UNIQUE DESIGN
LONG TRADITION

In 2017, LKD took over the general representation of selected PLANET Lighting products for Austria, Germany, Switzerland and various other regions in Europe. As the world's leading manufacturer of LED Puck systems for handrails as well as medical and surgical luminaires, PLANET Lighting is an ideal partner to realise creative customised lighting ideas and concepts.
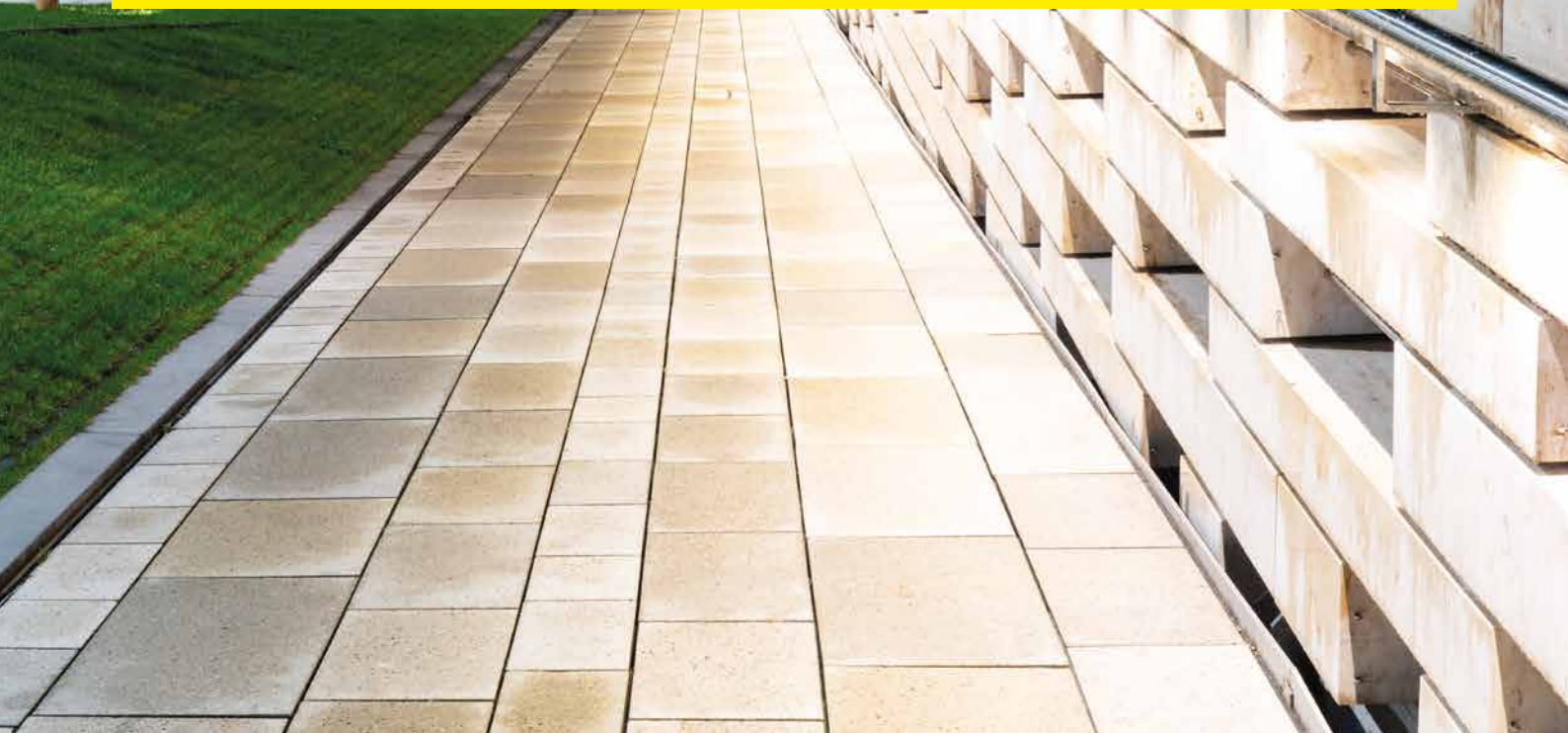
WWW.LKD.AT

LKD
Licht . Kommunal . Digital

PLANET LIGHTING

PUCK - SNAP THE LIGHT
LIGHT FOR HANDRAILS

Foot and Cycle Path Bridge, Darmstadt

PLANET LIGHTING

PUCK **ST** .... page 8

Standard
- Most powerful Puck 180lm/1.4W
- Direct light distribution
- Very suitable for paths, stairs and bridges

PUCK **FA**.................. page 12

Forward asymmetric
- Vertical light distribution without indirect component
- Avoidance of backlight, especially on bridges, no light in the direction of the water
- Very suitable for paths, stairs and especially bridges

PUCK **VA** .... page 14

Vertical asymmetric
- Vertical light distribution with indirect component
- Rear light for accentuation, e.g. walls or building structures
- Very suitable for paths and stairs

PUCK **ZERO** .... page 18

Zero
- Vertical light distribution with indirect component
- Glare reduction through black reflector
- Improvement of the visual comfort for the viewer
- Ideal high stairs with a direct view of the light source

PUCK **WIDE**............. page 20

Wide
- Very wide light distribution
- Ideal for use in a middle staircase handrail, light distribution on both sides of the handrail

PUCK **LENS** .... page 22

Lens
- 3 different light distributions: narrow, medium and wide beam
- Ideal to accentuate parts of buildings and monuments

PUCK **TW**................. page 24

2700 K 6500

Tunable White
- Direct light distribution
- Light colour adjustable from 2700k to 6500k
- Simulates natural daylight
- Ideal for indoor applications and the implementation of circadian concepts

PUCK **RGBW** .... page 26

RGBW
- Direct light distribution
- Light colour red, green, blue and white 4000k
- Ideal for applications with dynamic colour changes or to accentuate architectural highlights
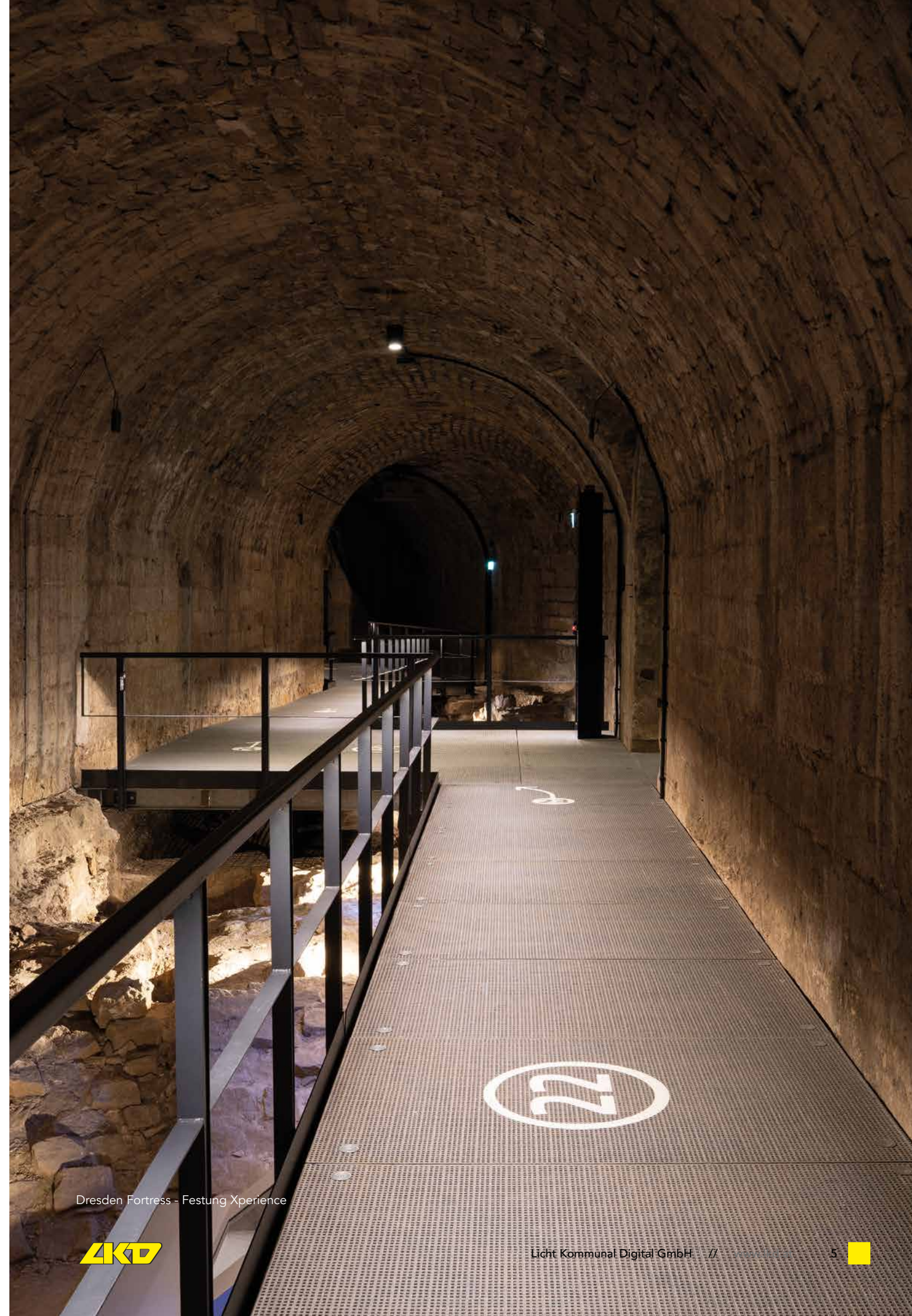
Dresden Fortress - Festung Xperience

