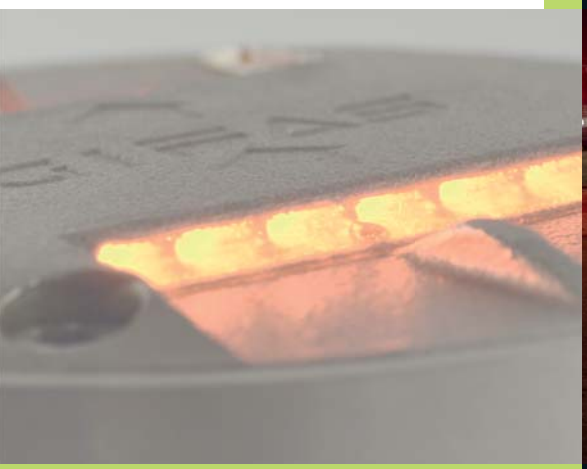
YOUR WISH IS OUR COMMAND

Malux

TrafficLED

Product information



GIFAS ELECTRIC

09|14

Tunnel

Crosswalk

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. The main objectives were to improve road visibility in zones before tunnels as well as at pedestrian crossings to improve 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 cover the entire summer/winter temperature range (-30 to +75°C)
- That can withstand mechanical stresses (40-tonne truck)
- 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
- Waterproof, frostproof, and resistant to UV sunlight/chemicals/oil and road salt
- LED lights that can withstand constant traffic
- Control by push button, radar sensor, loop, vibration plate, or timer switch (e.g. school buildings)
- Signals to the driver that a pedestrian crossing is coming up, respectively increasing alertness towards pedestrians
- Very good visibility in the dark, wet, and snow

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

The **TrafficLED** is partially compatible with all GIFAS recessed lighting systems. These two systems complement each other perfectly and require the same system components such as control, supply cable, etc. All GIFAS systems can be conveniently continuously dimmed via dimming control or by remote control.

GIFAS system benefits

- EMC certified, no electromagnetic interference
- Quick and easy to install
- Latest LED technology, very low power consumption
- Vandal-proof, stainless steel V4A (upper section)
- Dimmable via control unit
- Modular structure, maintenance free

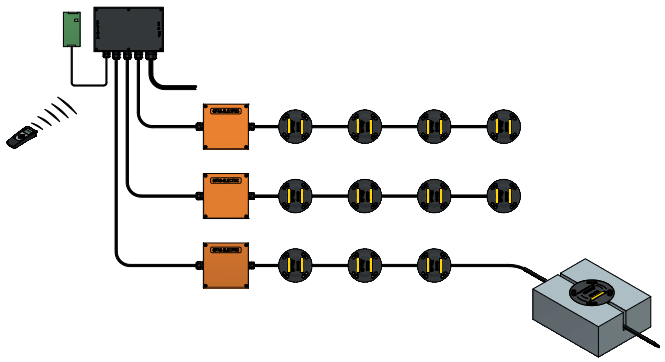
Our services

- Extensive experience, experienced project managers
- Custom advice, also on-site
- Large standard range but also individual solutions feasible

We would be happy to advise you on your project!

Hardness test

System TrafficLED



The GIFAS TrafficLED system consists of several components which are briefly described below. You can find detailed information about each product on the following pages.

Control

The control units necessary for powering or controlling the lighting modules are very small and compact and can usually be integrated into existing distribution systems or control panels.

Remote control

The remote control makes it very convenient to control the light from the outside. A remote control works for several controllers, which means you only need one remote control for several control units.

TrafficLED module

The TrafficLED is mounted and looped on the system cable. It lights on both sides, mostly in the default colour white. 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.

