

SYSTEMATIC QUALITY

# CircLED



Product information



**GIFAS**  
ELECTRIC

09 | 25

## Introduction

Introduction



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## CircLED

Product/System

Technical data

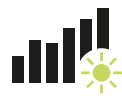
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## LED guidance systems – for safe traffic routing



CircLED

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 our system MarkLED 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 at GIFAS

- 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





### CircLED recessed light

CircLED is used for specific applications, mounted as wall- or floorlamp. Main focus is the roundabout lighting, where it is used as security, control and design lighting. Used in addition to many other uses as path lighting (floor or wall mounting). The CircLED is available with integrated light optics as well as in several light colours. It should be noted that the CircLED is only partially suitable for permanent drive-over and snowplough operation.

### System description

The CircLED will be flush mounted. The casing is made of chrome steel and the assembly has to be effected directly in the subgrade (asphalt, concrete, gravel, ground or the like).

### Connection technology

The operating voltage is 20-48VDC (low voltage). The current is transmitted from the supply line (2x2.5mm<sup>2</sup>) in a suitable installation pipe and is inserted in the lower part. A clamp is used to connect the upper part, which is filled reversibly and screwed together.

### Support in the fight against light pollution

Using CircLED helps to fight increasing light pollution. The light guidance is designed in such a way that the light output is only aimed at the defined and desired direction.

### High energy efficiency to reduce costs

Sophisticated electronics with latest LED technology is leading to a very low power consumption. The total power consumption for an average roundabout of 20 pieces CircLED is similar to a single 60W bulb.

### Sealing technology

The overall design of the individual components was based on a high degree of impermeability. Protection class IP68 is attained provided the assembly is performed by experts.

### Control units

The control units required for supplying and/or controlling the light modules are small and space-saving and can usually be integrated in existing distribution systems or control cabinets. A small distributor may be installed as needed.

### Product documentation

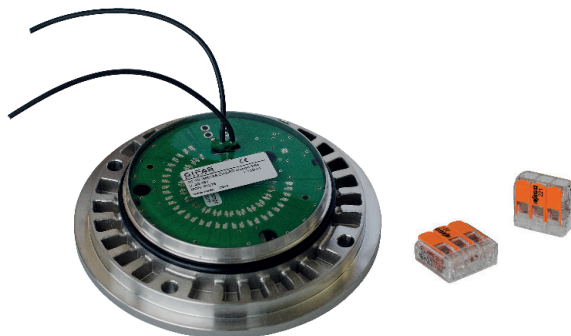
#### Installation instructions

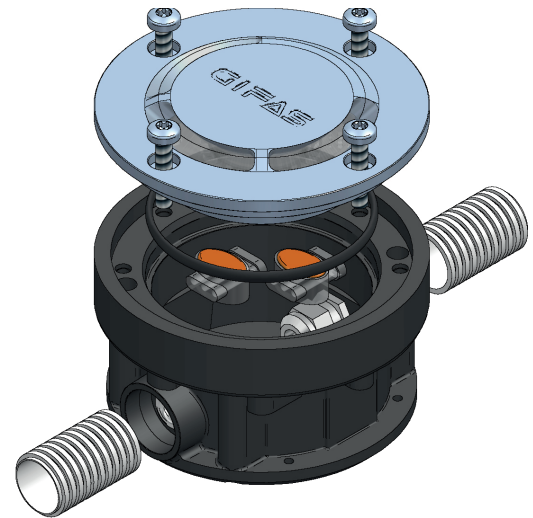


#### Reference list



#### Declaration of conformity





## Technical data

270° circular emission along a light strip (16 LED)

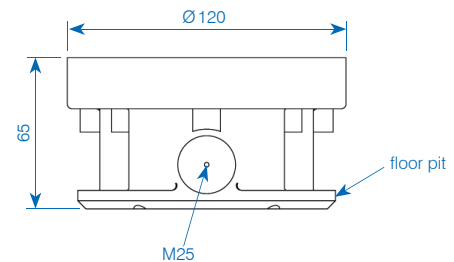
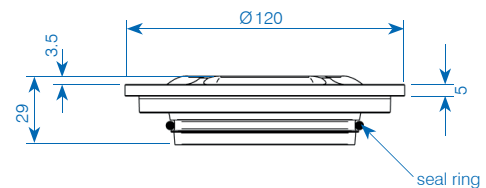
Light colour:	white (5'600K/3'500K), blue (470 nm), orange (606 nm)
Light intensity:	20 cd (white)
Illuminant:	16 LED with integrated optic
Operating life LED:	L90/B10 100'000 h (white)
Protection category:	IP68
Protection class:	III
Operating voltage:	24VDC (range 20-48VDC)
Power consumption:	130 mA @ 24 VDC
Diameter:	120 mm
Height with floor pit:	73.5 mm
Upper part:	chrome steel V4A
Lower section:	IXEF glass-fibre reinforced polyarylamide, black
Height over road surface level:	3.5 mm
Temperature resistance:	-30°C to +55°C
Axle load:	B125 according DIN EN124

Certificates, reference lists on request.