TEFLON CABLE

STAINLESS STEEL 316

LED TECHNOLOGY
UP TO 180LM PER PUCK
CREE XP-G3
>128LM/W
3 SDCM
CRI 90+

GLASS VERSIONS
POLYCARBONATE, IP65, IK10
OR BOROSILICATE, IP67

SIGNIFICANT ENERGY SAVINGS TO LINEAR LIGHTING SYSTEMS

CAN BE INSTALLED IN STANDARD HANDRAILS

INDIVIDUAL PLACEMENT OF THE PUCKS

EFFECTIVE PROTECTION AGAINST VANDALISM

„ONE" HOUSING FOR ALL WALL THICKNESSES FROM 1.5MM

NO THREAD AND NO COUNTERSINK REQUIRED FOR MOUNTING

QUICK PREPARATION OF THE HANDRAIL FOR ASSEMBLY

OPTIMUM ALIGNMENT OF THE PUCK POSSIBLE EVEN AFTER INSTALLATION

ALWAYS PERFECTLY FLUSH TO HANDRAIL MOUNTING OF THE PUCK

REDUCED RISK OF CABLE BREAKAGE BY „SNAPPING" THE PUCK INTO THE MATERIAL

NO USE OF INTERNAL SPRINGS OR LOCTITE,
THUS IMPROVED DISMANTLING POSSIBILITIES

THEFT-PROOF BY USING A SPECIAL DISASSEMBLY TOOL
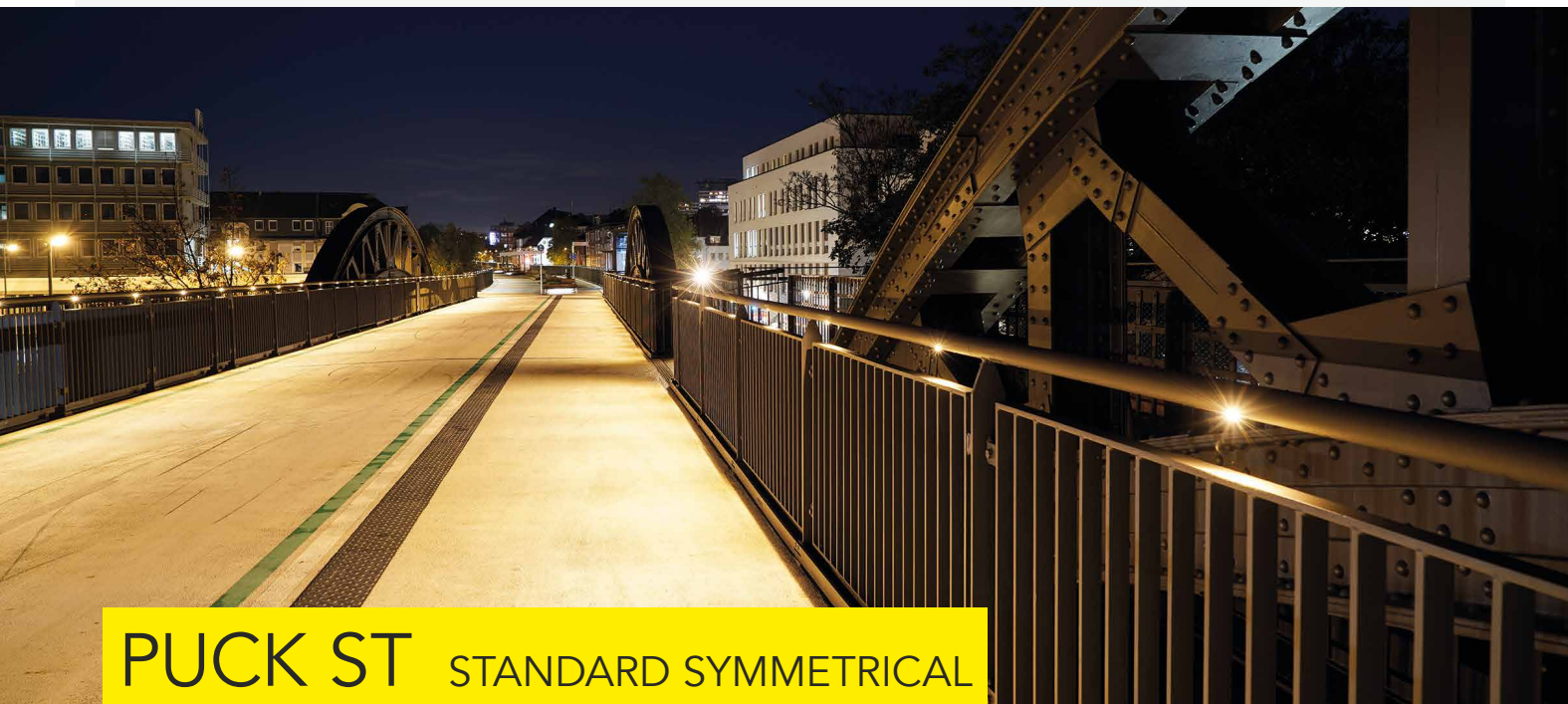
PUCK ST   STANDARD SYMMETRICAL

Cycle Path RS1, Mülheim an der Ruhr

TECHNICAL SPECIFICATIONS

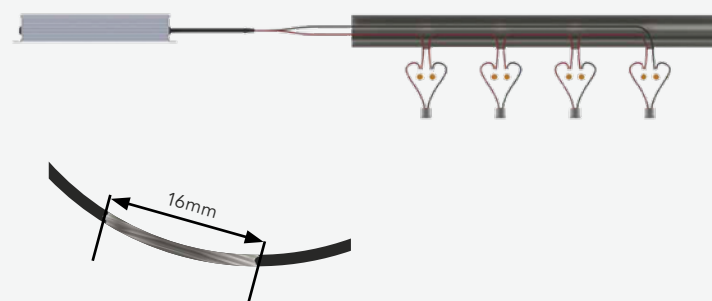|		
•	Installation	in round (CF) or flat (FF) surfaces
•	Housing	Stainless steel 316
•	Dimensions	Diameter 16mm -
		Height 15mm (SNP) / 26mm (SOLO
•	Rated capacity	1.4W / 500mA / 2.8Vf
•	Light output	170lm (3000K) / 180lm (4000K)
•	LED	CREE-XPG-3 with SC5 technology
•	Light colours	2700K / 3000K / 3500K / 4000K
•	Colour rendering index	CRI 80+ (CRI 90+ on request)
•	Chromaticity stability	3 Step MacAdam Ellipses
•	Lifetime	L80 B10 50,000 hrs
•	Protection class	IP65 (Polycarbonate) or IP67 (Borosilicate)
•	Impact resistant class	IK10 (EN62262) at IP65
•	Material thickness handrail	at least 1.5mm
•	Diameter handrail	round at least 35mm
		square at least 25x25mm (SNP) / 35x35mm (SOLO)
•	Theft protection	Disassembly only possible with special tool

SERIES WIRING

Max. 20 pucks per driver (SELV) are allowed.

INSTALLATION DETAIL

Material thickness: > 1.5mm

The SNAP puck can be used from a material thickness of 1.5mm without counterbore and thread.

16mm

PROJECT DATA

Cycle path Ruhr RS1,
Mülheim an der Ruhr
350 Pucks, special version
Light colour 2200 Kelvin

The RS1 rapid cycle route is a project under construction, which will ultimately cross the Ruhr area from Duisburg to Hamm with a length of 101 km and connect cities such as Mülheim, Essen, Bochum and Dortmund with one another. A total of 10 centers and 4 universities with a catchment area of 1.65 million inhabitants and 430,000 jobs will be developed along the RS1. The goal is to save around 50,000 car journeys per day thanks to the modern cycle expressway with its excellent infrastructure.

In Mülheim an der Ruhr, the cycle route runs high above the street level and offers a safe and car-free traffic area for cyclists and pedestrians. In order to make this traffic area safe, the lighting was an important part in the planning. The electrical and light planning was carried out by the renowned lighting design office licht l raum l stadt planung gmbh in Wuppertal.

The innovative PUCK was perfectly suited for this project due to the high flexibility in the lighting planning as well as the installation in the existing handrail. In the area where the cycle path runs through a nature reserve a Puck with insect-friendly 2200K was used, in built up areas the 3000K version. In this project, the PUCK is making a sustainable, efficient and environmentally friendly contribution to the road safety for all users of the cycle path.
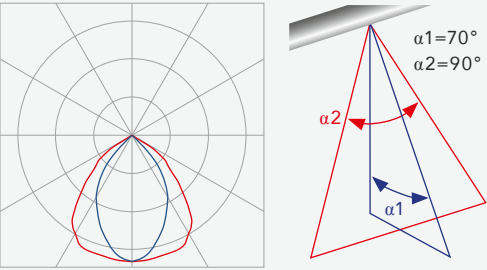
15mm

16mm

70°

70°

15mm

16mm
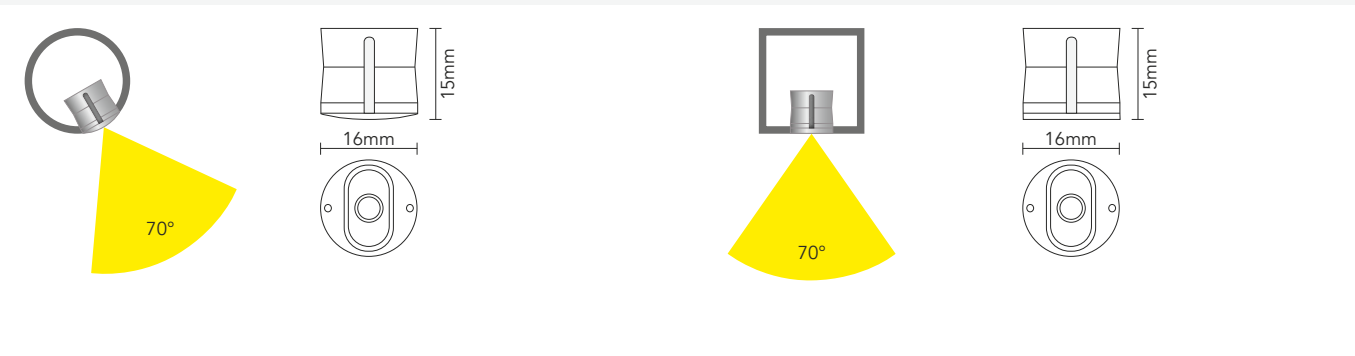
PUCK **HLS-ST-SNP** FOR INSTALLATION IN METAL

	Beam angle	Version	Profile	Light colour	Cover
HLS = Handrail Lighting System	**ST** = Standard symmetrical	**SNP** = SNAP mounting in metal	**CF** = Round **FF** = Flat	**IW** = 2700K **WW** = 3000K **MW** = 3500K **NW** = 4000K	**–** = Polycarbonate (standard) **B** = Borosilicate

α1=70°
α2=90°

α2

α1

PLANNING EXAMPLE

Light from both sides

Path width (W)	1.2 m	2.0 m	3.0 m	4.0 m
Puck Spacing (S)	lx	lx	lx	lx
0.5 m	342	205	137	103
1.0 m	171	103	68	51
2.0 m	86	51	34	26

lx = Average lux, light colour = 3000K
Installation angle in round handrail = 30°

W = Path width
H = Mounting height handrail 800mm
S = Spacing between Pucks

26mm

16mm

70°

70°

26mm

16mm

PUCK **HLS-ST-SOLO** FOR INSTALLATION IN WOOD, PLASTER AND MASONRY

	Beam angle	Version	Profile	Light colour	Cover
HLS = Handrail Lighting System	**ST** = Standard symmetrical	**SOLO** = SNAP mounting in wood, plaster, masonry	**CF** = Round **FF** = Flat	**IW** = 2700K **WW** = 3000K **MW** = 3500K **NW** = 4000K	**–** = Polycarbonate (standard) **B** = Borosilicate

α1=70°
α2=90°

α2

α1

PLANNING EXAMPLE

Light from both sides

Path width (W)	1.2 m	2.0 m	3.0 m	4.0 m
Puck Spacing (S)	lx	lx	lx	lx
0.5 m	342	205	137	103
1.0 m	171	103	68	51
2.0 m	86	51	34	26

lx = Average lux, light colour = 3000K
Installation angle in round handrail = 30°

W = Path width
H = Mounting height handrail 800mm
S = Spacing between Pucks

PUCK FA FORWARD ASYMMETRICAL

Church Park, Barkaby

TECHNICAL SPECIFICATIONS

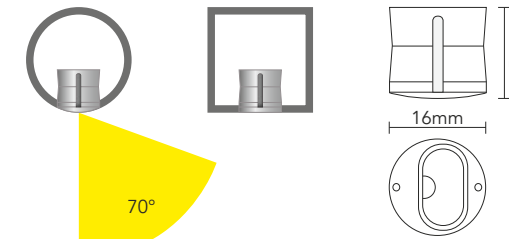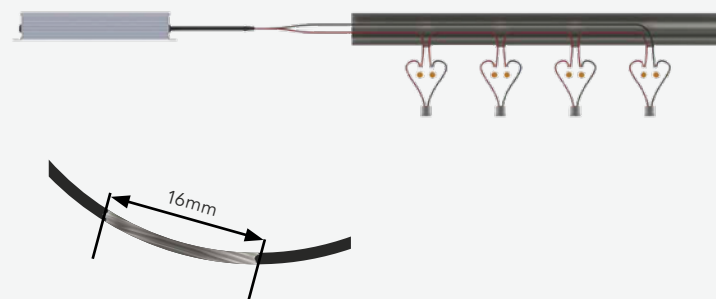|	
• Installation	in round (CF) or flat (FF) surfaces
• Housing	Stainless steel 316
• Dimensions	Diameter 16mm
	Height 15mm (SNP) / 26mm (SOLO)
• Rated capacity	1.4W / 500mA / 2.8Vf
• Light output	130lm (3000K) / 144lm (4000K)
• LED	CREE-XPG-3 with SC5 technology
• Light colours	2700K / 3000K / 3500K / 4000K
• Colour rendering index	CRI 80+ (CRI 90+ on request)
• Chromaticity stability	3 Step MacAdam Ellipses
• Lifetime	L80 B10 50,000 hrs
• Protection class	IP65 (Polycarbonate) or IP67 (Borosilicate)
• Impact resistant class	IK10 (EN62262) at IP65
• Material thickness handrail	at least 1.5mm
• Diameter handrail	round at least 35mm
	square at least 25x25mm (SNP) / 35x35mm (SOLO)
• Theft protection	Disassembly only possible with special tool

SERIES WIRING

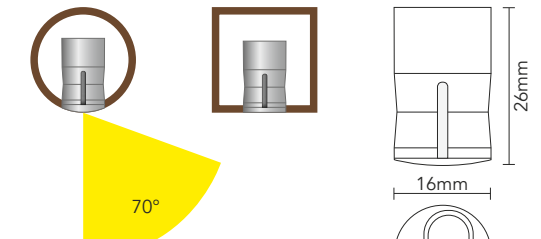Max. 20 pucks per driver (SELV) are allowed.

