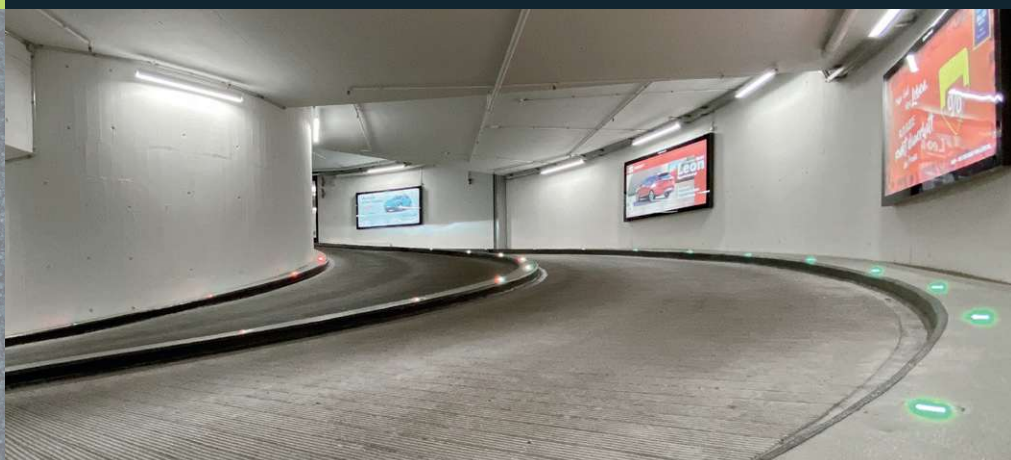


SYSTEMATIC QUALITY

TrafficLED



Product information



GIFAS
ELECTRIC

09|24

Introduction

Introduction



Page 3

TrafficLED

Product /System

Technical data

Applications

Product range



Page 4

Page 5

Page 6

Page 7

Accessories

Control unit and remote control

Power supply

System components/mounting



Page 8

Page 9

Pages 10-11

LED guidance systems – for safe traffic routing



TrafficLED

Our product line of optical guidance devices is applicable in tunnels, roundabouts or on the road in general.

We have detailed information, documentation, certificates for any of our systems which we would be appreciate to send if you are interested.

Why optical guidance systems?

An optical guidance device improves recognition of lanes or obstacles, particularly during times of poor visibility (at night, fog, etc.) as well as vulnerable traffic areas such as tunnels, curves, roundabouts or traffic islands. The signals provide a very high degree of safety for traffic.

The system complies with current regulations (BAST Germany, FEDRO Switzerland e.g.), and are continuous EMC-approved, which means, that the system functions with cables/wires and is non-inductive, so electromagnetic fields are excluded.

The wired systems are installed directly in the road surface. However, it is important that the installation area is not constantly driven over.

Our recess-mounted lamps are compatible with all GIFAS systems. They complement each other ideally and require the same system components, such as a control unit, feeder cable, etc.

All GIFAS systems can be dimmed across a continuous scale using the control unit or remote control.

Your benefits

- EMC-approved, no inductive interference
- quick and easy installation
- latest LED technology, very low power consumption
- vandal-proof, reinforced synthetic material/V4A Investment casting
- dimmable by control unit
- interoperable with all LED guidance systems
- modular construction, low-maintenance
- often set in systems in different applications
- thereby high product- and application know-how

Our services

- many years of know-how, experienced Project Manager
- individual advice, also on site
- large standard range, individual solutions possible
- expert advice on installation and bringing into service
- creating CAD documents, voltage drop calculations and tunnel disposals
- own service team with professional equipment and many years of know-how





The permanent drive-over marker and warning lights with the latest LED technology

By popular demand and as widely requested, we have developed a completely new light that covers a variety of needs. In particular, the main target during development was the ability to withstand constant traffic on streets, on squares, or in tunnels. It is also often used in the driveways of tunnels for improved visibility of the course of lane and pedestrians for improved active safety. Last, but not least, they can also be used to light roundabouts (also for heavy traffic).

