VERNO PRODUCT RANGE 2026/2027

Active traffic guidance systems and tunnel lighting

Valid from 1st of April 2026

MADE IN GERMANY

LIGHT FOR TUNNELS AND TRAFFIC

Traffic control systems and tunnel lighting have to withstand the most difficult challenges: Weather, pressure load from vehicles, tyre abrasion, high temperatures or strong temperature fluctuations. The requirements vary greatly depending on the location. Robustness and reliability are essential here to minimise the potential for accidents, whether with active traffic management or tunnel lighting.

NORKA offers both tried and tested lighting modules, as well as new developments for active traffic guidance and tunnel lighting with the appropriate control systems. Explore our world of road transport products!

ORIENTATION AND GUIDANCE ON THE EDGE

Modern traffic management would be unthinkable without active traffic guidance systems for motor vehicles and pedestrians. With VERNO LINE luminaire modules installed above ground, you will always direct traffic both in tunnels and on roads into the right lanes. The add-on modules provide orientation at the edge, ultimately ensuring not only a smooth flow of traffic, but also greater safety and orientation on the roads.

VERNO LINE Module 100

RELIABLE AT ALL LEVELS

MOULD-SEALED
The built-in LEDs are mould-sealed and thus optimally protected against environmental influences. The other electronics are also protected according to protection rating IP68 thanks to mould-sealing. The modules are robust against environmental influences inside the tunnel.

FLAME-RETARDANT AND FIRE-RESISTANT
The module housing is flame-retardant and fire-resistant, and the polymers used have been tested to UL94 V0.

SUITABLE FOR MACHINE CLEANING
Roads and tunnels are cleaned regularly to ensure that they function perfectly. The VERNO LINE modules are suitable for machine cleaning.

ROLL-OVER CAPABILITY UP TO 15 TONNES
VERNO LINE modules can be rolled over by vehicles weighing up to 15 tonnes.

WIRED AND INDUCTIVE
VERNO LINE is available both directly wired and with inductive power supply.

CONTROLLABLE
Our control systems bring the VERNO LINE modules to life. Depending on the version, the front and rear can be controlled separately.

DIFFERENT DESIGNS
Different building projects require different geometries. We offer particularly flat models, as well as versions with a taller design.

COLOURFUL
The lighting modules can be fitted with LEDs on one or both sides in up to five different colours.

VERNO LINE Module 220H60

VERNO LINE Module 220

VERNO LINE – FUNCTION OVERVIEW

	VERNO LINE	VERNO LINE IHP	VERNO LINE ILP	VERNO LINE XP	VERNO LINE IXP
Lighting modules					
Module 100	■	■	■	■	■
Module 220	■		■		
Wired modules	■			■	
Inductively coupled modules		■	■		■
Control unit					
VERNO CONTROL MINI / DUO	■		■		
VERNO CONTROL IHP		■			
VERNO CONTROL XP / IXP				■	■
Control unit suitable for top-hat rail mounting	■		■	■	■
Separate transformer and control unit	■		■	■	■
Operating functions					
Permanent lights	■	■	■	■	■
Flashing with external clock specification	■	■	■	■	■
Flashing with internal clock specification		■		■	■
Rear of module can be switched off	■	■		■	■
Running light	■*			■	■
Assembly light				■	■
Dismantling light				■	■
Day and night setback	■	■	■	■	■
Brightness control	■	■	■	■	■
Individual feedback of the modules				■	■
System supply					
2,000 m supply length		■			
Functional extra-low voltage < 60 V DC	■		■	■	■
EMC-tested	■	■	■	■	■
Potential free contacts for controlling the lighting modules	■		■	■	■
Electronically compensated line losses				■	■
No resonant circuit balancing required (e.g. via capacitors)	■		■	■	■
Connection to tunnelling technology					
Feedback from the control unit via potential-free contacts	■	■	■	■	■
LAN connection available with control unit				■	■
Control via RS232				■	■
Data communication					
Unique address assignment per module				■	■
Feedback from the entire line	■	■	■	■	■
Feedback of the individual module				■	■
Feedback from the individual induction coupler					■
Status feedback from the control unit to higher-level control technology	■	■	■	■	■
Assignment of fixed module addresses	■			■	■
Allocation of flexible module addresses	■	■		■	■
Cyclical module query				■	■
Easier troubleshooting, as supply with DC	■		■	■	■
Recessed mounting					
Easier recessed mounting in a slot thanks to narrow induction coupler		■	■		■
2 x 2.5 mm² special stranded wire for cabling	■		■	■	■
2 x 6 mm² special stranded wire for cabling		■			
T-connector HD, IP 68	■		■	■	■
Induction coupler					
Vertical and horizontal induction coupler		■	■		■

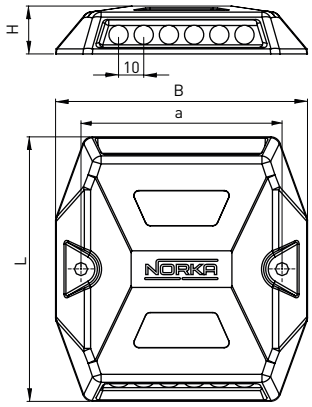
■*Requires factory-addressed modules

VERNO LINE modules are often used in tunnels and underpasses as active traffic guidance systems. Inductive versions in particular simplify maintenance.

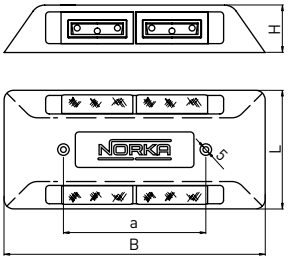
VERNO LINE

LED
IP 68

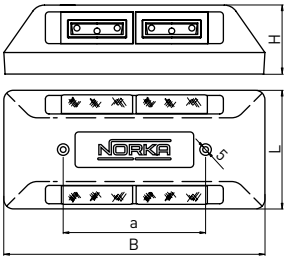
Module 100 version



Module 220 version



Module 220h60 version



Lamp	Version	L	W	H	a	Max. weight
LED	Module 100	105 mm	100 mm	19 mm	80 mm	0.2 kg
LED	Module 220	100 mm	220 mm	40 mm	120 mm	0.5 kg
LED	Module 220h60	100 mm	220 mm	60 mm	120 mm	0.5 kg

AREAS OF APPLICATION

System for optical guidance systems for tunnels and galleries consisting of wired modules, connection technology, cabling and control units.

HOUSING

Flame-retardant module housing made of white polymer, tested to UL 94 V0. The complete module is fire-resistant and robust against the environmental influences inside the tunnel, can be driven over (pressure load capacity 15 tonnes) and is suitable for mechanical tunnel cleaning.

LIGHTING TECHNOLOGY

The light-emitting diodes are mould-sealed in a waterproof manner behind a flexible and transparent soft glass and protected against mechanical and chemical influences. The brightness of the modules can be adjusted on the control unit. Switching to day or night intensity can be carried out by an external signal or using a brightness sensor. The lighting module can be fitted on one or both sides in white, red, yellow, green or blue.

ELECTRICAL CONSTRUCTION

The electronics are mould-sealed in a waterproof manner (IP 68, 6 bar). The cable connection to the lighting module is established by means of a T-connection to increase reliability. The modules are supplied with 24 V DC.

MOUNTING

The lighting modules are preferably mounted on or in the immediate vicinity of the kerb. It is possible to combine wired and inductive modules on a control unit with the appropriate system components as required.

VERNO LINE – LED 1-SIDED, CONNECTION TWO STRANDS

Version	Article no.
Module 100	810 01 01 **A**0 001
Module 220	810 01 02 **A**0 001

When ordering, please replace the highlighted letters with the corresponding numbers.

Colour temperature module front side / A

1 = white
2 = red
3 = yellow
4 = blue
5 = green

VERNO LINE – LED 2-SIDED

Version	Article no.
Module 100	810 01 01 **AB C**
Module 220	810 01 02 **AB C**
Module 220h60	810 01 03 **AB C**

When ordering, please replace the highlighted letters with the corresponding numbers.

Colour temperature module front side / A

1 = white
2 = red
3 = yellow
4 = blue
5 = green

Colour temperature module rear side / B

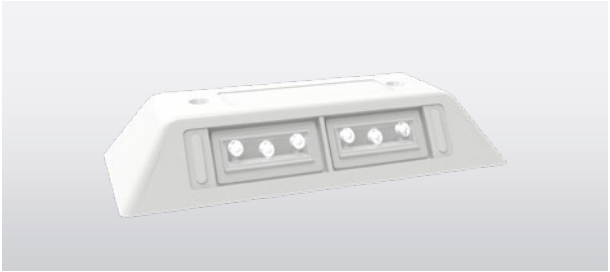
1 = white
2 = red
3 = yellow
4 = blue
5 = green

Connection / C

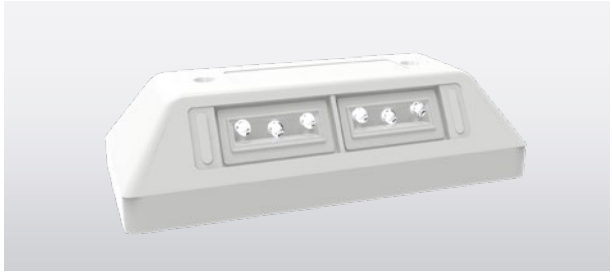
001 = two strands
004 = three strands

VERNO LINE ACCESSORIES

Version	Article no.
Assembly adhesive, 290 ml	800 00 31 00 000
HD connector (20 pcs.)	800 00 29 00 000
Stranded wires, 2 x 2.5 mm², per full metre	800 00 14 00 041
Stranded wire, 2 x 2.5 mm², longitudinally watertight, per full metre	800 00 14 00 044

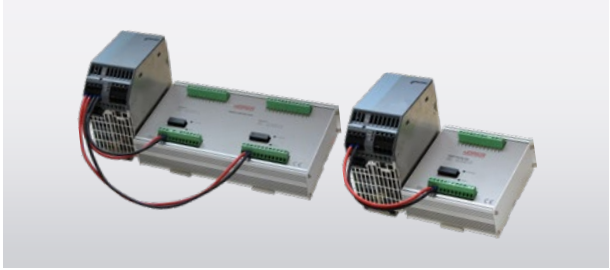


> VERNO LINE Module 220 version



> VERNO LINE Module 220h60 version

SUITABLE ADDITION



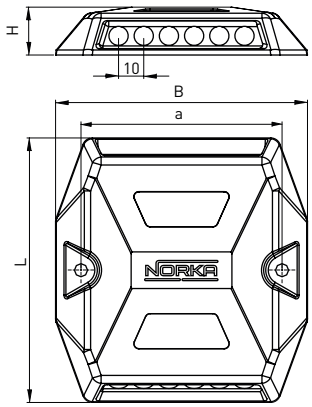
CONTROL TECHNOLOGY: VERNO CONTROL MINI AND VERNO CONTROL DUO

- Can be used with compatible wired and inductive VERNO modules
- Various operating modes: Day/night setback, (alternating) flashing, individual running light

VERNO LINE IHP

LED

IP 68 CE



Lamp	Version	L	W	H	a	Max. weight
LED	Module 100	105 mm	100 mm	19 mm	80 mm	0.2 kg

AREAS OF APPLICATION

System for optical guidance systems for tunnels and galleries consisting of inductive modules and couplers, capacitors (depending on the application), connection technology, cabling and control units.

HOUSING

Flame-retardant module housing made of white polymer, tested to UL 94 V0. The complete module is fire-resistant and robust against the environmental influences inside the tunnel, can be driven over (pressure load capacity 15 tonnes) and is suitable for mechanical tunnel cleaning.

LIGHTING TECHNOLOGY

The light-emitting diodes are mould-sealed in a waterproof manner behind a flexible and transparent soft glass and protected against mechanical and chemical influences. The brightness of the modules can be adjusted on the control unit. Switching to day or night intensity can be carried out by an external signal or by a brightness sensor. The lighting module can be fitted with six LEDs on one or both sides in the colours white, red, yellow, green or blue.

ELECTRICAL CONSTRUCTION

The electronics are mould-sealed in a waterproof manner (IP 68, 6 bar).
The modules are supplied and controlled contact-free by means of an electromagnetic field (inductive).
Energy transmission and communication to the module are implemented by means of an induction coupler.
The electromagnetic field for supplying the modules is generated in the control unit, making it possible to control up to 2,600 m of twin conductors.

MOUNTING

The lighting modules are preferably mounted on or in the immediate vicinity of the kerb. It is possible to combine wired and inductive modules on a control unit with the appropriate system components as required.

VERNO LINE IHP – LED 1-SIDED

Version	Article no.
Module 100	810 01 01 **A**0 **B**
Module 220	810 01 02 **A**0 **B**

When ordering, please replace the highlighted letters with the corresponding numbers.

Colour temperature module front side / A

1 = white
2 = red
3 = yellow
4 = blue
5 = green

Connection / B

033 = Intelligent, coupler upright
034 = Intelligent, coupler horizontal
037 = Standard, coupler upright

VERNO LINE IHP – LED 2-SIDED

Version	Article no.
Module 100	810 01 03 **AB C**

When ordering, please replace the highlighted letters with the corresponding numbers.

