## 17 - Linear lighting / handrail systems







## MORE THAN JUST A SIDE APPEARANCE.

GIFAS linear lighting and handrail systems ensure efficient LED lighting and make your property a real eye-catcher. More visibility and safety that makes passers-by feel happier on public walkways is just one of the advantages that come with the wall, ceiling and handrail lighting from GIFAS.

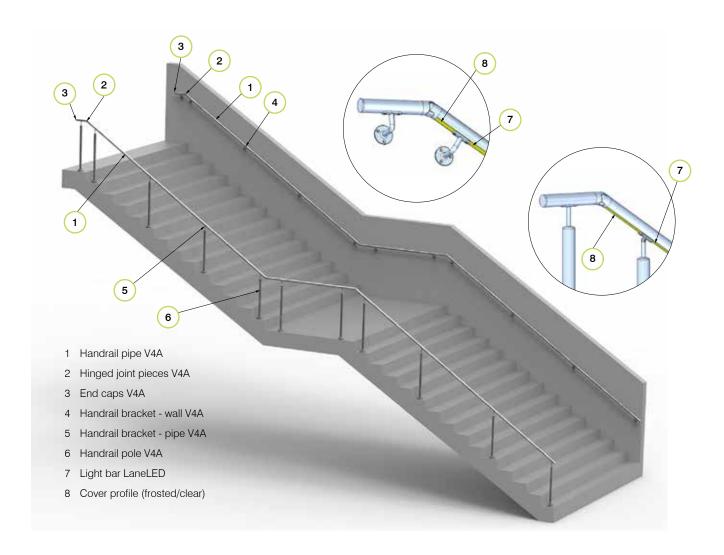
LaneLED INOX42	270
LaneLED WALL	276
LaneLED power supply	281
Application cases	282

#### LaneLED INOX handrail-system



LED-equipped handrails for outdoor and indoor applications (balcony handrails, stairway handrails and terrace handrails) which can very easily be assembled on classic handrail posts using special pipe sections. The pipe brackets and adapters allow an inner cable guide with the GIFAS-developed connection cabling.

The large number of individual elements of the modular system enables the needs-based provision for many different installation locations (wall, railings, etc.). All metal components are V4A-quality, with a protection class of IP67.





#### LaneLED INOX handrail-system

#### Handrail LaneLED INOX42

The GIFAS handrail profile is the carrier element for the LaneLED INOX42. The profile and the various fastening and connecting items are designed and coordinated in a way that ensures the electric supply with the cable.

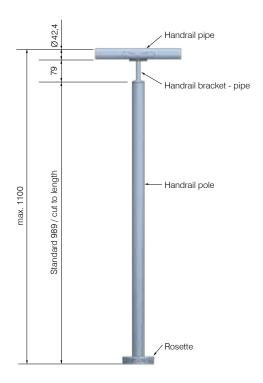
#### Mechanical properties

Metal components Outer diameter Profile wall thickness Profile surface Profile length Types of installation

Stainless steel V4A 42.4mm 1.5mm Radial grinding (Korn 240) 2500mm / 5000mm Pipe connection plate / Wall bracket / Handrail pole

## 24,1 supply cable 2×2.5 mm<sup>2</sup> 37 24,5 current collector hand rail LED module LED cover profile, plastic (frosted / clear)

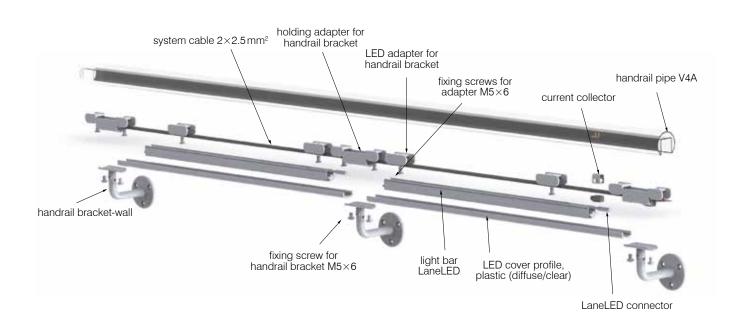
#### Construction plan handrail pole



We would be happy to assist you with the planning!