Standard SN 640853 «Underfloor Marker Lights» served as the basis for development with the following specifications and requirements:

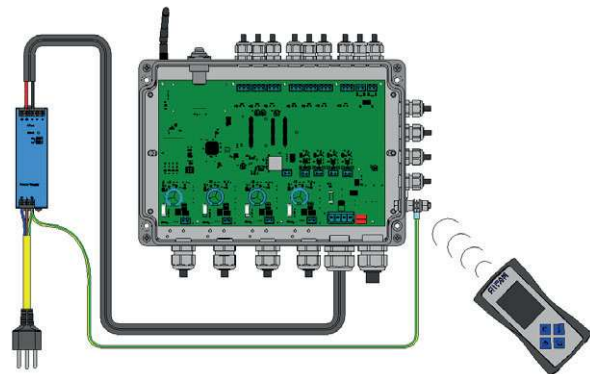
- drive-over marker lights that can withstand constant traffic and that cover the entire summer/winter temperature range (–30 to +75°C) and that can withstand mechanical stresses (40t truck)
- for safety reasons (slip hazard) matt, circular light
- protrude over road surface level max. 4.0 mm
- resistant to sand, snow spikes and chains, street cleaning
- have no protruding corners or edges that could be touched by a snowplough
- surface and light emission areas are designed in such a way that as little dirt as possible is deposited
- waterproof, frostproof, and resistant to UV sunlight/chemicals/oil and road salt
- very good visibility in the dark, wet, and snow
- other applications: such as lane marking

The TrafficLED system complies with current regulations (e.g. BAST in Germany, FEDRO in Switzerland) and is one of the few EMC-tested systems, which means that the system works via wires, not induction.

TrafficLED module

The TrafficLED is connected with the system cable. It lights on both sides. Due to its modular structure with an upper and lower part, it is very easy to install. The different modes of the TrafficLED, such as dimmable, blinking, flashing, etc., can be set via the controller.

The TrafficLED system



Control

The 4-channel control unit is used to control the GIFAS control units. It can be integrated into existing control cabinets or also as a stand alone module.

Remote control

The remote control can be used for programming, operation and fault diagnosis. A single remote control can be used for multiple control units.

Standard cable

The system cable is made specifically for the GIFAS recessed lighting systems to meet its demands. The cable is halogen-free, mechanically reinforced and may come briefly into contact with hot substances such as Bitumen.

Junction box

The junction box is the control interface and the actual «front installation». Usually, the junction boxes are placed at the beginning or at the end of each line of TrafficLED's, easy to assemble with prefabricated mounting tabs. We recommend our own standard junction boxes which meet all system requirements.

Product documentation

Installation instructions



Reference list

High pressure steam-jet



Light distribution

Build in alpine area





Technical data

Double-sided with 6 LED's on each side

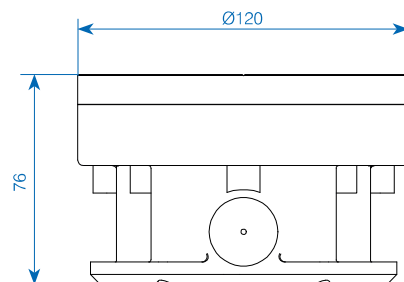
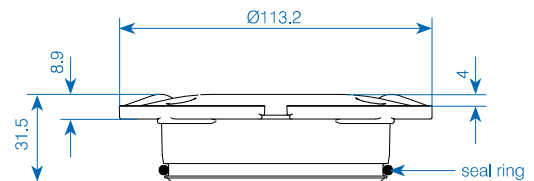
Light colours:	white (5'600 K), blue (470 nm), yellow (592 nm), orange (600 nm)
Luminous intensity:	30 cd
Operating life LED:	L90/B10 100'000 h (white)
Protection category:	IP68/IP69
Protection class:	III
Impact protection rating:	IK10
Operating voltage:	24 VDC (range 18 - 44 VDC)
Power consumption:	140 mA @ 18 - 28 VDC / 85 mA @ 28 - 44 VDC
Diameter:	120 mm
Height:	80 mm
Upper part:	chrome steel V4A
Lower section:	IXEF glass fiber reinforced polyarylamide, black
Height over road surface level:	4 mm
Temperature resistance:	-30° C to +75° C
Drive-over resistance:	D400 according to DIN EN124