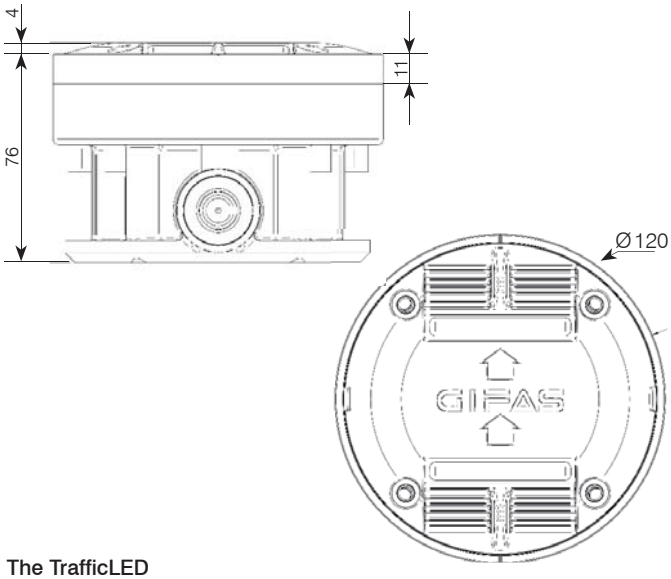
Standard cable

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 TrafficLEDs, easy to assemble with prefabricated mounting tabs. We recommend our own standard junction boxes which meet all system requirements.

Product TrafficLED



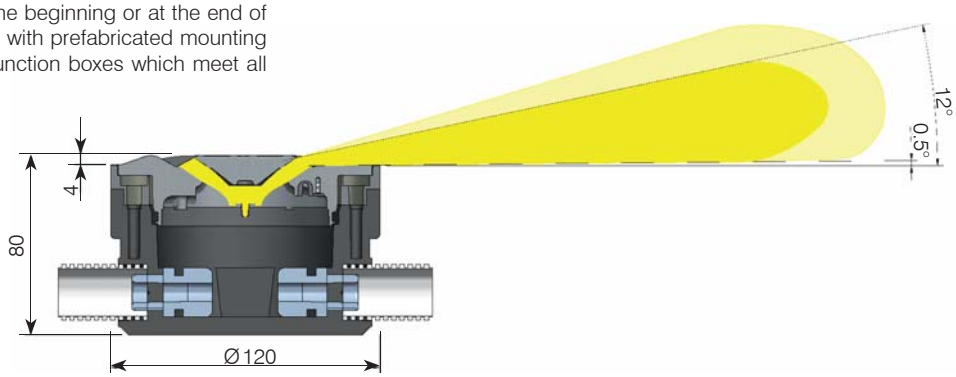
The TrafficLED

- Floor box made out of special IXEF plastic
- Stainless steel V4A upper section
- Electronics completely encapsulated
- Both sides fitted with LEDs
- Installation of light modules directly in the ground. Ask for our detailed installation instructions.
- 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.

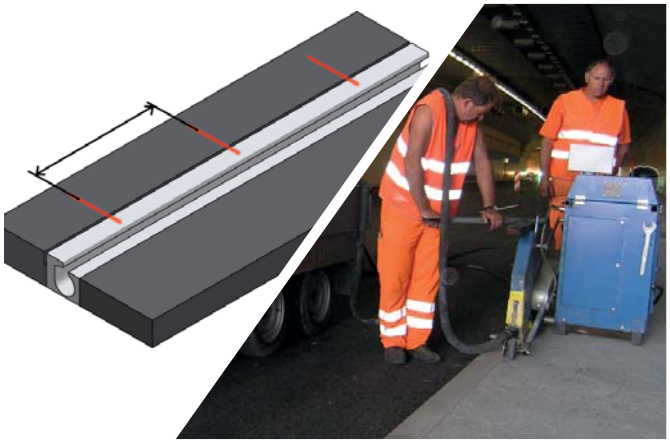
Technical information

Double-sided with 6 LEDs on each side

Light colours:	white, orange (600nm), blue (470 nm)
Luminous intensity:	25cd
Degree of protection:	IP68/IPX9K
Protection category:	III
Electrical operating data:	24VDC (range 18-44VDC)
Power input:	140mA @ 18 - 28VDC / 85mA @ 28 - 44VDC
TrafficLED upper component material:	chromium steel V4A
Colour lower section housing:	black
Dimensions:	ø 120mm, height 80mm
Height over road surface level:	4mm
Temperature resistance:	-30°C to +75°C
Drive-over resistance:	D400



Assembly



1. Set up/install the control line, including power supply.
2. Pull the cable from central control to junction box under/near shoulder.
3. Calibrate the sites, according to GIFAS drawing/builder.
4. Dry mill the groove in shoulder/road surface.