INSTALLATION DETAIL

Material thickness: > 1.5mm

The SNAP puck can be used from a material thickness of 1.5mm without counterbore and thread.

Installation details on page 32.

16mm

FA-SNP

FA-SOLO

15mm

16mm

70°

26mm

16mm

70°

PUCK HLS-FA-SNP FOR INSTALLATION IN METAL
LED PUCK HLS-FA-SOLO FOR INSTALLATION IN WOOD, PLASTER AND MASONRY

	Beam angle	Version	Profile	Light colour	Cover
HLS = Handrail Lighting System	**FA** = Forward asymmetrical	**SNP** = SNAP mounting in metal	**CF** = Round	**IW** = 2700K	**–** = Polycarbonate (standard)
		SOLO = SNAP mounting in wood, plaster, masonry	**FF** = Flat	**WW** = 3000K	**B** = Borosilicate
				MW = 3500K	
				NW = 4000K	

α1=70°
α2=94°

α2

α1
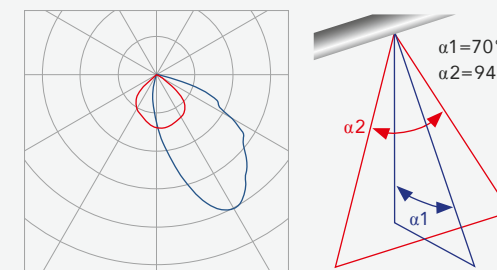
PLANNING EXAMPLE

Light from both sides

Path width (W)	1.2 m	2.0 m	3.0 m	4.0 m
Puck Spacing (S)	lx	lx	lx	lx
0.5 m	272	164	108	82
1.0 m	136	82	54	41
2.0 m	68	41	27	21

lx = Average lux, light colour = 3000K
Installation angle in round handrail = 0°
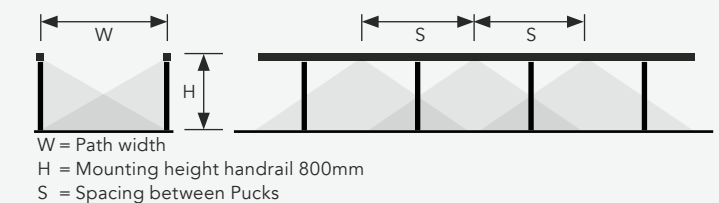
W
S
S
H

W = Path width
H = Mounting height handrail 800mm
S = Spacing between Pucks

Central Station Wuppertal / Lighting design LunaLicht, Karlsruhe

PUCK VA VERTICAL ASYMMETRICAL

TECHNICAL SPECIFICATIONS

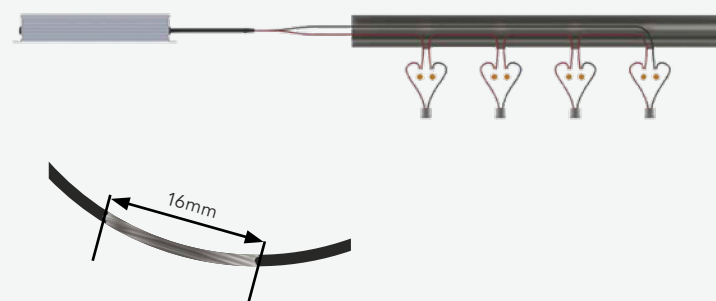|		
•	Installation	in round (CF) or flat (FF) surfaces
•	Housing	Stainless steel 316
•	Dimensions	Diameter 16mm
		Height 15mm (SNP) / 26mm (SOLO
•	Rated capacity	1.4W / 500mA / 2.8Vf
•	Light output	165lm (3000K) / 175lm (4000K)
•	LED	CREE-XPG-3 with SC5 technology
•	Light colours	2700K / 3000K / 3500K / 4000K
•	Colour rendering index	CRI 80+ (CRI 90+ on request)
•	Chromaticity stability	3 Step MacAdam Ellipses
•	Lifetime	L80 B10 50,000 hrs
•	Protection class	IP65 (Polycarbonate) or IP67 (Borosilicate)
•	Impact resistant class	IK10 (EN62262) at IP65
•	Material thickness handrail	at least 1.5mm
•	Diameter handrail	round at least 35mm
		square at least 25x25mm (SNP) / 35x35mm (SOLO)
•	Theft protection	Disassembly only possible with special tool

SERIES WIRING

Max. 20 pucks per driver (SELV) are allowed.

INSTALLATION DETAIL

Material thickness: > 1.5mm

The SNAP puck can be used from a material thickness of
1.5mm without counterbore and thread.

Installation details on page 32.

16mm

PROJECT DATA

Central Station Wuppertal
550 Pucks, special version with
increased protection against
vandalism
Light colour 3000 Kelvin

The Döppersberg has been firmly
anchored in the history of Wuppertal
for over 200 years. Initially located
on the outskirts of the city of
Elberfeld, the Döppersberg
gradually transformed into a town
square and finally into an important
traffic junction for the city of
Wuppertal.

Road traffic has dominated
Döppersberg since the 1960s and
1970s. The renovation has made this
traffic junction into a Döppersberg
again, which not only invites you
to stroll, but also facilitates and
beautifies the access to bus and
train and thus gains in experience
and quality of stay.

550 PUCKs with SNAP assembly
technology and special vandalism
protection were used to illuminate
the stairs and paths. At 1.4W, the
PUCK offers a maximum lumen
package of 180lm and is therefore
very efficient and sustainable. Its
quick and individual assembly allows
the planner to adapt the product
perfectly to the local conditions. The
PUCK SNAP enables standardized,
uniform lighting of stairs and paths
to be combined with architectural
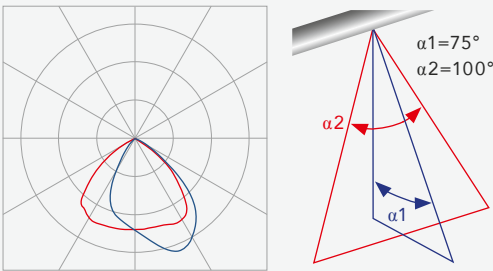accent lighting.

Left Page

10° **65°** | 15mm | 16mm

10° **65°** | 15mm | 16mm

PUCK **HLS-VA-SNP** FOR INSTALLATION IN METAL

	Beam angle	Version	Profile	Light colour	Cover
HLS = Handrail Lighting System	**VA** = Vertical asymmetrical	**SNP** = SNAP mounting in metal	**CF** = Round **FF** = Flat	**IW** = 2700K **WW** = 3000K **MW** = 3500K **NW** = 4000K	**–** = Polycarbonate (standard) **B** = Borosilicate

α1=75°
α2=100°

α2 α1

PLANNING EXAMPLE

Light from both sides

Path width (W)	1.2 m	2.0 m	3.0 m	4.0 m
Puck Spacing (S)	lx	lx	lx	lx
0.5 m	291	174	116	87
1.0 m	145	87	58	44
2.0 m	73	44	29	22

lx = Average lux, light colour = 3000K
Installation angle in round handrail = 0°

W | H | S | S

W = Path width
H = Mounting height handrail 800mm
S = Spacing between Pucks

Right Page

10° **65°** | 26mm | 16mm

10° **65°** | 16mm | 26mm

PUCK **HLS-VA-SOLO** FOR INSTALLATION IN WOOD, PLASTER AND MASONRY

	Beam angle	Version	Profile	Light colour	Cover
HLS = Handrail Lighting System	**VA** = Vertical asymmetrical	**SOLO** = SNAP mounting in wood, plaster, masonry	**CF** = Round **FF** = Flat	**IW** = 2700K **WW** = 3000K **MW** = 3500K **NW** = 4000K	**–** = Polycarbonate (standard) **B** = Borosilicate

α1=75°
α2=100°

α2 α1

PLANNING EXAMPLE

Light from both sides

Path width (W)	1.2 m	2.0 m	3.0 m	4.0 m
Puck Spacing (S)	lx	lx	lx	lx
0.5 m	291	174	116	87
1.0 m	145	87	58	44
2.0 m	73	44	29	22

lx = Average lux, light colour = 3000K
Installation angle in round handrail = 0°

W | H | S | S

W = Path width
H = Mounting height handrail 800mm
S = Spacing between Pucks

PUCK ZERO ASYMMETRICAL

Curtin University, Perth

TECHNICAL SPECIFICATIONS

• Installation	in round (CF) or flat (FF) surfaces
• Housing	Stainless steel 316
• Dimensions	Diameter 16mm
	Height 15mm (SNP) / 26mm (SOLO)
• Rated capacity	1.4W / 500mA / 2.8Vf
• Light output	92lm (3000K) / 101lm (4000K)
• LED	CREE-XPG-3 with SC5 technology
• Light colours	2700K / 3000K / 3500K / 4000K
• Colour rendering index	CRI 80+ (CRI 90+ on request)
• Chromaticity stability	3 Step MacAdam Ellipses
• Lifetime	L80 B10 50,000 hrs
• Protection class	IP65 (Polycarbonate) or IP67 (Borosilicate)
• Impact resistant class	IK10 (EN62262) at IP65
• Material thickness handrail	at least 1.5mm
• Diameter handrail	round at least 35mm
	square at least 25x25mm (SNP) / 35x35mm (SOLO)
• Theft protection	Disassembly only possible with special tool

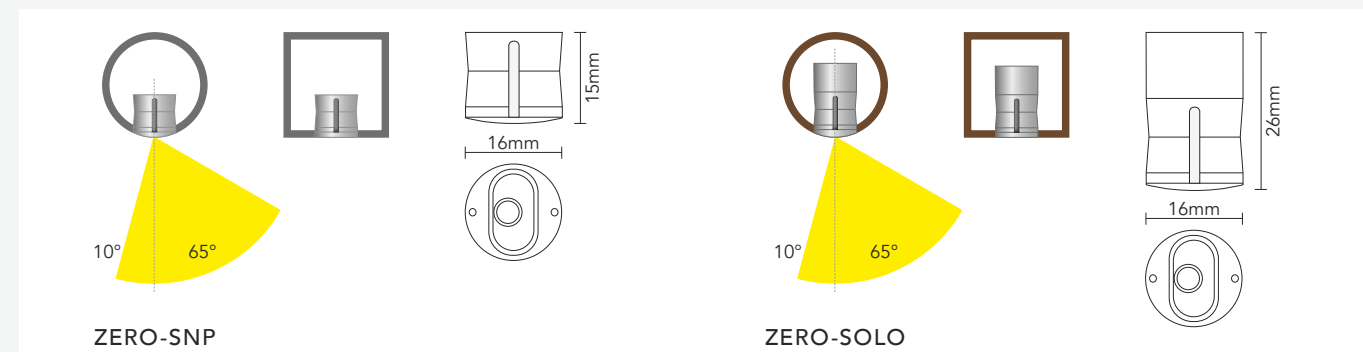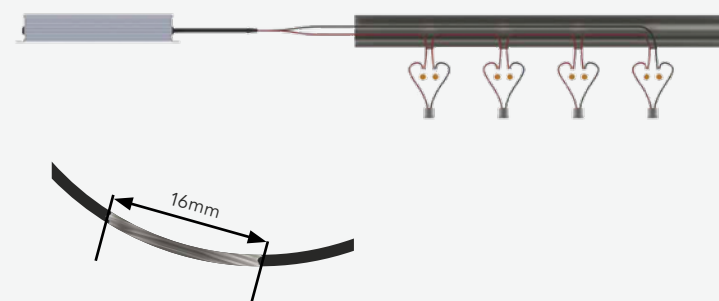Black 2.0 by Stuart Semple coated reflector for reduced glare

SERIES WIRING

Max. 20 pucks per driver (SELV) are allowed.