 Certificates, reference list etc. available on request

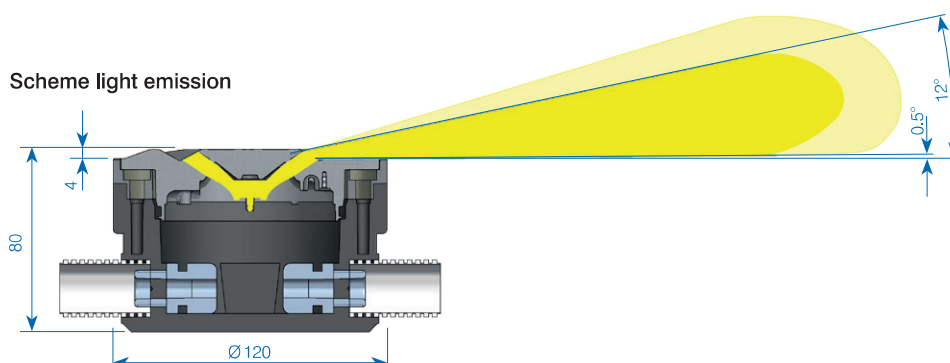
TrafficLED

- floor pit made out of special IXEF plastic
- stainless steel V4A upper section
- electronics completely encapsulated
- both sides fitted with LEDs
- brightness of the lighting modules can be easily adjusted via controller unit and changed from the tunnel control centre via automatic light control or direct control system