Colour temperature module front side / A

1 = white
2 = red
3 = yellow
4 = blue
5 = green

Colour temperature module rear side / B

1 = white
2 = red
3 = yellow
4 = blue
5 = green

Connection / C

033 = Intelligent, coupler upright
034 = Intelligent, coupler horizontal
037 = Standard, coupler upright

VERNO LINE IHP ACCESSORIES

Version	Article no.
Assembly adhesive, 290 ml	800 00 31 00 000
Capacitor 220 + 22 nF for 2.5 mm²	810 03 05 00 096
Capacitor 220 + 47 nF for 6 mm²	810 03 05 00 095
IHP induction coupler	810 03 04 00 000
IHP cable, 2 x 2.5 mm², with short-circuit end, cable length 100 m	810 03 12 00 041
IHP cable, 2 x 2.5 mm², cable length 200 m	810 03 13 00 041
IHP cable, 2 x 2.5 mm², per full metre	810 03 11 00 041
IHP short-circuit end set for cables (200 m, 2 x 2.5 mm²), for retrofitting short-circuit ends	available on request
IHP cable, 2 x 6 mm², with short-circuit end, cable length 100 m	810 03 12 00 046
IHP cable, 2 x 6 mm², cable length 200 m	810 03 13 00 046
IHP cable, 2 x 6 mm², per full metre	810 03 11 00 046
IHP short-circuit end set for cables (200 m, 2 x 6 mm²), for retrofitting short-circuit ends	available on request

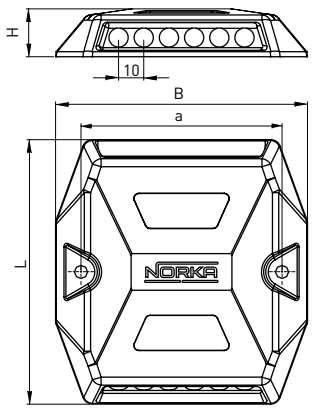
SUITABLE ADDITION

CONTROL TECHNOLOGY: VERNO CONTROL IHP

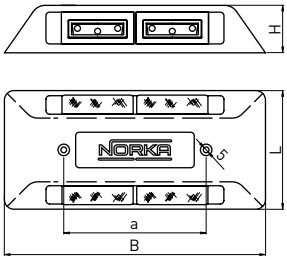
- Available in three performance levels from 550 m to a maximum cable length of 2,600 m
- Status feedback of the connected lighting modules (IHP Plus version)
- Individual flashing modes, brightness control in eight levels and day/night setback

VERNO LINE ILP

Module 100 version



Module 220 version



Lamp	Version	L	W	H	a	Max. weight
LED	Module 100	105 mm	100 mm	19 mm	80 mm	0.2 kg
LED	Module 220	100 mm	220 mm	40 mm	120 mm	0.5 kg

AREAS OF APPLICATION

System for optical guidance systems for tunnels and galleries, consisting of inductive modules, couplers, connection technology, cabling and control units.

HOUSING

Flame-retardant module housing made of white polymer, tested to UL 94 V0. The complete module is fire-resistant and robust against the environmental influences inside the tunnel, can be driven over (pressure load capacity 15 tonnes) and is suitable for mechanical tunnel cleaning.

LIGHTING TECHNOLOGY

The light-emitting diodes are mould-sealed in a waterproof manner behind a flexible and transparent soft glass and protected against mechanical and chemical influences. The brightness of the modules can be adjusted on the control unit. Switching to day or night intensity can be carried out by an external signal or using a brightness sensor. The lighting module can be fitted with six LEDs on one or both sides in white, red or yellow.

ELECTRICAL CONSTRUCTION

The electronics are mould-sealed in a waterproof manner (IP 68, 6 bar). The modules are supplied and controlled contact-free by means of an electromagnetic field (inductive). The energy transfer to the module is implemented by means of an induction coupler. The coupler is supplied with 24 V DC from the control unit. 230 V AC supply voltage must be available on the mains side. Due to the electromagnetic field being generated in the induction coupler, there is no inductive field along the cable route.

MOUNTING

The lighting modules are preferably mounted on or in the immediate vicinity of the kerb. It is possible to combine wired and inductive modules on a control unit with the appropriate system components as required.

VERNO LINE ILP – LED 1-SIDED

Version	Article no.
Module 100	810 04 01 **A**0 000
Module 220	810 04 02 **A**0 000

When ordering, please replace the highlighted letters with the corresponding numbers.

Colour temperature module front side / A

1 = white
2 = red
3 = yellow

VERNO LINE ILP – LED 2-SIDED

Version	Article no.
Module 100	810 04 01 **AB** 000
Module 220	810 04 02 **AB** 000

When ordering, please replace the highlighted letters with the corresponding numbers.

Colour temperature module front side / A

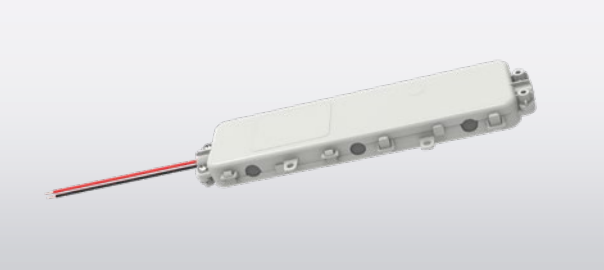
1 = white
2 = red
3 = yellow

Colour temperature module rear side / B

1 = white
2 = red
3 = yellow

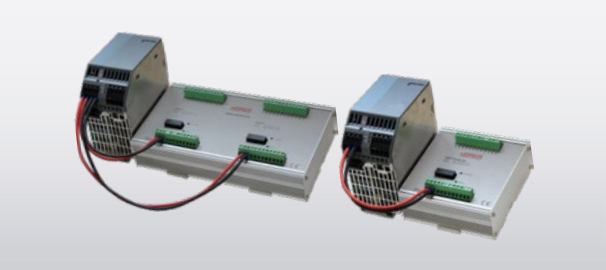
VERNO LINE ILP ACCESSORIES

Version	Article no.
Assembly adhesive, 290 ml	800 00 31 00 000
HD connector (20 pcs.)	800 00 29 00 000
ILP induction coupler (203 x 18 x 58 mm) with cable (2 x 0.75 mm², length 1.0 m)	810 04 04 00 009
ILP induction coupler (203 x 18 x 58 mm) with stranded wires (2 x 2.5 mm², length 15 cm)	810 04 04 00 001
ILP induction coupler (203 x 18 x 58 mm) with stranded wires (4 x 2.5 mm², length 15 cm)	810 04 04 00 007
Stranded wires, 2 x 2.5 mm², per full metre	800 00 14 00 041
Stranded wire, 2 x 2.5 mm², longitudinally watertight, per full metre	800 00 14 00 044



> VERNO LINE ILP induction coupler with two strands

SUITABLE ADDITION

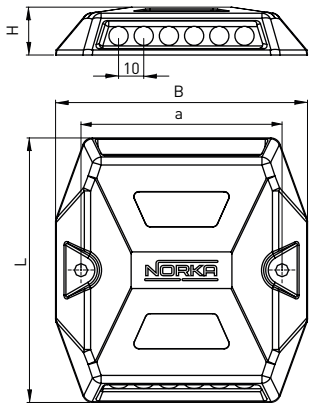


CONTROL TECHNOLOGY: VERNO CONTROL MINI AND VERNO CONTROL DUO

- Can be used with compatible wired and inductive VERNO modules
- Various operating modes: Day/night setback, (alternating) flashing, individual running light

VERNO LINE XP

LED
IP 68
CE



Lamp	Version	L	W	H	a	Max. weight
LED	Module 100	105 mm	100 mm	19 mm	80 mm	0.2 kg

AREAS OF APPLICATION

System for optical guidance systems for tunnels and galleries consisting of wired modules, connection technology, cabling and control units.

HOUSING

Flame-retardant module housing made of white polymer, tested to UL 94 V0. The complete module is fire-resistant and robust against the environmental influences inside the tunnel, can be driven over (pressure load capacity 15 tonnes) and is suitable for mechanical tunnel cleaning.

LIGHTING TECHNOLOGY

The light-emitting diodes are mould-sealed in a waterproof manner behind a flexible and transparent soft glass and protected against mechanical and chemical influences. The brightness of the modules can be adjusted on the control unit. Switching to day or night intensity can be carried out by an external signal or using a brightness sensor. The lighting module can be fitted with six LEDs on one or both sides in white, red, yellow, green or blue. Due to the two separate colour channels per module side, colour mixing and switching is possible to a limited extent.

ELECTRICAL CONSTRUCTION

The electronics are mould-sealed in a waterproof manner (IP 68, 6 bar).
The cable connection to the lighting module is established by means of a T-connection to increase reliability.
The modules are supplied with 24 V DC.
The status feedback and LED failure detection of the modules are optional.

MOUNTING

The lighting modules are preferably mounted on or in the immediate vicinity of the kerb. It is possible to combine wired and inductive modules on a control unit with the appropriate system components as required.

VERNO LINE XP – LED 1-SIDED

Version	Article no.
Module 100	810 02 01 **A**0 001

When ordering, please replace the highlighted letters with the corresponding numbers.

Colour temperature module front side / A

1 = white
2 = red
3 = yellow
4 = blue
5 = green
6 = white-red
7 = white-yellow
8 = red-green

VERNO LINE XP – LED 2-SIDED

Version	Article no.
Module 100	810 02 01 **AB** 001

When ordering, please replace the highlighted letters with the corresponding numbers.

Colour temperature module front side / A

1 = white
2 = red
3 = yellow
4 = blue
5 = green
6 = white-red
7 = white-yellow
8 = red-green

Colour temperature module rear side / B

1 = white
2 = red
3 = yellow
4 = blue
5 = green
6 = white-red
7 = white-yellow
8 = red-green

VERNO LINE ACCESSORIES

Version	Article no.
Assembly adhesive, 290 ml	800 00 31 00 000
HD connector (20 pcs.)	800 00 29 00 000
Stranded wires, 2 x 2.5 mm², per full metre	800 00 14 00 041
Stranded wire, 2 x 2.5 mm², longitudinally watertight, per full metre	800 00 14 00 044

SUITABLE ADDITION

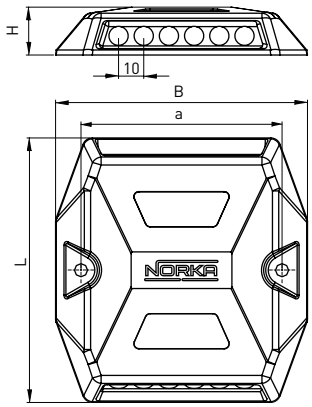
CONTROL TECHNOLOGY: VERNO CONTROL IXP

- Combination of compatible wired and inductive VERNO modules possible
- Status feedback of the connected lighting modules
- Any number of independent function sections can be programmed

VERNO LINE IXP

LED

IP 68 CE



Lamp	Version	L	W	H	a	Max. weight
LED	Module 100	105 mm	100 mm	19 mm	80 mm	0.2 kg

AREAS OF APPLICATION

System for optical guidance systems for tunnels and galleries, consisting of inductive modules, couplers, connection technology, cabling and control units.

HOUSING

Flame-retardant module housing made of white polymer, tested to UL 94 V0. The complete module is fire-resistant and robust against the environmental influences inside the tunnel, can be driven over (pressure load capacity 15 tonnes) and is suitable for mechanical tunnel cleaning.

LIGHTING TECHNOLOGY

The light-emitting diodes are mould-sealed in a waterproof manner behind a flexible and transparent soft glass and protected against mechanical and chemical influences. The brightness of the modules can be adjusted on the control unit. Switching to day or night intensity can be carried out by an external signal or by a brightness sensor. The lighting module can be equipped with six LEDs on both sides in white, red, yellow, green or blue. Due to the two separate colour channels per module side, colour mixing and switching is possible to a limited extent.

ELECTRICAL CONSTRUCTION

The electronics are mould-sealed in a waterproof manner (IP 68, 6 bar). The modules are supplied and controlled contact-free by means of an electromagnetic field (inductive).

Energy transmission and communication to the module are implemented by means of an induction coupler. The coupler is supplied with 24-48 V DC from the control unit. 230 V AC supply voltage must be available on the mains side. The status feedback and LED failure detection of the modules are optional. Due to the electromagnetic field being generated in the induction coupler, there is no inductive field along the cable route.

MOUNTING

The lighting modules are preferably mounted on or in the immediate vicinity of the kerb. It is possible to combine wired and inductive modules on a control unit with the appropriate system components as required.

VERNO LINE IXP – LED 1-SIDED

Version	Article no.
Module 100	810 05 01 **A**0 000

When ordering, please replace the highlighted letters with the corresponding numbers.

Colour temperature module front side / A

1 = white
2 = red
3 = yellow
4 = blue
5 = green
6 = white-red
7 = white-yellow
8 = red-green

VERNO LINE IXP – LED 2-SIDED

Version	Article no.
Module 100	810 05 01 **AB** 000

When ordering, please replace the highlighted letters with the corresponding numbers.

Colour temperature module front side / A

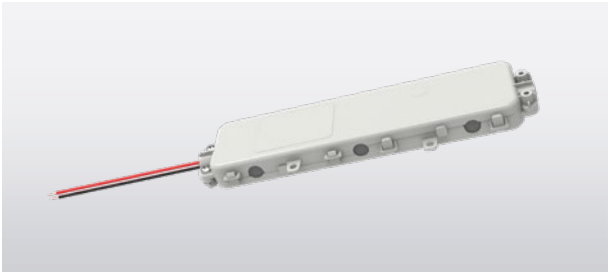
1 = white
2 = red
3 = yellow
4 = blue
5 = green
6 = white-red
7 = white-yellow
8 = red-green

Colour temperature module rear side / B

1 = white
2 = red
3 = yellow
4 = blue
5 = green
6 = white-red
7 = white-yellow
8 = red-green

VERNO LINE IXP ACCESSORIES

Version	Article no.
Assembly adhesive, 290 ml	800 00 31 00 000
HD connector (20 pcs.)	800 00 29 00 000
IXP induction coupler (203 x 18 x 58 mm) with stranded wires (2 x 2.5 mm², length 15 cm)	810 05 04 00 001
IXP induction coupler (203 x 18 x 58 mm) with stranded wires (4 x 2.5 mm², length 15 cm)	810 05 04 00 007
Stranded wires, 2 x 2.5 mm², per full metre	800 00 14 00 041
Stranded wire, 2 x 2.5 mm², longitudinally watertight, per full metre	800 00 14 00 044



> VERNO LINE ILP induction coupler with two strands

SUITABLE ADDITION

CONTROL TECHNOLOGY: VERNO CONTROL IXP

- Combination of compatible wired and inductive VERNO modules possible
- Status feedback of the connected lighting modules
- Any number of independent function sections can be programmed

THE TRACK IN VIEW

In addition to the transit-zone lighting, the optical guidance system of the San Bernardino Tunnel has also been renewed in recent years.