INSTALLATION DETAIL

Material thickness: > 1.5mm

The SNAP puck can be used from a material thickness of 1.5mm without counterbore and thread.

Installation details on page 32.

16mm

ZERO-SNP

15mm

16mm

10° 65°

ZERO-SOLO

26mm

16mm

10° 65°

PUCK **HLS-ZERO-SNP** FOR INSTALLATION IN METAL
LED PUCK **HLS-ZERO-SOLO** FOR INSTALLATION IN WOOD, PLASTER AND MASONRY

	Beam angle	Version	Profile	Light colour	Cover
HLS = Handrail Lighting System	**ZERO** = Zero asymmetrical	**SNP** = SNAP mounting in metal **SOLO** = SNAP mounting in wood, plaster, masonry	**CF** = Round **FF** = Flat	**IW** = 2700K **WW** = 3000K **MW** = 3500K **NW** = 4000K	**–** = Polycarbonate (standard) **B** = Borosilicate

α1=75°
α2=105°

α2

α1
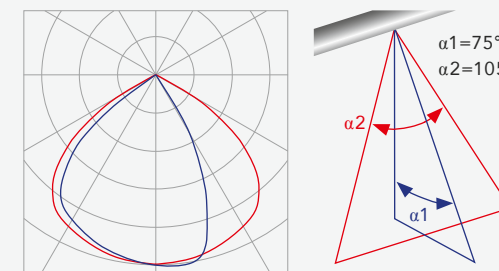
PLANNING EXAMPLE

Light from both sides

Path width (W)	1.2 m	2.0 m	3.0 m	4.0 m
Puck Spacing (S)	lx	lx	lx	lx
0.5 m	164	98	66	49
1.0 m	82	49	33	25
2.0 m	41	25	16	12

lx = Average lux, light colour = 3000K
Installation angle in round handrail = 0°

W = Path width
H = Mounting height handrail 800mm
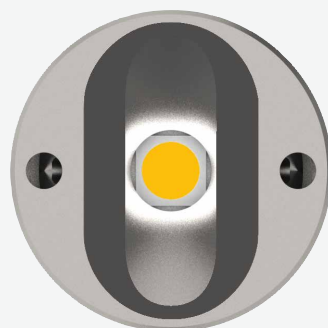S = Spacing between Pucks

PLANET LIGHTING
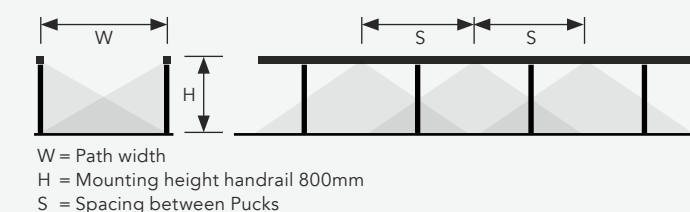
PUCK WIDE SYMMETRICAL

Powerhouse Museum, Sydney

TECHNICAL SPECIFICATIONS

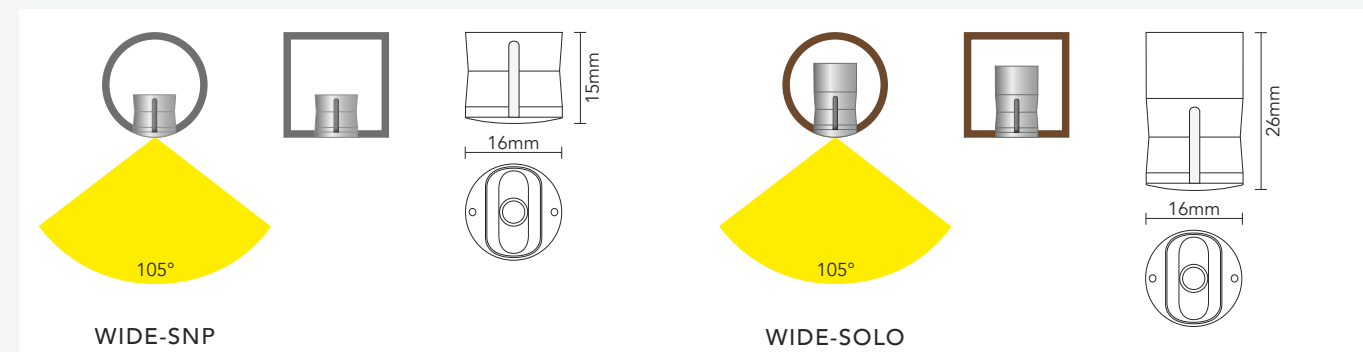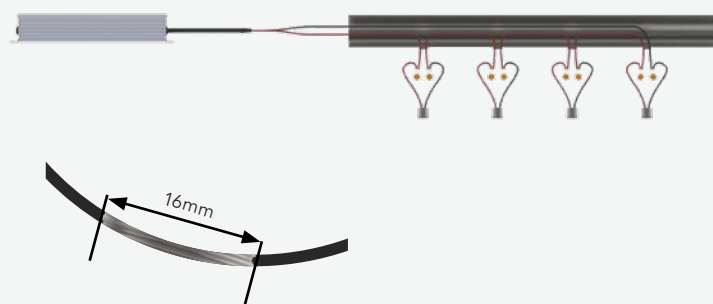|	
• Installation	in round (CF) or flat (FF) surfaces
• Housing	Stainless steel 316
• Dimensions	Diameter 16mm
	Height 15mm (SNP) / 26mm (SOLO)
• Rated capacity	1.4W / 500mA / 2.8Vf
• Light output	172lm (3000K) / 182lm (4000K)
• LED	CREE-XPG-3 with SC5 technology
• Light colours	2700K / 3000K / 3500K / 4000K
• Colour rendering index	CRI 80+ (CRI 90+ on request)
• Chromaticity stability	3 Step MacAdam Ellipses
• Lifetime	L80 B10 50,000 hrs
• Protection class	IP65 (Polycarbonate) or IP67 (Borosilicate)
• Impact resistant class	IK10 (EN62262) at IP65
• Material thickness handrail	at least 1.5mm
• Diameter handrail	round at least 35mm
	square at least 25x25mm (SNP) / 35x35mm (SOLO)
• Theft protection	Disassembly only possible with special tool

SERIES WIRING

Max. 20 pucks per driver (SELV) are allowed.

INSTALLATION DETAIL

Material thickness: > 1.5mm

The SNAP puck can be used from a material thickness of 1.5mm without counterbore and thread.

Installation details on page 32.

16mm

WIDE-SNP   105°   15mm   16mm

WIDE-SOLO   105°   26mm   16mm

PUCK HLS-WIDE-SNP FOR INSTALLATION IN METAL
LED PUCK HLS-WIDE-SOLO FOR INSTALLATION IN WOOD, PLASTER AND MASONRY

	Beam angle	Version	Profile	Light colour	Cover
HLS = Handrail Lighting System	**WIDE** = Wide symmetrical	**SNP** = SNAP mounting in metal **SOLO** = SNAP mounting in wood, plaster, masonry	**CF** = Round **FF** = Flat	**IW** = 2700K **WW** = 3000K **MW** = 3500K **NW** = 4000K	**–** = Polycarbonate (standard) **B** = Borosilicate

α1=105°
α2=120°
α2
α1
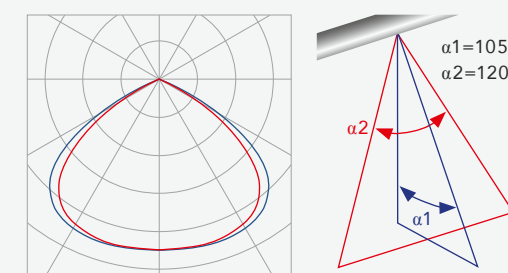
PLANNING EXAMPLE

Light from both sides

Distance between handrails (A)	1.2 m	2.0 m	3.0 m	4.0 m
Puck Spacing (S)	lx	lx	lx	lx
0.5 m	222	133	89	67
1.0 m	111	67	44	33
2.0 m	56	33	22	17

lx = Average lux, light colour = 3000K
Installation angle in round handrail = 0°
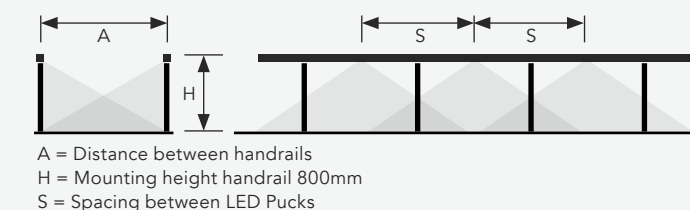
A = Distance between handrails
H = Mounting height handrail 800mm
S = Spacing between LED Pucks

PUCK LENS SYMMETRICAL

TECHNICAL SPECIFICATIONS

|	
Installation	in flat (FF) surfaces
Housing	Stainless steel 316
Dimensions	Diameter 16mm
	Height 15mm (SNP) / 26mm (SOLO)
Rated capacity	1.4W / 500mA / 2.8Vf
Light output (4000K)	170lm (Spot) / 176lm (Medium) / 152lm (Wide)
LED	CREE-XPG-3 with SC5 technology
LED colour	White
Light colours	2700K / 3000K / 3500K / 4000K
Colour rendering index	CRI 80+ (CRI 90+ on request)
Chromaticity stability	3 Step MacAdam Ellipses
Lifetime	L80 B10 50,000 hrs
Protection class	IP64
Impact resistant class	IK10 (EN62262) at IP64
Material thickness handrail	at least 1.5mm
Diameter handrail	square at least 25x25mm (SNP) / 35x35mm (SOLO)
Theft protection	Disassembly only possible with special tool

SERIES WIRING

Max. 20 pucks per driver (SELV) are allowed.

INSTALLATION DETAIL

Material thickness: > 1.5mm

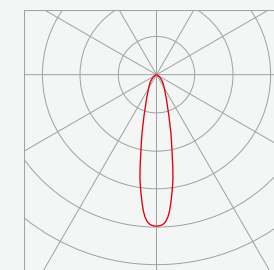The SNAP puck can be used from a material thickness of 1.5mm without counterbore and thread.
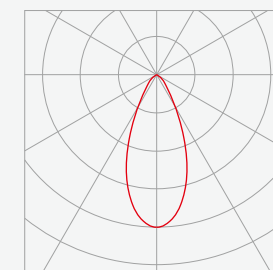
Installation details on page 32.