Single components



Scheme light emission





Railway station Flawil



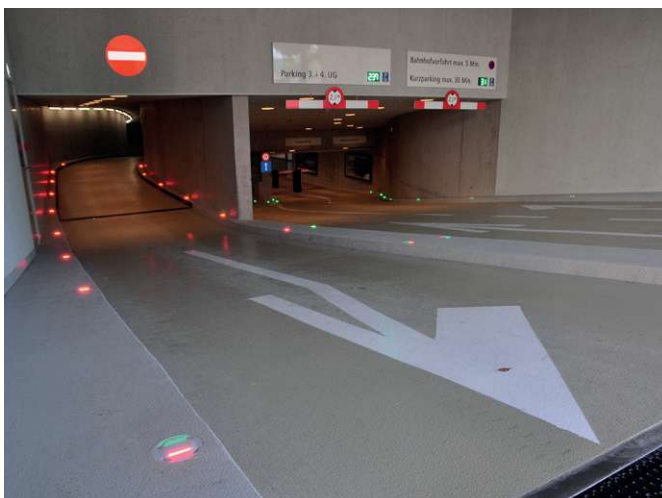
TrafficLED



Street lighting Verbier



Roundabout Döttingen

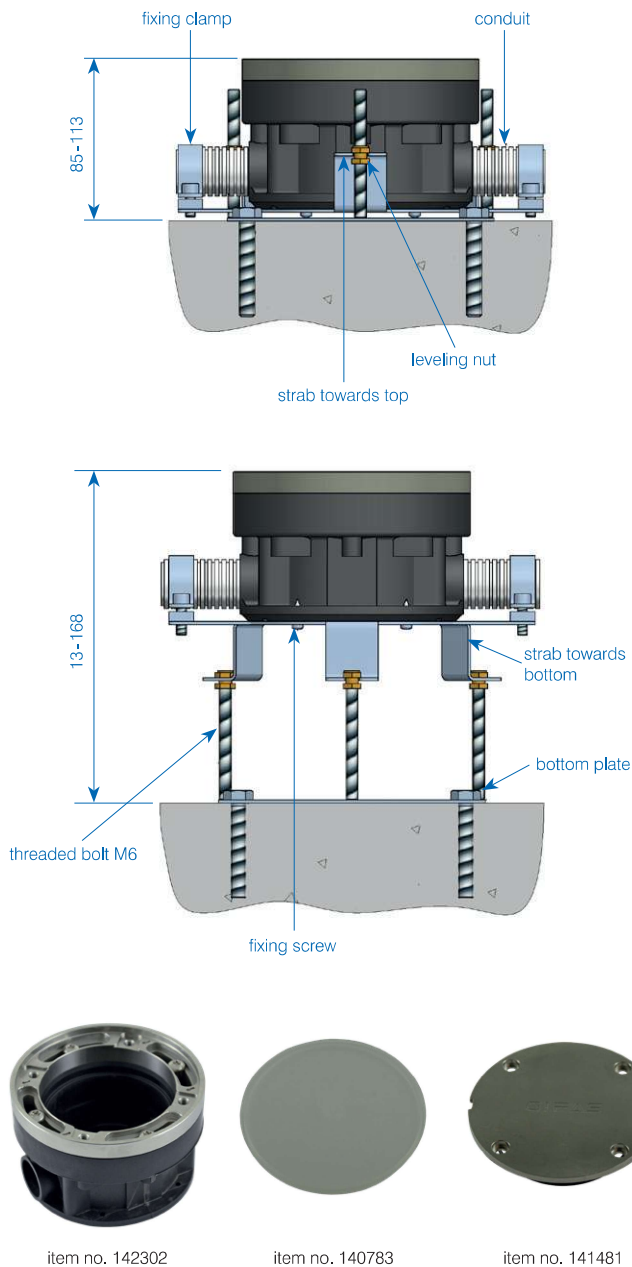


Cityparking St. Gall



Cityparking St. Gall

Leveling support item no. 037712



Installation jig for TrafficLED

GIFAS provides a suitable installation jig for mounting the TrafficLED module. This makes it possible to adjust to the ground level exactly and to optimise the relocation of the component.



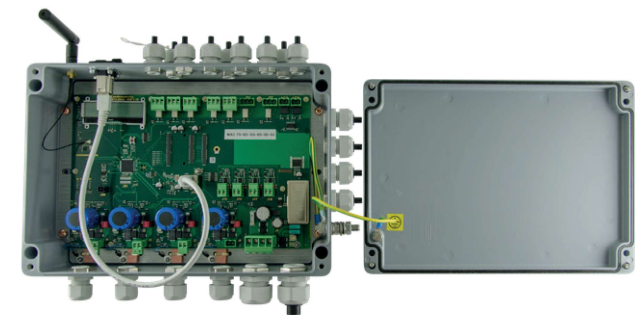
Item no.	Designation
143015	Installation jig (on loan by GIFAS)



Item no.	Designation
139997	TrafficLED light module V4A, 18-28 VDC, 140 mA/28-44 VDC, 85 mA, double-sided 6xLED blue 470 nm
136194	TrafficLED light module V4A, 18-28 VDC, 140 mA/28-44 VDC, 85 mA, double-sided 6xLED orange 600-609 nm
138244	TrafficLED light module V4A, 18-28 VDC, 140 mA/28-44 VDC, 85 mA, double-sided 6xLED white 5'700 K
213778	TrafficLED light module V4A, 18-28 VDC, 140 mA/28-44 VDC, 85 mA, double-sided 6xLED white 5'700 K, BAST switchable
153147	TrafficLED light module V4A, 18-28 VDC, 80 mA/28-44 VDC, 50 mA, single-sided 6xLED blue 470 nm
145604	TrafficLED light module V4A, 18-28 VDC, 80 mA/28-44 VDC, 50 mA, single-sided 6xLED orange 600-609 nm
860625	TrafficLED light module V4A, 18-28 VDC, 80 mA/28-44 VDC, 50 mA, single-sided 6xLED yellow 592-595 nm
146904	TrafficLED light module V4A, 18-28 VDC, 80 mA/28-44 VDC, 50 mA, single-sided 6xLED white 5'700 K
142301	TrafficLED lower section Ø120x65 mm, 1xM16 (Ø4-9 mm), casing plastic anthracite with adjustment ring
142302	TrafficLED lower section Ø120x65 mm, 2xM16 (Ø4-9 mm), casing plastic anthracite with adjustment ring
148704	TrafficLED lower section Ø120x65 mm, 1xM16 (Ø4-9 mm), casing plastic anthracite with adjustment ring (for system cable flat)
148705	TrafficLED lower section Ø120x65 mm, 2xM16 (Ø4-9 mm), casing plastic anthracite with adjustment ring (for system cable flat)
167067	TrafficLED lower section Ø120x65 mm, 1xhose nipple M25, casing plastic IXEF 1521
167065	TrafficLED lower section Ø120x65 mm, 2xM16 (Ø4-9 mm), 2xhose nipple M25, casing plastic anthracite with adjustment ring
212656	TrafficLED lower section Ø120x65 mm, 2xM16 (Ø4-9 mm), 2xhose nipple M25, casing plastic anthracite with adjustment ring (power distributor box mounted in the road surface)
141481	TrafficLED blind cover V4A, Ø113.2x27.5 mm, incl. seal ring and screws M6
140783	TrafficLED blind cover polypropylene natural, Ø113.8x4.9 mm (for temporary cover only)
037712	Levelling console V2A, range 85-168 mm
173496	System cable TPE-R halogen-free, black, 2x2.5 mm², Ø8.2 mm, strands: red, black

