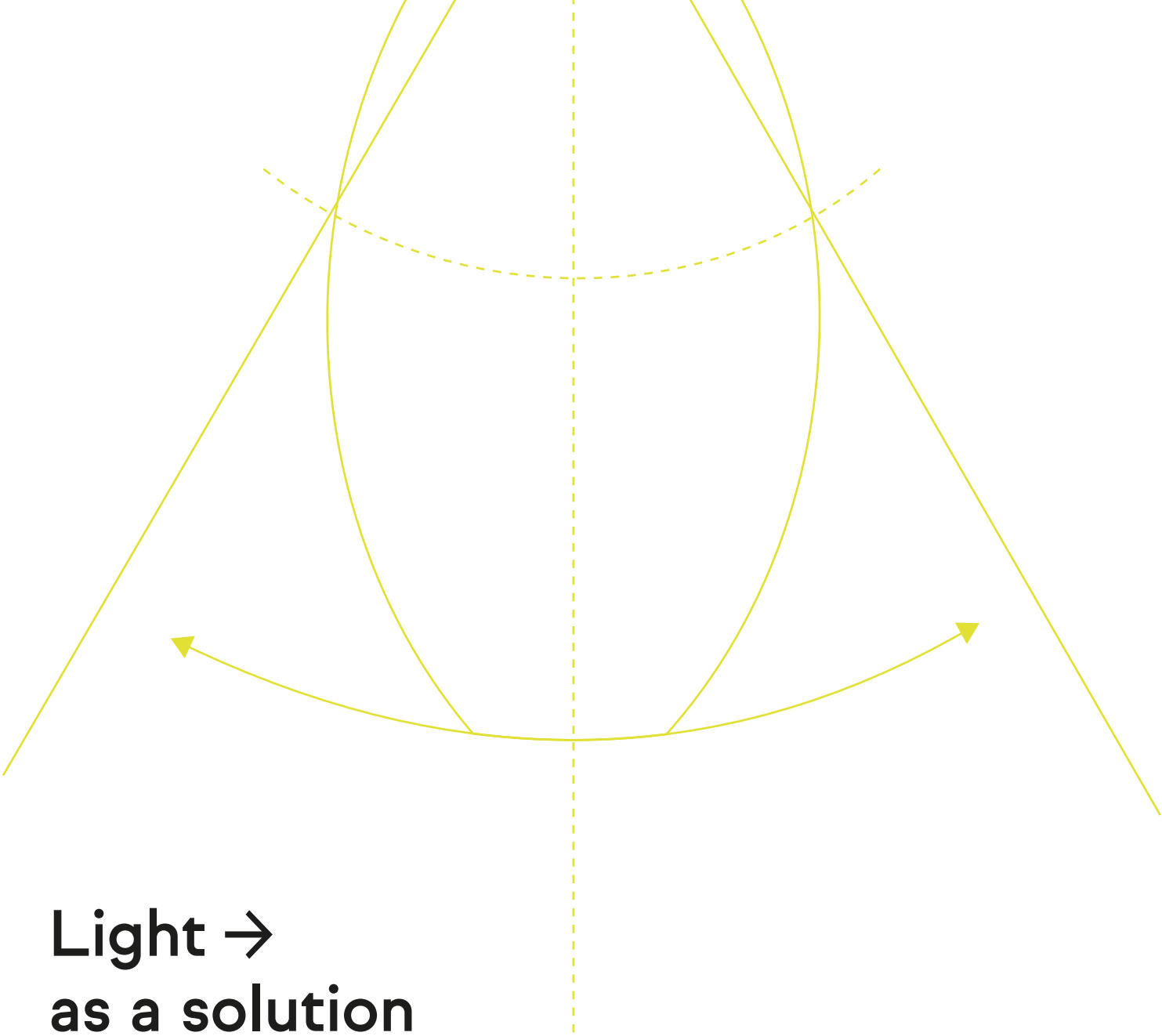
LED lighting in handrails

InstaLighting

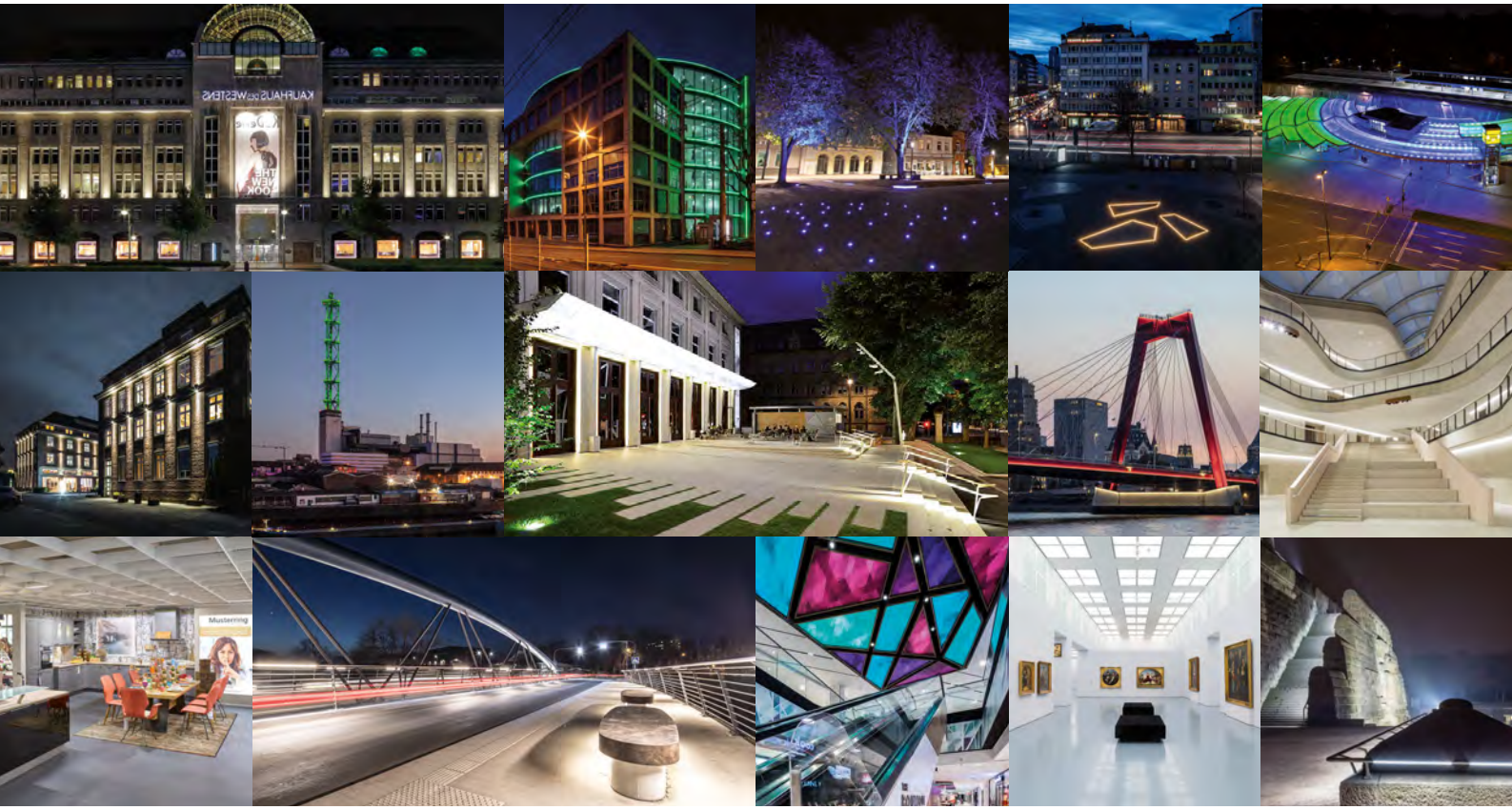


Light → as a solution

We are InstaLighting, the experts for lighting and building technology. We offer ideas, solutions and services that make architecture brighter, buildings smarter and controls more efficient. And that helps you create unique moments – and celebrate them.

Intelligent light is more than technology – it's an enhancement for cities, tourism, traffic, ecology, shopping experiences, security and the connected world of tomorrow. That's why we develop rigid luminaires, and modular lighting systems that adapt flexibly to users and the requirements of projects and OEMs.

For us, simplicity is the key to everything: simple configuration, simple operation, simple logistics and simple service put the user at the centre of a project. As a solution provider, we offer a single point of contact for each project, linking all the units and interfaces so that control, mounting, lighting planning and commissioning all interlock smoothly. We combine our know-how in planning, development, production and logistics so that we can always optimally integrate into our customers' processes.