5. Drill core holes for TrafficLED modules, Ø 150 mm, depth 90/(+ 5/-0 mm).
6. Clean and blow out the groove, spurt out the core holes.
7. Lay the system cables in the groove and pull the connection to the junction box/interface through the lower section housing.

8. Install the lower section in core hole, use gauge to level; after successfully levelled, encapsulate the lower section with cold mortar (or equivalent two-component mortar).
9. Connect the upper TrafficLED sections to the system cable in the lower section, secure the positioning of the top section via the alignment ring.
10. Seal the groove with a joint profile or hot-poured bitumen.
11. Encapsulate the TrafficLED with mortar to cover the connection point.

Product range

In addition to the standard components listed below, other versions are available on request.

Item No.	Description
139997	TrafficLED V4A signal unit with electronics on both sides 6 **blue**
136194	TrafficLED V4A signal unit with electronics on both sides 6 **orange**
138244	TrafficLED V4A signal unit with electronics on both sides 6 **white**
142301	Recessed luminaire lower section Ø 120 x 65mm **1 cable gland M16 (4-9mm)** Anthracite plastic IXEF 1521 with plastic blind cover with pre-mounted V4A alignment ring
142302	Recessed luminaire lower section Ø 120 x 65mm **2 cable glands M16 (4-9mm)** Anthracite plastic IXEF 1521 with plastic blind cover with pre-mounted V4A alignment ring
142303	Marker lights lower part ø120x65mm Plastic IXEF 1521, with 1 cable gland M20
142307	Marker lights lower part ø120x65mm Plastic IXEF 1521, with 2 cable glands M20

020669	4-channel control unit, see Page 8
021248	1-channel control unit, see Page 8
020320	Programming device for 4-channel control unit, see Page 9
029597	Power supply for 4-channel control unit, see Page 9
115788*	System cable for FlatLED, see Page 10
036352**	LED-system cable 2x2.5 mm², black H05 VV-F enhanced, strands red/black
116753	Systemprofil, Spezialprofil EPDM für Nut 6 – 7.5 mm
140862	Systemprofil, Spezialprofil EPDM für Nut 8 – 12 mm
014430***	Fiber glass cord Ø 6 mm white heat resistent up to 200°C
022099***	Fiber glass cord Ø 15 mm white heat resistent up to 200°C
016425	System profile for FlatLED, see Page 10
028303	Bitumen (10kg), see Page 11
143015	Assembling jig, see Page 11 (can be borrowed from GIFAS)
140641	TrafficLED levelling support, V2A stainless steel complete with mounting material 215-297mm
037712	Standard levelling support 85-168mm*
141481	TrafficLED V4A blind cover, drive-over with seal and bolts
140783	TrafficLED plastic blind cover
035976	Conduit Ø 25/19mm, made of polypropylene, double-mantled, flame-retardant, highly flexible, grooved

* Flat cable especially suitable for use in road tunnels in combination with other marking lights (combination MarkLED and TrafficLED).
** LED system cable round, especially suitable for roundabouts, road markings and area lighting.
*** To be used if the cable slot is potted directly with bitumen – without system profile.