other versions on request

4-channel control unit



The control unit for all GIFAS systems is designed for 4 output lines. Each channel can be loaded with up to 10A.

- **Supply:** a 230VAC/24-48VDC power supply device with a nominal output current of 40A is installed upstream from the control unit.
- **Error messages:** each channel has a relay with SPDT (potential free) assigned to the signaling of error messages.
- **External blinking contacts:** by default, two external flashing signals (24-60VDC) can be connected and transferred to the outgoing lines (synchronisation with flashing signal).
- **Operating mode:** the control unit has 8 or 31 different modes of operation.
- **Failure rate:** by failure rate detection, the lights can be tested for their functionality. The control unit measures the total power consumption of the respective channel. If the power consumption drops to a preset value, the fault message can be detected via a changeover contact (potential-free).
- **Functions:** one of the following functions can be assigned to each channel in each mode:
 - continuous lighting: 100%
 - dimming: adjustable from 1-99%
 - flash: adjustable from 0.1-9.9Hz
 - lightning: adjustable from 1-99ms
 - running light: running light direction, dimming 1-99%, Light duty cycle 100ms-10sek, delay in lighting 100ms-10sek, switch-on delay 0-999sek, duty cycle 0-999sek
 - off
- **Programming:** the control unit can be optionally parametrised and read out via the web interface or the optionally available radio programming unit.
 - Web interface: if the control unit is connected to the network via RJ45 Cat. 6a, all parameters can be set and read out via a web browser.
 - Radio programming unit: the parameters can also be set by the radio programming unit.

Technical data

Protection category:	IP65
Rated power max.:	1'920VA
Input voltage:	18-48VDC
Supply current:	40A, 4 channels à 10A
Power supply:	external
Dimensions:	330×230×110mm

Item no.	Designation
860594	4-channel control unit in cast aluminium housing, IP65, 18-48VDC/4×10A, excl. power supply

Remote control to 4-channel control unit



Programming device with menu guide for set-up, programming and status recognition of the control unit. Communication with the control unit occurs through radio.

All necessary functions can be set up and assigned through the menu structure. No special knowledge is required to operate it. The connection between the control unit and the programming device is bi-directional, i.e. the current settings can be transferred from one to the other.

The buttons «↑», «↓», «☒» and «✓» are used to navigate the system. The range is approx. 3m.

The menu is available in four languages: German, English, French and Italian.