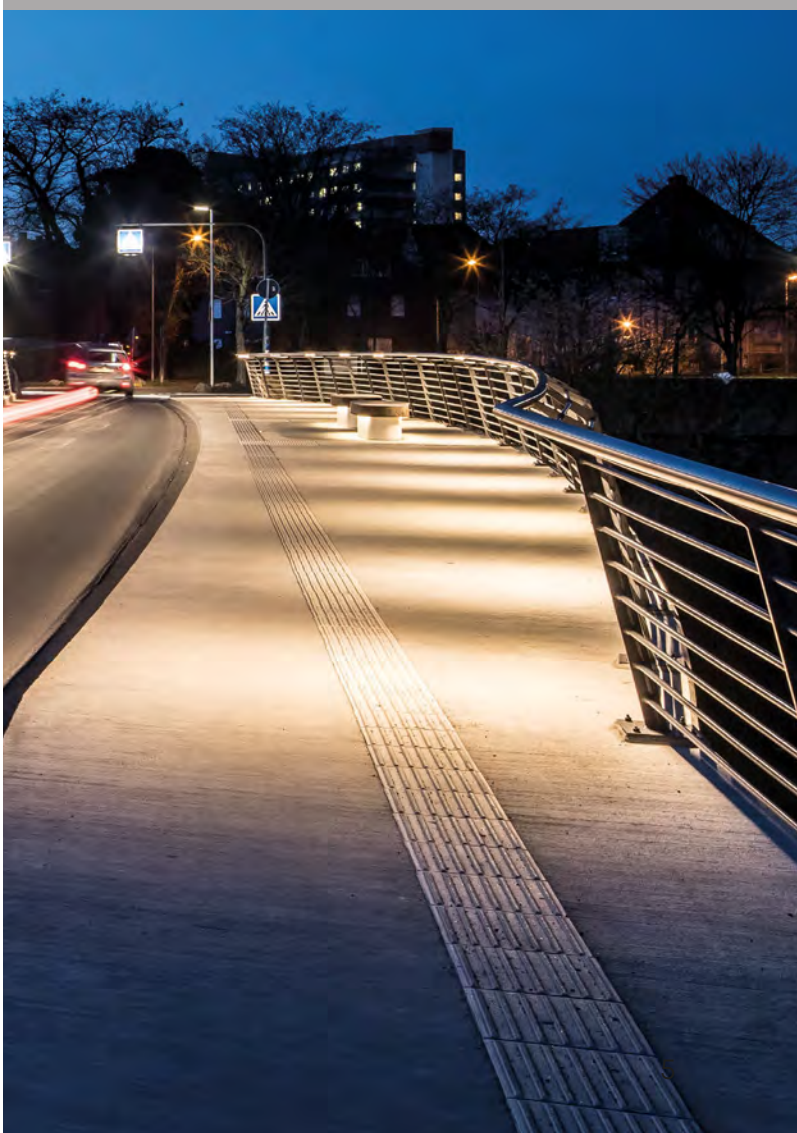
Controls → Outdoor luminaires → Indoor luminaires

Lippe bridge

Lünen, Germany

This impressive new trussed arch bridge appears lean and nimble. It practically floats above the river. You can barely tell that 42 m of handrail is covered in OHR1 4020 robust LED light inserts at a height of 1.1 m, when it's lit anyway. That's because they are integrated into the grooved tube of the handrail. At night, light is distributed pleasantly across the pavement offering no glare from which pedestrians, cyclists and motorists benefit alike. The LEDLUX LH linear LED light line system is integrated into the benches in the middle of the bridge, adding the finishing touch to the basic lighting. Built-in power supply units mean the compact modules can be directly connected to a 230 V supply, saving installation time and reducing the amount of space required. With a colour temperature of 3000 Kelvin and a high colour rendering index (over 90), the bridge bathes in a warm and cosy light provided by our LEDs, which also provide light for vision and safety with no need for pole-lighting.

Building owner: City of Lünen
Architect: Schülke Wiesmann Ingenieurbüro
Light planner: tecnoPlan GmbH & Co. KG
Photos: Boris Golz



This charming little town in western Germany unites the pulsating energy of the industrial Ruhr valley and the pastoral peace of the countryside around Munster. The new Lippe bridge is an important transport route and has increased the town's draw, as well as creating a beautiful viewing point. We are proud that our lighting technology played a significant role.

Commemoration of the Battle of the Nations

Leipzig, Germany

The blend of old and new in this outdoor lighting design concept is true art. The work to install our light insert OHR1 4020 took place during the 2013 – 2017 renovations. It was the perfect choice for lighting a large outdoor area fully and with its anti-glare feature, giving evening visitors a great view and preventing them from stumbling around in the dark. Not to mention that it is sturdy, water- and vandal-proof, due to the fully encapsulated stainless steel profile.

Building owner: Stiftung Völkerschlachtdenkmal
Architect: HJW + Partner, Leipzig
Photos: Boris Golz

This monument which commemorates the Battle of the Nations and is situated southwest of Leipzig, is one of the city‘s most famous sights and one of the largest monuments in Europe. Climb the 364 steps to the top and you will be rewarded with a spectacular panoramic view of the “Sea of Tears” and the surrounding area. At night, the handrail with the integrated LED light insert exquisitely outlines the impressive silhouette of this landmark.

Park Pärnu Vallikäär and the Tallinn Gate

Pärnu, Estonia

The atmospheric lighting on the pedestrian bridge and the 17th century Tallinn Gate ensure for those romantic moments in the evenings. Visitors who take a stroll across the bridge are expertly guided by our LEDLUX LH which is integrated into a slightly curved handrail. The blue version of the same lights is to be found on the underside of the bridge, artfully accentuating its structure and design. In the background, you will see the historically significant town gates with their exceptional stucco work, illuminated by OHR1 4010.

The concept deftly combines three separate light lines with three different looks to create a perfectly coherent lighting effect throughout Pärnu.

Building owner: Pärnu town, Estonia
Architect: Lootusproject OÜ, Kersti Lootus
Light planner: Siim Porila
Photos: Ants Liigus and Siim Porila

Estonia, a paradise for lovers of culture and nature. Pärnu is a seaside resort on the west coast of Estonia. Here, a particularly idyllic park attracts visitors to the moat (Pärnu Vallikäär) and the footpath which runs along the waterfront. Since the park being redesigned, modern accents have been added to the historical backdrop to create a unified and unique atmosphere. Also where light is concerned.

Bridge over the Hunte River

Diepholz, Germany

The 22.6 metre long bridge over the Hunte River is an important link for pedestrians and cyclists between the nearby schools and the city centre. Since June 2019 the bridge has been lighted in new splendour – in bright red by day and usually in many bright colours by night. What makes it unique: If nobody crosses the bridge, the structure is illuminated in atmospheric coloured light scenes that vary according to the season – conveniently controlled with instalight control. Motion detectors on both sides spot any approaching pedestrians or cyclists and flood the bridge with traffic-safe white light. After a minute has passed without movement, the white light changes to the colourful and the spectacle restarts. Creative special effects are also possible, for example for the French national day on 14th July: InstaLighting LEDs in the handrails project an impressive beacon in blue-white-red onto the floor. Because the OHR1 4020 RGBW handrail profiles are subdivided into small, individually control-lable units, finely graded, homogeneous colour gra-dients are created over the entire length of the bridge. The ingenious lighting concept not only ensu-res exceptional appearence of the bridge at night but above all also a high degree of safety – including pro-tection against vandalism.

Building owner: City of Diepholz
Architect: Thomas Klakus, BIZ Architekten & Ingenieure Osnabrück
Light planner: OC-Lichtplanung Diepholz
Photos: Boris Golz

Dümmer National Park, old city hall, Falkenhardt manor: whether visitors prefer to experience flora and fauna or explore the historic centre of the town – Diepholz in Lower Saxony offers a wealth of options. The picturesque district town located between Bremen, Oldenburg and Osnabrück is not only rich in attractions, but also maintains very close contacts to France. 2019 marked the 50th anniversary of the partnership agreement between the German town of Diepholz and the French town of Thouars. It was also the inauguration year for the new Hunte bridge on Thouarsstraße, illuminated by InstaLighting.

InstaLighting. Here's why.

LEDLUX LED modules impress with their proved service life and mechanical robustness. They are virtually maintenance-free and therefore ideal for areas difficult to access, which also makes them economical. Their high efficiency and low energy consumption, low heat generation and lack of emission from UV or infrared radiation makes LEDLUX the first choice for interior LED lighting inserts.
The LED modules are available in RGB, RGBW, Tunable White and white colour versions and can be dimmed or controlled depending on the individual variant and the appropriate ballast technology.

OHR1 4020 LED modules are the logical further development of linear LED products for outdoor use. They are robust, water- and vandal-proof thanks to full encapsulation. These LED lighting elements are virtually invisible when integrated in the handrail and offer homogenous light distribution and consistent light quality. The LH variant is connected directly to the mains voltage and is compatible with standard dimmers.

CE 05 IP20 IP64 IP67 IP69 IK 10

We use stainless steel with material number 1.4404

316 are austenitic chrome-nickel steels. These steels are mainly used inside buildings in a normal atmosphere.

316L are also austenitic chromium-nickel steels, but with at least 2% molybdenum alloy content. The addition of molybdenum increases the corrosion resistance of stainless steel. These steels are therefore mainly used outdoors and by the coast or with moderate exposure to chlorine.

However, to be able to make a clear statement about a stainless steel's material properties, the material number according to EN10088 should be known.
The stainless steel used by us has material number 1.4404, with the short name X2CrNiMo17-12-2. This is an austenitic chromium-nickel-molybdenum steel with a low carbon content, high corrosion resistance and excellent weldability.

1.4404 features exceptional corrosion resistance in rural and urban atmospheres, as well as in industrial areas with moderate chlorine and salt concentrations.

1.4404 is not resistant to be permanent in seawater!