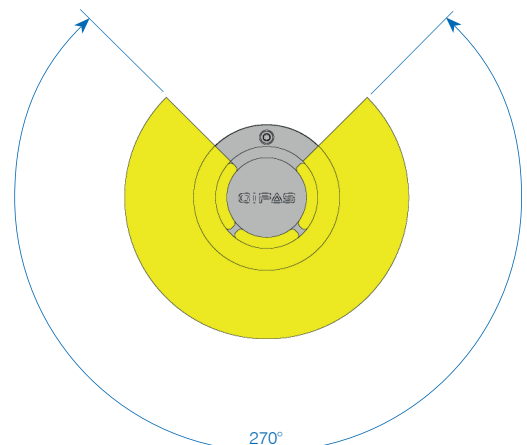
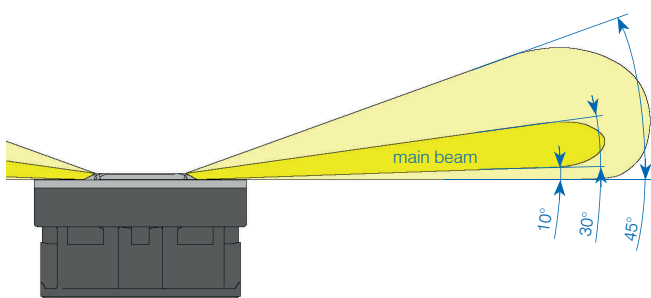
## The CircLED

- lower part made of special plastic IXEF
- upper part made of stainless steel
- electronics completely sealed
- The lightness of the light modules is easily adjustable by the control unit and can be manipulated by the automatically light control or direct control from tunnel centre office.

## One-components CircLED



## Diagram light emission





Roundabout Oftringen



Roundabout Buriel



Zurich Hardbrücke



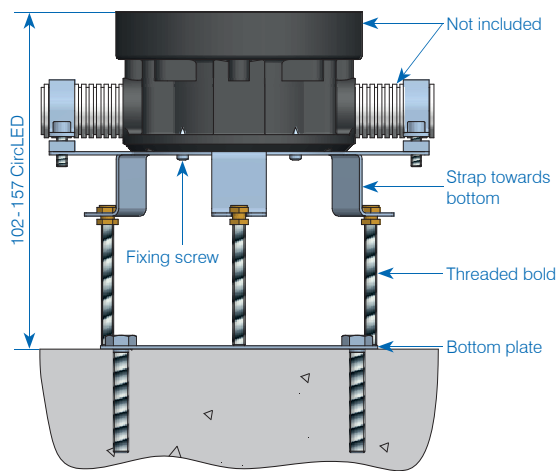
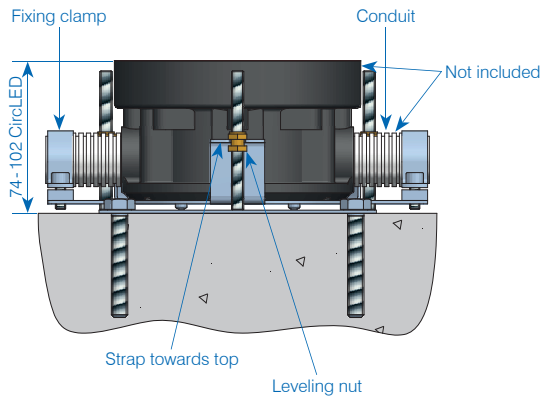
Zurich Hardbrücke



CircLED



Entry Wattwil



Item no. 036106



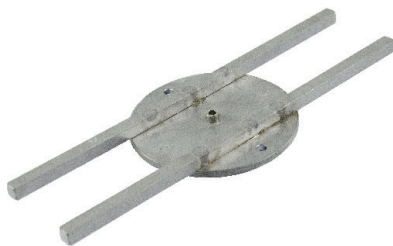
Item no. 038311



Item no. 156537

## Assembling jig for CircLED

GIFAS provides a suitable assembling jig for installing the CircLED on loan. This makes it possible to adjust to the ground level exactly and to optimise the relocation of the component.



