

SYSTEMATIC QUALITY

Railway-Products



GIFAS
ELECTRIC

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All-rubber junction box for points-heating Type 6400 hexagonal



Model All-rubber junction box for points-heating

Breakproof, impact resistant housing of vulcanized butyl rubber vibration absorbing all-rubber material with integrated all-rubber fitting blocks

- No condensation in case of strong temperature fluctuations
- Resistant against showers of emitted sparks
- Non-corroding
- High resistance against UV radiation, ozone and atmospheric conditions
- Free of silicone
- Absolutely free of halogens
- Typeeee of protection: IP65
- Protection class: II
- Impact Proof: IK10
- Glow wire test, IEC 60695-2-1 with 960°C (certificate)
- Needle flame test, DIN EN 60695-11-5; 2005-11
- TSI fire class rating „B“ EN 13501-1
- High voltage dielectric strength according to standard IEC 60243
- Yellow hinged covers of high quality plastic material equipped with integrated seal and non-slip ribbing.
- External locking blocks black made of high quality plastic.
- Locking plugs black made of high quality plastic.

The locking plugs are easily released only by using an appropriate tool and 1/4-turn. The locking plugs are fitted with weather-resistant gaskets between cover and external locking box.

Dimensions

diagonal 264 mm, height 160 mm

Equipment

2/cable glands M32 (clamping range 14-25 mm) with dummy discs
6/cable glands M20 (clamping range 14-25 mm) with dummy discs

Cover Labelling

1x electric lightning sign black in black triangle on yellow background
1x WHZ
3x Auf – Zu (open - close) at each locking plug

| EDP No. | Description |
|---------|---|
| 840622 | Point heating connection box, hexagonal |

A threaded bush for central fastening on all conventional ground pedestals is provided in the bottom side of the housing.

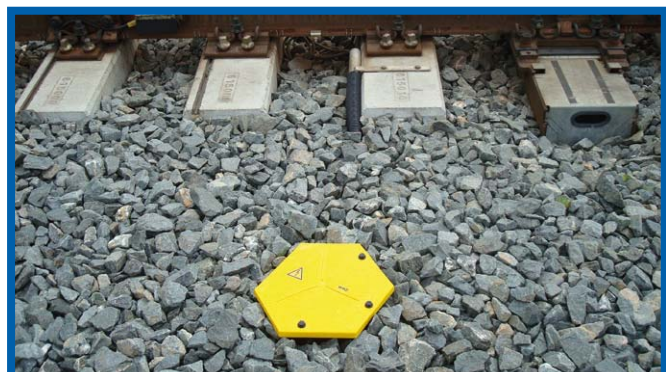
Ground foot



Design Ground foot

- hot-dip galvanized or plastic PA6
- Length 450 mm
- Switch-over point heating connection box and signal-clamping distributor KV-G90/95/98

| EDP No. | Description |
|---------|---|
| 107405 | Ground foot for railway distributor, hot-dip galvanized, height 450 mm, for point heating connection box and signal terminal box KV-G90/95/98 |
| 840706 | Ground foot material PA6 color black, height 450 mm, floor attachment 220 x 50 mm, distributor attachment 170 x 50 mm bore 14/18/14mm |



Separator distributor



Solid rubber boxes Series 7900

ÖVE-tested

Dimensions

360 x 500 x 173 mm (W x H x D)

Design

Body made of vulcanized, self-extinguishing butyl rubber,

- halogen free
- UV-resistant as well as resistant to oils various acids and alkalis
- Insensitive to sweat and sparks
- with T-handle and bolt lock for half-cylinders provided by the customer
- lockable macrolon cover (right hinged).

Equipment

3 / Fitting with shrink part 28,5 / 12,7 mm

3 / Cable glands M32 (clamping range 14-25 mm)

1 / NH Separator Gr. 01 (without cartridges)

1 / separating knife

| EDP No. | Description |
|---------|---|
| 117714 | Solid rubber mast separator box Series 7900 with 1/NH separator size 01 |
| 117286 | Solid rubber mast separator box Series 7800 + Series 3800 with 1/NH separator size 02 |



Light distributor



Lighting box for switchgear

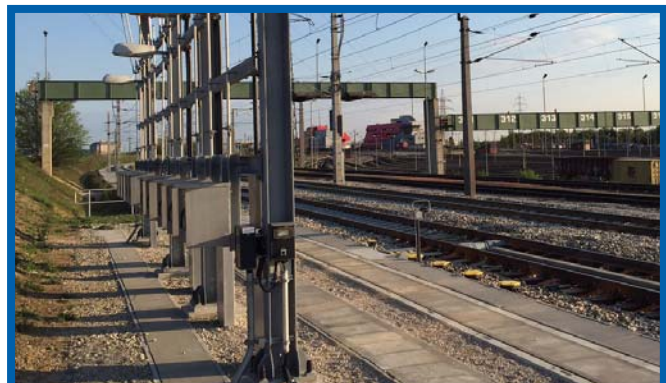
Solid rubber boxes Series 3020 incl. mounting plate V2A

With 4 welded nuts M16 for attachment in the steel mast as well as with a forward horizontal axis.

Equipment

- 3/Cable glands M20 (Clamping range 7-14 mm) incl. blind plugs.
- 1/Cable gland M16 (Clamping range 3,5-10 mm) incl. blind plugs.
- 2/Universal terminal blocks 2,5 mm²
- 2/Universal terminal blocks 2,5 mm² blue
- 2/Universal-Earth Terminals 2,5 mm²
- 1/Universal-Earth Terminals 16 mm²
- 1/RCBO-Multi-function switch 2pol. 16/0,1A *C*
- 1/Off switch 0-1 with retraction (with engraving light)
- 1/Contactor
- 1/Time relay 3h

| EDP No. | Description |
|---------|---|
| 840623 | Solid rubber socket combination Series 3020 |



**Solid rubber terminal distributor
*COMMAND***



**Solid rubber terminal distributor Switchgear *COMMAND*
Series 7800**
ÖVE-tested

Main dimensions
500 x 360 x 133 mm (W x H x D)

- Model**
Body made of vulcanized, break and impact resistant butyl rubber
- vibration-absorbing full-rubber material
 - no condensation of condensation with stable temperature fluctuations
 - insensitive to sweat and sparks
 - corrosion-resistant
 - UV, - ozone and weathering resistance
 - free of halogen and silicone
 - self-extinguishing (needle flame test according to DIN EN 60695-11-5)

Equipment
1 / cable gland M40 (clamping range 18 - 32 mm)
10 / cable glands M20 (clamping range 7 - 14 mm) including blind plugs
12 / universal tension spring clamps STTB 2,5 mm²
6 / Universal tension spring clamps ST 2,5 mm² QUATTRO blue

With 2 aluminum brackets on the back of the housing, adjustable for profiles 170 - 200 mm, with mounted C-rail for cable clamping.

Engraving on the lid: **COMMAND 230V** and engraving plate with electric flash

| EDP No. | Description |
|---------|---|
| 840624 | Solid rubber terminal distributor switch frame *COMMAND* Series 7800, made of vulcanized, unbreakable and impact-resistant butyl rubber |

**Solid rubber terminal distributor
*ALERT***



**Solid rubber terminal distributor Switchgear *ALERT*
Series 7800**
ÖVE-tested

Main dimensions
500 x 360 x 133 mm (W x H x D)

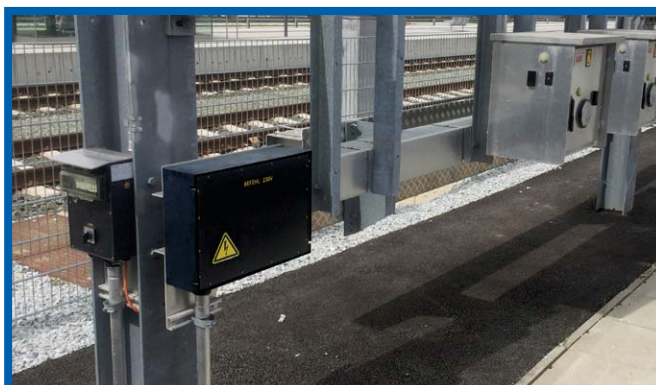
- Model**
Body made of vulcanized, break and impact resistant butyl rubber
- vibration-absorbing full-rubber material
 - no condensation of condensation with stable temperature fluctuations
 - insensitive to sweat and sparks
 - corrosion-resistant
 - UV, - ozone and weathering resistance
 - free of halogen and silicone
 - self-extinguishing (needle flame test according to DIN EN 60695-11-5)

Equipment
1 / cable gland M40 (clamping range 18 - 32 mm)
10 / cable glands M20 (clamping range 7 - 14 mm) including blind lugs
12 / universal tension spring clamps STTB 2,5 mm²
6 / Universal tension spring clamps ST 2,5 mm² QUATTRO blue

With 2 aluminum brackets on the back of the housing, adjustable for profiles 170 - 200 mm, with mounted C-rail for cable clamping.

Engraving on the lid: **ALERT 24V**

| EDP No. | Description |
|---------|---|
| 840625 | Solid rubber terminal distributor switch frame *ALERT* Series 7800, made of vulcanized, break-proof and impact-resistant butyl rubber |



Signal and track connection Type 2518, Type 2612, Type 2712



Design solid rubber signal clamp distributor

Body made of vulcanized, break-resistant and impact-resistant butyl rubber-vulcanizing full-rubber material with integrated solid rubber mounting blocks

- No condensation in case of strong temperature fluctuations
- Resistant against showers of emitted sparks
- Non-corroding
- High resistance against UV radiation, ozone and atmospheric conditions
- Free of silicone
- Absolutely free of halogens
- Type of protection: IP65
- Protection class: II
- Impact Proof: IK10
- Glow wire test, IEC 60695-2-1 with 960°C (certificate)
- Needle flame test, DIN EN 60695-11-5; 2005-11
- TSI fire class rating „B“ EN 13501-1
- High voltage dielectric strength according to standard IEC 60243
- Yellow hinged covers equipped with integrated seal and non-slip ribbing
- External locking blocks black made of high quality plastic
- Locking plugs black made of high quality plastic

The locking plugs are easily released only by using an appropriate tool and 1/4-turn. The locking plugs are fitted with weather-resistant gaskets between cover and external locking box.

Cover Labelling

2x Auf – Zu symbols (open - close) at each locking plug

Dimensions Type 2518

250 x 180 x 120 mm

Dimensions Type 2612

260 x 120 x 85 mm

Dimensions Type 2712

260 x 120 x 116 mm

Equipment Type 2518

1/Cable glands M32 including cut-out sealing ring with blind disc

4/Cable glands M25 with cut-out sealing ring thereof, 3 pieces are closed with dummy discs

2/Alloy bars prepared for mounting of each 2 Stk. STV2/10

Equipment Type 2612/ Type 2712

3/Cable glands M25 with cut-out sealing ring thereof, 2 pieces are closed with dummy discs

1/Alloy bar prepared for mounting of each 2 Stk. STV2/10

Solid rubber clamping housing Type 1812 for 2 axle counters



Design solid rubber clamping housing

Body made of vulcanized, break-resistant and impact-resistant butyl rubber-vulcanizing full-rubber material with integrated solid rubber mounting blocks

- No condensation in case of strong temperature fluctuations
- Resistant against showers of emitted sparks
- Non-corroding
- High resistance against UV radiation, ozone and atmospheric conditions
- Free of silicone
- Absolutely free of halogens
- Dielectric strength 7kV / mm according to EN60243
- Classification Fire behaviour „B“ according to ÖNORM EN 13501-1 according to TSI
- Pressure and suction tested for use in railway tunnel with high speed traffic up to 350 km / h according to TSI
- Cover off high-quality plastic in yellow, with inlaid seal
- 2 / outer locking blocks black made of high-quality plastic
- 2 / locking pin black made of high-quality plastic

The locking plugs are easily released only by using an appropriate tool and 1/4-turn. The locking plugs are fitted with weather-resistant gaskets between cover and external locking box.

Cover Labelling

2x Auf – Zu symbols (open - close) at each locking plug

Dimensions Type 1812

180 x 125 x 90 mm

Equipment Typ 1812

3 / Cable glands M20 (clamping range 14-25 mm) incl. sealing ring

5 mm and sealing ring, thrust ring and blind plug

8 / Disconnect terminals STS 2,5-MT gray, labeled 1-8, on DIN rail

Incl. 2 / holes for mounting on ground

| EDP No. | Description |
|---------|---------------------------------------|
| 840658 | Solid rubber terminal box Series 1812 |

| EDP No. | Description |
|---------|--|
| 840585 | Solid rubber signal terminal distributor Series 2518, KV-G90 |
| 840588 | Solid rubber signal terminal distributor Series 2612, KV-G95 |
| 840587 | Solid rubber signal terminal distributor Series 2712, KV-G98 |

Ground foot



Design Ground foot

- hot-dip galvanized or plastic PA6
- Length 450 mm
- Switch-over point heating connection box and signal-clamping distributor KV-G90 / 95/98

| EDP No. | Description |
|---------|---|
| 107405 | Ground foot for railway distributor, hot-dip galvanized, height 450 mm, for point heating connection box and signal terminal box KV-G90/95/98 |
| 840706 | Ground foot material PA6 color black, height 450 mm, floor attachment 220 x 50 mm, distributor attachment 170 x 50 mm bore 14/18/14mm |

Clamp distributor signal sign



Clamp distributor signal sign Series 1616

ÖVE-tested

Dimensions

160 x 160 x 90 mm (W x H x D)

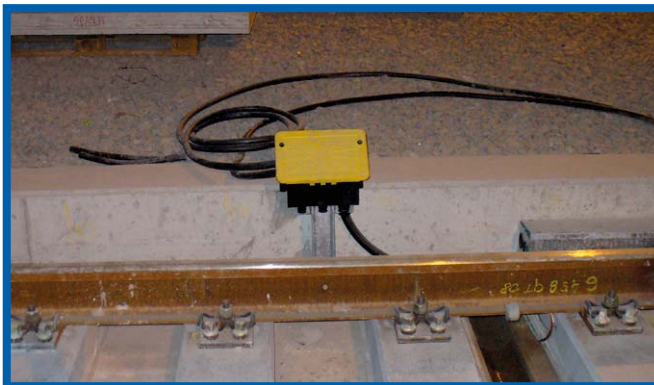
Model

Body made of vulcanized, break and impact resistant butyl rubber

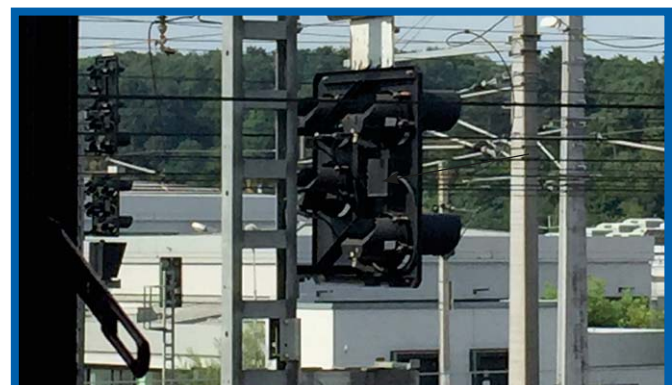
- vibration-absorbing full-rubber material
- no condensation of condensation with stable temperature fluctuations
- insensitive to sweat and sparks
- corrosion-resistant
- high UV, ozone and weather resistance
- silicon free
- absolutely halogen-free
- Glow wire test, IEC 60695-2-1 with 960°C (certificate)
- Needle flame test, DIN EN 60695-11-5; 2005-11
- TSI fire class rating „B“ EN 13501-1
- High voltage dielectric strength according to standard IEC 60243

Equipment

- 1/Cable gland M32 (clamping range 14-25 mm)
- 8/Cable glands M16 thereof 4 Piece with dummy discs
- 1/ Fuse cable for cover
- 2/Rubber pads for fixing of the clamping block (Screws for rail fastening included)
- 2/Slits on the side to open the lid with a screwdriver
- 4/Scre threads M6x12 on the back of the housing for attachment to the signal sign
- 1/Mounting screw kit included:
 - 4 Cylinder screws M6x16 VA,
 - 4 Washer M6 VA, 4 snap rings M6 VA



| EDP No. | Description |
|---------|---------------------------------------|
| 840626 | Solid rubber terminal box Series 1616 |



Signal distributor Subway



Signal distributor SINGLE

Signal distributor NOT – Left with provided LED light

Housing with front panel (plastic PA6) incl. 1/Rotary bolt lock
Dimensions: ca. 260 x 190 x 148 mm

Equipment

- 1/Cable gland M25 with hose screw PG21 IP65 `beneath`
- 10/Universal-Terminal blocks 4 mm²
- 1/Traffic light reflector
- 1/Holder for reflector
- 1/Lamp mounting plate
- 1/Lamp lense clear
- 1/Sealing ring
- 1/Transformer mounting

Signal distributor NOT – Right with provided LED light

Housing with front panel (plastic PA6) incl. 1/Rotary bolt lock
Dimensions: ca. 260 x 190 x 148 mm

Equipment

- 1/Cable gland M25 with hose screw PG21 IP65 `beneath`
- 10/Universal-Terminal blocks 4 mm²
- 1/Traffic light reflector
- 1/Holder for reflector
- 1/Lamp mounting plate
- 1/Lamp lense clear
- 1/Sealing ring
- 1/Transformer mounting



Signal distributor DOUBLE

Signal distributor FES – Left with provided LED light

Housing with front panel (plastic PA6) incl. 2/Rotary bolt locks
Dimensions: ca. 470 x 190 x 148 mm

Equipment

- 1/Cable gland M25 with hose screw PG21 IP65 `beneath`
- 7/Universal-Terminal blocks 4 mm²
- 2/Traffic light reflectors
- 2/Holders for reflectors
- 2/Lamp mounting platen
- 2/Lamp lenses clear
- 2/Sealing rings
- 1/Transformer mounting

Signal distributor FES – Right with provided LED light

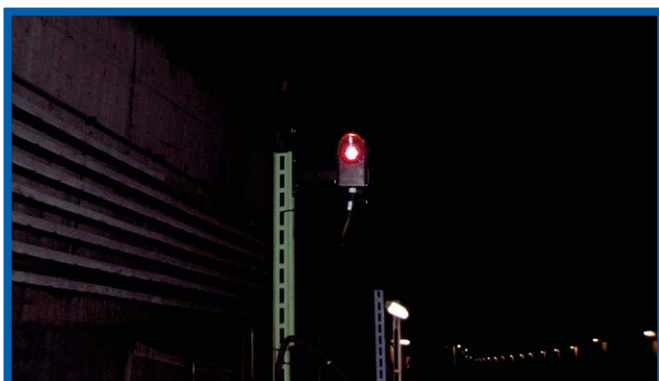
Housing with front panel (plastic PA6) incl. 2/Rotary bolt locks
Dimensions: ca. 470 x 190 x 148 mm

Equipment

- 1/Cable gland M25 with hose screw PG21 IP65 `beneath`
- 7/Universal-Terminal blocks 4 mm²
- 2/Traffic light reflectoren
- 2/Holders for reflectors
- 2/Lamp mounting platen
- 2/Lamp lenses clear
- 2/Sealing rings
- 1/Transformer mounting

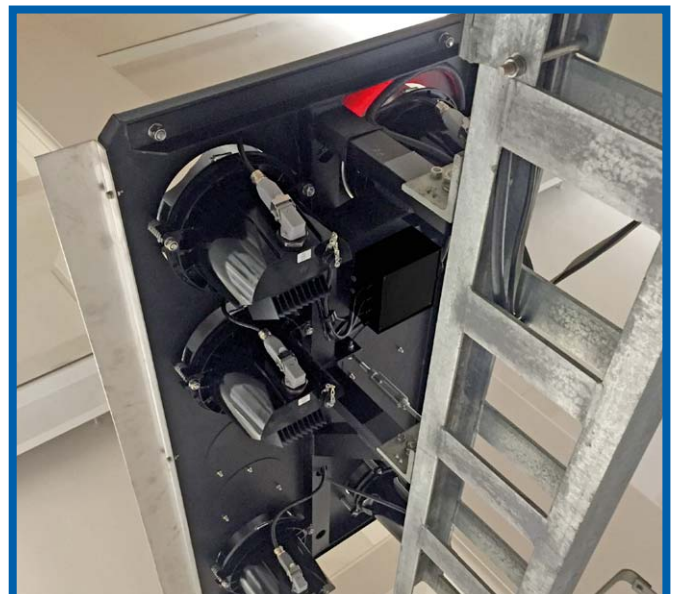
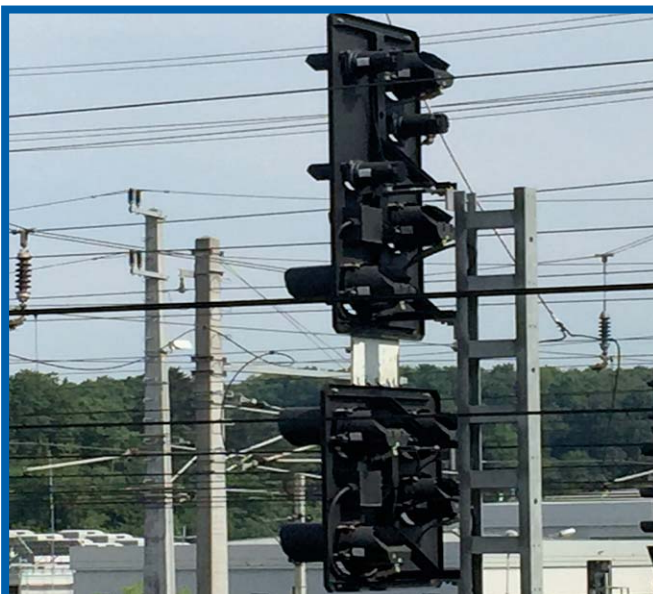
| EDP No. | Description |
|---------|---|
| 89487 | EMERGENCY signal distributor - left with provided LED insert |
| 86028 | EMERGENCY signal distributor - right with provided LED insert |

| EDP No. | Description |
|---------|---|
| 89488 | FES signal distributor – left with provided LED insert |
| 86143 | FES signal distributor – right with provided LED insert |



Application examples / customer solutions

Signal distributor Subway



Energy bollard RONDO 300



Technical data

| | |
|--------------------------|---|
| Outer dimensions bollard | D= 304 mm |
| | H=1200 mm |
| Weight | approx. 45 kg |
| Surface powder coated | powder-coated, all RAL colours available |
| Closing | bollard door with cylinder closing mechanism, lockable (incl. 2 keys) |

Function

Onto the bollard system there is a flange mounted to install the bollard fix with the grounding area.
The bollard energy system is connected in the local power system. After this installation the bollard is ready for use.