Installed on both sides of the verges of the driving lane, the optical guidance system visually emphasises the course of the road and improves the visibility of bends and kerbs. The VERNO CONTROL IHP control system is used with VERNO LINE IHP lighting modules, 600 in total.

The robust surface-mounted LED modules are operated inductively; i.e., the power supply and control are contactless due to an underground supply line and corresponding induction couplers.

The controllable functions include continuous lighting, flashing, alternating flashing, day/night setback and brightness control in eight stages, as well as the option of switching off the back of the module.

In the San Bernardino Tunnel, the entire control system could be implemented using the existing system cabling with 2 x 10 mm² cables, made possible by the VERNO CONTROL IHP, which allowed only the compensation values to be adjusted. For this purpose, the expansion joints had to be replaced every 180 metres, while the cabling otherwise remained untouched. This is an enormous advantage of the VERNO control system, which enables the cost-effective partial refurbishment of existing optical guidance systems of all kinds.

Property owner: Federal Department of the Environment, Transport, Energy and Communications (DETEC)
Federal Roads Office (FEDRO)

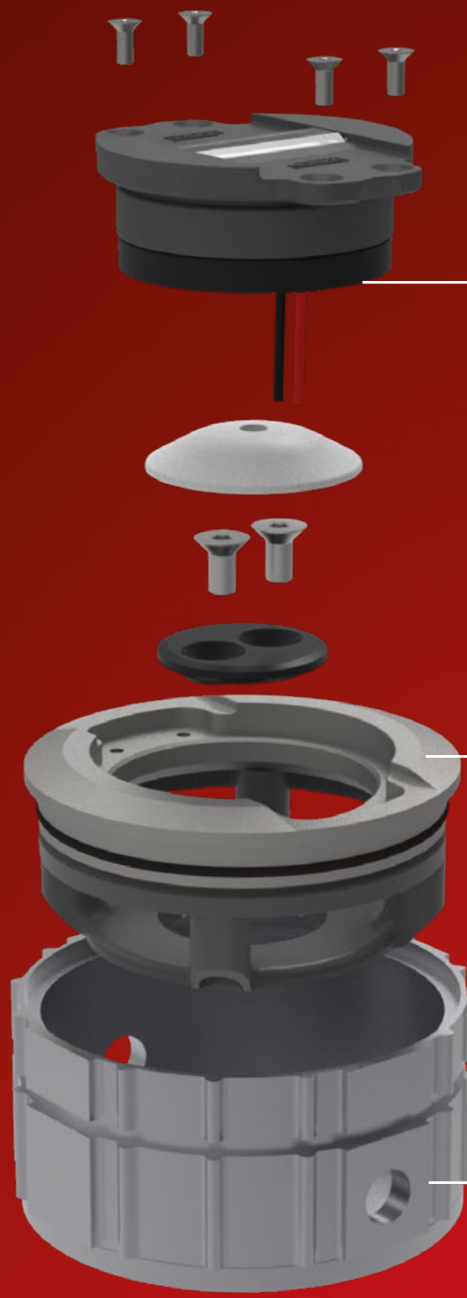
Photos: Frieder Blickle

The robust surface-mounted LED modules are inductively operated and can therefore be easily replaced in the event of damage.

MORE ROBUST THAN A SNOW PLOUGH

Wherever vehicles or passers-by are guided to a destination in an orderly manner, traffic guidance systems come into play.

With VERNO LEVELITE inground guidance systems, you can direct and optimise traffic flows in tunnels, on roads or on footpaths in a particularly intelligent way.



WELL EQUIPPED FOR ALL APPLICATIONS

ROBUST DESIGN AND SNOW PLOUGH-PROOF

The housing has a low installation height, and the electronics and LED are mould-sealed to protect against water and dust. The installation pot with stainless steel ring provides additional protection for the inner workings. VERNO LEVELITE is snowplough-proof in the direction of travel.

ROLL-OVER CAPABILITY UP TO 25 TONNES

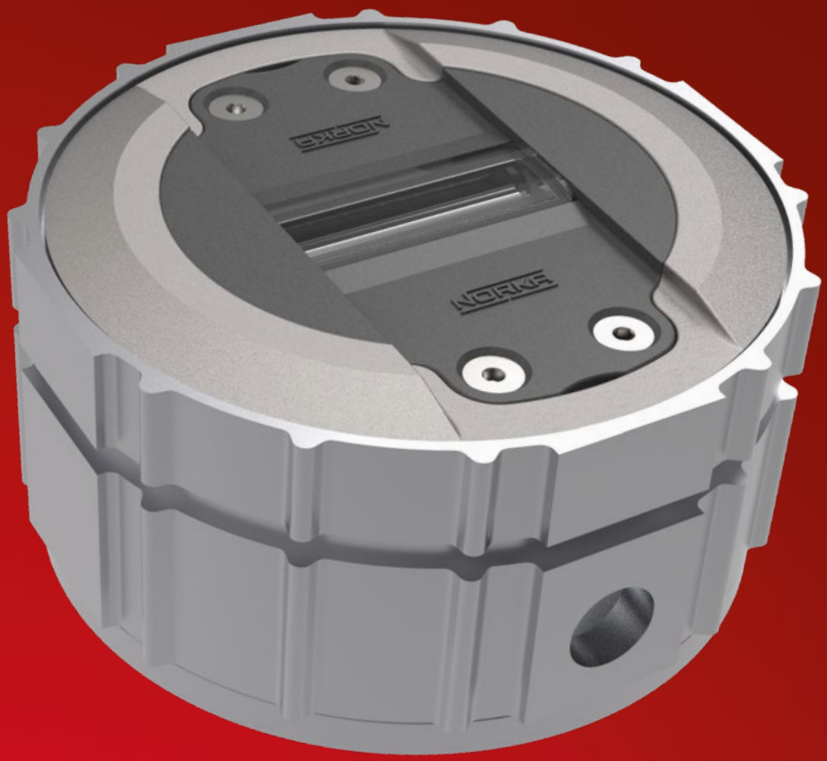
The VERNO LEVLITE lighting module can be rolled over up to 25 tonnes to withstand the loads of heavy goods traffic or road cleaning and clearing vehicles.

VARIOUS CONTROL OPTIONS AND OPERATING MODES

Wide range of control options and configurations: Separate switching of sides and two different colours, brightness control. VERNO LEVELITE also has various operating modes: Day/night setback, flashing mode, alternating flashing mode and running light function.

WIRED OR INDUCTIVE

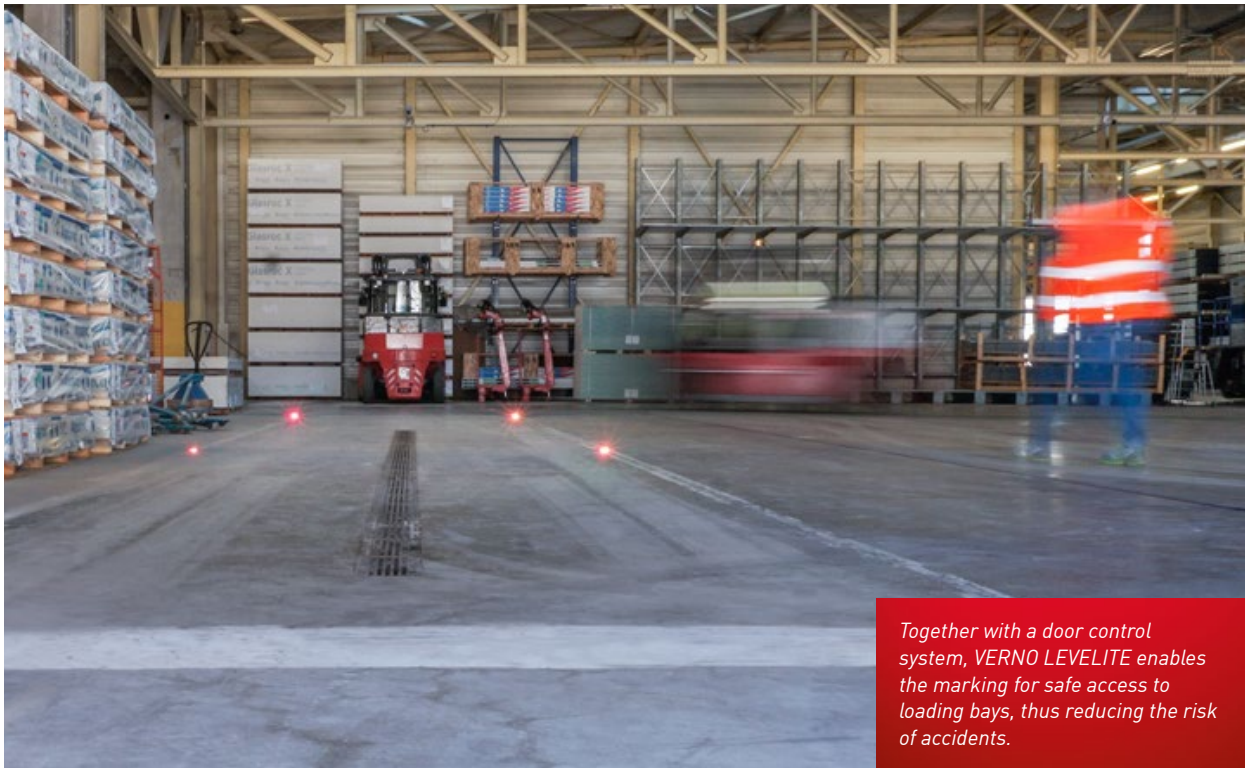
VERNO LEVLITE is available both wired and with inductive power supply.



VERNO LEVELITE – FUNCTION OVERVIEW

	VERNO LEVELITE	VERNO LEVELITE IHP	VERNO LEVELITE XL	VERNO LEVELITE XP
Lighting modules				
Wired modules	■		■	■
Inductively coupled modules		■		
Control unit				
VERNO CONTROL MINI / DUO	■		■	
VERNO CONTROL IHP		■		
VERNO CONTROL XP				■
Control unit suitable for top-hat rail mounting	■		■	■
Separate transformer and control unit	■		■	■
Operating functions				
Permanent lights	■	■	■	■
Flashing with external clock specification	■	■	■	■
Flashing with internal clock specification		■		■
Rear of module can be switched off	■	■		■
Running light	■			■
Assembly light				■
Dismantling light				■
Day and night setback	■	■	■	■
Brightness control	■	■	■	■
Individual feedback of the modules				■
System supply				
2,000 m supply length		■		
Functional extra-low voltage < 60 V DC	■		■	■
EMC-tested	■	■	■	■
Potential free contacts for controlling the lighting modules	■		■	■
Electronically compensated line losses				■
Connection to tunnelling technology				
Feedback from the control unit via potential-free contacts	■	■	■	■
LAN connection available with control unit				■

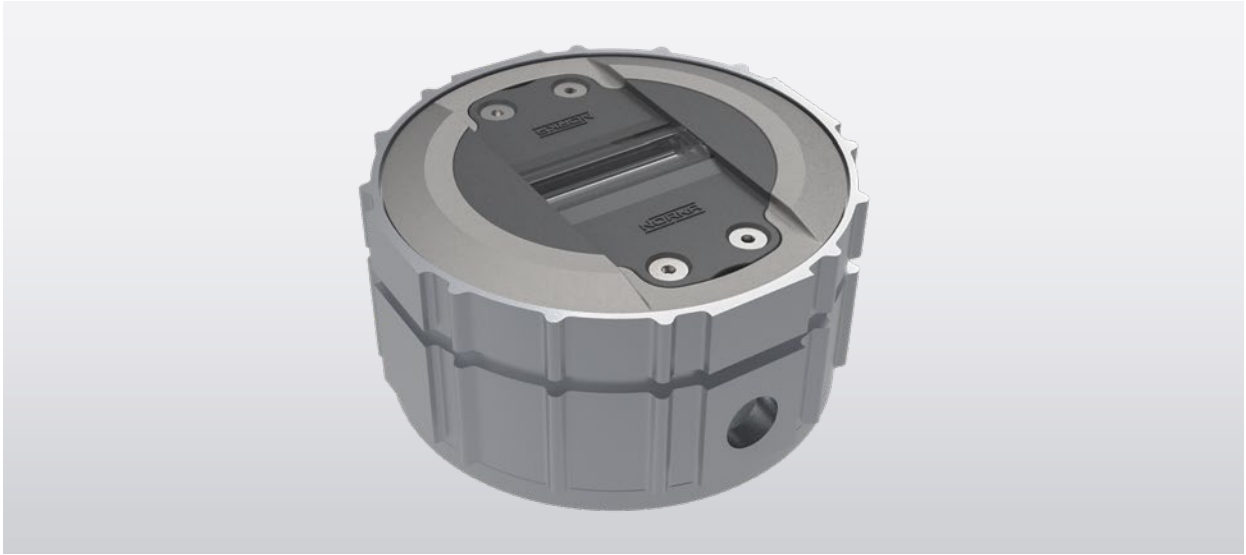
Data communication	VERNO LEVELITE	VERNO LEVELITE IHP	VERNO LEVELITE XL	VERNO LEVELITE XP
Unique address assignment per module				■
Feedback from the entire line	■	■	■	■
Feedback of the individual module				■
Possibility of integrating sensors on the same supply line				■
Assignment of fixed module addresses	■			■
Allocation of flexible module addresses		■		■
Cyclical module query				■
Easier troubleshooting, as supply with DC	■		■	■
Recessed mounting				
2 x 2.5 mm² special stranded wire for cabling	■		■	■
2 x 6 mm² special stranded wire for cabling		■		
T-connector HD, IP 68	■		■	■
Inductive signal and current transmission		■		

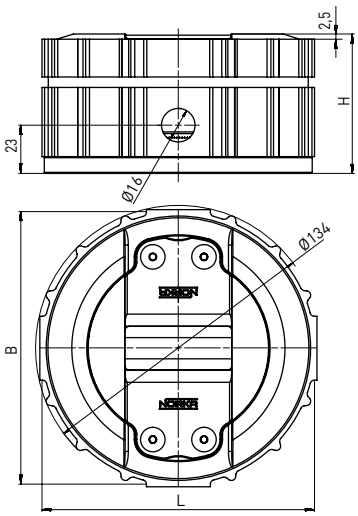


Together with a door control system, VERNO LEVELITE enables the marking for safe access to loading bays, thus reducing the risk of accidents.