#### LaneLED INOX handrail-system







#### **Assortment**

A wide range of needs can be covered with the basic range. The range listed here is not exhaustive.
Ask us, we have the right solution!

Handrail pipe

Item no.	Description	View
297108	LaneLED INOX42, handrail-pipe LED, V4A-1.4401, Ø42.4x1,5 mm, length 1000 mm, brushed	
297109	LaneLED INOX42, handrail-pipe LED, V4A-1.4401, Ø42.4x1,5 mm, length 2500 mm, brushed	
297110	LaneLED INOX42, handrail-pipe LED, V4A-1.4401, Ø42.4x1,5 mm, length 5000 mm, brushed	
297124	LaneLED INOX42, handrail-pipe round, V4A-1.4401, Ø42.4x1,5 mm, length 2500 mm, brushed	
297125	LaneLED INOX42, handrail-pipe round, V4A-1.4401, Ø42.4x1,5 mm, length 5000 mm, brushed	

#### Pipe connector

Item no.	Description	View
860417	LaneLED INOX42, hinged joint piece LED, V4A-1.4401, Ø 42.4x1,5 mm, 25-55° down, brushed	
860418	LaneLED INOX42, hinged joint piece LED, V4A-1.4401, Ø 42.4x1,5 mm, 25-55° upwards, brushed	
860427	LaneLED INOX42, pipe connector LED, V4A-1.4401, Ø 42.4x1,5 mm, B=6 mm, brushed	
860424	LaneLED INOX42, pipe-hinged joint piece, V4A-1.4401, Ø42.4x1,5 mm, 0-70°, H=30 mm, brushed	

#### End pieces

End plocod						
Item no.	Description	View				
860419	LaneLED INOX42, end piece LED, V4A- 1.4401, Ø42.4x1,5 mm, H=4 mm, brushed					
860425	LaneLED INOX42, end piece, round V4A-1.4401, Ø 42.4x2,0 mm, H=4 mm, brushed					
860620	LaneLED INOX42, end bow, V4A-1.4401, Ø 42.4x2,0 mm, 90°, L=81 mm, brushed					

#### Wall flange

Item no.	Description	View
860428	LaneLED INOX42, wall flange LED, V4A-1.4401, Ø 42.4/ D=90/ H=30 mm, brushed	0

#### Handrail bracket

Item no.	Description	View
860450	LaneLED INOX42, handrail bracket wall system cable, V4A-1.4401, Ø42,4/ W=75/ H=50 mm, brushed	ل
860426	LaneLED INOX42, handrail bracket wall, V4A-1.4401, Ø 42,4/ W=75/ H=50 mm, brushed	e J
860434	LaneLED INOX42, handrail bracket wall hinge, V4A-1.4401, Ø 42,4/ W=75/ H=50 mm, brushed	et :
860449	LaneLED INOX42, handrail bracket pipe system cable, V4A-1.4401, Ø 42,4/ H=79 mm, brushed	I
860432	LaneLED INOX42, handrail bracket pipe, V4A-1.4401, Ø42,4/ H=79 mm, brushed	Ī
860433	LaneLED INOX42, handrail bracket pipe hinge, V4A-1.4401, Ø 42,4/ H=79mm, brushed	Ī
860430	LaneLED INOX42, handrail pole, V4A- 1.4401, Ø42,4x2.0mm, H=989mm, brushed, incl. flange	
860431	LaneLED INOX42, rosette for pole, V4A-1.4401, Ø110mm, H=27mm, brushed	

#### Cover

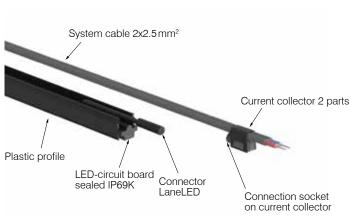
Item no.	Description	View
860557	LaneLED INOX42, cover profile clear LED, plastic, length 1600 mm	
860558	LaneLED INOX42, cover profile frosted, plastic, length 1600 mm (45% decrease in luminous flux due to satin finishing)	