Ground flange optional

Stainless bollard ground flange is only used if a concrete socket is not available.
The excavation work as well as the installation of the Bollard flooring elements are provided by the customer.

Water- wastewater connection

Availability of water- and wastewater connectivity.

| EDP No. | Description |
|---------|-----------------------|
| 123517 | RONDO 300/1500 V2A PB |



Reference project: ÖBB, Austrian railway, Styria / Austria. GIFAS bollard Rondo 300 with cable winding device.

Platform - Cleaning Distributor



Platformdistributor stainless steel V2A

Dimensions Stainless steel housing
1500 x 250 x 200 mm (H x W x D)

Technical data

Surface: powder-coated (specify colour when ordering) Lockable: door is equipped with lock box für semi-cylinder or redady locks provided by customer.

Model socket combination

Body made of vulcanized, self-extinguishing butyl rubber, resistant to oils, various acids and alkalis. Insensitive to sweat and sparks . The securing material is installed under two impact-resistant, transparent Makrolon covers - splash-proof.

Dimensions Solid rubber distributor

750 x 160 x 90 mm (W x H x D)

Entry

- 1/ Cable gland M32 (clamping range 14-25 mm)
- 1/ Cable gland M16 (clamping range 3,5-10 mm)
- 1/ Cable gland M12 mit YF6 mm² für Erdung
- 3/ Universal terminal blocks 16 mm²
- 1/ Universal-Terminal block 16 mm² blue
- 1/ Universal-grounding terminal 16 mm²

Equipment

- 1/ Solid rubber-CEE-Coupling 5x16A 400V
- 1/ Shockproof socket 16A 230V with hinged cover and increased seal
- 1/ Ceiling angles 3/4" Ball valve with 1.5 m self regulating heating tape.
Water connection is physically separated from the power supply port.
- 1/ Aluminium Rails mounting plate for connection of 3 aluminium conductors 100 mm² M16

Fusing

- 1/ FI-breaker 4pol. 40/0,1A Type XF *selectiv*
- 1/ FI-breaker 4pol. 40/0,03A Type XF *G*
- 1/ LS-Switch 3pol. 16A
- 1/ LS-Switch 1pol. 16A
- 1/ LS-Switch 1pol. 4A

| EDP No. | Description |
|---------|---------------------------------------|
| 108458 | Stainless steel column V2A, H 1500 mm |

Energystations



Solid rubber-Socketskombination Series 7800 with rain roof
mounted on stainless steel stand (H = 1000 mm to bottom of distributor)
ÖVE verified

Model

Body made of vulcanized, self-extinguishing butyl rubber, halogen-free, UV-resistant and resistant to oils, various acids and alkalis. Insensitive to sweat and sparks.

Entry (trough stand)

- 3/ Universal terminal blocks 16 mm²
- 1/ Universal-Terminal block 16 mm² blue
- 1/ Universal-grounding terminal 16 mm²
- 1/ Universal-grounding terminal 50 mm²

Equipment

- 2/ Solid rubber-CEE-Sockets 5x32A 400V
- 2/ Solid rubber-CEE-Sockets 5x16A 400V
- 2/ Shockproof sockets 16A 230V inkl. Klappdeckel und erhöhter Dichtung

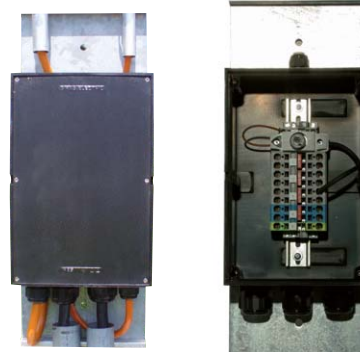
Fusing

- 1/ FI-breaker 4pol. 63/0,1A Type XF *selectiv*
- 1/ FI-breaker 4pol. 63/0,03A Type XF
- 2/ LS-Switch 3pol. 32A
- 2/ LS-Switch 3pol. 16A
- 2/ LS-Switch 1pol. 16A

Distributor wired ready for connection, nickel-plated cans contacts.

| EDP No. | Description |
|---------|--|
| 81451 | Socket distributor Series 7800 on stainless steel stands |

Mast connection distributor



Light Connection distributor – 2 cable, 2 Light outlets

Dimensions

300 x 200 x 110 mm

Model

Housing made of Vulcanized, break - and impact-resistant butyl rubber
Vibration-absorbing full-rubber material
No formation of condensation with strong temperature fluctuations
Insensitive to sweat and sparks
Corrosion-resistant
UV - , Ozone and weather resistance
Halogen- und silicon free
Self-extinguishing (needle flame test, DIN EN 60695-11-5; 2005-11)
Glow wire test, IEC 60695-2-1 with 960°C (certificate)
TSI fire class rating „B“ EN 13501-1
High voltage dielectric strength according to standard IEC 60243
ÖVE examined

Equipment

- 2/ Cable glands M32 (clamping range 14-25 mm) **beneath**
- 2/ Cable glands M20 (clamping range 14-25 mm) **beneath**
- 6/ Universal-Tension springs 16 mm²
- 2/ Universal-Tension springs 16 mm² blue
- 2/ Fuse terminals USEN 14N mit Neozed-Sicherung 6A
- 2/ Universal-Tension springs 4 mm²

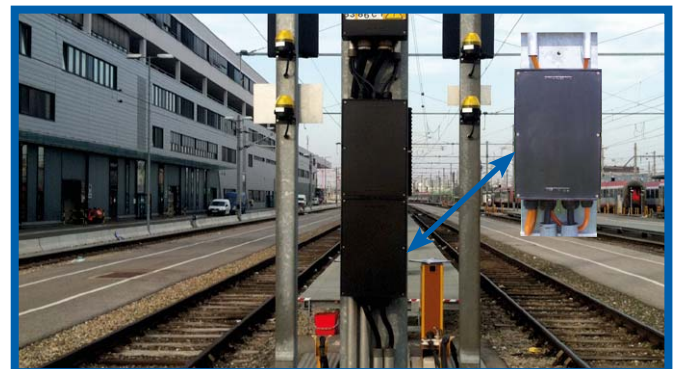
Incl. cross-connections and end plates.

2/ Twisted wires for connection to the respective L-clamps

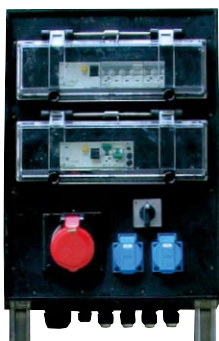
Mounted on aluminium mounting plate 600 x 200 x 4 mm, incl. 2/ C-Rails and 2/mounting holes.

With 2/plastic distance Strip H-15 B-20 mm between solid rubber housing and mounting plate.

| EDP No. | Description |
|---------|--|
| 115545 | Mast connection box, 2x cables, 2x light outlets |
| 115546 | Mast connection box, 3x cables, 2x light outlets |



Plug Distributor



Plug Distributor Tunnel < 500 m
Solid rubber- Sockets distributor with mounting frame 1650 mm

Dimensions

500 x 360 x 133 mm

Model

- Body made of vulcanized, break and impact resistant butyl rubber
- Vibration-absorbing full-rubber material
 - No formation of condensation with strong temperature fluctuations
 - Insensitive to sweat and sparks
 - Corrosion-resistant
 - High UV, ozone and weather resistance
 - Silicon free
 - Absolutely halogen-free
 - Self-extinguishing (needle flame test, DIN EN 60695-11-5; 2005-11)
 - Glow wire test, IEC 60695-2-1 with 960°C (certificate)
 - TSI fire class rating „B“ EN 13501-1
 - High voltage dielectric strength according to standard IEC 60243
 - ÖVE-tested

Equipment

- 1/ Cable gland M32 - Safety class IP65
 - 4/ Cable glands M20 - Safety class IP65
 - 1/ Cable gland M16 - Safety class IP65
 - 4/ Terminal blocks 16 mm² (L, N)
 - 1/ Universal-grounding terminal 16 mm²
 - 1/ Solid rubber-CEE-Steckdose 5x16A 400V
 - 2/ Shockproof sockets 16A 230V with hinged cover and cover gasket
 - 3/ Universal-Tension spring 2,5 mm² Quattro (L, N, PE)
 - 1/ Time relay 3h
 - 1/ TastSwitch
 - 3/ Universal-Tension spring 2,5 mm² (L, N, PE)
 - 2/ End angle
 - 1/ LS-Switch 3pol. + N 16A
 - 2/ LS-Switch 1pol. + N 16A
 - 2/ LS-Switch 1pol. + N 6A
 - 1/ FI-breaker 4pol. 63/0,3A selektiv
 - 1/ FI-breaker 4pol. 40/0,03A to secure with nominal power, Type „G“
- Distributor completely mechanically constructed and ready for connection

| EDP No. | Description |
|---------|--|
| 74211 | Solid rubber socket distributor < 500 m incl. assembly frame 1650 mm |



Plug Distributor Tunnel > 500 m
Solid rubber- Sockets distributor with mounting frame 1650 mm

Dimensions

500 x 360 x 133 mm

Model

- Body made of vulcanized, break and impact resistant butyl rubber
- Vibration-absorbing full-rubber material
 - No formation of condensation with strong temperature fluctuations
 - Insensitive to sweat and sparks
 - Corrosion-resistant
 - High UV, ozone and weather resistance
 - Silicon free
 - Absolutely halogen-free
 - Self-extinguishing (needle flame test, DIN EN 60695-11-5; 2005-11)
 - Glow wire test, IEC 60695-2-1 with 960°C (certificate)
 - TSI fire class rating „B“ EN 13501-1
 - High voltage dielectric strength according to standard IEC 60243
 - ÖVE-tested

Equipment

- 1/ Cable gland M32 - Safety class IP65
 - 5/ Cable glands M20 - Safety class IP65
 - 1/ Cable gland M16 - Safety class IP65
 - 4/ Terminal blocks 16 mm² (L, N)
 - 1/ Universal-grounding terminal 16 mm²
 - 1/ Solid rubber-CEE-Steckdose 5x32A 400V
 - 1/ Solid rubber-CEE-Steckdose 5x16A 400V
 - 2/ Shockproof sockets 16A 230V with hinged cover and increased cover gasket
 - 3/ Universal-Tension spring 2,5 mm² Quattro (L, N, PE)
 - 3/ Universal-Tension spring 2,5 mm² (L, N, PE)
 - 1/ Time relay 3h
 - 1/ TastSwitch
 - 3/ Universal-Tension spring 4 mm² (L, N, PE)
 - 3/ End angle
 - 1/ LS-Switch 3pol. + N 32A
 - 1/ LS-Switch 3pol. + N 16A
 - 1/ LS-Switch 1pol. + N 20A
 - 2/ LS-Switch 1pol. + N 16A
 - 2/ LS-Switch 1pol. + N 6A
 - 1/ FI-breaker 4pol. 63/0,3A selektiv
 - 1/ FI-breaker 4pol. 40/0,03A to secure with nominal power, Type „G“
- Distributor completely mechanically constructed and ready for connection

| EDP No. | Description |
|---------|--|
| 71538 | Solid rubber socket distributor > 500 m incl. assembly frame 1650 mm |

Solid rubber - Clamp distributor



Solid rubber- Clamp distributor tub ÖVE-tested

Dimensions

500 x 360 x 133 mm

Model

- Body made of vulcanized, break and impact resistant butyl rubber
- Vibration-absorbing full-rubber material .
 - No formation of condensation with strong temperature fluctuations
 - Insensitive to sweat and sparks
 - Corrosion-resistant
 - High UV, ozone and weather resistance
 - Silicon free
 - Absolutely halogen-free
 - Self-extinguishing (needle flame test, DIN EN 60695-11-5; 2005-11)
 - Glow wire test, IEC 60695-2-1 with 960°C (certificate)
 - TSI fire class rating „B“ EN 13501-1
 - High voltage dielectric strength according to standard IEC 60243

Equipment

- 2/ Cable glands M50 - Safety class IP65
- 1/ Cable gland M32 - Safety class IP65
- 8/ Universal terminal blocks 50 mm² vibration-resistant
- 1/ load disconnecter 3pol. 35A underneath a shock-resistant Makrolon cover, sunk into the cover and additionally sealed with silicone
- 4/ Terminal blocks 16 mm²
- 2/ End anglel

Distributor completely mechanically constructed and ready for connection

| EDP No. | Description |
|---------|--|
| 71528 | Solid rubber clamp distributor 50 m ² trough, transparent cover |
| 71532 | Solid rubber clamp distributor 70 m ² trough, transparent cover |

Clamp distributor Lights and buttons

Dimensions

300 x 200 x 110 mm

Equipment

- 3/ Cable glands M32 - Safety class IP65
- 1/ Cable gland M25 - Safety class IP65
- 3/ Cable glands M20 - Safety class IP65
- 1/ Cable gland M16 - Safety class IP65
- 4/ Universal terminal blocks 10 mm² (L, N)
- 1/ Universal-grounding terminal 16 mm²
- 4/ Universal-Tension spring 2,5 mm² (L, N)
- 1/ Universal-grounding terminal 2,5 mm²
- 6/ Universal-Tension springs 1,5 mm² Quattro
- 2/ Universal-Earth Terminals 2,5 mm²
- 1/ Load-break switch 3pol. 6A preducted underneath a macrolon cover and additionally sealed with silicone

| EDP No. | Description |
|---------|--|
| 71534 | Solid rubber clamp distributo for lighting and control |

Solid rubber box with mounting frame



Switch box mounting frame Solid rubber-housing with mounting frame ÖVE-tested

Dimensions

250 x 160 x 90 mm

Model

- Body made of vulcanized, break and impact resistant butyl rubber
- Vibration-absorbing full-rubber material
 - No formation of condensation with strong temperature fluctuations
 - Insensitive to sweat and sparks
 - Corrosion-resistant
 - High UV, ozone and weather resistance
 - Silicon free
 - Absolutely halogen-free
 - Self-extinguishing (needle flame test, DIN EN 60695-11-5; 2005-11)
 - Glow wire test, IEC 60695-2-1 with 960°C (certificate)
 - TSI fire class rating „B“ EN 13501-1
 - High voltage dielectric strength according to standard IEC 60243

Equipment

- 2/ illuminated pushbuttons (1 Pc. left and right) LED
- 1/ Cable gland M20 - Safety class IP65
- 6/ Universal Tension spring 2,5 mm²

Distributor completely mechanically constructed and ready for connection

| EDP No. | Description |
|---------|---|
| 79487 | Solid rubber button box with mounting frame 600 mm |
| 79488 | Solid rubber button box with mounting frame 1400 mm |

Lightingdistributor Mounting frame long Solid rubber-housing with mounting frame 1650 mm

Dimensions

360 x 250 x 133 mm

Equipment

- 1/ Cable gland M25 - Safety class IP65
- 3/ Cable glands M16 - Safety class IP65
- 3/ Universal-Tension spring 2A
- 1/ Universal-Tension spring 2,5 mm² Quattro (N)
- 1/ Universal-grounding terminal 2,5 mm² Quattro
- 6/ Universal-Tension springs 2,5 mm²
- 2/ End angles
- 1/ Package installation of 3 PCs. Electronic transformer provided by customer

| EDP No. | Description |
|---------|---|
| 71540 | Solid rubber lighting distributor with mounting frame 1650 mm |
| 71539 | Solid rubber lighting distributor with mounting frame 600 mm |

OLSIG Distributor



Solid rubber junction boxes Series 3800 *GRAY* without lid
ÖVE-tested

Dimensions

250 x 360 x 133 mm (B x H x T)

Model

Base made of vulcanized, self-extinguishing butyl rubber

- Halogen-free
- UV-resistant
- Resistant to oils, various acids and alkalis.
- Insensitive to sweat and sparks
- TSI fire class rating „B“ EN 13501-1

4 / Wall attachments, shielded from the rest of the wiring area, ensure full pretection.

Equipment

- 1/ Cable gland M12 - Pressure compensation device
- 2/ Supporting legs 11 mm
- 2/ Strain relief cord
- 2/ Slots for screwdriver

| EDP No. | Description |
|---------|---|
| 120452 | Solid rubber distributor Series 3800 *GREY* without cover |

Door signal



Solid rubber junction boxes Series 1212 for display tunnels
ÖVE-tested

Dimensions

125 x 125 x 76 mm (B x H x T)

Model

Housing made of self-extinguishing, vulcanized butyl rubber

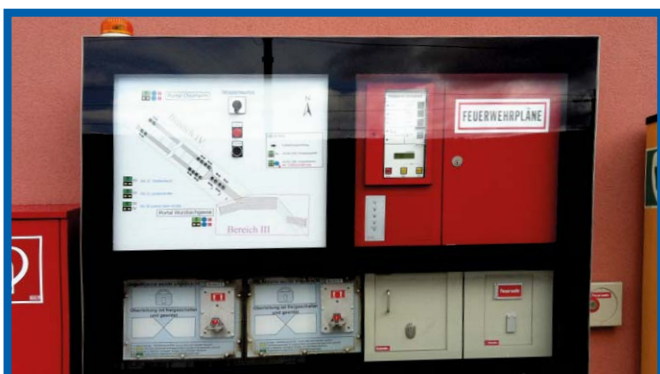
- Vibration-absorbing full-rubber material mit integrierten Solid rubber-mounting blocks
- No formation of condensation with strong temperature fluctuations
- Insensitive to sweat and sparks
- Corrosion-resistant
- High resistance to UV, ozone and weathering
- Silicon free
- Absolutely halogen-free
- TSI fire class rating „B“ EN 13501-1
- Dielectric strength 7kV / mm

Equipment

- 1/ Cable gland M25 (Clamping range 9-18 mm) incl. blind plugs
- 1/ Cable gland M20 (Clamping range 7-14 mm) incl. blind plugs
- 5/ Universal terminal blocks 2,5 mm² QUATTRO
- 1/ LED-Indicator light 24VDC green
- 1/ LED-Indicator light 24VDC red

Incl. Engraving plate.

| EDP No. | Description |
|---------|--|
| 120616 | Solid rubber housing Series 1212 for tunnel door display, incl. engraving plate. |



Application examples / customer solutions Distributor



«Handrail Lighting System» for self-rescue in the gallery and duct

Various accidents and fires in railway tunnels have shown that the self-rescue measures for passengers and Staff must be improved.

Protection of life and limb – evacuation – firefighting, and initiating protective measures.