Technical data

Material:	ABS
Protection category:	IP40
Protection class:	III
Radio frequency:	2.4-2.525 GHz
Operating voltage:	4.5VDC, 3 batteries AAA
Life of battery:	> 1 year in standby mode
Dimensions (WxHxD):	73×140×32 mm
Colour:	graphite grey similar to RAL 7024

Item no.	Designation
860460	Remote control to 4-channel control unit

Power supply to 4-channel control unit



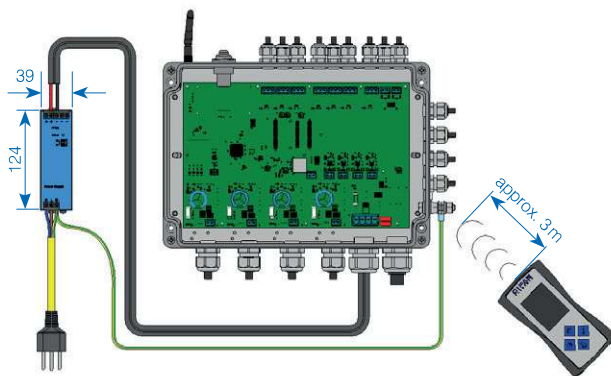
A 230VAC/24/36VDC power supply is installed upstream from the 4-channel control unit. The power supply is equipped with integrated protection against overloading and short-circuiting, with automatic or manual reset.

The power supply conforms to CEE regulations and also has UL and/or CSA approval.

Technical data

Protection category:	IP20 (IP42 with additional cover)
Protection class:	I
Input voltage:	230 VAC (range 100-240 VAC)
Output voltage:	24/36VDC
Output current:	6.7/13.3/10/20 A
Connections primary:	screw terminals 4 mm ²
Connections secondary:	screw terminals 4 mm ²
Status display:	LED green
Installation:	quick fastening for DIN rail 35 mm
Dimensions (W×H×D):	- 24VDC: 39×124×117 mm - 36VDC: 65×124×127 mm

 detailed datasheet of power supply available on request



Item no.	Designation
163193	Power supply 230 VAC/24VDC-10 A/240 W 39×124×117 mm
136629	Power supply 230 VAC/24VDC-20 A/480 W 65×124×127 mm
192133	Power supply 230 VAC/36VDC-6.7 A/240 W 39×124×117 mm
244126	Power supply 230 VAC/36VDC-13.3 A/480 W 65×124×127 mm

Other versions on request

Cold conductor monitoring



The cold conductor monitoring is used for detecting defective installations or lights that are not connected. The monitoring is automatically activated as soon as the lights are switched off.

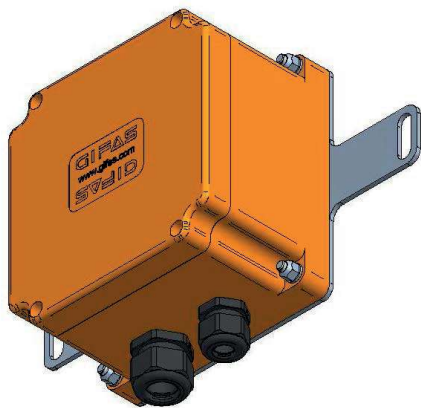
- **Feeding:** a power supply 230VAC/18-48VDC with a rated output current of max. 10 A is connected upstream of the cold conductor monitoring. The level of the output voltage of the power pack depends on the marking light used in this case.
- **Fault signal:** the cold conductor monitoring has two relays with change-over contact (potential-free) to signal fault messages for voltage interruption (for example, failure of the power supply unit) and exceeding of the failure rate (for example defect in the control unit installation).
- **Functions:** in every cold conductor monitoring, the threshold for the max. failure rate detection can be set individually in percentage. The adjustment range is 10-70% and can be adjusted in 10% increments.
- **Programming:** programming is done directly via the programming buttons on the control board or via the 4-channel control unit.

Technical data

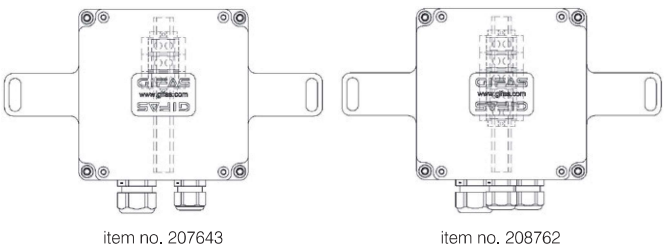
Protection category:	IP66
Rated power max.:	480 VA
Input voltage:	18-48VDC
Supply current:	10 A
Power supply:	external
Dimensions (W×H×D):	160×100×81 mm

Item no.	Designation
860603	Cold conductor monitoring in cast aluminium housing, IP65, 18-48VDC, 10 A, excl. power supply

Fire-proof junction box



The safety cable must be connected from control center to the GIFAS system cable when connecting the signal units to the infrastructure. A special junction box is required for these connections. This can be installed in the cable trunks in the tunnel shoulder or at another suitable point. An E30/E60 junction box is usually required for this application. The size of junction box depends on the feed-in cable used as well as the number of outlets.



