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DETAILED CATALOGUE

**LaneLED GFK**

LIGHTING SOLUTIONS

V0625

# Utilising synergies – achieving safety

## LaneLED GFK – the system for self rescue measures in tunnels and galleries

Various damaging events and fires in train tunnels have shown that it is essential to improve self rescue measures for independent passengers and personnel.

Protection of life and limb – evacuating people – introduce fire-fighting and safety measures.



A system was developed and tested in cooperation with notable manufacturers, which is in line with the requirements of the TSI (Technical Specification for Interoperability - Directive 2008/57/EC of 17.06.2008).

The LaneLED INOX48 Handrail System allows operators and planners to install a complete product, tested as a system, made from stainless steel V4A, that meets all technical requirements of the TSI.

The LaneLED GFK system from GIFAS is in the implementation phase to be certified according to DIN 4102 Part 12. The certificates are expected in the autumn of 2017:

## LED illuminated handrail with functional maintenance

### Applications and areas of application

- railway tunnels
- tunnel lighting
- power plant and cavern corridors
- safety tunnels, access and evacuation tunnels
- mines
- versions with or without functional maintenance

### Your advantages

- certified in accordance to DIN 4102 Part 12
- easy and quick installation
- type-approved components
- approved by FOT Switzerland (Federal Office of Transport)

### Product documentation





# System components

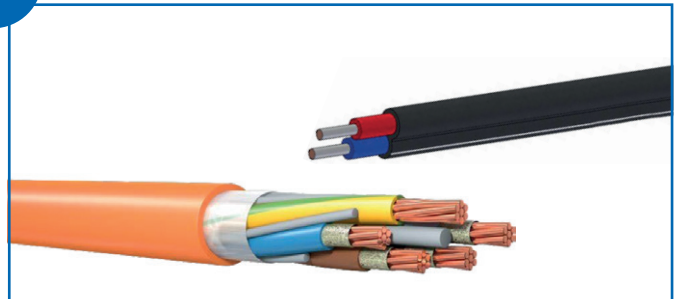
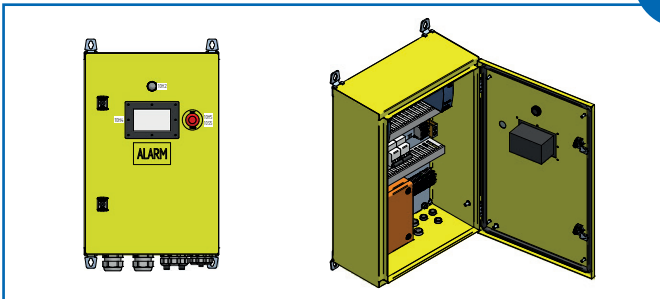
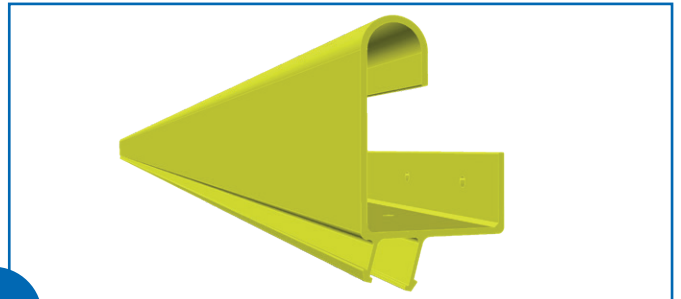
## Lighting components

LaneLED light bar in a special profile including electrical supply



## Mechanical components

- handrail GRP, fibreglass reinforced plastic
- wall mounting, bracket and angle made of V4A
- connectors and bracket parts



## Control unit V2A E90 yellow

## Connecting components

Individually assembled combinations, consisting:

- fire-proof junction box
- power supply unit
- alarm unit

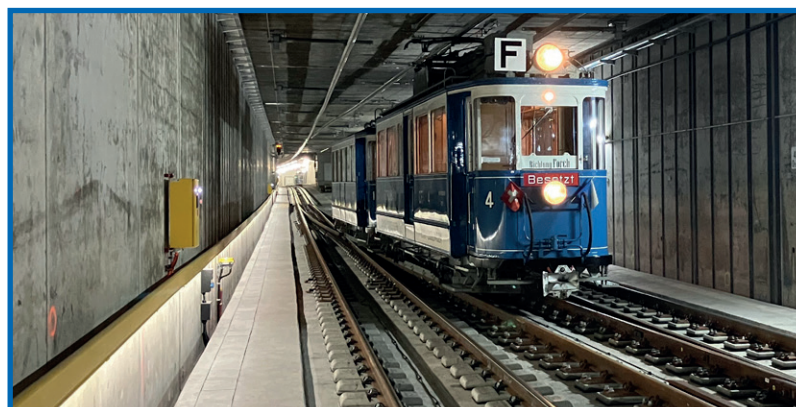
Supply/control cables; project-specific



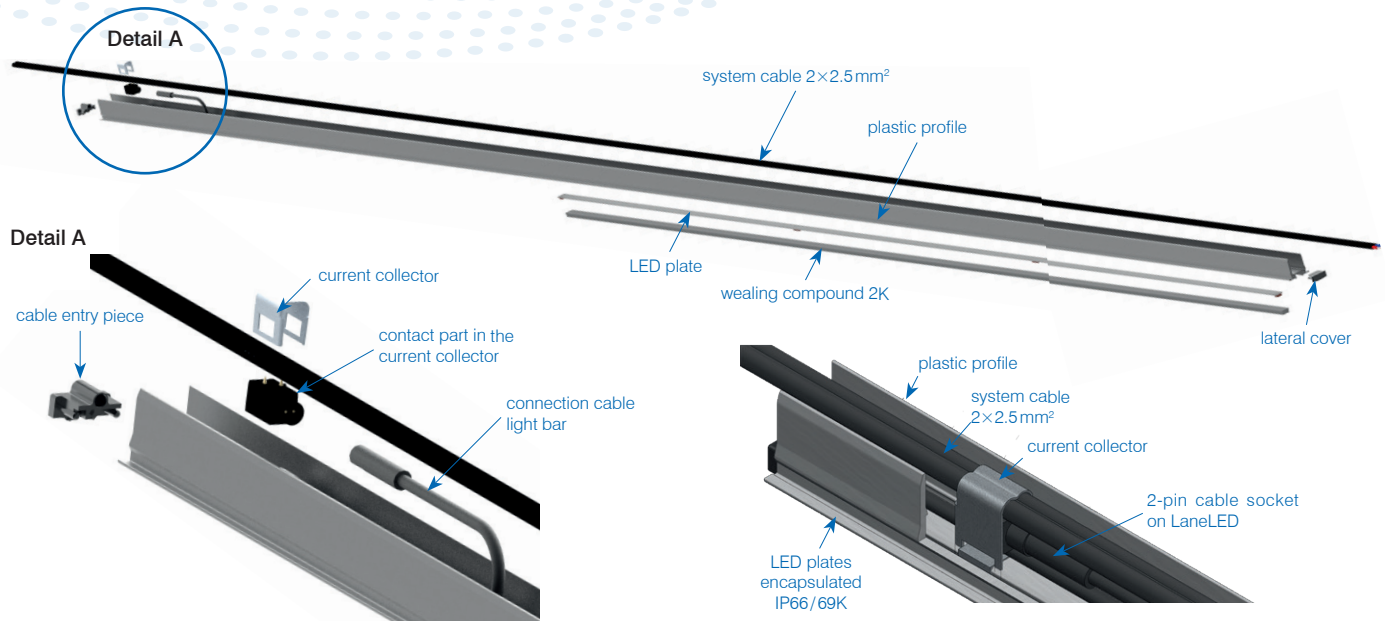
A product that has come from successful GIFAS development

## LaneLED GFK

Handrail with integrated emergency escape route lighting



# Light bar LaneLED



## GIFAS-LaneLED

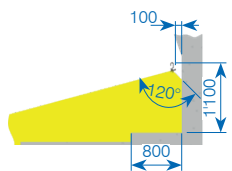
The LaneLED light bar from GIFAS is the base element for the illuminated handrail. The appropriate type is selected depending on the requirements of the operator, whereas the desired average light intensity is the most important specification. The other parameters of the LaneLED are carefully defined.

The carrier profile of the LaneLED light bar consists of a special aluminium profile. A flexible LED strip is inserted incorporated into the profile with 2K casting compound. The encapsulation leads to the high protection class of IP66/69K.