LED light insert for handrail lighting

Project: Bridge at the Phänomenta Science Center in Lüdenscheid, Germany
Photo: Rolf J. Rutzen

Variants of LED modules

LEDLUX linear
for use indoors

OHR1 4020 for
use outdoors

Light insert for handrail lighting

Indoors

LED module LEDLUX, protection class IP20/IP64, suitable for mounting indoors

Available in several lengths. LEDLUX LED modules are supplied factory-installed in the handrail and are additionally protected against impact and dirt by a polycarbonate cover, positively locked in the handrail. Replacement of the LED modules is possible.

Further information on lengths, lighting technology, light colours, power supply and output can be found on page 49.
The available lengths for InstaLighting LED inserts IP20/IP64 can be found in the overview on pages 48–49.

IP20 IP64

Handrail variants

HDL 42+

ø 42.4

HDL 45 Wood+

ø 45.0

HDL 48+

ø 48.3

HDL 60+

ø 60.3

HDL Tegernsee

54.0 x 60.0

HDL 40x40+

40.0 x 40.0

HDL 60x40+

60.0 x 40.0

Figure:
LEDLUX LED module, satined lens, in handrail HDL 42

Light insert for handrail lighting
Outdoors

LED module OHR1 4020, vandal-proof according to IK10/09, protection class IP69

Available in several lengths. The LED modules are supplied factory-installed in the handrail and are additionally protected against impact and vandalism by a special full encapsulation.
The LED module is positively locked in the handrail. The LED modules can be replaced.

Further information on lengths, lighting technology, light colours, power supply and output can be found on page 49.
The available lengths for InstaLighting LED inserts IP20/IP64 can be found in the overview on pages 48–49.

CE 05 IP69 IK 10

Handrail variants

HDL 42+	HDL 45 Wood+	HDL 48+	HDL 60+
ø 42.4	ø 45.0	ø 48.3	ø 60.3

HDL Tegernsee	HDL 40x40+	HDL 60x40+
54.0 x 60.0	40.0 x 40.0	60.0 x 40.0

Figure:
OHR1 4020 LED module, clear lens in handrail HDL 48

Groove locking profile

Material: stainless steel 1.4301 or 1.4404
Surfaces ground, matte (glass polished) or powder coated.

The groove locking profile is used for positive locking of the profile groove and to protect the electrical cables in areas where there is no LED insert. The locking profiles have a reversible design for easy mounting in the handrails and are manufactured in the required length.

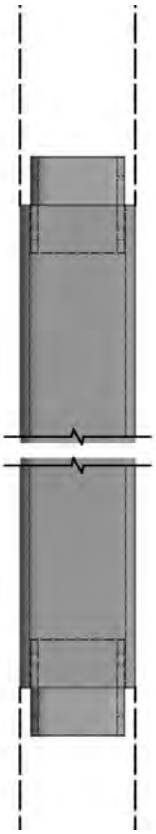


Figure:
Groove locking profile in handrail HDL 48

Mounting bracket

Material: stainless steel 1.4301 or 1.4404
Surfaces ground, matte (glass polished) or powder coated.

The mounting bracket is used for static mounting of handrail brackets, supports or other fastening materials.
The mounting bracket is permanently installed in the handrail profile and prepared depending on the project (with drill holes, threads or the appropriate adapters for the desired fastening).

Figure:
Mounting bracket with opening for cable entry of the electrical connection as well as threaded holes for mounting the connection plates (posts/wall brackets) for handrail HDL 48

Modular system for handrails with LED modules

Modular system
with free configuration

Handrail HDL 42+

Handrail HDL 45 Wood

Handrail HDL 48+

Handrail HDL 60+

Handrail HDL 40 Tegernsee

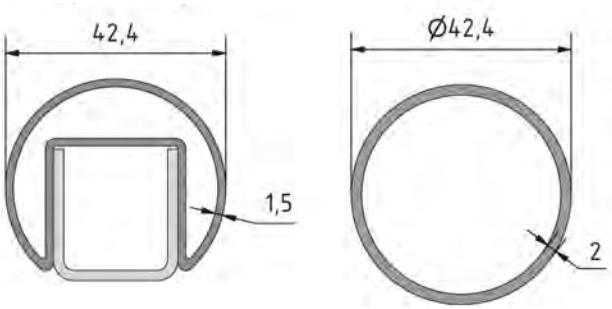
Handrail HDL 40x40+

Handrail HDL 60x40+

Handrail HDL 42+

Dimensions: ø 42.4 mm
Material: stainless steel 1.4301 or 1.4404
Surfaces ground, matte (glass polished) or powder coated.

Possible combinations with InstaLighting LED can be found on page 49.



Handrail HDL 45 Wood+

Dimensions: ø 45 mm
Material: various types of timber* suitable for indoor and outdoor use

Choice of coatings.

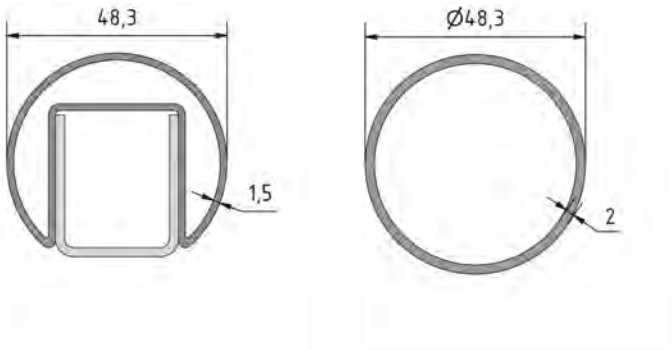
Possible combinations with InstaLighting LED can be found on page 49.

*Types of timber on request

Handrail HDL 48+

Dimensions: ø 48.3 mm
Material: stainless steel 1.4301 or 1.4404
Surfaces ground, matte (glass polished) or powder coated.

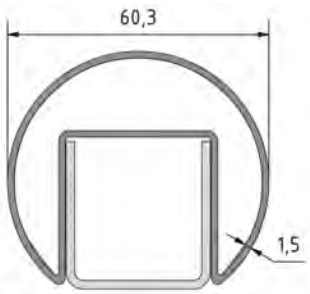
Possible combinations with InstaLighting LED can be found on page 49.

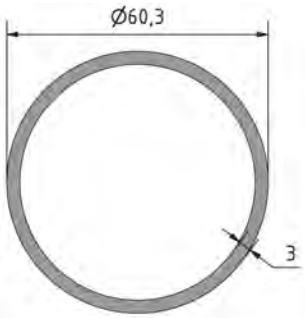


Handrail HDL 60+

Dimensions: ø 60.3 mm
Material: stainless steel 1.4301 or 1.4404
Surfaces ground, matte (glass polished) or powder coated.

Possible combinations with InstaLighting LED can be found on page 49.





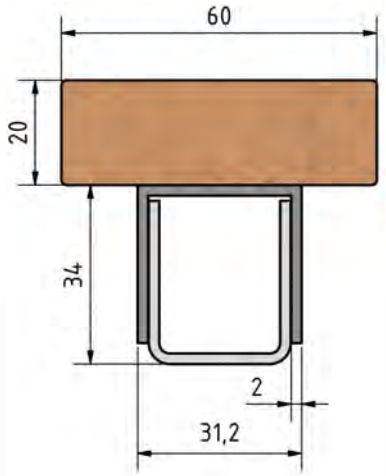
Handrail HDL Tegernsee

Dimensions: 54x60 mm
Material: stainless steel 1.4301 or 1.4404
Surfaces ground, matte (glass polished) or powder coated, various types of timber* suitable for indoor and outdoor use.

Choice of coatings.

Possible combinations with InstaLighting LED can be found on page 49.

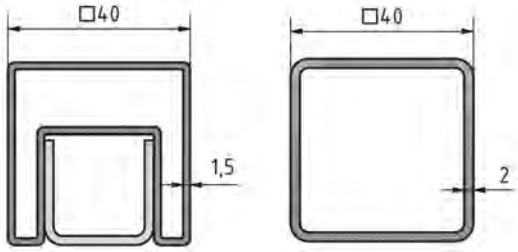
*Types of timber on request



Handrail HDL 40x40+

Dimensions: 40x40 mm
Material: stainless steel 1.4301 or 1.4404
Surfaces ground, matte (glass polished) or powder coated.

Possible combinations with InstaLighting LED can be found on page 49.

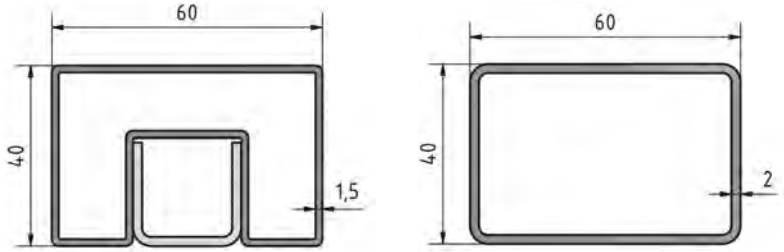


Handrail HDL 60x40+

Dimensions: 60x40 mm
Material: stainless steel 1.4301 or 1.4404
Surfaces ground, matte (glass polished) or powder coated.

