lightlight 12 V price list 2024

b

lightlight - the classic systems for designing light for spaces

This booklet contains a complete overview of the LightLight range. LightLight provides a variety of lighting systems for architectural spaces - in the property sector or in high-quality private residences.

Designed by Prof. Hans Buschfeld in 1989, today the slimline 12 volt track system can be found in applications all over the world. On the following pages you will find all the relevant data you need for developing and installing your design, plus pricing information.

As of 2018, the Buschfeld range now includes the 48 volt Sense System.

A new product family that shows what light can do tomorrow: lighting that can be controlled digitally to respond to individual needs and wishes.

Based on the design of the LightLight components, a number of new features have been developed and specific details enhanced. All power feeds and connecting components can basically be used for both the LightLight and the Sense System.

A separate price list is available for the 48V Sense System, the three-dimensional Freestyler track structures and the digital luminaires.

note on the price list

All prices are recommended sales prices + VAT. Dimensions are quoted in millimetres, unless otherwise stated.

Project document and Questionnaire

Utilize our project sheet for your inquiries. Many points for a comprehensive offer are covered here. You can also use the form if you want to protect a project.

Support & Service

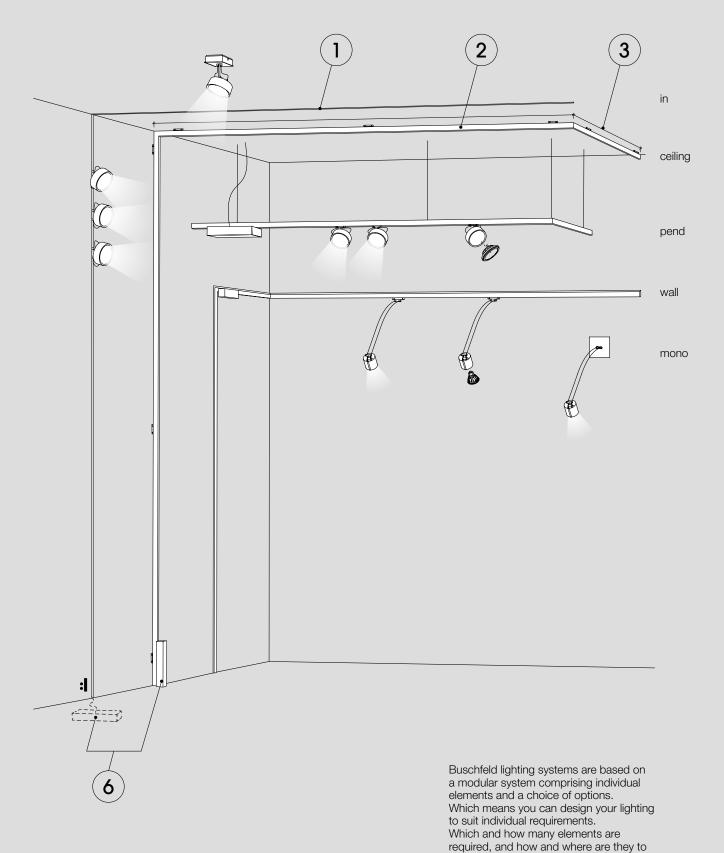
If you need assistance with planning, send us an email or visit our website.

| The project document & questionnai can be found in this PDF. | re |
|---|----|
| | 5 |
| Write us an email. | |
| www.buschfeld.de/en | |

lightlight

| how to order wall - wall track pend - pendant track ceiling - ceiling track in - recessed track | p. 6 p. 8 p. 14 p. 24 p. 32 |
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| luminaires 12 V light sources | p. 39 p. 61 |
| rondo fano - chandelier | p. 72 |
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| Individual rondo - ring-shaped Iuminaire freeform - custom shapes colour - custom colours | p. 85 p. 88 p. 89 p. 90 |
| project document | p. 92 |
| AGB | р. 94 |

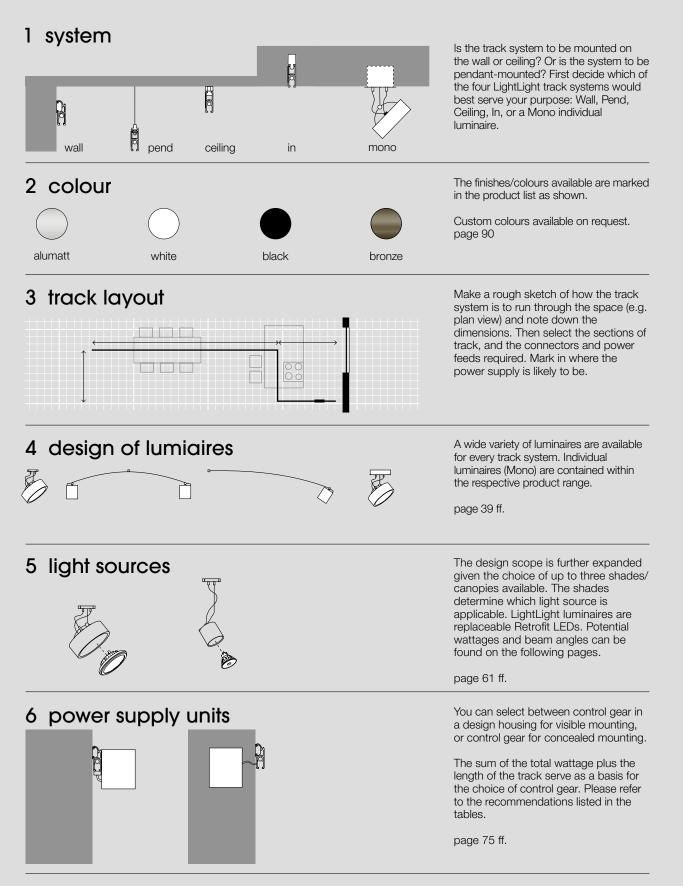
lightlight design process and how to order



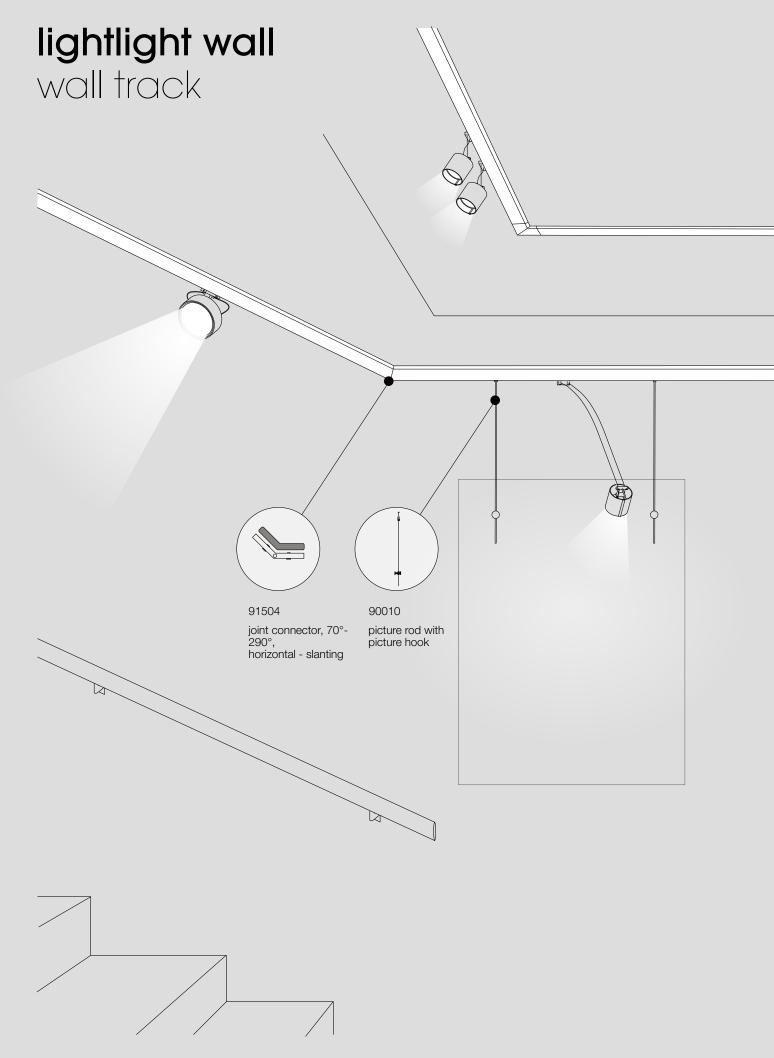
be applied? The following seven points have been compiled to assist you with your planning.

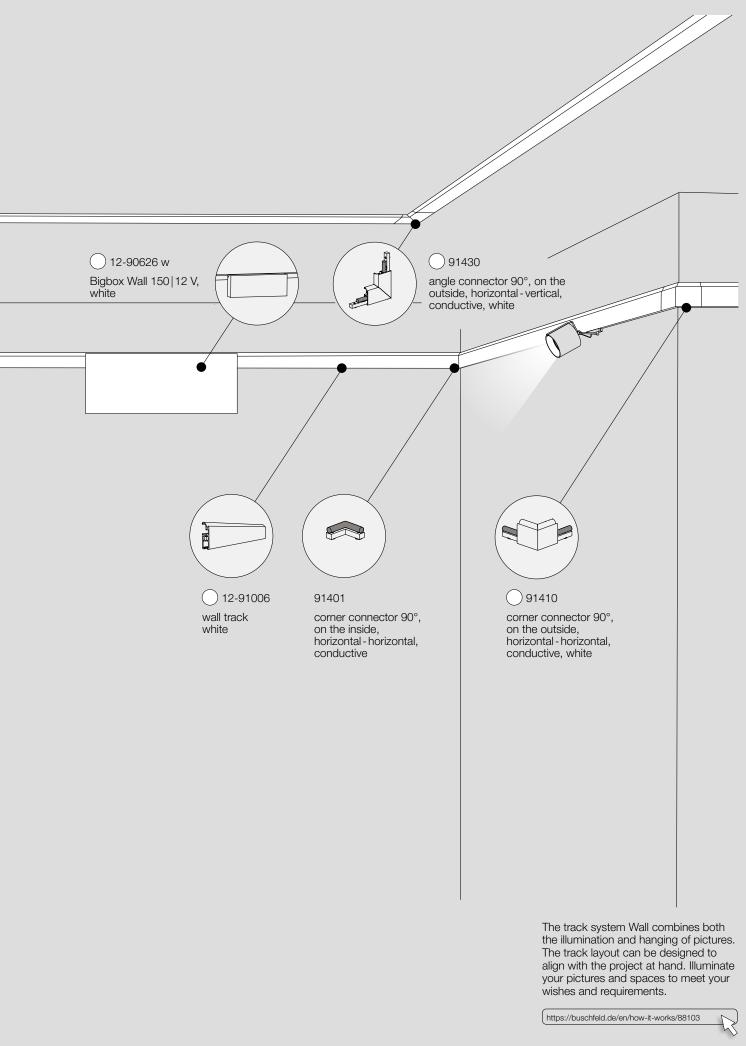
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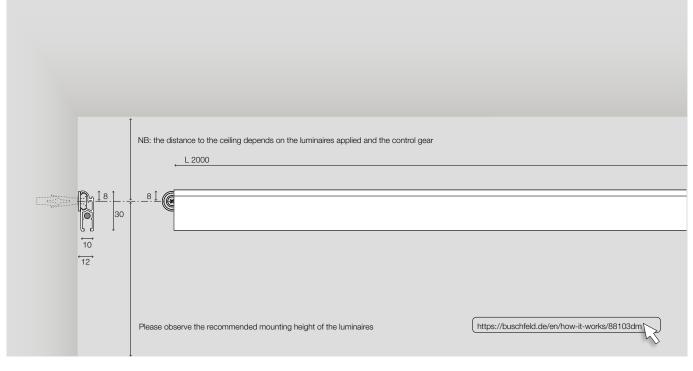
https://buschfeld.de/en/how-it-works/12101



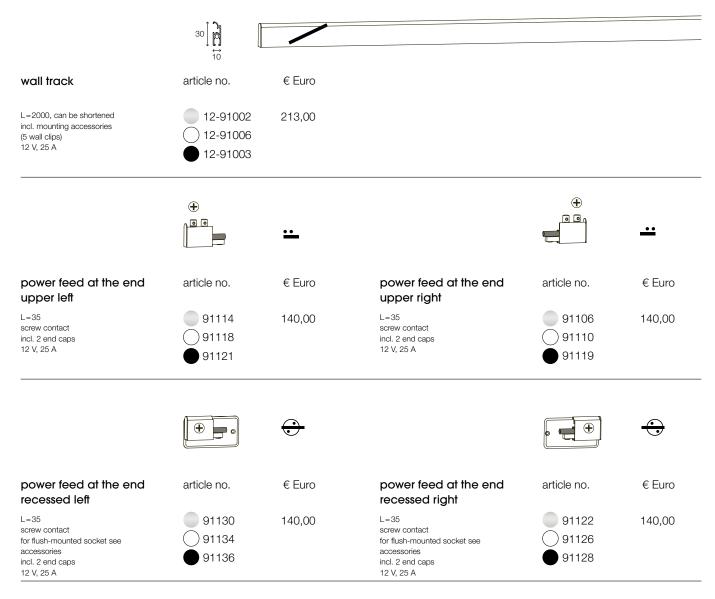
7 All prices are recommended sales prices + VAT. Dimensions are quoted in millimetres, unless otherwise stated.







Wall track and power feeds



2404-222

| | | | | | |
|--|---|---------|--|---|-------------|
| power feed at the end facing downwards left or right | article no. | € Euro | power feed central facing downwards | article no. | € Euro |
| L=0 screw contact incl. 2 end caps 12 V, 25 A | 91102 91107 91123 | 110,00 | L=0 screw contact incl. 2 end caps 12 V, 25 A | 91202 91203 91205 | 128,00 |
| | | <u></u> | | | \odot |
| power feed central upper | article no. | € Euro | power feed central recessed | article no. | € Euro |
| L=35 screw contact incl. 2 end caps 12 V, 25 A | 91204 91208 91209 | 150,00 | L=35 screw contact incl. 2 end caps 12 V, 25 A | 91212 91216 91218 | 154,00 |
| | + | | LV stranded cable | *** | |
| power feed at end on axis left or right | article no. | € Euro | silver transparent, highly flexible, incl. 4 cable end sleeves | article no. | € Euro |
| L=18 screw contact | 91104 | 104,00 | 2 x 6 mm ² , running metre | 90500 | 18,00 |
| incl. end cap | 91105 | | 2 x 4 mm ² , running metre | 90520 | 17,00 |
| 12 V, 25 A | 91125 | | $2 \text{ x} 2,5 \text{ mm}^2$, running metre | 90525 | 15,00 |

| recessed socket | article no. | €Euro |
|-----------------------------|-------------|-------|
| socket type: Kaiser 1048-00 | 90007 | 6,00 |

lightlight 12 V

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| Connectors | | | | | |
| | | | | | |
| | | - | | <u>l</u> | |
| | | | | | |
| | | | | | |
| linear connector | article no. | € Euro | linear connector | article no. | € Euro |
| conductive | | | insulated | | |
| L=0 | 91302 | 50,00 | L=1 | 91304 | 7,00 |
| | | | | 9130591307 | |
| | | | | 01001 | |
| | | | | | |
| | | | | | .1111 |
| | | | L 000 | | |
| corner connector 90°, on the inside, | | | corner connector 90°, on the outside, | | |
| horizontal-horizontal, conductive | article no. | € Euro | horizontal-horizontal, conductive | article no. | € Euro |
| L=0 | 91401 | 61,00 | L=35 | 91410 | 77,00 |
| mitre cut required on site | 01101 | 01,00 | | 91414 | 11,00 |
| | | | | 91416 | |
| | | | | | |
| | | | | | |
| | | | | | |
| joint connector 80-280° | | | joint connector 70-290° | | |
| horizontal-horizontal | orticlo po | € Euro | horizontal-slanting | atiala pa | 6 Euro |
| mitre cut required on site | article no. | € EUIO | mitre cut required on site suitable for staircases | article no. | € Euro |
| conductive h m • m h | 91502 | 93,00 | | 91504 | 88,00 |
| non-conductive h = • = h | 95208 | 58,00 | non-conductive h | 91505 | 55,00 |
| | | | | | |
| | | 1 | | Ĥ | |
| | | h - | | | , L |
| | | v | | | n 🚣 M |
| angle connector 90°, | 3 | | angle connector 90°, | | |
| on the inside, horizontal - vertical, | اب article no. | € Euro | on the outside, horizontal-vertical, | article no. | € Euro |
| conductive | | | conductive | | |
| L=50 inner conductor on the inside | 91418 | 77,00 | L=50 inner conductor on the outside | 91426 | 77,00 |

