmbH	Sassenberg	surface inspection
Bayer MaterialScience AG	Leverkusen	control site
Biacchessi GmbH & Co. KG	Solingen	control site
BMW AG	Dingolfing, Krauthausen, Leipzig, Landshut, München, Regensburg, Berlin	press plant, body shell, quality control, surface audit, top coat of paint, hologram error control, Audit site, control sites
Borbet GmbH	Hallenberg-Hesborn	control site
Borbet Thüringen GmbH	Bad Langensalza	surface control site
BSH Bosch und Siemens Hausgeräte GmbH	Traunreut	surface audit
Daimler AG	Düsseldorf, Bremen	control sites, press plant
Decoma (Germany) GmbH	Sulzbach	control site
Decoma Exterior Systems GmbH	Obertshausen, Regenstauf, Leipzig	audit, control site
Decoma GmbH	Hannover	audit
Dr. Ing. h.c.F. Porsche AG	Ludwigsburg, Stuttgart	audit, color matching, body shell audit, topcoat lines
Ed. Heckewerth Nachf. GmbH & Co. KG	Hiddenhausen	control site
EGGER Holzwerkstoffe Brilon GmbH & Co. KG	Brilon	control site
EGGER Kunststoffe GmbH & Co. KG	Gifhorn	control site
Ford-Werke GmbH	Köln, Saarloius	top coat of paint, body shell, surface audit, primer
GARANT Türen und Zargen GmbH	Amt Wachsenburg	control site
Gestamp Umformtechnik GmbH	Bielefeld, Erfurt	control site, press plant
Hansa Metallwerke GmbH	Burglengenfeld	audit site
Hörmann KG	Ichtershausen	control sites
K.face GmbH	Heiligengrabe	audit sites, online color measurement, color matching
Magna Exterior & Interior	Sailauf	surface audit
Magna Mirrors GmbH & Co. KG	Dorfprozelten	control sites
Magna Spiegelsysteme GmbH	Assamstadt	control sites

National (abstract)		
MAN Truck & Bus AG	München	mobile control site
Merck KgaA	Germsheim	color matching lighting laboratory
Meredes Benz Ludwigsfelde GmbH	Ludwigsfelde	body shell, finish, color matching
Miele & Cie. KG	Warendorf, Oelde	control site, color matching table cabin
Opel Eisenach GmbH	Eisenach	control sites
Otto Fuchs GmbH	Meinerzhagen	audit sites, control site
Plastic Omnium Auto Components GmbH	Großenlupitz	audit
Polytec Composites Germany GmbH & Co. KG	Kraichtal-Gochsheim	control site
REHAU AG & Co. KG	Rehau	audit site, control sites
SMP Deutschland GmbH	Bötzingen, Oldenburg, Schierling	topcoat line, control sites, mobile control site
SWISS KRONO TEX GmbH & Co. KG	Heiligengrabe	laminate inspection, surface audit
ThyssenKrupp Rasselstein GmbH	Rasselstein	control site
ThyssenKrupp Stahl AG	Neuwied	press plant
ThyssenKrupp Steel Europe AG	Bochum	control site
Tower Automotive Press plant Artern GmbH	Artern	press plant, audit
Venjakob	Gütersloh	audit site
Visomax Coating GmbH	Waldbüttelbrunn	control sites
voestalpine Polynorm GmbH & Co. KG	Schwäbisch Gmünd	control site
voestalpine Stamptec Schmölln GmbH	Schmölln	control site
Volkswagen AG	Emden, Hannover, Wolfsburg, Hannover, Zwickau, Dresden	top coat of paint, finish, audit, Body shell, color matching, automatic surface inspection, audit site, filler, online color measurement
Walter Höpfl Fahrzeug- und Industrielackierung	Weiding	surface audit
Webasto Schierling GmbH	Schierling	disc control (elevating glass roofs), top coat of paint
Westag & Getalit AG	Rheda-Wiedenbrück	surface inspection
Wieland Werke GmbH	Verlbert	control site
Wilhelm Karmann GmbH	Osnabrück, Rheine	top coat of paint
YACHTGLASS GmbH & Co. KG	Dersum	control sites

International (abstract)		
AUDI	Belgium, Brasilien, Hungary	color matching, body shell, paint audit, vehicle audit, installation audit, top coat of paint
BMW Brilliance Automotive	China	top coat of paint
BSH Electrical Appliances	China, USA	control site
Bugatti Automobiles	France	audit
Daimler	Mexico	top coat of paint
Daimler Chrysler	China	audit
DERICHEBOURG ENERGIE	France	surface audit
DTNA Daimler Trucks North America	USA	control sites, polishing defects control sites
DURA Automotive	Czech Republic	control site
Hyundai	China, Czech Republic	topcoat preparation, finish
EPCOS	Indonesia	control sites
FCA Fiat Chrysler	USA	control sites
FORD	Belgium, Romania, Spain, Turkey	top coat of paint, surface audit, body shell
General Motors	China, USA	color matching, control sites for polishing defects
Gestamp-Severstal-Kaluga	Russia	audit site
Italdesign-Giugiaro	Italy	surface audit
Jaguar Land Rover	Great Britain	top coat of paint
Kia Motors	India, Slovakia	spotrepair, surface audit, top coat of paint
Kronospan	Luxembourg, Switzerland	control sites, online color measurement
MAGNA Heavy Stamping	Austria	audit
MAGNA STEYR	Austria, Slovenia	control sites, color matching
Merck KGaA	China	color matching lighting laboratory
NEDCAR	Belgium, Netherlands	top coat of paint
NEUMAN Aluminium	Austria	control sites
Otto Fuchs	Hungary	control site
Plastic Omnium	Poland, Slovakia, USA	installation- and control sites
Peugeot Citroën	France	top coat of paint
REHAU Automotive	Hungary	control site
Renault	China, Korea, Morocco, Romania, Spain, Turkey	top coat of paint, body shell, finish
Rolls-Royce Motor Cars	Great Britain	color matching
Scania Group, Oskarshamn	Sweden	surface audit
Seat Martorell, Martorell	Spain	top coat of paint, body shell

International (abstract)		
Skoda Auto	Slovakia, Czech Republic	audit, top coat of paint, color matching
smart France	France	audit, Finish
SMR	Hungary	audit
TST Agencies Technology Systems Trade	South Africa	body shell
Volkswagen	Argentina, China, India, Mexico, Poland, Slovakia, South Africa , USA	color matching, online color measurement, body shell, audit, top coat of paint, finish, control sites, surface audit, press plant

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