VERNO LEVELITE

LED
IP 68





Lamp	Version	L	W	H	a	Max. weight
LED	Electronic optics insert with installation pot	130 mm	130 mm	60 mm	-	1.7 kg

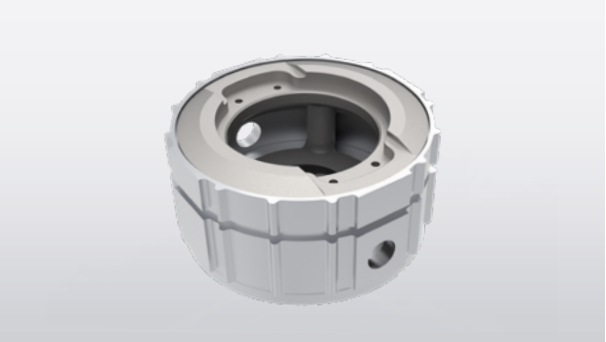
AREAS OF APPLICATION
Optical guidance system for tunnels, galleries and roads.

HOUSING
The system (pressure load capacity 25 tonnes) consists of an installation pot with stainless steel ring V4A (1.4581) and an electronic optics insert. The installation pot is used to fix the module in the road at the same level. The electronic optics insert contains the waterproof mould-sealed electronics and the module LEDs. Due to the low total height above the road surface (max. 3 mm), the electronic optics insert, in conjunction with the aluminium installation pot (see accessories), is "snow plough-proof" in the direction of illumination (direction of travel) (even compared to snow ploughs with a steel edge).

LIGHTING TECHNOLOGY
The brightness of the modules can be adjusted on a control unit. Switching to day or night intensity can be carried out by an external signal or using a brightness sensor. The lighting module can be fitted with six LEDs on one or both sides in white, red, yellow, green or blue. Due to the two separate colour channels per module side, colour mixing and switching is possible to a limited extent.

ELECTRICAL CONSTRUCTION
The electronics are mould-sealed in a waterproof manner (IP 68, 6 bar). The cable connection to the lighting module is established by means of a T-connection to increase reliability. The modules are supplied with 24 V DC.

MOUNTING
The lighting modules are preferably mounted in the driving lane. Pour the installation pot flush to street level using cast concrete (see accessories). The electronic optical insert is fixed in place using a toothed disc, allowing the optics to be precisely aligned in the direction of travel.



NOTE

A VERNO LEVELITE module consists of an electronic optics insert and an installation pot, optionally made of aluminium or polymer (see accessories).

VERNO LEVELITE – LED 1-SIDED

The required installation pot must be ordered separately (see accessories).

Version	Article no.
Electronic optics insert	820 01 06 **A**0 **B**

When ordering, please replace the highlighted letters with the corresponding numbers.

Colour temperature module front side / A

1 = white
2 = red
3 = yellow
4 = blue
5 = green
6 = white-red
7 = white-yellow
8 = red-green

Connection / B

001 = two strands
004 = three strands
006 = three strands; colours switchable

VERNO LEVELITE – LED 2-SIDED

The required installation pot must be ordered separately (see accessories).

Version	Article no.
Electronic optics insert	820 01 06 **AB C**

When ordering, please replace the highlighted letters with the corresponding numbers.

Colour temperature module front side / A

1 = white
2 = red
3 = yellow
4 = blue
5 = green
6 = white-red
7 = white-yellow
8 = red-green

Colour temperature module rear side / B

1 = white
2 = red
3 = yellow
4 = blue
5 = green
6 = white-red
7 = white-yellow
8 = red-green

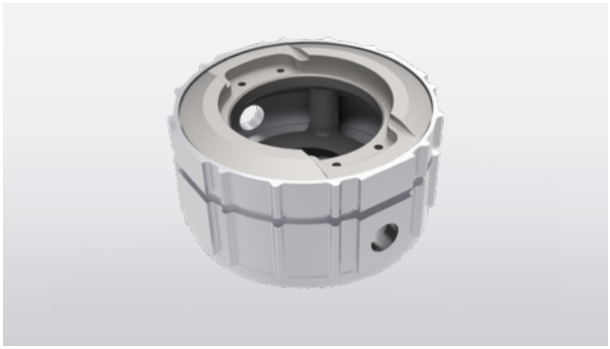
Connection / C

001 = two strands
004 = three strands
005 = three strands; colours can be switched in opposite directions
006 = three strands; colours switchable
008 = Four strands; colours and sides switchable

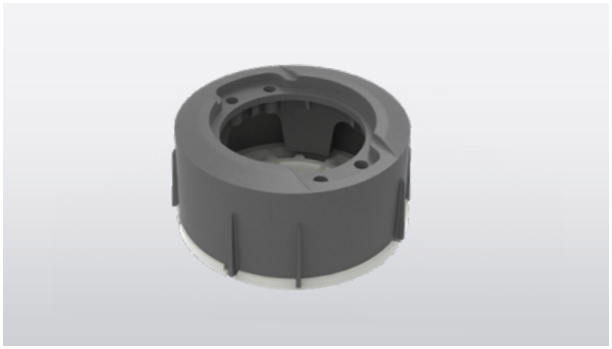
For additional articles, please turn the page! ▶

VERNO LEVELITE ACCESSORIES

Version	Article no.
HD connector (20 pcs.)	800 00 29 00 000
Installation pot with two holes Ø 16 mm, Ø 130 x D 60 mm, made of aluminium, including mounting cage and stainless steel ring, snowplough-proof	820 01 07 00 030
Installation pot with two holes Ø 16 mm, Ø 130 x D 60 mm, made of polymer	820 01 08 00 030
Installation pot with two holes Ø 20 mm, Ø 130 x D 60 mm, made of aluminium, including mounting cage and stainless steel ring, snowplough-proof	820 01 07 00 031
Installation pot with two holes Ø 20 mm, Ø 130 x D 60 mm, made of polymer	820 01 08 00 031
Poured concrete UW, 8 kg	800 00 30 00 084
Poured concrete UW RAPID, 8 kg	800 00 30 00 085
Stranded wire, 2 x 2.5 mm², longitudinally watertight, per full metre	800 00 14 00 044
Stranded wires, 2 x 2.5 mm², per full metre	800 00 14 00 041

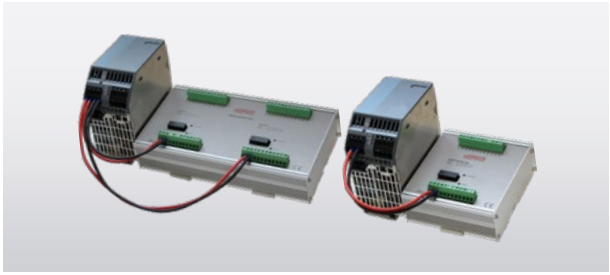


> Installation pot with two holes, Ø 130 x D 60 mm, made of aluminium, including mounting cage and stainless steel ring, snowplough-proof, article no. 820 01 07 00 030, 820 01 07 00 031



> Installation pot with two holes, Ø 130 x D 60 mm, made of polymer, including fixing cage and stainless steel ring, article no. 820 01 08 00 030, 820 01 08 00 031

SUITABLE ADDITION



CONTROL TECHNOLOGY: VERNO CONTROL MINI AND VERNO CONTROL DUO

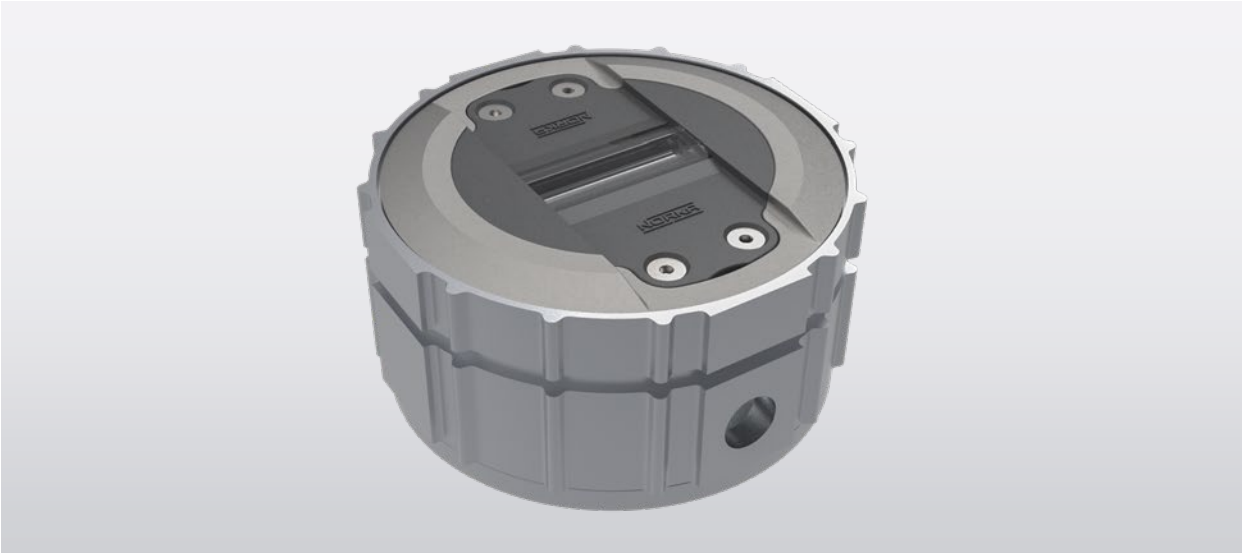
> Can be used with compatible wired and inductive VERNO modules
> Various operating modes: Day/night setback, (alternating) flashing, individual running light

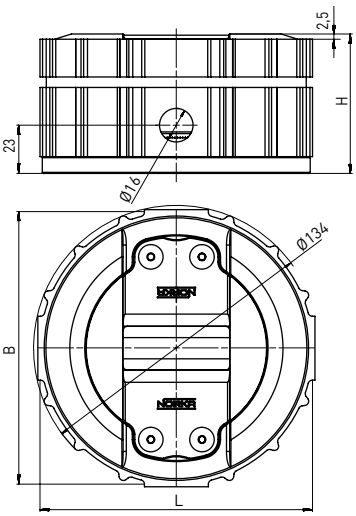
Coupled with the traffic light control system, these VERNO LEVLITE modules signal the green phase to cyclists on an unclear section of a cycle route.

Photo: Frieder Blickle

VERNO LEVELITE IHP

LED
IP 68





Lamp	Version	L	W	H	a	Max. weight
LED	Electronic optics insert with installation pot	130 mm	130 mm	60 mm	-	1.7 kg

AREAS OF APPLICATION
Optical guidance system for tunnels, galleries and roads.

HOUSING
The system (pressure load capacity 25 tonnes) consists of an installation pot with stainless steel ring V4A (1.4581) and an electronic optics insert. The installation pot is used to fix the module in the road at the same level. The electronic optics insert contains the waterproof mould-sealed electronics and the module LEDs. Due to the low total height above the road surface (max. 3 mm), the electronic optics insert, in conjunction with the aluminium installation pot (see accessories), is "snow plough-proof" in the direction of illumination (direction of travel) (even compared to snow ploughs with a steel edge).

LIGHTING TECHNOLOGY
The brightness of the modules can be adjusted on a control unit. Switching to day or night intensity can be carried out by an external signal or using a brightness sensor. The module can be fitted with three LEDs on one or both sides in white, red, yellow or green.

ELECTRICAL CONSTRUCTION
The electronics are mould-sealed in a waterproof manner (IP 68, 6 bar). The cable connection to the lighting module is established by means of a T-connection to increase reliability. The modules are supplied with 21-48 V DC.

MOUNTING
The lighting modules are preferably mounted in the driving lane. Pour the installation pot flush to street level using cast concrete (see accessories). The electronic optical insert is fixed in place using a toothed disc, allowing the optics to be precisely aligned in the direction of travel.

VERNO LEVELITE IHP – LED 1-SIDED, CONNECTION TWO STRANDS

The required installation pot must be ordered separately (see accessories).

Version	Article no.
Electronic optics insert	820 03 06 **A**0 001

When ordering, please replace the highlighted letters with the corresponding numbers.

Colour temperature module front side / A

1 = white
2 = red
3 = yellow
5 = green

VERNO LEVELITE IHP – 2-SIDED

The required installation pot must be ordered separately (see accessories).

Version	Article no.
Electronic optics insert	820 03 06 **AB C**

When ordering, please replace the highlighted letters with the corresponding numbers.