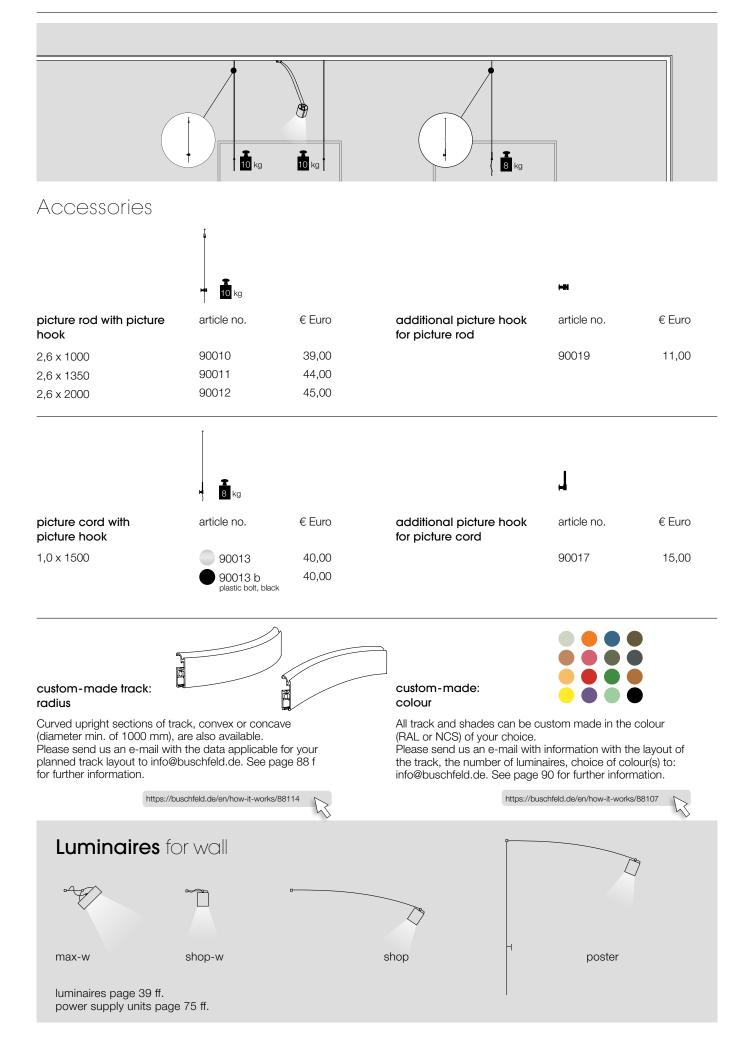
91430

91432

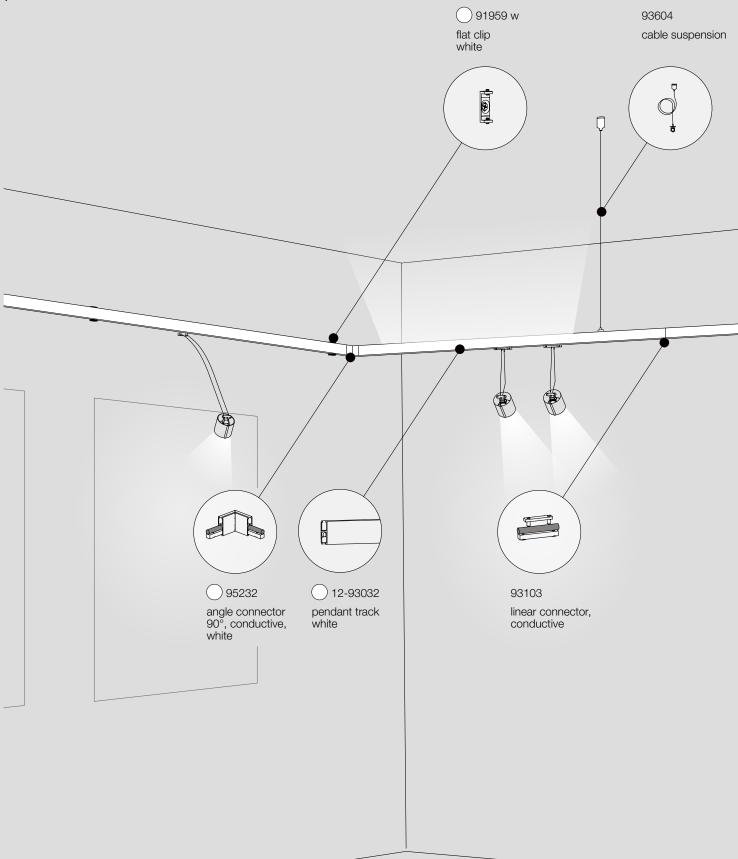
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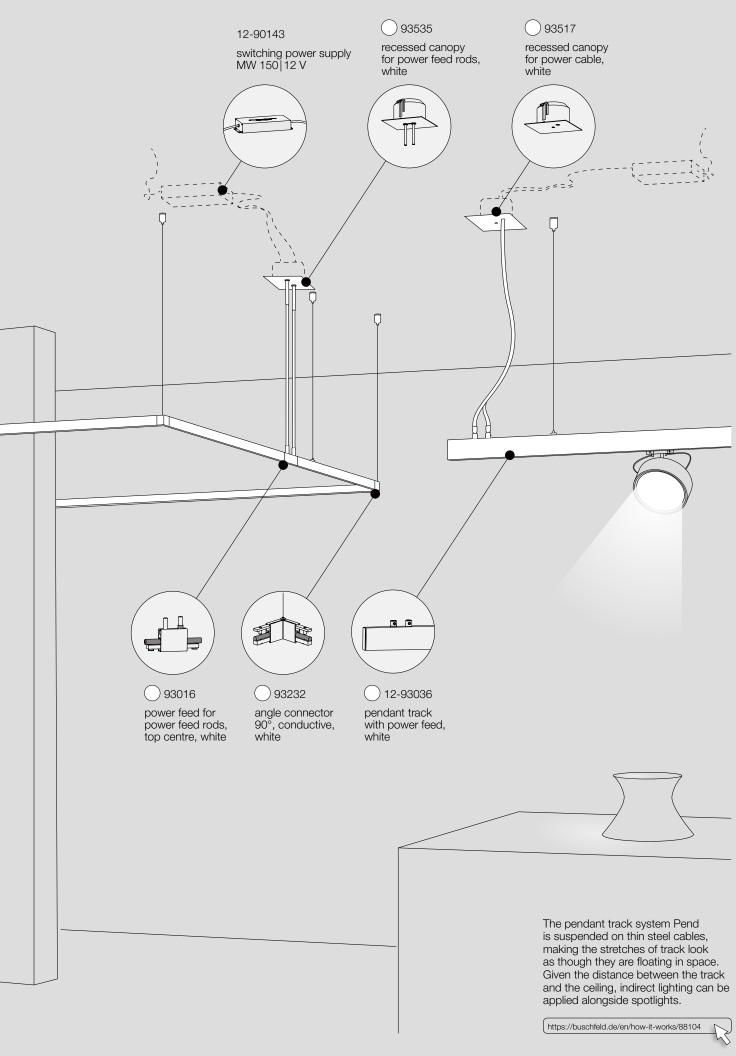
91424

Design: Hans Buschfeld CE EC24

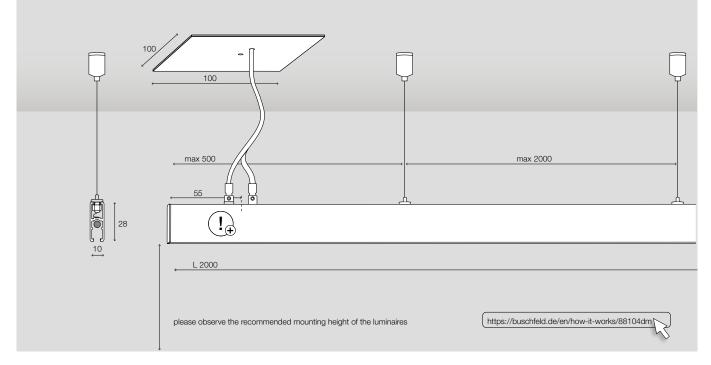


lightlight pend pendant track

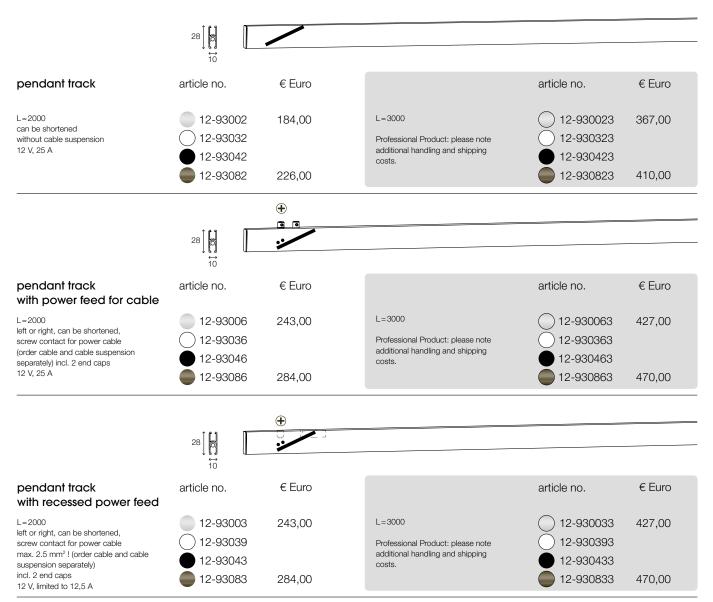




lightlight 12 V

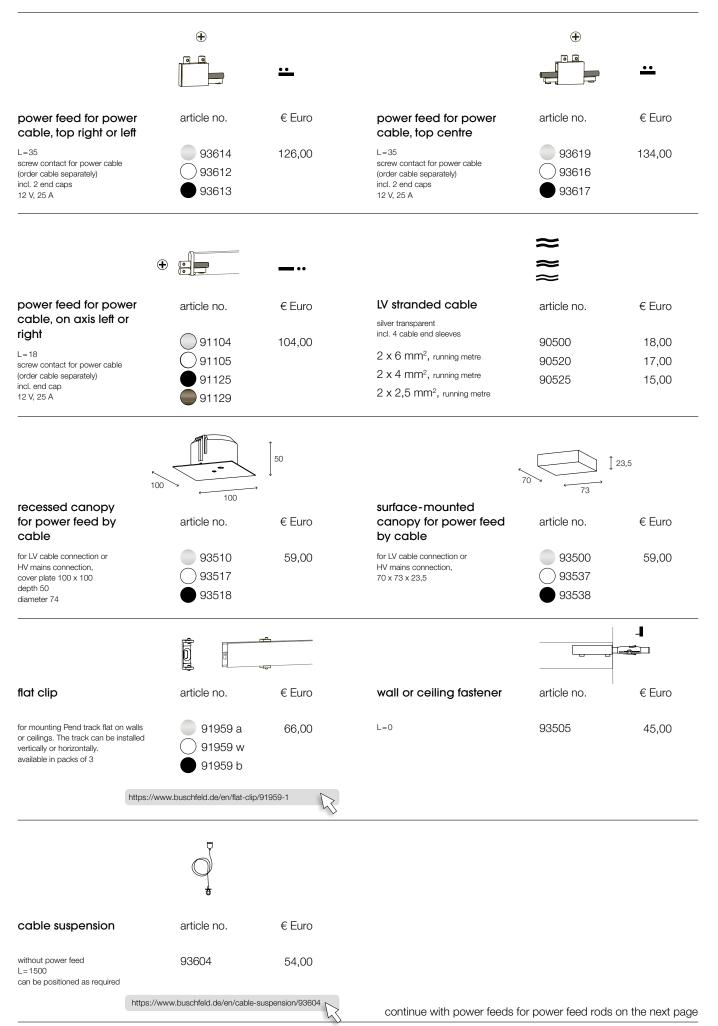


Pendant track with power feed for cable

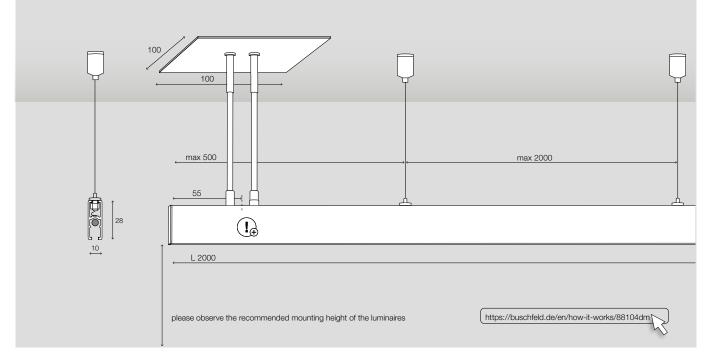


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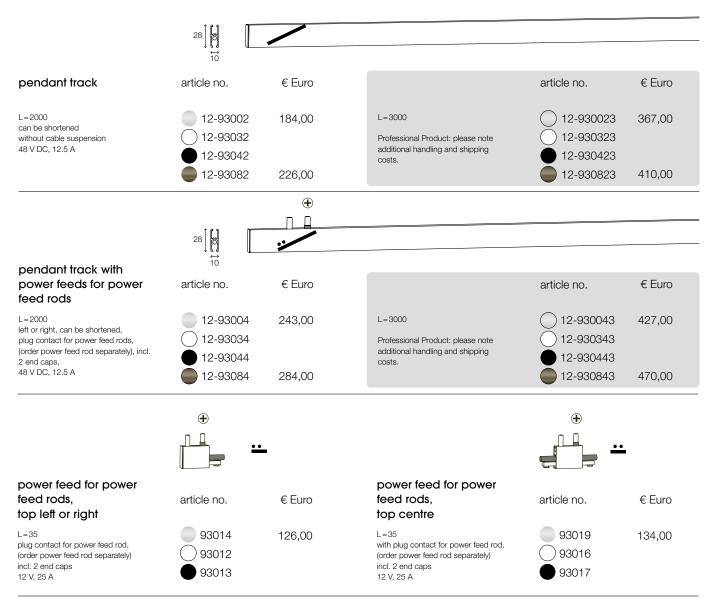
lightlight 12 V



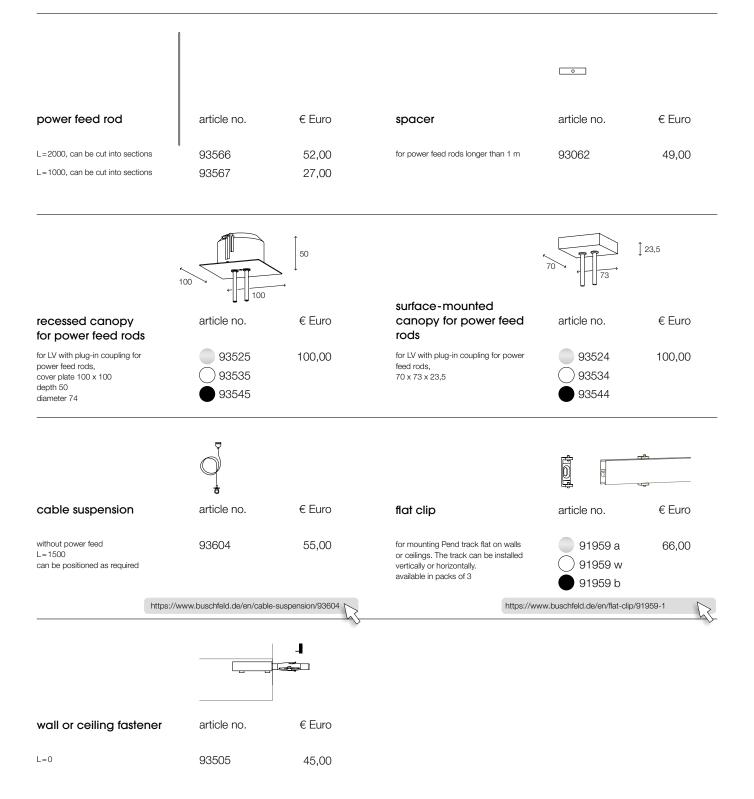
lightlight 12 V



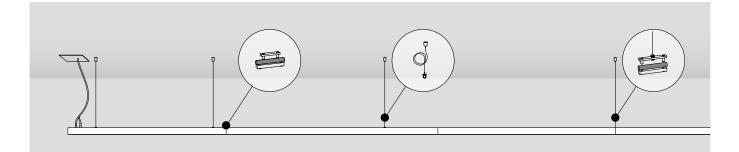
Pendant track with power feed for power feed rods



lightlight 12 V

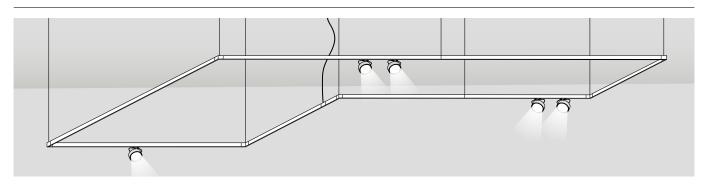


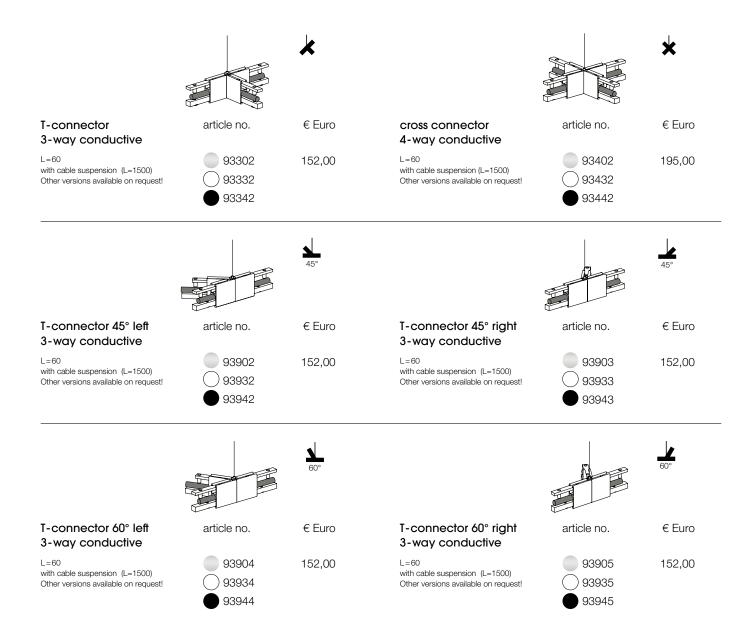
lightlight 12 V

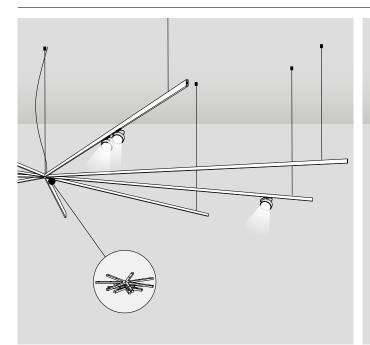


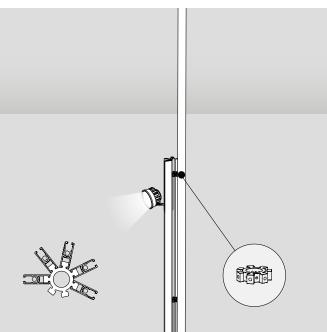
Connectors

| | | - | | | |
|---|---|--------------------|---|---|----------|
| linear connector conductive | article no. | € Euro | linear connector insulated | article no. | € Euro |
| L=0 without cable suspension | 93103 | 52,00 | L=0 without cable suspension | 93102 | 52,00 |
| | U U | <u> </u> | | | <u>ل</u> |
| linear connector conductive | article no. | € Euro | linear connector insulated | article no. | € Euro |
| L=0 with cable suspension (L=1500) | 93109 | 86,00 | L=0 with cable suspension (L=1500) | 93112 | 86,00 |
| angle connector 90° | article no. | ↓ € Euro | angle connector 90° | article no. | € Euro |
| conductive L=35 with cable suspension (L=1500) | 93202 93232 93242 | 114,00 | insulated L=35 with cable suspension (L=1500) | 93205 93235 93245 | 114,00 |
| | | | | | |
| joint connector 80-280° conductive | article no. | € Euro | joint connector 80-280° non-conductive | article no. | € Euro |
| L=0 with cable suspension (L=1500) | 93206 | 125,00 | L=0 with cable suspension (L=1500) | 93208 | 92,00 |