This system was developed in cooperation with well-known manufac-



Brandprüfung 2012 E 2834 in der MPA Dresden GmbH am 05.07.2012

Sehr geehrte Damen und Herren,

gerne bestätigen wir Ihnen, dass Sie am 05.07.2012 einen Brandversuch mit mehreren Probenkörpern in der MPA Dresden GmbH durchzuführen konnten. Die dabei entstandenen Schäden an den verschiedenen Bauteilen des Handrail-Systems sind im Anhang an die DIN 4102-12:1999-11 erbracht worden. Unter anderem wurde eine Gesamtlänge von 4,9 m Länge (Anlage 1), die aus folgenden Bauteilen besteht, geprüft:

1. Handrailaufhängung Nadeln E30 mit Befestigung an den Wänden und einem Befestigungsabstand der Handrailaufhängungen von 1,100 m; mit
2. Beleuchtung (im Handlauf integriert) LED-Beleuchtung LaneLED der Fa. GIFAS-ELECTRIC GmbH
3. Stützstruktur: Funktionskörper E30 der Fa. LEONH Stuber AG 7 x 6 mm2 (KAP PAWA-E-05/06)
4. Stützstruktur: Funktionskörper E30 auf Kunststoffplatte VCA beschichtet mit:
 - Abstreifenband 20x20 für die Fa. Spangler GmbH + Co. KG
 - Abstreifenband 20x20 für die Fa. GIFAS-ELECTRIC GmbH
 - Neulackstrich TUNED für die Fa. GIFAS-ELECTRIC GmbH

Für die oben beschriebene Brandprüfung (PK) konnte mit dem Brandversuch vom 05.07.2012 der Funktionsverlust des im Handlauf verlegten Abstreifenbandes im Brandfall in Anlehnung an die DIN 4102-12:1999-11 über 90 Minuten nachgewiesen werden. Die obenstehend aufgeschriebene Alarmierungsanordnung hatte keinen negativen Einfluss auf die Versuchsergebnisse.

Mit freundlichen Grüßen

D. Th. Andreas Böhler
Prüfingenieur für Bauteile

Anlagen: Schemen der Anordnungen PK 4

MPA Dresden GmbH | MPA Dresden GmbH | MPA Dresden GmbH | MPA Dresden GmbH | MPA Dresden GmbH | MPA Dresden GmbH | MPA Dresden GmbH | MPA Dresden GmbH | MPA Dresden GmbH | MPA Dresden GmbH

turers and has been tested to the specifications of the TSI (Technical Specifications for Interoperability – Directive 2008/57 / EC of 17.6.2008).

For the first time the LaneLED GFK Handrail Lighting System enables operators and engineers to install a complete product, tested as a system, which fulfils all technical requirements from the TSI.

The Handrail Lighting System is the first system where the modular components have been successfully tested in fire tests according to DIN 4102 part 12.

This is the first handrail solution in which the modular components have been jointly tested successfully in fire tests according to DIN 4102 Part 12. The numerous elaborate tests were carried out by the «Materialprüfanstalt Dresden» (MPA Dresden), the corresponding certificates can be sent on request.

In the interaction of all clearly defined products, the system test E30 - E90 of the system components is confirmed!

Based on guidelines (eg handbook SBB I-20036 «Self-rescue measures in tunnels» or international specifications of the TSI) we developed the following solutions:

LED illuminated handrail with functional integrity!

Applications:

- railway tunnels
- gallery 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-tested components
- approved by FOT Switzerland (Federal Office of Transport)

1

ENTSCHEIDUNGEN UND BESCHLÜSSE

KOMMISSION

VOM 18. FEBRUAR 1987

Über die technische Spezifikation für die Feuerbeständigkeit von Handrail-Systemen und die zugehörigen Prüfverfahren

(Abdruck gemäß Nummer 4.207/14/15)

(Der nachfolgend in der FFS)

(1987/02/08)

Die Kommission der Eisenbahngesellschaften (Eisenbahngesellschaften) hat am 18. Februar 1987 die folgenden Entscheidungen und Beschlüsse gefasst:

1. Die Kommission hat beschlossen, die in der Anlage 1 aufgeführten technischen Spezifikationen für die Feuerbeständigkeit von Handrail-Systemen und die zugehörigen Prüfverfahren zu genehmigen.
2. Die Kommission hat beschlossen, die in der Anlage 2 aufgeführten technischen Spezifikationen für die Feuerbeständigkeit von Handrail-Systemen und die zugehörigen Prüfverfahren zu genehmigen.
3. Die Kommission hat beschlossen, die in der Anlage 3 aufgeführten technischen Spezifikationen für die Feuerbeständigkeit von Handrail-Systemen und die zugehörigen Prüfverfahren zu genehmigen.
4. Die Kommission hat beschlossen, die in der Anlage 4 aufgeführten technischen Spezifikationen für die Feuerbeständigkeit von Handrail-Systemen und die zugehörigen Prüfverfahren zu genehmigen.
5. Die Kommission hat beschlossen, die in der Anlage 5 aufgeführten technischen Spezifikationen für die Feuerbeständigkeit von Handrail-Systemen und die zugehörigen Prüfverfahren zu genehmigen.
6. Die Kommission hat beschlossen, die in der Anlage 6 aufgeführten technischen Spezifikationen für die Feuerbeständigkeit von Handrail-Systemen und die zugehörigen Prüfverfahren zu genehmigen.
7. Die Kommission hat beschlossen, die in der Anlage 7 aufgeführten technischen Spezifikationen für die Feuerbeständigkeit von Handrail-Systemen und die zugehörigen Prüfverfahren zu genehmigen.
8. Die Kommission hat beschlossen, die in der Anlage 8 aufgeführten technischen Spezifikationen für die Feuerbeständigkeit von Handrail-Systemen und die zugehörigen Prüfverfahren zu genehmigen.
9. Die Kommission hat beschlossen, die in der Anlage 9 aufgeführten technischen Spezifikationen für die Feuerbeständigkeit von Handrail-Systemen und die zugehörigen Prüfverfahren zu genehmigen.
10. Die Kommission hat beschlossen, die in der Anlage 10 aufgeführten technischen Spezifikationen für die Feuerbeständigkeit von Handrail-Systemen und die zugehörigen Prüfverfahren zu genehmigen.

DAS BUNDESAMT FÜR VERKEHR

in der Angelegenheit

Typenbescheinigung der Firma
GIFAS-ELECTRIC GmbH
Dietrichstrasse 2, 53104 Rheinbeck
Schweiz
vom 10. Mai 2010

betreffend

Hand-Rail-System LaneLED INOX 48 mit integrierter LED-Beleuchtung für Selbstrettungsmaßnahmen in Eisenbahntunneln

1. Bestätigung
2. Mit Schreiben vom 10. Mai 2010 (1) hat die Firma GIFAS-ELECTRIC GmbH, Schweiz, beim Bundesamt für Verkehr ein Gesuch für eine Typenbescheinigung nach Art. 7 EGV für ein Hand-Rail-System mit integrierter LED-Beleuchtung eingereicht.
3. Mit Schreiben vom 11. September 2010 und 11. Dezember 2010 wurde die GIFAS-ELECTRIC GmbH hinsichtlich des Gesuchs zum Gesuchsteller eingeladen.
4. Laut Kontrollierung der Gesuchunterlagen handelt es sich um ein Eisenbahnsystem mit integrierter LED-Beleuchtung für Selbstrettungsmaßnahmen in Eisenbahntunneln und Stationen.
5. Gemäss den Angaben der GIFAS-ELECTRIC GmbH besteht die Typenbescheinigung des BAV für ein integriertes Produkt mit einem Handlauf aus galvanverzinktem Kunststoff.
6. In Einklang gebrungen

Bundesamt für Verkehr BAV
Postfach 21
3000 Bern
Telefon 031 31 31 31
Fax 031 31 31 31
www.bav.admin.ch

Selbstrettungsmaßnahmen in Tunneln

Infotextkatalogen für die Selbstrettung in Tunneln

Richtlinie SBB der kantonalen Vorgaben für die baulichen Elemente der Sicherheitsbestimmungen für die Selbstrettungsmaßnahmen in Tunneln

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DAS D: 660387 | Regelwerknummer S-B 1-1 | 20 | © SBB

AEOLOOS

Test report

Dynamic pressure test on two luminaires from GIFAS-ELECTRIC GmbH

Dietrichstrasse 2 - 9424 Rheinbeck - Schweiz

Adolf-Haus 06.06.2010
AEOLOOS
Regelstr. 1
Eisenachstr. 16
D-37139 Adelsheim

Ingenieurbüro Lippold

Dr.-Ing. Markus Lippold YTB

Werkstatthochschule
Brenning
Kommunikation
Fortbildung

Pressure strength test on two handrail lights of the company

GIFAS-ELECTRIC GmbH
Dietrichstrasse 2
CH-9424 Rheinbeck

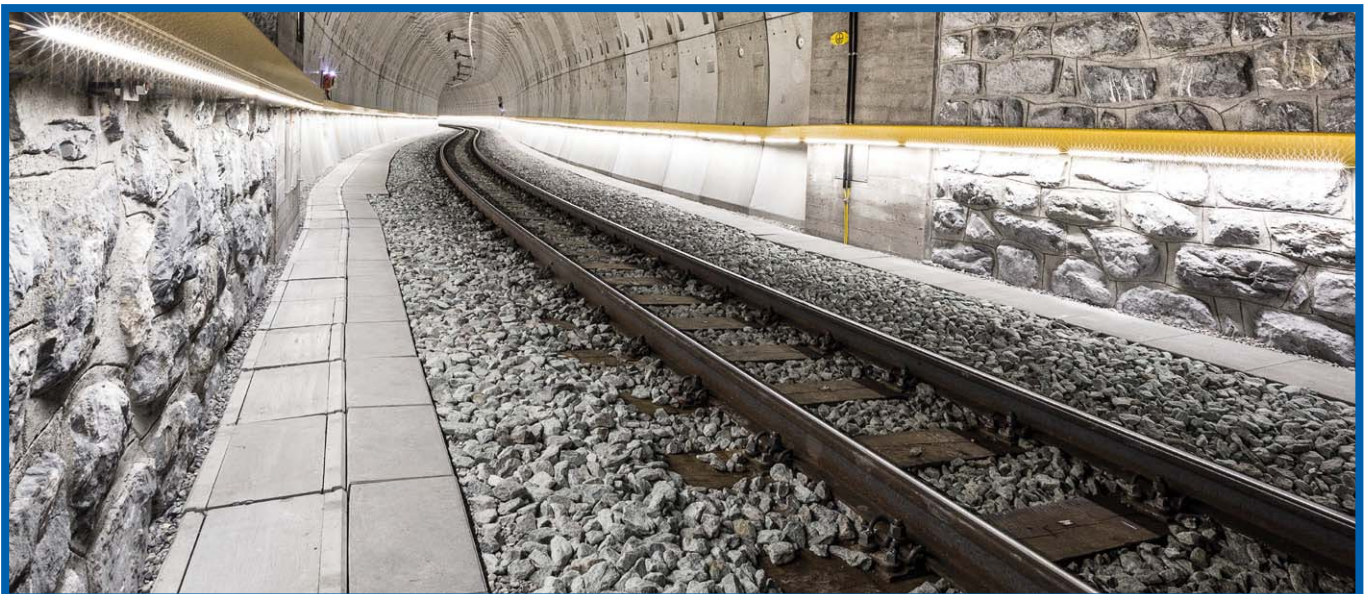
GIFAS-ELECTRIC GmbH
Pebering-Stral 2
A-5301 Eugendorf

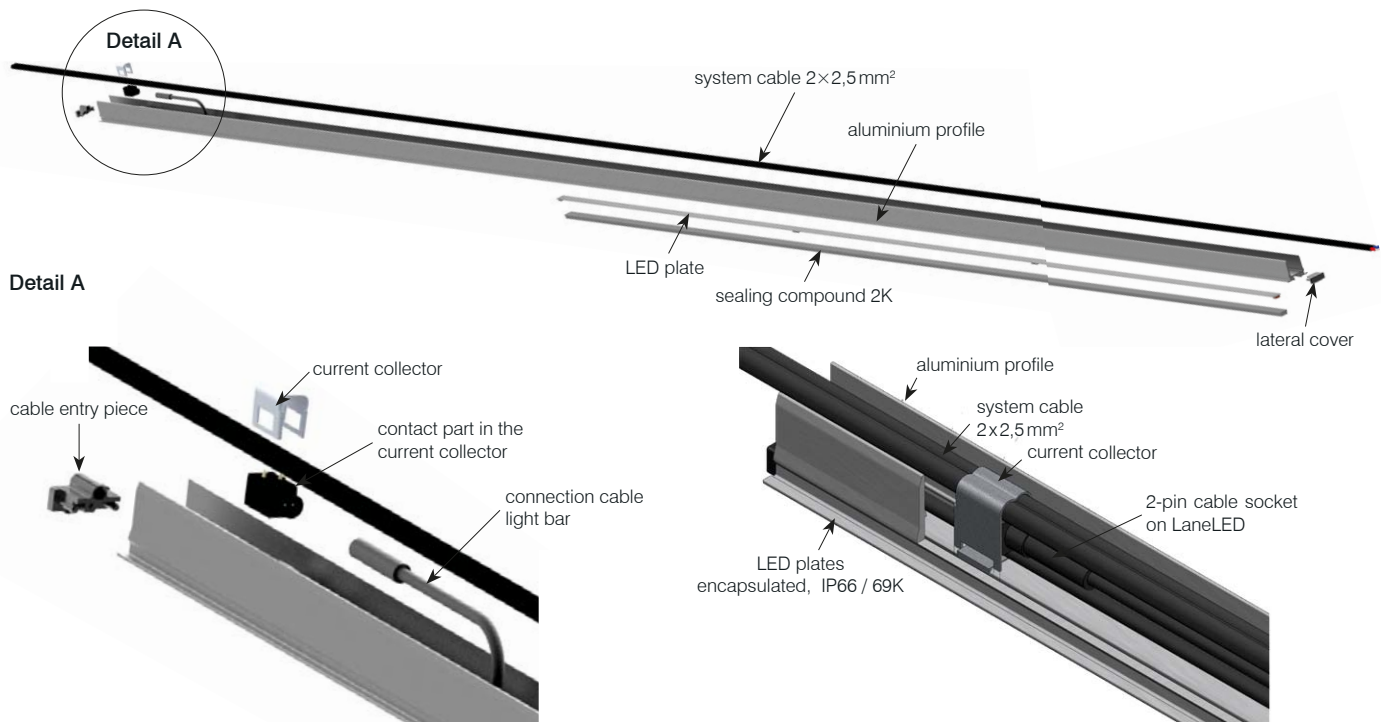
Test number: 12.07.2010

Date: 12.07.2010
Time: 12:00:00
Location: ...

Application examples / customer solutions

LaneLED GFK





LaneLED

The «LaneLED» light bar from GIFAS is the base element of the illuminated Handrail System LaneLED GFK. The appropriate type is selected depending on the requirements of the operator, whereas the desired lighting strength is the most important specification. The other parameters of the LaneLED are carefully defined.

- Light colour 4.400K
- Beam angle 120°
- Protection class IP66 / 69K
- Impact protection rating IK10
- L90 / B10 100.000 h +25° C
- Temperature range -25° C bis +45° C

Composition of the LaneLED

The carrier profile of the «LaneLED» light bar consists of a special aluminium profile with special characteristics for mechanical and chemical strains.

A flexible and separable LED strip is inserted from below and incorporated into the aluminium profile with 2 component casting compound. The encapsulation leads to the high protection class of IP69K.

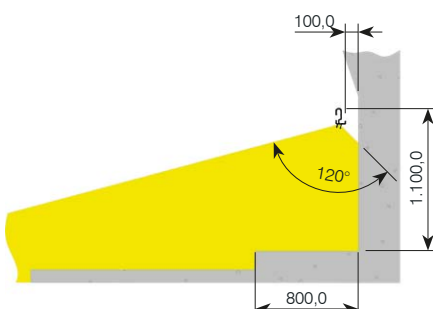
There is room for the system cable and the current collector in the upper part of the profile (in between the flanks).

Light bar LaneLED

LaneLED with special anodised aluminium profile, dimensions approx. 30x26x2.220 mm with LED modules 21 - 32 VDC, 4.400K, beam angle 120°, ready for connection, not including assembly materials (system cable and current collector).

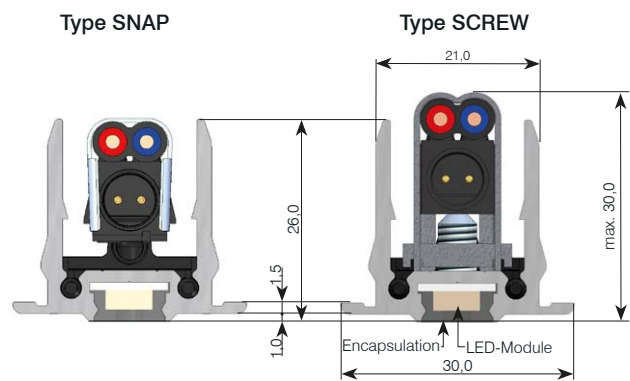
Illumination

Light emission of LaneLED GFK handrail



Current collector

Each individual LaneLED is connected to the power supply via the current collector and is freely attachable to the flat cable 2x2,5mm². The cable bushing serves as the interface to the current collector and the connection cable with plug 2P of the LaneLED (IP66 / 69KVerbindung).



View: Cut profile with current collector

System Accessories

| EDP No. | Description |
|-----------|--|
| CH-209768 | LED, system cable black, 2x2,5 mm² flat cable CPR B2ca XLPO/XLP |
| 134109 | LED, system cable blue, 2x2,5 mm² flat cable CPR B2ca XLPO/XLP |
| 134108 | LED, system cable red, 2x2,5 mm² flat cable CPR B2ca XLPO/XLP |
| 124793 | LED, current collector SCREW 2P, 42V-5A, V4A 1.4401, with metal bracket, thread base plate and set screw |

Light data/Assortment LaneLED GFK

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 follows.