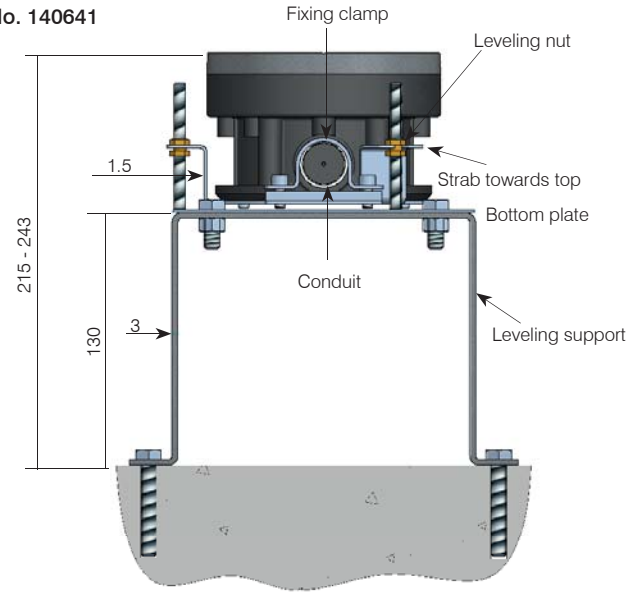
Variations and examples

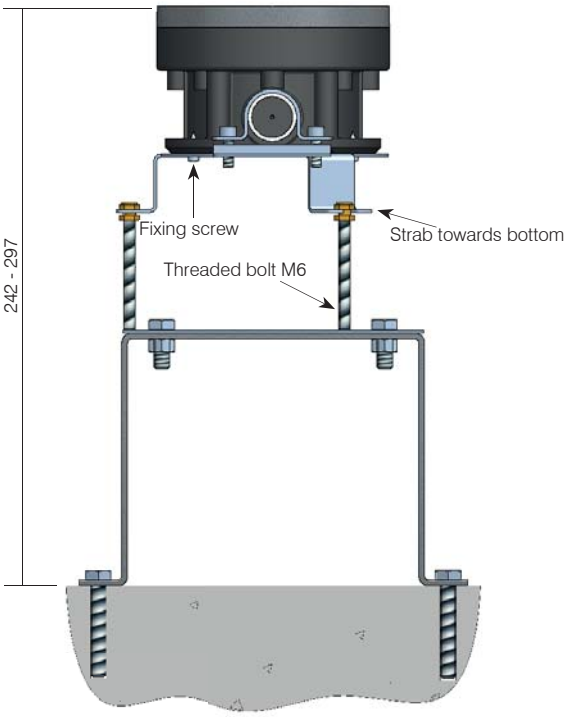
Due to the variety of practical circumstances, it has been continuously necessary to produce special versions of the TrafficLED product. These project-oriented solutions were necessary due to a large amount of reinforced concrete, or the very poor state of the shoulder made it impossible to mill the groove, for example. In other cases, there was no shoulder.

This therefore shows that GIFAS is not simply a manufacturer of standard products, but it works together with stakeholders to develop custom solutions. Here are some excerpts and examples in which the TrafficLED system was used “unconventionally”.

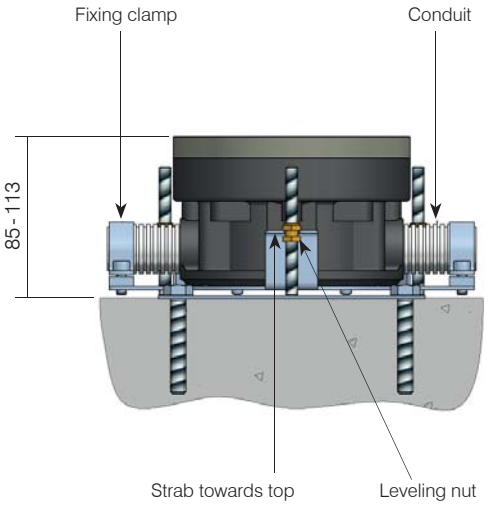
Special and custom-made solutions represent, in our experience, approximately 20 to 25% of all optical guidance system projects. In these cases, GIFAS supports stakeholders in terms of technical considerations, sketches, the creation of CAD documents, as well by compiling a cost estimate.