Connectors

| star-shaped connectors horizontal, conductive | rays | article no. | €Euro |
|---|------|-------------|--------|
| Available with 5-12 beams. | 5 | 95805 | 236,00 |
| The track is inserted directly onto the connector, leading | 6 | 95806 | 266,00 |
| to a central point. The sections of track (the beams) are electrically interconnected. | 7 | 95807 | 295,00 |
| | 8 | 95808 | 323,00 |
| | 9 | 95809 | 353,00 |
| We are glad to help you | 10 | 95810 | 381,00 |
| achieve your design ideas. | 11 | 95811 | 409,00 |
| | 12 | 95812 | 438,00 |



rays

article no.

star-shaped connectors vertical, non-conductive

| Star-shaped connectors | 5 | 95705 | 109,00 |
|--|----|-------|--------|
| are available with 5-12 beams. The track is | 6 | 95706 | 109,00 |
| inserted directly onto the | 7 | 95707 | 109,00 |
| connector, running parallel. The connection is purely | 8 | 95708 | 109,00 |
| mechanical. | 9 | 95709 | 109,00 |
| Power feeds are applied | 10 | 95710 | 109,00 |
| as required. Please inquire separately. | 11 | 95711 | 109,00 |
| | 12 | 95712 | 109,00 |

https://buschfeld.de/en/how-it-works/88112



€ Euro

Luminaires for pend





flex

https://buschfeld.de/en/how-it-works/88111

spot 5

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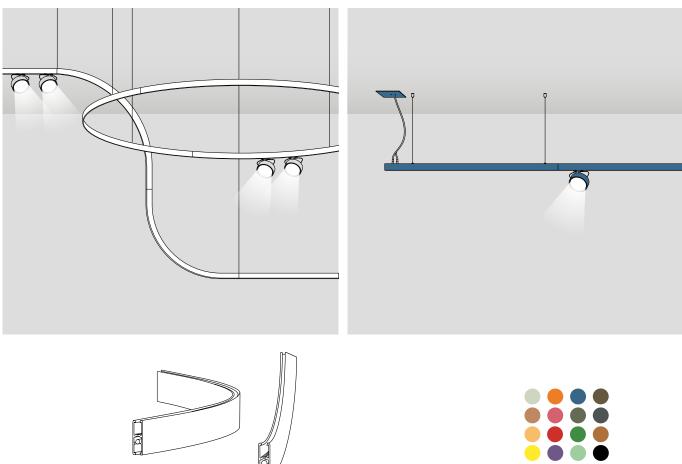




shop 13

shop-v 5

luminaires page 39 ff. power supply units page 75 ff.



custom-made track: radius

Curved sections of track, flat or upright (min. diameter of 1000 mm), are also available.

Please send us an e-mail with the data applicable for your planned track layout to info@buschfeld.de See page 88 f for further information.

https://buschfeld.de/en/how-it-works/88114



custom-made: colour

All track and shades can be custom made in the colour (RAL or NCS) of your choice.

Please send us an e-mail with information with the layout of the track, the number of luminaires, choice of colour(s) to: info@buschfeld.de. See page 90 for further information.

https://buschfeld.de/en/how-it-works/88107

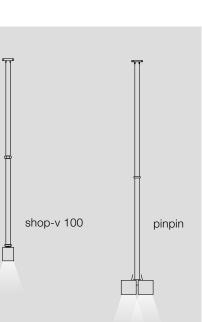


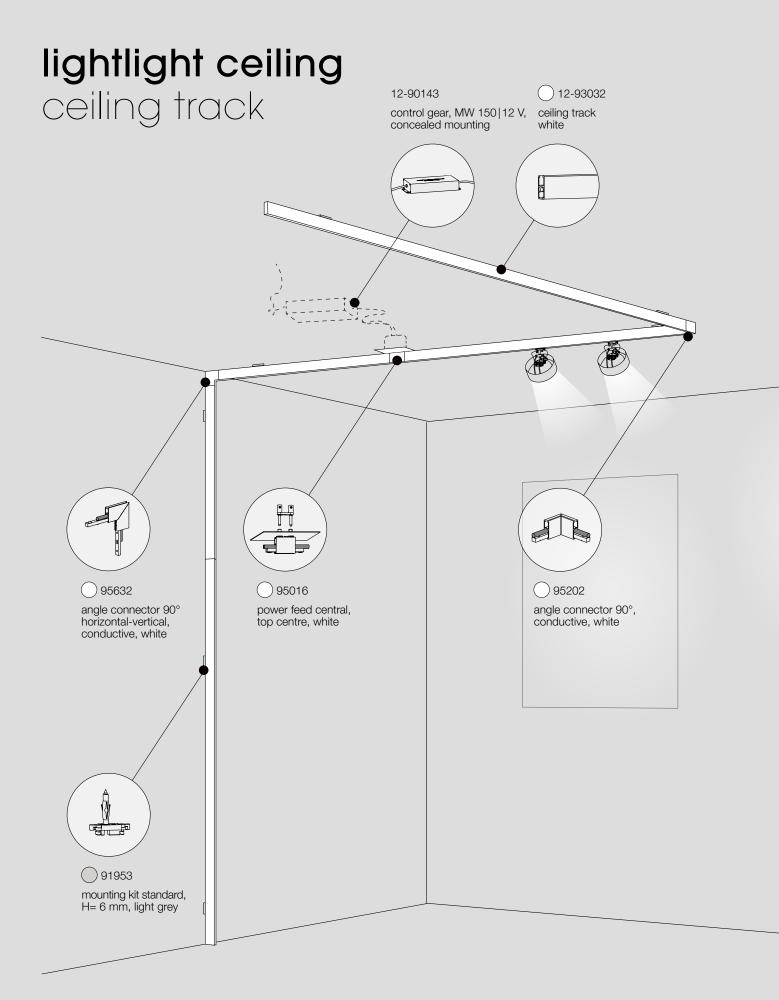
balance 25

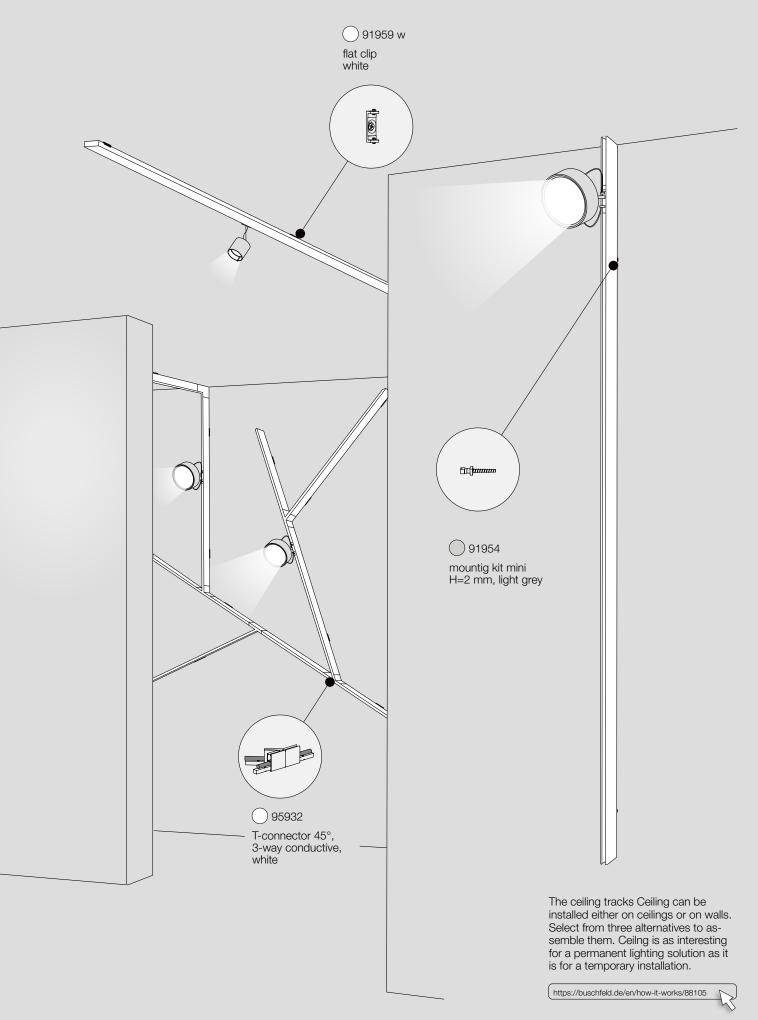


balance 50



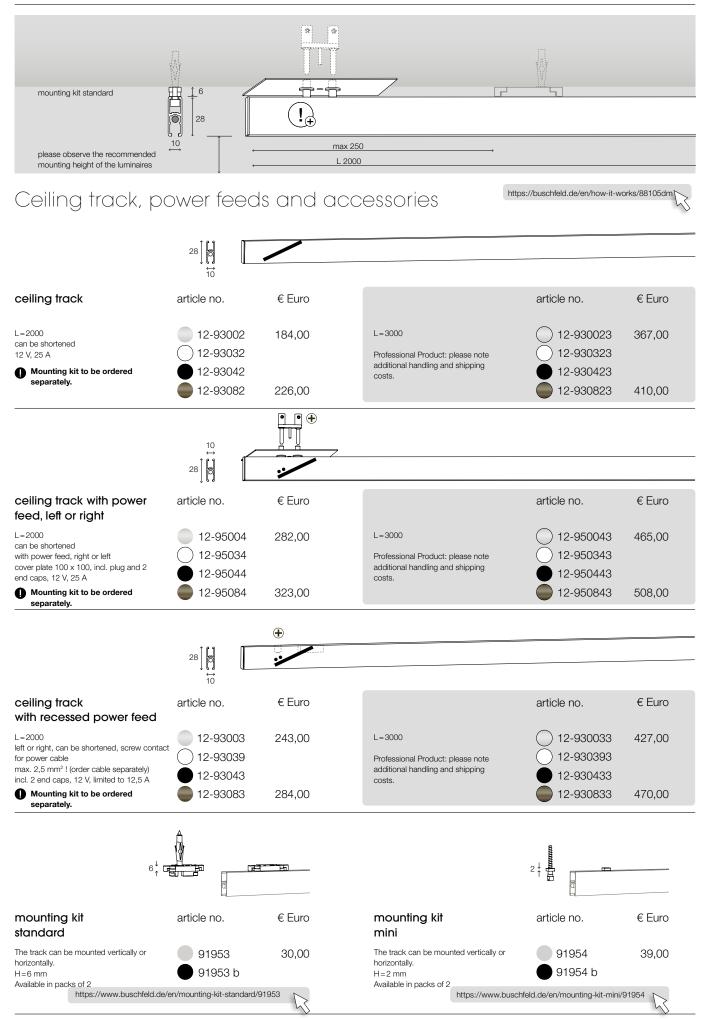






ceiling

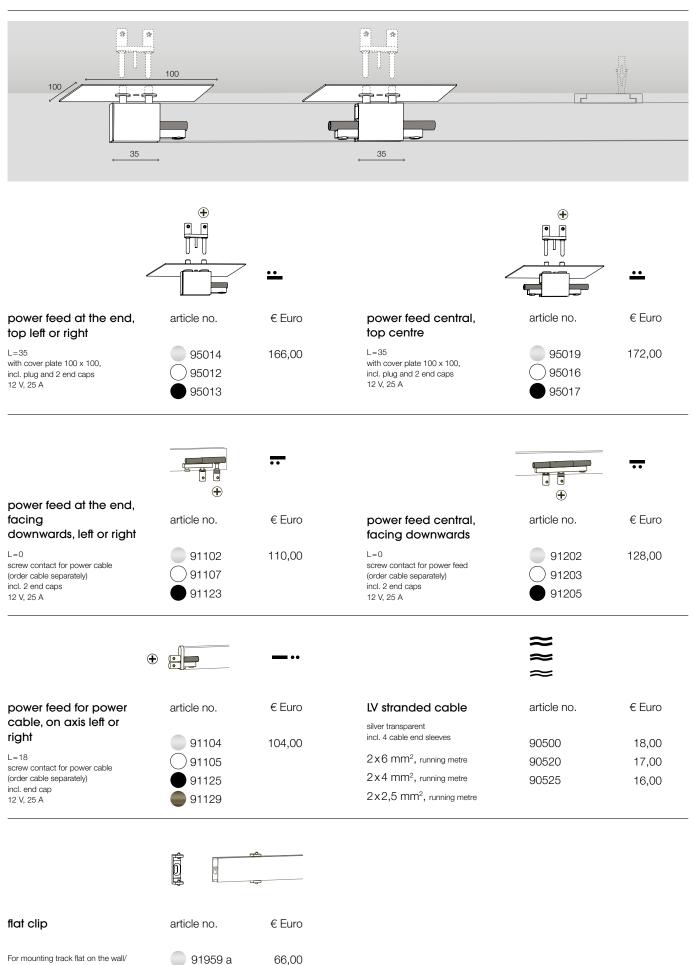
lightlight 12 V



2404-222

ceiling

lightlight 12 V



ceiling. The track can be mounted vertically or horizontally. Available in packs of 3

91959 w

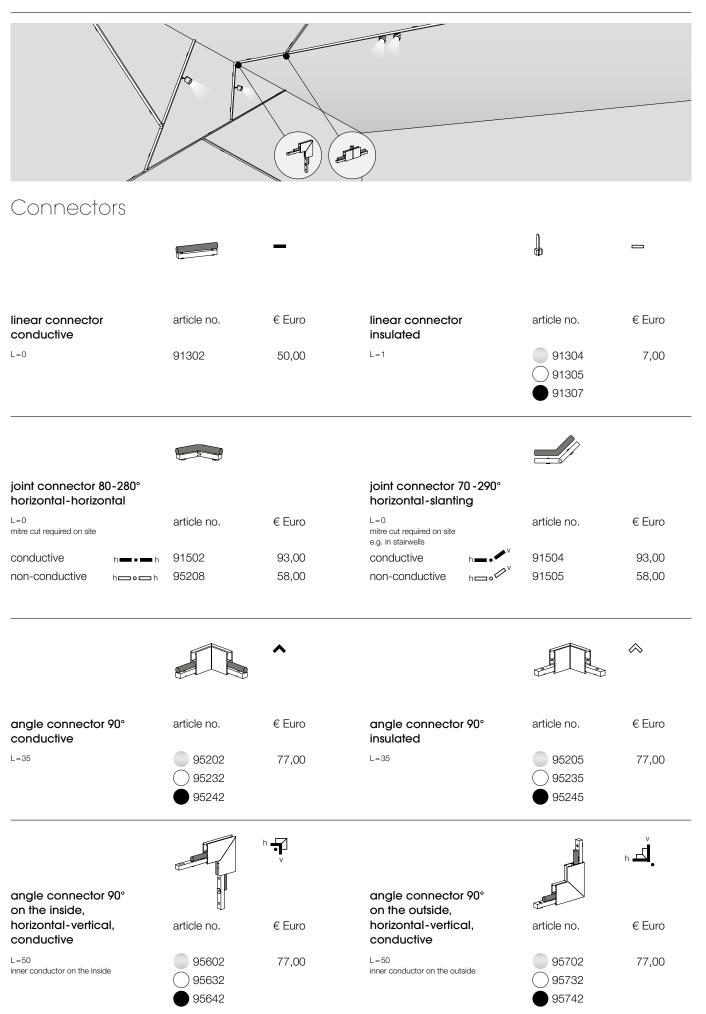
91959 b

https://www.buschfeld.de/en/flat-clip/91959-1

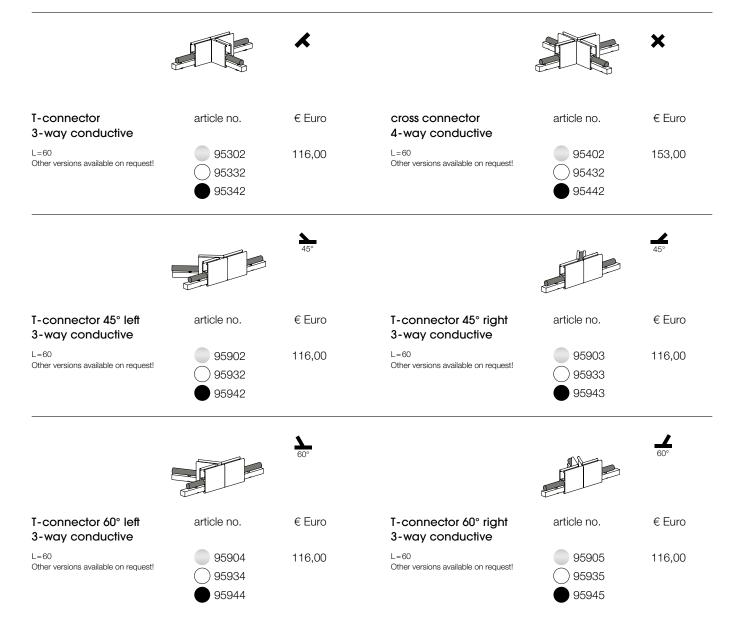
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lightlight 12 V

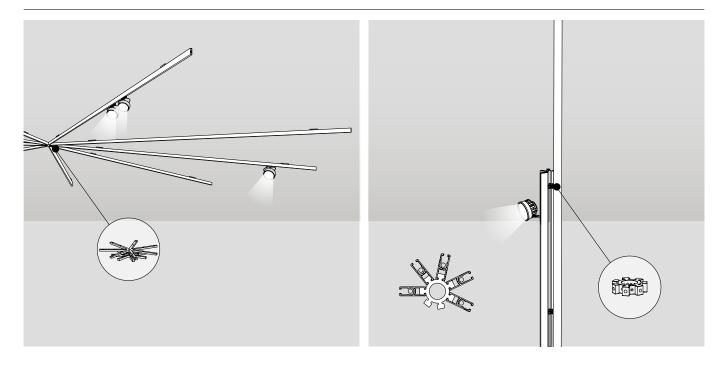


lightlight 12 V



ceiling

lightlight 12 V





| star-shaped connectors horizontal, conductive | rays | article no. | € Euro |
|---|------|-------------|--------|
| Star-shaped connectors | 5 | 95805 | 150,00 |
| horizontal, conductive Available with 5-12 beams. | 6 | 95806 | 173,00 |
| The track is inserted di- | 7 | 95807 | 195,00 |
| rectly onto the connector, leading to a central point. | 8 | 95808 | 217,00 |
| The sections of track (the | 9 | 95809 | 241,00 |
| beams) are electrically interconnected. | 10 | 95810 | 261,00 |
| | 11 | 95811 | 284,00 |
| We are glad to help you achieve your design ideas. | 12 | 95812 | 306,00 |



star-shaped connectors vertical, non-conductive

Star-shaped connectors vertical, non-conductive Available with 5-12 beams. The track is inserted directly onto the connector, running parallel. The connection is purely mechanical. Power feeds are applied as required. Please inquire separately.

| rays | article no. | €Euro |
|------|-------------|--------|
| | | |
| 5 | 95705 | 109,00 |
| 6 | 95706 | 109,00 |
| 7 | 95707 | 109,00 |
| 8 | 95708 | 109,00 |
| 9 | 95709 | 109,00 |
| 10 | 95710 | 109,00 |
| 11 | 95711 | 109,00 |
| 12 | 95712 | 109,00 |
| | | |

https://buschfeld.de/en/how-it-works/88112

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Design: Hans Buschfeld



https://buschfeld.de/en/how-it-works/88111





max

flex

spot 5

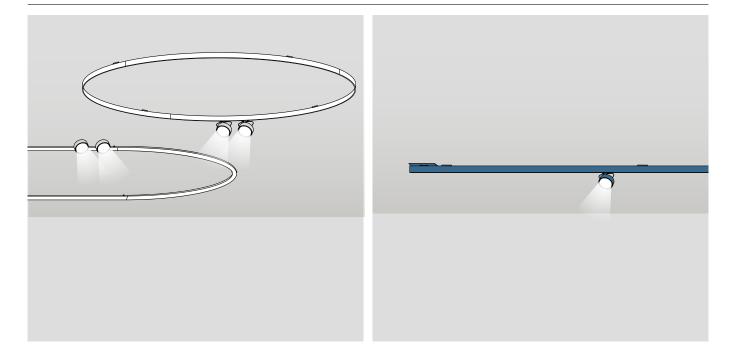
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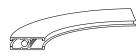
shop 13



luminaires page 39 ff. power supply units page 75 ff.