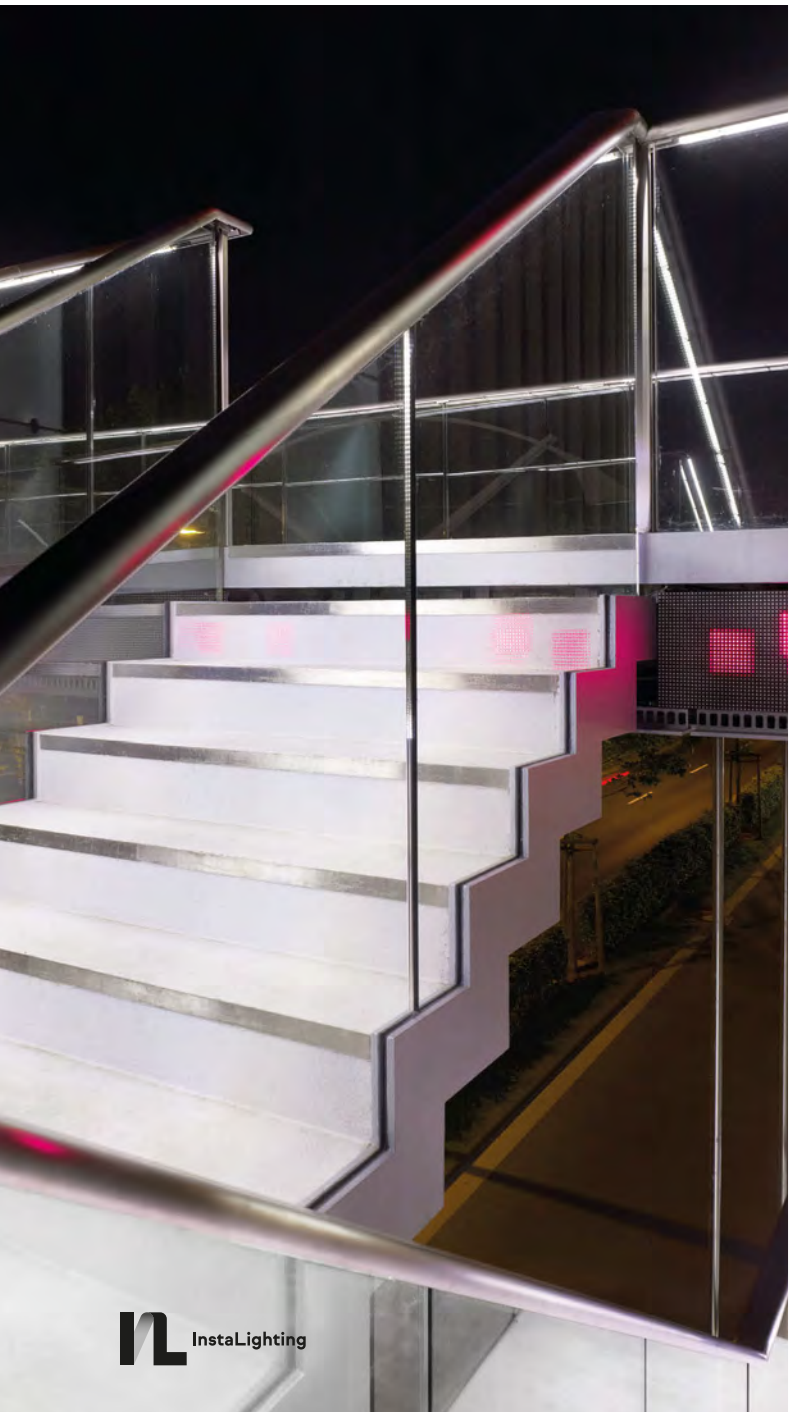
Choice of coatings.

Possible combinations with InstaLighting LED can be found on page 49.



Left: Telekom, Bonn
Photo: Lukas Roth

Right: Intercity Hotel at the main train station, Berlin
Photo: Linus Lintner Fotografie



Standard solutions for handrails with LED modules

Standard solutions
Predesigned solutions
for retrofitting

Handrail HDL 42

Handrail HDL 48

Handrail HDL 42 module

Size: ø 42.4 mm
Material: stainless steel 1.4301 or 1.4404
Surfaces ground, matte (glass polished) or powder coated, for use as single modules in fixed lengths with module tube adapter for standard round tubes with diameter 42.4 x 2 mm
(other wall thicknesses on request)

Length calculation
(lengths depend on LED insert)

Module length:
L1= LED insert + 312 mm
(length when installed)
L2= LED insert + 372 mm
(length including adapter)

Information on the lengths of InstaLighting LED inserts can be found on pages 48–49.

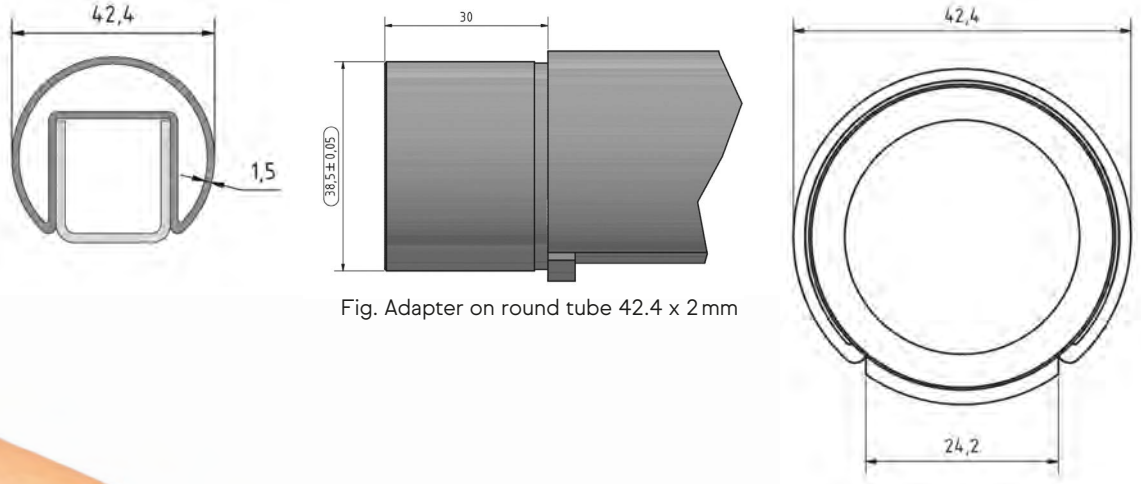


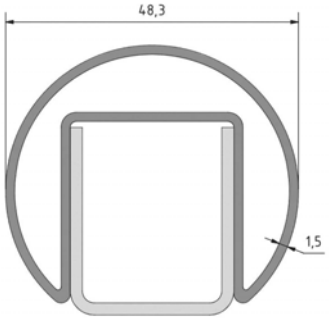
Fig. Adapter on round tube 42.4 x 2 mm

Handrail HDL 48 module

Length calculation
(lengths depend on LED insert)
Module length:
L1= LED insert + 312 mm
(length when installed)
L2= LED insert + 372 mm
(length including adapter)

Information on the lengths of InstaLighting LED inserts can be found on pages 48–49.

Size: ø 48.3 mm
Material: stainless steel 1.4301 or 1.4404
Surfaces ground, matte (glass polished) or powder coated, for use as single modules in fixed lengths with module tube adapter for standard round tubes with diameter 48.3 x 3 mm
(other wall thicknesses on request)



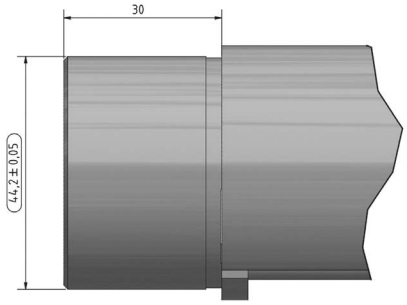
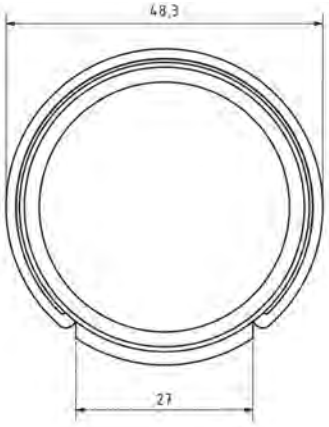


Fig. Adapter on round tube 48.3 x 3 mm



Post and handrail combinations

Series

GEO

POTSDAM

BINZ

KÖLN

Post/handrail series GEO

Materials and surfaces
- Stainless steel 1.4301 or 1.4404, surfaces ground, matte (glass polished)
- Galvanized steel, corrosion protection on request
- Powder coating with choice of colours, all welding seams ground

Attachment of handrail to post
Start and end posts are mitre welded at the angle of inclination. Centre posts are firmly welded at the angle of inclination or have a variable or rigid post connection via supports.

Dimensions
Balustrade posts and handrails according to the table. Different material thicknesses for the posts possible, depending on static requirements.

Accessories and technology
- Connection panel in post for electrical supply available for posts ø 48.3 mm, ø 60.3 mm, 40x40 mm, 60x40 mm
- Combination options with various balustrade infills

Information on InstaLighting LED inserts can be found on pages 48–49.

Connection panel in post

Handrail variants

Post variants	ø 42.4	ø 45.0	ø 48.3	ø 60.3	40x40	60x40	Tegernsee
ø 42.4	■						
ø 48.3			■				
ø 60.3				■			
40x40					■		
60x40						■	
70x50							

InstaLighting

GEO series post/handrail combinations
Left: post/handrail profile 40x40 mm
Right: post/handrail profile Ø 48.3 mm

Post/handrail series POTSDAM

Materials and surfaces
- Stainless steel 1.4301 or 1.4404, surfaces ground, matte (glass polished)
- Galvanized steel, corrosion protection on request
- Powder coating with choice of colours, all welding seams ground

Attachment of handrail to post
Start and end post curved to a radius of 100 mm (other radii on request). Centre posts are firmly welded at the angle of inclination or have a variable or rigid post connection via supports.

