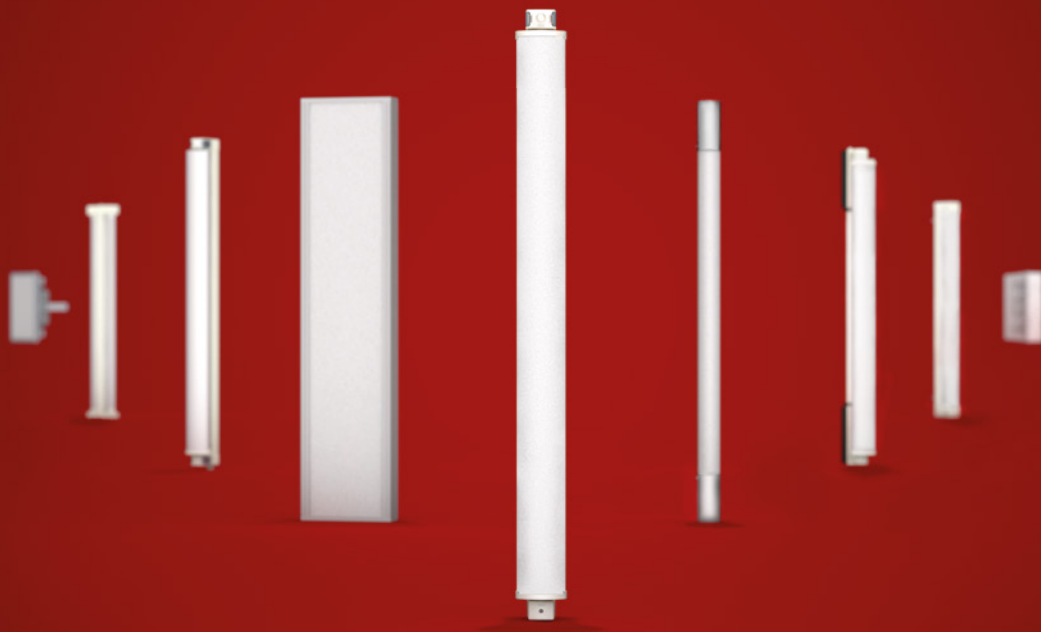


MADE IN GERMANY



Light perfected.

NORKA

LED PRODUCT RANGE 2020/21

FOREWORD

DEAR READER,

An inexhaustible curiosity for light, lighting and technology, many years of experience and high-level awareness of quality: These are the key elements behind our NORKA luminaires.


We have been developing and producing luminaires for challenging ambient conditions in Germany for more than 70 years. During this time, we have developed in-depth expertise which we incorporate into the design of our luminaires, our choice of materials and the sensor technology we select and develop for our XARA lighting control system. Expertise that provides you with high-quality products and a secure investment.


Light perfected. – Made in Germany.

As the customer, the advantage for you is quite obvious: We know our luminaires inside and out. This enables us to offer you support as a solutions provider even for those more challenging cases. NORKA will find the optimum solution for you. Not only for the luminaires themselves, but also for lighting control: from consulting, hardware and software to commissioning and training. Lighting and control – everything from a single source.

We can also help you with financing. Please feel free to contact us for further information!

In order to minimise long-term costs, we rely on high-quality materials and ultra-efficient LEDs requiring low maintenance. NORKA luminaire housings and reflectors usually last for many years and, in most cases, for many decades. However, the inner workings cannot always keep up. That is why NORKA luminaires are designed to allow most internal parts to be replaced. In the long term, you can obtain a large number of spare parts from NORKA. Our concepts such as RAPDEX will make your work easier and reduce maintenance times. Resource-friendly, energy-efficient and sustainable.

By simply replacing conventional luminaires with LEDs, much higher percentages of energy can be saved. WITH FOCUSED LIGHTING , we provide the perfect conversion of existing systems to LED. Your advantage: Energy savings mean up to 60% reductions in CO₂. And all without lighting control!

However, if you do need more, you can opt for lighting control. In many areas the automatic control of lighting makes sense: corridors in warehouses are deserted, but lit. There is adequate daylight in the production hall, but the lighting system is on at 100%. Simple solutions for this type of requirements can be found in the field of control. This is another area where NORKA can support you. We offer state-of-the-art lighting control: Difficult ambient conditions are no problem for our  XARA® lighting control system – any more than for NORKA luminaires themselves. This is yet another way to save considerable amounts of energy and money. Depending on the project, consumption savings of up to 90% are possible compared to a conventional system.

Tough cases that go beyond the scope of LEDs can be solved conventionally with our luminaires based on electronic control gear. You will find these in our basic product range.

Products for use in road and tunnel construction can be found in our separate documents on VERNØ.

Discover our product diversity on the following pages and at norka.com. We look forward to exciting projects with you and discussing and developing innovative ideas for the future.

Best regards,



Nicole Sass



Florian Schönfeld



TWO STRONG PARTNERS FOR YOUR PROJECT

Competence and reliability are one side of the coin for NORKA. Our consulting service stands for fairness and transparency. Competence means working out solutions that set standards.

The core competence of NORKA as a company specialising in lighting technology is the manufacturing of luminaires for difficult ambient conditions. We also support you with experienced lighting design, as well as the conceptualisation of standard solutions in the area of lighting control in tune with your needs.