30







custom-made track: radius

Curved sections of track, flat or upright (min. diameter of 1000 mm), are also available.

Please send us an e-mail with the data applicable for your planned track layout to info@buschfeld.de. See page 88f for further information.

https://buschfeld.de/en/how-it-works/88114



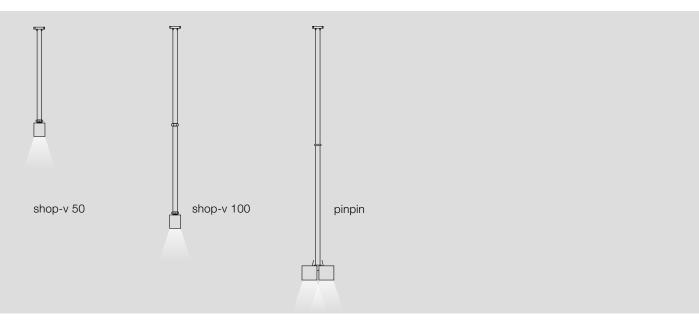
custom-made: colour

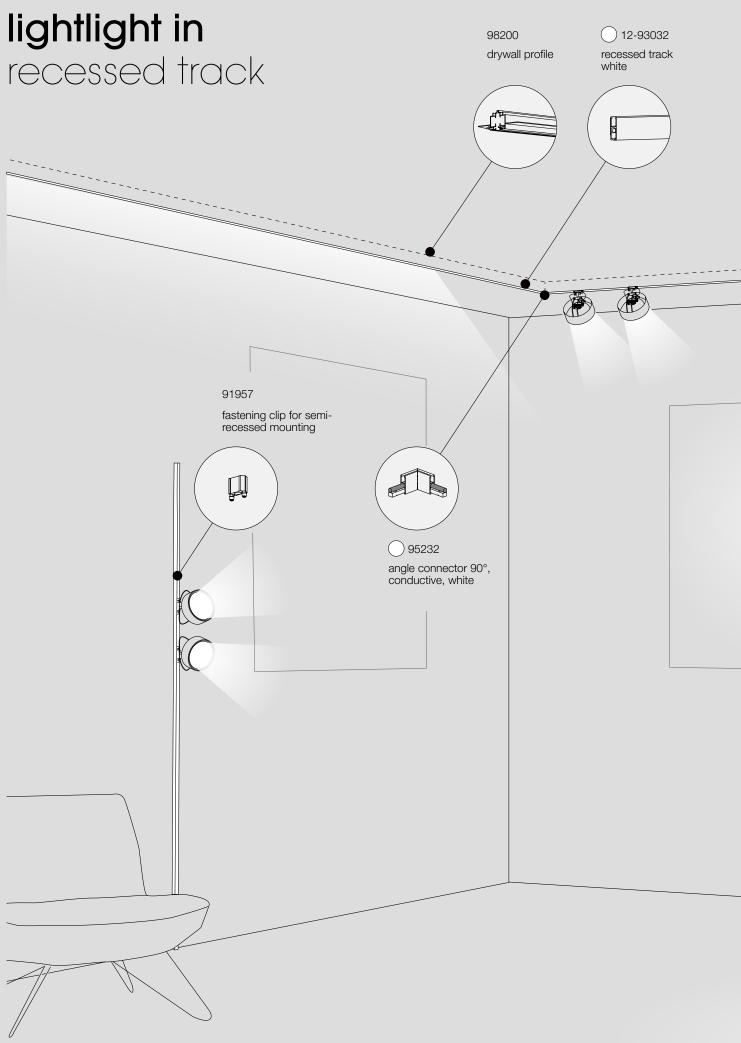
All track and shades can be custom made in the colour (RAL or NCS) of your choice.

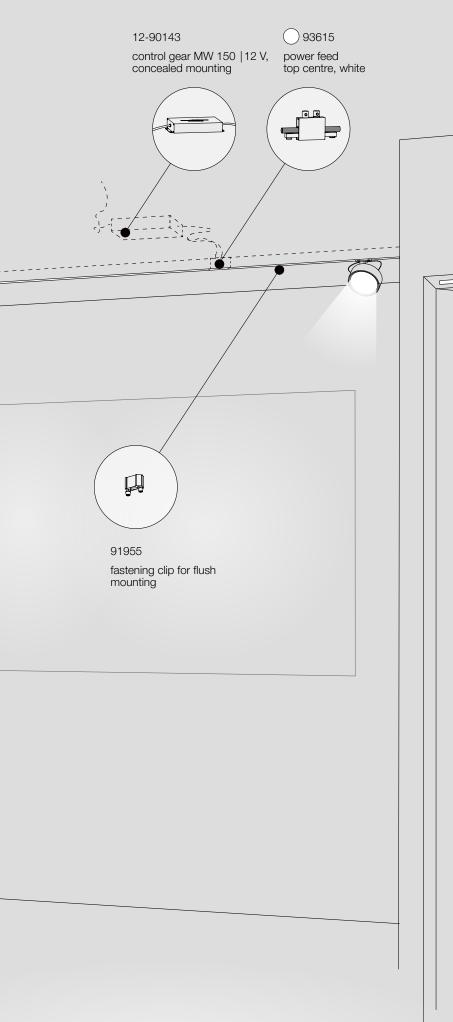
Please send us an e-mail with information with the layout of the track, the number of luminaires, choice of colour(s) to: info@buschfeld.de. See page 90 for further information.

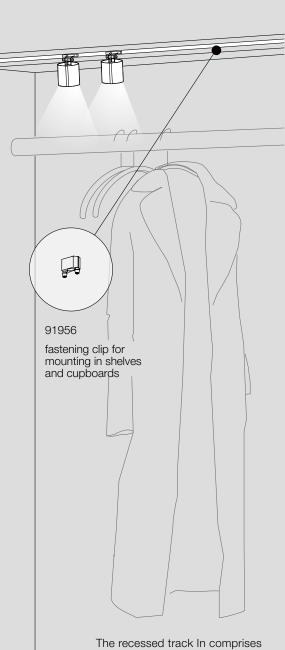
https://buschfeld.de/en/how-it-works/88107







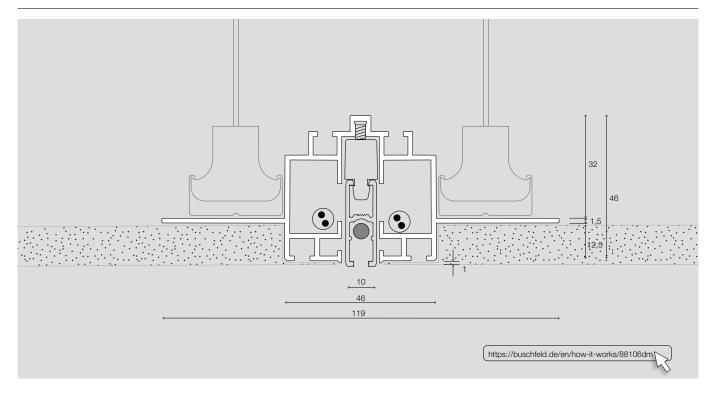




The recessed track In comprises ultra-slimline track systems for recessed mounting on ceilings or walls. Recessed track applications need to be planned well in advance, given that the drywall profile needs to already have been installed in the drywall construction. Once the surface has been plastered and painted, all that remains visible is a 10 mm wide line.

https://buschfeld.de/en/how-it-works/88106

1

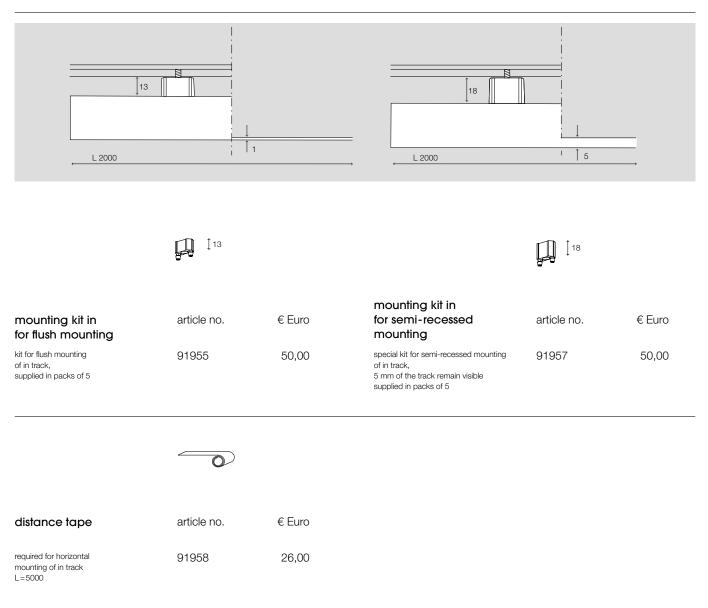


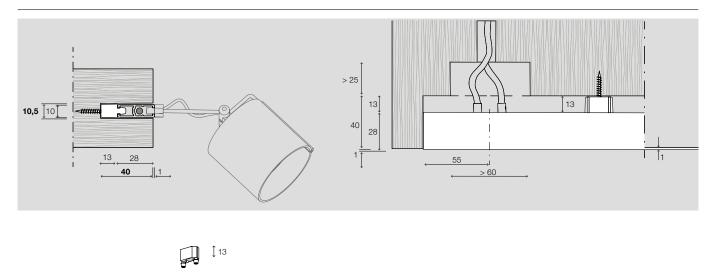
Drywall profile and accessories

| article no. | | | | |
|-------------|-------------|---|--|---|
| | € Euro | | | |
| 98200 | 196,00 | | | |
| | | | | |
| article no. | € Euro | corner element 90°, horizontal-vertical | article no. | €Eurc |
| 98050 | 127,00 | Aluminium profile for flush mounting on ceilings or walls, for horizontal and/ or vertical mounting | 98055 | 127,00 |
| | article no. | article no. € Euro | article no. € Euro corner element 90°, horizontal - vertical 98050 127,00 Aluminium profile for flush mounting on ceilings or walls, for horizontal and/ | Image: wide of the second |

| LV stranded cable | ** ** | |
|---|-------------|--------|
| silver transparent incl. 4 cable end sleeves | article no. | € Euro |
| 2 x 6 mm ² , running metre | 90500 | 18,00 |
| 2 x 4 mm ² , running metre | 90520 | 17,00 |
| 2 x 2,5 mm ² , running metre | 90525 | 15,00 |

Design: Hans Buschfeld CE

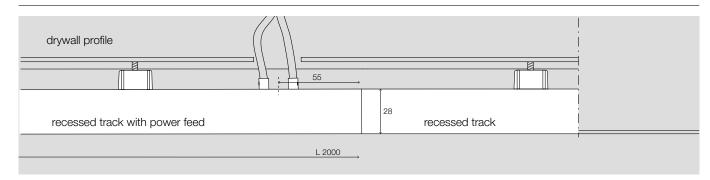




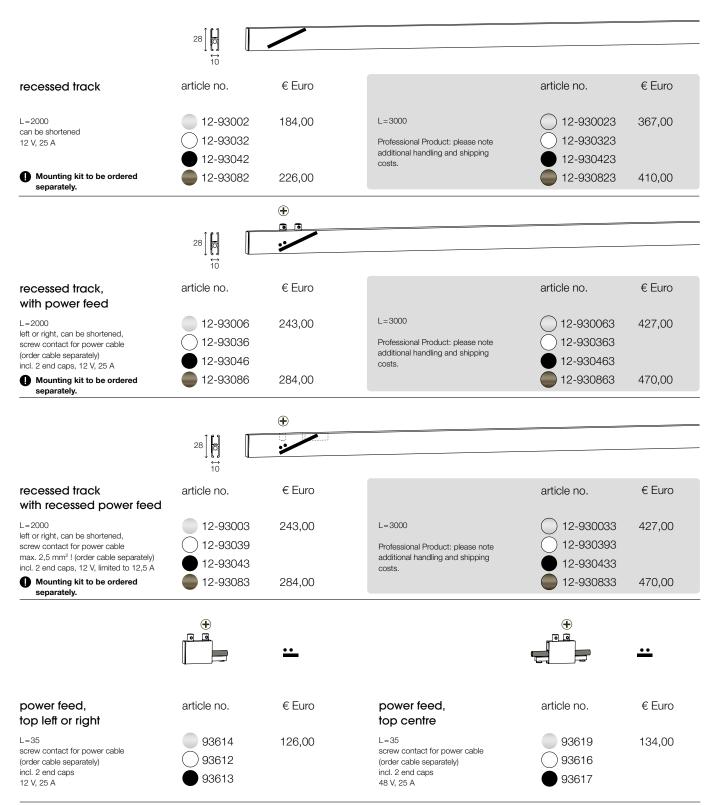
| mounting kit in for mounting in shelves | article no. | € Euro |
|---|-------------|--------|
| in mounting kit for mounting in shelves (2 pcs.), 1 mm of the track remains visible supplied in packs of 2 NB instructions re. milling! | 91956 | 33,00 |

in

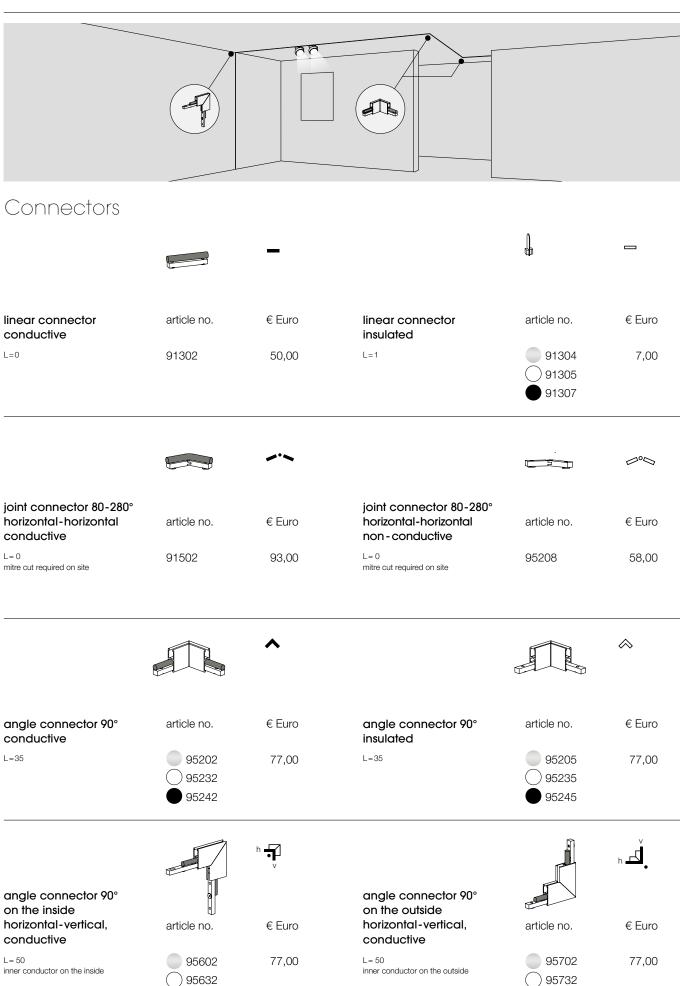
35



Recessed track with power feed

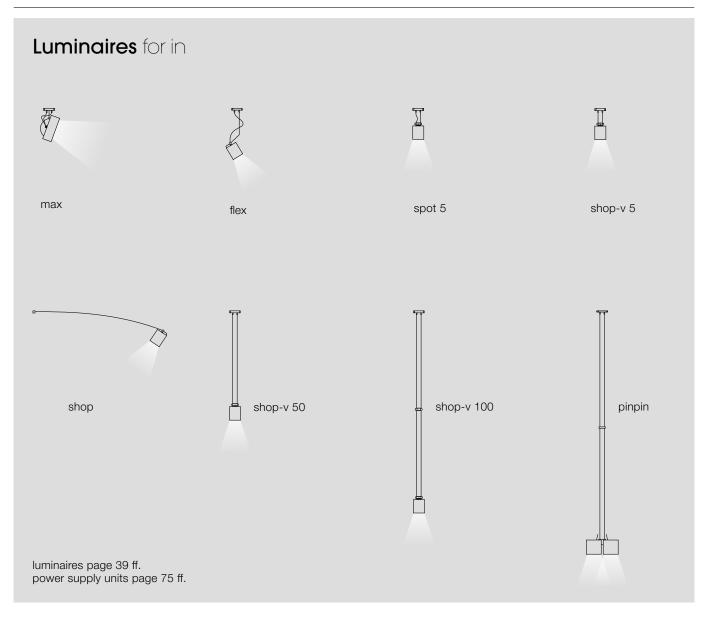


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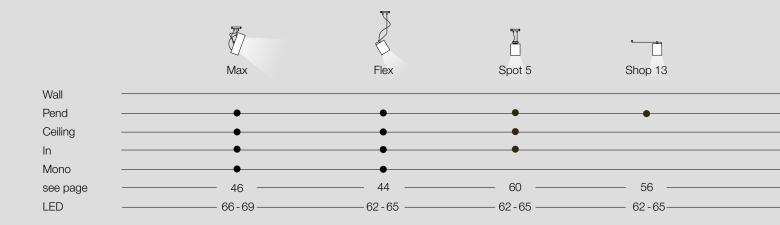
95742