Dimensions
Balustrade posts and handrails according to the table. Different material thicknesses for the posts possible, depending on static requirements.

Accessories and technology
- Connection panel in post for electrical supply available for posts ø 48.3 mm, ø 60.3 mm, 40x40 mm and 60x40 mm
- Combination options with various balustrade infills

Information on InstaLighting LED inserts can be found on pages 48–49.

Connection panel in post

Handrail variants

Post variants	ø 42.4	ø 45.0	ø 48.3	ø 60.3	40x40	60x40	Tegernsee
ø 42.4	■						
ø 48.3			■				
ø 60.3				■			
40x40					■		
60x40						■	
70x50							

InstaLighting

POTSDAM series post/handrail combinations
Left: post/handrail profile 60x40 mm
Right: post/handrail profile Ø 48.3 mm

Post/handrail series BINZ

Materials and surfaces
- Stainless steel 1.4301 or 1.4404, surfaces ground, matte (glass polished)
- Galvanized steel, corrosion protection on request
- Powder coating with choice of colours, all welding seams ground

Attachment of handrail to post
Start, end and centre posts are firmly welded have a variable or rigid post connection at the angle of inclination.

Dimensions
Balustrade posts and handrails according to the table. Different material thicknesses for the posts possible, depending on static requirements.

Accessories and technology
- Connection panel in post for electrical supply available for posts ø 48.3 mm, ø 60.3 mm, 40x40 mm and 60x40 mm
- Combination options with various balustrade infills

Information on InstaLighting LED inserts can be found on pages 48–49.

Connection panel in post

Handrail variants

Post variants	ø 42.4	ø 45.0	ø 48.3	ø 60.3	40x40	60x40	Tegernsee
ø 42.4	■	■			■	■	■
ø 48.3	■	■	■	■	■	■	■
ø 60.3	■	■	■	■	■	■	■
40x40	■	■	■	■	■	■	■
60x40	■	■	■	■	■	■	■
70x50							

InstaLighting

BINZ series post/handrail combinations
Left: posts 40x40 mm combined with handrail HDL 40x40 mm
Right: posts ø 48.3 mm combined with handrail HDL 48

Post/handrail series KÖLN

Materials and surfaces
- Stainless steel 1.4301 or 1.4404, surfaces ground, matte (glass polished)
- Galvanized steel, corrosion protection on request
- Powder coating with choice of colours, all welding seams ground

Attachment of handrail to post
Start, end and centre posts are firmly welded have a variable or rigid post connection at the angle of inclination.

Dimensions
Balustrade posts and handrails according to the table. Different material thicknesses for the posts possible, depending on static requirements.

Accessories and technology
- Connection panel in post for electrical supply
- Combination options with various balustrade infills

Information on InstaLighting LED inserts can be found on pages 48–49.

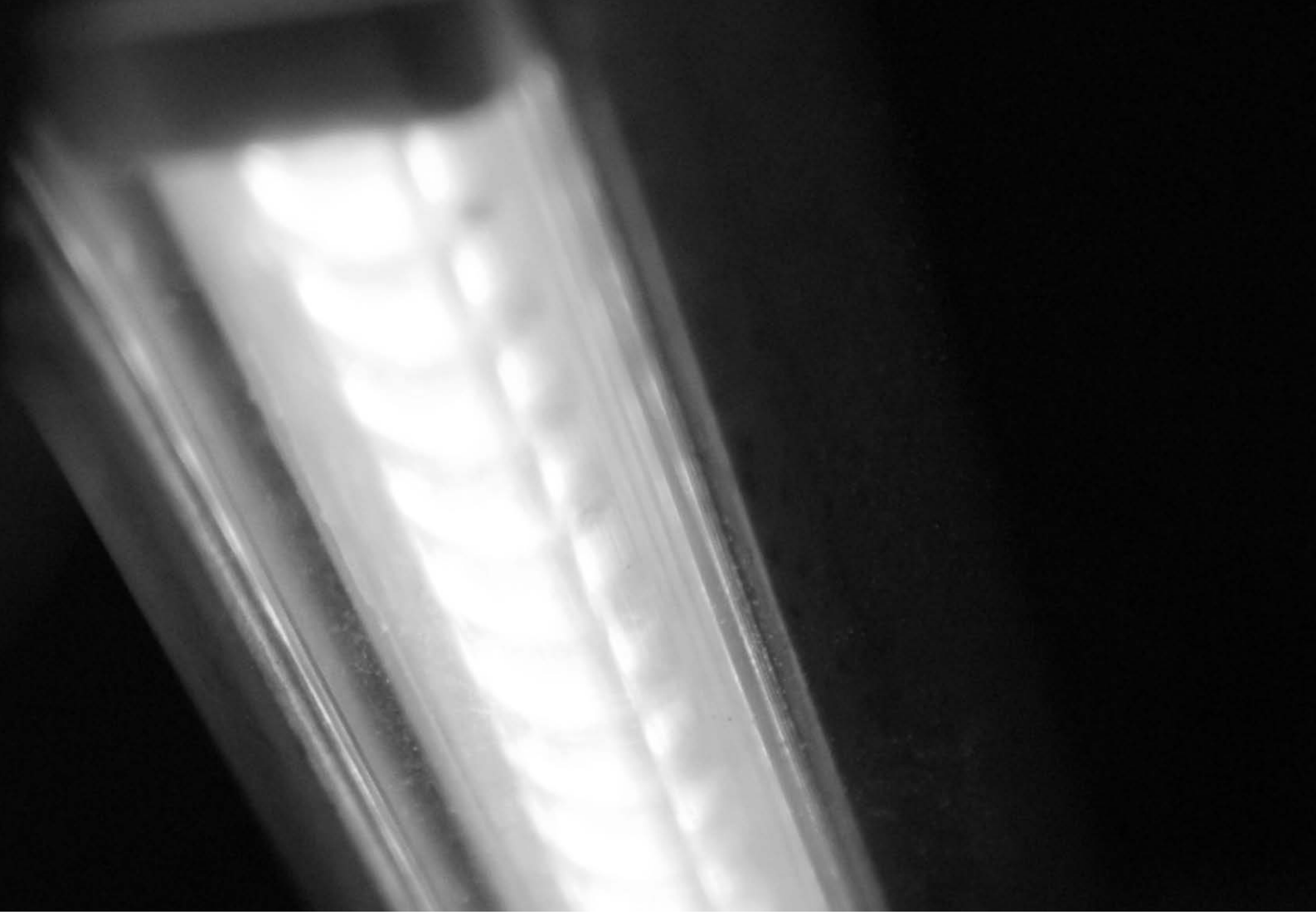
Connection panel in post

Handrail variants

Post variants	ø 42.4	ø 45.0	ø 48.3	ø 60.3	40x40	60x40	Tegernsee
ø 42.4							
ø 48.3							
ø 60.3							
40x40							
60x40							
70x50	■	■	■	■	■	■	■

InstaLighting

KÖLN series post/handrail combinations
Left: posts 70x50 mm combined with handrail HDL 60x40 mm
Right: posts 70x50 mm combined with handrail HDL 48



Technical data for LED modules for indoors and outdoors

Types
of LED modules

LH

LN

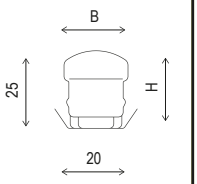
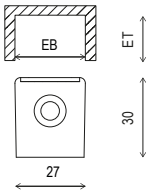
LS

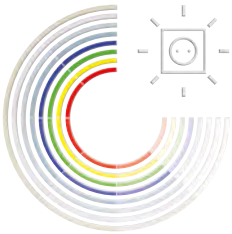
LX – TW

LX – RGB

LX – RGBW

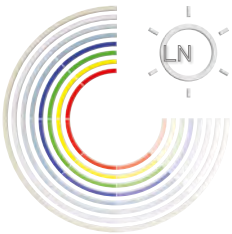
Types of LED modules

	LEDLUX IP20/IP64	**OHR1 4020** IP67/IP69, IK10/09
	 	 
LH – Dimmable with standard dimmers – Direct connection to 230 V possible – Alternatively equipped with light colours 2700 K, 3000 K, 4000 K and blue. Other light colours on request – Integrated power supply unit, with protective insulation	■	■
LN – Low-voltage luminaire for ambient lighting or lighting tasks with medium light intensity – Alternatively equipped with light colours 2700 K, 3000 K, 4000 K and blue, other light colours on request	■	■
LS – For lighting tasks with intense and high-quality white light – Energy-efficient, maintenance-free and space-saving – Up to 113 lm/W – Alternatively equipped with light colours 2700 K, 3000 K, 4000 K, other light colours on request	■	■
LX – TW – Tunable White technology for precise colour temperature adjustment in a range of 2700 K to 6500 K – Dimmable	■	■
LX – RGB – Complete colour space in RGB – Mixed colours, corporate colour	■	■
LX – RGBW – Combination of RGB and white light LEDs for highly saturated colours and brilliantly white light – Separate control of RGB and white	■	■



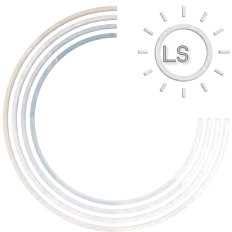
LH

The integrated ballast technology makes LH a cost-effective alternative for large and extensive projects. Direct connection to 230 V eliminates the need for external power supply units and reduces mounting effort and costs.