There is room for the cable guide and the current collector in the upper part of the profile (in between the flanks).

Light colour:	4'400K
Voltage LED modules:	21 - 32VDC
Beam angle:	120°
Operating life:	L90/B10 100'000h +25° C
Protection category:	IP66/69K
Operating range of temperature:	-25° C to +45° C
Dimensions:	~30x26.5mmxvariable length (see assortment)

## Illumination/light cone during use

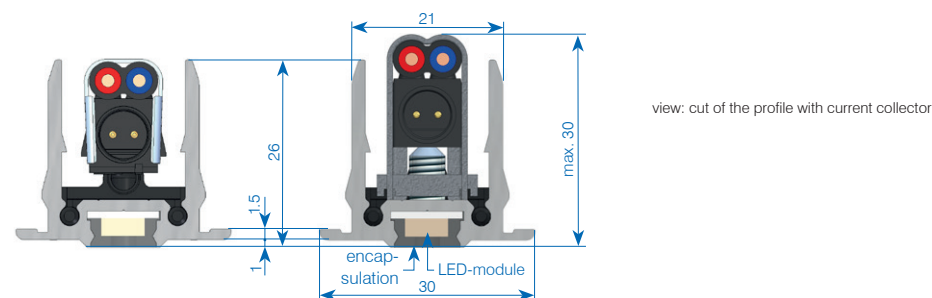


## Current collector

Each LaneLED is connected to the power supply via the current collector and is freely attachable to the system cable  $2 \times 2.5 \text{ mm}^2$ . The cable bushing serves as the interface to the current collector and the connection cable with plug of the LaneLED (IP66/69K connection).

### Type SNAP

### Type SCREW



## Accessories

<b>209768</b>	System cable black $2 \times 2.5 \text{ mm}^2$ , flat cable CPR B2ca XLPO/XLPO
<b>209769</b>	System cable blue $2 \times 2.5 \text{ mm}^2$ , flat cable CPR B2ca XLPO/XLPO
<b>209770</b>	System cable red $2 \times 2.5 \text{ mm}^2$ , flat cable CPR B2ca XLPO/XLPO
<b>136230</b>	Current collector SCREW 2P, 42V-5A, V4A-1.4401, with metal bracket, thread base plate and set screw
<b>860120</b>	Current collector SNAP 2P, 42V-5A, V2A-1.4310 (requires special pliers item no. 860565)

# Assortment/light data

## Technical data LaneLED – light comparison measurements

Perfect light for each application! An overview of the values that can be achieved with light bars LaneLED type 1 to 5 as following.

- maintenance factor: 1 (value as new)
- light mounting height: 95 cm
- emergency escape route width: 1 m

## Assortment

### Type 1: LaneLED GFK, 4'400 K, 21 - 32 VDC, 12 Lux - 95 cm

Item no.	Length mm	Number of LED	Output W	Power mA	Luminous flux lm
860370	372	12	0.12	5	8
860371	1110	36	0.36	15	24
860484	1479	48	0.48	20	32
860485	1848	60	0.60	25	40
860372	2220	72	0.75	30	48

### Type 3: LaneLED GFK, 4'400 K, 21 - 32 VDC, 50 Lux - 95 cm

Item no.	Length mm	Number of LED	Output W	Power mA	Luminous flux lm
860373	372	12	0.5	20	32
860374	1110	36	1.5	60	96
860486	1479	48	2.0	80	128
860487	1848	60	2.5	100	160
860375	2220	72	3.0	120	192

### Type 4: LaneLED GFK, 4'400 K, 21 - 32 VDC, 100 Lux - 95 cm

Item no.	Length mm	Number of LED	Output W	Power mA	Luminous flux lm
860488	372	12	1.0	40	64
860489	1110	36	3.0	120	192
860490	1479	48	4.0	160	256
860491	1848	60	5.0	200	320
860492	2220	72	6.0	240	384

### Type 5: LaneLED GFK, 4'400 K, 21 - 32 VDC, 150 Lux - 95 cm

Item no.	Length mm	Number of LED	Output W	Power mA	Luminous flux lm
860376	372	12	1.5	60	96
860377	1110	36	4.5	180	288
860493	1479	48	6.0	240	384
860494	1848	60	7.5	300	480
860378	2220	72	9.0	360	576

Other versions on request

## Redundancy

The LaneLED light bar has two independent lighting circuits which are fed separately. This ensures that, if one lighting circuit fails (power supply failure, wire breakage, electronics defect, etc.) the LaneLED light bar retains 50% of its functionality.