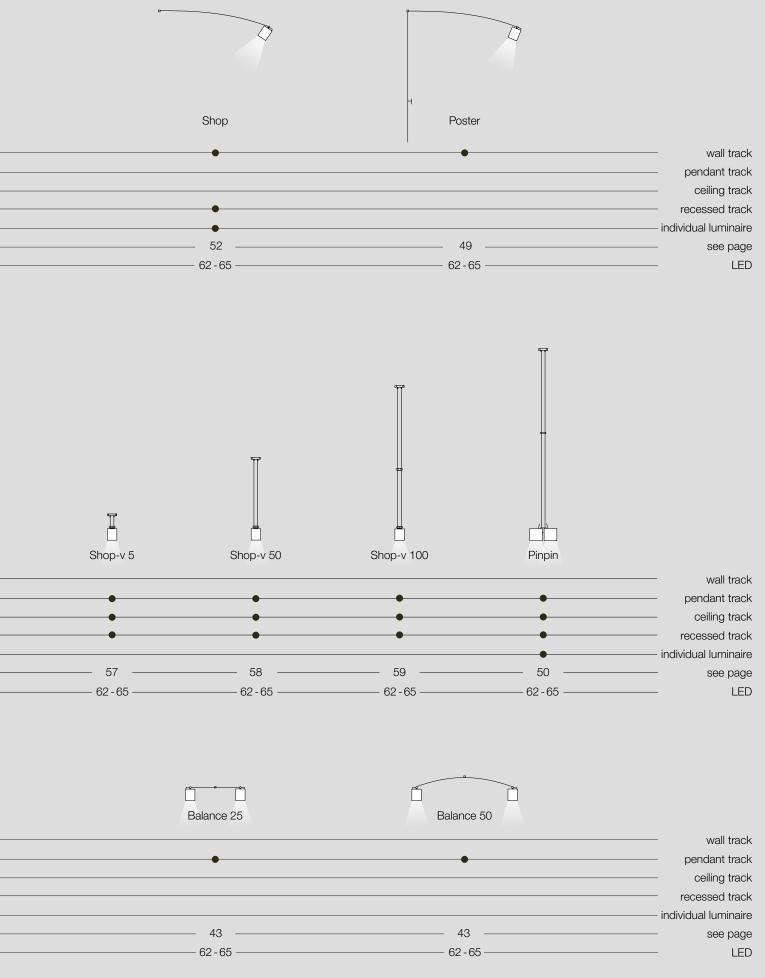


luminaires $12 \vee$

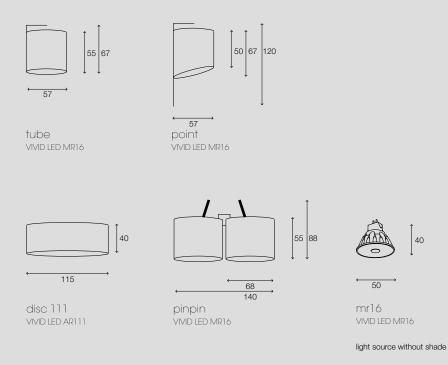
lightlight luminaires

| | Max-w | Shop-w |
|----------|-------|---------|
| Wall | • | • |
| Pend | | |
| Ceiling | | |
| In | | |
| Mono | | |
| see page | 47 | 55 |
| LED | 66-69 | 62 - 65 |



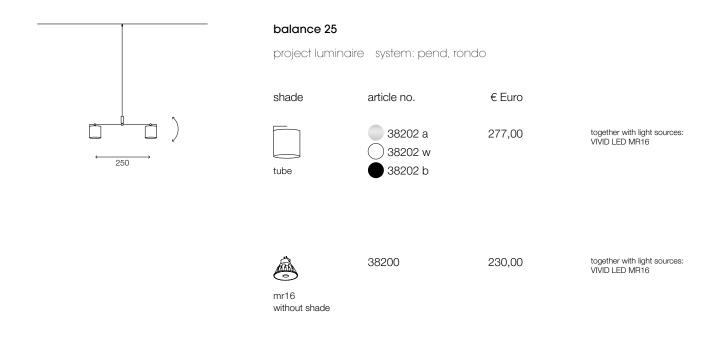


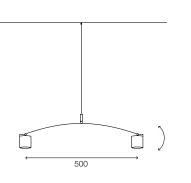
types of shades







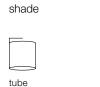




balance 50

project luminaire system: pend, rondo

article no.





37620

a W

307,00

€ Euro

together with light sources: VIVID LED MR16

mr16

without shade

258,00

together with light sources: VIVID LED MR16

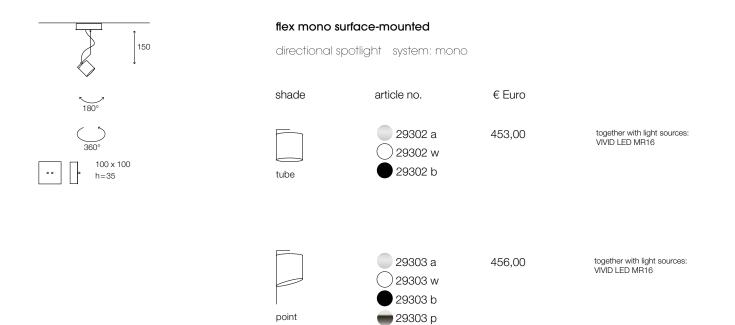
lightlight 12 V





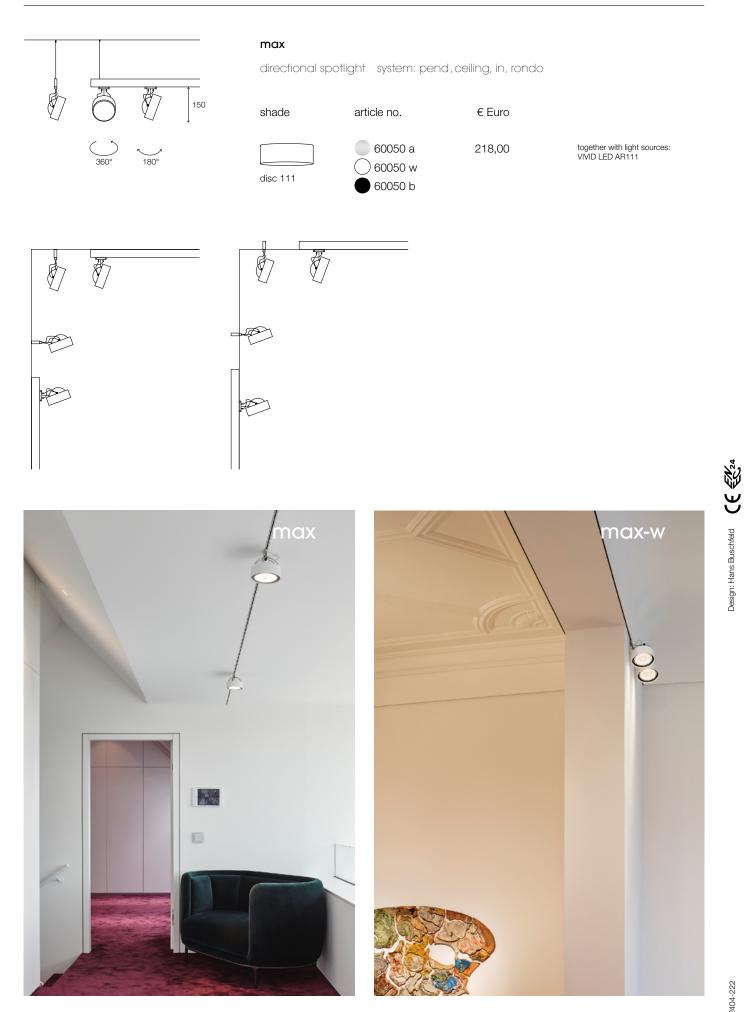


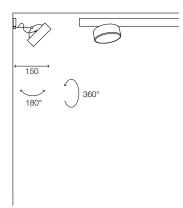




The Flex Mono version for recessed mounting is supplied with wall box and cover plate. The power supply must be ordered separately (page 82). The surface-mounted version is supplied with an integral electronic power supply. Flex Mono spotlights cannot be mounted on walls.

2404-222





max-w

directional spotlight system: wall

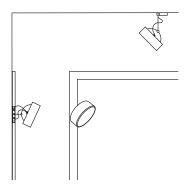
article no.



60051 a 60051 w 60051 b € Euro

221,00

together with light sources: VIVID LED AR111

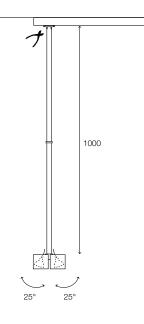




Surface-mounted version with integral power supply.



| | poster picture luminair | e system: wall | | |
|----------------|-----------------------------------|--|------------------|--|
| 2700 1 2300 | shade | article no. | € Euro 230,00 | together with light sources: VIVID LED MR16 |
| | tube | 12202 w 12202 b | | VIVID LED MH TO |
| | point | 12203 a 12203 w 12203 b 12203 p | 232,00 | together with light sources: VIVID LED MR16 |



pinpin

table and counter luminaire system: pend, ceiling, in

article no.

shade

€ Euro

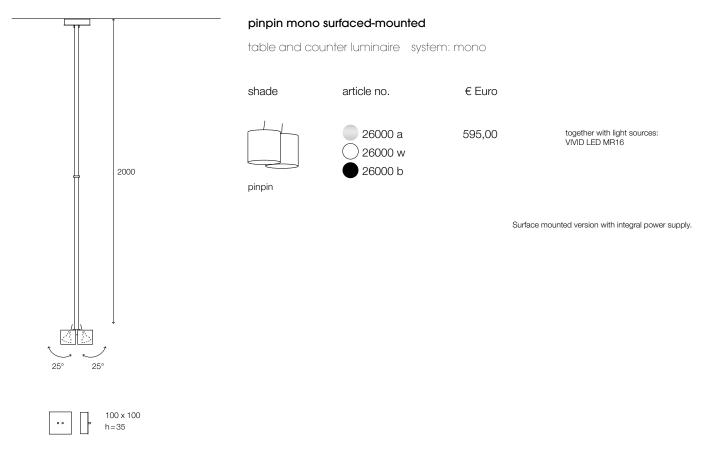
358,00

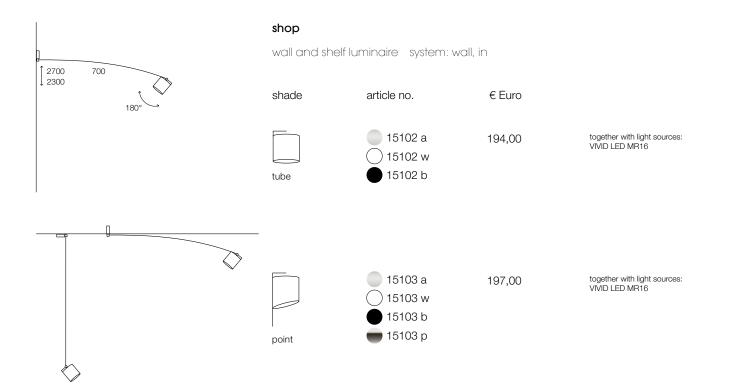


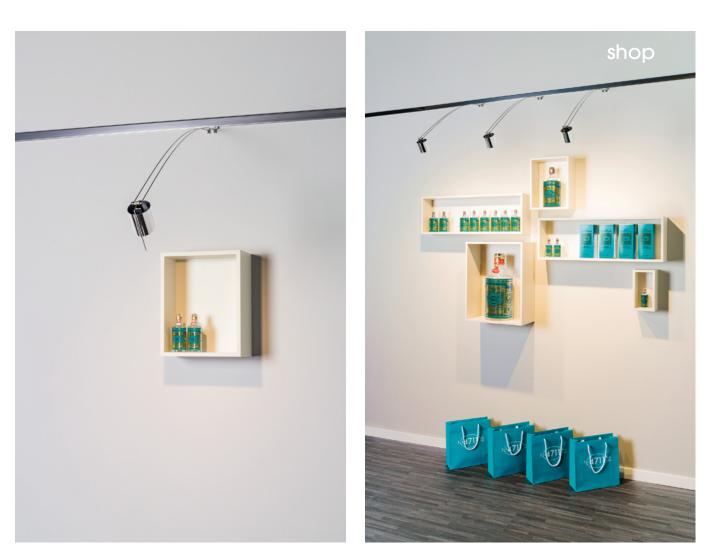
33000 a 33000 w 33000 b together with light sources: VIVID LED MR16











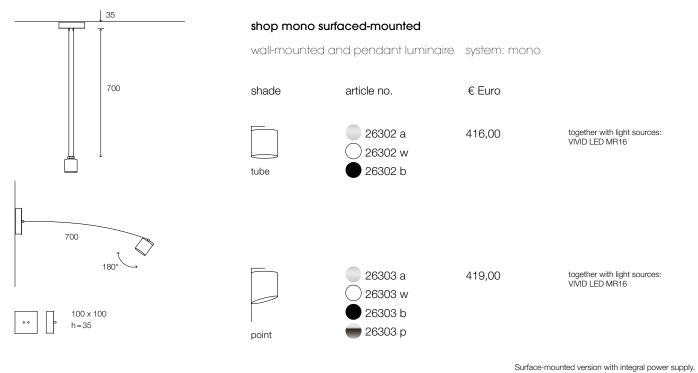
Design: Hans Buschfeld CE 24



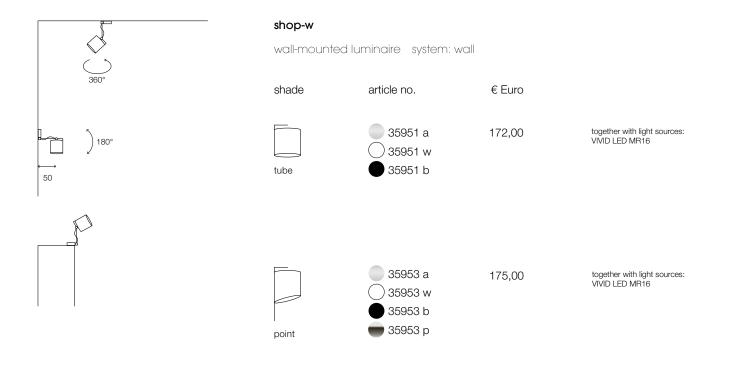
Recessed version supplied with wall box and cover plate. Power supply must be ordered separately (page 82).

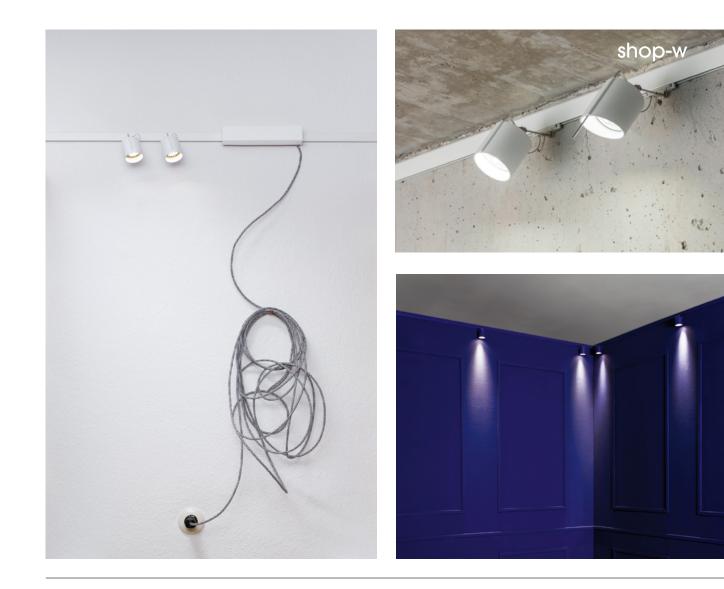


2404-222









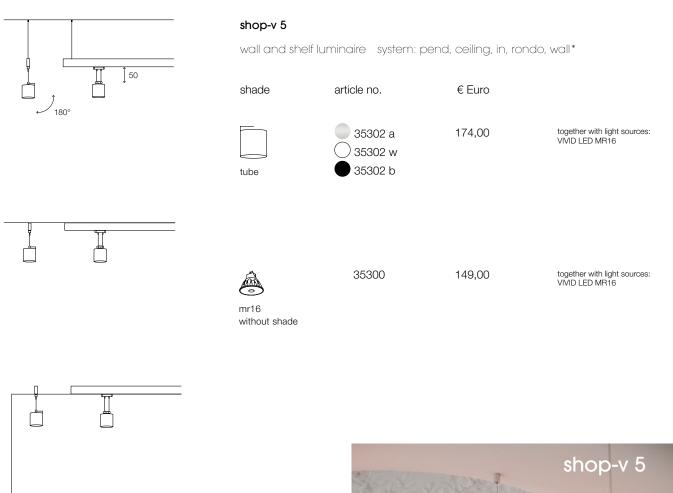
2404-222

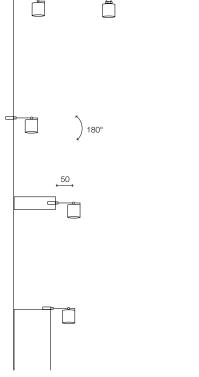


in combination with Balance 25



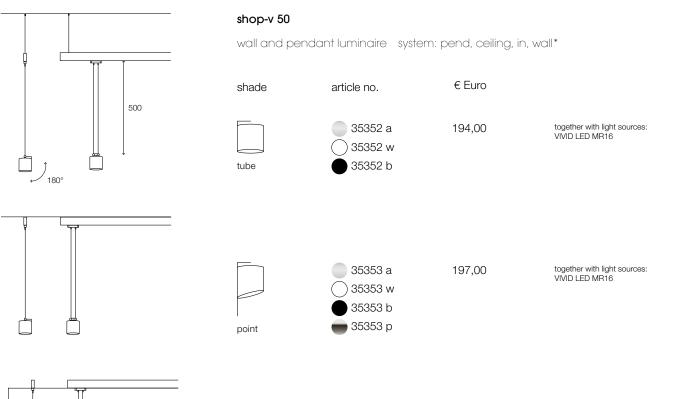
Design: Hans Buschfeld CE E224

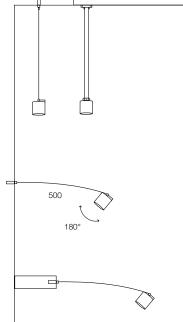


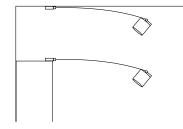


 $^{\star\star}\mbox{wall}$ applied for a custom solution, e.g. for mounting on/in furniture



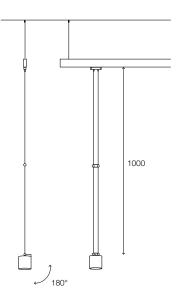






*wall applied for a custom solution: ceiling-mounted, and mounted on/in furniture





shop-v 100

table and counter luminaire system: pend, ceiling, in



35602 a 35602 w

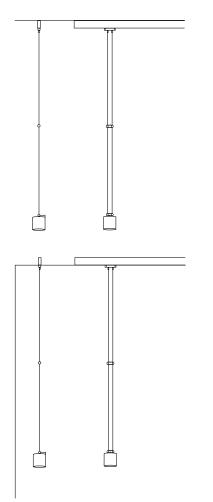
35602 b

article no.