#### Adapter

Item no.	Description	View
860411	LaneLED INOX42, adapter LED, V4A-1.4401, 23,5x50 mm, frosted	
860410	LaneLED INOX42, adapter holder, V4A-1.4401, 23,5x114 mm, frosted (for handrail supports without hinge)	
860572	LaneLED INOX42, adapter holder, V4A-1.4401, 23,5x114 mm, frosted (for handrail supports without hinge)	

#### LaneLED INOX handrail-system

#### View of electrical components



#### Current collector

For the electrical supply, each individual LaneLED is connected via the current collector - freely attachable to the 2x2.5mm² flat cable. The cable socket on the pantograph or the connecting cable with plug of the LaneLED (IP69K connection) serves as an interface.





The LaneLED light bar from GIFAS is the basic element for the illuminated handrail. The other parameters of the LaneLED are carefully determined.

21-32VDC Input voltage Light bar Typ 11

(190mm / 560mm / 928mm / 1482mm)

Light colour 3000K/4400K/5800K

120° Beam angle Protection category IP69K Protection class Shock resistance IK10

Service life 50000h [L70/B10] 2x2.5mm<sup>2</sup> black System cable

(Internal flat cable CU-tinned with copper,

**EPR/EPR)** 

clear / frosted (L 1600mm) Cover

Mounting type Standard 30° offset

#### Installation instruction

The current collectors are to be installed with a special tool. The mechanical pressing tongs can be provided on request on loan.





#### Structure of LaneLED

Structure of LaneLED

The carrier profile of the LaneLED light bar consists of a special profile made of plastic with special mechanical and chemical properties.

A flexible and divisible LED strip is inserted from below and worked into the plastic profile with a 2K potting compound. The potting leads to the high degree of protection of IP69K.

In the upper part of the profile (between the cross struts) there is space for the cable routing including the current connector. The internal system cable is therefore well protected against vandalism.

#### Redundant version with two independent lighting circuits on request!

#### Technical data

Light source

Input voltage 12-30VDC

or via mains unit 230VAC, 24VDC

(also available in 24VAC on request)

Power supply 24VDC 500mA 12VDC 950mA

> 5x3W PowerLEDs 6350-7000K

Light colour Beam angle Spot 10°

Medium 38°

Protection category IP54 (without connector power supply)

Protection class

Temperature operating range -25°C to +45°C Surface temperature: max. 55°C

Housing Aluminium die casting,

black coated

Weight 500a

Dimensions (WxHxD) 108x67x82mm (light)



Suitable power supplies for LaneLED INOX handrails can be found on page 281.



#### LaneLED INOX handrail-system

#### Technical data LaneLED - light comparison measurements

The right light for every application! Below is an overview of the values that can be achieved with the LaneLED light strips.

#### Basic

The LaneLED in the handrail at a height of 100 cm via a 2 m wide staircase gives the following values in terms of illuminance.

LaneLED light bar type 11, 3000K, IP69K, 21-32VDC, 400Lux-95cm

Item no.	Length mm	Number LED	Power W	Power mA	Light Im
860550	190	6	2	80	120
860551	560	18	6	240	360
860552	928	30	10	400	600
860553	1482	48	16	640	960

LaneLED light bar type 11, 4400K, IP69K, 21-32VDC, 400Lux-95cm

Item no.	Length mm	Number LED	Power W	Power mA	Light Im
860445	190	6	2	80	120
860446	560	18	6	240	360
860447	928	30	10	400	600
860448	1482	48	16	640	960

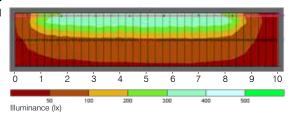
LaneLED light bar type 11, 5800K, IP69K, 21-32VDC, 400Lux-95cm

Item no.	Length mm	Number LED	Power W	Power mA	Light Im
860388	190	6	2	80	120
860389	560	18	6	240	360
860390	928	30	10	400	600
860420	1482	48	16	640	960

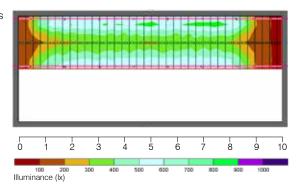
Maximum length possible with LaneLED type 11 to 50m per feed with 30V DC.