## Assortment redundant

### Type 2: LaneLED GFK redundant, 4'400 K, 21 - 32 VDC, 24 Lux - 95 cm

Item no.	Length mm	Number of LED	Output W	Power mA	Luminous flux lm
860379	374	12	2×0.12	2×5	2×8
860380	1112	36	2×0.36	2×15	2×24
860500	1481	48	2×0.50	2×20	2×32
860501	1850	60	2×0.60	2×25	2×40
860381	2222	72	2×0.75	2×30	2×48

### Type 3: LaneLED GFK redundant, 4'400 K, 21 - 32 VDC, 50 Lux - 95 cm

Item no.	Length mm	Number of LED	Output W	Power mA	Luminous flux lm
860382	374	12	2×0.25	2×10	2×16
860383	1112	36	2×0.75	2×30	2×48
860502	1481	48	2×1.00	2×40	2×64
860503	1850	60	2×1.25	2×50	2×80
860384	2222	72	2×1.50	2×60	2×96

### Type 4: LaneLED GFK redundant, 4'400 K, 21 - 32 VDC, 100 Lux - 95 cm

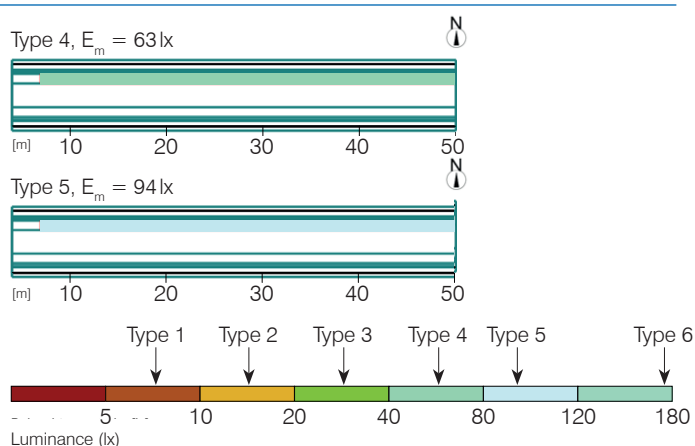
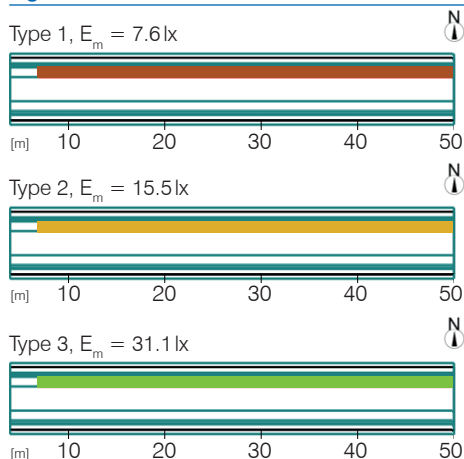
Item no.	Length mm	Number of LED	Output W	Power mA	Luminous flux lm
860385	374	12	2×0.50	2×20	2×32
860504	1112	36	2×1.50	2×60	2×96
860461	1481	48	2×2.00	2×80	2×128
860505	1850	60	2×2.50	2×100	2×160
860506	2222	72	2×3.00	2×120	2×192