219,00

€ Euro

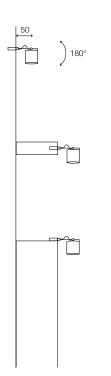
together with light sources: VIVID LED MR16





2404-222







Design: Hans Buschfeld CE 24

light sources

Ä



VIVID LED MR16

LED lamp QR-CBC51, GU5.3

for shade types

- Ø 50 mm, L = 45,5 mm
- single source LED with single shadow for enhanced perception of textures and materials - precise light distribution with very little spill
- CRI: $\rm R_{_{\rm B}} > 95$ and $\rm R_{_{\rm 9}} \ge 95$ - excellent colour stability
- excellent white colour rendering
- long lifespan with 35000 h or 50 TSD switching cycles
- no UV/infrared radiation
- automatic power reduction in the event of overheating
- dimmable (observe recommended dimming levels!) to 20 %
- ignition time <0,2 secs
- energy efficiency class G
- Lux1 = illuminance at the centre of the light source measured at the respective distance
- Lux² = illuminance at the edge of the beam of light

Technical data subject to change. Current product specifications can be found at www.soraa.com





point



pinpin

technical data

Ømm

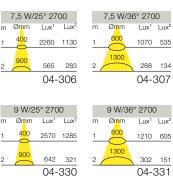
Ømm

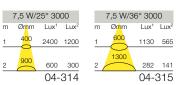
4<mark>00</mark>

Ømm Lux¹

4<mark>0</mark>0

2









| Kelvin | lumen | lm/W | wattage beam angle | neadcode | article no. | €Euro |
|--------|-------|------|-----------------------|----------|-------------|-------|
| 2700 K | 410 | 55 | 7,5 W/25° | 00931 | 04-306 | 34,00 |
| 2700 K | 410 | 55 | 7,5 W/36° | 00943 | 04-307 | 34,00 |
| | | | | | | |
| 2700 K | 465 | 52 | 9 W/25° | 00955 | 04-330* | 39,50 |
| 2700 K | 465 | 52 | 9 W/36° | 00963 | 04-331 * | 39,50 |
| | | | | | | |
| 3000 K | 435 | 58 | 7,5 W/25° | 00935 | 04-314 | 34,00 |
| 3000 K | 435 | 58 | 7,5 W/36° | 00947 | 04-315 | 34,00 |
| | | | | | | |
| 3000 K | 490 | 54 | 9 W/25° | 00959 | 04-334 * | 39,50 |
| 3000 K | 490 | 54 | 9 W/36° | 00967 | 04-335* | 39,50 |

*not to be used in recessed downlights or enclosed housings



VIVID LED MR16 Snap system

LED lamp QR-CBC51, GU5.3

- Ø 50 mm, L = 45,5 mm

- single source LED with single shadow for enhanced perception of textures and materials
- precise light distribution with very little spill
- CRI: R_a > 95 and R₉ ≥ 95
- excellent colour stability
- excellent white colour rendering
- long lifespan with 35000 h or 50 TSD switching cycles
- no UV/infrared radiation
- automatic power reduction in the event of overheating
- dimmable (observe recommended dimming levels!) to 20 %
- ignition time <0,2 secs
- energy efficiency class G

In addition to the above-mentioned features this 10° LED light source disposes over a self-centering magnet which allows a wide range of filters or honeycomb lourres to be clicked into place without tools. It is also possible to adjust the beam angle simply from 10° to 36°, for example, and to change the shape of the beam from circular to rectangular. The Snap system cuts down storage costs, given that only one type of light source needs to be ordered and used for multiple applications. Maximum flexibility up to the time of installation. Filters can be applied on a temporary basis for effect. Different combinations of filters can be applied. 10 % brightness loss should be reckoned for every filter applied.

- Lux^1 = illuminance at the centre of the light source

measured at the respective distance - Lux² = illuminance at the edge of the beam of light

Technical data subject to change. Current product specifications can be found at www.soraa.com

| \bigcirc | |
|------------|--|
| tube | |

for shade types







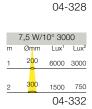


7,5 W/10° 2700 n Ømm Lux¹ Lux² 1 2<mark>0</mark>0 5710 2855

1428 714

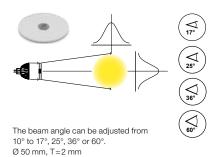
technical data

300



| Kelvin | lumen | lm/W | wattage beam angle | neadcode | article no. | €Euro |
|--------|-------|------|-----------------------|----------|-------------|-------|
| 2700 K | 390 | 52 | 7,5 W/10° | 00919 | 04-328 | 34,00 |
| 3000 K | 410 | 55 | 7,5 W/10° | 00923 | 04-332 | 34,00 |

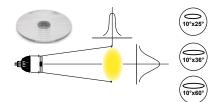
More information on Snap system filters can be found on the following pages.



beam angle circular

accessories for VIVID LED MR16 (12 V) and fifty (48 V) with Snap System

| beam angle | neadcode | article no. | €Euro |
|------------|----------|-------------|-------|
| 17° | 03263 | 409 | 7,00 |
| 25° | 00325 | 410 | 7,00 |
| 36° | 00327 | 411 | 7,00 |
| 60° | 00329 | 412 | 7,00 |
| | | | |

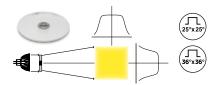


For the creation of asymmetric light beams, in particular for the illumination of linear objects. Given the oval shape of the light beam from just one light source per exhibit, fewer luminaires are required. 0 50 mm, T=2 mm

beam angle oval

accessories for VIVID LED MR16 (12 V) and fifty (48 V) with Snap System

| beam angle | neadcode | article no. | €Euro |
|------------|----------|-------------|-------|
| 10° x 25° | 00331 | 413 | 11,00 |
| 10° x 36° | 00333 | 414 | 11,00 |
| 10° x 60° | 03259 | 418 | 11,00 |

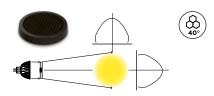


The circular shape of the 10° light beam is modified to generate a rectangular shaped beam: for square light fields on walls and floors. Uniform spread of light across the designated surface. No fading light along the edges. 0.50 mm, T=2 mm

beam angle rectangular

accessories for VIVID LED MR16 (12 V) and fifty (48 V) with Snap System

| beam angle | neadcode | article no. | €Euro |
|------------|----------|-------------|-------|
| 25° x 25° | 00335 | 415 | 11,00 |
| 36° x 36° | 00337 | 416 | 11,00 |



For glare control Ø 51.1 mm, T=9 mm

honeycomb louvre

accessories for VIVID LED MR16 (12 V) and fifty (48 V) with Snap System

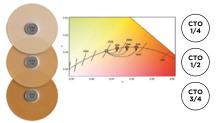
| beam angle | neadcode | article no. | € Euro |
|------------|----------|-------------|--------|
| 40° | 00339 | 417 | 11,00 |

€ Euro

11,00

11,00

11,00



For shifting the colour temperature to simulate dimmable warm white lighting conditions. Also on a temporary basis, for example on festive occasions. Ø 50 mm, T=2 mm

| 1/4 CTO | 1/2 CTO | 3/4 CTC |
|---------|---------|---------------|
| 2450 K | 2200 K | 2000 K |
| 2700 K | 2400 K | 2200 K |
| | 2450 K | 2450 K 2200 K |

3/4 3/4 CTO 2000 K

| - | | E1 |
|-------------|--------------|----|
| SORAA VIVID | ENHANCE SNAP | |

Filter for enhanced colour quality. Increases the vibrance of warm colours (red, orange and pink) and green. Ideal for applications where different colours need to be rendered perfectly. Underscores the richness of colours. Ø 50 mm, T=2 mm

colour enhancement filter

shifting colour temperature

Colour Temperature Orange

CTO

1/4

1/2

| neadcode | article no. | € Euro |
|----------|-------------|--------|
| 03281 | 405 | 32,00 |

article no.

400

401

402

For application with coloured foil or dichroic filters to generate special atmospheres or effects. Ø 50 mm, T=2 mm



transparent filter

accessories for VIVID LED MR16 (12 V) and fifty (48 V) with Snap System

accessories for VIVID LED MR16 (12 V) and fifty (48 V) with Snap System

accessories for VIVID LED MR16 (12 V) and fifty (48 V) with Snap System

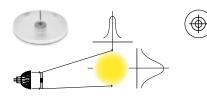
neadcode

00323

00321

00319

| neadcode | article no. | € Euro |
|----------|-------------|--------|
| 02183 | 403 | 6,50 |



Using two rotatable filter discs, the filter can change the beam spread from 0° to 20° without changing the colour temperature or the beam shape. Ø 50 mm, T=2 mm

filter disc

accessories for VIVID LED MR16 (12 V) and fifty (48 V) with Snap System

| neadcode | article no. | € Euro |
|----------|-------------|--------|
| 03255 | 404 | 13,50 |



VIVID LED AR111

aluminium lamp QR111, GU53

- Ø 111 mm. L = 57 mm
- single source LED with single shadow for enhanced
- perception of textures and materials precise light distribution with very little spill
- Ra > 95 and R9 \geq 95
- excellent colour stability
- excellent white colour rendering
- long lifespan with 35000 h or 50 TSD switching cycles
- no UV/infrared radiation
- automatic power reduction in the event of overheating
- dimmable (observe recommended dimming levels!) to 20 %
- ignition time <0,2 secs
- \mbox{Lux}^1 = illuminance at the centre of the light source measured at the respective distance
- Lux^2 = illuminance at the edge of the beam of light
- energy efficiency class G

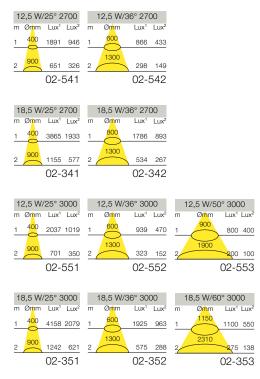
Technical data subject to change. Current product specifications can be found at www.soraa.com

| \sim | \rightarrow |
|----------|---------------|
| diao 111 | |

for shade types

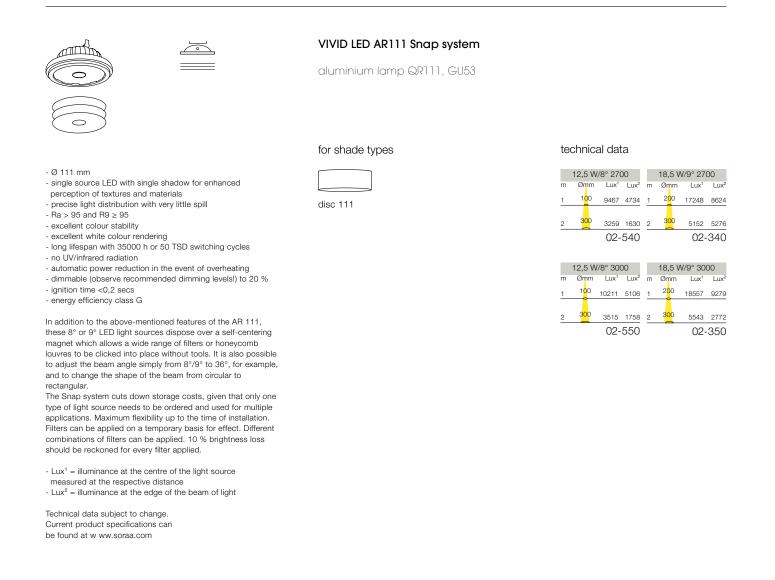
disc 111

technical data



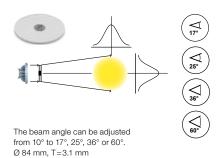
| Kelvin | lumens | lm/W | wattage beam angle | neadcode | article no. | €Euro |
|--------|--------|------|-----------------------|----------|-------------|-------|
| 2700 K | 575 | 46 | 12,5 W/25° | 01429 | 02-541 | 61,50 |
| 2700 K | 575 | 46 | 12,5 W/36° | 01431 | 02-542 | 61,50 |
| | | | | | | |
| 2700 K | 930 | 50 | 18,5 W/25° | 01027 | 02-341 | 70,50 |
| 2700 K | 930 | 50 | 18,5 W/36° | 01029 | 02-342 | 70,50 |
| | | | | | | |
| 3000 K | 620 | 50 | 12,5 W/25° | 01445 | 02-551 | 61,50 |
| 3000 K | 620 | 50 | 12,5 W/36° | 01447 | 02-552 | 61,50 |
| 3000 K | 620 | 50 | 12,5 W/50° | 01449 | 02-553 * | 61,50 |
| | | | | | | |
| 3000 K | 1000 | 54 | 18,5 W/25° | 01043 | 02-351 | 70,50 |
| 3000 K | 1000 | 54 | 18,5 W/36° | 01045 | 02-352 | 70,50 |
| | | | | | | |

* discontinued product)



| Kelvin | lumens | lm/W | wattage beam angle | neadcode | article no. | €Euro |
|--------|--------|------|-----------------------|----------|-------------|-------|
| 2700 K | 575 | 46 | 12,5 W/8° | 01427 | 02-540 | 57,50 |
| 2700 K | 930 | 50 | 18,5 W/9° | 01025 | 02-340 | 66,00 |
| | | | | | | |
| 3000 K | 620 | 50 | 12,5 W/8° | 01443 | 02-550 | 57,50 |
| 3000 K | 1000 | 54 | 18,5 W/9° | 01041 | 02-350 | 66,00 |

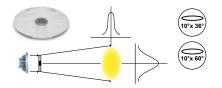
More information on Snap system filters can be found on the following pages.



beam angle circular

accessories for VIVID LED AR111 (12 V) and ninety-five (48 V) with Snap System

| beam angle | neadcode | article no. | € Euro |
|------------|----------|-------------|--------|
| 17° | 03265 | 439 | 9,50 |
| 25° | 01145 | 440 | 9,50 |
| 36° | 01147 | 441 | 9,50 |
| 60° | 01149 | 442 | 9,50 |
| | | | |



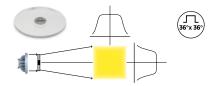
For the creation of asymmetric light beams, in particular for the illumination of linear objects. Given the oval shape of the light beam from just one light source per exhibit, fewer luminaires are required.

Ø 84 mm, T=3.1 mm

beam angle oval

accessories for VIVID LED AR111 (12 V) and ninety-five (48 V) with Snap System

| beam angle | neadcode | article no. | € Euro |
|------------|----------|-------------|--------|
| 10° x 36° | 01595 | 444 | 19,00 |
| 10° x 60° | 03261 | 445 | 19,00 |

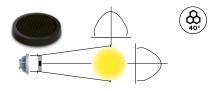


The circular shape of the 10° light beam is modified to generate a rectangular shaped beam: for square light fields on walls and floors. Uniform spread of light across the designated surface. No light fade along the edges. Ø 84 mm, T=3.1 mm

beam angle rectangular

accessories for VIVID LED AR111 (12 V) and ninety-five (48 V) with Snap System

| beam angle | neadcode | article no. | € Euro |
|------------|----------|-------------|--------|
| 36° x 36° | 01597 | 451 | 19,00 |



For glare control Ø 84 mm, T=9 mm

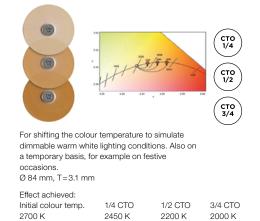
honeycomb louvre

accessories for VIVID LED AR111 (12 V) and ninety-five (48 V) with Snap System

| beam angle | neadcode | article no. | €Euro |
|------------|----------|-------------|-------|
| 40° | 01151 | 447 | 19,00 |

€ Euro

65.00



shifting colour temperature

accessories for VIVID LED AR111 (12 V) and ninety-five (48 V) with Snap System

| CTO Colour Temperature Orange | neadcode | article no. | €Euro |
|----------------------------------|----------|-------------|-------|
| 1/4 | 01153 | 430 | 19,00 |
| 1/2 | 01155 | 431 | 19,00 |
| 3/4 | 01157 | 432 | 19,00 |
| | | | |

colour enhancement filter

accessories for VIVID LED AR111 (12 V) and ninety-five (48 V) with Snap System

article no.

450

neadcode

03283

| SORAA VIVID | |
|-------------|--|
| \frown | |

3000 K



ENHANCE SNAP

2700 K

2400 K

2200 K

E1

CL

Filter for enhanced colour quality. Increases the vibrance of warm colours (red, orange and pink) and green. Ideal for applications where different colours need to be rendered perfectly. Underscores the richness of colours.