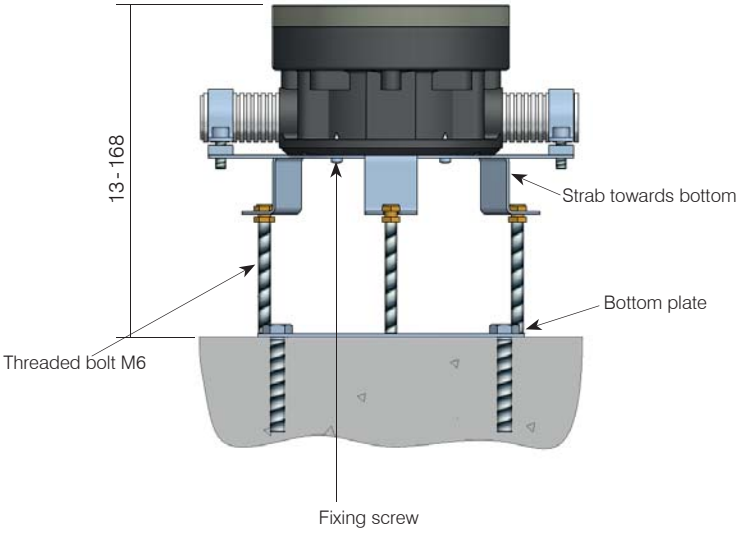
Item No. 140641





Item No. 037712

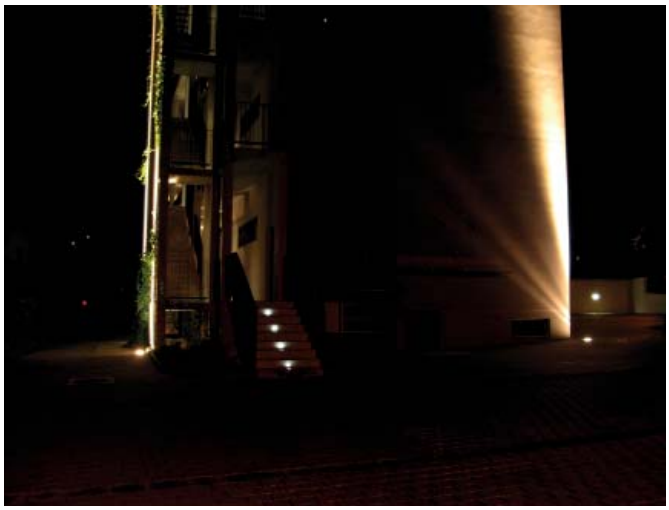




Examples

Roundabout Wittenbach

Roundabout Döttingen



Cityparking St. Gallen

Gotthardtunnel

Gotthardtunnel

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 2.5 A. That corresponds to approximately 60 signal units MarkLED, 30 signal units FlatLED (generally equipped on both sides) or 19 signal units CircLED.

- Supply: A 230VAC/24VDC power supply device with a nominal output current of 10 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. The relay drops off if an error has occurred. These error messages can be randomly set for single (per channel) or cumulative errors by means of a micro switch.
- External blinking contacts: Standard equipment includes an external blinking signal (24 VDC/60 VDC) that can be connected and transferred to the output lines.
- Operating mode: The control unit has 5 different modes of operation. The operator can select the operating mode through corresponding external controls.
- Functions: One of the following functions can be assigned to each channel in each mode:
  - Continuous lighting: 100 %
  - Blinking: adjustable from 0.1 - 9.9 Hz
  - Dimming: adjustable from 1 - 99 %
  - Flashing: adjustable from 1 - 99 ms
  - Off
- Programming: The optional programming device makes it possible to set and select all of the parameters. Communication is wireless through radio interface. If no programming device is available, all of the parameters can also be configured with the 3 programming buttons on the control panel (4-digit display).

Technical data

The 4-channel control panel is built into a GIFAS solid rubber housing, model 2516 with a transparent cover.

Protection category:	IP65
Rated power max.:	420 VA
Input voltage:	24 VDC (range 18-40VDC)
Supply current:	10 A, 4 channels of 2.5 A
Power supply:	external
Dimensions (WxHxD):	250 x 160 x 90 mm

Item No.	Description
020669	4-channel control unit, ready to be connected

1-channel control unit

A smaller control unit was developed for simple applications with a limited number of signal lights.
This 1-channel model was designed for only one output line, whereby the output load is maximum 2.5 A.

- Supply: The control unit is supplied directly with 230 V mains voltage. The operating voltage of 24 VDC is generated from the input voltage by an internal power pack.
- Error messages: A floating error message contact is assigned to the output channel.
- External blinking contacts: Standard equipment includes an external blinking signal (24 - 60 VDC) that can be connected and transferred to the output lines.
- Operating mode: The control unit has 2 different modes of operation. The operator can select the operating mode through corresponding external controls.
- Functions: One of the following functions can be assigned to each channel in each mode:
  - Continuous lighting: 100 %
  - Blinking: adjustable from 0.1 - 9.9 Hz
  - Dimming: adjustable from 1 - 99 %
  - Flashing: adjustable from 1 - 99 ms

  An OFF function is also available as standard equipment
- Programming: all of the parameters can also be configured directly using the 3 programming buttons on the control panel (4-digit display). Programming with a programming device is not possible with the 1-channel control unit.