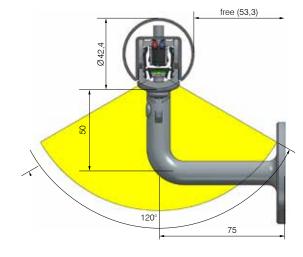
#### Handrail height 100cm, stair width 2m, beam angle handrail 0 °





#### On both sides

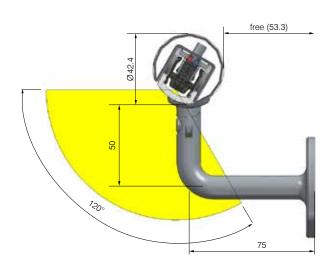




#### New installation type "30 ° offset" (optional light distribution)

By using a new pipe connector, the light distribution can be inclined by 30 ° compared to the standard mounting type. The illumination of the pathway is thus optimized and any unwanted lighting areas (for example in the wall area) can be minimized.

This increases the efficiency of use. The tilt angle was chosen so that there are no undesirable glare effects. The connecting pipe can be integrated directly into the modular system as a mounting element (for pipe adapter, wall adapter or post adapter). The system cable can also be routed through. This ensures quick and sensible installation. Existing handrail systems can easily be retrofitted with this 30 ° replacement adapter.



#### LaneLED WALL



## LaneLED WALL – universally applicable surface mounted LED lighting for diverse applications

LaneLED WALL is a complete system that is easy to assemble. The range of applications is very diverse.

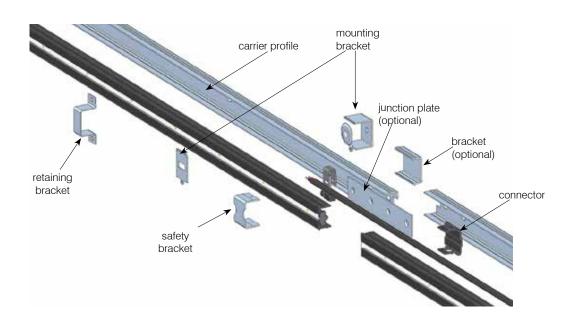
The main feature of LaneLED WALL is its compact and small structure und the excellent luminous efficiency. Installation and assembly are carried out in tight spaces - wherever there is little space available. The smallest possible dimensions, and an inconspicuous installation as a result. LaneLED WALL is mounted on the wall or the ceiling. The mounting dependent on the situation. The installation can also be carried out in niches.

#### **Applications**

- Emergency exit illumination in road, metro and railway tunnels
- Train stations, waiting halls or shelters
- General illumination of railway stations, waiting halls or shelters
- Emergency escape route lighting in metro and railway tunnel
- Marking of emergency exits (green LaneLED)
- Ceiling mounting for power station, cavern tunnels and escape and working tunnels with low headroom
- Bridge illumination
- Walkway illumination

#### Your advantages

- Simple and fast assembly thanks to the practical clicking/connection system
- Replacement of a LaneLED light bar in 2 minutes
- Flame-retardent, halogen-free and self-extinguishing
- Various lighting options thanks to different LED light bars
- Optimised for maintenance because of plug-in/click-in-system
- Comprehensive support with light voltage drop calculations and planning documents
- High-quality, long-lasting materials
- Safe system operation due to safety-low voltage
- Vandal-proof execution possible (by use of appropriate components)
- Long segments even possible for high light outputs
- Individual and project-related consultation





#### LaneLED light bar

The light bar LaneLED is the base element for the illuminated handrails LaneLED GFK and LaneLED WALL. The appropriate type is selected depending on the requirements of the operator, whereas the desired average luminance is the most important specification. The other parameters of the LaneLED are carefully defined. The carrier profile of the LaneLED WALL light bar consists of a special synthetic profile with special characteristics for mechanical and chemical strains. A flexible and separable LED strip is inserted from below and incorporated into the profile with 2K casting compound. The encapsulation leads to the high protection class of IP69K. There is room for the cable guide and the current collector in the upper part of the profile (in between the flanks).