Our partner, NORKA AUTOMATION, develops sophisticated control solutions in the area of lighting control and building services with you and for you. More information can be found under: www.norka-automation.de



Your Partners

NORKA

&

NORKA
AUTOMATION

Lichttechnische Spezialfabrik

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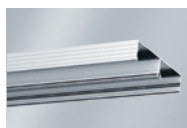
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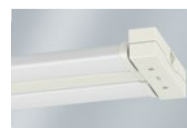
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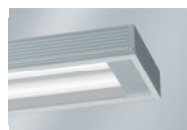
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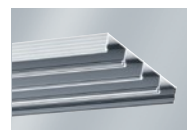
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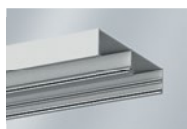
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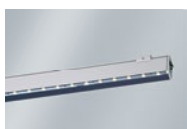


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> Luminaires for recessed and surface ceiling mounting

> Luminaires for recessed and surface ceiling mounting

> Floodlights

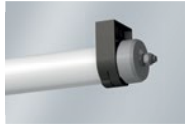


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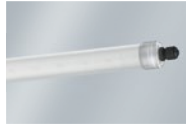
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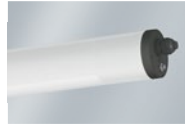
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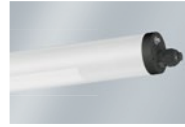
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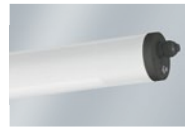
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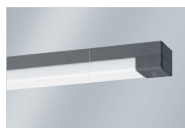
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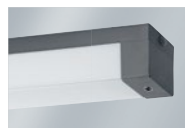
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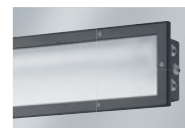
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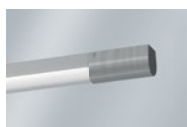
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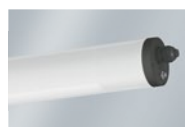
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LUMINOUS FLUX TABLES FOR LED LUMINAIRES WITH FOCUSSED LIGHTING

LUMINAIRES SUITABLE FOR RAILWAY AND PUBLIC TRANSPORT

NORKA offers tailor-made, optimum illumination solutions for trackside applications in particular. Here, you will find an overview of all NORKA luminaires for trackside lighting. Special railway certified variants for the Deutsche Bahn and further suitable luminaires, as well as further information, can be found in the NORKA brochure "Trackside Lighting."

Luminaires	Applications DB listed / applied for listing	Covered / non-covered railway platform	Handrail	Work and installation pits	Underpass	Tunnel and safety lighting	Maintenance areas
BELFAST					■		
BERN	■			■			
BERN LED				■			
BRÜNN	■	■			■		
BRÜNN LED		■			■		
DUBLIN	■	■					
DUBLIN LED		■					
EIDELSTEDT	■	■		■			■
ERFURT	■	■					■
ERFURT LED		■		■			■
FULDA	■			■	■		
FULDA LED	■			■	■		
GERA	■	■					
GERA LED		■					
JENA	■	■					
JENA LED	■	■					
KREUZBERG	■				■		
LONDON	■	■					
LONDON LED		■					
LUTTEROTH	■				■		
MARBURG	■				■		
MEISSEN III			■			■	■
MÜNCHEN	■	■			■		
MÜNCHEN LED	■	■			■		
PHALANX 430/620					■		
PHALANX LINEAR					■		
PRAG	■	■					
ROSTOCK	■				■		
SPANDAU						■	
STRALSUND	■				■		
ZUG	■			■			■
ZUG LED	■			■			■
ZUG LED AL					■		

LIGHT DISTRIBUTION

LED

The LED product range is sorted according to luminaire type and installation type.

In the contents, the luminaires are assigned to categories according to their classification and given a clear and descriptive icon. These icons are then repeated on the product pages.

Additionally, the focus of the LED product range is on the lighting technology.

The luminaires are divided into light source array and stripe versions.

A different light distribution – and therefore a different lighting effect – can be achieved through the selection of the cover screen and combination of optional accessories, such as prism screens, Fresnel lenses and functional optics.

For better orientation, stylised icons for the possible light distribution are shown on the luminaire product pages.

These icons are visually supported by simplified mock-up rooms showing the lighting effects of the luminaires at a range of heights.



NARROW BEAM

- > Narrow beam luminaire with half-peak angle between 12° and 24°
- > Accentuated illumination of the surface in use



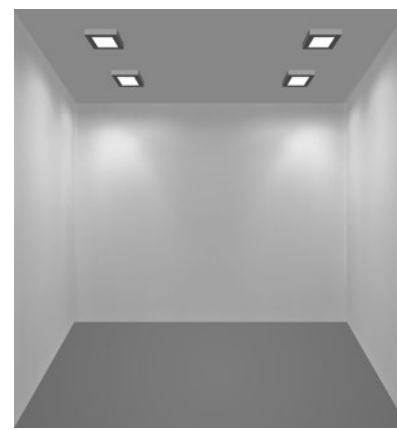
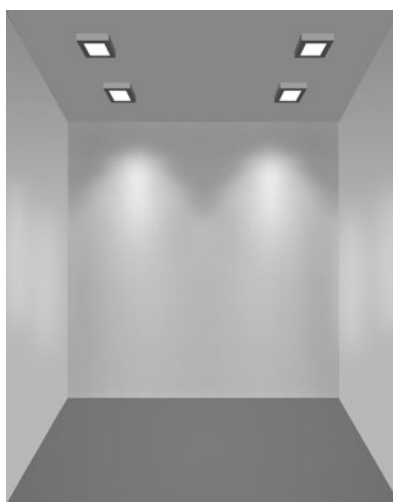
CONCENTRATED BEAM

- > Concentrated beam luminaire with half-peak angle up to 30°
- > Concentrated, uniform illumination of the surface in use



ASYMMETRIC BEAM

- > Asymmetric beam luminaire
- > Uniform illumination of the wall surface



The mock-up rooms shown here provide an overview of the lighting effects for a range of luminaires.