Colour temperature module front side / A

1 = white
2 = red
3 = yellow
5 = green

Colour temperature module rear side / B

1 = white
2 = red
3 = yellow
5 = green

Connection / C

001 = two strands
004 = three strands

VERNO LEVELITE IHP ACCESSORIES

Version	Article no.
HD connector (20 pcs.)	800 00 29 00 000
Installation pot with two holes Ø 16 mm, Ø 130 x D 60 mm, made of aluminium, including mounting cage and stainless steel ring, snowplough-proof	820 01 07 00 030
Installation pot with two holes Ø 16 mm, Ø 130 x D 60 mm, made of polymer	820 01 08 00 030
Installation pot with two holes Ø 20 mm, Ø 130 x D 60 mm, made of aluminium, including mounting cage and stainless steel ring, snowplough-proof	820 01 07 00 031
Installation pot with two holes Ø 20 mm, Ø 130 x D 60 mm, made of polymer	820 01 08 00 031
Poured concrete UW, 8 kg	800 00 30 00 084
Poured concrete UW RAPID, 8 kg	800 00 30 00 085

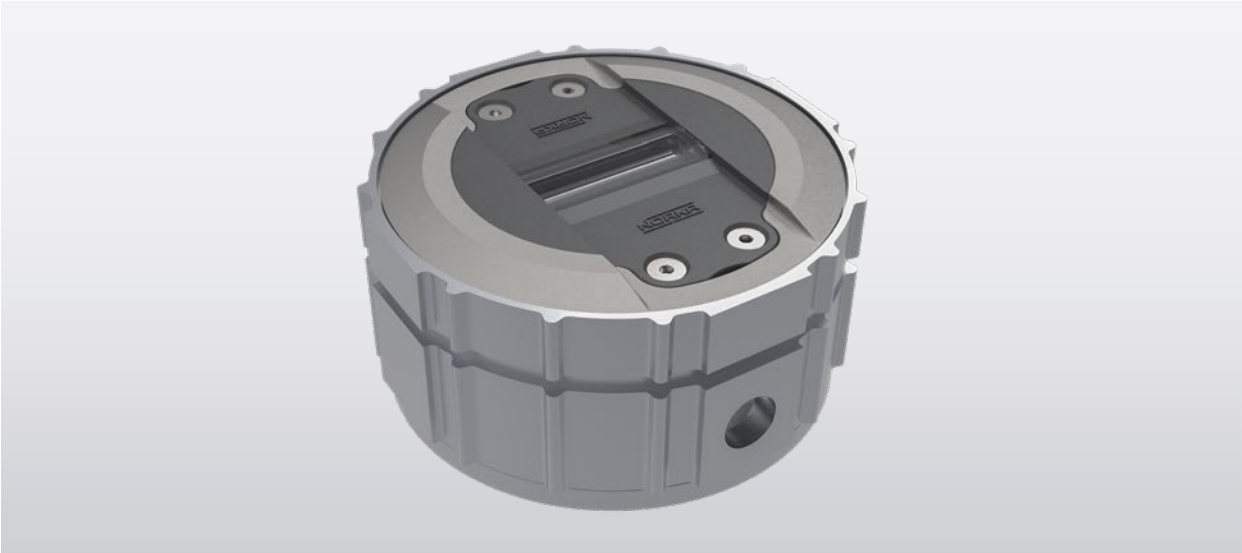
SUITABLE ADDITION

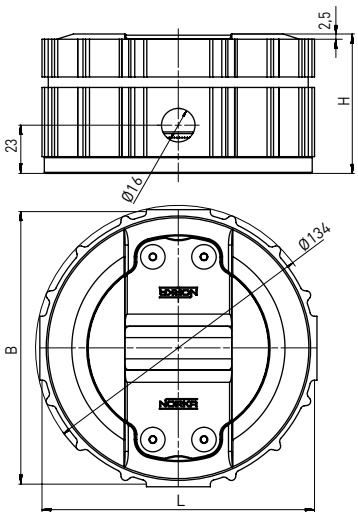
CONTROL TECHNOLOGY: VERNO CONTROL IHP

- Available in three performance levels from 550 m to a maximum cable length of 2,600 m
- Status feedback of the connected lighting modules (IHP Plus version)
- Individual flashing modes, brightness control in eight levels and day/night setback

VERNO LEVELITE XL

LED
IP 68





Lamp	Version	L	W	H	a	Max. weight
LED	Electronic optics insert with installation pot	130 mm	130 mm	60 mm	-	1.7 kg

AREAS OF APPLICATION
Optical guidance system for tunnels, galleries and roads.

HOUSING
The system (pressure load capacity 25 tonnes) consists of an installation pot with stainless steel ring V4A (1.4581) and an electronic optics insert. The installation pot is used to fix the module in the road at the same level. The electronic optics insert contains the waterproof mould-sealed electronics and the module LEDs. Due to the low total height above the road surface (max. 3 mm), the electronic optics insert, in conjunction with the aluminium installation pot (see accessories), is "snow plough-proof" in the direction of illumination (direction of travel) (even compared to snow ploughs with a steel edge).

LIGHTING TECHNOLOGY
The brightness of the modules can be adjusted on a control unit. Switching to day or night intensity can be carried out by an external signal or using a brightness sensor. The module can be fitted with three LEDs on one or both sides in white, red, yellow or green.

ELECTRICAL CONSTRUCTION
The electronics are mould-sealed in a waterproof manner (IP 68, 6 bar). The cable connection to the lighting module is established by means of a T-connection to increase reliability. The modules are supplied with 21-48 V DC.

MOUNTING
The lighting modules are preferably mounted in the driving lane. Pour the installation pot flush to street level using cast concrete (see accessories). The electronic optical insert is fixed in place using a toothed disc, allowing the optics to be precisely aligned in the direction of travel.

VERNO LEVELITE XL – LED 1-SIDED, CONNECTION TWO STRANDS

The required installation pot must be ordered separately (see accessories).

Version	Article no.
Electronic optics insert	820 06 06 **A**0 001

When ordering, please replace the highlighted letters with the corresponding numbers.

Colour temperature module front side / A

1 = white
2 = red
3 = yellow
5 = green

VERNO LEVELITE XL – 2-SIDED

The required installation pot must be ordered separately (see accessories).

Version	Article no.
Electronic optics insert	820 06 06 **AB C**

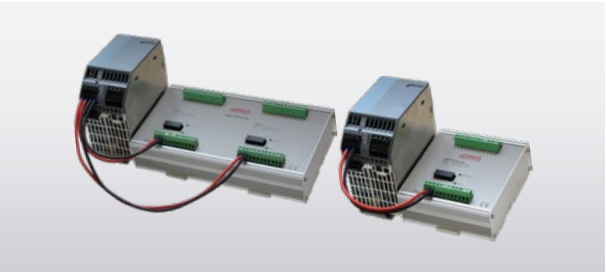
When ordering, please replace the highlighted letters with the corresponding numbers.

Colour temperature module front side / A	Colour temperature module rear side / B	Connection / C
1 = white	1 = white	001 = two strands
2 = red	2 = red	004 = three strands
3 = yellow	3 = yellow	
5 = green	5 = green	

VERNO LEVELITE XL ACCESSORIES

Version	Article no.
HD connector (20 pcs.)	800 00 29 00 000
Installation pot with two holes Ø 16 mm, Ø 130 x D 60 mm, made of aluminium, including mounting cage and stainless steel ring, snowplough-proof	820 01 07 00 030
Installation pot with two holes Ø 16 mm, Ø 130 x D 60 mm, made of polymer	820 01 08 00 030
Installation pot with two holes Ø 20 mm, Ø 130 x D 60 mm, made of aluminium, including mounting cage and stainless steel ring, snowplough-proof	820 01 07 00 031
Installation pot with two holes Ø 20 mm, Ø 130 x D 60 mm, made of polymer	820 01 08 00 031
Poured concrete UW, 8 kg	800 00 30 00 084
Poured concrete UW RAPID, 8 kg	800 00 30 00 085
Stranded wire, 2 x 2.5 mm², longitudinally watertight, per full metre	800 00 14 00 044
Stranded wires, 2 x 2.5 mm², per full metre	800 00 14 00 041

SUITABLE ADDITION



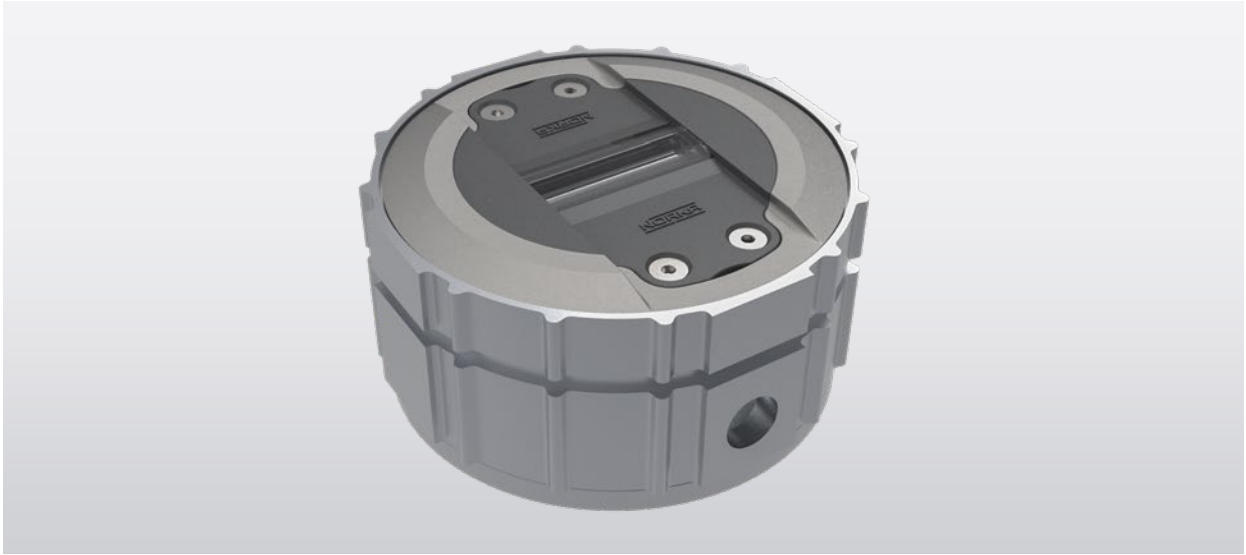
CONTROL TECHNOLOGY: VERNO CONTROL MINI AND VERNO CONTROL DUO

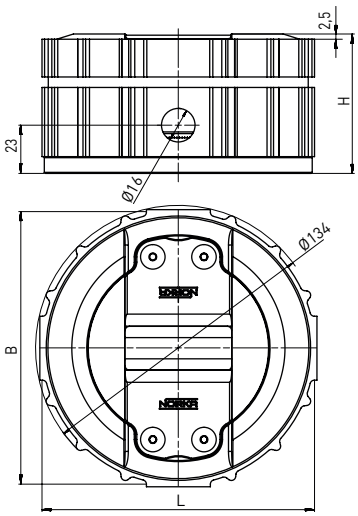
- Can be used with compatible wired and inductive VERNO modules
- Various operating modes: Day/night setback, (alternating) flashing, individual running light

VERNO LEVELITE XP

LED

IP 68





Lamp	Version	L	W	H	a	Max. weight
LED	Electronic optics insert with installation pot	130 mm	130 mm	60 mm	-	1.7 kg

AREAS OF APPLICATION

Optical guidance system for tunnels, galleries and roads.

HOUSING

The system (pressure load capacity 25 tonnes) consists of an installation pot with stainless steel ring V4A (1.4581) and an electronic optics insert. The installation pot is used to fix the module in the road at the same level. The electronic optics insert contains the waterproof mould-sealed electronics and the module LEDs. Due to the low total height above the road surface (max. 3 mm), the electronic optics insert, in conjunction with the aluminium installation pot (see accessories), is "snow plough-proof" in the direction of illumination (direction of travel) (even compared to snow ploughs with a steel edge).

LIGHTING TECHNOLOGY

The brightness of the modules can be adjusted on a control unit. Switching to day or night intensity can be carried out by an external signal or using a brightness sensor. The lighting module can be fitted with six LEDs on one or both sides in white, red, yellow, green or blue. Due to the two separate colour channels per module side, colour mixing and switching is possible to a limited extent.

ELECTRICAL CONSTRUCTION

The electronics are mould-sealed in a waterproof manner (IP 68, 6 bar). The cable connection to the lighting module is established by means of a T-connection to increase reliability. The modules are supplied with 24-48 V DC.

MOUNTING

The lighting modules are preferably mounted in the driving lane. Pour the installation pot flush to street level using cast concrete (see accessories). The electronic optical insert is fixed in place using a toothed disc, allowing the optics to be precisely aligned in the direction of travel.

VERNO LEVELITE XP – LED 1-SIDED, CONNECTION TWO STRANDS

The required installation pot must be ordered separately (see accessories).

Version	Article no.
Electronic optics insert	820 02 06 **A**0 001

When ordering, please replace the highlighted letters with the corresponding numbers.

Colour temperature module front side / A

1 = white
2 = red
3 = yellow
4 = blue
5 = green
6 = white-red
7 = white-yellow
8 = red-green

VERNO LEVELITE XP – LED 2-SIDED

The required installation pot must be ordered separately (see accessories).

Version	Article no.
Electronic optics insert	820 02 06 **AB C**

When ordering, please replace the highlighted letters with the corresponding numbers.