The light bar LaneLED completely ready for connection (pluggable), not including assembly materials (system cable and current collector).

#### Mechanical components

The LaneLED light strips are to be inserted into the support profile. The support profile is fastened to the appropriate surface. Other components serve different configuration options, such as. B. 45  $^{\circ}$  assembly or increase the vandalism security.

#### System components

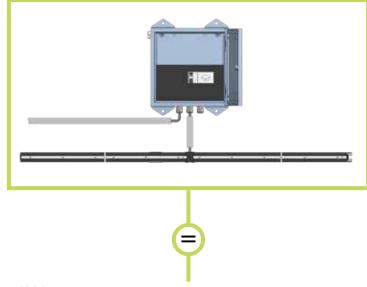
Each individual LaneLED is connected to the power supply via the current collector and is freely attachable to the flat cable 2×2.5 mm² (crimping tool for current collector).

#### Power supply

The electric power supply of the LaneLED light bar is ensured through power supplies that are individually installed into the main or sub-distribution or that are directly built into the housing on site. (housing in hard rubber, polycarbonate or steel)

The supply of 21-32 VDC (nominal power 24VDC) is usually provided by a power supply 230 VAC - different output sizes are available! (In each case depending on the total lighting length and the performance of the desired LED light output).

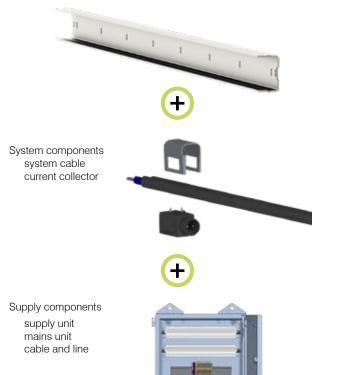
According to customer requirements, the power supply can also be installed anywhere in a distributor or in a socket.



Lighting components LaneLED light bar in special plastic profile, incl. electrical supply



Mechanical components wall mounting, bracket and accessories V4A, connector and angle parts





#### LaneLED WALL

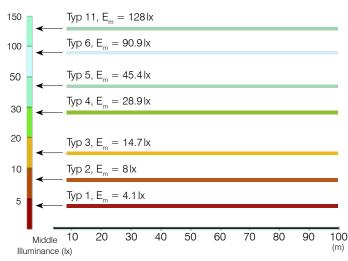
#### Technical data LaneLED - light strips

The right light for every application! Below is an overview of the values that can be achieved with the LaneLED type 1 to 11 light strips.

Maintenance factor: 1 (new value)

Mounting point height: 95 cm (wall-mounted)

Escape route width: 1 m



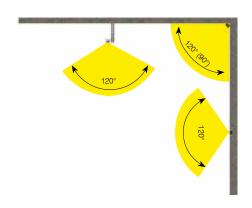
#### Assortment Standard 21-32VDC

Item no. 3000K	Item no. 4400K	Item no. 5800K	Number LED	Power W	Power mA	Length mm	Light Im
Type 11	4400K	3000K	LLD	VV	IIIA	111111	1111
860546	860538	860542	6	2	80	188	120
860547	860539	860543	18	6	240	558	360
860548	860540	860544	30	10	400	926	600
860549	860541	860545	48	16	640	1479	960
Type 6							
	860529		12	3	120	372	192
	860530		36	9	360	1110	576
Type 5							
	860397		12	1.5	60	372	96
	860398		36	4.5	180	1110	288
Type 4							
	860526		12	1	40	372	64
	860527		36	3	120	1110	192
Type 3							
	860394		12	0.5	20	372	32
	860395		36	1.5	60	1110	96
Type 1							
	860391		12	0.12	5	372	8
E	860392		36	0.36	15	1110	24

Further versions on request

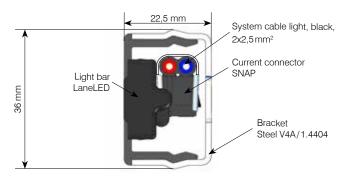
#### Illumination

Light cone with 120 ° radiation. Illumination depending on the placement.