16mm

23°
59°
LS-SNP

42°
81°
LM-SNP

80°
119°
LW-SNP

15mm
16mm

26mm
16mm

LS-SOLO
LM-SOLO
LW-SOLO
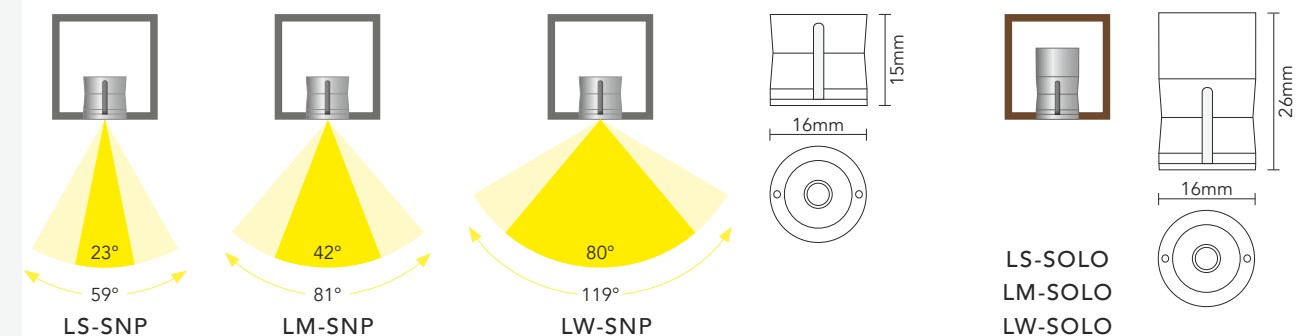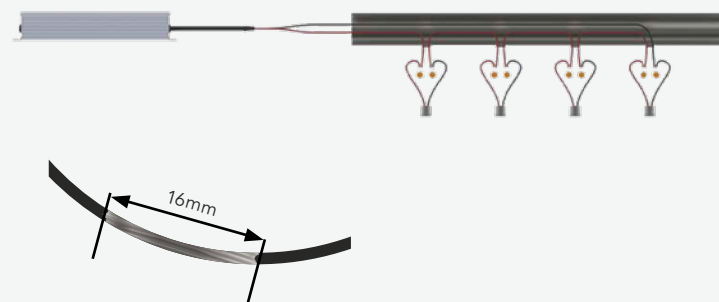
PUCK HLS-LENS-SNP FOR INSTALLATION IN METAL

LED PUCK HLS-LENS-SOLO FOR INSTALLATION IN WOOD, PLASTER AND MASONRY

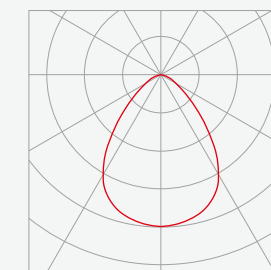|	Beam angle	Version	Profile	Light colour	Cover
HLS = Handrail Lighting System	**LS** = Lens Spot **LM** = Lens Medium **LW** = Lens Wide	**SNP** = SNAP mounting in metal **SOLO** = SNAP mounting in wood, plaster, masonry	**CF** = Round **FF** = Flat	**IW** = 2700K **WW** = 3000K **MW** = 3500K **NW** = 4000K	**–** = Polycarbonate (standard) **B** = Borosilicate

LS-SNP

LM-SNP

LW-SNP

PUCK TUNABLE WHITE SYMMETRICAL

TECHNICAL SPECIFICATIONS

• Installation	in round (CF) or flat (FF) surfaces
• Housing	Stainless steel 316 (Brass finish on request)
• Dimensions	Diameter 16mm
	Height 26mm
• Rated capacity	1.4W / 500mA / 2.8Vf
• Light output	170lm (3000K) / 180lm (4000K)
• LED	CREE-XPG-3 with SC5 technology
• Light colours	2700K - 6500K, dimmable
• Colour rendering index	CRI 80+ (CRI 90+ on request)
• Chromaticity stability	3 Step MacAdam Ellipses
• Lifetime	L80 B10 50,000 hrs
• Protection class	IP65 (Polycarbonate) or IP67 (Borosilicate)
• Impact resistant class	IK10 (EN62262) at IP65
• Material thickness handrail	at least 1.5mm
• Diameter handrail	round at least 35mm
	square at least 35x35mm
• Theft protection	Disassembly only possible with special tool

2700   KELVIN   6500

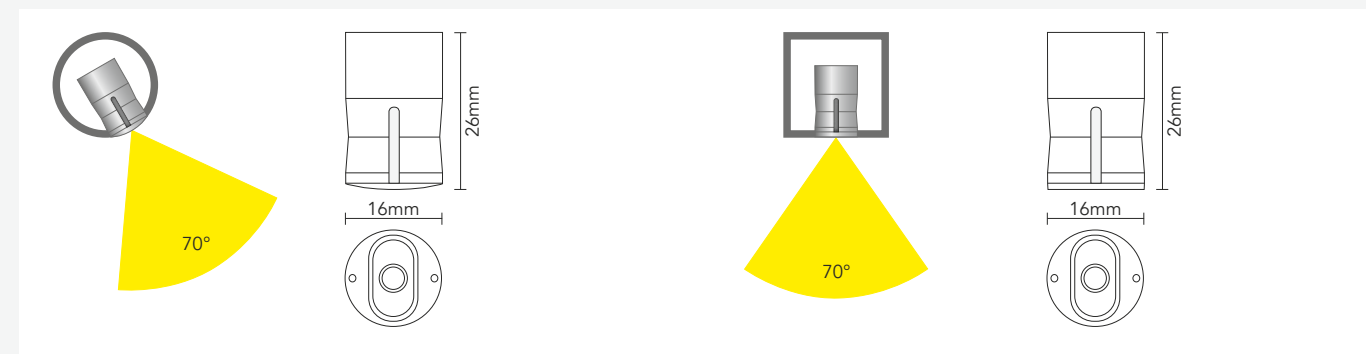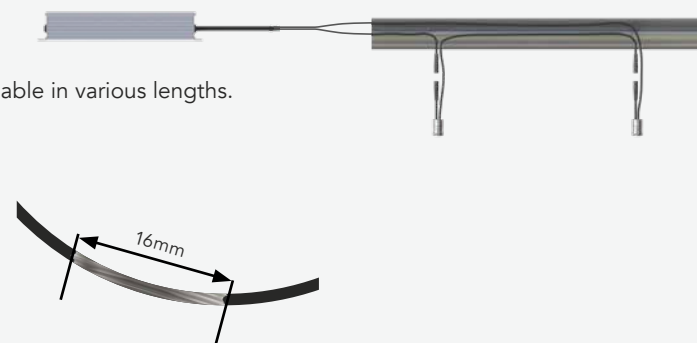## SERIES WIRING

Max. 14 pucks per driver (SELV) are allowed.
Factory plug and play wiring of the puck. Connection cables available in various lengths.

INSTALLATION DETAIL

Material thickness: > 1.5mm
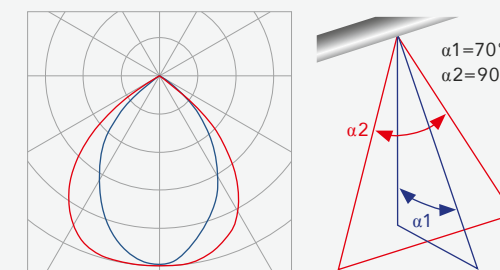
The SNAP puck can be used from a material thickness of 1.5mm without counterbore and thread.
Installation details on page 32.

16mm

70°

26mm

16mm

70°

26mm

16mm

PUCK **HLS-TW-SOLO** FOR INSTALLATION IN METAL, WOOD, PLASTER AND MASONRY

	Beam angle	Version	Profile	Light colour	Cover
HLS = Handrail Lighting System	**ST** = Standard symmetrical	**SOLO** = SNAP mounting in metal, wood, plaster, masonry	**CF** = Round **FF** = Flat	**TW** = 2700K - 6500K	**–** = Polycarbonate (standard) **B** = Borosilicate

α1=70°
α2=90°
α2
α1

PLANNING EXAMPLE

Light from both sides

Path width (W)	1.2 m	2.0 m	3.0 m	4.0 m
Puck Spacing (S)	lx	lx	lx	lx
0.5 m	342	205	137	103
1.0 m	171	103	68	51
2.0 m	86	51	34	26

lx = Average lux, light colour = 3000K
Installation angle in round handrail = 30°

W
H
S   S

W = Path width
H = Mounting height handrail 800mm
S = Spacing between LED Pucks

LED DRIVER TCI MAXI JOLLY DALI TW45 (TUNABLE WHITE)

Output current:	500-900mA - adjustable via dip switch
Capacity:	12-45W@500mA
Max. no. of Pucks:	14 Pieces (Limitation SELV 60V DC)
Clamp connection:	max. 1.5mm²
Protection class:	IP20
Control channels:	2
Dimming range:	100%-0%
Operating mode:	DALI
LKD item number:	16437

The Tunable White Puck can be controlled with different drivers, e.g. with the TCI driver mentioned here. Please contact us for further information.

PUCK RGBW SYMMETRICAL

Chevron Island Eastern Bridge, Renewal

TECHNICAL SPECIFICATIONS

• Installation	in round (CF) or flat (FF) surfaces
• Housing	Stainless steel 316
• Dimensions	Diameter 16mm - Height 26mm
• Rated capacity	1.4W / 500mA / 2.8Vf
• Light output	180lm (4000K)
• LED	CREE-XPG-3 with SC5 technology
• Light colours	Red, green, blue, white 4000K (single LEDs)
• Colour rendering index	CRI 80+ (CRI 90+ on request)
• Chromaticity stability	3 Step MacAdam Ellipses
• Lifetime	L80 B10 50,000 hrs
• Protection class	IP65 (Polycarbonate) or IP67 (Borosilicate)
• Impact resistant class	IK10 (EN62262) at IP65
• Material thickness handrail	at least 1.5mm
• Diameter handrail	round at least 35mm square at least 35x35mm
• Theft protection	Disassembly only possible with special tool

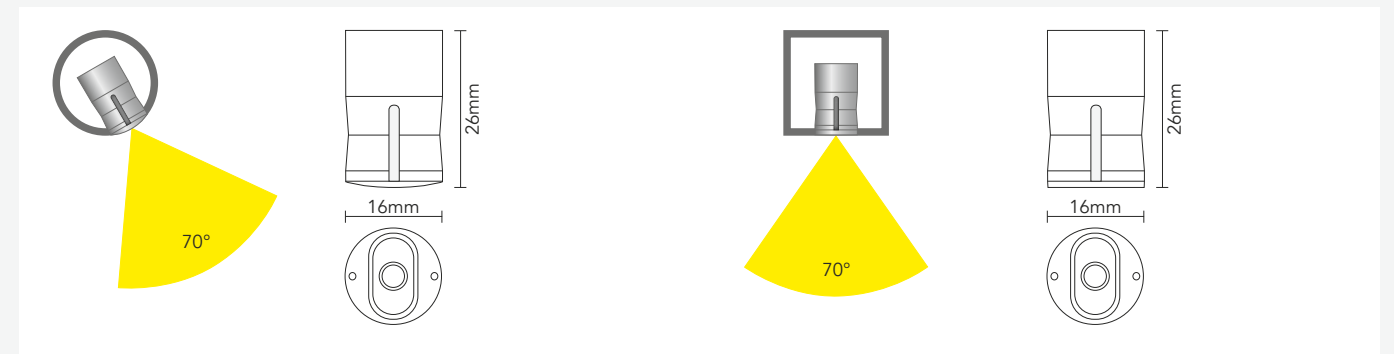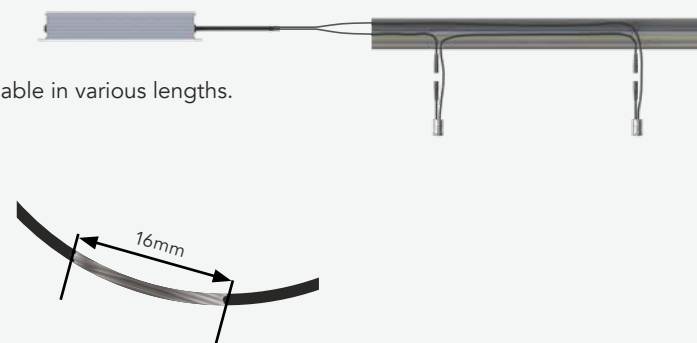## SERIES WIRING

Max. 14 pucks per driver (SELV) are allowed.

Factory plug and play wiring of the puck. Connection cables available in various lengths.
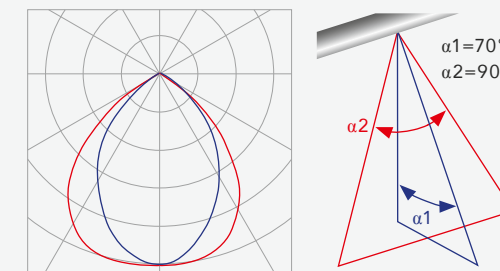
INSTALLATION DETAIL

Material thickness: > 1.5mm

The SNAP puck can be used from a material thickness of 1.5mm without counterbore and thread.