### Type 5: LaneLED GFK redundant, 4'400 K, 21 - 32 VDC, 150 Lux - 95 cm

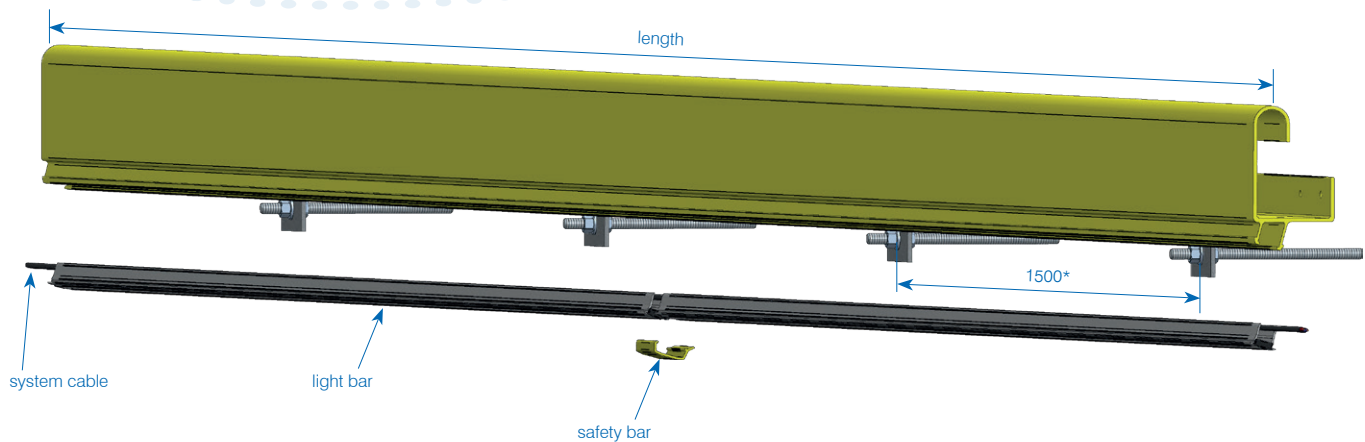
Item no.	Length mm	Number of LED	Output W	Power mA	Luminous flux lm
860472	374	12	2×0.75	2×30	2×48
860386	1112	36	2×2.20	2×90	2×144
860507	1481	48	2×3.00	2×120	2×192
860508	1850	60	2×3.80	2×150	2×240
860387	2222	72	2×4.50	2×180	2×288

Other versions on request

## Light data



# Handrail GFK



The MC50 handrail made from glass fibre reinforced plastic is the carrier element of the illuminated Handrail Lighting system LaneLED GFK. The MC50 profile was selected so that it can serve as handrail, as carrier element for the LED bars as well as provide integrated cable tray. The handrail has been a proven product in railway tunnels for many years.

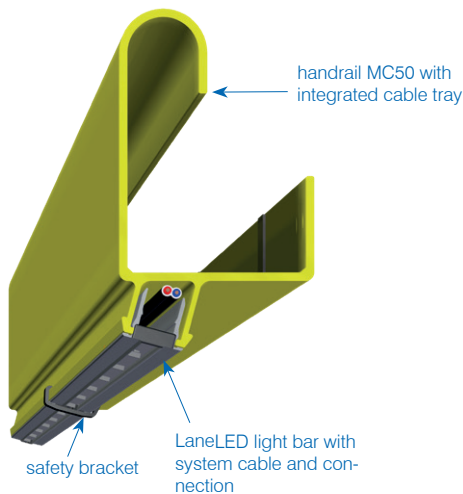
- handrail material GRP in yellow signal colour
- accessories for a quick and easy assembly
- specific special items for special solutions

## Setup

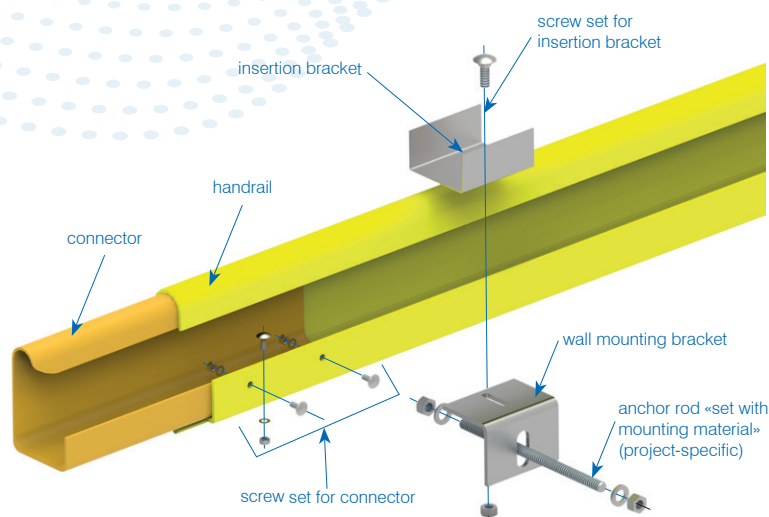
The profile for the LaneLED handrail is the core element of the setup. The LaneLED light bar is clicked into the light slot from below after completing the hand rail assembly. A safety bracket is used inbetween two LaneLED light bars to fix.