Colour temperature module front side / A

1 = white
2 = red
3 = yellow
4 = blue
5 = green
6 = White-red
7 = white-yellow
8 = red-green

Colour temperature module rear side / B

1 = white
2 = red
3 = yellow
4 = blue
5 = green
6 = white-red
7 = white-yellow
8 = red-green

Connection / C

001 = two strands
004 = three strands

VERNO LEVELITE XP ACCESSORIES

Version	Article no.
HD connector (20 pcs.)	800 00 29 00 000
Installation pot with two holes Ø 16 mm, Ø 130 x D 60 mm, made of aluminium, including mounting cage and stainless steel ring, snowplough-proof	820 01 07 00 030
Installation pot with two holes Ø 16 mm, Ø 130 x D 60 mm, made of polymer	820 01 08 00 030
Installation pot with two holes Ø 20 mm, Ø 130 x D 60 mm, made of aluminium, including mounting cage and stainless steel ring, snowplough-proof	820 01 07 00 031
Installation pot with two holes Ø 20 mm, Ø 130 x D 60 mm, made of polymer	820 01 08 00 031
Poured concrete UW, 8 kg	800 00 30 00 084
Poured concrete UW RAPID, 8 kg	800 00 30 00 085
Stranded wire, 2 x 2.5 mm², longitudinally watertight, per full metre	800 00 14 00 044
Stranded wires, 2 x 2.5 mm², per full metre	800 00 14 00 041

SUITABLE ADDITION

CONTROL TECHNOLOGY: VERNO CONTROL IXP

- Combination of compatible wired and inductive VERNO modules possible
- Status feedback of the connected lighting modules
- Any number of independent function sections can be programmed

CLEAR VIEW AFTER USE

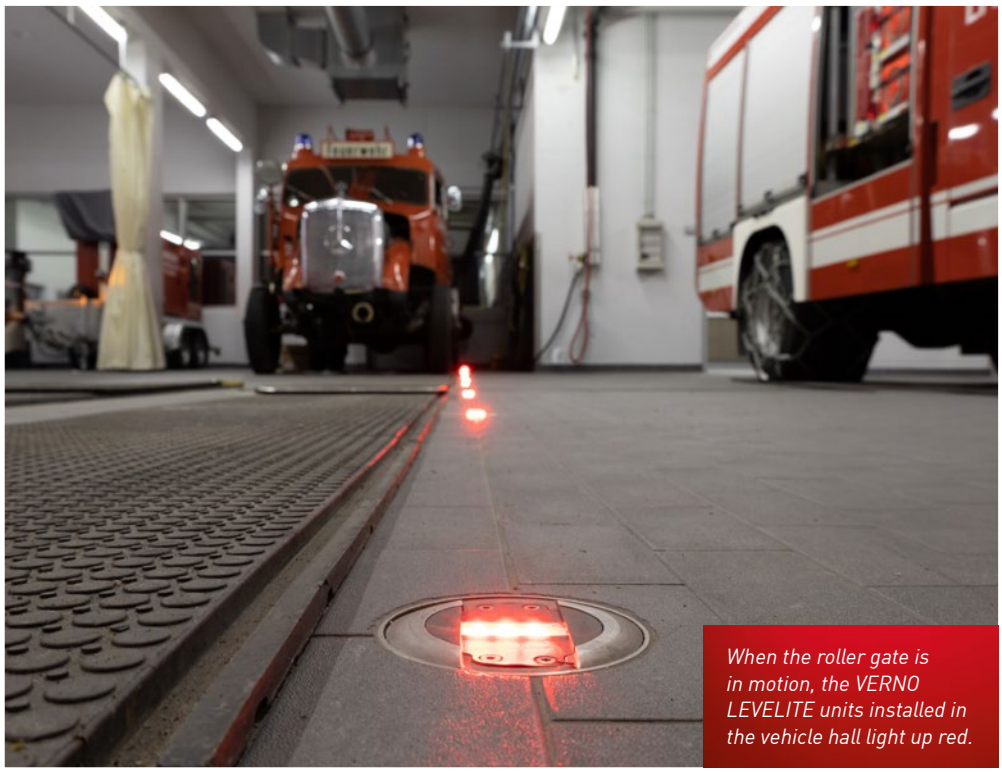
The VERNO LEVELITE units installed in the vehicle hall use different coloured LEDs to indicate the status of the roller gate.

Illuminated guidelines with VERNO LEVELITE prevent damage to roller gates and vehicles at the Volder Volunteer Fire Brigade.

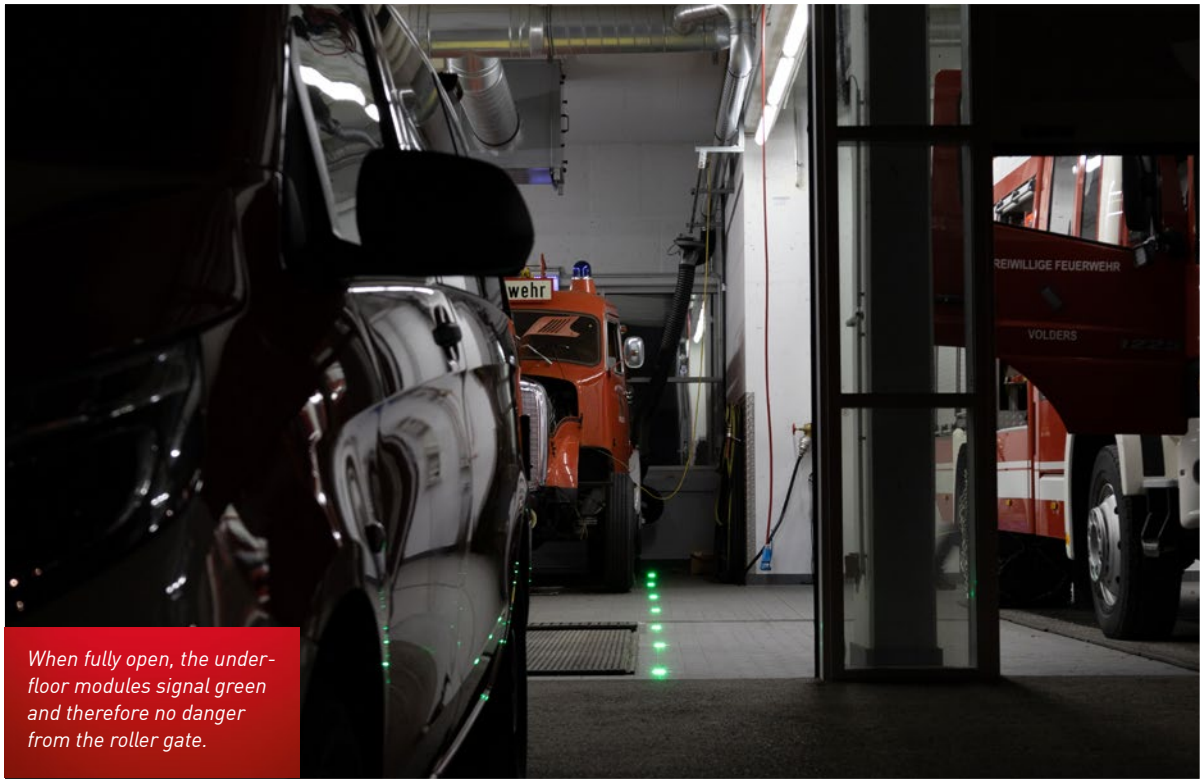
Reversing large vehicles requires a lot of practice and concentration. Keeping a clear view of a situation is not always easy and the degree of opening of the roller gate may be overlooked, causing damage to the door and vehicle in the process.

To remedy this problem, a gate-controlled entry aid such as the one used by the Volders Fire Brigade is the ideal solution. The 56 installed VERNO LEVELITE units are equipped with three different colour temperatures and linked to the roller gate control system. If the gate opens, the red LEDs on the luminaire signal to the driver that it is not possible to enter. If the door is fully open, the LEDs light up green. When the door is closed, it is illuminated in white.

The guidelines are clearly visible in the rear-view mirror, making it easier to park in the hall both in the dark and when the sun is low. Even from a distance and in the dark, you can see whether the doors are moving or stationary.



When the roller gate is in motion, the VERNO LEVELITE units installed in the vehicle hall light up red.



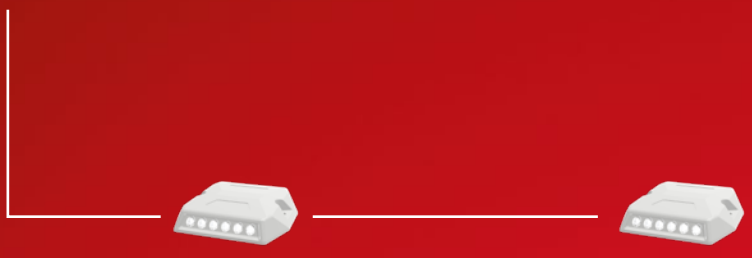
When fully open, the under-floor modules signal green and therefore no danger from the roller gate.

VERNO CONTROL: ALL THE THREADS IN YOUR HAND

Traffic management needs to be regulated, whether it is an emergency in the tunnel or the connection to monitoring systems or other control systems. Our VERNO CONTROL offers suitable solutions for different project sizes and requirements.

VERNO CONTROL IHP

- Control unit for inductive operation of VERNO LINE IHP
- Available in three performance levels from 550 m to a maximum cable length of 2,600 m
- Status feedback of the connected lighting modules (IHP Plus version)
- Individual flashing modes, brightness control in eight levels and day/night setback



VERNO CONTROL MINI

> Solution for short distances such as underpasses
> Various power levels, up to a maximum cable length of 1,650 m
> Can be used with compatible wired and inductive VERNO modules
> Various operating modes: Day/night setback, (alternating) flashing, individual running light

VERNO CONTROL DUO

> Control with two independently controllable outputs
> Up to a maximum cable length of 1,650 m
> Can be used with compatible wired and inductive VERNO modules
> Various operating modes: Day/night setback, (alternating) flashing, customised running light

VERNO CONTROL IXP

> Combination of compatible wired and inductive VERNO modules possible
> Status feedback of the connected lighting modules
> Any number of independent function sections can be programmed

STEERING IN THE RIGHT DIRECTION

Photos: Christian Günther

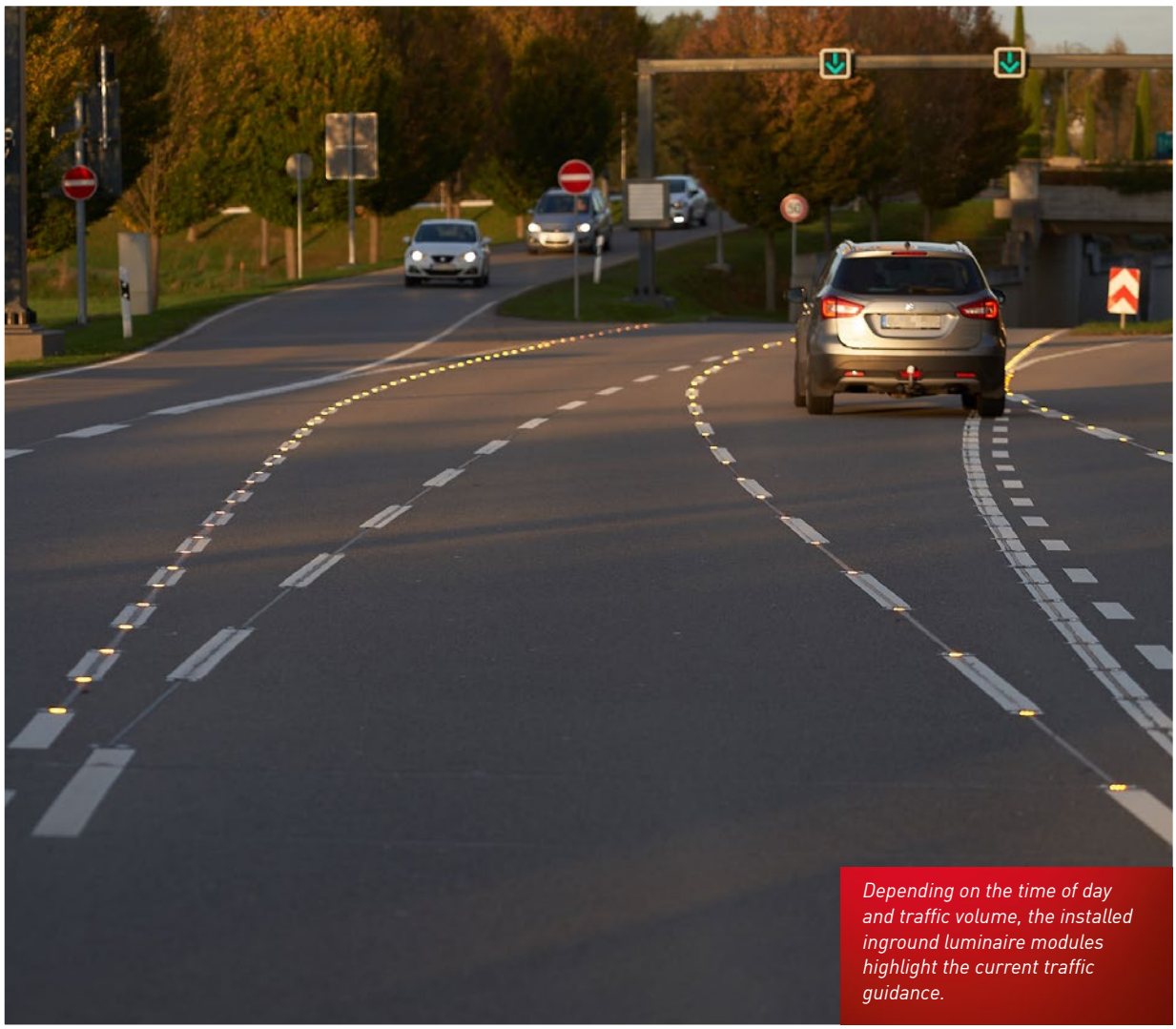
VERNO LEVELITE luminaires, which are connected to the traffic lights, show the correct route during the green phase.

In areas with a high volume of traffic and traffic guidance adapted to the volume, such as in Rust, inground uplights support the active guidance of traffic.

In the vicinity of Rust and the world-famous theme park, the road layout is actively adapted to the volume of traffic. Depending on capacity utilisation, lanes are opened or closed in order to control the influx and outflow of visitors and avoid traffic jams. The current road layout is indicated not only by variable message signs, but also by the VERNO LEVELITE luminaires embedded in the ground, which emphasise the current lane layout.

In nearby Lahr, the traffic guidance at critical points is also emphasised by inground uplights. VERNO LEVELITE luminaire modules linked to the traffic lights indicate the way at the entrance and exit of the main road. Coupled with the traffic light control, the left-turn lane is emphasised or the stop line is highlighted on red.

Defusing critical traffic points with the potential for accidents – those responsible in Lahr and Rust rely on active traffic guidance using inground luminaire modules.



Depending on the time of day and traffic volume, the installed inground luminaire modules highlight the current traffic guidance.

To reduce the risk of wrong-way drivers, inground luminaire modules were also installed at the motorway exit, which light up red against the direction of travel, thus signalling to potential wrong-way drivers that they are travelling in the opposite direction.