Technical data

The 1-channel control panel is built into a GIFAS solid rubber housing, model 2516 with a transparent cover.

Protection category:	IP65
Rated power max.:	
Input voltage:	230 VAC (range 18-40 VDC)
Supply current:	2.5 A, (1 channel)
Power supply:	integrated
Dimensions (WxHxD):	250 x 160 x 90 mm

Item No.	Description
021248	1-channel control unit, ready to be connected

Power supply unit for 4-channel control unit

A 230VAC/24VDC power supply unit is installed upstream from the 4-channel control unit. This is used to produce the required output voltage of 24VDC. The power supply unit is equipped with integrated protection against overloading and short-circuiting, with automatic or manual reset.

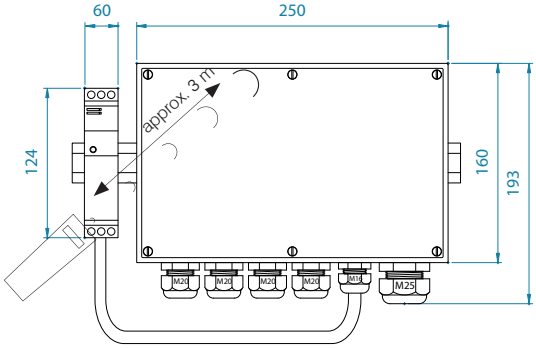
The power supply unit conforms to CEE regulations and also has UL and/or CSA approval.

Technical data

Protection category:	IP20 (with additional cover IP42)
Protection class:	I
Input voltage:	230 VAC (range 100-240 VAC)
Output voltage:	24 VDC (±10%)
Output current:	10 A
Connections primary:	Screw terminals 2.5 mm²
Connections secondary:	Screw terminals 2.5 mm²
Status display:	LED green
Installation:	Quick fastening for DIN rail 35 mm
Dimensions (WxHxD):	60 x 124 x 117 mm

A detailed datasheet on the power supply unit is available upon request

Item No.	Description
029597	Power supply unit MAXI / 230 VAC-24 VDC / 240 W-10 A



Programming device for 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 – as it is used with all mobile telephones. 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 „⇧“, „⇩“, „⌫“ und „✓“ are used to navigate the system. The range is approx. 3 m.

The menu is available in 4 languages: German, English, French and Italian.

Technical data

Protection category:	IP40
Protection class:	III
Radio frequency:	2‘400-2‘483G Hz
Operating voltage:	3 VDC, 2pcs. batteries Type AA
Life of battery:	> 1 year in standby mode
Dimensions (WxHxD):	63 x 140 x 31 mm

Item No.	Description
020320	Programming device compl. for 4-channel control unit

A detailed description of the programming device is available upon request

System cable TrafficLED

For the optical guidance systems you need a system cable as a feed line of each module. The system cable consists of a black coating with two integrated strands of dark blue and red insulation. On the coating, a white Marking is printed on the side of the dark blue strand.

The system cable FlatLED is a halogen-free EPR/EPR cable with tinned copper strands, high temperature resistance, bonding between the insulations of strands and the cable coating to increase longitudinal water tightness.

System profile TrafficLED

For the optical guidance systems, you need a covering for the system cable, which is inserted into the groove.
The self-locking groove profile TrafficLED is inserted into grooves with a width of 6 - 7.5 mm.

The material of the system profile TrafficLED is halogen-free EPDM.