Installation details on page 32.

16mm

PUCK HLS-RGBW-SOLO FOR INSTALLATION IN METAL, WOOD, PLASTER AND MASONRY

	Beam angle	Version	Profile	Light colour	Cover
HLS = Handrail Lighting System	**RGBW** = Standard symmetrical	**SOLO** = SNAP mounting in metal, wood, plaster, masonry	**CF** = Round **FF** = Flat	**NW** = 4000K white LED	**–** = Polycarbonate (standard) **B** = Borosilicate

α1=70°
α2=90°

α2
α1

PLANNING EXAMPLE

Light from both sides

Path width (W)	1.2 m	2.0 m	3.0 m	4.0 m
Puck Spacing (S)	lx	lx	lx	lx
0.5 m	380	228	152	114
1.0 m	190	114	76	57
2.0 m	95	57	38	28

lx = Average lux, light colour = 4000K
Installation angle in round handrail = 30°

W = Path width
H = Mounting height handrail 800mm
S = Spacing between LED Pucks

LED DRIVER ELDOLED POWERDRIVE (RGBW)

Output current:	200-1,050mA - adjustable via FluxTool in 10mA steps
Capacity:	50W max
Max. no. of Pucks:	14 Pieces (Limitation SELV 60V DC)
Clamp connection:	max. 1.5mm²
Protection class:	IP20
Control channels:	4
Dimming range:	100%-0%
Operating mode:	DMX
LKD item number:	16421

The RGBW puck can be controlled with different drivers, e.g. with the Eldoled driver mentioned here. Please contact us for further information.
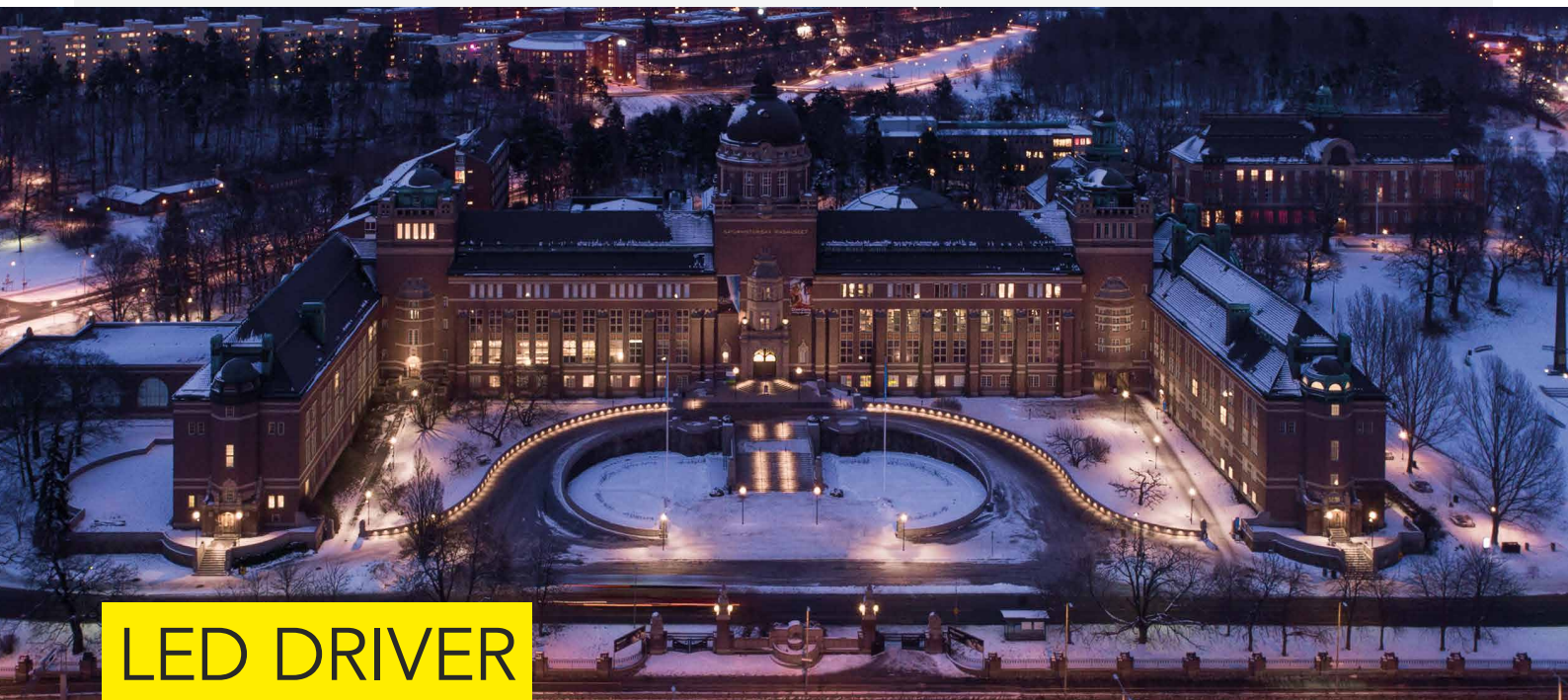
LED DRIVER

Natural History Museum, Stockholm / Planner Ahrbom & Partner, Stockholm

QUICK OVERVIEW LED DRIVER

LED Driver	Operating mode	max. Pucks	Protection class	Adjustable current	Emergency lighting possible EN50172	Dimensions LxWxH
TCI Bull	ON/OFF	4	IP20	x	✓	68x35x22mm
TCI IPR2	ON/OFF	17	IP68	x	✓	122x107x26mm
TCI MP50	ON/OFF	20	IP20	✓ Dip switch	✓	124x79x22mm
TCI Mini Jolly IPR2	DALI	20	IP68	x	✓	122x54x26mm
TCI Maxi Jolly HV 60	DALI	20	IP20	✓ Dip switch	✓	124x79x22mm
TCI Maxi Jolly US Casambi	CASAMBI	20	IP20	✓ Dip switch	✓	124x79x22mm
TCI Maxi Jolly Dali TW45	DALI	20	IP20	✓ Dip switch	✓	151x71x30mm
Eldoled Powerdrive 561	DMX	20	IP20	✓ FluxTool	x	153x76x30mm

LED DRIVER TCI BULL/U

Output current:	500mA - by factory, cannot be changed
Capacity:	6W@500mA
Max. no. of Pucks:	4 Pieces
Clamp connection:	max. 2.5mm²
Protection class:	IP20
Operating mode:	static ON/OFF
LKD item number:	15725

LED DRIVER TCI IPR2

Output current:	500mA - by factory, cannot be changed
Capacity:	24W@500mA
Max. no. of Pucks:	17 Pieces
Pre-wired:	with 400mm connection cable
Protection class:	IP68
Operating mode:	static ON/OFF
LKD item number:	16038
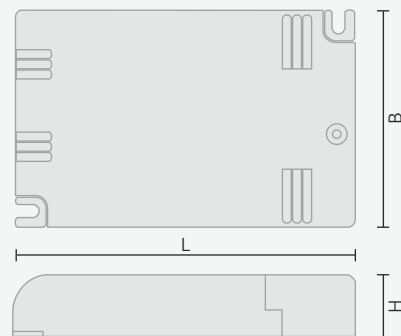
LED DRIVER TCI MP50 K3

Output current:	500mA - adjustable via dip switch
Capacity:	35W@500mA
Max. no. of Pucks:	20 Pieces (Limitation SELV 60V DC)
Clamp connection:	max. 2.5mm²
Protection class:	IP20
Operating mode:	static ON/OFF
LKD item number:	13418

LED DRIVER TCI MAXI JOLLY US CASAMBI

Output current:	500mA - adjustable via dip switch
Capacity:	35W@500mA
Max. no. of Pucks:	20 Pieces (Limitation SELV 60V DC)
Clamp connection:	max. 2.5mm²
Protection class:	IP20
Operating mode:	Casambi Classic / Evolution
LKD item number:	16412

LED DRIVER TCI MAXI JOLLY HV 60

Output current:	500mA - adjustable via dip switch
Capacity:	56W@500mA
Max. no. of Pucks:	20 Pieces (Limitation SELV 60V DC)
Clamp connection:	max. 2.5mm²
Protection class:	IP20
Operating mode:	DALI, 1-10V, Push-Dimm
LKD item number:	15532

LED DRIVER TCI MINI JOLLY IPR2

Output current:	500mA - by factory, cannot be changed
Capacity:	30W@500mA
Max. no. of Pucks:	20 Pieces (Limitation SELV 60V DC)
Pre-wired:	with 400mm connection cable
Protection class:	IP68
Operating mode:	DALI
LKD item number:	16037

LED DRIVER TCI MAXI JOLLY DALI TW45 (TUNABLE WHITE)

Output current:	500-900mA - adjustable via dip switch
Capacity:	12-45W@500mA
Max. no. of Pucks:	14 Pieces (Limitation SELV 60V DC)
Clamp connection:	max. 1.5mm²
Protection class:	IP20
Control channels:	2
Dimming range:	100%-0%
Operating mode:	DALI
LKD item number:	16437

LED DRIVER ELDOLED POWERDRIVE (RGBW)

Output current:	200-1,050mA - adjustable via FluxTool in 10mA steps
Capacity:	50W max
Max. no. of Pucks:	14 Pieces (Limitation SELV 60V DC)
Clamp connection:	max. 1.5mm²
Protection class:	IP20
Control channels:	4
Dimming range:	100%-0%
Operating mode:	DMX
LKD item number:	16421

PLANET LIGHTING

LED Puck

Wattage 1.4W
Voltage: 2.8Vf
Wire: ETFE 0.5mm²
Cable length: 100mm incl. TE Connector

Connector

Make: TE Coolsplice
max. cable cross-sections: 1.5mm²
Protection class: IP65
NOTE: Cables must not be stripped,
danger of creeping moisture
(see assembly instructions LED puck)

Recommended minimum cable cross-sections

Inside the handrail:
Cable type: H05V-K 0.5mm² (HAR)

Outside the handrail - supply cable
Cable type: H07V-K 1.5mm² (HAR)

Length of LED strand / Length of supply cable

ON/OFF Driver - supply cable 100m+ possible from a cable cross-section of 1.5mm²
DALI Driver - supply cable max. 15m between driver and first Puck, otherwise an EMC shielded cable must be used.

The maximum lengths of an LED strand depend on the used cable cross-section.

Please contact us for a light calculation!
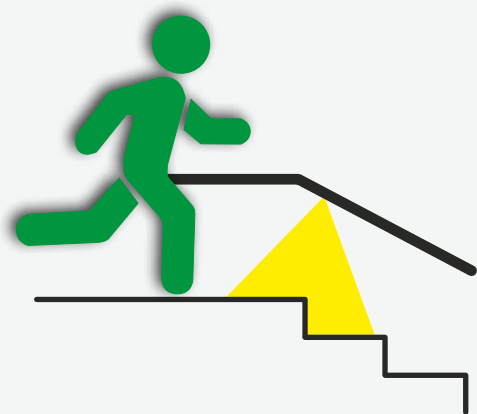
LED PUCK AS AN EMERGENCY LIGHT

The LED puck is very well suited for use as emergency lighting in staircases or on escape stairs and can be integrated into the emergency lighting concept.
All mentioned LED drivers are emergency lighting possible. Integration into a central battery system is therefore possible without any problems.