WIDE BEAM

- > Wide beam luminaire with half-peak angle between 30° and 45°
- > Wide, uniform illumination of the surface in use



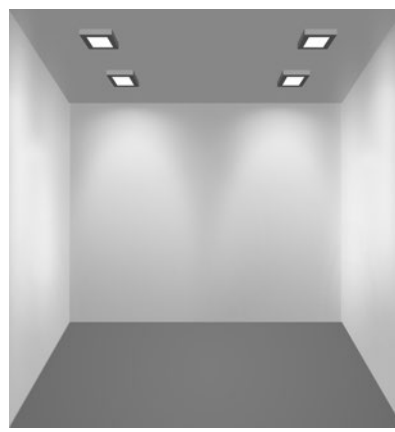
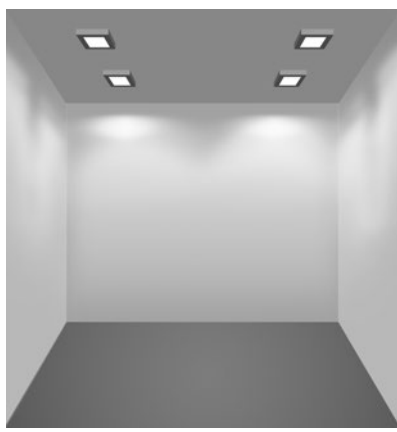
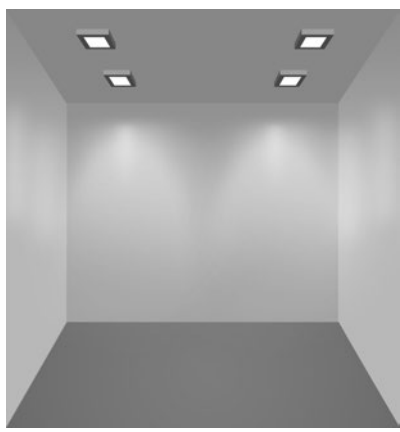
EXTREME WIDE BEAM

- > Extreme wide beam luminaire with half-peak angle > 45°
- > Extremely wide, uniform illumination of the surface in use



MEDIUM BEAM

- > Medium beam luminaire with half-peak angle > 30°
- > Uniform lighting of the room



LED TECHNOLOGY IN BORDERLINE AREAS



For decades, NORKA has succeeded in combining high lighting technology requirements and high protection ratings. Based on more than 70 years of experience, NORKA luminaires stand for reliability and safety in harsh conditions.

The development of NORKA luminaires is based on long-term studies of lighting systems in industrial production areas.

Findings on the effect of dirt and stress on the luminaires are taken into account for the production process of new NORKA luminaires. Environmental influences and the specific lamp properties are also considered.

NORKA luminaires feature a high level of functionality and ease of maintenance.

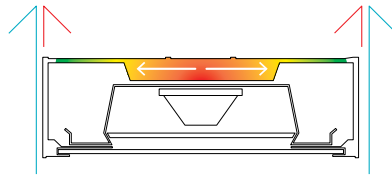
NORKA DEVELOPS LUMINAIRES FOR USE IN HARSH CONDITIONS

NORKA lighting technology is protected by an enclosed system. Individual housing parts are enclosed in order to reach the necessary protection rating and prevent dirt from penetrating the luminaire. In addition, the entire housing design is tailored to the temperature characteristics of the LED.

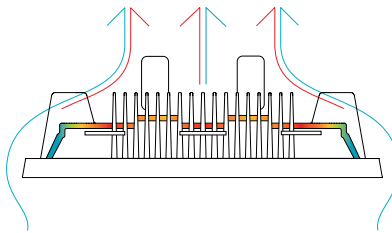
HIGH-PERFORMANCE LEDs REQUIRE SPECIALLY TAILORED THERMAL MANAGEMENT

NORKA relies on passive cooling elements. These are robust and – unlike active systems – do not consume any additional energy. Apart from the actual cooling effects of these elements, their susceptibility to contamination also has to be taken into account. A dirty surface or dusty housing recesses prevent the generated heat from being dissipated by the housing. This would then result in a build-up of heat and increased temperatures inside the luminaire. In order to achieve a long service life with a high luminous flux, LEDs require a specially developed thermal management.

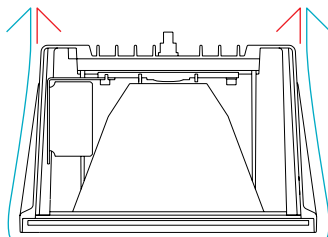
In a virtual testing room, NORKA simulates the typical heat conduction and convection properties of the luminaires. Realistic parameters normally seen in a typical application are used in the simulation. Critical design aspects for thermal management can already be analysed and optimised here on the 3D model. A prototype is then built according to the simulation. All lighting properties are checked in depth once again on the actual product in the testing laboratory and the luminaire is subjected to additional endurance tests.



HEAT TRANSPORT ON THE TALON LUMINAIRE



HEAT TRANSPORT ON THE CENTAURUS LUMINAIRE



CONVECTION CURRENTS AS SEEN ON THE POLARIS LUMINAIRE

TEMPERATURE AND SERVICE LIFE

SERVICE LIFE SPECIFICATION

NORKA LED products mainly have a service life of **L80 B10 > 60,000 hours**. **Divergent service lives are specified separately.**

In the process, the L value describes which share, in percent, of the initial luminous flux is still guaranteed at the end of the LED service life. L80 means that 80% of the initial luminous flux is achieved at the end of the service life. Or, in other words: L80 describes a maximum 20% luminous flux reduction from the initial value of the LED module.

The B value describes the static number of the LEDs or modules affected by the luminous flux reduction at the end of the LED service life in percent. B10 means that 10% of the modules can lie below the defined L80 value at the end of the specified service life.

TEMPERATURE AND SERVICE LIFE

LEDs work better in cold environments – they emit more light in cold conditions and their service life increases. However, this does not mean that LED luminaires may not be used in warm environments (or that they sustain damage immediately in such cases). The service life specified for all electronic components is always linked to an ideal ambient temperature – in other words, the service life is based on the theoretical possibility that the component is permanently exposed to this temperature. This also applies to drivers.