LN

Maximum luminous flux is not always required. LN is optimised for the specific requirements of orientation and ambient lighting and impresses with a balanced system performance, medium luminous flux and a wide variety of light colour options.



LS

The LS variants are characterised by a high luminous flux, efficiency and great colour rendering. The high luminous flux also makes LS ideal for general lighting tasks. Energy-efficient, maintenance-free and space-saving.

LX – TW (Tunable White)

The perfect white can only be created by transitioning through the different light hues – from comforting warm white through neutral white, to inspiring daylight white. InstaLighting enables a professional, ergonomic use of Tunable White. The high quality standards for the LEDs used and the InstaLighting Tunable White control system designed for this purpose pursue one goal: the precise variations and reproduction of light colour and light intensity in all the involved luminaire components – as static light scenes with infinite transitions and as light sequences individually tailored to the user.

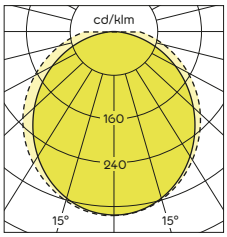
LX – RGB

A dynamic colour scheme is a quick and flexible way to create an atmosphere in architecture. The RGB colour space with all its colours is easy to reproduce, from simple colour changes to multimedia applications.

LX – RGBW

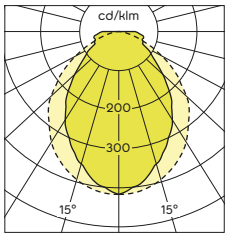
First choice for all lighting situations where saturated colours and “real” white light are required. In addition to reproducing all the colours of the RGB colour space, white light can be mixed in or high-quality white can be set as required.

Light distribution curves of the LED module variants



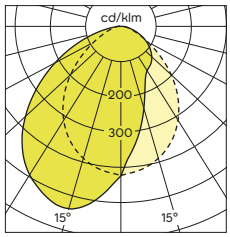
Satined lens 120°

LEDLUX LH
LEDLUX LN
LEDLUX LS
LEDLUX LX – TW
LEDLUX LX – RGB
LEDLUX LX – RGBW



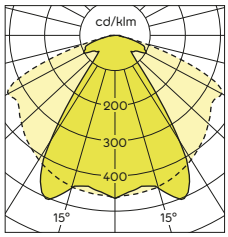
fresnel lens 70°

LH
LN
LS
LX – TW
LX – RGB
LX – RGBW



Asymmetrical 15°

OHR1 4020 LH
OHR1 4020 LN
OHR1 4020 LS
OHR1 4020 LX – TW
OHR1 4020 LX – RGB
OHR1 4020 LX – RGBW



Clear lens 70°

LH
LN
LS
LX – TW
LX – RGB
LX – RGBW

Lengths of LEDLUX LED modules in mm (suitable for mounting indoors)

Lengths	Module variant: LH	LN	LS	LX – TW	LX – RGB	LX – RGBW
334… 2286	■		■			
253… 2286		■		■	■	■

Lengths of LEDLUX LED modules IP20/IP64 (suitable for mounting indoors)

Module length in mm	Module variant: LH 230 V	LN 28 W	LS 24/28 W	LX – TW 28 V	LX – RGB 28 V	LX – RGBW 28 W
253		■	■	■	■	■
334	■	■	■	■	■	■
416	■	■	■		■	■
497		■	■	■	■	■
660	■	■	■	■	■	■
822	■	■	■	■	■	■
985	■	■	■	■	■	■
1148	■	■	■	■	■	■

Lengths of LED modules in mm (LEDLUX IP67, OHR1 4020 IP69)

Module variant

Module length in mm	LH 230 V	LN 28 W	LS 24/28 W	LX-TW 28 V	LX-RGB 28 V	LX-RGBW 28 W
275		☐	☐	☐	☐	☐
380	■	■	■	☐	☐	☐
710	■	■	■	☐	☐	☐
1035	■	■	■	■	■	■
1360	■	■	■	■	■	■

☐ on request

Combinations: handrail with LEDLUX LED modules (indoors) and OHR1 4020 (outdoors)

Handrail variants

	ø 42.4	ø 45.0	ø 48.3	ø 60.3	40x40	60x40	Tegernsee
LEDLUX IP20/IP64	■	■	■	■	■	■	■
OHR1 4020 IP67/IP69 IK10/09	☐	■	■	■	■	■	■

☐ on request

Technical details for LEDLUX LED modules (dimmable)

Module variant	Light colour (K)	Colour rendition (R_a)	Connected load (W/m)	Max luminous flux (lm/m)	Degree of protection	Dimmable	Power supply
LN	3000...6000	>80	7.2	630	IP20, IP64, IP67, IP69	yes	28 V
LH	2700...6000	>80	10.0	870	IP64, IP67, IP69	*	230 V**
LS	3000...6000	>80	19.0	1800	IP20, IP64, IP67, IP69	yes	24 V, 28 V
LX – TW	2700...6500	–	16.0	1320	IP20, IP64, IP67, IP69	yes	28 V
LX – RGB	RGB	–	16.2	–	IP20, IP64, IP67, IP69	yes	28 V
LX – RGBW	RGBW	>90	18.9	–	IP20, IP64, IP67, IP69	yes	28 V

* Trailing edge dimmer to approx. 30%

** No external switching power supply unit required. Other versions available on request.

Lifespan of LEDLUX LED modules (L80/B10 @ 25°C) = 60,000 h

Accessories

Handrail & balustrade

Fastening systems for handrails and balustrades

Balustrade infills

Fastening systems for handrails
Wall brackets*

Round design with M8 connection plate or 3-hole fastening
Material: stainless steel 1.4301 or 1.4404
Optionally powder coated with choice of colours

Without joint

Stainless steel 1.4301 BG095
Stainless steel 1.4404 MT096

Without joint

Stainless steel 1.4301 BG095
Stainless steel 1.4404 MT096

With joint

Stainless steel 1.4301 MT336
Stainless steel 1.4404 MT337

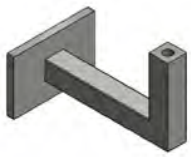
Direct connection to handrail

Stainless steel 1.4301 MT261
Stainless steel 1.4404 MT262

Direct connection to Handrail

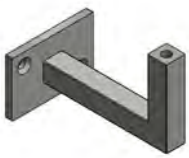
Stainless steel 1.4301 MT259
Stainless steel 1.4404 MT260

Round design with M8 connection plate or 3-hole fastening
Material: stainless steel, 1.4301 or 1.4404
Optionally powder coated with choice of colours



Without joint

Stainless steel 1.4301 MT265
Stainless steel 1.4404 MT266



Without joint

Stainless steel 1.4301 MT265
Stainless steel 1.4404 MT266

* Other wall bracket versions available on request.

Fastening systems for handrails
Wall bracket with cable duct for electrical connection*

Round design with M8 connection plate, 3-hole fastening
Material: stainless steel 1.4301 or 1.4404
Optionally powder coated with choice of colours

Without joint

Stainless steel 1.4301 BG030
Stainless steel 1.4404 BG031

Direct connection to handrail

Stainless steel 1.4301 BG053
Stainless steel 1.4404 BG054

With joint

Stainless steel 1.4301 MT261
Stainless steel 1.4404 MT262

Square design with connection plate, 2-hole fastening for direct supply
Material: stainless steel, 1.4301 or 1.4404
Optionally powder coated with choice of colours

Direct connection to Handrail

Stainless steel 1.4301 BG057
Stainless steel 1.4404 BG058

* Information on the electrical connection can be found on pages 66–67.

Fastening systems for handrails
Wall connectors*

Wall connector 90° with cable duct for electrical connection
Round design with connection plate
Material: stainless steel 1.4301 or 1.4404
Optionally powder coated with choice of colours

Elbow 90°
with fastening plate,
3-hole

ø 42.4 mm
Stainless steel 1.4301 BG059
Stainless steel 1.4404 MT060

ø 48.3 mm
Stainless steel 1.4301 BG061
Stainless steel 1.4404 MT062

ø 60.3 mm
Stainless steel 1.4301 BG063
Stainless steel 1.4404 MT064

Elbow 90° with sleeve

ø 42.4 mm
Stainless steel 1.4301 BG065
Stainless steel 1.4404 MT066

ø 48.3 mm
Stainless steel 1.4301 BG067
Stainless steel 1.4404 MT068

ø 60.3 mm
Stainless steel 1.4301 BG069
Stainless steel 1.4404 MT070

Mitre corner 90°
with fastening plate,
3-hole

ø 42.4 mm
Stainless steel 1.4301 BG071
Stainless steel 1.4404 MT072

ø 48.3 mm
Stainless steel 1.4301 BG073
Stainless steel 1.4404 MT074

ø 60.3 mm
Stainless steel 1.4301 BG075
Stainless steel 1.4404 MT076

Mitre corner 90°
with sleeve

ø 42.4 mm
Stainless steel 1.4301 BG077
Stainless steel 1.4404 MT078

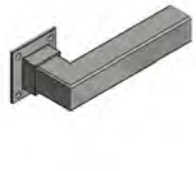
ø 48.3 mm
Stainless steel 1.4301 BG079
Stainless steel 1.4404 MT080

ø 60.3 mm
Stainless steel 1.4301 BG081
Stainless steel 1.4404 MT082

* Information on the electrical connection can be found on pages 66–67.