Technical data system cable TrafficLED

Material properties:	halogen-free, no corrosive gases
Strand colours FlatLED:	red, dark blue
Nominal section:	2.5 mm²
Exterior dimensions:	9.6 mm x 5.25 mm
Weight (kg/km):	approx. 80 kg/km
Cu-Number (kg/m):	48 kg/km (48 g/m)
Fire load (kwh/m):	approx. 1'280 kJ/m
Temporary temperature resistance <10 s:	200°C

Technical data system profile TrafficLED

Material properties:	halogen-free, no corrosive and toxic gases
Hardness Shore A:	70° ±5 %
Nominal section:	89 mm²
Weight:	89 kg/km
Elongation at break:	237 % DIN 53504
Tensile strength:	11.2 MPa DIN 53504

System cable for for installation
2-pole TrafficLED

Conduit

Item No.	Description
115788	System cable for TrafficLED
036352*	LED-system cable 2x2.5 mm², black H05 VV-F enhanced, strands red/black
035976**	Conduit Ø 25/19 mm, made of polypropylene, double-mantled, flame-retardant, highly flexible, grooved

* Flat cable especially suitable for use in road tunnels in combination with other marking lights (combination MarkLED and TrafficLED).
** LED system cable round, especially suitable for roundabouts, road markings and area lighting.

Item No.	Description
116753	Groove profile, EPDM special profile for groove 6-7.5 mm
140862	Groove profile, EPDM special profile for groove 8-12 mm
014430***	Fiber glass cord Ø 6 mm white heat resistent up to 200°C
022099***	Fiber glass cord Ø 15 mm white heat resistent up to 200°C

*** To be used if the cable slot is potted directly with bitumen – without system profile.

Bitumen

We've tested a lot of different bituminous compounds; facing installation work and resistance to aging and water, we recommend this type of bitumen.
For work, this bitumen is heated up to 160° -180° C, stirring the mass constantly. The pouring into the nut is done by aid of a flagon, see picture.

Technical data

Colour:	black
Delivery:	1 pack, 10kg
Pouring temperature:	160° -180°C
Rel. Weight:	1.7kg/dm

Item No.	Description
028303	Bitumen/sealing compound (unit of 10kg)

Mortar

To install the lower part of TrafficLED and FlatLED, you need a specific mortar to fill up the space around the modules. You can calculate with 0.7l (1.17kg) per unit approximately.

Item No.	Description
016425	Mortar (unit of 25kg/15l)

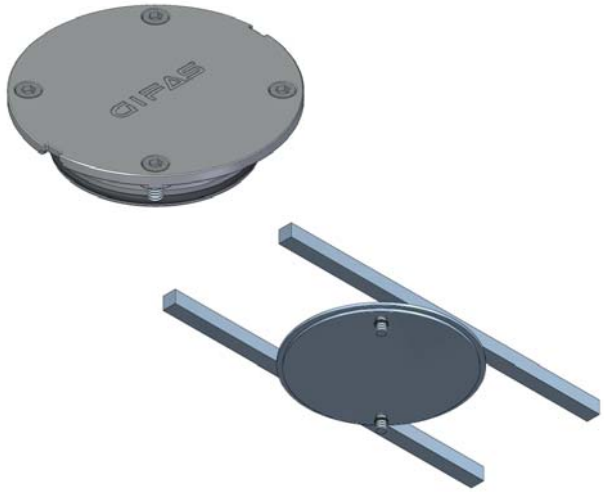
Junction boxes

In order to get from the control centers to the shoulder, an appropriate supply line has to be pulled in. It starts at the control center and is led through conduits to the shoulder, or under the shoulder respectively. A junction box (usually E30, fireproof) is installed at that point from where the two special stranded cables are laid on the shoulder.
The type of junction box used depends on the type of supply line, as well as on how many channels lead away from the junction box.

We are happy to give you our recommendations, and we have a comprehensive range of products.

You can find our complete range of junction boxes in our brochure "Junction Boxes" (Reg.4).

Assembling jig / blind cover



GIFAS recommend to install system TrafficLED with the assembling jigs, which are given to customers on loan by GIFAS.
If the pavement/road surface may be renewed, we recommend to deinstall the upper parts TrafficLED and to replace them by blind covers temporarily.

Item No.	Description
143015	Assembling jig TrafficLED
141481	Blind cover stainless steel, for drive over
143072	Aligning tool TrafficLED

GET IN TOUCH WITH US

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

www.gifas.ch

GIFAS ELECTRIC

Malux

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