The temperatures specified for NORKA LED products are mainly based on a minimum service life of 60,000 hours. In other words, A service life of at least 60,000 hours is achieved if the luminaire is **constantly** operated at the specified minimum or maximum ambient temperature (“service life temperature”).

TEMPERATURE-DEPENDENT SERVICE LIFE

A good approximation for a temperature-related service life can be achieved using the Arrhenius equation. The following applies as a rule of thumb: A 10 °C increase in temperature results in the service life being halved. Conversely, a 10 °C reduction in temperature results in the service life being doubled.

Cold environments therefore benefit LEDs and ensure longer durability.

Example using the POLARIS 248:

The following ambient temperature is specified: -35 °C to +40 °C. If the luminaire is **constantly** operated at +40 °C, it will achieve a minimum service life of 60,000 hours; the same applies to operation at -35 °C.

TEMPERATURE AND LUMINOUS FLUX

The ambient and operating temperature of the LED not only influence their service life, but also the available luminous flux. Higher temperatures guarantee a lower light efficiency. To make the most precise specifications on luminous flux possible during the actual operation of the luminaire, NORKA measures the luminous fluxes after a stable operating state is reached during a constant, non-pulsed operation of the LED.

The luminous flux specifications of NORKA LED products refer to the lamp luminous flux (gross luminous flux). This relates to a temperature of +55 °C at the T_c point of the LED.

“SAFE OPERATION”

Aside from service life and the corresponding ambient temperature, the manufacturer also provides further information on the operating parameters of the components – minimum and maximum operating parameters are specified which must not be exceeded or fallen below. These may relate to temperature range, voltage range or maximum current. These specifications form the boundaries for “safe operation”. Safe operation means that the component works safely and without any problems when these limits are adhered to. Despite this, constant operation close to these limits results in a significantly lower service life.

If this statement is applied to luminaires, a safe operating range can be specified for the entire luminaire. In order to do this, the most important components have to be identified and assessed.

SERVICE LIFE AND SAFE OPERATION

As with the specification of the service life, the sole focus on safe operation is a simplified view and does not reflect the actual conditions in which the luminaire is operated.

If the temperature inside an industrial workshop with no air conditioning or heating is considered over an entire year, it becomes clear that the period when the service life temperature is exceeded is much shorter than the period when the temperature is within the temperature range. This means that the luminaire is primarily operated at temperatures below the “service life temperature”. In turn, this then indicates that the service life is not reduced – even when the service life temperature is briefly exceeded while remaining under the permissible maximum temperature for safe operation. This conclusion is highlighted by the following consideration. We are considering the industrial workshop without air conditioning or heating as detailed above.

Additionally, the following simplified assumptions are made: The luminaires are installed 50 cm below the ceiling. In winter (December to February), the ambient temperature is the same as the outdoor temperature. In spring (March and April) and autumn (September to November), the temperature is 10 °C above the outdoor temperature due to sunlight and rising warm air. In summer (May to August), the temperature is 30 °C above the outdoor temperature.

If an annual profile of the ambient temperature for the luminaires is taken into account (monthly average temperature), this results in the following table. The months when the service life temperature is exceeded are highlighted accordingly.

Further information on temperature and service life of LEDs can be found in the ZVEI (German Electrical and Electronic Manufacturers' Association) guideline for planning reliability in LED lighting with terms and definitions and measuring methods; Basic principles for comparability.

Month	Outside temperature	Ambient temperature of luminaire
January	1 °C	1 °C
February	1 °C	1 °C
March	5 °C	15 °C
April	12 °C	22 °C
May	14 °C	34 °C
June	17 °C	47 °C
July	16 °C	46 °C
August	18 °C	38 °C
September	15 °C	25 °C
October	9 °C	19 °C
November	5 °C	15 °C
December	4 °C	4 °C

- Of course, the temperature at midday in July may be even higher – but the safe operating range is still not exceeded even in this case. This picture becomes further differentiated when the exact figures are considered on a daily or hourly basis.
- Ultimately, an estimation of the service life can only be made on a situational basis – service life cannot be guaranteed based on the above considerations. This is because reliable and verifiable conclusions can only be made in standardised conditions.

OPTIONAL ELECTRONIC COMPONENTS

OPTIONAL ELECTRONIC COMPONENTS FOR LED LUMINAIRES

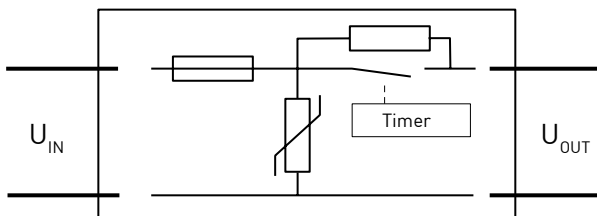
INRUSH CURRENT LIMITER

Optionally, an inrush current limiter can be integrated into many NORKA luminaires. The inrush current of the LED driver amounts to a multiple of the current taken up in running operation, the so-called nominal current (INOM). If the sum of the inrush currents exceed the tripping characteristic curve, the line protection breaker trips.

Especially during the conversion of existing systems with conventional technology in LED technology, this frequently leads to an overload of the line protection breaker at starting torque even though the new system has a lower power and therefore nominal current consumption than before.

This problem can be prevented with an inrush current limiter. For the starting torque, this inrush current limiter switches a series resistor upstream of the luminaire for a few milliseconds, thereby limiting the current consumption. For planning, a table is available with the permissible number of NORKA luminaires with and without an inrush current limiter per line protection breaker.