Fastening systems for handrails
Wall connectors*

Wall connector 90° with cable duct for electrical connection
Square design with connection plate
Material: stainless steel 1.4301 or 1.4404
Optionally powder coated with choice of colours



Mitre corner 90° with fastening plate, 4-hole

40x40 mm
Stainless steel 1.4301 BG083
Stainless steel 1.4404 BG084

40x60 mm
Stainless steel 1.4301 BG085
Stainless steel 1.4404 BG086

Mitre corner 90° with sleeve

40x40 mm
Stainless steel 1.4301 BG089
Stainless steel 1.4404 BG090

40x60 mm
Stainless steel 1.4301 BG091
Stainless steel 1.4404 BG092

Mitre corner 90° with fastening plate, 2-hole

Tegernsee
Stainless steel 1.4301 BG087
Stainless steel 1.4404 BG0888

* Information on the electrical connection can be found on pages 66–67.

Fastening systems for handrails
Wall connectors*

Round design with connection plate
Material: stainless steel 1.4301 or 1.4404
Optionally powder coated with choice of colours

Wall connector, straight, with fastening plate, 3-hole

ø 42.4 mm
Stainless steel 1.4301 MT249
Stainless steel 1.4404 MT250

ø 48.3 mm
Stainless steel 1.4301 MT251
Stainless steel 1.4404 MT252

ø 60.3 mm
Stainless steel 1.4301 MT358
Stainless steel 1.4404 MT359

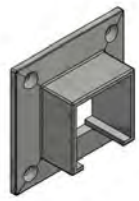
Wall connector, straight, with sleeve

ø 42.4 mm
Stainless steel 1.4301 MT253
Stainless steel 1.4404 MT254

ø 48.3 mm
Stainless steel 1.4301 MT255
Stainless steel 1.4404 MT256

ø 60.3 mm
Stainless steel 1.4301 MT360
Stainless steel 1.4404 MT361

Square design with connection plate
Material: stainless steel, 1.4301 or 1.4404
Optionally powder coated with choice of colours



Wall connector, straight, with fastening plate, 4-hole

40x40mm
Stainless steel 1.4301 MT257
Stainless steel 1.4404 MT258

60x40 mm
Stainless steel 1.4301 MT362
Stainless steel 1.4404 MT363

Wall connector, straight, with sleeve

40x40mm
Stainless steel 1.4301 BG032
Stainless steel 1.4404 BG033

60x40 mm
Stainless steel 1.4301 BG093
Stainless steel 1.4404 BG094

* Information on the electrical connection can be found on pages 66–67.

Fastening systems for handrails
Tube connector for handrail systems

Positive-locking connection of two handrails, without additional welding, for length compensation (expansion joint) in long systems
Material: stainless steel 1.4301 or 1.4404
Optionally powder coated with choice of colours

Round design with bar

ø 42.4 mm
Stainless steel 1.4301 MT102
Stainless steel 1.4404 MT103

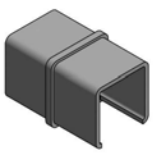
ø 48.3 mm
Stainless steel 1.4301 MT105
Stainless steel 1.4404 MT106

ø 60.3 mm
Stainless steel 1.4301 MT104
Stainless steel 1.4404 MT314

Round design without bar

ø 42.4 mm
Stainless steel 1.4301 MT340
Stainless steel 1.4404 MT341

ø 48.3 mm
Stainless steel 1.4301 MT342
Stainless steel 1.4404 MT343
ø 60.3 mm
Stainless steel 1.4301 MT344
Stainless steel 1.4404 MT345



Square design with bar

40x40mm
Stainless steel 1.4301 MT101
Stainless steel 1.4404 MT100

Square design with bar

60x40 mm
Stainless steel 1.4301 MT325
Stainless steel 1.4404 MT326

* Information on the electrical connection can be found on pages 66–67.

Fastening systems for handrails
End caps for handrail modules

Material: stainless steel 1.4301 or 1.4404
Optionally powder coated with choice of colours

Round design

ø 42.4 mm
Stainless steel 1.4301 MT233
Stainless steel 1.4404 MT235

ø 48.3 mm
Stainless steel 1.4301 MT234
Stainless steel 1.4404 MT236

ø 60.3 mm
Stainless steel 1.4301 MT316
Stainless steel 1.4404 MT317

Square design

40x40mm
Stainless steel 1.4301 MT075
Stainless steel 1.4404 MT076

Square design

60x40 mm
Stainless steel 1.4301 MT346
Stainless steel 1.4404 MT327

* Information on the electrical connection can be found on pages 66–67.

Fastening systems for balustrades
Balustrade supports

Material: stainless steel 1.4301 or 1.4404
Optionally powder coated with choice of colours

Round design without joint

ø 42.4 mm
Stainless steel 1.4301 MT273
Stainless steel 1.4404 MT274

ø 48.3 mm
Stainless steel 1.4301 MT275
Stainless steel 1.4404 MT276

Round design with joint

ø 42.4 mm
Stainless steel 1.4301 MT271
Stainless steel 1.4404 MT272

ø 48.3 mm
Stainless steel 1.4301 BG034
Stainless steel 1.4404 MT035

Square design without joint

40x40mm
Stainless steel 1.4301 MT277
Stainless steel 1.4404 MT278

Square design with joint

40x40mm
Stainless steel 1.4301 MT279
Stainless steel 1.4404 MT280

With cable duct for electrical connection
Material: stainless steel 1.4404
Optionally powder coated with choice of colours

Round design without joint

ø 42.4 mm
Stainless steel 1.4404 BG038

ø 48.3 mm
Stainless steel 1.4404 BG037

Round design with joint

ø 42.4 mm
Stainless steel 1.4404 BG039

ø 48.3 mm
Stainless steel 1.4404 BG036

Square design without joint

40x40mm
Stainless steel 1.4404 BG056

Square design with joint

40x40mm
Stainless steel 1.4404 BG057

* Information on the electrical connection can be found on pages 66–67.

Fastening systems for balustrades
Flange plates and cover rosettes

Optionally ground, with countersunk drill holes
Material: galvanized steel, stainless steel 1.4301 or 1.4404
Optionally powder coated with choice of colours

Round design

D=120 mm t=8 (10) mm
4(2)-hole for M10
ø 42.4 mm
Stainless steel 1.4301 MT196
Stainless steel 1.4404 MT197
ø 48.3 mm
Stainless steel 1.4301 MT198
Stainless steel 1.4404 MT199
ø 60.3 mm
Stainless steel 1.4301 MT348
Stainless steel 1.4404 MT349

D=150 mm t=8 (10) mm
4(2)-hole for M10 (M12)
ø 48.3 mm
Stainless steel 1.4301 MT342
Stainless steel 1.4404 MT343

Square design

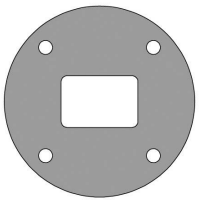
100x100 mm t=8 (10) mm
4(2)-hole for M10
ø 42.4 mm
Stainless steel 1.4301 MT204
Stainless steel 1.4404 MT205
ø 48.3 mm
Stainless steel 1.4301 MT206
Stainless steel 1.4404 MT207

Round design

D=150 mm t=8 (10) mm
4(2)-hole for M10 (M12)
40x40 mm
Stainless steel 1.4301 MT350
Stainless steel 1.4404 MT351

Square design

100x100 mm t=8 (10) mm
4(2)-hole for M10
40x40 mm
Stainless steel 1.4301 MT208
Stainless steel 1.4404 MT209



Round design

D=150 mm t=8 (10) mm
4(2)-hole for M10 (M12)
60x40 mm
Stainless steel 1.4301 MT354
Stainless steel 1.4404 MT355

Square design

D=150 mm t=8 (10) mm
4(2)-hole for M10 (M12)
40x60 mm
Stainless steel 1.4301 MT356
Stainless steel 1.4404 MT357

* Other flange plates and cover rosettes matching the flange plates on request.