Ø 84 mm, T=3.1 mm

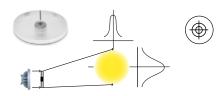


transparent filter

accessories for VIVID LED AR111 (12 V) and ninety-five (48 V) with Snap System

For application with coloured foil or dichroic filters to generate special atmospheres or effects. Ø 84 mm, T=3.1 mm

| neadcode | article no. | € Euro |
|----------|-------------|--------|
| 02185 | 448 | 9,00 |

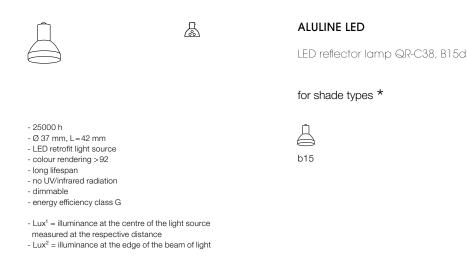


Using two rotatable filter discs, the filter can change the beam spread from 0° to 20° without changing the colour temperature or the beam shape. Ø 84 mm, T=3.1 mm

filter disc

accessories for VIVID LED AR111 (12 V) and ninety-five (48 V) with Snap System

| neadcode | article no. | € Euro |
|----------|-------------|--------|
| 03257 | 449 | 17,50 |







| Kelvin | Lumen | wattage beam angle | article no. | €Euro |
|--------|-------|-----------------------|-------------|-------|
| 2700 K | 240 | 5 W/35° | 96 | 54,50 |

* Shade type b15 is no longer available. Aluline LED for light source replacement

FILAMENT LED Ê pin-base lamp LED, G4 for shade types technical data 1,5 W - 25000h - Ø 9 mm - L = 20 mm Ŷ - 130 lumens (similar to 10W halogen) 8 - silicone encapsulation lumens 130 - not dimmable 89 - energy efficiency class G 8 mirror luminaires

| Kelvin | Lumen | wattage beam angle | article no. | €Euro |
|--------|-------|-----------------------|-------------|-------|
| 3000 K | 130 | 1,5 W/330° | 89 | 7,50 |

Creative Collection



Ø 850

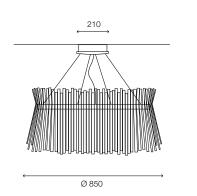
rondo fano 1 | recessed

chandelier

- Ø 850 mm
- 138 handmade transparent borosilicate glass elements
- 4 luminaires sourced with VIVID LEDs, 2700 K
- 4 upright suspension cables
- hollow wall box and cover plate
- incl. electronic transformer (170 x 45 x 35 mm) for concealed mounting

If required, Rondo Fano 1 can be supplied with more luminaires than those listed above. Other diameters are also possible.

Rondo Fano is offered project-related.



rondo fano 1 | surface-mounted

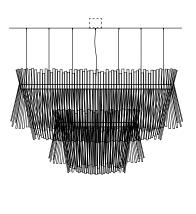
chandelier

- Ø 850 mm

- 138 handmade transparent borosilicate glass elements
- 4 luminaires sourced with VIVID LEDs, 2700 K
- with central cable suspension,
- from the ceiling canopy, 4 suspension cables
- ceiling unit (Ø 210 mm) with integral design transformer

If required, Rondo Fano 1 can be supplied with more luminaires than those listed above. Other diameters are also possible.

Rondo Fano is offered project-related.



1150

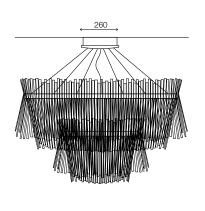
rondo fano 2 | recessed

chandelier

- Ø 1150 mm
- 6 luminaires sourced with VIVID LED, 2700 K
- 300 handmade transparent borosilicate glass elements
- 6 upright suspension cables
- hollow wall box and cover plate
- Incl. electronic transformer (170 x 45 x 35 mm) for concealed mounting

If required, Rondo Fano 2 can be supplied with more luminaires than those listed above. Other diameters are also possible.

Rondo Fano is offered project-related.



1150

rondo fano 2 | surface-mounted

chandelier

- Ø 1150 mm

- 300 handmade transparent borosilicate glass elements
- 6 luminaires sourced with VIVID LED , 2700 K
- with central cable suspension,
- from the ceiling canopy, 6 suspension cables
- ceiling unit (Ø 260 mm) with integral design transformer

If required, Rondo Fano 2 can be supplied with more luminaires than those listed above. Other diameters are also possible.

Rondo Fano is offered project-related.



control gear

index design control gear

| | article no. | Wall | Pend | Ceiling | In | Mono |
|--------------------------------|-------------|------|------|---------|----|------|
| Box Wall 105 12 V | 12-90610 | • | | | | |
| Box Wall 225 12 V | 12-90624 | • | | | | |
| Cube Wall 300 12 V | 12-90740 | • | | | | |
| Bigbox Wall 150 12 V | 12-90626 | • | | | | |
| Bigbox Wall 264 12 V | 12-90627 | • | | | | |
| Box Pend/Ceiling 105 12 V | 12-90620 | | • | • | | |
| Box Pend/Ceiling 225 12 V | 12-90635 | | • | • | | |
| Cube Pend/Ceiling 300 12 V | 12-90725 | | • | • | | |
| Bigbox Pend/Ceiling 150 12 V | 12-90636 | | • | • | | |
| Bigbox Pend/Ceiling 264 12 V | 12-90637 | | • | • | | |

recessed control gear

| | article no. | Wall | Pend | Ceiling | In | Mono |
|-------------------|-------------|------|------|---------|----|------|
| Tronic 60 12 V | 12-90108 | | | | | • |
| Tronic 75 12 V | 12-90101 | | | | | • |
| Tronic 105 12 V | 12-90115 | • | • | • | • | |
| Tronic 225 12 V | 12-90159 | • | • | • | • | |
| RK 300 12 V | 12-90165 | • | • | • | • | |
| MW 150 12 V | 12-90143 | • | • | • | • | |
| MW 264 12 V | 12-90114 | • | • | • | • | |

Note on the control gear:

The lighting industry has rapidly changed in recent years. It switched from halogen to LED lamp technology. The **LightLight system** was originally developed for the use of halogen lamps. Today, LED retrofit lamps are used instead. As it has turned out, these cannot be dimmed properly with some control gear-dimmer combinations. The variety of possible combinations makes it impossible to make a reliable statement about the dimmability of a system. Noise can occur, the retrofit lamps flicker intermittently or they can only be dimmed down to a limited extent.

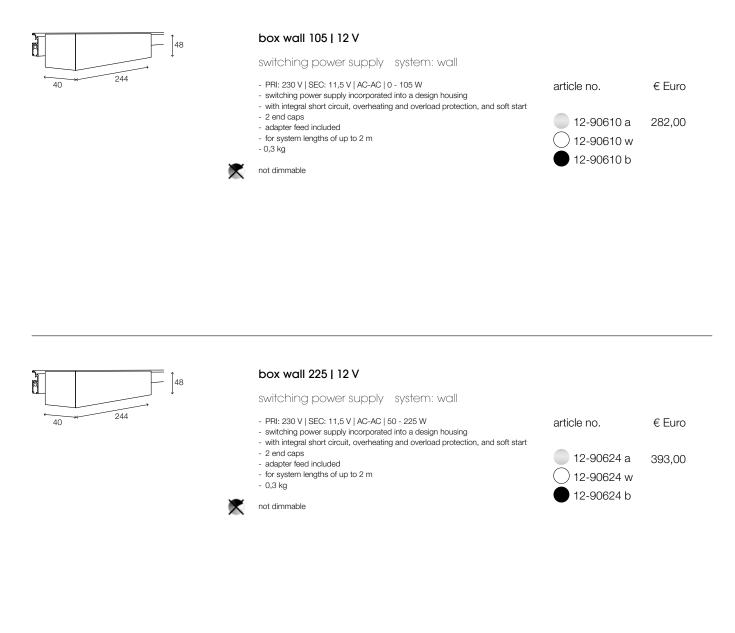
| max permitted | × | non - dimmable max. luminaires / | lighting system Soraa® VIVID LEE |) |
|---------------|--------|--|-------------------------------------|--------|
| system length | 7,5 W | 9 W | 12,5 W | 18,5 W |
| | | MR16 | | R111 |
| 2 m | 1-6 | 1-5 | 1-4 | 1-3 |
| 2 m | 3-11 | 3-8 | 2-8 | 1-6 |
| 15 m | 1-35 | 1 - 30 | 1 - 17 | 1-11 |
| 15 m | 1 - 16 | 1 - 13 | 1-9 | 1-6 |
| 15 m | 1-23 | 1 - 19 | 1 - 14 | 1 - 10 |
| 2 m | 1-6 | 1-5 | 1 - 4 | 1-3 |
| 2 m | 3-11 | 3-8 | 2-8 | 1-6 |
| 15 m | 1-35 | 1 - 30 | 1-17 | 1-11 |
| 15 m | 1 - 16 | 1 - 13 | 1-9 | 1-6 |
| 15 m | 1-23 | 1 - 19 | 1 - 14 | 1 - 10 |

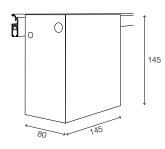
| max permitted | non-dimmable lighting system max. luminaires / Soraa® VIVID LED | | | |
|---------------|--|--------|--------|--------|
| system length | 7,5 W | 9 W | 12,5 W | 18,5 W |
| | | MR16 | A | R111 |
| 2 m | 1-5 | 1-3 | 1-2 | 1-2 |
| 2 m | 1-7 | 1-4 | 1-3 | 1-2 |
| 2 m | 1-6 | 1-5 | 1-4 | 1-3 |
| 2 m | 3-11 | 3-8 | 2-8 | 1-6 |
| 15 m | 1-35 | 1-30 | 1 - 17 | 1-11 |
| 15 m | 1-16 | 1 - 13 | 1-9 | 1-6 |
| 15 m | 1-23 | 1 - 19 | 1 - 14 | 1 - 10 |

For this reason, we recommend using the LightLight system exclusively without dimming. For dimmable and controllable lighting concepts, use our 48 V Sense System, in which the control and operating devices are matched to each other for flawless operation of the LED lamps.

(https://buschfeld.de/en/how-it-works/12108

3





cube wall 300 | 12 V

magnetic power supply unit system: wall

- PRI 230-240 V | SEC 11,5 V | AC-AC | 300 W
- safety transformer incorporated into a design housing - with primary supply line transparent silver 0,5 m
- 2 end caps - adapter feed included
- for system lengths of up to 15 m
- 4,5 kg

not dimmable \mathbf{x}

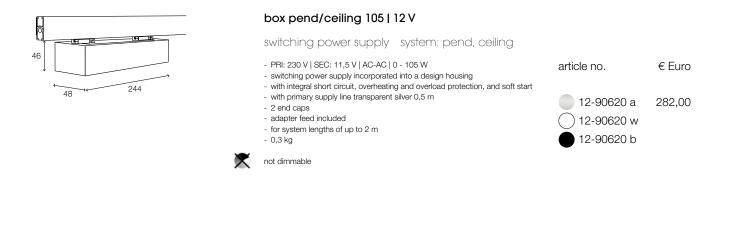
| article no. | € Euro |
|--|--------|
| 12-90740 a 12-90740 w 12-90740 b | 561,00 |

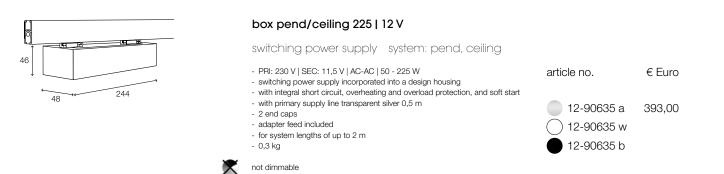




not dimmable

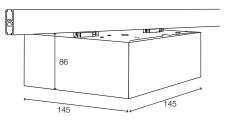
2404-222







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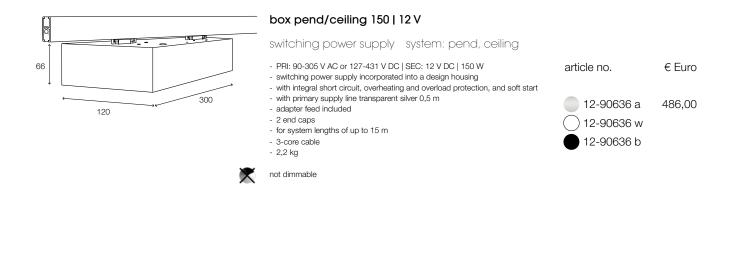
box pend/ceiling 300 | 12 V

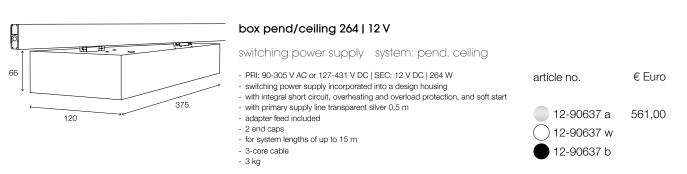
magnetic power supply unit system: pend, ceiling

- PRI 230-240 V | SEC 11,5 V | AC-AC | 300 W
- safety transformer incorporated into a design housing
- with primary supply line transparent silver 0,5 m
- 2 end caps
- track-mounted: incl. adapter feed
- ceiling-mounted: with terminal power feed is not incl.
- for system lengths of up to 15 m
- 4,5 kg









not dimmable

Regarding the power supply units please note: Dimmability and lighting control on a 48 V basis is available in our Sense System. Mounting options (e.g. ceiling mounted) are possible.

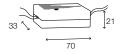


tronic 60 | 12 V

switching power supply system: mono

| - PRI: 230 V SEC: 11,5 V AC-AC 0 - 60 W - with integral short circuit, overheating and overload protection, and soft start | article no. | € Euro |
|--|-------------|--------|
| max. distance to MONO light 2 m for recessed mounting in hollow-section walls or ceilings LBH 77 x 36 x 25 mm 0,10 kg | 12-90108 | 71,00 |



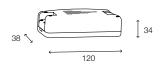


tronic 75 | 12 V

switching power supply system: mono

| - PRI: 230 V SEC: 11,5 V AC-AC 20 - 75 W - with integral short circuit, overheating and overload protection, and soft start | article no. | € Euro |
|---|-------------|--------|
| maximum distance between mono recessed luminaires: 2 m can be accommodated in mono installation housing not for ALULINE LED or FILAMENT LED LBH 70 x 33 x 21 mm; 0,11 kg | 12-90101 | 71,00 |

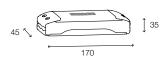
not dimmable



tronic 105 | 12 V

| switching power supply system: wall, pend, ceiling, in | | |
|---|-------------|--------|
| PRI: 230 V SEC: 11,5 V AC-AC 0 - 105 W with integral short circuit, overheating and overload protection, and soft start for secondary track lengths up to 2 m | article no. | € Euro |
| - LBH 120 x 38 x 34 mm - 0,14 kg | 12-90115 | 78,00 |

not dimmable



tronic 225 | 12 V

 switching power supply
 system: wall, pend, ceiling, in

 - PRI 230 V | SEC 11,8 V | AC-AC | 50-225 W
 article no.

 - with integral short circuit, overheating and overload protection, and soft start
 article no.

 - for secondary track lengths up to 2 m
 12-90159

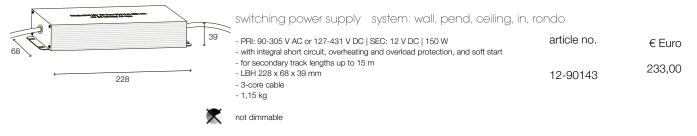
 - LBH 170 x 45 x 35 mm
 12-90159

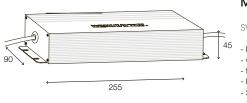


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MW 150 | 12 V





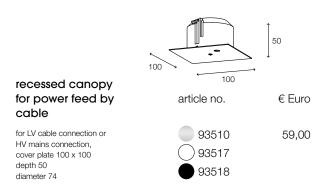
MW 264 | 12 V

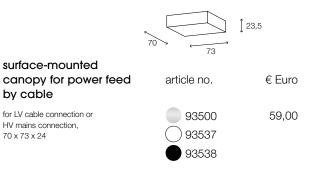
switching power supply system: wall, pend, ceiling, in, rondo

| - PRI: 90-305 V AC or 127-431 V DC SEC: 12 V DC 264 W - with integral short circuit, overheating and overload protection, and soft start | article no. | € Euro |
|---|-------------|--------|
| - for secondary track lengths up to 15 m - LBH 255 x 90 x 45 mm | 12-90114 | 320,00 |
| - 3-core cable | 12 00114 | |
| - 1,9 kg | | |

not dimmable

| stranded cable | * * * | |
|--|-------------|--------|
| silver transparent, highly flexible incl. 4 cable end sleeves | article no. | € Euro |
| 2 x 6 mm ² , running metre | 90500 | 18,00 |
| $2 \times 4 \text{ mm}^2$, running metre | 90520 | 17,00 |
| $2 \times 2,5 \text{ mm}^2$, running metre | 90525 | 15,00 |





Individual

individual lighting planning

Architecture and spatial layouts can be extremely complex, and lighting requirements therefore often of an exceptional nature. Buschfeld lighting systems are highly flexible.

Designed as modular systems, they lend themselves to the creation of appropriate, project-related solutions.

The track systems can be applied across the corners of a space, even combined vertically and horizontally. It is also possible to combine different systems, for example In and Pend, or Pend and Wall.

Support and assistance

Our LightLight systems provide you with far more combination options with regard to application, dimensions, colour and finishes than we can show you here.

We are happy to support you with your design ideas and planning. Just give us a call or send us an e-mail:

Tel.: +49 221 93764-0 info@buschfeld.de



rondo - ring-shaped luminaire

You want to design your own chandelier. LightLight Rondo is exactly the right modular low-voltage ring-shaped system you are looking for. LightLight Rondo is custom-made to suit your project, and based on our Pend and Ceiling systems. The individual rings of a given chandelier can be suspended on the same or vertically on different levels, or mounted directly onto the ceiling. Or the chandelier can be suspended from a central ceiling rose or canopy, if desired. LightLight rondo is designed to take any of the luminaires in the Pend or Ceiling range.







freeforms - custom shapes

It could not be easier to adapt a LightLight solution to a particular spatial environment: free forms can be constructed from individual arch-shaped elements of different diameters (1000 mm minimum) and straight sections of track. The tracks can be curved upright or flat. Both pendant and ceiling-mounted versions are possible.