Item no.	Designation
018821	Assembling jig CircLED (on loan by GIFAS)

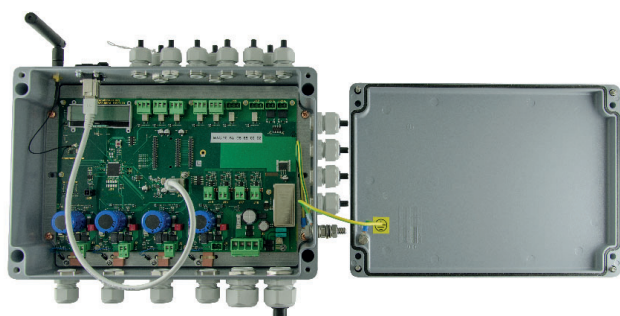


## Product range CircLED

Item no.	Designation
860156	CircLED light module V4A, 130 mA @ 24 VDC (20-48 VDC), white, 5'600 K, 16 Power LED complete sealed
860160	CircLED light module V4A, 130 mA @ 24 VDC (20-48 VDC), white, 3'500 K, 16 Power LED complete sealed
860157	CircLED light module V4A, 130 mA @ 24 VDC (20-48 VDC), blue, 470 nm, 16 Power LED complete sealed
860158	CircLED light module V4A, 130 mA @ 24 VDC (20-48 VDC), orange, 609 nm, 16 Power LED, complete sealed
860346	CircLED lighting module, V4A, 24 VDC, 130 mA, red 625 nm, 16 Power-LED, completely sealed
031353	CircLED lower section Ø 120×65 mm, 1 KV M16 (Ø 4-9) casing plastic anthracite
036106	CircLED lower section Ø 120×65 mm, 2 KV M16 (Ø 4-9) casing plastic anthracite
153149	CircLED lower section Ø 120×65 mm, 1 KV M16 (system cable flat), casing plastic anthracite
153150	CircLED lower section Ø 120×65 mm, 2 KV M16 (system cable flat), casing plastic anthracite
185473	CircLED lower section 1×KV M16 (Ø 4-9) 1×hose nipple
185482	CircLED lower section 2×KV M16 (Ø 4-9) 2×hose nipple
190367	CircLED lower section Ø 120×65 mm, 2 KV M16 (Ø 4-9) casing plastic anthracite
190366	CircLED lower section Ø 120×65 mm, 2 KV M16 (Ø 4-9) casing plastic anthracite
156537	CircLED blind cover V4A, Ø 120×20.2 mm incl. sealing and screw
038311	CircLED blind cover PP, Ø 120×7/12 mm plastic white (suitable for temporary cover only)
037712	Leveling support V2A complete to TrafficLED/CircLED range 85-168 mm
173496	System cable TPE Traffic/CircLED black, halogen-free 2×2.5 mm <sup>2</sup> , Ø 8.2 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 230 VAC/24-48 VDC power supply device with a nominal output current of 40 A 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 (24-60 VDC) 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 0.1-9.9 Hz
  - Lightning: adjustable from 1-99 ms
  - Running light: running light direction, dimming 1-99%, Light duty cycle 100ms-10 sek, delay in lighting 100ms-10 sek, Switch-on delay 0-999 sek, duty cycle 0-999 sek
  - 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.:	1'920 VA
Input voltage:	18-48 VDC
Supply current:	40A, 4 channels à 10A
Power supply:	external
Dimensions:	330×230×110 mm

Item no.	Designation
860594	Control unit 4-channel IP65, 18-48 VDC, 4×10A ready for installation in housing of cast aluminium 330×230×110 mm, excl. power pack

## 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 4 languages: German, English, French and Italian.

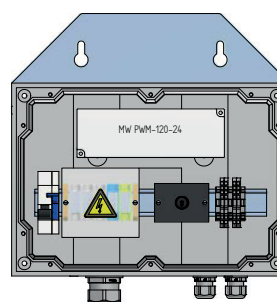
### Technical data

Material:	ABS
Protection category:	IP40
Protection class:	III
Radio frequency:	2.4-2.525 GHz
Operating voltage:	4.5 VDC, 3 pcs. batteries type 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 complete for the control unit 4-channel

## Roundabout controller

The roundabout controller is the optimum control unit for simple applications, typically roundabout illumination. It is used to control the brightness and can be easily mounted on the wall thanks to the mounting plate.