Fastening systems for balustrades

Material: galvanized steel, stainless steel 1.4301 or 1.4404
Optionally powder coated with choice of colours. Direct connection of balustrade post to handrail, cable duct possible for electrical connection

Mitre corner
Post/handrail 15–170°
Square

40x40 mm BG097
40x60 mm BG098

T-connector
Post/handrail 15–170°
Square

40x40 mm BG103
60x40 mm BG104

Mitre corner
Post/handrail 15–170°
Round

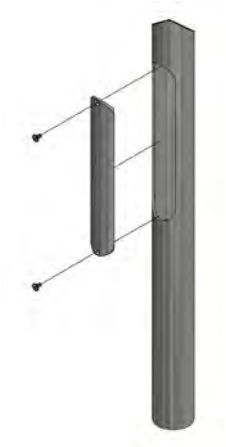
D=42.4 mm BG099
D=45.0 mm BG100
D=48.3 mm BG101
D=60.3 mm BG102

T-connector
Post/handrail 15–170°
Round

D=42.4 mm BG105
D=45.0 mm BG106
D=48.3 mm BG107
D=60.3 mm BG108

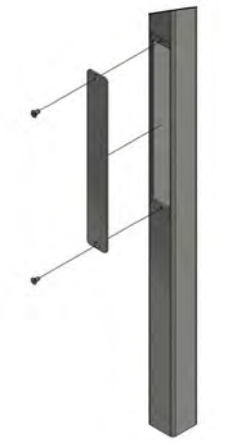
Fastening systems for balustrades

Material: galvanized steel, stainless steel 1.4301 or 1.4404
Optionally powder coated with choice of colours
Post with connection panel for electrical connection
Connection panel for post diameter, fitted with countersunk head screws, special fitting on request



Round design

D=48.3 mm and D=60.3 BG023



Square design

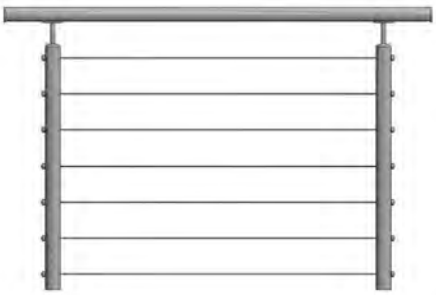
40x40 mm, 60x40 mm BG040

Balustrade infills

Balustrade with glass

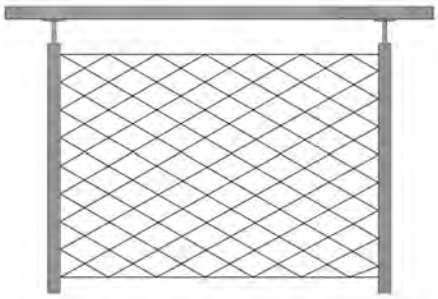
The glass panel and fixing types are subject to the technical requirements depending on the project. Fastening material with general building inspectorate approval (AbZ) are used according to specifications.

Balustrade with wire rope



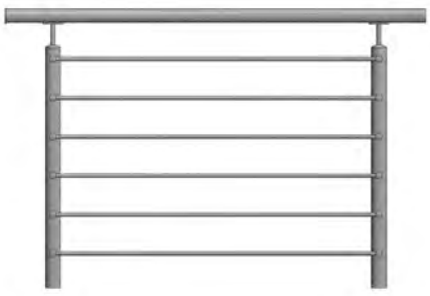
Balustrade infills with wire rope can be carried out according to requirements with different rope thicknesses and distances between the wire ropes.

Balustrade with wire mesh



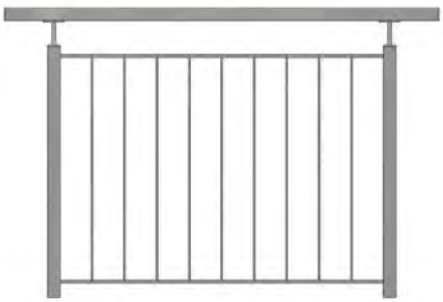
Balustrade infills with wire mesh netting can be manufactured in various designs according to requirements.

Balustrade with fill rods, horizontal arrangement



Balustrade infills with fill rods in horizontal arrangement can be manufactured individually according to requirements.

Balustrade with fill rods, vertical arrangement



Balustrade infills with fill rods in vertical arrangement can be manufactured individually according to requirements.

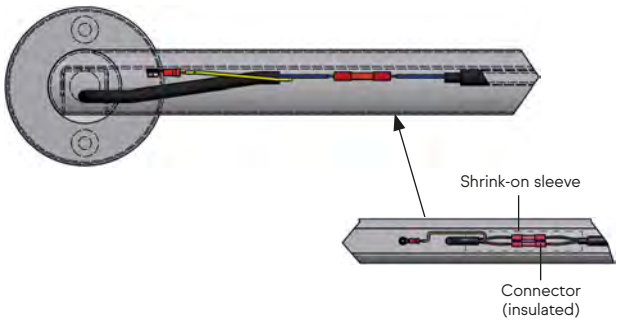
General Information

Notes on
electrical connection

Other

Connection options

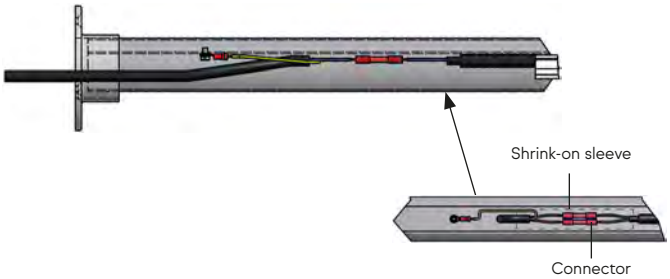
Wall connection flange, 90°



Plug-in system IP68/IP20
(optional)

Use with existing flexible supply line.
NYM/NYY supply line (rigid conductors) possible.

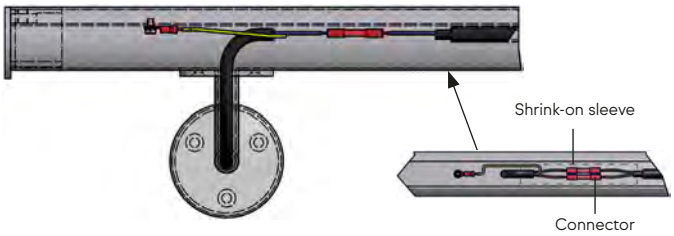
Wall connection flange, straight,



Plug-in system IP68/IP20
(optional)

Use with existing flexible supply line.
NYM/NYY supply line (rigid conductors) possible.

Handrail support

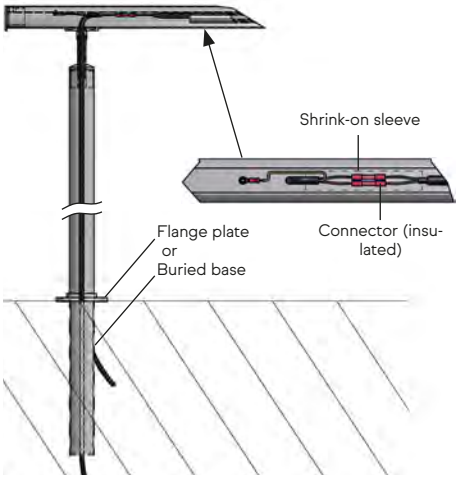


Plug-in system IP68/IP20
(optional)

Use with existing flexible supply line.
NYM supply line (rigid conductors) **not** possible.

Connection options

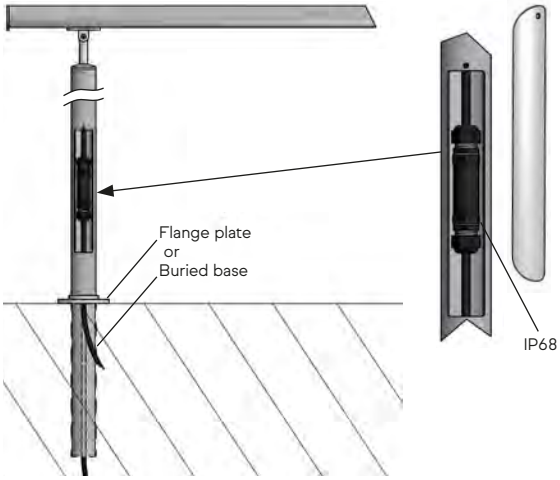
Balustrade without connection panel



Plug-in system IP68/IP20
(optional)

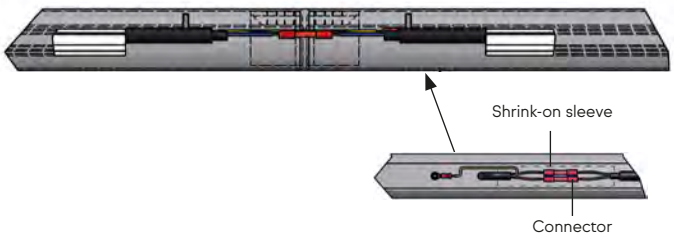
Use with existing flexible supply line.
NYY supply line (rigid conductors) **not** possible.

Balustrade with connection panel



Balustrade support with connection panel from post diameter D= 48.3-60.3 mm and for square balustrade posts from 40x40/60x40 mm. The connection must be made via an IP68 cable connector for cable diameter 6-10 mm for rigid and flexible conductors included in the scope of delivery. Can be used with existing flexible supply lines as well as NYY supply lines (rigid conductors).

Electrical connection between handrail and balustrade elements



Plug-in system IP68/IP20
(optional)

Handrail and balustrade elements are supplied through-wired where possible.
In the case of delivery in partial lengths, wiring must be carried out by the customer. In this case, the following should be observed:
For LED modules with a supply voltage of 24/28 V and 230 V, a plug-in system with a suitable degree of protection for indoor/outdoor use is supplied as standard for connecting the modules to each other.
If no plug-in system is used for LED modules with 230 V supply voltage, the connection must be made by a qualified electrician on site. The connection set included in the scope of delivery, consisting of two 0.5-1.0 mm connectors each with shrink insulation and shrink tubing with SUM 9-3 adhesive, must be used for this purpose.

InstaLighting

Instalighting GmbH
Hohe Steinert 10
58509 Lüdenscheid
Germany

T +49 2351 65619-0

info@instalighting.de
www.instalighting.de