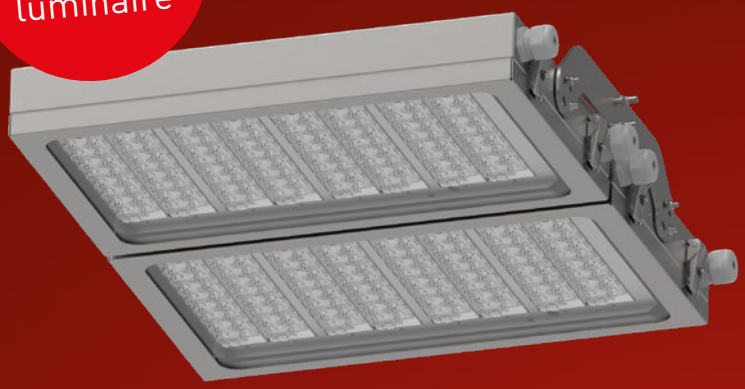
The aim in both cases is to minimise the potential for accidents and clearly indicate the lane guidance.

Tunnel lighting must meet high photometric requirements, offer a high level of visual comfort and be resistant to aggressive tunnel atmospheres.

A VIEW THROUGH THE TUNNEL

High temperatures, regular cleaning, ultra-fine dust and a high exhaust gas load: The demands placed on tunnel luminaires are high, with robustness and reliability taking top priority.

Tunnel entry luminaire



DACHSTEIN

ZUGSPITZE

Tunnel entry luminaire

POWERFUL FOR THE SPECIAL CHALLENGE

DESIGNED FOR DEMANDING ENVIRONMENTS

Thanks to high protection ratings (IP 66, IP 67) and corrosion-resistant materials, our tunnel luminaires are designed for use in particularly challenging areas with exhaust fumes, tyre abrasion and moisture. The products also withstand regular cleaning with high-pressure cleaning equipment.

TARGETED LIGHT CONTROL FOR HIGH UNIFORMITY

Thanks to highly efficient light control using specially tuned precision lenses to create a homogeneous luminance distribution, VERNO luminaires generate a high degree of uniformity on the driving lane, allowing road users to travel safely and fatigue-free through the tunnel.

ROBUST AGAINST TEMPERATURE CHANGES

VERNO luminaires have an integrated pressure equalisation system with a climate membrane to prevent the formation of condensation during rapid temperature changes and tunnel cleaning processes.

DESIGNED FOR HIGH TEMPERATURES

The high connected loads in the entrance zone (high-power LEDs) and the high ambient temperatures in areas with low air exchange require special attention in thermal management. Versions with separation of the luminaire body and driver are therefore available as an option. This protects the sensitive electronics from the waste heat of the LEDs and increases the service life.

PERFORMANCE ON DEMAND

Integrated DALI interface or 4-20 mA control enable step-less, automatic adjustment of the brightness to the outside light level. The right control system enables the entrance lighting to be operated at 100% output in bright sunlight and to be reduced to the level of the transit-zone lighting at night.

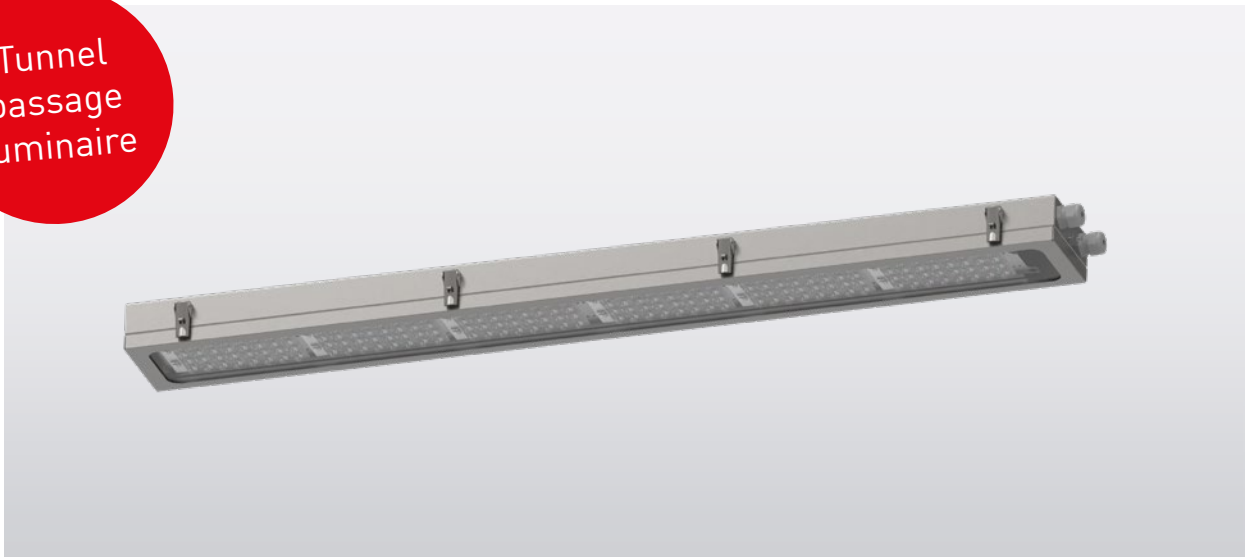
ALPSPITZE

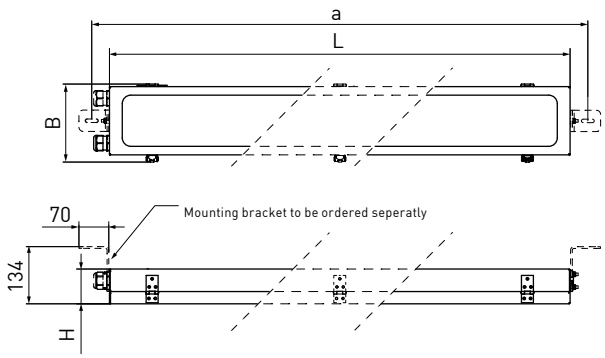
ALPSPITZE

LED

IP 66 | IK 08 ESG

Tunnel passage luminaire





bare lamp

centre wide

sidewall dense

sidewall wide

asymmetric

Version	L (mm)	W (mm)	H (mm)	a (mm)	Max. weight
m300	370	183	82	453 ± 10	3.8 kg
m600	600	183	82	683 ± 10	6.7 kg
m900	840	183	82	923 ± 10	7.6 kg
m1200	1164	183	82	1163 ± 10	9.8 kg
m1500	1560	183	82	1640 ± 10	11.8 kg

AREAS OF APPLICATION

Specially designed for the interior (transit-zone) of road tunnels, underpasses and galleries. Can be used in traffic structures with a requirement for high uniformity to enable road users to travel safely and fatigue-free through the tunnel. Suitable for installation on tunnel ceilings or side walls in demanding environments with high exposure to exhaust fumes, tyre abrasion, road salt, moisture and the like. Optional tool-free component replacement available.

HOUSING

Robust luminaire housing made of highly corrosion-resistant stainless steel (V4A) or optionally made of seawater-resistant stainless steel (V5A) (see options). Can be used in accordance with protection rating IP 66 and IP 67 and is resistant to aggressive tunnel atmospheres. With age-resistant, chemical-resistant gasket. Integrated pressure equalisation system with climate membrane.

LIGHTING TECHNOLOGY

Cover pane made of a thermally toughened safety glass cover screen (ESG) for maximum mechanical strength. Wide-beam or asymmetric light distribution for optimum illumination of the driving lane.

ELECTRICAL CONSTRUCTION

Luminaire wired ready for connection with highly efficient LED control gear for continuous operation. Supply voltage 230-240 V AC/DC. Version optionally with integrated DALI interface or step switching for energy optimisation.

Version for high temperatures

Special version for increased ambient temperatures in tunnels or galleries with limited air exchange (depending on the lumen package selected).

MOUNTING

Single mounting on tunnel ceilings or side walls. Fastening by means of adjustable stainless steel swivel bracket (see accessories) for precise alignment to the road geometry. Optional special tool-free mounting for quick installation and easy maintenance in the traffic area.

NOTE – LUMINOUS FLUX

In addition to the standard packages, project-specific, customised luminous flux levels are also possible. Simply get in touch with us!

ALPSPITZE

Version		Max. lamp luminous flux/lm	Max. system power/W	Ambient temperature	Article no. + lm
m300	CRI 80	12000	74	-25 °C to +40 °C	903 18**A BCD**1 – R1 – **...**
m600	CRI 80	18000	106	-25 °C to +40 °C	903 28**A BCD**1 – R1 – **...**
m900	CRI 80	26000	150	-25 °C to +40 °C	903 38**A BCD**1 – R1 – **...**
m1200	CRI 80	39600	225	-25 °C to +40 °C	903 48**A BCD**1 – R1 – **...**
m1500	CRI 80	47500	270	-25 °C to +40 °C	903 68**A BCD**1 – R1 – **...**

When ordering, please replace the highlighted letters with the corresponding numbers and add the required lamp luminous flux.

Driver / A
4 = internal
5 = external
6 = Ireg
9 = emergency light

LVK characteristic / B
1 = bare lamp
2 = centre wide
3 = sidewall dense
4 = sidewall wide
6 = asymmetric

Colour temperature / C
2 = 2700 K
3 = 3000 K
4 = 4000 K
5 = 5000 K
6 = 5700 K
7 = 6500 K

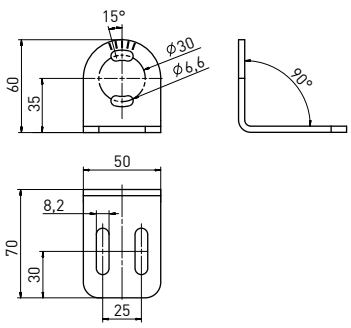
Lamp diffuser / D
1 = safety glass, one-sided left
2 = safety glass, one-sided right
3 = safety glass on both sides
4 = safety glass, mould-sealed
5 = safety glass, front
6 = safety glass

ALPSPITZE OPTIONS

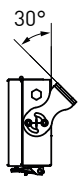
Version	Article no.
4-20 mA control	900 0101
Colour rendering index (CRI) 90	900 0452
DALI interface	900 0102
Double sealing level	900 0022
Driver can be replaced without tools	900 0025
ESSB and 4 kV transient filter	900 0100
Halogen-free version	900 0020
Housing version made of seawater-resistant stainless steel (V5A)	available on request
Integrated signal light	900 0051
LED unit can be replaced without tools	900 0024
Light labelling	900 0052
Powder coated. RAL (according to customer requirements)	900 0050
Stainless steel screw connection	900 0021
Terminal block 4 mm²	900 0071
Terminal block 6 mm²	900 0072
Through wiring	900 0070
Tool-free mounting	900 0023

ALPSITZE ACCESSORIES

Version	Article no.
Mounting bracket 0°, stainless steel (V5A)	900 0550
Mounting bracket 0°, stainless steel (V5A), tool-free	900 0560
Mounting bracket 3°, stainless steel (V5A)	900 0551
Mounting bracket 3°, stainless steel (V5A), tool-free	900 0561
Mounting bracket 5°, stainless steel (V5A)	900 0552
Mounting bracket 5°, stainless steel (V5A), tool-free	900 0562
Mounting bracket 10°, stainless steel (V5A)	900 0553
Mounting bracket 10°, stainless steel (V5A), tool-free	900 0563
Mounting bracket, project-specific	900 0540



> Mounting bracket, stainless steel (V5A)



> Example: mounting bracket, project-specific 30°

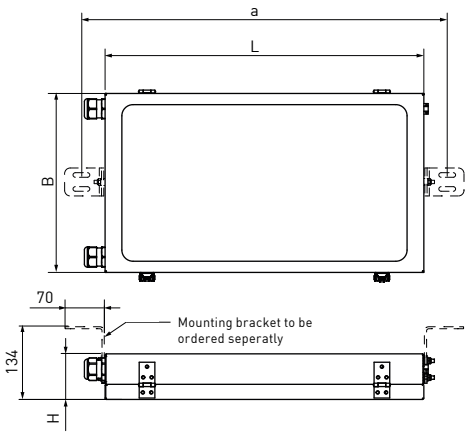
DACHSTEIN

LED

IP 66 | IK 08 ESG

Tunnel entry luminaire

m300 / m600



- bare lamp
- sidewall wide
- centre wide
- asymmetric
- sidewall dense

Version	L (mm)	W (mm)	H (mm)	a (mm)	Max. weight
m300	370	320	82	430 ± 10	3.9 kg
m600	570	320	82	630 ± 10	7.9 kg
2 x m600	570	650	82	630 ± 10	15.8 kg

Further dimensional drawings available on request

AREAS OF APPLICATION

Specially designed for the threshold and entry zone (entry and adaptation section) of road tunnels. This high-performance system is used to raise the brightness level in the tunnel portal area during the day so that the human eye can safely acclimatise to the darker surroundings. Suitable for traffic structures with the highest demands on luminance and operational safety. Designed for harsh environmental conditions with exposure to exhaust fumes, tyre abrasion, road salt, moisture and the like.

HOUSING

Robust luminaire housing made of highly corrosion-resistant stainless steel (V4A) or optionally made of seawater-resistant stainless steel (V5A) (see options). Can be used in accordance with protection rating IP 66 and IP 67 and is resistant to aggressive tunnel atmospheres. With age-resistant, chemical-resistant gasket. Integrated pressure equalisation system with climate membrane.

LIGHTING TECHNOLOGY

Cover pane made of a thermally toughened safety glass cover screen (ESG) for maximum mechanical strength. Wide-beam or asymmetric light distribution for optimum illumination of the driving lane.

ELECTRICAL CONSTRUCTION

Luminaire equipped with high-performance LED drivers for dynamic control operation. Supply voltage 230-240 V AC/DC. Integrated DALI interface or 4-20 mA control required for stepless, automatic adjustment of the brightness to the outside light level (see options).

External supply version: For high temperatures

LED driver in separate, external housing (IP 66, IP 67) for optimum thermal management due to high connected loads in the entry zone (high-power LEDs).