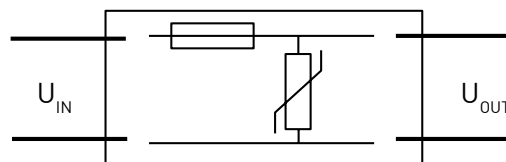
A 4 kV transient filter is integrated into the ENEC certified inrush current limiter.



TRANSIENT FILTER

Voltage peaks (transients) can be modulated to the 230 V mains voltage through external and electrical influences. These voltage peaks can be high-energy or high-frequency depending how they arise; high-energy disturbances are called **surges**, while high-frequency disturbances are called **bursts**.

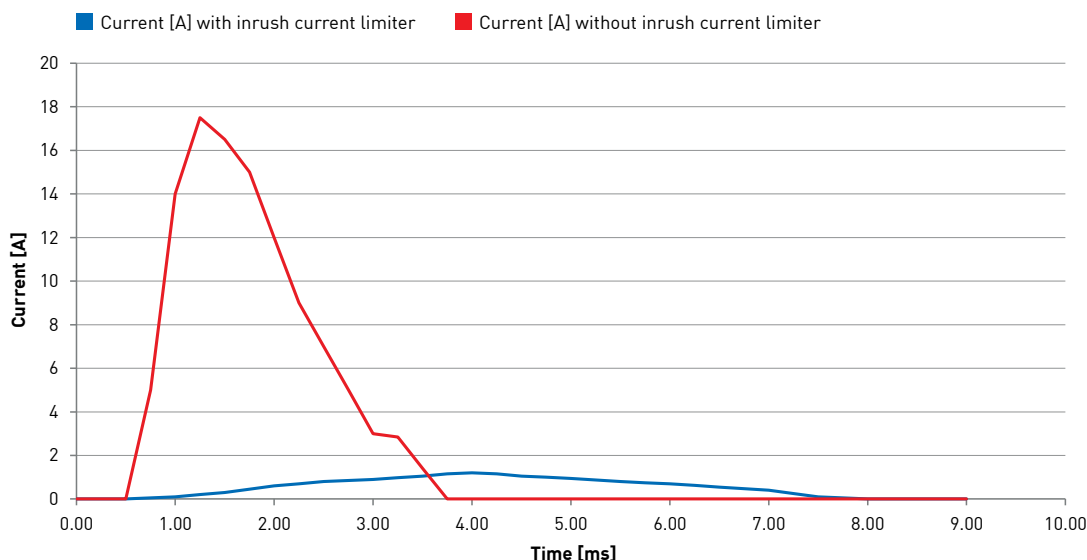
Most NORKA luminaires are secured for voltage peaks up to 2 kV by default; for higher voltage peaks, NORKA offers an optional transient filter up to 4 kV for many luminaires.



A transient filter or inrush current limiter must be exchanged after the following faults:

- > Overvoltage > 300 V
- > Short circuit at output
- > Surge > 4 kV
- > Burst > 4 kV

INRUSH CURRENT OF A SAMPLE LUMINAIRE (LED) WITH AND WITHOUT THE INRUSH CURRENT LIMITER



SPECIAL PROTECTION SYMBOLS

IP 69K – ACCORDING TO EN 60529

INGRESS PROTECTION FOR PROTECTION AGAINST ACCIDENTAL CONTACT AND FOREIGN BODIES

1 Index	Protection Designation	Explanation
6	Dust protection	Total protection against contact with live or internal, moving parts. Protection against dust ingress.

INGRESS PROTECTION FOR WATER PROTECTION

2 Index	Protection Designation	Explanation
.9K	Protection against water ingress during high-pressure/steam jet cleaning	Hot water (80 °C) impacting from any direction under high pressure (80-100 bar) on the luminaire must not enter.

TEST CONDITIONS FIRST INDEX (6)

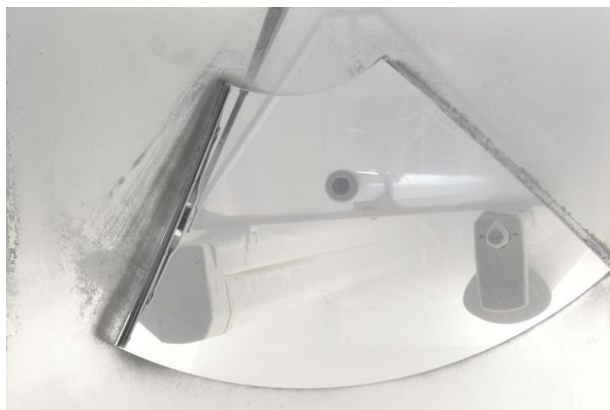
Vacuum test with dust/air mixture

Vacuum	≤ 2 kPa (20 mbar)
Test duration	8 h
Test dust	Talcum powder
Grain size	≤ 74 µm
Acceptance condition	No dust inside the housing