#### Current connector Typ SNAP

For the electrical supply, each individual LaneLED WALL is connected via the current connector - freely attachable to the 2x2.5mm² flat cable (special pliers).



View: sectional profile with current connector

#### Equipment

Item no.	Description	
281474	LED, system cable light, black, 2x2.5 mm², flat cable CU-tinned, EPR/EPR	
860120	LED, current connector SNAP 2P, 42V-5A, V2A-1,4310, (needed spec. pliers 860457)	
860457	LaneLED crimping pliers for current connector SNAP	



Crimping pliers, item no. 860467 (can be provided on loan)





#### Redundancy

The LaneLED batten luminaire has two independent lighting circuits that are supplied separately. This ensures that if one lighting circuit fails (power supply failure, wire breakage, electronic defect, etc.), the LaneLED batten luminaire is still 50% functional.

#### Assortment Redundant 21-32VDC

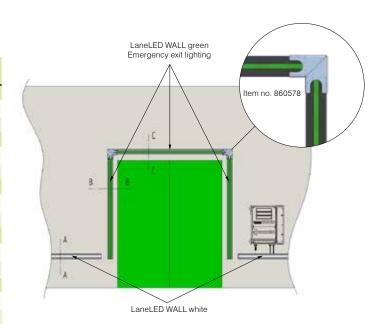
Item no. 4400K	Number LED	Power W	Power mA	Length mm	Light Im
Typ 6					
860535	12	3	120	347	192
860536	36	9	360	1112	576
Typ 5					
860406	12	1.5	60	374	96
860407	36	4.4	180	1112	288
Typ 4					
860532	12	1	40	374	64
860533	36	3	120	1112	192
Тур 3					
860403	12	0.5	20	374	32
860404	36	1.5	60	1112	96
Typ 2					
860400	12	0.24	10	374	16
860401	36	0.72	30	1112	48

Further versions on request

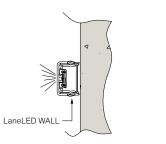
#### LaneLED WALL green

#### Door surround with flat angle

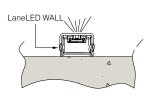
Attachment directly to the tunnel wall with a 90  $^{\circ}$  flat angle (vertical installation):



Cut A-A/C-C:









LaneLED WALL green, 21-32VDC

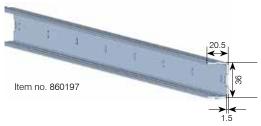
Item no.	Length mm	Number LED	Power W	Power mA	Light Im
860569	372	12	3	120	190
860570	1110	36	9	360	570
860571	2956	96	24	960	1520

Further versions on request

#### LaneLED WALL system structure

#### Carrier profile - steel V4A, 1.4404, cold rolled

The carrier profile is mandatory for all installation variants. The light bar is inserted by using the click function. The support profile can be attached directly (without additional accessories) to the wall / ceiling.



#### Connector - plastic black/steel V4A 1.4404

The connector is used for clean guidance during the transition from carrier profile to carrier profile. It is inserted into the carrier profile in the longitudinal direction during the assembly process in order to cleanly take the next profile.



#### Protection bar – plastic black/steel V4A 1.4404

The protection bar is attached from the front each time the profile is changed (light).







#### End cap – plastic black respectively steel V4A 1.4404

The end cap serves as a clean "line end". It is placed on the light profile at the beginning and end of a strand. Available in plastic or steel.



Item no. 860208





Item no. 860577

#### 90° flat angle



Item no. 860578

#### Holding devices – steel V4A 1.4404

With the various holding devices, the profile system can be used for a wide variety of applications, instead of directly mounting the support profile on the substrate, and can be designed to be vandal-proof if required.