## Handrail for self-rescue

- handrail 130×93 mm made from glass fibre reinforced plastic (GRP)
- halogen-free, standard length 6'000 mm, colour RAL 1023
- multifunctional with integrated cable tray as well as LED-groove for quick mounting (click-in) of the LaneLED luminaires
- impact resistant, hardly flammable, self-extinguishing, halogen-free
- assembly with threaded bolt, support gap 1.5 m (or according to manufacturer's specification)



# Handrail assembly/assortment



## Handrail assembly

In addition to durable components, we paid particular attention to ensuring a quick and easy assembly. Simply allow the LED light bars to click into the handrail, which serves as a cable duct at the same time.

The composition of the entire LaneLED GFK is designed for a possible replacement of light and/or other components. This ensures that the maintenance costs can be kept very low. All mounting and assembly parts are made of dimensionally stable material, stainless steel V4A. The adjustability (horizontal and vertical) is ensured with the original parts.

The assembly takes place on the tunnel wall with threaded bolts.

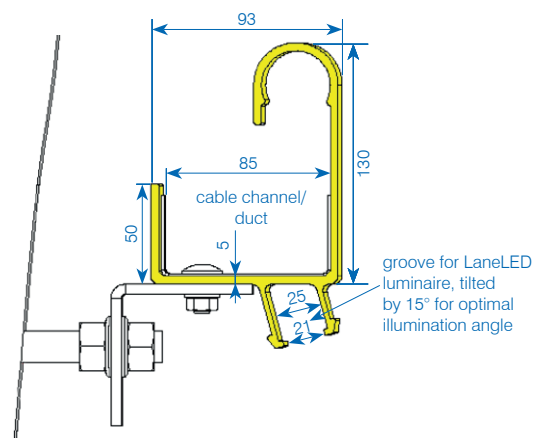
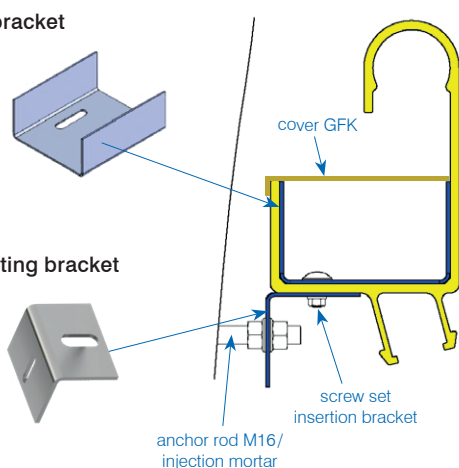
The standard support spacing for the M16 fastening is 1.5 m and the distance to the wall is ~ 200 mm (outer edge of handrail).

## Assortment

<b>140336</b>	Handrail type MC50LED L=6'000 mm, 130×93×6'000 mm, GFK yellow RAL 1023, connector incl.
<b>178634</b>	Handrail type MC50LED L=2'500 mm, 130×93×2'500 mm, GFK yellow RAL 1023
<b>117164</b>	Safety bracket L= 90 mm, GFK yellow RAL 1023
<b>138874</b>	Safety bracket L= 90 mm, with hole Ø18 mm, GFK yellow RAL 1023
<b>140338</b>	Connector L=400 mm, GFK yellow RAL 1023, without screw set
<b>149653</b>	Screw set connector M6, 6 pieces (VE100)
<b>140328</b>	Insertion bracket V4A, 100×84/45×1.5 mm
<b>140331</b>	Screw set insertion bracket M8, 1 piece (VE100)
<b>140330</b>	Wall mounting bracket V4A, 100×70×5 mm
<b>174464</b>	Cover plastic L=3'000 mm, grey, for handrail MC50LED
<b>174465</b>	Lid spring V4A, for cover MC50LED