For single-battery systems, we can offer you a system with an emergency light supply unit for 1h, 3h or 8h.
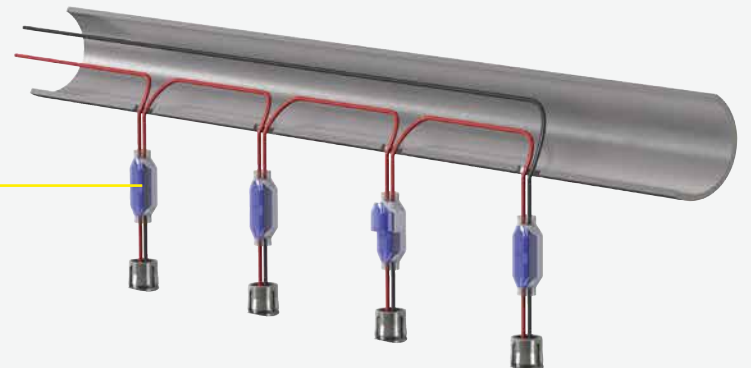
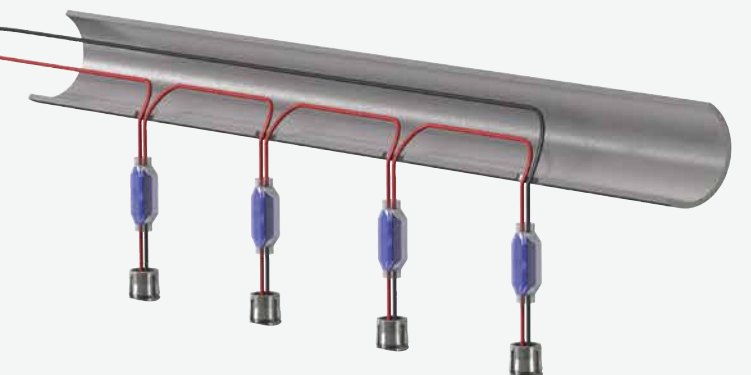## CONNECTION OF THE PUCKS IN SERIES

LAY THE BLACK AND RED CABLE

PULL OUT THE RED CABLE

CONNECT PUCKS

CONNECT DRIVER

"SNAP" THE PUCKS

G5 DRILL JIG

The G5 drill jig is intended to enable even and accurate drilling of metal pipes with countersunk holes and to shorten the installation time considerably.

The G5 drill jig is used for the following:
- Use only for pucks with SNAP mounting
- Drilling of 15mm drill holes with 16mm countersink in one work step, regardless of the wall thickness of the profile
- Drilling of holes in round or flat profiles
- The drill jig can only be operated with a cordless drill and low revolutions
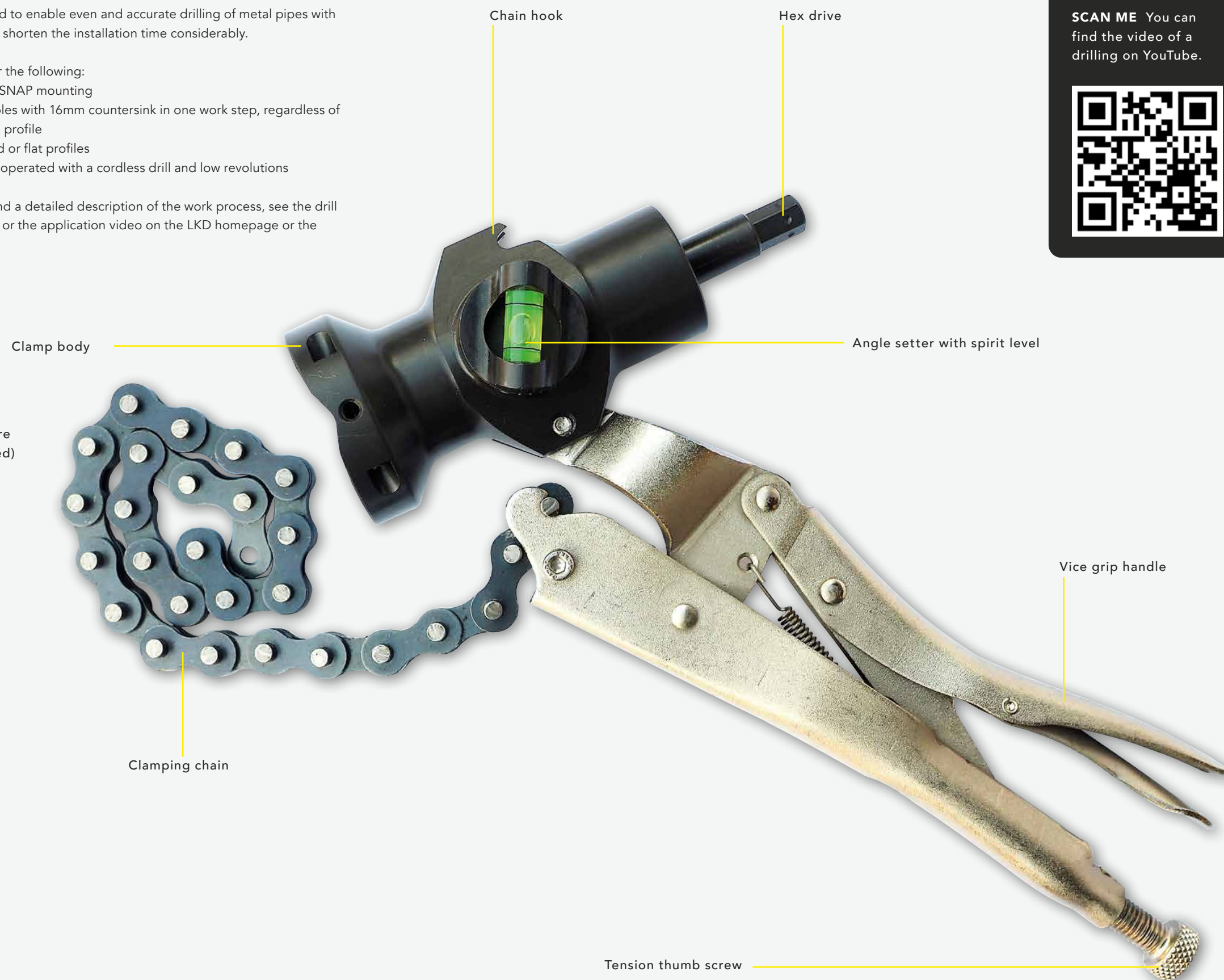
For further information and a detailed description of the work process, see the drill jig operating instructions or the application video on the LKD homepage or the LKD YouTube channel.

SCAN ME You can find the video of a drilling on YouTube.

Chain hook

Hex drive

Clamp body

Angle setter with spirit level

Cutter end (shown here without cutter installed)

Drill jig cutter assembly

Vice grip handle

Clamping chain

15mm cutter (left) and 16mm cutter (right; with inserted cutter space) NOTE: Cutter may or may not come pre-installed in the drill jig

Tension thumb screw

FROM PLANNING TO PROJECT

Jetty at Hammerteich, Georgenthal

In order to enable a barrier-free walk around the Hammerteich, an approx. 300m long jetty was built on the north bank of the lake. In the planning, it was important to achieve uniform lighting of the footbridge for safe use at night and to accentuate the structure. The LED Puck SNAP ST was the best fit to these requirements. Thanks to the installation angle of 30 ° in the handrail, a uniform illumination of the walkway could be achieved. At the same time, the wattle of the handrail is impressively staged.
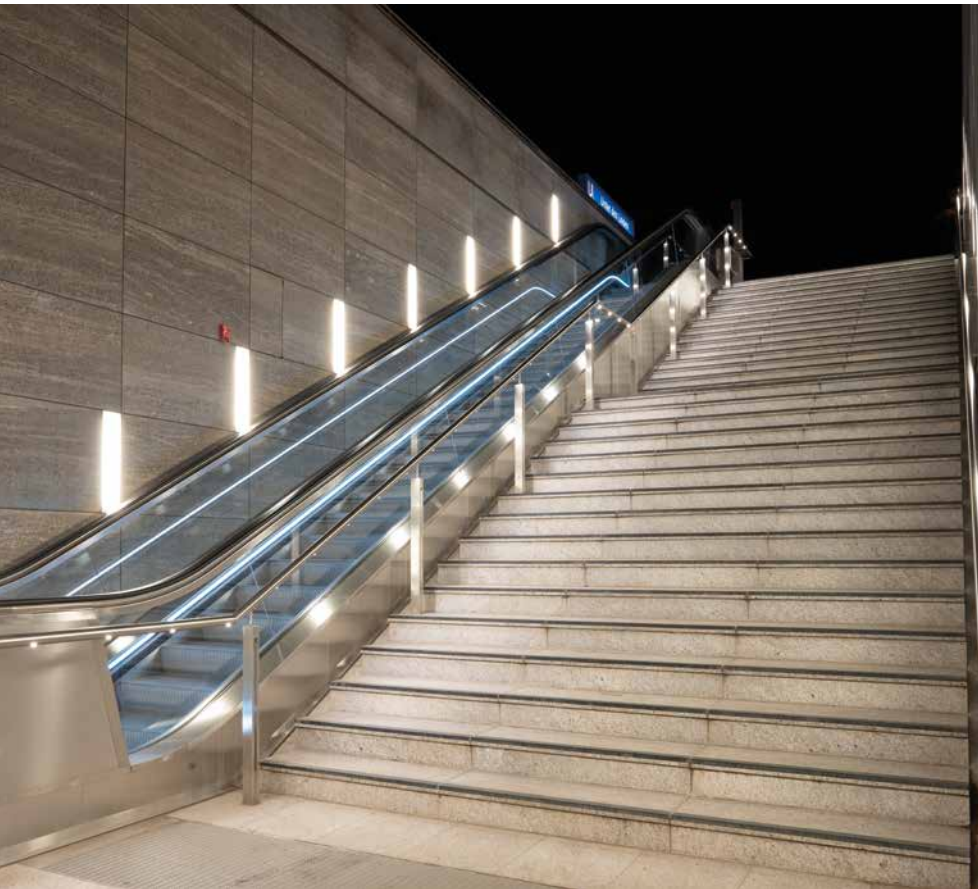
Overall planning: planungsgruppe91 Gotha