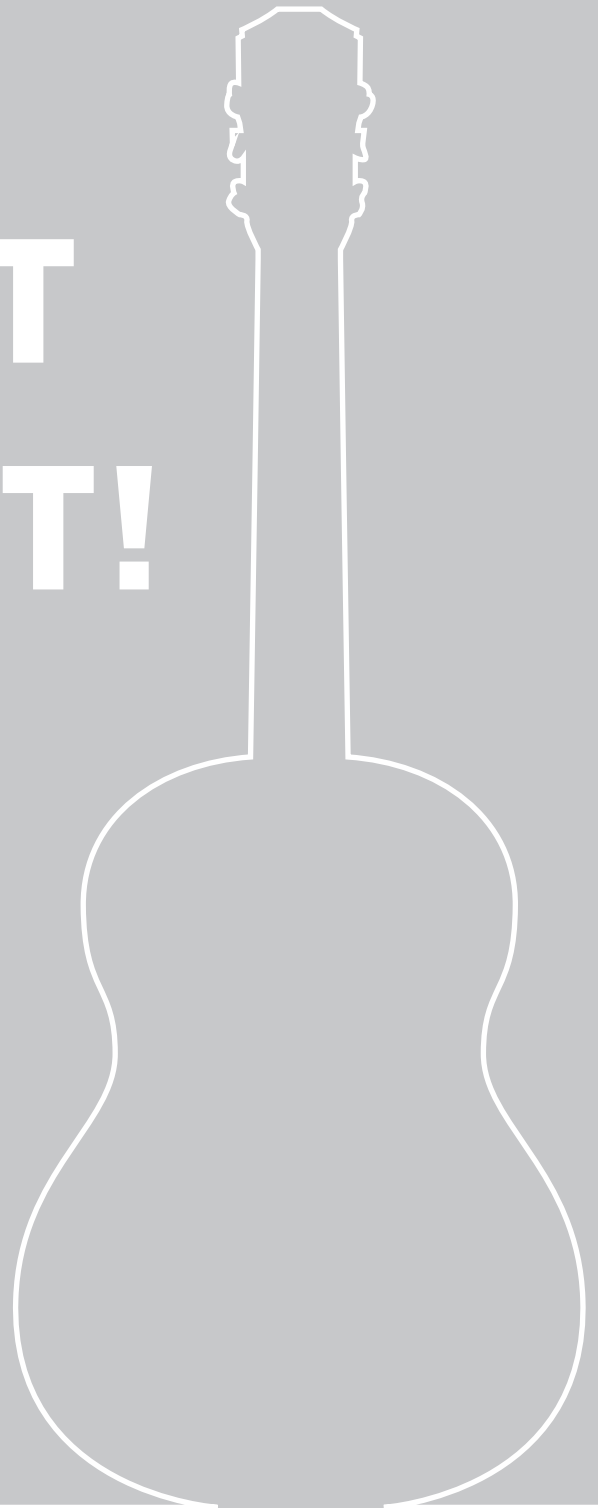
TEST CONDITIONS SECOND INDEX (9K)

Protection test against water ingress

Test device	High-pressure water system / flat nozzle 35° ± 5°
Distance	100 ± 150 mm
Water flow rate	14 - 16 l /min ± 5%
Water pressure	8000 - 10000 kPa (80 - 100 bar)
Water temperature	80 °C ± 5 °C
Test duration	At least 5 minutes



YOU ~~CAN'T~~ **CAN**
ALWAYS
GET WHAT
YOU WANT!



– ISN'T THAT MUSIC TO YOUR EARS?

Drawing on our expertise and experience, we will create a lighting control system designed specifically for your needs. And it's all worth it.

Our  XARA® lighting control system.

LIGHT

WHEN YOU WANT IT.


Unused corridors fully lit? Outside, the sun is shining, the hall is brightly lit and yet the lighting system is on at full illumination level?

From motion detectors to schedules and daylight sensors, there are a variety of ways to control the lighting and, at the same time, significantly reduce energy consumption.

HOW YOU WANT IT

Different environments place completely different demands on lighting, including the colour temperature – adapting the colour temperature in the production hall throughout the day, having the option of changing the colour of different lighting scenes in the swimming pool. And then there's the illumination level.

FROM THE IDEA TO THE SMART OPTIMUM ILLUMINATION SOLUTION: YOUR FOCUS – FUNCTIONALITY

From simple motion detection to various lighting scenes through to integration in building management systems: With a wide range of possible functions, our  XARA® lighting control system offers the right solution for your project.

As a partner with experience in both lighting for difficult environmental conditions and lighting control, we are there to support you.

LIGHTING CONTROL WITH HIGH STANDARDS

High requirements in terms of functionality, protection rating, vibration resistance and impact resistance are the order of the day for us as a specialist lighting technology manufacturer. We bring decades of expertise in lighting to our XARA® lighting control system. Expertise that also benefits your projects: We rely on long-life components that are as robust as our luminaires.

EVERYTHING FROM ONE SOURCE

We know what works well together: In our in-house practical tests, we have sounded out the limits of the XARA® lighting control system, tested the compatibility of the components with each other and with NORKA luminaires and, in some cases, refined the housings of the sensors.

As a result, we can guarantee maximum functional safety and offer one-stop consulting, hardware and software as well as commissioning and training.



WHERE YOU WANT IT

The right lighting in the right place for every situation: This is possible too, e.g. with light scenes. Is only part of the sports hall needed? Is corridor lighting only required for security guards in the factory hall at night and not the entire hall? Is only maintenance pit one required, the other two are unoccupied? You decide where lighting is needed.

BY WHOEVER YOU WANT

You wouldn't want unauthorised people being able to control the lighting in public areas. In this case, for instance, the retrieval of different lighting scenes from an NFC terminal with transponders is a good idea. This makes it impossible for outsiders to manipulate the lighting and the right people have control.

THINKING OUTSIDE THE BOX

XARA® not only allows NORKA luminaires to be controlled, but also allows integration of other makes into a XARA® lighting control system.

But maybe you are already thinking ahead. In many cases, integration into a building management system makes sense. Connecting to an existing system can often be implemented as well. In addition to lighting control, we can offer you other control systems: Would you like the shades and lighting to work hand in hand and the heating circuit to be controlled? Simply get in touch with us!

PAYS FOR ITSELF

High energy savings can already be achieved by switching from conventional lighting to LED. But you can go one step further with a lighting control system. With the right control system you can achieve a further 30% energy saving and reduce CO₂ emissions at the same time. There are often funding schemes available for modernisation measures which shorten the payback period and ultimately allow you to save faster.

YOUR WAY TO XARA®

If you have any questions or projects in mind, please do not hesitate to contact our staff or our local sales representatives.