Maintenance factor: 1 (value as new)

Light mounting height: 95 cm

Emergency escape route width: 1 m

| Standard assortment | | | | | |
|---------------------|-----------|---------------|----------|----------|------------------|
| EDP No. | Length mm | Number of LED | Output W | Power mA | Luminous flux lm |

Type 1: LaneLED GFK, 4.400 K, 21 - 32VDC, 12Lux-95 cm

| | | | | | |
|-----------|------|----|------|----|----|
| CH-860370 | 372 | 12 | 0,12 | 5 | 8 |
| CH-860371 | 1110 | 36 | 0,36 | 15 | 24 |
| CH-860484 | 1479 | 48 | 0,48 | 20 | 32 |
| CH-860485 | 1848 | 60 | 0,60 | 25 | 40 |
| CH-860372 | 2220 | 72 | 0,75 | 30 | 48 |

Type 3: LaneLED GFK, 4.400 K, 21 - 32VDC, 50Lux-95 cm

| | | | | | |
|-----------|------|----|-----|-----|-----|
| CH-860373 | 372 | 12 | 0,5 | 20 | 32 |
| CH-860374 | 1110 | 36 | 1,5 | 60 | 96 |
| CH-860486 | 1479 | 48 | 2,0 | 80 | 128 |
| CH-860487 | 1848 | 60 | 2,5 | 100 | 160 |
| CH-860375 | 2220 | 72 | 3,0 | 120 | 192 |

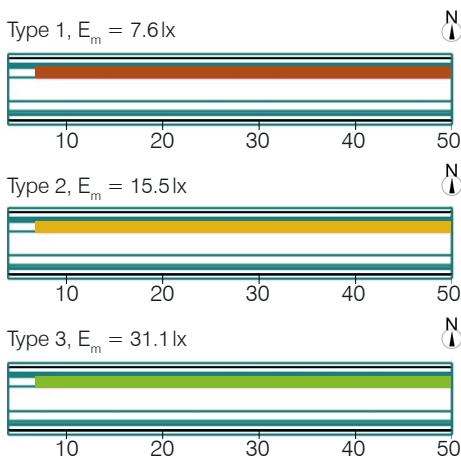
Type 4: LaneLED GFK, 4.400 K, 21 - 32VDC, 100Lux-95 cm

| | | | | | |
|-----------|------|----|-----|-----|-----|
| CH-860488 | 372 | 12 | 1,0 | 40 | 64 |
| CH-860489 | 1110 | 36 | 3,0 | 120 | 192 |
| CH-860490 | 1479 | 48 | 4,0 | 160 | 256 |
| CH-860491 | 1848 | 60 | 5,0 | 200 | 320 |
| CH-860492 | 2220 | 72 | 6,0 | 240 | 384 |

Type 5: LaneLED GFK, 4.400 K, 21 - 32VDC, 150Lux-95 cm

| | | | | | |
|-----------|------|----|-----|-----|-----|
| CH-860376 | 372 | 12 | 1,5 | 60 | 96 |
| CH-860377 | 1110 | 36 | 4,5 | 180 | 288 |
| CH-860493 | 1479 | 48 | 6,0 | 240 | 384 |
| CH-860494 | 1848 | 60 | 7,5 | 300 | 480 |
| CH-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.

| Redundant assortment | | | | | |
|----------------------|-----------|---------------|----------|----------|------------------|
| EDP No. | Length mm | Number of LED | Output W | Power mA | Luminous flux lm |

Type 2: LaneLED GFK redundant, 4.400 K, 21 - 32VDC, 24Lux-95 cm

| | | | | | |
|-----------|------|----|--------|------|------|
| CH-860379 | 374 | 12 | 2×0,12 | 2×5 | 2×8 |
| CH-860380 | 1112 | 36 | 2×0,36 | 2×15 | 2×24 |
| CH-860500 | 1481 | 48 | 2×0,50 | 2×20 | 2×32 |
| CH-860501 | 1850 | 60 | 2×0,60 | 2×25 | 2×40 |
| CH-860381 | 2222 | 72 | 2×0,75 | 2×30 | 2×48 |

Type 3: LaneLED GFK redundant, 4.400 K, 21 - 32VDC, 50Lux-95 cm

| | | | | | |
|-----------|------|----|--------|------|------|
| CH-860382 | 374 | 12 | 2×0,25 | 2×10 | 2×16 |
| CH-860383 | 1112 | 36 | 2×0,75 | 2×30 | 2×48 |
| CH-860502 | 1481 | 48 | 2×1,00 | 2×40 | 2×64 |
| CH-860503 | 1850 | 60 | 2×1,25 | 2×50 | 2×80 |
| CH-860384 | 2222 | 72 | 2×1,50 | 2×60 | 2×96 |

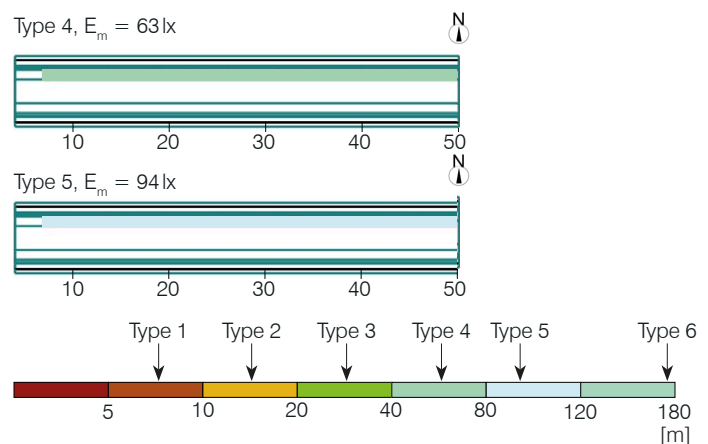
Type 4: LaneLED GFK redundant, 4.400 K, 21 - 32VDC, 100Lux-95 cm

| | | | | | |
|-----------|------|----|--------|-------|-------|
| CH-860385 | 374 | 12 | 2×0,50 | 2×20 | 2×32 |
| CH-860504 | 1112 | 36 | 2×1,50 | 2×60 | 2×96 |
| CH-860461 | 1481 | 48 | 2×2,00 | 2×80 | 2×128 |
| CH-860505 | 1850 | 60 | 2×2,50 | 2×100 | 2×160 |
| CH-860506 | 2222 | 72 | 2×3,00 | 2×120 | 2×192 |

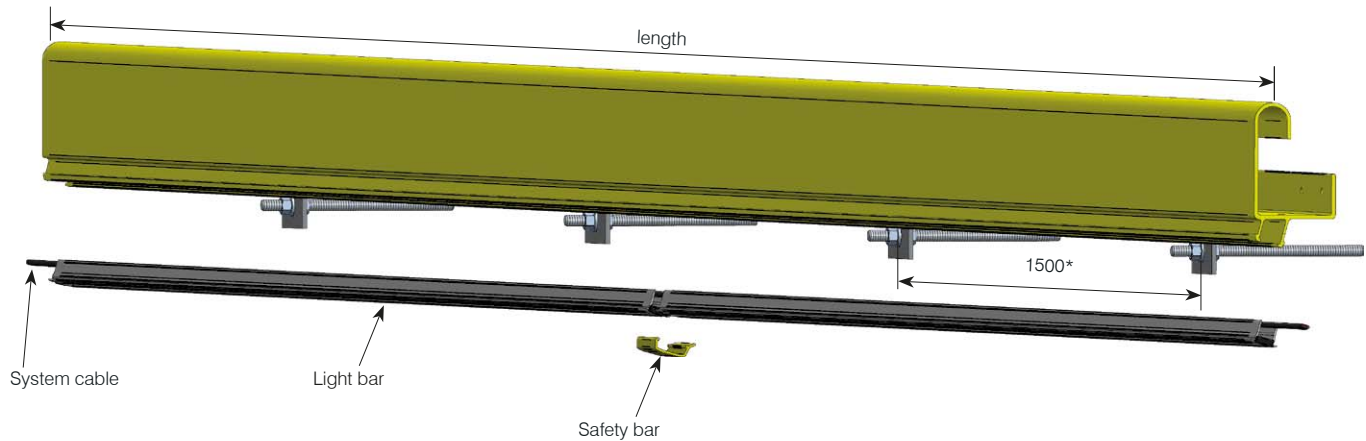
Type 5: LaneLED GFK redundant, 4.400 K, 21 - 32VDC, 150Lux-95 cm

| | | | | | |
|-----------|------|----|--------|-------|-------|
| CH-860472 | 374 | 12 | 2×0,75 | 2×30 | 2×48 |
| CH-860386 | 1112 | 36 | 2×2,20 | 2×90 | 2×144 |
| CH-860507 | 1481 | 48 | 2×3,00 | 2×120 | 2×192 |
| CH-860508 | 1850 | 60 | 2×3,80 | 2×150 | 2×240 |
| CH-860387 | 2222 | 72 | 2×4,50 | 2×180 | 2×288 |

Other versions on request



Handrail HRS-GFK



Handrail LaneLED GFK

The «MC 50 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.

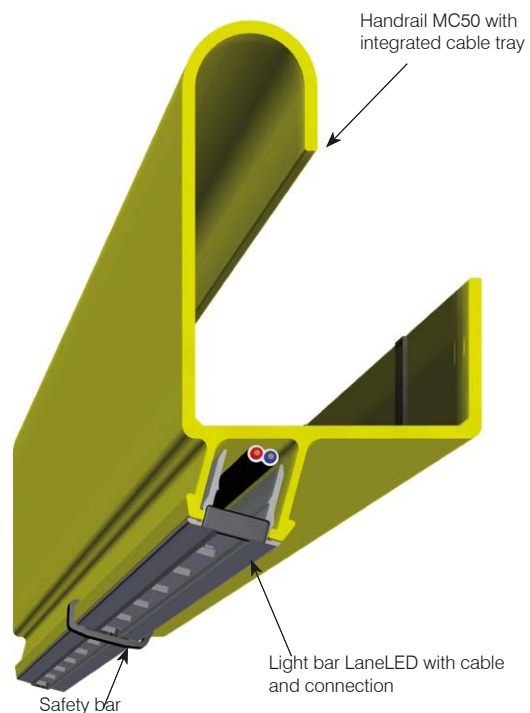
- handrail material in yellow signal colour
- perfect accessories for a quick and easy assembly
- many specific special items for special solutions

Handrail composition

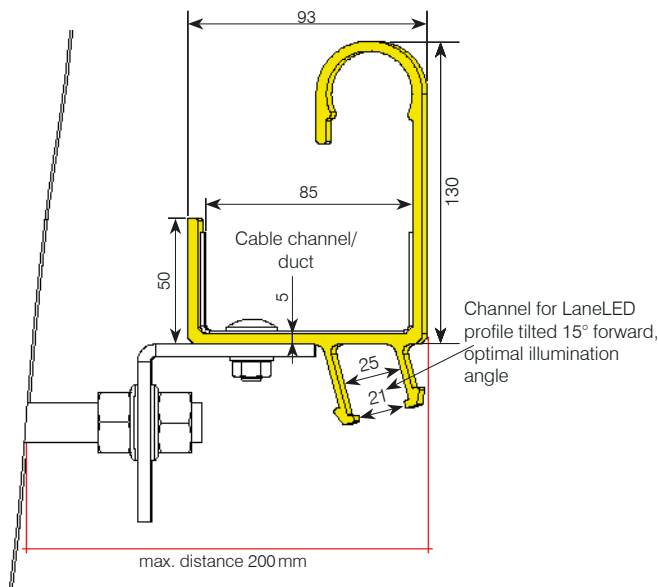
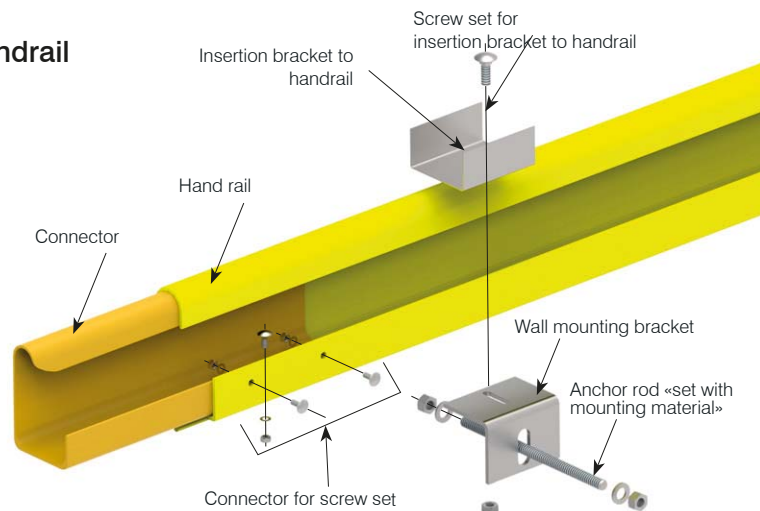
The handrail profile is the core element of the composition. The LaneLED light bar (which is connected to the system cable) is clicked into the «LED groove» from below. A safety bracket is used inbetween 2 LaneLED light bars to fix.

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)



Technical data /Assortment Handrail



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 hand rail, which serves as a cable duct at the same time.

The composition of the entire HRS system 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.

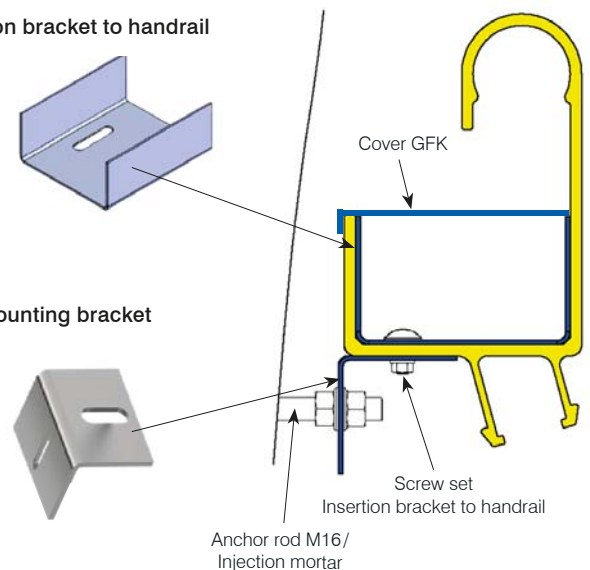
The assembly takes place on the tunnel wall with threaded bolts M12-M16.

With functional integrity E30-E90 in accordance with DIN 4102 part 12, the support gap is 1.5 m and the distance to the wall 200 mm max. (outer edge of hand rail).

| Handrail LaneLED GFK | |
|----------------------|---|
| EDP No. | Description |
| CH-140336 | HRS-Handrail GFK Typee MC50LED, 130×93×6.000 mm GFK yellow RAL 1023 |
| CH-178634 | HRS-Handrail GFK Typee MC50LED, 130×93×2.500 mm GFK yellow RAL 1023 |
| CH-117164 | HRS-Safety bracket, length 90 mm GFK yellow RAL 1023 |
| CH-138874 | HRS-Safety bracket, length 90 mm, with hole Ø 18 mm GFK yellow RAL 1023 |
| CH-140338 | HRS-Connector GFK, length 400 mm GFK yellow RAL 1023, without screw set |
| CH-149653 | HRS-Screw set, connector, M6 - 6 Stk. (VE100) |
| CH-140328 | HRS-Insertion bracket for handrail V4A, 100×84/45×1.5 mm |
| CH-140331 | HRS-Screw set insertion bracket M8 - 1 Stk. (VE100) |
| CH-140330 | HRS-Wall mounting bracket V4A, 100×70×5 mm |
| CH-174464 | HRS-Cover GFK, L=3'000 mm grey, for hand rail MC50LED |
| CH-174465 | HRS-Lid spring V4A, for MC50LED |
| CH-178975 | Anchor rod V4A, M16×150 mm, including incidentals |
| CH-178977 | Anchor rod V4A, M16×200 mm, including incidentals |
| CH-177407 | Anchor rod V4A, M16×300 mm, including incidentals |

Insertion bracket to handrail

Wall mounting bracket



LaneLED INOX48 – das System für die Selbstrettungsmassnahmen in Tunnel und Stollen

Verschiedene Schadereignisse und Brände in Eisenbahntunnels haben gezeigt, dass die Selbstrettungsmassnahmen für Passagiere und Personal unbedingt verbessert werden müssen.

Schutz von Leib und Leben – Personen evakuieren – Brandbekämpfungs- und Schutzmassnahmen einleiten.



Es wurden Systeme entwickelt, welche den Vorgaben des TSI (Technische Spezifikationen für die Interoperabilität – Richtlinie 2008/57/EG vom 17.6.2008) entsprechen.

Das Handrail Lighting System LaneLED INOX48 ermöglicht es Betreibern und Planern, ein komplettes System, aus rostfreiem Stahl V4A einzusetzen. Dieses erfüllt alle technischen Vorgaben aus der TSI.

Basierend auf Richtlinien (z.B. Regelwerk SBB I-20036 «Selbstrettungsmassnahmen in Tunnel» oder internationalen Vorgaben des TSI) haben wir folgende Lösung entwickelt:

LED-beleuchteter Handlauf mit Funktionserhalt!

Anwendungen und Einsatzbereiche:

- Eisenbahntunnel
- Stollenbeleuchtungen
- Kraftwerks- und Kavernengänge
- Sicherheits-, Zugangs- und Evakuierungsstollen
- Bergwerke
- Ausführungen mit oder ohne Funktionserhalt

Ihre Vorteile:

- einfache und schnelle Montage
- typengeprüfte Komponenten

RAMS-Nachweis
Beleuchteter Handlauf LaneLED INOX48
 Handrail Lighting System
 der Fa. GIFAS ELECTRIC Gesellschaft m.b.H.

Erstellt durch: ITM – Ingenieurgesellschaft für technisches Management
 Neudorfstrasse 7
 CH-4003 Luzern

Erstellt für: GIFAS ELECTRIC GmbH
 Dietrichstrasse 2
 CH-5304 Rheineck

Erstellt: Dipl.-Ing. Nico Döring
 Dipl.-Ing. Harald Rüdiger
 M.Eng. Alexander Gauz
 15.02.2011
 Version 1.0

Regelwerk SBB I-20036 **SBB CFF FFS**

| | |
|--|---|
| Regelwerkversion: 3.0 Datum: 11.03.2009 | Technische Bezeichnung: Tunnel Eigenschaften: SBB, CFF, FFS |
| Berlinde: Dörmann Beschreibung: Interaktive Passagiersysteme, Cargo Ersatz für: ABB-1000, 1100, 1200, 1300 | Erstellt für: Reglementation S-0 Ersatz für: siehe Seite 1.3 |

Selbstrettungsmassnahmen in Tunnel
 Inhaltsumfassungen zur Erweiterung der Selbstrettung in Tunnel
 Richtlinie SBB der funktionellen Vorgaben für die baulichen Elemente der Sicherheitsberechnungen für die Selbstrettungsmassnahmen in Tunnel.

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DMS ID: 662987 | Regelwerkversion S-0 | Seite 1 | 21 | © SBB

AEOLOOS

Test report
 Dynamik-grosser Test an zwei Einzelstrahlern
 from GIFAS-ELECTRIC GmbH
 Dietrichstrasse 2 · 9424 Rheineck · Schweiz

Adresse: 9424 Rheineck
 AEOLOOS
 Regfriedstrasse
 Eisenstraße 16
 D-37139 Adelsheim

Verfahren der Europäischen Union

ENTSCHEIDUNGEN UND BESCHLÜSSE

KOMMISSION

ENTSCHEIDUNG DER KOMMISSION
 vom 18. Februar 2007
 über die Einhaltung der Vorschriften für die Interoperabilität – Richtlinie 2008/57/EG über die technischen Spezifikationen für die Interoperabilität – Richtlinien 2008/57/EG und die zugehörigen Richtlinie 2008/57/EG

Die Kommission hat die Vorschriften für die Interoperabilität – Richtlinie 2008/57/EG über die technischen Spezifikationen für die Interoperabilität – Richtlinien 2008/57/EG und die zugehörigen Richtlinie 2008/57/EG in Einklang mit dem Vertrag über die Europäische Union und dem Vertrag über die Arbeitsweise der Europäischen Union genehmigt.

Typenüberprüfung
 für die Zulassung des Typenbauverfahrens Nr. 29472200-05-0008
 (Typenbauverfahren gemäß AN TSBV 1)

DAS BUNDESAMT FÜR VERKEHR
 hat in der Angelegenheit
 Typenbauverfahren der Firma
 GIFAS-ELECTRIC GmbH
 Dietrichstrasse 2, 9424 Rheineck
 Schweiz
 vom 10. Mai 2010

Inhaltsverzeichnis

1. Bestätigung
2. Mit Schreiben vom 10. Mai 2010 (1) hat die Firma GIFAS-ELECTRIC GmbH, Schweiz, beim Bundesamt für Verkehr BAfV ein Gesuch für eine Typenüberprüfung nach Art. 7 EGV für ein Handrail-System mit integrierter Beleuchtung eingereicht.
3. Mit Schreiben vom 11. September 2010 und 11. Dezember 2010 wies die GIFAS-ELECTRIC GmbH entsprechende Änderungen zum Gesuch ein.
4. Laut Nachschau der Geschäftsstellen handelt es sich um ein Einbauleuchten-System mit integrierter LED-Beleuchtung für Selbstrettungsmassnahmen in Tunneln und Stollen.
5. Gemäss den Angaben der GIFAS-ELECTRIC GmbH besteht eine Typenüberprüfung des BAfV für ein integriertes System mit einem Handlauf aus rostfreiem Stahl.
6. In Einklang gebrungen

Ingenieurbüro Lippold
 Dipl.-Ing. Markus Lippold

Werkstatthochschule
 Benning
 Kommunikation
 Fortbildung

Pressure strength test on two handrail lights of the company
GIFAS-ELECTRIC GmbH
 Dietrichstrasse 2
 CH-9424 Rheineck

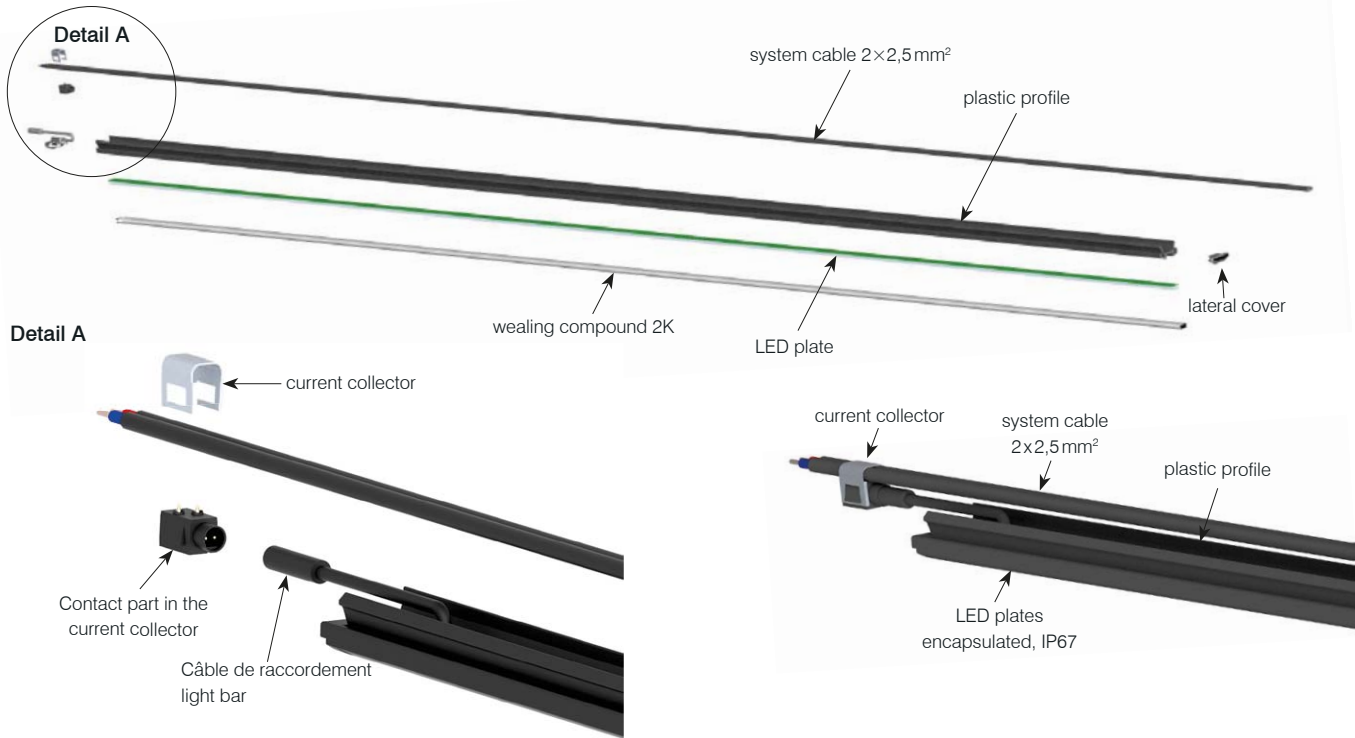
GIFAS-ELECTRIC GmbH
 Pebering-Stral 2
 A-5301 Eugendorf

Testdatum: 12.07.2009

Application examples / customer solutions

LaneLED INOX48





GIFAS-LaneLED

The «LaneLED» light bar from GIFAS is the base element for the illuminated handrail LaneLED INOX48. 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.