Item no.	Designation
207643	Junction box FE180/E30 type 1616 orange polyester fibre, IP66/68, 3×6.0mm², 1×M20, 1×M25, incl. mounting plate
208762	Junction box FE180/E30 type 1616 orange polyester fibre, IP66/68, 5×6.0mm², 2×M20, 1×M25, incl. mounting plate

Installation material

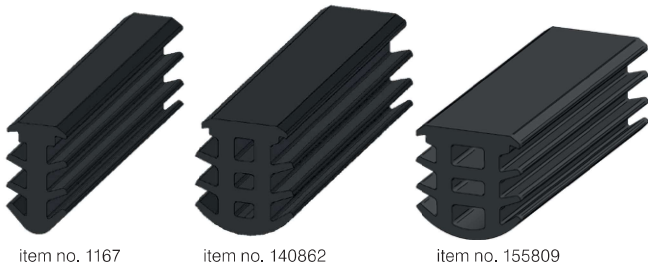
Protective hose

Depending on the type of installation, the system cable can also be conducted in an installation tube.



Item no.	Designation
035976	Installation tube Ø25/19mm, fluted, flame-retardant, highly flexible, grey (selling unit 100m)
128266	Corrugated hose Ø21.2/16.5mm, PA6 flexible, black (selling unit 50m)

Joint profile



The milled groove of the optical guidance system must be sealed against environmental conditions. A simple and low-cost solution is to use the halogen-free GIFAS joint profile made of EPDM. This is inserted in the slot. It is self-locking and available in three different widths. A stable and smooth slot with slot widths of 6 -16 mm is the prerequisite for use.

Technical data

Material properties:	halogen-free, no corrosive and toxic gases
Shore hardness A:	70° ±5%
Special weight:	1.23kg/l
Elongation at break:	237% DIN 53504
Breaking stress:	11.2MPa DIN 53504

Item no. 116753	
Exterior dimensions:	9.3mm×17.1mm
Groove width:	6-8mm
Nominal section:	89mm²
Weight:	109kg/km

Item no. 140862	
Exterior dimensions:	14.5mm×17.1mm
Groove width:	10-12mm
Nominal section:	146mm²
Weight:	177kg/km

Item no. 155809	
Exterior dimensions:	17.35mm×17.5mm
Groove width:	14-16mm
Nominal section:	171mm²
Weight:	254kg/km

Item no.	Designation
116753	Joint profile EPDM 70° Shore for groove 6-8mm, 9.3×17.1mm, black
140862	Joint profile EPDM 70° Shore for groove 10-12mm, 14.5×17.1mm, black
155809	Joint profile EPDM 70° Shore for groove 14-16mm, 17.35×17.5mm, black

Sealing compound



The recommended sealing compound is heated to 160°–180°C while being constantly mixed. The compound is applied using a spouted container or grouting lance. Excess compound must be removed by scraping once it has fully cooled.

Technical Data

Colour: black
 Form of delivery: 1 box with 24 cubes of 700 g each
 Sealing temperature: 160°C–180°C
 Weight per unit volume: 1.2 g/cm³

Item no.	Designation
208907	Hot/liquid/bitumen sealing compound TOK-Melt N2

Mortar

In order to install the lower part of the TrafficLED, you need mortar to fill in. For each lower part you will need approx. 0.7 l (~1.17 kg).

Two-component mortar

If the luminaire is to be installed in an area of the road with constant heavy traffic, we recommend using a two-component repair and adhesive mortar such as Bücofix or similar.