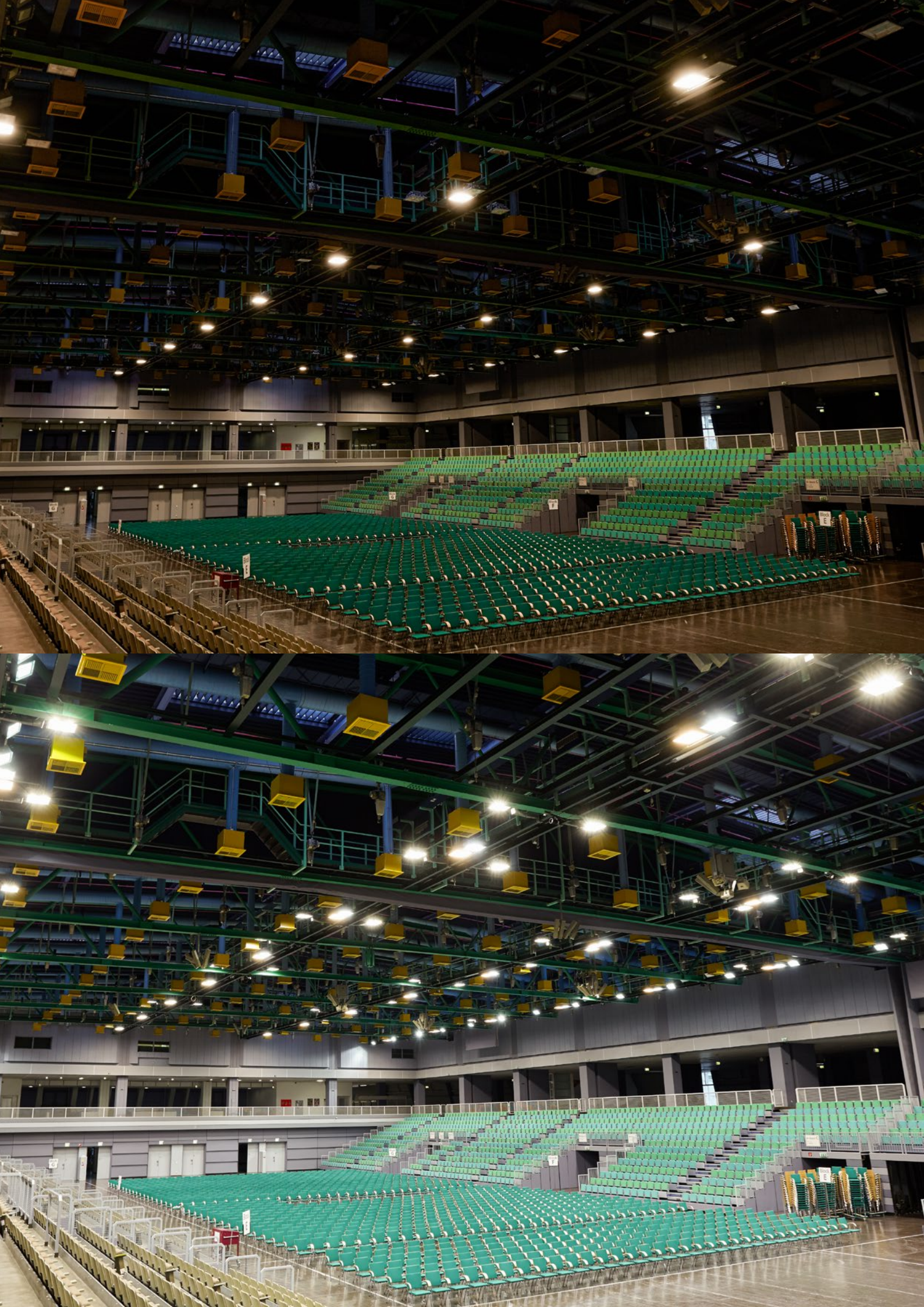
Are you looking for a direct line?
Give us a call: 040 513 009-0.

Further information can also be found in our documents on the subject of the XARA® lighting control system.