- Light colour 4.400 K
- Beam angle 120°
- Protection class IP66 / 69K
- L90 / B10 100.000 h +25° C
- Operating temperature range -25° C to +45° C

Composition of the LaneLED

The carrier profile of the «LaneLED» 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 IP66 / 69K.

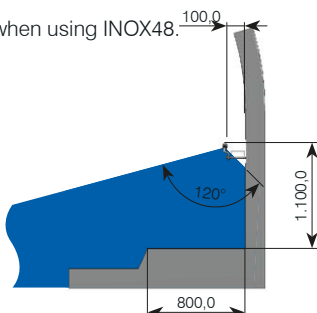
There is room for the cable guide and the current collector in the upper part of the profile (in between the flanks).

Light bar LaneLED

GIFAS-LaneLED coated with special profile plastic, approx. 30 x 26,5 x 2.227 mm with LED modules 21-32VDC, 4.400K, beam angle 120°, completely ready for connection, not including assembly materials (system cable and current collector). Assortiment see page 5.

Illumination

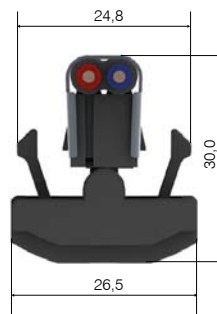
Light emission when using INOX48.



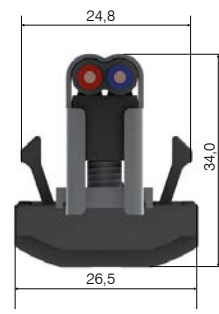
Current collector type SNAP

Each individual LaneLED is connected to the power supply via the current collector and is freely attachable to the flat cable 2x2,5mm². The cable bushing serves as the interface to the current collector and the connection cable with plug 2P of the LaneLED (IP66 / 69K connection).

Typ SNAP



Typ SCREW



View: cut profile with current collector

Accessories LaneLED

| EDP No. | Description |
|-----------|---|
| CH-209768 | LED, system cable black, 2x2,5 mm² flat cable CPR B2ca XLPO/XLPO |
| 134109 | LED, system cable red, 2x2,5 mm² flat cable CPR B2ca XLPO/XLPO |
| 134108 | LED, system cable blue, 2x2,5 mm² flat cable CPR B2ca XLPO/XLPO |
| 124793 | LED, current collector SCREW 2P, 42V-5A, V4A 1.4401, with metal bracket, thread base plate and set screw |

Light data/Assortiment LaneLED INOX48

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 follows.

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

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.

| Assortiment Standard | | | | | |
|----------------------|-----------|---------------|----------|----------|------------------|
| EDP No. | Length mm | Number of LED | Output W | Power mA | Luminous flux lm |

Type 1: LaneLED INOX48, 4.400 K, 21 - 32 VDC

| | | | | | |
|-----------|------|----|------|----|----|
| CH-860353 | 380 | 12 | 0,12 | 5 | 8 |
| CH-860354 | 1118 | 36 | 0,36 | 15 | 24 |
| CH-860355 | 2224 | 72 | 0,75 | 30 | 48 |

Type 3: LaneLED INOX48, 4.400 K, 21 - 32 VDC

| | | | | | |
|-----------|------|----|-----|-----|-----|
| CH-860356 | 380 | 12 | 0,5 | 20 | 32 |
| CH-860357 | 1118 | 36 | 1,5 | 60 | 96 |
| CH-860352 | 2224 | 72 | 3,0 | 120 | 192 |

Type 4: LaneLED INOX48, 4.400 K, 21 - 32 VDC

| | | | | | |
|-----------|------|----|-----|-----|------|
| CH-860514 | 380 | 12 | 1,0 | 40 | 64 |
| CH-860515 | 1118 | 36 | 3,0 | 120 | 1928 |
| CH-860516 | 2224 | 72 | 6,0 | 240 | 384 |

Type 5: LaneLED INOX48, 4.400 K, 21 - 32 VDC

| | | | | | |
|-----------|------|----|-----|-----|-----|
| CH-860358 | 380 | 12 | 1,5 | 60 | 96 |
| CH-860359 | 1118 | 36 | 4,5 | 180 | 288 |
| CH-860360 | 2224 | 72 | 9,0 | 360 | 576 |

Other versions on request.

| Assortiment Redundant | | | | | |
|-----------------------|-----------|---------------|----------|----------|------------------|
| EDP No. | Length mm | Number of LED | Output W | Power mA | Luminous flux lm |

Typ 2: LaneLED INOX48 redundant, 4.400 K, 21 - 32 VDC

| | | | | | |
|-----------|------|----|--------|-------|-------|
| CH-860361 | 384 | 12 | 2x0,12 | 2x 5 | 2x 8 |
| CH-860362 | 1118 | 36 | 2x0,36 | 2x 15 | 2x 24 |
| CH-860363 | 2227 | 72 | 2x0,75 | 2x 30 | 2x 48 |

Typ 3: LaneLED INOX48 redundant, 4.400 K, 21 - 32 VDC

| | | | | | |
|-----------|------|----|--------|-------|-------|
| CH-860364 | 384 | 12 | 2x0,25 | 2x 10 | 2x 16 |
| CH-860365 | 1122 | 36 | 2x0,75 | 2x 30 | 2x 48 |
| CH-860366 | 2224 | 72 | 2x1,50 | 2x 60 | 2x 96 |

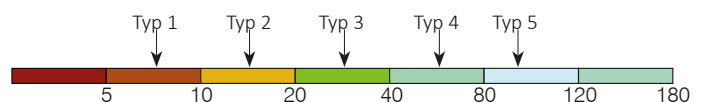
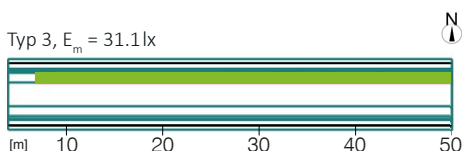
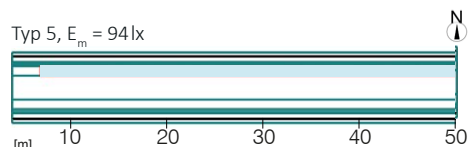
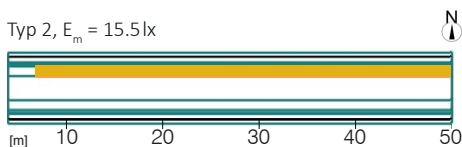
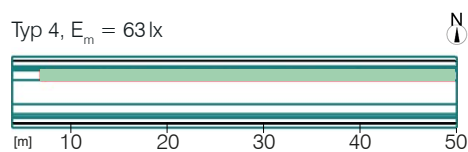
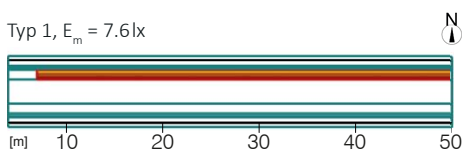
Typ 4: LaneLED INOX48 redundant, 4.400 K, 21 - 32 VDC

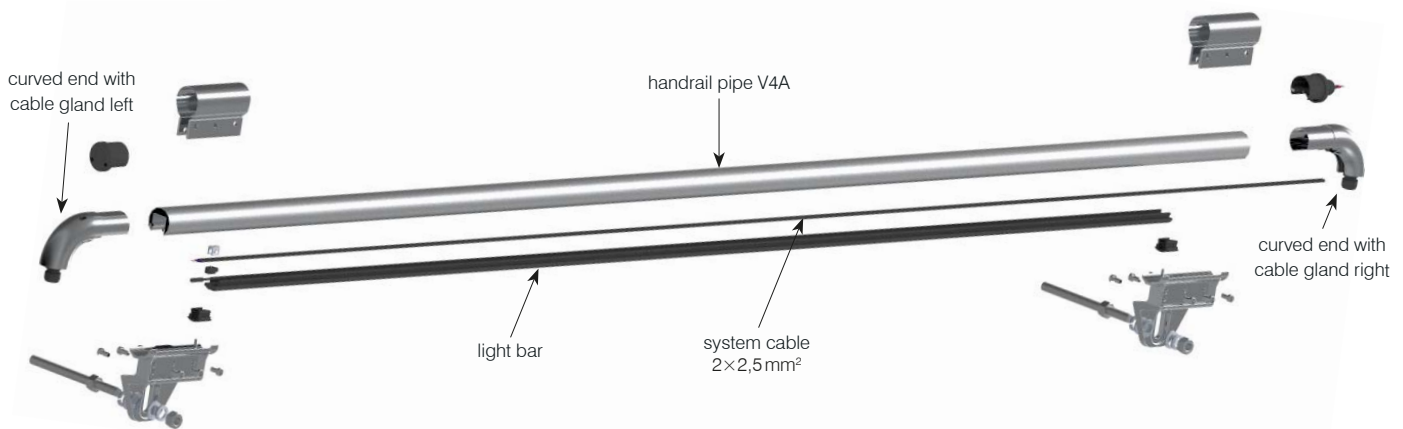
| | | | | | |
|-----------|------|----|--------|--------|---------|
| CH-860520 | 384 | 12 | 2x0,50 | 2x 20 | 2x 32 |
| CH-860521 | 1122 | 36 | 2x1,50 | 2x 60 | 2x 96 |
| CH-860522 | 2227 | 72 | 2x3,00 | 2x 120 | 2 x 192 |

Typ 5: LaneLED INOX48 redundant, 4.400 K, 21 - 32 VDC

| | | | | | |
|-----------|------|----|--------|--------|--------|
| CH-860367 | 384 | 12 | 2x0,75 | 2x 30 | 2x 48 |
| CH-860368 | 1122 | 36 | 2x2,20 | 2x 90 | 2x 144 |
| CH-860369 | 2227 | 72 | 2x4,50 | 2x 180 | 2x 288 |

Other versions on request.





Handrail – INOX48

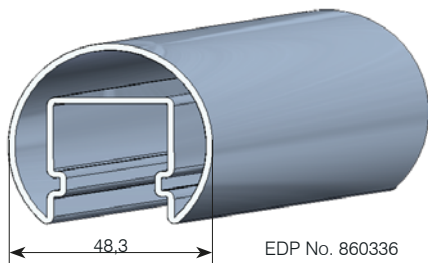
The LaneLED INOX48 handrail, made from stainless steel V4A, is the alternative to the LaneLED GFK handrail if the requirement or specification is for stainless steel.

The profile shape is selected to guarantee the safety handrail function, as also to allow the installation of the light bar (by click function) and the necessary power supply. The handrail has been a proven product for many years, with conceptual adaptations for use as self-rescue measures in railway tunnels.

- Handrail pipe V4A, steel 1.4571, (AISI 316Ti), cold-rolled
- special accessories for quick and easy assembly
- many specific featured items for special solutions

Profile Handrail

The profile for the LaneLED handrail is the core element of the setup. The LaneLED light bar (supplied with the necessary installation items) is clicked into the «light slot» from below after completing the hand rail assembly.



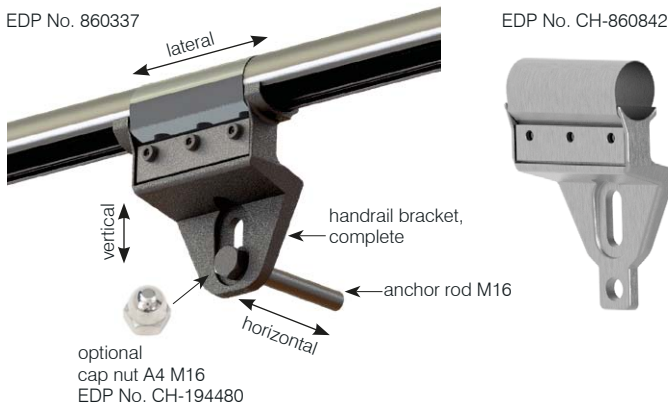
Blind cover and securing element

Similar in design to the LaneLED profile, a blind cover is available that covers gaps in the longitudinal direction. A securing element is used for the assembly.



Handrail bracket

The specially designed handrail bracket, made from V4A steel casting, is placed directly on the anchor rod. It is designed in such a way that the mounting tolerances can be absorbed in all three axes. It also guarantees proper and quick assembly.



Insulating piece

An insulating piece is available to avoid potential shift and to separate electrically individual supply sections from each other.



Corner connector

Angle connectors are used to change the direction. The supply cable can be inserted inside without interruption. The angle connectors allow changes in direction of +30° and -30°.



EDV-Nr. CH-860850



EDV-Nr. CH-860851

Corner connector

A corner connector is used for any direction change (horizontal and vertical). The supply cable can be inserted without any interruption. The corner connector allows a directional change of +/-90°.



EDV-Nr. CH-860341

For direct feeding via handrail pipe profile

A supply element, straight and angled connection nipples as well as the appropriate flexible conduit are available for feeding via the handrail pipe profile.



EDP No. CH-155544



EDP No. CH-155547



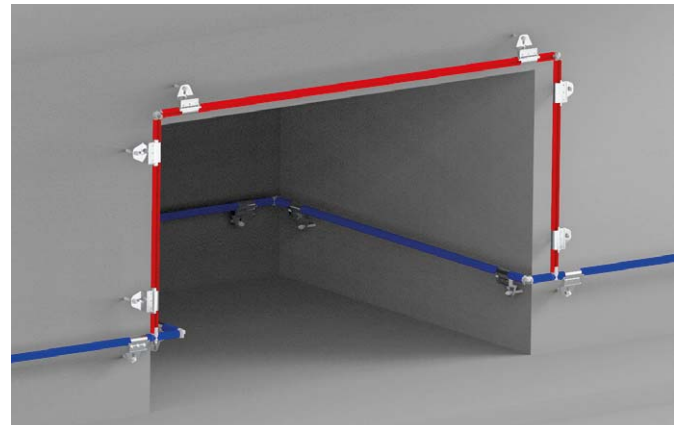
EDP No. CH-218301



EDP No. CH-860843

Optional bypasses

Bypasses in all directions can also be realised by means of corner connectors.



Handrail bend left / right Supply element

There are two end bends (left / right) with cable entry for the supply available.



EDP No. 840656



EDP No. 840657

End cap

There are three end caps in the product range (with / without cable gland).



EDP No. 860339



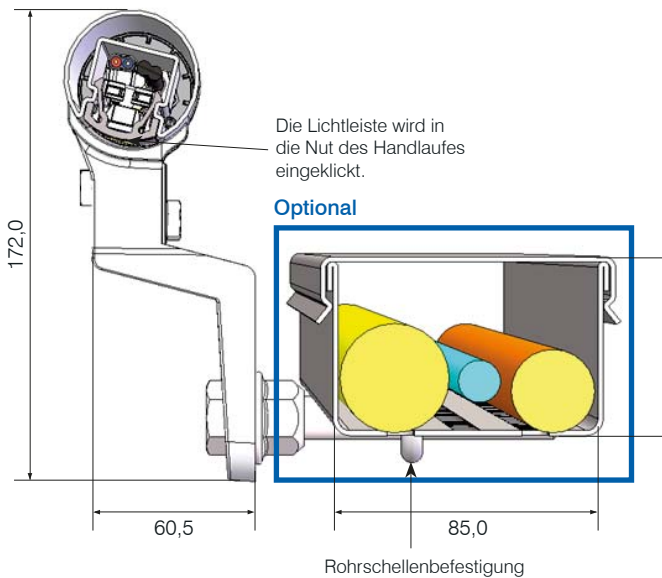
EDP No. CH-860340



EDP No. CH-194479

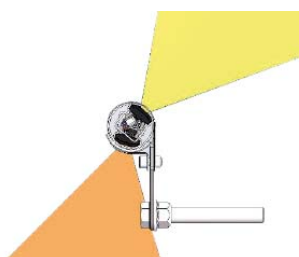
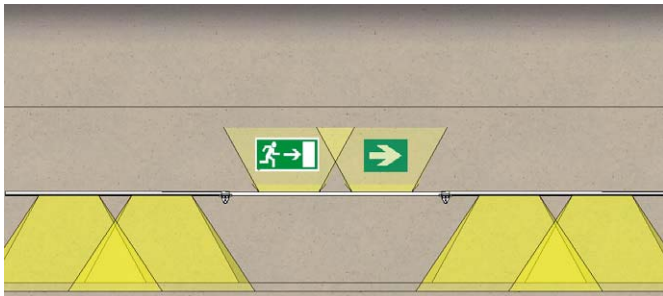
Optional cable conduit

The handrail can be used either with or without a cable conduit (cable tray). A cable tray can be secured to the M16 anchor rods by pipe clamps.



Optional sign lighting

Certain elements of the hand rail can be turned 180° upwards for any necessary lighting of warning signs (installed above the hand rail). This does not interfere in any way with the overall appearance of the illumination.