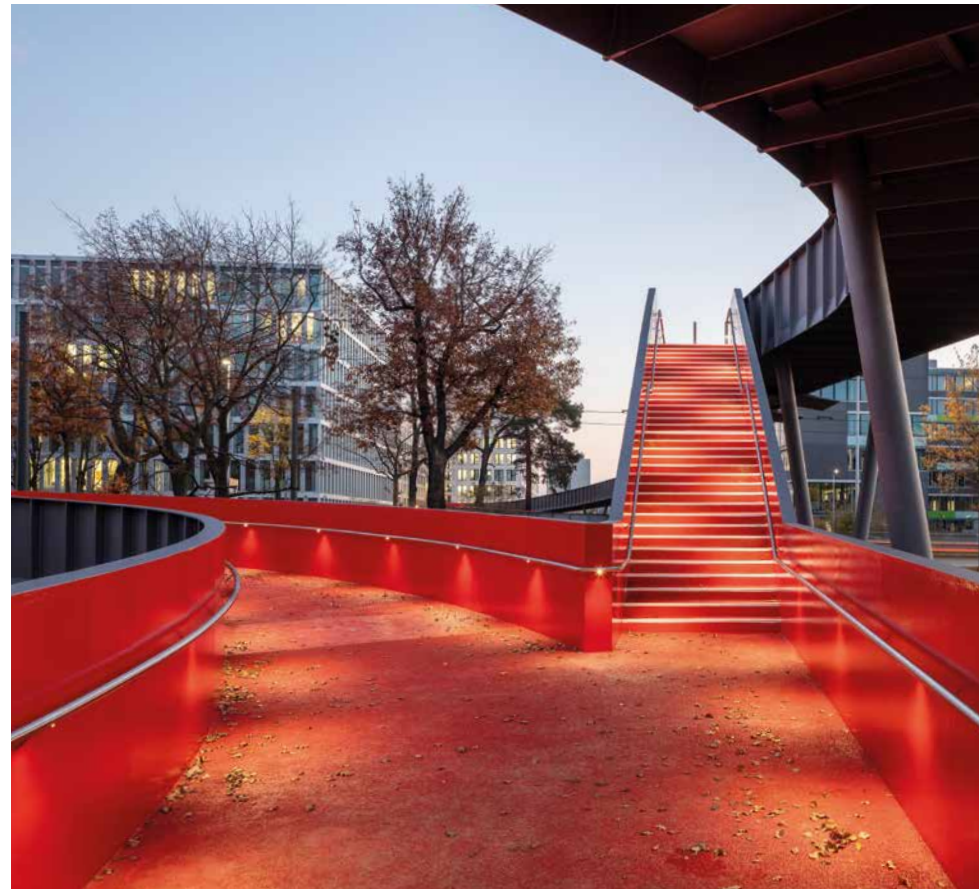70°

α1=70°
α2=90°

α2

α1
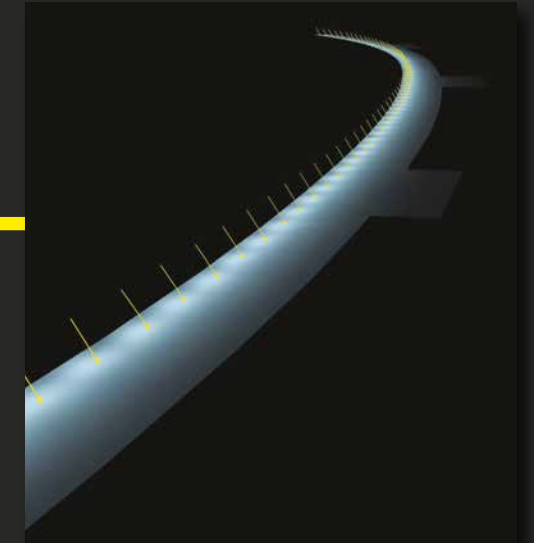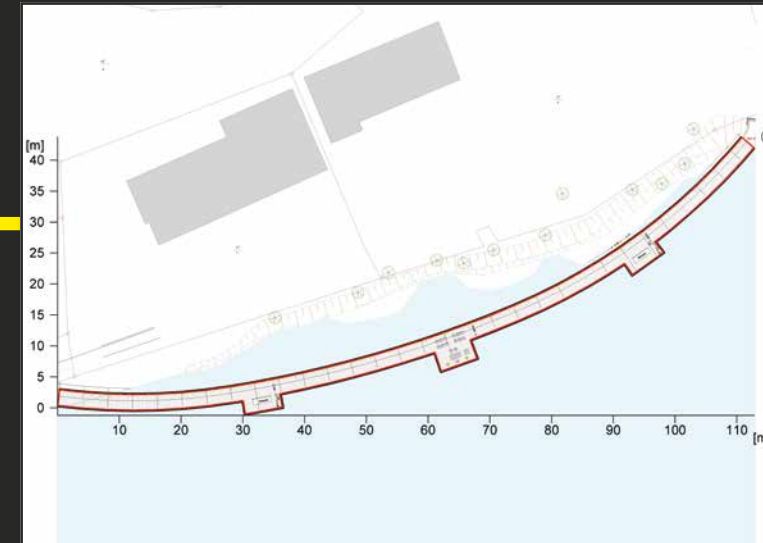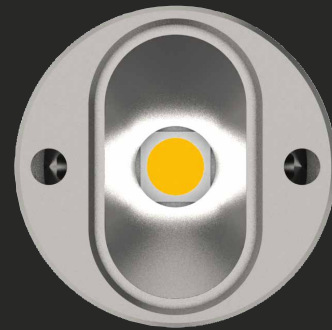
LED SNAP Puck - Standard

Protection class: IP65
Impact resistant class: IK10
Cover glass: PC
Light colour: 3000K warm white
Light distribution: Standard 60°
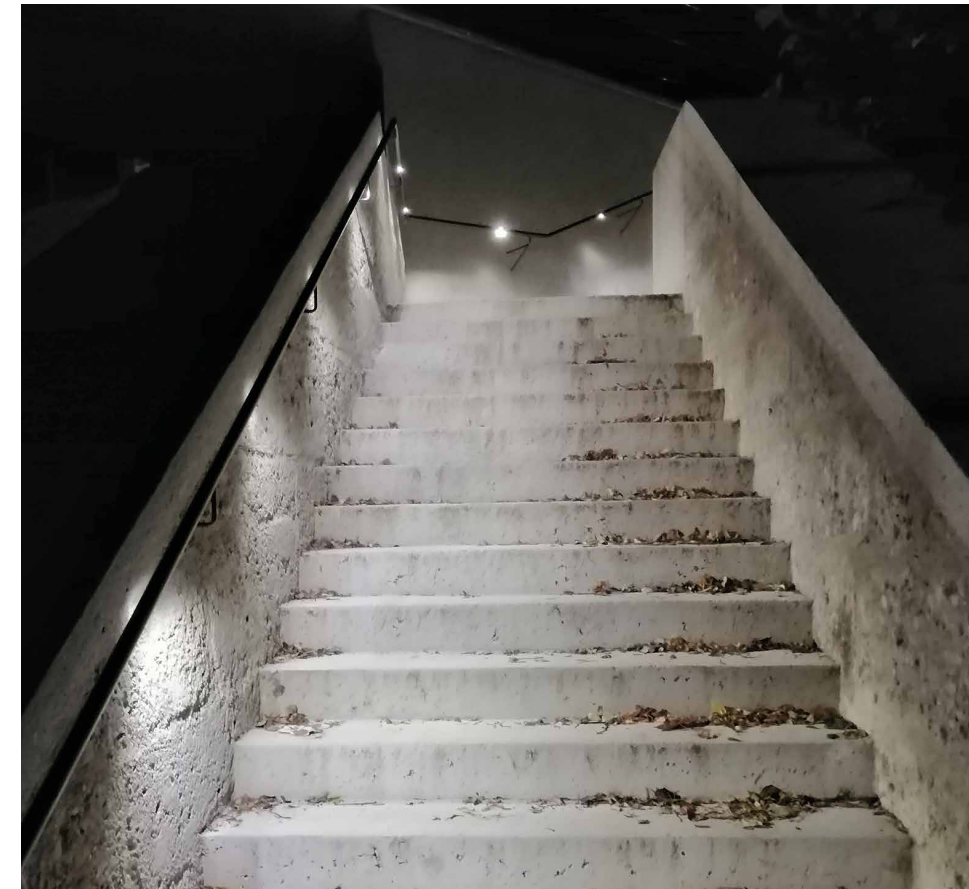Capacity: 1.4W
Item number: HLS-ST-SNP-CF-WW
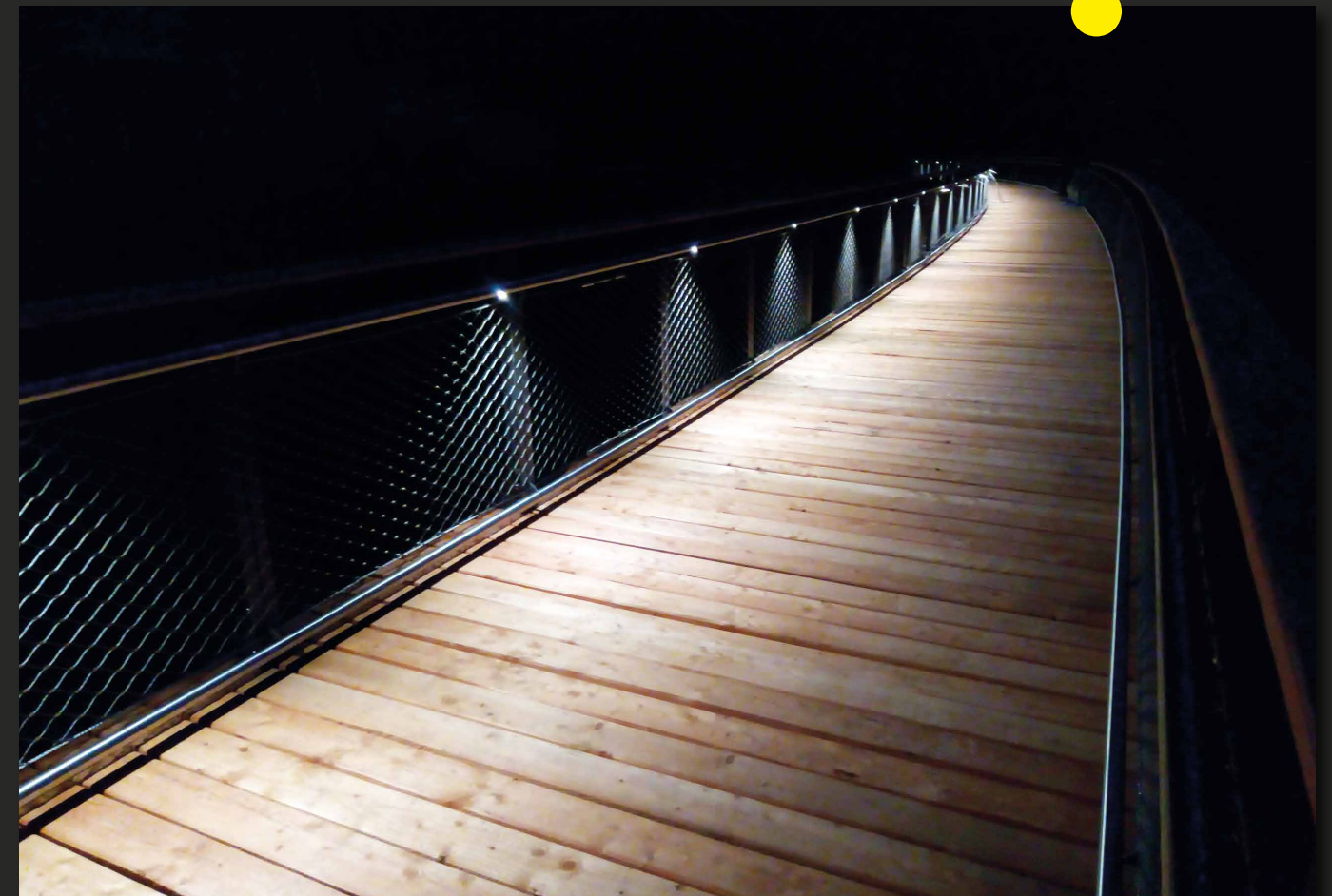
Underground Station Unter den Linden, Berlin

Foot and Cycle Bridge, Darmstadt

Monikapforte, Salzburg

Kaiserbadschleuse, Vienna

Eichstraßen Bridge, Salzburg

Church Park, Barkaby

Central Station, Wuppertal

THE FOCUS
OUR
SERVICES

CONCEPTION

LKD can look back on more than 40 years of experience in the Austrian market.

Even in the basic conception of a lighting concept, important milestones have to be set in order to get the right light in the end. From the determination of requirements to the plan vision up to the 3D concept for your object, our LKD technicians can give you the best advice.

PLANNING

A professional planning in accordance with the currently valid standards for lighting is the basis of every project. Our certified lighting technicians guarantee state-of-the-art planning.

Together with the parent company Sapotec, we can also carry out tenders according to ÖNORM.

DELIVERY

The products of well-known manufacturers from Germany, France and Portugal are the basis of our sales program. Names like NORKA already stand for more than 60 years of experience in luminaire construction.

We have close partnerships with our general agencies that benefit you as a customer. Short on-time deliveries are very important to us.

MAINTENANCE

In order to maintain the proper condition of an emergency lighting system for the entire lifetime, OVE E 8101 in Austria prescribes the annual maintenance of the systems by qualified personnel.

A team of specially trained emergency technicians is available 365 days, 24 hours a day. We offer maintenance for all well-known manufacturers!

ADVANTAGES OF A
LIGHTING
CONCEPT

COST REDUCTION

Reduce your energy costs through efficient solutions.

PRODUKTIVITY PLUS

The right light does not tire you and makes you more productive.

RELIABILITY

High security through high reliability.

ENVIRONMENTAL PROTECTION

Save valuable resources with our environmentally friendly solutions.