For the production of free-form shapes, we require a 1:1 plotted diagram. In this case too, the LightLight system is designed to take any of the luminaires in the Pend or Ceiling range.



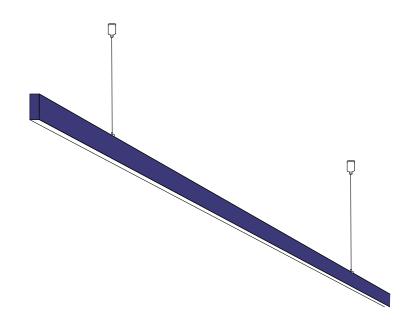




colour - custom colours

All LightLight track and shades can be supplied in custom colours to RAL or NCS standards. This enables further design highlights within the interior space: by applying LightLight in bold colours you can focus attention on the lighting concept - whereas subtle colours render LightLight practically invisible.

Custom anodised colours or gold leaf finishes can also be realised on request!





Examples of the colours available:

LightLight tracks and shades are available in all RAL or NCS colours. Even gold leaf is possible on request.



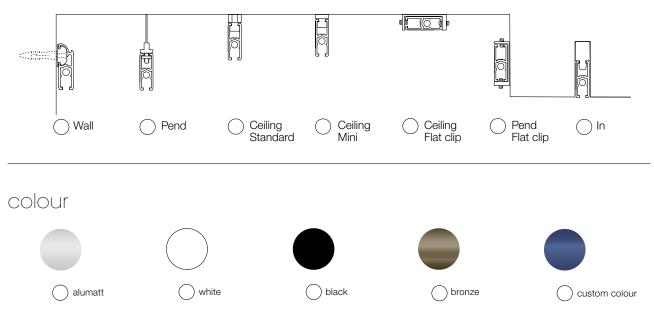
lightlight® project document

buschfeld Tel +49 221 93764-0 Fax -79 info@buschfeld.de www.buschfeld.de

contact

| company: | project name: |
|-------------------------|-----------------------------|
| country: | details (e.g. room, space): |
| contact person/planner: | e-mail / tel. no: |
| | |

system



control gear and position of power feed

incorporated into a design housing for visible mounting (incl. power feed)

) recessed power supply units (name power feed position)

luminaires

| name of product | shade | quantity |
|-----------------|-------|----------|
| | | pcs |
| | | pcs |
| | | pcs |

LED light sources

| name of product | neadcode | quantity | kelvin | wattage | beam angle |
|--------------------|----------|----------|--------|---------|------------|
| | | pcs | К | W | 0 |
| | | pcs | К | W | 0 |
| | | pcs | К | W | 0 |

sketch

| | | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|------|--|--|--|--|--|
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| | | | | | | | | | | | | | | | | |

Draw a sketch of the track layout, indicating measurements and dimensions.

General Terms and conditions of Buschfeld Design GmbH Terms of sale and delivery relating to Buschfeld Design GmbH, Cologne (hereinafter: Manufacturer) - as of 1st January, 2021.

I. General information

1. The general terms and conditions of business listed below (hereinafter Terms) apply exclusively. Other terms are only considered to be an integral part of the contract when the Manufacturer has expressly agreed to their validity in writing. In the course of transactions, the version of the terms and conditions of business prevailing on conclusion of the respective contract provide the basis for all future business.

2. All agreements made between the parties to the contract must be put down in writing. Purchase orders will only be dealt with when confirmed in writing. This also applies for purchase orders arranged through sales representatives and sales personnel. Confirmed orders deviating from originally agreed orders shall be treated as new offers. Any additions, amendments and sub-agreements made to orders already placed, or any agreements of promises of delivery made by the Manufacturer, only come into effect when confirmed in writing by the Manufacturer.

II. Offers and the documents inherent to offers

 Offers are subject to change without notice, unless otherwise agreed.
 Documents and data inherent to an offer, such as illustrations, drawings, weights and dimensions, are only approximately authoritative, unless expressly quoted as binding. Technical descriptions, explanations and speci-

fications, as well as textual information describing how products work, do not constitute any legal warranties. Specific properties and qualities are only guaranteed when expressly confirmed in writing by the Manufacturer. 3. Deviations may occur in descriptive material and data provided in bro-

chures, catalogues and other documents. Amendments may be made to the above as a result of technical progress. Such deviations or amendments do not afford anyone the right to hold claims against the Manufacturer.

4. The offer and any related documents may not be forwarded, published or copied, or used for any other than the agreed purpose without the permission 5. The Manufacturer may request all paperwork and documents related to an

offer to be returned to sender.

III. Scale of the delivery - written confirmation

 The confirmation of order contains the details of the scale of the delivery.
 The Manufacturer is entitled to send partial shipments to the customer, and invoice for those partial shipments accordingly.

3. Samples shall only be shipped when expressly agreed with the Manufacturer. Such shipments shall also be invoiced.

IV. Prices

1. Unless otherwise agreed and recorded in the confirmation of order, all prices are quoted for shipment from the storage in Cologne, excluding postage and packing.

2. These prices are based on the manufacturing costs at conclusion of contract. In the case of long-term delivery arrangements, the Manufacturer is, however, entitled to request or demand prices be adjusted, should one or more of the following occur:

 costs for materials required for manufacture increase
 labour costs or incidental labour costs increase due to legal or pay scale adiustments

there is an increase in value added tax (VAT).

Should no agreement be reached within the framework of negotiations on amendments to contractually agreed prices, each of the parties to the con-tract is entitled to terminate the contract within three months to the end of a quarter. Termination of contract must be made in writing.

V. Payment 1. Unless otherwise agreed, payments shall be made without any deductions and free of transaction charges to the Manufacturer's designated account(s). Terms are as follows: 2 % cash discount within 14 days after date of invoice

or net invoice amount within 30 days. 2. Invoices for repairs, mounting/installing, custom-made products, tools, development costs and models shall be paid immediately without any deductions. First-time deliveries are only affected against advance payment.

3. In the case of overdue payments, customary interest shall be calculated at 9 % (final customers 5 %) above the basic interest rate guoted by the Deutsche Bundesbank; the Manufacturer reserves the right to make further claims.

4. Bills of exchange and cheques are only accepted for payment under specifically agreed conditions. Should a bill of exchange be accepted, discount charges are calculated to the amount of 4 % above the respective main refinancing rate as quoted by the ECB. Payment effected by means of bills of exchange or cheques is only considered settled when the invoiced amount has been credited to our account.

5. The Purchasing Party is only granted the right to set-off costs if there are legally recognized reasons for counterclaims or are undisputed; right to refuse performance may only be asserted under the condition that any justified counterclaims are based on the same, contractual relationship.

VI. Delivery times

1. The delivery times quoted by the Manufacturer are not binding and require all technical issues to be clarified in advance - unless otherwise agreed in writing. An agreed delivery time commences once the confirmation of order has been sent, but not before the Purchasing Party has fulfilled all obligations. This applies in particular in the case of agreed advance payments.

2. The delivery time is regarded as being adhered to when the article of sale

has left the Manufacturer's plant before the delivery time has elapsed.

3. The delivery time may be extended due to unforeseen circumstances, irrespective of whether these occur in the Manufacturer's plant or through one of his suppliers, e.g. the unforeseen disruption of operations, lawfully recognized strikes, lock-outs, the non-punctual delivery of specific parts despite a due und timely order, as well as any other occurrences which are outside the control of the Manufacturer. The Manufacturer is obliged to inform the Purchasing Party in writing of the onset and conclusion of any such oc-currences at his earliest possible convenience.

4. Should the Manufacturer establish that he cannot affect punctual delivery and the Purchasing Party can prove that this has given rise to damages, the Manufacturer is liable to pay compensation: for every completed week of non-delivery, this amounts to 0.5 %, but no more than 15 % max. of the value of that part of the goods to be delivered which, as a result of the delay in delivery, cannot be used opportunely. The same applies if the Purchasing Party can prove he has lost custom, or business is to be settled within a given time period in accordance with § 376 of the German Civil Code, and this is not possible because of the delay. In any case, the liability for damages is limited to the kind of foreseeable, typical damages that may occur.

The Purchasing Party is only entitled to further claims should the delay be due to wilful intent or gross negligence.

5. Should the Purchasing Party set the Manufacturer an equitable period of grace while threatening to otherwise refuse acceptance of delivery, after the latter has failed to deliver on time, the Purchasing Party is entitled to withdraw from the contract should the period of grace elapse for reasons that can be proven to be the fault of the Manufacturer. The Purchasing Party is only entitled to claim for damages for the Manufacturer's failure to perform within the scope of the kind of foreseeable, typical damages that may occur in the case of not wilful intent or gross negligence.

 VII. Transfer of risk – acceptance of delivery
 The services performed by the Manufacturer shall be considered received by the Purchasing Party on completion of the delivery of the ordered goods. This also applies in the case of partial performance.

2. On acceptance of the delivery, the risk is transferred to the Purchasing Party. Should the Purchasing Party be in default concerning the acceptance of the delivery, the risk is transferred to him at the point when the default occurs. The same applies when provision of services is interrupted at the fault of the Purchasing Party and the Manufacturer has entrusted the Purchasing Party with the services / delivery performed to date by mutual agreement. 3. Shipment is effected at the risk of the Purchasing Party, even under freight

paid conditions. The Manufacturer is only liable for damage during delivery, if shipment is expressly effected at the Manufacturer's risk. Goods can only be insured against breakage at the request and at the cost of the Purchasing Party. A possible credit note covering the damage can only be issued if the Manufacturer has confirmation of coverage from the insurance company. The Manufacturer is not expected to assume any other obligations. Unless expressly agreed otherwise, shipments are not insured.

4. The goods delivered by the Manufacturer shall also be accepted by the purchasing partner in the case of minor defects.

5. Should the Purchasing Party be found responsible for default of acceptance, or should he not fulfil his obligation to cooperate, he is obliged, as of two weeks after notice of the Manufacturer's readiness for shipment, to cover any costs incurred by the Manufacturer for the storage of goods ready for dispatch to the amount of 0.5 % of the invoice amount for every month, unless he can prove to the Manufacturer that the damage did not occur at all or was significantly lower than the flat rate

The Manufacturer reserves the right to make other claims, especially those resulting from §§ 373ff of a bilateral commercial transactions in the German Commercial Code. If the Purchasing Party fails to take action within a reasonable time, the Manufacturer is entitled to stage a self-help sale.

VIII. Reservation of property rights 1. All items to be delivered remain the property of the Manufacturer (contractor) until the invoice for products/services provided has been settled by the Purchasing Party.

2. Pursuant to section 4, for the duration of the reservation of property rights the Purchasing Party is not entitled to liquidate, give away, pawn or transfer the delivered goods to secure a debt.

3. In the case of seizure or attachment by third parties of the goods in reserve, the Manufacturer must be informed immediately in writing so that he can take legal action as per § 771 in the Code of Civil Procedure. Should the third party not be in a position to reimburse the costs incurred in and out of court related to legal action as per § 771 in the Code of Civil Procedure, the Purchasing Party shall be liable for the resulting damages.

4. Should the purpose of the delivery be the re-sale of the goods from a com-pany or point of sale operated by the Purchasing Party, the Purchasing Party is obligated to reserve property rights vis-à-vis customers when re-selling. The rights and claims related to this reservation of property are hereby ceded by the Purchasing Party to the Manufacturer who accepts them, irrespective of whether the delivery item(s) have been resold with or without possible further processing.

5. In the case of delayed payment of the Purchasing Party, the Manufacturer is entitled to take back all delivered items. The acceptance of returned goods does not signify withdrawal from contract, unless this has been explicitly clarified in writing. After seizure, the purchased items are at the disposal of the Manufacturer to utilize, sell or exploit as desired. Proceeds can be offset against accounts payable by the Purchasing Party - after deduction of costs incurred in the exploitation process.

6. The Purchasing Party is obligated to take care when handling the purchased items. In particular, he is obligated to insure them adequately at replace ment value against damage from fire and water, and against theft. Should maintenance and inspection work be necessary, the Purchasing Party is required to have this performed in good time at his own expense.

7. Should the purchased items be processed together with other items not belonging to the Manufacturer before full payment has been affected, the Manufacturer shall acquire joint ownership of the new item(s) in relation to the value of the purchased item(s) (final invoice amount, incl. VAT) to the other item(s) that have been processed at the point in time when processing is undertaken. The same applies for the goods/items resulting from processing as for the purchased item(s) delivered under reserve.

8. Should the purchased item(s) be inseparably mixed with other items not belonging to the Manufacturer before full payment has been effected, the Manufacturer shall acquire joint ownership of the new item(s) in relation to the value of the purchased item(s) (final invoice amount, incl. VAT) to the additio-nal items at the point in time when all the items are put inseparably together. 9. The Purchasing Party shall also assign any claims to secure accounts receivable by the Manufacturer, which are created against a third party by the combination of the purchased goods with real estate. 10. When required by the Purchasing Party, the Manufacturer is obligated to

release the collaterals to the extent by which the realisable value of the collateral exceeds the receivables by more than 10 %; it rests with the Manufacturer to decide which collaterals are to be released.

IX. Liability

1. Claims relating to apparent defects are not recognized after delivery and acceptance of the goods.

2. The Purchasing Party is obligated to examine the accepted item(s) immediately for possible defects and, if a defect is found, to notify the manufacturer in written form without delay. If the customer fails to notify the Manufacturer, the goods are deemed to have been approved, unless there is a defect that could not be identified during the examination.

If such a defect appears later, the written notification must be made immediately after the discovery, otherwise the goods are considered to be approved even with regard to this defect.

3. Defects shall be communicated to the Manufacturer immediately in written form, whereby the Manufacturer is obligated to rectify the defect or replace the defect items or parts. The Manufacturer reserves the right to reduce the price if the repair fails or to withdraw from the contract at his choice.

. 4. If the goods are delivered to a place or town other than the place of business of the Manufacturer, the Purchasing Party shall bear all costs related to rectifying the defect or replacement of the defect items or parts. 5. Marginal deviations in dimensions and designs, especially in the case of

repeat orders or subsequent requests for modification on the part of the Purchasing Party, which do not affect the usability of the products, shall be considered to be pursuant to the contract.

6. Any other claims for damages, contractual penalties or loss of profit shall remain unrecognized, unless they can be proven to be based on the deliberate or grossly negligent breach of contract on the part of the contractor or any one of his assistants or agents.

7. The above-mentioned liability limitations apply in the case of infringement of pre-contractual, contractual and post-contractual obligations, i.e. primary and secondary obligations, unless they conflict with any compulsory statutory provisions.

8. All claims against the Manufacturer, on whatever legal grounds, become invalid after a period of six months, unless they conflict with compulsory statutory provisions. Section 11 remains unaffected.

9. The Manufacturer is not liable for material damage to shipments procured from third parties and forwarded to the Purchasing Party unchanged. He is entitled to withdraw from the contract insofar as he has not received the delivery item(s) in spite of having previously concluded a general purchasing agreement; liability in the case of a deliberate or grossly negligent breach of contract remains unaffected. The Manufacturer shall inform the Purchasing Party immediately about non-punctual delivery of items and, should he wish to withdraw from the contract. Any consideration received shall be refunded forthwith.

10. No responsibility is accepted for damage resulting from inappropriate or improper application, faulty or defective installation or operation on the part of the Purchasing Party, or third parties working for or in the installation of the Purchasing Party or third parties, or resulting from normal wear and tear, defective or careless treatment, inappropriate operating resources, substitute materials, defective construction work, inappropriate support medium, or the effect of chemical, electrochemical or electrical substances or equipment, unless they can be proven to be the result of deliberate or gross negligent actions on the part of the Manufacturer. In the case of electric equipment: the regulations laid down by the association of German electrical engineers apply.

11. For new products supplied by the Manufacturer a statutory warranty period of two years applies. The warranty begins on the date the products are dispatched ex works in Cologne.

12. In the case of the data provided on the average lifespan of light sources, these are mean values. There is no guarantee that a light source will achieve at least this lifespan.

X. Rights of use, rights of third parties

1. On placing an order the Purchasing Party ensures that he personally, or his client, has the right of use for all image files and graphic material, and in particular photos, provided to the Manufacturer for processing or editing. The Purchasing Party is responsible for ensuring that authorising the Manufacturer to process the image files and graphic material provided complies with the applicable laws, in particular the laws governing copyright and trademarks, and does not infringe upon the rights of third parties.

The Purchasing Party shall indemnify the Manufacturer against all claims of third parties, which are filed against the Manufacturer due to the infringe-

ment of their rights in relation to the image files and graphic material used, in particular due to the infringement of copyright or trademark rights. The Purchasing Party also undertakes to pay the Manufacturer for any damages incurred

3. In individual cases the Manufacturer reserves the right to subsequently refuse to accept orders which do not comply with legal stipulations or contradict accepted moral principles or standards.

4. Copyright and prohibition on exploitation Contents and images contained on the Manufacturer's homepage are subject to German copyright law. Duplication, processing, distribution and any other form of utilisation requires the prior written consent of the Manufacturer. Downloads and copies of this homepage are not permitted. This applies in particular to all photos on the Manufacturer's homepage. To the best of the Manufacturer's knowledge, the rights of third parties were respected when creating the homepage. Should the Manufacturer be notified of any infringements in relation to the latter, the relevant contents will be removed from the Manufacturer's homepage immediately.

XI. Other liabilities

1. The warranty disclaimers listed in section VIII also apply for all other claims made by the Purchasing Party against the Manufacturer - irrespective of legal basis.

2. In all points listed above where the Manufacturer bears no. or limited, liability, this also applies in the case of claims lodged by the Purchasing Party against our staff / support staff / employees / agents / representatives XII. Place of Jurisdiction

 The place of fulfilment for all obligations resulting from the contractual rela-tionship is the business location of the contractor. Should a different place of fulfilment be agreed, the Purchasing Party is liable to cover all costs.

2. The contents of the contract and the relationship between the parties to the contract are exclusively subject to Federal German law. The application of the uniform law relating to the international purchase of moveable objects, as well as the law relating to the conclusion of international contracts of sale of moveable objects does not apply.

XIII. Assignment

All claims lodged against the Manufacturer are not transferrable without the written consent of the Manufacturer and may be exercised by the Purchasing Party only.

XIV. Severability clause

If any clause or part of this agreement shall for any reason be adjudged by a court of competent jurisdiction to be invalid, such judgement shall be limited and confined in its operation to the clause involved in the controversy.

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