Accessories

| EDP No. | Description |
|-----------|---|
| 860336 | LaneLED INOX48, LED-Tubo corrimano V4A, acciaio 1.4571 Ø 48,3 x 1,5 mm, lunghezza 2.500 mm, laminato a freddo |
| 860337 | LaneLED INOX48, supporto per corrimano in getto di acciaio V4A, 1.4401 incl. lamiera di serraggio e viti di sicurezza |
| CH-194480 | LaneLED INOX48, cap nut A4, M16 high profile |
| CH-860842 | LaneLED INOX48, hand rail support V4A, 1.4401 with end connection incl. clamping plate and securing screws |
| 860343 | LaneLED INOX48, blind cover V0 UL94 |
| 860342 | LaneLED INOX48, securing element GRP, V0 UL94 |
| CH-860345 | LaneLED INOX48, insulating piece GRP 15kV, Plastic pipe 1½", length 350 mm |
| CH-860850 | LaneLED INOX48, elbow V4A 30° right closed, Licht-Neigung 20° |
| CH-860851 | LaneLED INOX48, Winkelstück V4A 30° left closed, light inclination 20° |
| CH-860341 | 860341 LaneLED INOX48, corner connector GRP, V0 UL94 |
| CH-860843 | LaneLED INOX48, supply element GFK, V0 UL94 with thread M16 |
| CH-218301 | Conduit gland AGRO M16 sz 90°, for Kst.-Schlauch ø15,8 mm |
| CH-155544 | Conduit gland AGRO M16 sz gerade, for plastic hose ø15,8 mm |
| CH-155547 | Flexible conduit ROHRFLEX PA12 black 12,0 / 15,8 mm flexible (VE=50 m) |
| 840656 | LaneLED INOX48, curved end with cable gland right |
| 840657 | LaneLED INOX48, curved end with cable gland left |
| 860339 | LaneLED INOX48, end cap GRP, V0 UL94 |
| CH-860340 | LaneLED INOX48, end cap GRP with cable gland M20, V0 UL94 |
| CH-194479 | LaneLED INOX48, end cap V4A |
| CH-860344 | LaneLED INOX48, compensating element GRP, V0 UL94 |
| CH-170859 | LaneLED INOX48, cable channel V4A, steel 1.4571 80 x 59,2 x 1,0 mm, length 2.500 mm, cold-rolled |
| CH-170860 | LaneLED INOX48, cable tray cover V4A, stainless steel 1.4571 80 x 20 x 1,0 mm, length 2.500 mm, cold-rolled |
| CH-170890 | LaneLED INOX48, cable tray connector V4A, stainless steel 1.4404, 36 x 2.135 x 1,0 mm, (2 pcs. per connection) |
| CH-181242 | LaneLED INOX48, cable tray connector, screw kit M6 - 8 pcs. (PU 100) |

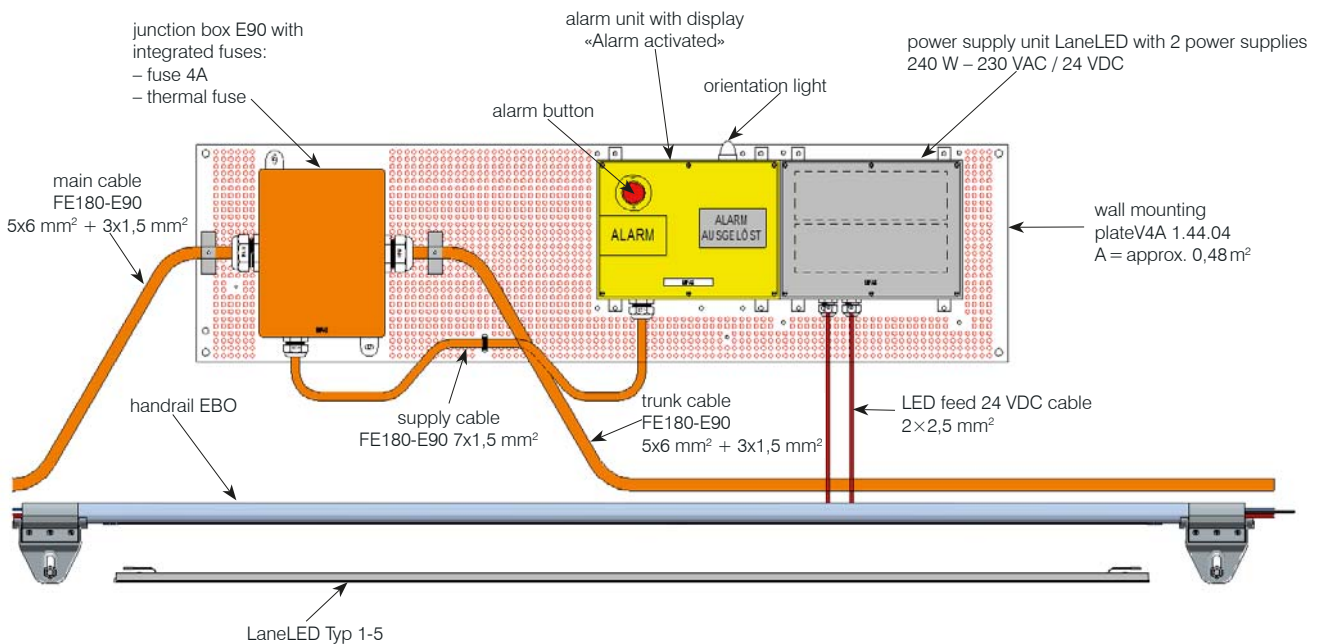
Feeding unit

The orientation light in the hand rail is supplied by the feeding unit. At the same time, it ensures connection to the mains and also fulfils the relevant regulations for fire-resistant design. In order to make assembly easier, the

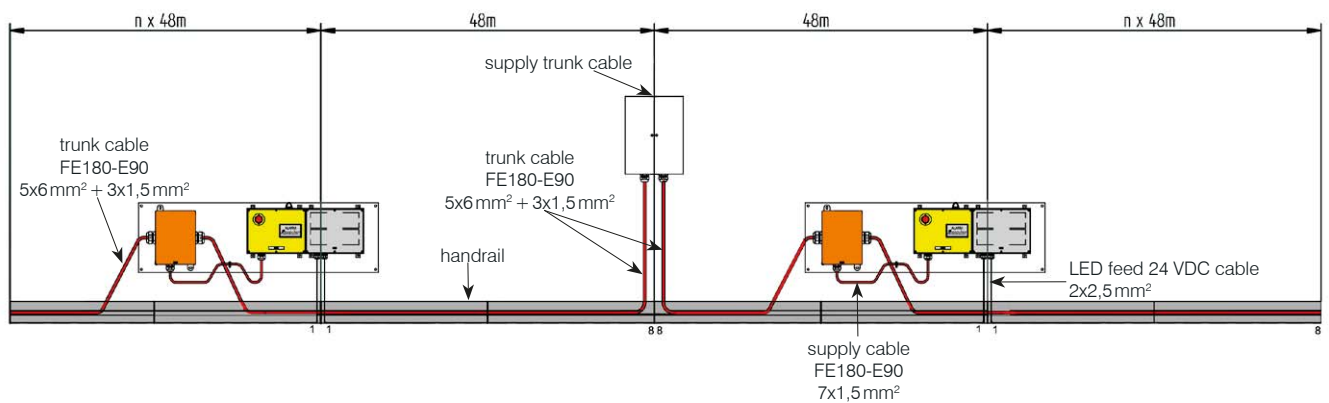
feeding unit is mostly pre-assembled on a mounting plate at the factory.

Example: (In accordance with SBB directive 1-20036)

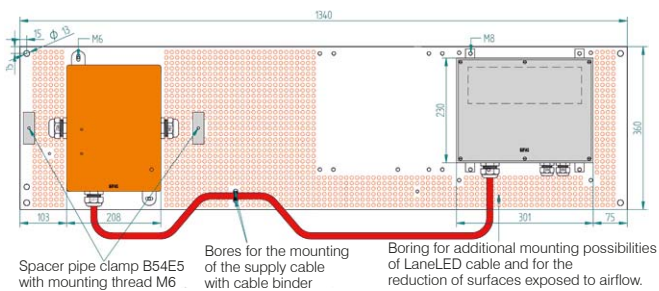
Feeding unit design, alarm button at the front (EDP No.CH-130352)



Feed concept of the supply section (length of lines are project specific)



Feeding unit without BG alarm (EDP No. CH-134388)



Example feeding units

| EDP No. | Description |
|-----------|--|
| CH-130352 | LaneLED, feeding unit E30/E90 complete to plate V4A BFA, alarm (ME+A at the front), mains unit 2x 240W |
| CH-134388 | LaneLED, feeding unit E30/E90 complete to plate V4A BFA, mains unit 240W |
| CH-177406 | LaneLED, anchor rod V4A, M12 x 200 mm, including incidentals |
| CH-177409 | LaneLED, injection mortar 500 ml to anchor rods for: 30 pieces. M16 / 40 pieces. M12 |

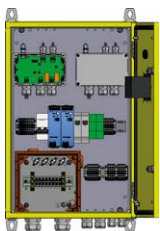
Examples for power supply cabinet



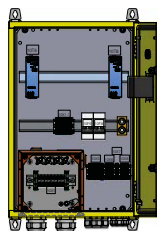
EDP No. CH-188456



EDP No. CH-192834

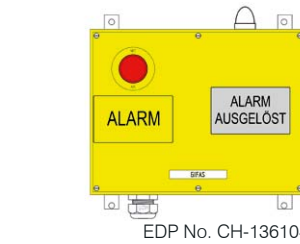


EDP No. CH-193933

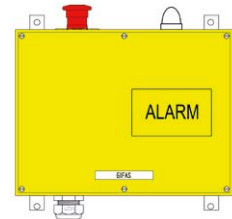


EDP No. CH-213219

| EDP No. | Description |
|------------|--|
| CH-188456 | LaneLED, power supply cabinet, 1.4301 (V2A) RAL 1023 (yellow signal colour), 400 x 645 x 260,8 mm 2 power supplies 230VAC/24VDC-20W, IP66 |
| CH-192834* | LaneLED, power supply cabinet, 1.4301 (V2A) RAL 1023 (yellow signal colour), 400 x 645 x 260.8 mm 2 power supplies 230VAC/24VDC-240W, IP66 |
| CH-193933* | LaneLED, power supply cabinet, 1.4301 (V2A) RAL 1023 (yellow signal colour), 400 x 645 x 261 mm 2 power supplies 230VAC/24VDC-240W, IP66 |

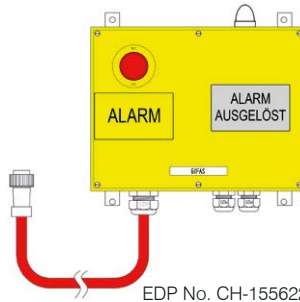


EDP No. CH-136104

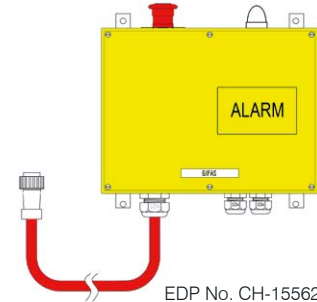


EDP No. CH-136136

Spare for SRM* SBB AG



EDP No. CH-155622



EDP No. CH-155624

*SRM = self-rescue measure

Standard item control-/alarm unit

| EDP No. | Description |
|-----------|---|
| CH-136104 | LaneLED, alarm unit, plastic Schaltbau, 300 x 230 x 110mm, with alarm button at the front, with display at the front, IP66 |
| CH-136136 | LaneLED, alarm unit, plastic Schaltbau, 300x230x110mm, with alarm button above, without display, IP66 |
| CH-155622 | LaneLED, alarm unit, plastic Schaltbau, 300x230x110mm, with alarm button at the front, with display at the front, IP66, with connection cable |

Other versions on request

Cable



The trunk or feeder cables are also dependent on device: With/without callback, fireproof cabling to FE180/E90 or FE05 finish. We are happy

| EDP No. | Description |
|-----------|---|
| CH-141138 | LaneLED, high voltage cables FE180/E90 Hybrid, balck, 5 x 6 mm ² (LNPE) + 3 x 1,5 mm ² (1 - 3), Ø 29,4 mm |
| CH-178362 | LaneLED, supply cable FE180/E90, orange, 5 x 6 mm ² (LNPE), Ø 20,1 mm |
| CH-115421 | LaneLED, supply cable FE180/E30, orange, 5 x 6 mm ² (LNPE), Ø 14,2 mm |
| CH-037552 | LaneLED, control cables FE180/E30, orange, 3 x 2,5 mm ² (LNPE), Ø 9,9 mm |

Other versions on request

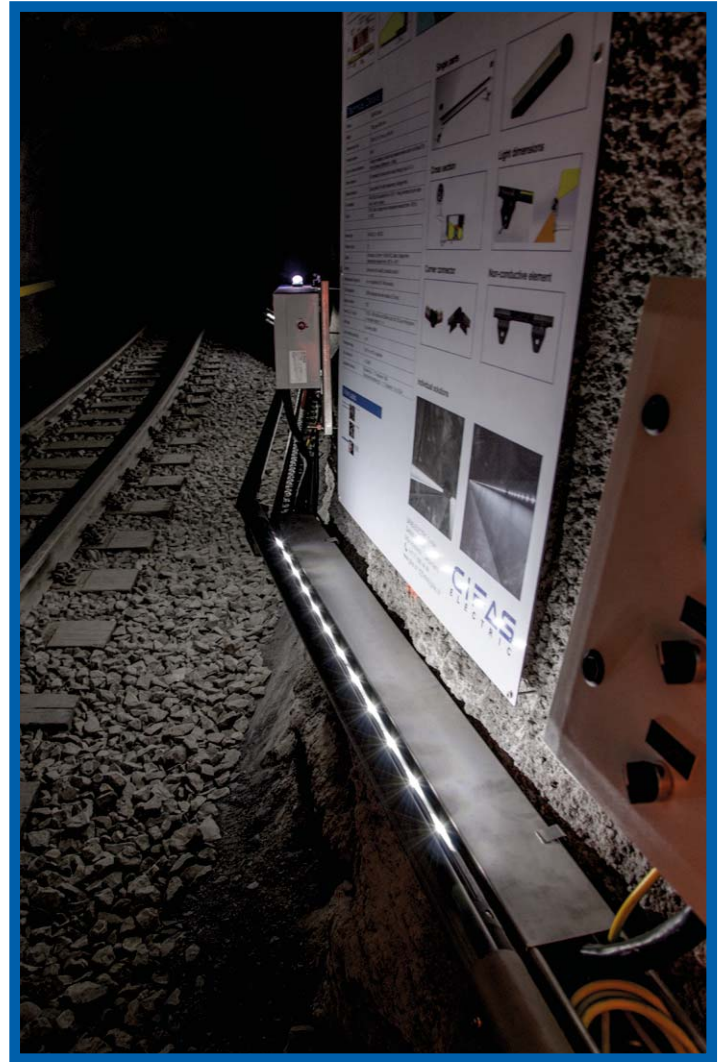
Our services

- planning and concept development as per specifications
- relux lighting calculation
- assembly support on site
- consultation and support through our field service
- creation of object-specific plans and documents
- on-site instruction and assistance

Assembly

- ask for our detailed installation instructions!

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



| Assembly equipment for rent | |
|-----------------------------|---|
| EDP No. | Description |
| CH-138174 | Assembly training for feeding unit |
| CH-138524 | LaneLED cable reel trolley for cable reel max. Ø 500 x 500 mm |
| CH-176955 | Wall scanner (for object detection inside walls) |
| CH-137634 | LaneLED GFK installation holding tool aluminium, 270 x 50 x 40 mm |

Other versions on request



EDP No. CH-860565



EDP No. CH-176955



EDP No. CH-179280



EDP No. CH-137634



EDP No. CH-138174



EDP No. CH-138524

Other services / assembly support

Hand rails with LED lighting: Increased safety in a sophisticated design

As an established manufacturer of emergency lights for road and rail tunnels using LED technology, we have accumulated a wealth of knowledge and know-how. Based on this experience, we are taking another step towards providing safety everywhere people go with our LED-illuminated hand rails.

In general

A hand rail is a rail within easy reach that people can hold on to or allow themselves to be guided by. Most hand rails come in the form of posts, rails or bars. Common materials used are metal, wood, wood composites or plastic. A hand rail can be the upper part of a balustrade or railing. It can also be attached directly to a wall.

Requirements

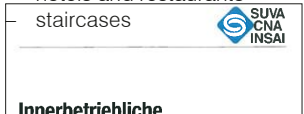
A «fixed» hand rail is required by law. «Rigging», meaning hand rails made with rope, are only intended as decoration since they could give way in case of a fall. They should be continuous and ideally extend past the first and last steps of stairs.

This innovation is based on different directives, such as DIN 18065, information from the Swiss Competence Centre for Accident Prevention (bfu) and SUVA recommendations.

It should be possible to grip them securely, they should be warm to the touch, round or oval and have a diameter between 30 - 45 mm. They must run continuously (even in front of windows and recesses), be installed at a height of 85 to 90 cm and should extend at least 30 cm past the first and last steps of stairs. Tactile, meaning noticeable and if possible contrasting, elements should signal the beginning and end.

Applications

- underpasses and overpasses in railway stations
- escape route and emergency staircases
- decorative applications in office or exhibition wings
- hospitals and nursing homes
- schools and day care centres
- shopping and meeting areas
- hotels and restaurants
- staircases



Our services

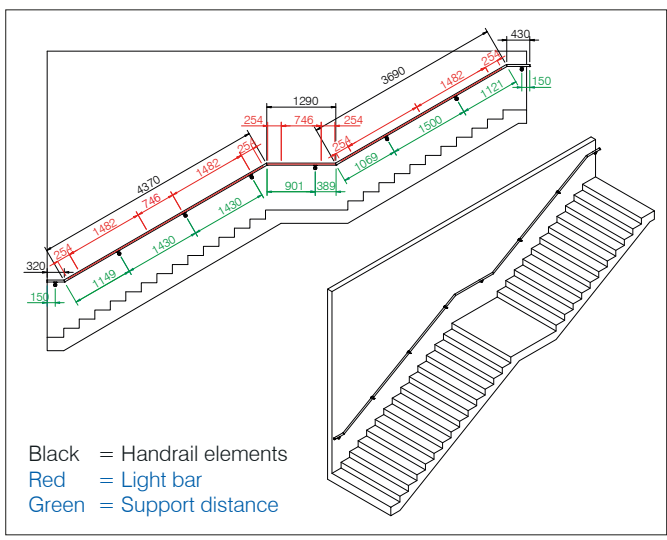
All of our calculations and drawings are prepared in close cooperation with planners. This guarantees that the LaneLED INOX42 handrail is implemented according to customer specifications.

GIFAS also offers the following services:

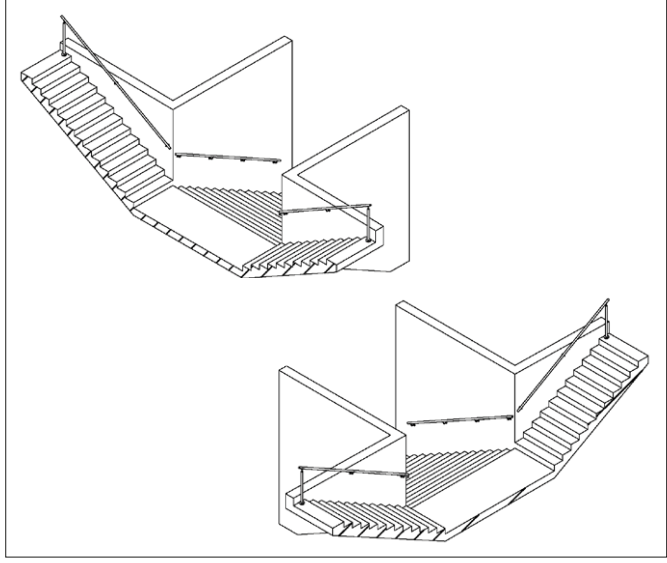
- planning and concept development as per specifications
- relax lighting calculation
- consultation and bracket through our field service
- creation of object-specific plans and documents
- mutual bracket among the partner companies, contact mediation

In the following pages, you will find an overview of the functioning principles and benefits of the LaneLED INOX42, as well as detailed information about the individual components.