Item no. 860323



Item no. 860585

#### 45° mounting bracket



Item no. 860579

Item no.	Description
860197	LaneLED WALL, carrier profile, 36x20mm, L= 2950mm steel, V4A, 1.4404
860209	LaneLED WALL, black connector with cable entry plastic, UL94-V0, halogen-free
860455	LaneLED WALL, connector with 4 bores, steel, V4A, 1.4404
860210	LaneLED WALL, protection bar black, plastic, UL94-V0, halogen-free
860586	LaneLED WALL, protection bar, steel V4A,1.4404
860208	LaneLED WALL, end cap black, plastic, UL94-V0, halogen-free
860458	LaneLED WALL, end cap, steel, V4A, 1.4404
860323	LaneLED WALL, retaining bracket, steel, V4A, 1.4404
860585	LaneLED WALL, mounting bracket, short, steel, V4A, 1.4404
860578	flat angle 90°, steel, V4A, 1.4404
860577	LaneLED WALL, end cap with bore, steel, V4A, 1.4404
860579	LaneLED WALL, mounting bracket 45°, steel, V4A, 1.4404
292656	LaneLED WALL, blank cover, L=2950mm



#### LaneLED power supply

#### Power supply

The electric power supply of the LaneLED light bar is ensured through power supplies that are individually installed into the main or sub-distribution or that are directly built into the housing on site. (housing in hard rubber, polycarbonate or steel)

The supply of 21-32 VDC (nominal power 24VDC) is usually provided by a power supply 230 VAC – different output sizes are available! (In each case depending on the total lighting length and the performance of the desired LED light output).

According to customer requirements, the power supply can also be installed anywhere in a distributor or in a socket.

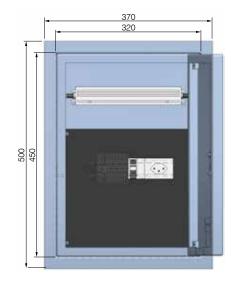
#### Recommended control gear

Example: surface power supply

Item no.	Description	Input	Output	Power
293274	Netzteil	230VAC	30VDC / 1.3A	40W
295042	Netzteil	230VAC	36VDC / 6.7A	240W
293515	Netzteil	230VAC	36VDC DIMM / 6.7A	240W
293836	Netzteil	230VAC	30VDC / 20A	600W

Example: flush-mounted mains supply

	300 Ø 13
338	
	210



## Distributor housing

Corresponding distributor housings can be found in Chapter 01 Wall distributors. We would be happy to advise you on the selection and assembly.





Access city centre, Crans Montana



Health centre, Stein



Bahnhof, Sembranch



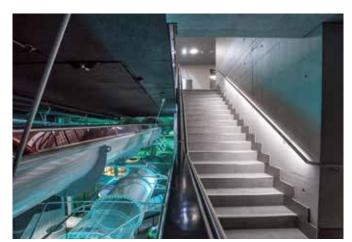
Pedestrian bridge, Wecker



Pedestrian bridge, Wecker



Hospital, Erlangen



Swimming park. St. Gallen



Hospital, Erlangen

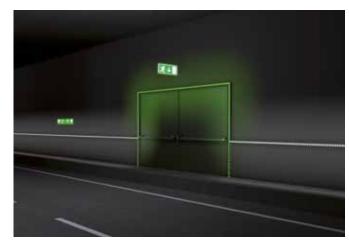


Cemetery access, Glis



Museum Charlie Chaplin





Road tunnels, signalling of escape routes



Station handling and waiting area



Bicycle, pedestrian and driveway lighting



Railway station, Sembranch (Underpass: LaneLED WALL, Stairs: LaneLED INOX42)



Ceiling lighting for railway station



Railway station, Sembranch (Underpass: LaneLED WALL, Stairs: LaneLED INOX42)





Lighting underpass, Weiden



Footbridge, Brügg



Lighting underpass, Oberkirch



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**Linear lighting / handrail systems** 







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