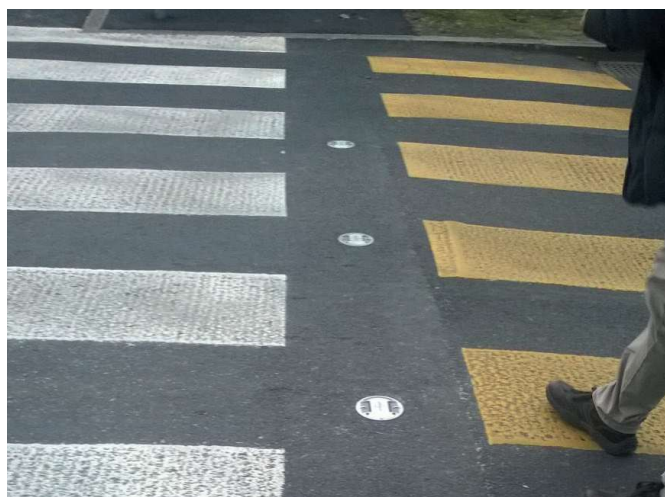
Item no.	Designation
161035	Mortar PCI Polifix Plus L (bag of 25 kg)
184454	2-component reactive resin Bücofix SRV black (bucket of 5 kg)

Insulating gel

When not mounted on the wall, the box must be cast with removable sealing compound, e.g. BLUE GEL:



Item no.	Designation
166534	Insulating gel BLUE GEL, solvent-free, bottle of 1 litre; per LED module 0.15 litres are required

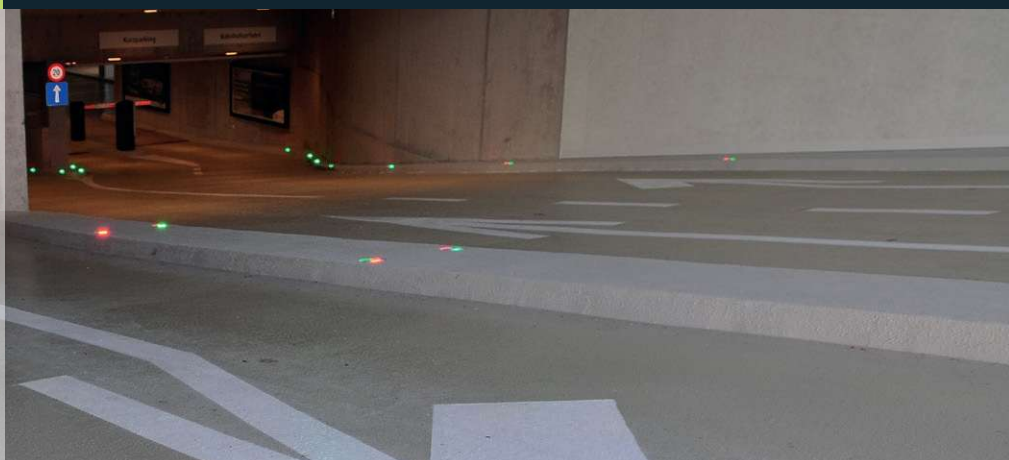
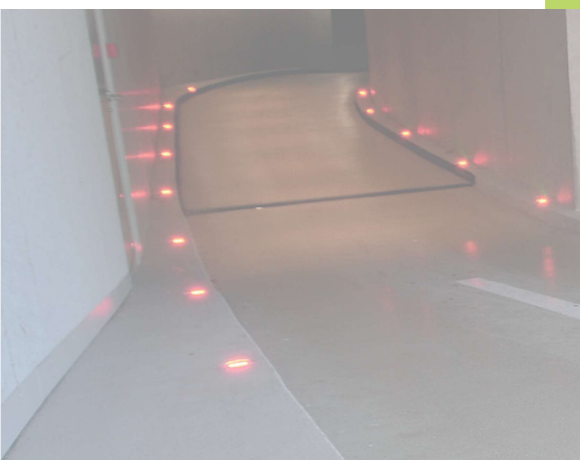


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News about the assortment and specific solutions can be found on our website:

www.gifas.ch

We reserve the right to make technical modifications. V 0823



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