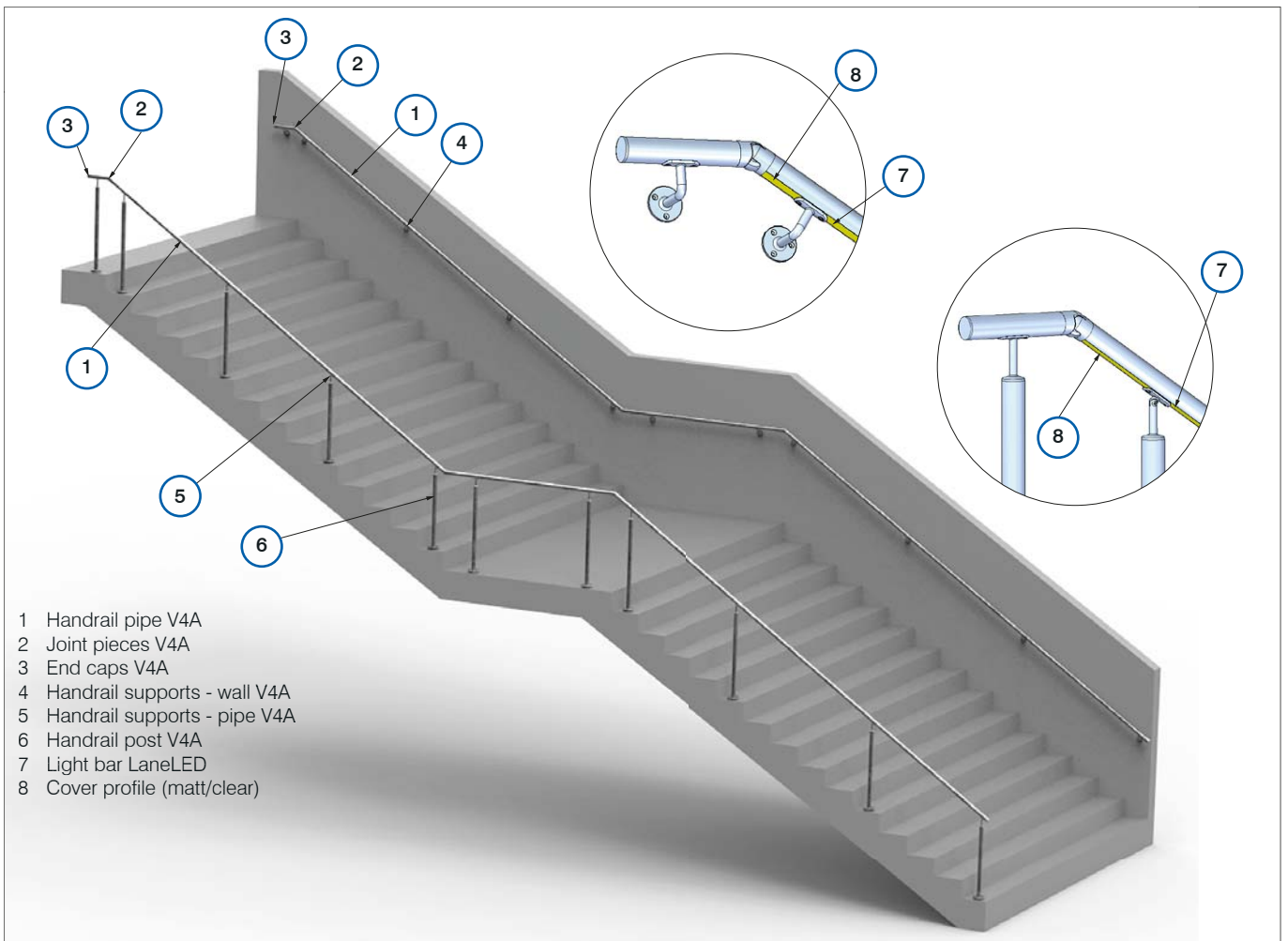
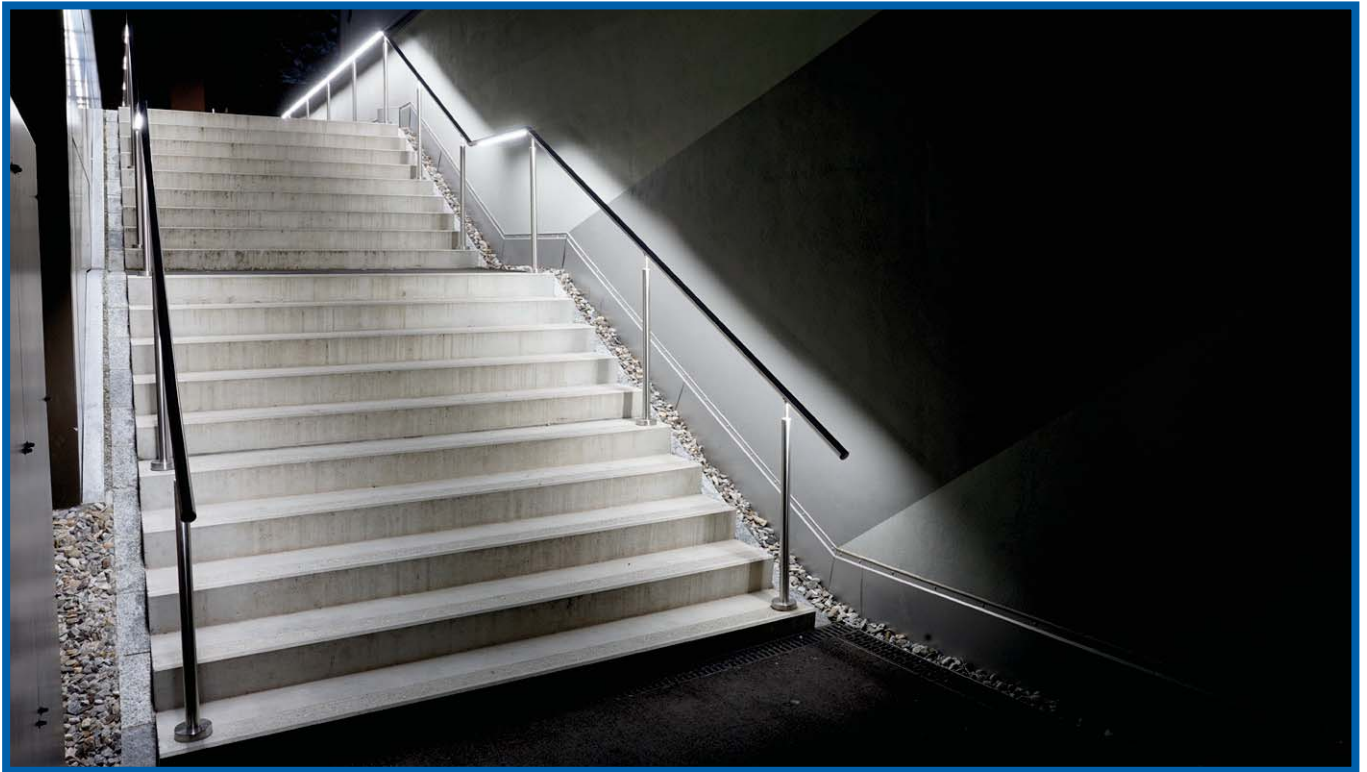
We are always very happy to answer any of your questions.



Detailed technical drawing of LaneLED-INOX handrail project.



3D drawing of LaneLED-INOX handrail

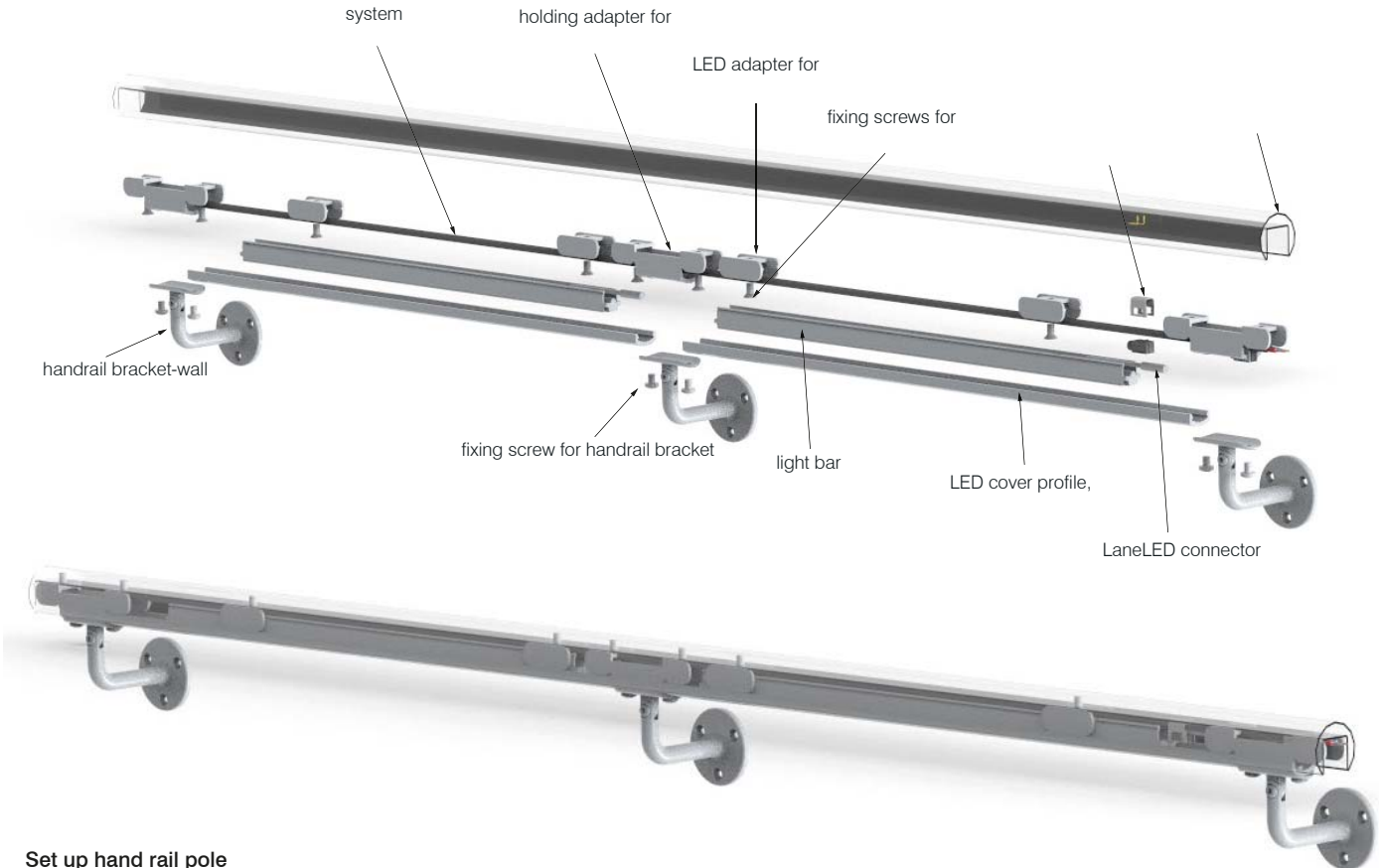


Handrail system

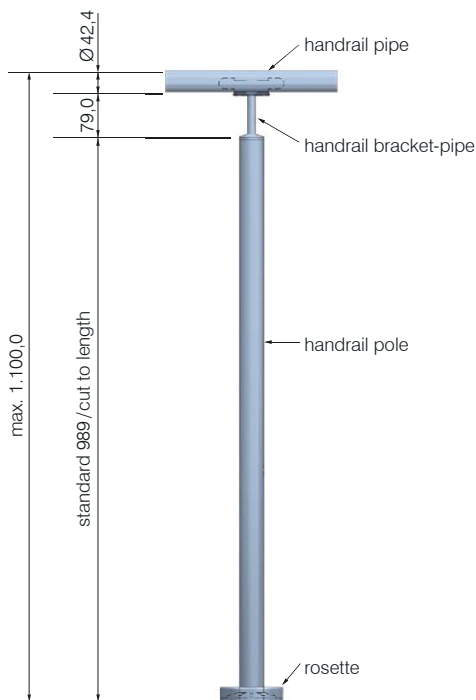
LED-equipped handrails for outdoor and indoor applications (balcony handrails, stairway handrails and terrace handrails) which can very easily be assembled on classic handrail posts using special pipe sections. The pipe brackets and adapters allow an inner cable guide with the GIFAS-developed connection cabling. All metal components are V4A-quality, with a protection class of IP66 / 69K..

Wall handrail system

LED-equipped handrails for outdoor and indoor applications as anti fall guard and guide bracket on stairways with functional, accent or path lighting. A multitude of individual elements allows the needs-based supply of all kinds of wall handrails.

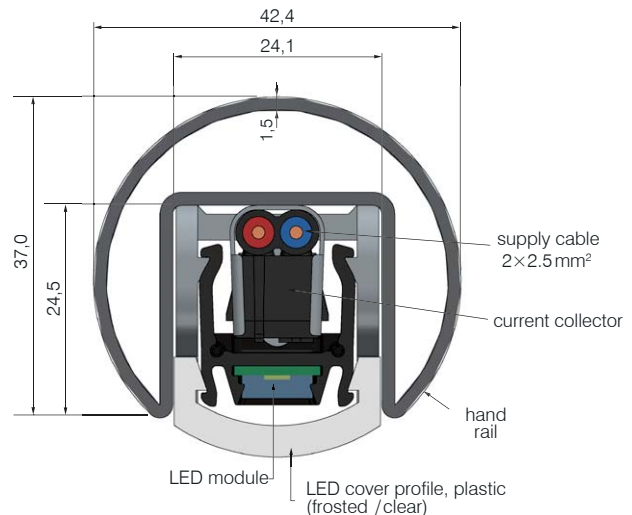


Set up hand rail pole







Handrail LaneLED INOX42




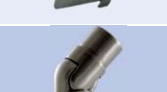
The GIFAS handrail profile is the carrier element for the LaneLED INOX42. The profile and the various fastening and connecting items are designed and coordinated in a way that ensures the electric supply with the cable.






Overall product range









The basic product range already covers a multitude of requirements. The product range listed here is not complete. Just ask us, we will provide the ideal solution!



| LED handrail pipe | | |
|-------------------|--|---|
| EDP No. | Description | View |
| CH-177071 | LED handrail pipe, V4A-1.4401, Ø 42,4×1,5 mm / L = 1.000 mm, brushed |  |
| CH-177070 | Handrail pipe round, V4A-1.4401, Ø 42,4×1,5 mm / L = 2.500 mm, brushed |  |
| CH-168078 | LED handrail pipe, V4A-1.4401, Ø 42,4×1,5 mm / L = 2.500 mm, brushed |  |
| CH-168087 | Handrail pipe round, V4A-1.4401, Ø 42,4×2 mm / L = 2.500 mm, brushed |  |



| Pipe connector | | |
|----------------|---|---|
| EDP No. | Description | View |
| CH-860417 | LED hinged joint piece, V4A-1.4401, Ø 42,4×1,5 mm, 25-55° upwards, brushed |  |
| CH-860418 | LED hinged joint piece, V4A-1.4401, Ø 42,4×1,5 mm / 25-55° downwards, brushed |  |
| CH-860427 | LED pipe connector, V4A-1.4401, Ø 42,4×1,5 mm, B=6 mm, brushed |  |
| CH-860424 | Pipe hinged joint piece, V2A-1.4301, Ø 42,4×1,5 mm / 0-70° / H=30 mm, brushed |  |

| End cap | | |
|-----------|--|---|
| EDP No. | Description | View |
| CH-860419 | LED end cap, V4A-1.4401, Ø 42,4×1,5 mm / H=4 mm, brushed |  |
| CH-860425 | End cap, V4A-1.4401, Ø 42,4×2,0 mm / H=4 mm, brushed |  |
| CH-860620 | Curved end, V4A-1.4401, Ø 42,4×2,0 mm / 90° / L=81 mm, brushed |  |

| Wall flange | | |
|-------------|-------------|------|
| EDP No. | Description | View |
| | | |

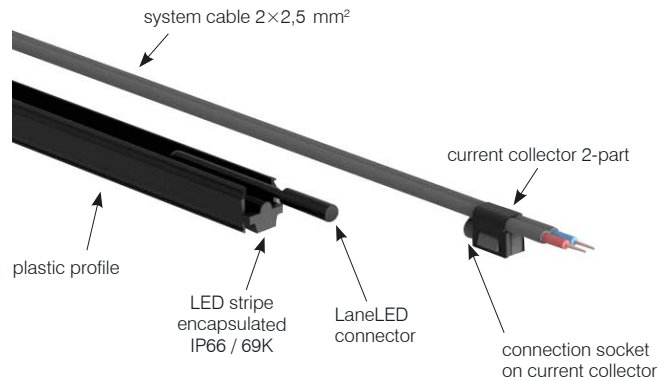
| Handrail support | | |
|------------------|--|---|
| EDP No. | Description | View |
| CH-860450 | Wall handrail support system cable, V4A-1.4401, Ø 42,4 / W=75 / H=50 mm, brushed |  |
| CH-860426 | Wall handrail support, V4A-1.4401, Ø 42,4 / W=75 / H=50 mm, brushed |  |
| CH-860434 | Wall handrail support joint, V4A-1.4401, Ø 42,4 / W=75 / H=50 mm, brushed |  |
| CH-860449 | Pipe handrail support system cable, V4A-1.4401, Ø 42,4 / H=79 mm, brushed |  |
| CH-860432 | Pipe handrail support, V4A-1.4401, Ø 42,4 / H=79 mm, brushed |  |
| CH-860433 | Pipe handrail support joint, V4A-1.4401, Ø 42,4 / H=79 mm, brushed |  |
| CH-860430 | Handrail post, V4A-1.4401, Ø 42,4×2,0 mm / H=989 mm, incl. flange, brushed |  |
| CH-860431 | Rosette for posts, V4A-1.4401, Ø 110 mm, H=27 mm, brushed |  |

| Cover | | |
|-----------|--|---|
| EDP No. | Description | View |
| CH-860557 | LED cover profile clear, plastic, L = 1.600 mm |  |
| CH-860558 | Cover profile frosted, plastic, L = 1.600 mm |  |

| Adapter | | |
|-----------|--|---|
| EDP No. | Description | View |
| CH-860411 | Adapter LED, V4A-1.4401, 23,5×50 mm, frosted |  |
| CH-860410 | Holding adapter, V4A-1.4401, 23,5×114 mm, frosted (fixing holes in line) |  |

Other versions on request

LED-Set



GIFAS-LaneLED-INOX

The batten light fitting LaneLED-INOX from GIFAS is the base element for the illuminated hand rail HR. The appropriate type is selected depending on the requirements of the operator, whereas the desired lighting strength is the most important specification.

The other parameters of the LaneLED are carefully defined.

- Light colour ~ 3.000K / ~ 4.400K / ~ 5.800K
- Beam angle 120°
- Protection class IP66 / 69K
- Impact protection rating IK10
- L90/B10 100.000 h +25° C
- Operating temperature range - 25° C to +45° C

Composition of the LaneLED-INOX

The carrier profile of the LaneLED light bar consists of a special aluminium profile with special characteristics for mechanical and chemical properties. A flexible and separable LED strip is inserted from below and incorporated into the ALU 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).

LaneLED light bar

GIFAS LaneLED coated with special profile ALU, approx. 19x18x1.482 mm with LED modules 21 - 32 VDC, ~ 3.000K / ~ 4.400K / ~ 5.800K, beam angle 120°, completely ready for connection, not including assembly materials (system cable and current collector).

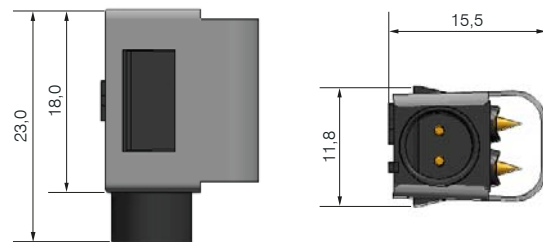


Assembly equipment for rent

| EDP No. | Description |
|-----------|---|
| CH-860565 | Crimping tool (mechanical) for system cable |
| CH-179280 | Battery pack 24 V, 7.2 Ah |

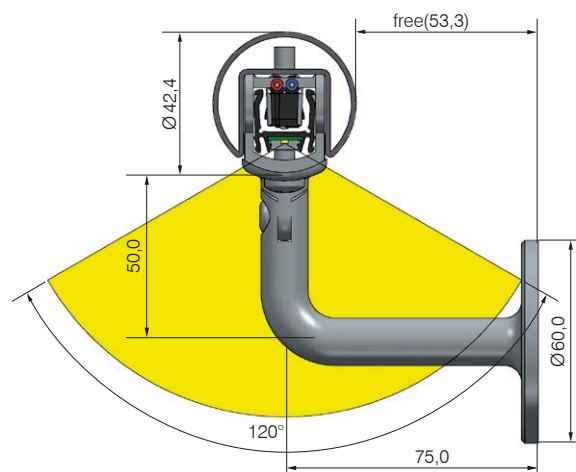
Current collector

Each individual LaneLED is connected to the power supply via the current collector and is freely attachable to the flat cable 2x2,5 mm². The cable bushing serves as the interface to the current collector and the connection cable with plug of the LaneLED (IP66 / 69K connection).



Illumination

Cone of light when in use with the LaneLED INOX42 hand rail.



Accessories LaneLED

| EDP No. | Description |
|-----------|---|
| CH-209768 | LED, system cable light black, 2x2,5 mm² flat cable copper tinned, EPR/EPR |
| 860120 | LED, current collector SNAP 2P, 42V - 5A, V2A 1.4310 (requires special pliers EDP No. 860565) |

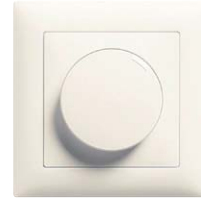


Staircase lighting entrance area

Standard with output 60W/120W

The LaneLED INOX batten light fittings can be dimmed – using a regular 1-10 VDC rotary dimmer, their brightness is freely adjustable!

For dimming



Rotary dimmer

| EDP No. | Description |
|---------|-------------|
|---------|-------------|

| | |
|--------|--------------------------------------|
| 136391 | UP Drehregler 1 - 10VDC Edizio white |
|--------|--------------------------------------|

Technical data LaneLED – Light comparison measurements

Perfect light for each application! An overview of the values that can be achieved with the LaneLED light bars.

Basis

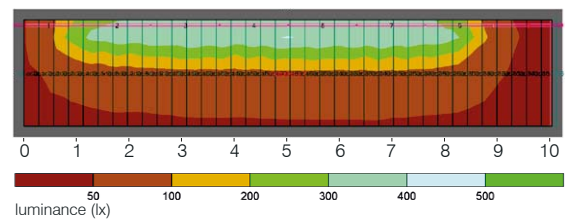
LaneLED in a hand rail at a height of 80 cm across a 2 m wide staircase provide the following values with regard to their lighting strength.