## Insertion bracket

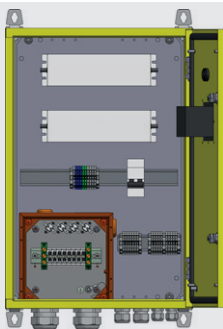
## Wall mounting bracket



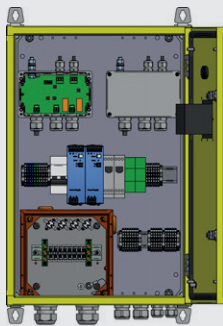


## Power supply unit

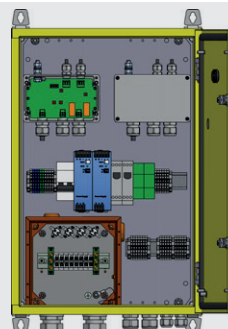
The orientation light in the handrail is supplied by a feeding unit. At the same time, it ensures connection to the power supply and also fulfils the relevant regulations for fire-resistant design.



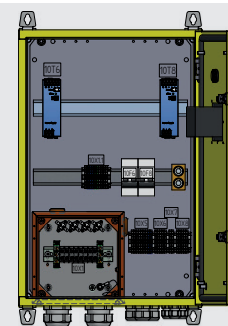
**Item no.** 188456  
**Designation** LaneLED, power supply cabinet, 1.4301 (V2A)  
 RAL1023 (yellow signal colour), 400×645×260.8 mm  
 2 power supplies 230VAC/24VDC - 240 W, IP66



**Item no.** 193933  
**Designation** LaneLED, power supply cabinet, 1.4301 (V2A)  
 RAL1023 (yellow signal colour), 400×645×260.8 mm  
 2 power supplies 230VAC/24VDC - 240 W, IP66  
**Remark** plus failure monitoring when switched off (cold conductor monitoring), failure monitoring during operation (current monitoring relay) and power supply feedback via DC-OK contact



**Item no.** 192834  
**Designation** LaneLED, power supply cabinet, 1.4301 (V2A)  
 RAL1023 (yellow signal colour), 400×645×260.8 mm  
 2 power supplies 230 VAC/24 VDC - 240 W, IP66  
**Remark** plus failure monitoring when switched off (cold conductor monitoring), failure monitoring during operation (current monitoring relay) and power supply feedback via DC-OK contact



**Item no.** 213219  
**Designation** LaneLED, power supply cabinet, 1.4301 (V2A)  
 RAL1023 (yellow signal colour), 400×645×260.8 mm  
 2 power supplies 230 VAC/24 VDC - 240 W, IP66  
**Remark** power supply feedback via DC-OK contact



# Cables

The supply/control cables are object-dependent: with/without feedback, fire-resistant FE180/E90 or in FE05 design.



## Assortment

<b>178362</b>	Supply cable FE180/E90, orange, 5×6 mm <sup>2</sup> (LNPE), Ø 20.1 mm
<b>115421</b>	Supply cable FE180/E30, orange, 5×6 mm <sup>2</sup> (LNPE), Ø 14.2 mm
<b>037552</b>	Control cable FE180/E30, orange, 3×2.5 mm <sup>2</sup> (LNPE), Ø 9.9 mm
<b>132930</b>	Control cable FE180/E30 orange, 7×1.5 mm <sup>2</sup> (Num. + PE), Ø 11.5 mm

*Other versions on request*

## Further services / assembly support

### Our services (incl.)

- relux lighting calculation
- consultation and support through our field service
- mutual support within partner companies, contact mediation

### Our services (excl.)

- planning and concept development as per specifications
- creation of object-specific plans and documents
- instruction and assistance on site or at GIFAS
- assembly support on site

### Assembly

Please ask for our detailed installation instructions.

 A complete system can be viewed in the «Hagerbach» test gallery.

### Assembly aids (provided on loan)



**Item no.** 138524

**Designation** Cable reel trolley for cable reel max. Ø 500×500



**Item no.** 176955

**Designation** Wall scanner for detecting iron



**Item no.** 860565

**Designation** Crimping tool mechanical for current collector SNAP



**Item no.** 137634

**Designation** Mounting aid aluminium, 270×50×40 mm



**Item no.** 179280

**Designation** Battery pack 24V, 7.2Ah

# Applications







**THE  
SOLUTION  
PARTNER**

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