Item no.	Designation
212639	Roundabout controller with rotary potentiometer



## Power pack for control unit 4-channel



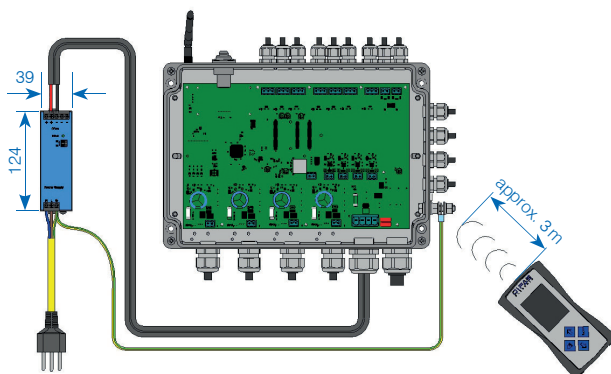
A 230VAC/24/36/48VDC power pack is installed upstream from the 4-channel control unit. The power pack is equipped with integrated protection against overloading and short-circuiting, with automatic or manual reset.

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

### Technical data

Protection category:	IP20 (with additional cover IP42)
Protection class:	I
Input voltage:	230 VAC (range 100 - 240 VAC)
Output voltage:	24/36/48VDC
Output current:	10/20 A
Connections primary:	screw terminals 4 mm <sup>2</sup>
Connections secondary:	screw terminals 4 mm <sup>2</sup>
Status display:	LED green
Installation:	quick fastening for DIN rail 35 mm
Dimensions (W×H×D):	39×124×117 mm

 A detailed datasheet on the power pack is available on request



Item no.	Designation
163193	Power pack 230 VAC/24 VDC - 10 A/240 W 39 × 124 × 117 mm
136629	Power pack 230 VAC/24 VDC - 20 A/480 W 65 × 124 × 127 mm
202595	Power pack 230 VAC/48 VDC - 10 A/480 W 48 × 124 × 127 mm
180867	Power pack 230 VAC/48 VDC - 20 A/960 W 125 × 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.

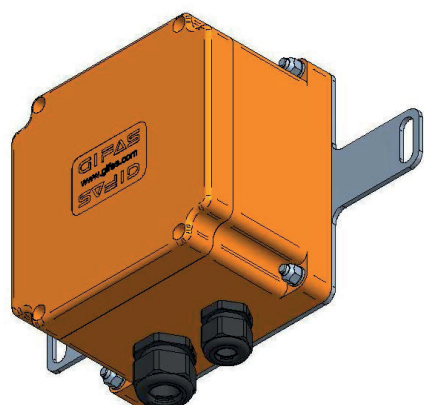
- **Feeding:** A power pack 230VAC/18-48VDC with a rated output current of max. 10A is connected upstream of the cold conductor monitoring. The level of the output voltage of the power pack depends on the marking light used in this case.
- **Fault signal:** The cold conductor monitoring has two relays 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:	extern
Dimensions (W×H×D):	160×100×80 mm

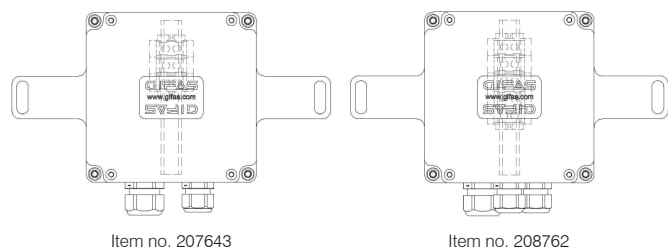
Item no.	Designation
860603	Cold conductor monitoring, 18 - 48VDC, 10 A ready for installation in housing of cast aluminium 160 × 100 × 80 mm, excl. power pack

## Fire-proof junction boxes



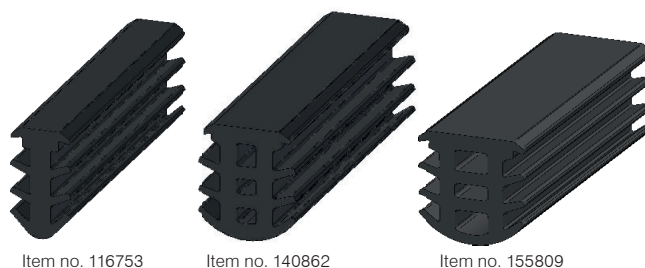
The safety cable must be connected from control center to the GIFAS system cable when connecting the signal units to the infrastructure. A special junction box is required for these connections. This can be installed in the cable trunks in the tunnel shoulder or at another suitable point. An E30/E60 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.