Hand rail height 100 cm, stair case width 2 m, beam angle hand rail 0°:

LaneLED light bar type 11 3.000 K, IP66 / 69K, 21 - 32VDC, 400 Lux - 95 cm

| EDP No. | Length mm | Number of LED | Output W | Power mA | Luminous flux lm |
|---------|-----------|---------------|----------|----------|------------------|
| 860550 | 190 | 6 | 2 | 80 | 120 |
| 860551 | 560 | 18 | 6 | 240 | 360 |
| 860552 | 928 | 30 | 10 | 400 | 600 |
| 860553 | 1.482 | 48 | 16 | 640 | 960 |

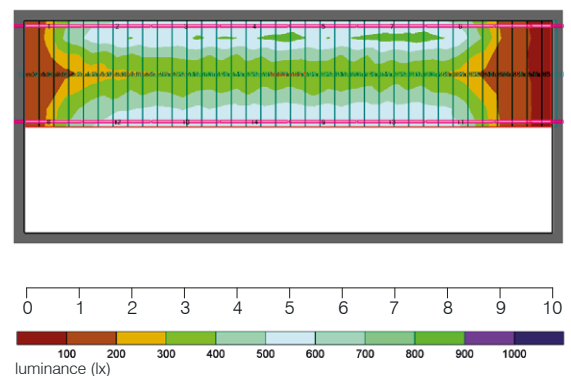
One-sided



LaneLED light bar type 11, 4.400 K, IP66 / 69K, 21 - 32VDC, 400 Lux - 95 cm

| EDP No. | Length mm | Number of LED | Output W | Power mA | Luminous flux lm |
|-----------|-----------|---------------|----------|----------|------------------|
| CH-860445 | 190 | 6 | 2 | 80 | 120 |
| CH-860446 | 560 | 18 | 6 | 240 | 360 |
| CH-860447 | 928 | 30 | 10 | 400 | 600 |
| CH-860448 | 1.482 | 48 | 16 | 640 | 960 |

Two-sided



LaneLED light bar type 11, 5.800 K, IP67, 21 - 32VDC, 400 Lux - 95 cm

| EDP No. | Length mm | Number of LED | Output W | Power mA | Luminous flux lm |
|-----------|-----------|---------------|----------|----------|------------------|
| CH-860388 | 190 | 6 | 2 | 80 | 120 |
| CH-860389 | 560 | 18 | 6 | 240 | 360 |
| CH-860390 | 928 | 30 | 10 | 400 | 600 |
| CH-860420 | 1.482 | 48 | 16 | 640 | 960 |

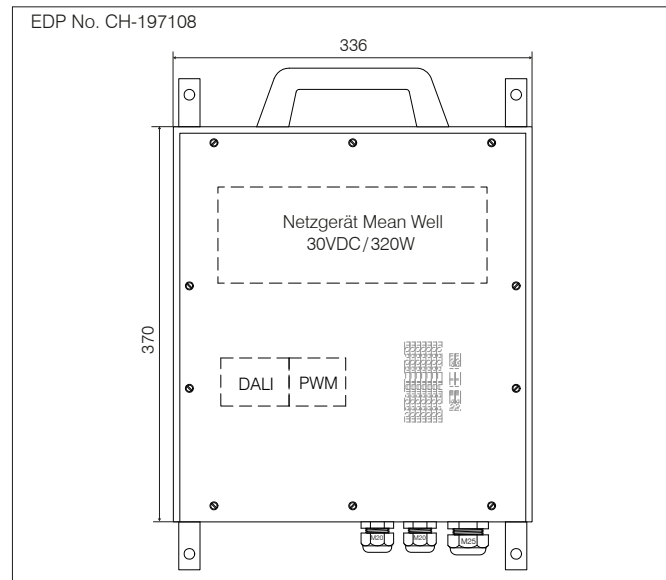
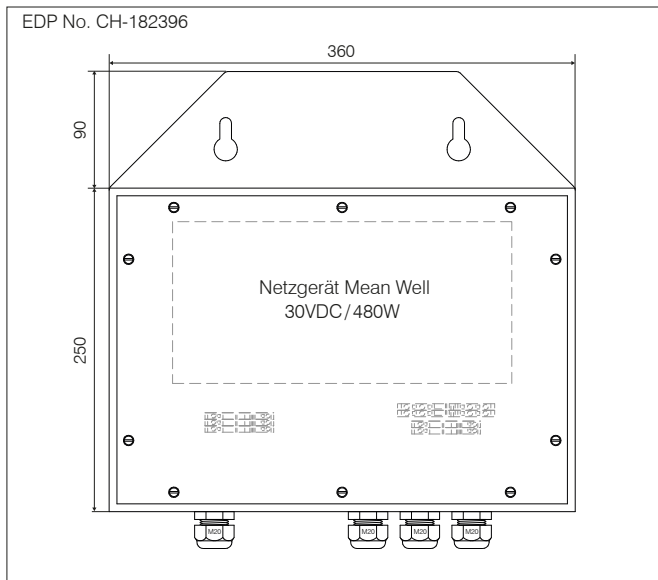
Maximum length with LaneLED type 11 to 36m per 30VDC infeed is possible.

System components power supply

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

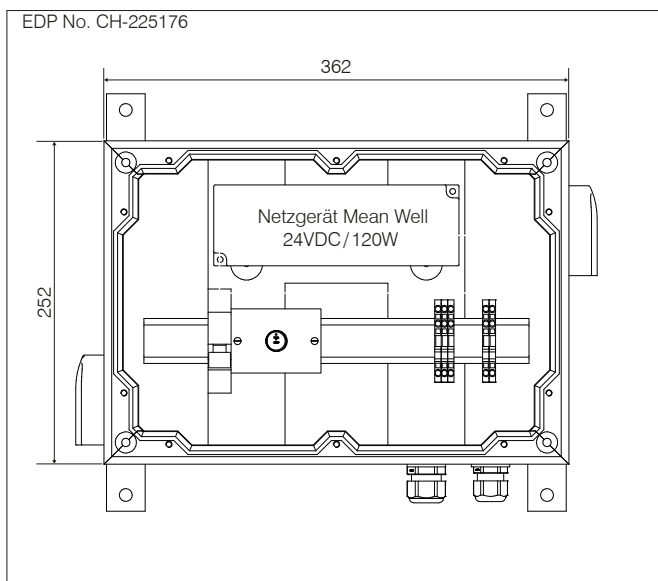
The supply voltage is 24VDC and it is generated with a power pack 230VAC – different output sizes are available! (In each case depending on the total lighting length and the performance of the desired LED light output).

A simple 230VAC / 240VDC (21 - 32VDC) power supply is required. According to customer requirements, it can also be installed anywhere in the distributor or in the socket.



| EDP No. | Description |
|-----------|---|
| CH-182396 | Hard rubber distribution box type 3020 with 1x dimmer switch 1-10V and 1x Osram Optotronic control unit |

| EDP No. | Description |
|-----------|---|
| CH-197108 | Hard rubber distribution box type 3020 with 1x dimmer switch 1-10V and 1x Osram Optotronic control unit |



| EDP No. | Description |
|-----------|--|
| CH-225176 | Hard rubber distribution box type 3800 light grey, with mounting brackets V2A 230V / 24VDC / 120W, dimmable via built-in potentiometer |

System components for power supply

The INOX42 system can be operated via a power supply (24-32VDC) or a similar DC supply.
Power supplies and operating units are available in various power outputs and sizes.

The power supply can be installed in surface mounted or recessed mounted cabinets in different sizes.
The INOX42 system can be dimmed via a pulse width modulation module.

EDP No. CH-196048



EDP No. CH-199429



EDP No. CH-207188



EDP No. CH-190156



EEDP No. CH-198788



EDP No. CH-179378

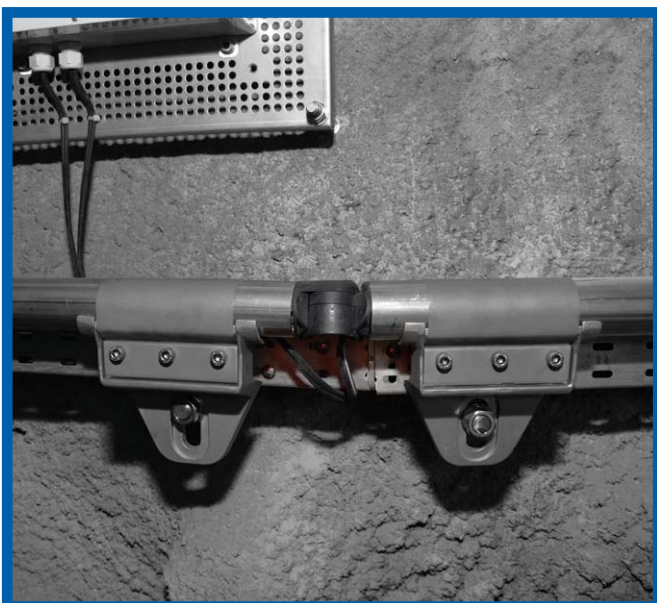


| EDP No. | Description |
|-----------|--|
| CH-196048 | Power supply 230 VAC / 24 VDC - 5A / 120 W IP67, DALI, 191×63×37.5 mm, dimmable |
| CH-207188 | Power supply 230 VAC / 24 VDC - 2.5 A / 60 W IP67, DALI 2, 150×53×35mm, dimmable |

| EDP No. | Description |
|-----------|---|
| CH-199429 | Power supply LED 230 VAC / 24 VDC - 5A / 120 W IP67, plastic case 191×63×37.5 mm, dimmabl |
| CH-190156 | Power supply LED 230 VAC / 24 VDC - 2.5A / 60 W IP67, plastic case 150×53×35 mm, dimmable |

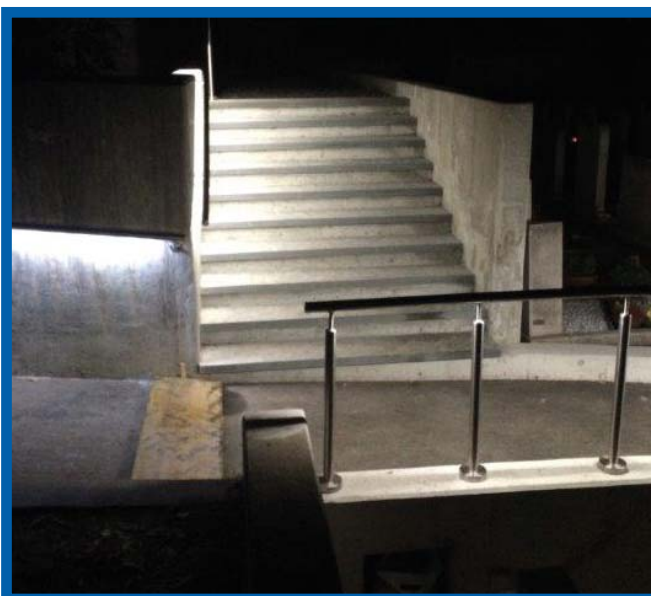
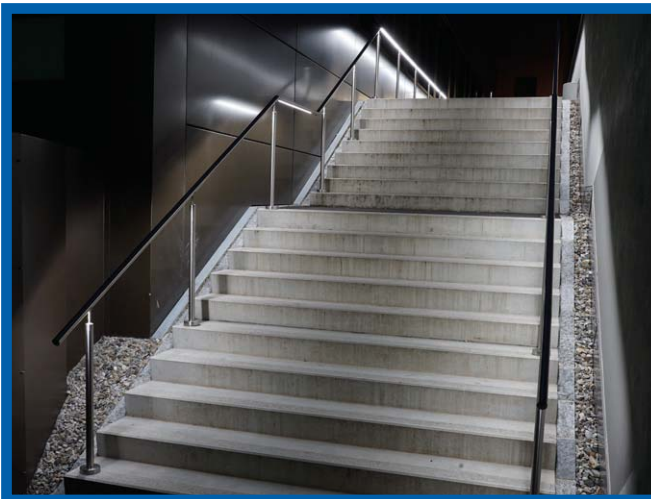
Application examples / customer solutions

LaneLED INOX48



Application examples / customer solutions

LaneLED INOX42



LED Work lights Rail Work Light I 36W / 230V



Technical data

| | |
|---------------------------------------|--------------------|
| Operating Voltage | 230VAC |
| Power supply | Mains connection |
| Operating performance | 36W |
| Color temperature | 5.000K |
| Light bar | 4.000lm |
| Type of protection / Protection class | IP54 / I |
| Shock resistance | IK08 |
| Dimensions (W x H x D) | 305 x 320 x 110 mm |
| Weight | 2,9 kg |

Product specifications

- Full luminous flux, is immediately available low
- Energy consumption with high luminous
- Efficiency minimal temperature development
- Maintenance-free
- Plastic housing yellow / black
- Edge protection with soft, thermoplastic elastomer
- Cover plastic (polycarbonate) opal
- Housing with handle and adjustment bracket

Railwork Light I

The Railwork Light I is a technically mature, professional lamp with a high light output and low energy consumption.

This work lamp guarantees optimal area illumination through glare-free and evenly distributed light. In addition, it offers various installation options for every application: hanging, lying or standing!

Feeding lines

5 m GIFAS Proflexx cable 3x 1.5 mm² with molded Schuko plug 16A

Equipment

3 / Schuko sockets 16A 230V with hinged cover and raised seal
1 / on-off switch

| EDP No. | Description |
|---------|--|
| 130226 | SK I with 3 Schuko sockets u. GAL 5 m 3G1,5 mm ² Proflexx |

**GIFAS TorchLED (Battery or Accu mode)
Shunting Service**



SHUNTING SERVICE LAMP

TorchLED Akku-Leuchte inkl. Stück Akkus AA 1,2V

Technical Data lamp

Housing

- Shockproof PA6-housing, with rubber overmolded handle lots (non-slip)
- Weight approx. 230g
- Dimension: 67,8 x 115,5 x 34 mm (W x H x D)
- Freestanding
- Holder made in plastic - enables a quick and save pocketing in the front part
- Signal color yellow
- Integrated fixings for supporting loops and fixing belts

Power supply

4 pcs. AA 1.2V rechargeable batteries min. 2700mAh

Operating time

approx. 30h

Temperature range

-20°C to +45°C

Controller

- A ON / OF white light broad,
ON / OF white light focused
- B ON / OF red

The unmistakable operation by means of color marking allows safe working in the shunting area, easy to handle even with winter gloves.

Easy opening

of the housing for battery replacement or battery change, safe closing by snap closure. Unmistakable use of batteries or rechargeable batteries (polarity reversal protection).



- a) broad light
- b) Strahllicht
- c) red light
- d) red light
- e) charging status
green flashing = Charging the battery
green light = Battery charged

RAILWAY ATTENDANTS LAMP

TorchLED Akku-Leuchte ZSR inkl. und 4 Stück Akkus AA 1,2V

Technical Data lamp

Housing

- Shockproof PA6-housing, with rubber overmolded handle lots (non-slip)
- Weight approx. 230g
- Dimension: 67,8 x 115,5 x 34 mm (W x H x D)
- Freestanding
- Holder made in plastic - enables a quick and save pocketing in the front part
- Signal color yellow
- Integrated fixings for supporting loops and fixing belts

Power supply

4 pcs. AA 1.2V rechargeable batteries min. 2700mAh

Operating time

approx. 20h

Temperature range

-20°C to +45°C

Controller

- A ON / OF LED white light broad,
ON / OF LED green broad light
- B ON / OF LED red

The unmistakable operation by means of color marking allows safe working in the shunting area, easy to handle even with winter gloves.

Easy opening

of the housing for battery replacement or battery change, safe closing by snap closure. Unmistakable use of batteries or rechargeable batteries (polarity reversal protection).

Charger 230V with cables and plug-in transformer to GIFAS TorchLED



- a) broad light white
- b) broad light green
- c) red light
- d) red light
- e) charging status
green flashing = Charging the battery
green light = Battery charged

| EDP No. | Description |
|---------|---|
| 112027 | SHUNTING SERVICE LAMP – TorchLED incl.4 pcs. rechargeable batteries 1.2V 2700mAh, LED: 2x white, 4x red |
| 860276 | Charging station 230VAC/15VDC TorchLED incl. 1,5 m cable and plug-in transformer |
| 860471 | Charging station 700mA TorchLED incl. 1,5 m cable without plug |

| EDP No. | Description |
|---------|---|
| 120834 | RAILWAY ATTENDANTS LAMP TorchLED incl.4 pcs. rechargeable batteries 1.2V 2700mAh, LED: 2x white, 1x green, 4x red |
| 860276 | Charging station 230VAC/15VDC TorchLED incl.1,5 m cable and plug-in transformer |
| 860471 | Charging station 700mA TorchLED incl.1,5 m cable without plug |

GIFAS G7



Product specifications

The standardized torch and the torch for rail attendants are modern working and inspection Handlamps which can be used for various operations. They can be used for example as:

- Inspection light for maintenance
- Signal light for railway attendants and railway safety guard
- Signal light for escort shunting staff

Furthermore this Handlamp can be used as working light e.g. for revisions, night operations etc.

Due to the latest LED technology both Handlamps work very energy efficient.

The operation is done with AAA-batteries (non-rechargeable) or on request with AAA-storage batteries (rechargeable).

Technical data

| | |
|--------------------------|--|
| Housing | Shockproof aviation aluminium |
| Weight (incl. Batteries) | approx. 164g |
| Dimension | length: approx. 125 mm diameter: approx. 30 mm |
| Type of protection | IP 66 |
| LED lamps | Standardized lamp: 1x HL LED Illuminant for attendants: 1xCree MC-E Color |
| Power supply | 3 Stk. AAA 1.5V Batteries |
| Temperature range | -20°C bis +45°C |

Additional specifications of the standardised handlamp V1/2012:

- Flash function
- Adjustable zoom, with rotary switch from circular low beam to focused long-distance light

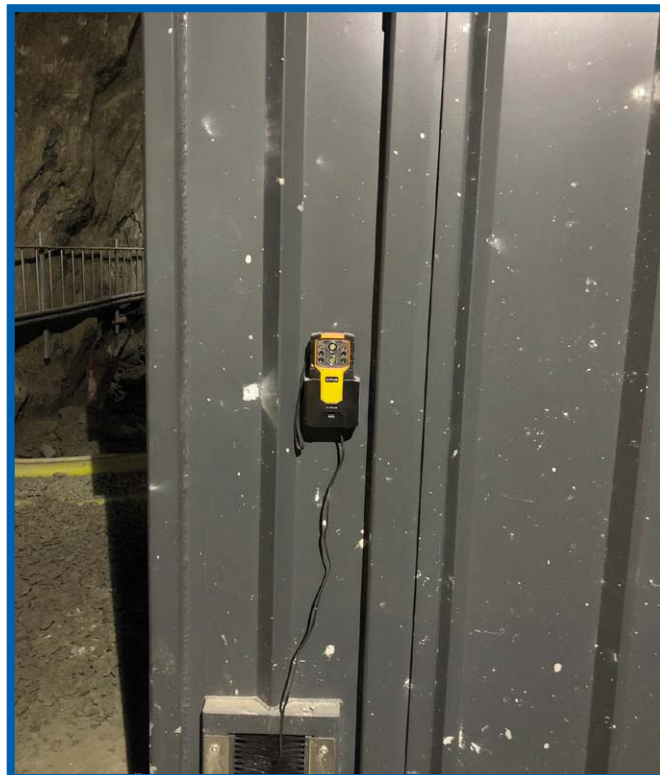
Additional specifications handlamp for attendants V1/2012:

- Adjustable light colour with a rotary switch, to chose light color between white, red, green and blue.



| EDP No. | Description |
|---------|--|
| 108140 | TRAIN ATTENDANT LIGHT incl. 3x AAA batteries, hand strap, belt clip + belt pouch, light colors: white, blue, red, green |
| 840103 | STANDARD LIGHT incl. 3x AAA batt., hand strap, belt clip + belt pouch, light colors: 5.000K, zoom + flash light function |
| 109193 | TRAFFIC WARNING CONE red for G7 / G7 RGB |

Application examples / customer solutions GIFAS TorchLED



CONTACT US.

BAHNINDUSTRIE.at
Verband der Bahnindustrie

GSV 
Die Plattform für Mobilität



GIFAS
ELECTRIC

GIFAS ELECTRIC
Gesellschaft m.b.H.
Strass 2
5301 Eugendorf
AUSTRIA

 www.gifas.at
 verkauf@gifas.at
 +43 6225 / 7191 - 0
 +43 6225 / 7191 - 561

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