MOUNTING

Single mounting on tunnel ceilings or side walls. Fastening by means of adjustable stainless steel swivel bracket (see accessories) for precise alignment to the road geometry. Optional special tool-free mounting for quick installation and easy maintenance in the traffic area.

NOTE – LUMINOUS FLUX

In addition to the standard packages, project-specific, customised luminous flux levels are also possible. Simply get in touch with us!

DACHSTEIN - INTERNAL SUPPLY

Version		Max. lamp luminous flux/lm	Max. system power/W	Ambient temperature	Article no. + lm
m300	CRI 70	22800	143	-25 °C to +40 °C	914 184 **ABC**1 – R1 – **...**
m600	CRI 70	34800	214	-25 °C to +40 °C	914 284 **ABC**1 – R1 – **...**
2 x m600	CRI 70	69600	428	-25 °C to +40 °C	924 284 **ABC**1 – R1 – **...**

DACHSTEIN - EXTERNAL SUPPLY

External driver box must be ordered separately (see accessories).

Version		Max. lamp luminous flux/lm	Max. system power/W	Ambient temperature	Article no. + lm
m600	CRI 70	39000	106	-25 °C to +40 °C	914 285 **ABC**1 – R1 – **...**
2 x m600	CRI 70	78000	150	-25 °C to +40 °C	924 285 **ABC**1 – R1 – **...**

When ordering, please replace the highlighted letters with the corresponding numbers and add the required lamp luminous flux.

LVK characteristic / A

1 = bare lamp
2 = centre wide
3 = sidewall dense
4 = sidewall wide
6 = asymmetric

Colour temperature / B

2 = 2700 K
3 = 3000 K
4 = 4000 K
5 = 5000 K
6 = 5700 K
7 = 6500 K

Lamp diffuser / C

1 = safety glass, one-sided left
2 = safety glass, one-sided right
3 = safety glass on both sides
4 = safety glass, mould-sealed
5 = safety glass, front
6 = safety glass

DACHSTEIN OPTIONS

Version	Article no.
4-20 mA control	900 0101
Colour rendering index (CRI) 80	900 0451
DALI interface	900 0102
Double sealing level	900 0022
Driver can be replaced without tools	900 0025
ESSB and 4 kV transient filter	900 0100
Halogen-free version	900 0020
Housing version made of seawater-resistant stainless steel (V5A)	available on request
Integrated signal light	900 0051
LED unit can be replaced without tools	900 0024
Light labelling	900 0052
Powder coated. RAL (according to customer requirements)	900 0050
Stainless steel screw connection	900 0021
Terminal block 4 mm²	900 0071
Terminal block 6 mm²	900 0072
Through wiring	900 0070
Tool-free mounting	900 0023

DACHSTEIN ACCESSORIES

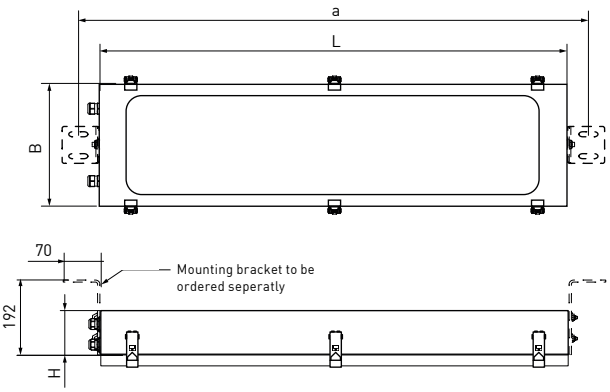
Version	Article no.
External driver box for one luminaire, < 330 W	900 0500
External driver box for two luminaires, < 660 W	900 0501
External driver box for three luminaires, < 990 W	900 0502
Mounting bracket 0°, stainless steel (V5A)	900 0550
Mounting bracket 0°, stainless steel (V5A), tool-free	900 0560
Mounting bracket 3°, stainless steel (V5A)	900 0551
Mounting bracket 3°, stainless steel (V5A), tool-free	900 0561
Mounting bracket 5°, stainless steel (V5A)	900 0552
Mounting bracket 5°, stainless steel (V5A), tool-free	900 0562
Mounting bracket 10°, stainless steel (V5A)	900 0553
Mounting bracket 10°, stainless steel (V5A), tool-free	900 0563
Mounting bracket, project-specific	available on request

ZUGSPITZE

LED

IP 66 | IK 08 ESG

Tunnel entry luminaire



bare lamp

centre wide

sidewall dense

sidewall wide

asymmetric

Version	L (mm)	W (mm)	H (mm)	a (mm)	Max. weight
m1000	1035	270	124	1129 ± 10	10.7 kg

AREAS OF APPLICATION

Specially designed for the threshold and entry zone (entry and adaptation section) of road tunnels. This high-performance system is used to raise the brightness level in the tunnel portal area during the day so that the human eye can safely acclimatise to the darker surroundings. Suitable for traffic structures with the highest demands on luminance and operational safety. Designed for harsh environmental conditions with exposure to exhaust fumes, tyre abrasion, road salt, moisture and the like.

HOUSING

High-performance thermal housing made of highly corrosion-resistant stainless steel (V4A) or optionally of seawater-resistant stainless steel (V5A) (see options). Can be used in accordance with protection rating IP 66 and IP 67 and is resistant to aggressive tunnel atmospheres. With age-resistant, chemical-resistant gasket. Integrated pressure equalisation system with climate membrane.

LIGHTING TECHNOLOGY

Cover pane made of a thermally toughened safety glass cover screen (ESG) for maximum mechanical strength. Use of special optics to generate high driving lane luminance, ensuring that obstacles can be recognised even before entering the tunnel. Asymmetric light distribution for the adaptation section.

ELECTRICAL CONSTRUCTION

Luminaire equipped with high-performance LED drivers for dynamic control operation. Supply voltage 230-240 V AC/DC. Integrated DALI interface or 4-20 mA control required for stepless, automatic adjustment of the brightness to the outside light level (see options).

Version for high temperatures

Special version for increased ambient temperatures in tunnels or galleries with limited air exchange (depending on the lumen package selected).

MOUNTING

Single mounting on tunnel ceilings or side walls. Mounting by means of adjustable stainless steel swivel brackets (see accessories) for precise alignment to the road geometry. Optional special tool-free mounting for quick installation and easy maintenance in the traffic area.

NOTE – LUMINOUS FLUX

In addition to the standard packages, project-specific, customised luminous flux levels are also possible. Simply get in touch with us!

ZUGSPITZE

Version		Lamp luminous flux/lm	System power/W	Ambient temperature	Article no. + lm
m1000	CRI 80	18300	99	-25 °C to +40 °C	902 48**A BCD**1 – R1-**...**

When ordering, please replace the highlighted letters with the corresponding numbers and add the required lamp luminous flux.

Driver / A	LVK characteristic / B	Colour temperature / C	Lamp diffuser / D
4 = internal	1 = bare lamp	2 = 2700 K	1 = safety glass, one-sided left
5 = external	2 = centre wide	3 = 3000 K	2 = safety glass, one-sided right
6 = Ireg	3 = sidewall dense	4 = 4000 K	3 = safety glass on both sides
9 = emergency light	4 = sidewall wide	5 = 5000 K	4 = safety glass, mould-sealed
	6 = asymmetric	6 = 5700 K	5 = safety glass, front
		7 = 6500 K	6 = safety glass

ZUGSPITZE OPTIONS

Version	Article no.
4-20 mA control	900 0101
Colour rendering index (CRI) 70	900 0450
DALI interface	900 0102
Double sealing level	900 0022
Driver can be replaced without tools	900 0025
ESSB and 4 kV transient filter	900 0100
Halogen-free version	900 0020
Housing version made of seawater-resistant stainless steel (V5A)	available on request
Integrated signal light	900 0051
LED unit can be replaced without tools	900 0024
Light labelling	900 0052
Powder coated. RAL (according to customer requirements)	900 0050
Stainless steel screw connection	900 0021
Terminal block 4 mm²	900 0071
Terminal block 6 mm²	900 0072
Through wiring	900 0070
Tool-free mounting	900 0023

ZUGSPITZE ACCESSORIES

Version	Article no.
External driver box for one luminaire, < 330 W	900 0500
External driver box for two luminaires, < 660 W	900 0501
External driver box for three luminaires, < 990 W	900 0502
Mounting bracket 0°, stainless steel (V5A)	900 0550
Mounting bracket 0°, stainless steel (V5A), tool-free	900 0560
Mounting bracket 3°, stainless steel (V5A)	900 0551
Mounting bracket 3°, stainless steel (V5A), tool-free	900 0561
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Mounting bracket 5°, stainless steel (V5A), tool-free	900 0562
Mounting bracket 10°, stainless steel (V5A)	900 0553
Mounting bracket 10°, stainless steel (V5A), tool-free	900 0563
Mounting bracket, project-specific	available on request

IN AN EMERGENCY, EVERY SECOND AND EVERY LUMINAIRE COUNTS

If there's a tunnel fire, everybody wants one thing: get out! There is only one safe escape in this situation – the emergency exit. Past fire disasters in tunnels have shown that escape door and escape route marking in particular has a strong influence on escape behaviour. Under the name VERNO EXIT, NORKA is developing state-of-the-art escape door surrounds and dynamic escape route markings.
As a result, people fleeing the scene will quickly find the exit in an emergency.

The use of escape route luminaires is vital in tunnels.

COMBINABLE
All VERNO EXIT modules can be combined with our wired VERNO products such as VERNO LINE and VERNO LEVELITE and VERNO RAIL.

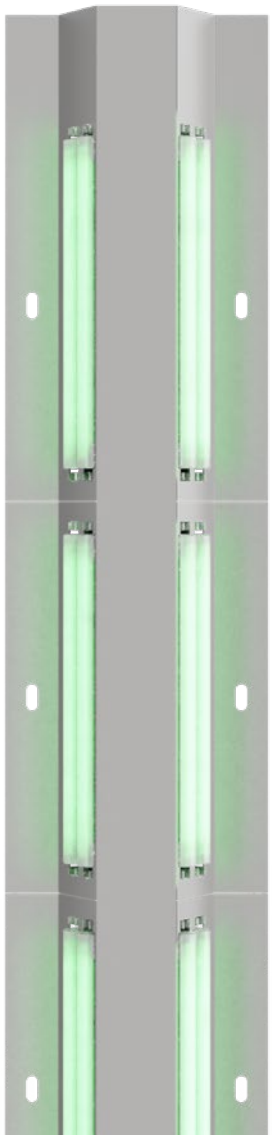
DIRECTIONAL GUIDANCE WITH RUNNING LIGHT
Escape routes can be indicated by LED arrow modules with running light function and only activated in an emergency.

STANDARDISED FOR DE, AT AND CH
VERNO EXIT comprises standardised modules for the entire DACH region.

SUITABLE FOR MACHINE CLEANING
Roads and tunnels are cleaned regularly. Functionality must be maintained at all costs, especially with emergency and safety luminaires. VERNO EXIT products are expressly suitable for machine cleaning.

FLASH MODULES
Optional flash modules increase visibility in dense smoke.

Standardised designs for local requirements

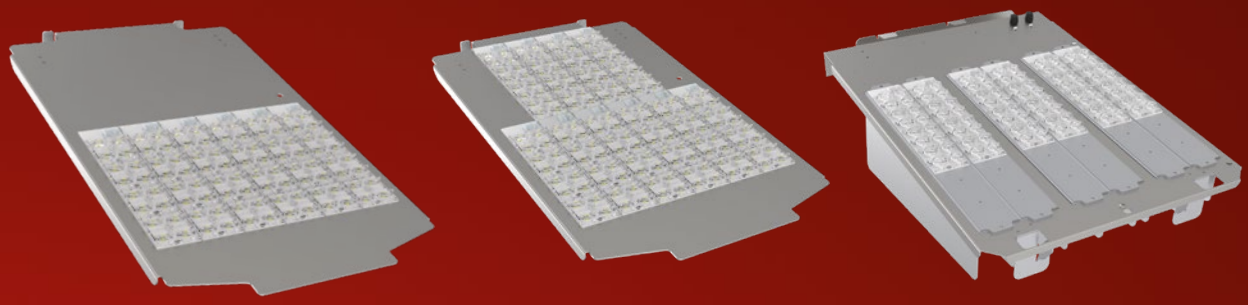


German > version

Austrian > version

Photo: Frieder Blickle

RETROFITTING LIGHTING: NEW INTERIOR FOR EXISTING HOUSINGS



HOW TO RETROFIT TUNNEL LIGHTING WITH VERNO FIT:

Maintenance work in tunnels, whether planned or unplanned, usually leads to unwanted traffic disruptions. This also applies to older tunnels whose entrance or transit-zone lighting needs to be replaced as part of retrofitting programmes for LED technology. To ensure that ongoing traffic operations are impaired as little as possible, NORKA offers you VERNO FIT, a future-proof lighting system that enables fast and easy retrofitting. For example, VERNO FIT only requires retrofitting of lamps and drivers. The stainless steel housing remains the same. True to the motto: Tunnel lighting can be replaced with great effort - or simply retrofitted.

- VERNO FIT enables you to reduce blocking times by quickly and easily retrofitting current FL, NaH and HiT luminaires with future-proof LED technology.
- With VERNO FIT, only the lamp and driver need to be replaced. The housing remains in place.
- Save time, money and manpower with VERNO FIT thanks to single-person mounting.
- Rely on robust, low-maintenance and long-lasting LED modules with a service life of up to 100,000 hours and a 5-year warranty.


Anlieferung
50

IMPRINT

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WEEE: DE 140 338 88

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Detailed technical data regarding our products can be obtained from the respective product descriptions/data sheets or requested separately.

DELIVERY TERMS AND CONDITIONS:
All deliveries shall take place in compliance with our General Conditions of Sale or those of our sales partners. The current version of our General Conditions of Sale can be found on our homepage at http://norka.com/gtc.

PRICES:
For our prices, ask for our current pricing list.

NORKA

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