We will be pleased to advise you on a project-specific basis.



Item no.	Designation
207643	Junction box polyester FE180/E30 type 3018, orange 160×160×100 mm, 7×10 mm <sup>2</sup> , IP66/68
208762	Junction box polyester FE180/E30 type 3018, orange 160×160×100 mm, 7×10 mm <sup>2</sup> , IP66/68

## System profile



Item no. 116753

Item no. 140862

Item no. 155809

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 system 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 -15 mm is the prerequisite for use.

### Technical data

Material properties:	halogen-free, no corrosive and toxic gases
Shore hardness A:	70° ±5%
Special weight:	1.23 kg/l
Elongation at break:	237% DIN 53504
Breaking stress:	11.2 MPa DIN 53504
Item no. 116753	
Exterior dimensions:	9.3 mm×17.1 mm
Groove width:	6-8 mm
Nominal section:	89 mm <sup>2</sup>
Weight:	109 kg/km

Item no. 140862	
Exterior dimensions:	14.5 mm×17.1 mm
Groove width:	10-11.2 mm
Nominal section:	146 mm <sup>2</sup>
Weight:	177 kg/km

Item no. 155809	
Exterior dimensions:	17.35 mm×17.5 mm
Groove width:	12-15 mm
Nominal section:	171 mm <sup>2</sup>
Weight:	254 kg/km

## Installation material

### Protective hose

Depending on the type of installation, the system cable can also be conducted in a conduit (fluted, halogen-free).

We are glad to advise you for specific projects!



Item no.	Designation
035976	Conduit PP, Ø25/19 mm, flexible VE=100 m
128266	Protective hose PA6, Ø21.2/16.5 mm, flexible, VE=50 m UV resistance, operating range of temperature -40° C to 120° C, up to 150° for a short time 150° C

Item no.	Designation
116753	Joint profile EPDM 70° Shore, for groove 6-8 mm 9.3×17.1 mm, black
140862	Joint profile EPDM 70° Shore, for groove 10-11.2 mm 13×17.1 mm, black
155809	Joint profile EPDM 70° Shore, for groove 12-15 mm 17.35×17.5 mm, black

## Joint sealing compound



The recommended system 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 à 700 g  
 Sealing temperature: 160° C - 180° C  
 Weight per unit volume: 1.2g/cm<sup>3</sup>

Item no.	Designation
208907	Sealing compound TOK-Melt N2 (1 box with 24×cubes à 700g)

### Lime Mortar

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

### Two-component mortar

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

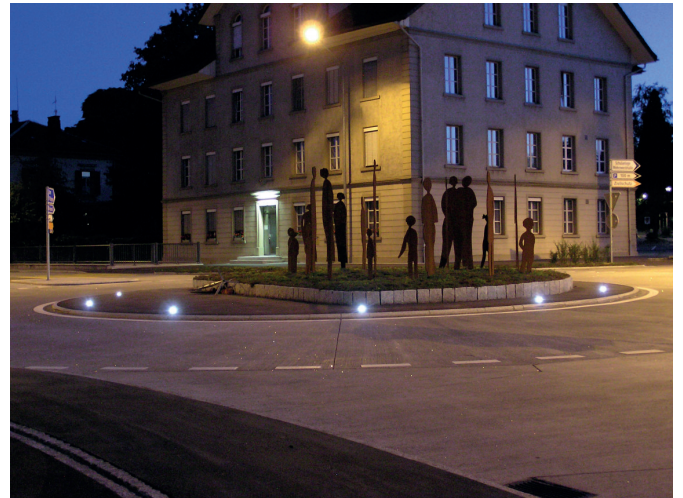
Item no.	Designation
161035	Lime mortar Polifix Plus L, Container 25kg
184454	Bücofix SRV installation mortar, black (5kg pail)

### Insulating gel

When not mounted on the wall, the box must be cast with removable sealing compound, e.g. Bluegel (Item no. 166534 1l container).



Item no.	Designation
166534	Insulating gel, solvent-free, VE=bottle à 1 litre 0.15 litres are required for each LED module (CircLED / TrafficLED)



GET IN TOUCH WITH US

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

[www.gifas.ch](http://www.gifas.ch)

We reserve the right to make technical modifications. V 0621



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