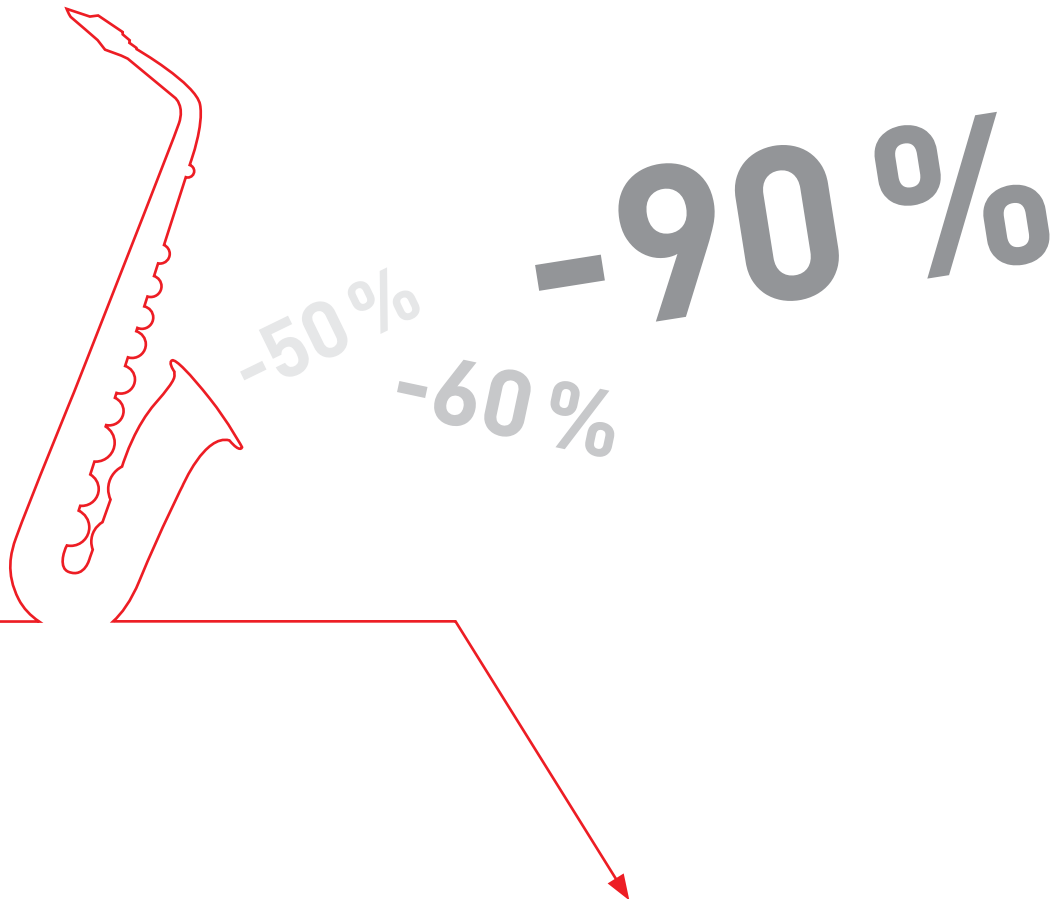


LIGHTING CONTROL SYSTEM

LIGHTING CONTROL FOR EXTREME ENVIRONMENTS



IT'S WORTH IT!



SAMPLE CLACULATION:

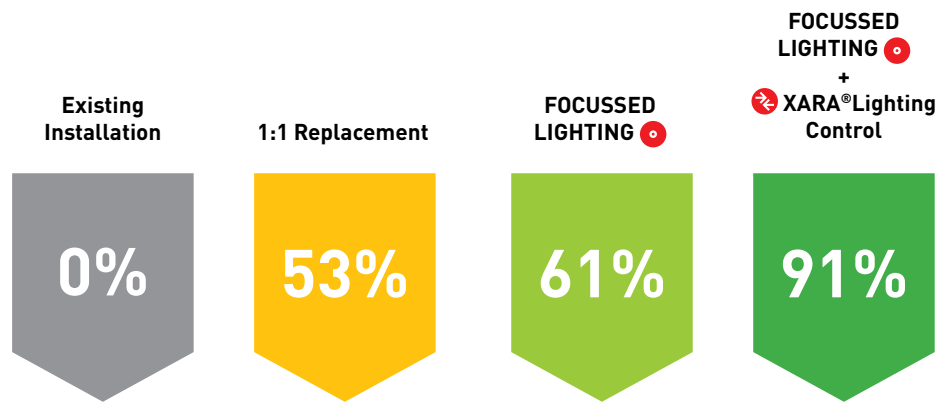
The lighting system of a workshop with irregular operation is to be modernised.

During modernisation it shows that different ways have been chosen. With some knowledge about today's LED-technology and using our know-how of light controls, there is only one reasonable way to success. The figures speak for themselves.

Room L x B: 40 x 20 m, Room height: 4 m,

Nominal illumination level: 250 Lux

Average operating time of 12 hours without control,
average of 4 hours with XARA® lighting control system



	EXISTING INSTALLATION	DIFFERENT WAYS OF MODERNISATION		
	Diffuser luminainre of a competitor with T8 lamp 58 W and LLB	ERFURT LED m1500 as 1:1 replacement	ERFURT LED m1500 with FOCUSSED LIGHTING	ERFURT LED m1200 FOCUSSED LIGHTING and XARA® Lighting Control
Manufacturer	Competitor	NORKA	NORKA	NORKA
Quantity	66	66	66	66
Version and components	T8, 58 W, LLB, wide beam	LED, MC3, wide beam	LED, MC1, wide beam	LED, MC1, wide beam
Additional costs for XARA®				around 2000 €
Lamp power	58 W	27 W	22 W	14,5 W
System power	64 W	30 W	25 W	17,5 W
Lamp luminous flux	5200 lm	5280 lm	4270 lm	2907 lm
Total luminous flux	343 200 lm	348 480 lm	281 820 lm	191 862 lm
Light Output Ratio (LOR)	0.63	0.977	0.977	0.977
Luminaire luminous flux	3 276 lm	5 158.56 lm	4 171.79 lm	2 840.139 lm
Total luminaire luminous flux	216 216 lm	340 464.96 lm	275 338.14 lm	187 449.174 lm
Light degradation	20 % in 20.000 h	20 % in 60.000 h	20 % in 60.000 h	20 % in 60.000 h
Average illumination level	249 lx	499 lx	404 lx	275 lx
Uniformity	0.34	0.44	0.44	0.44
Luminaire efficiency	51.2 lm/W	172.0 lm/W	166.9 lm/W	162.3 lm/W
Plane efficiency	5.28 W/m ²	2.89 W/m ²	2.39 W/m ²	2.39 W/m ²
Connected Load	4 224 W	1 980 W	1 650 W	1 155 W
Operating hours /Day	12 h	12 h	12 h	4 h
Work days per Year	240	240	240	240
Energy consumption /Year	12 165 kWh	5 702 kWh	4 752 kWh	1 109 kWh
CO₂ emission /Year	6 423 kg	3 011 kg	2 509 kg	585 kg
Energy consumption /30 years	364 954 kWh	171 072 kWh	142 560 kWh	33 264 kWh
CO₂ emission /30 years	192.7 t	90.3 t	75.3 t	17.6 t
Arbeitspreis Strom	0.31 €/kW	0.31 €/kW	0.31 €/kW	0.31 €/kW
Energy costs per year	3,771.19 €	1,767.74 €	1,473.12 €	343.73 €
Energy costs for 30 years	113,135.62 €	53,032.32 €	44,193.60 €	10,311.84 €

Savings in %

0 %

53 %

61 %

91 %

Savings of CO₂ per year

0 t

102 t

117 t

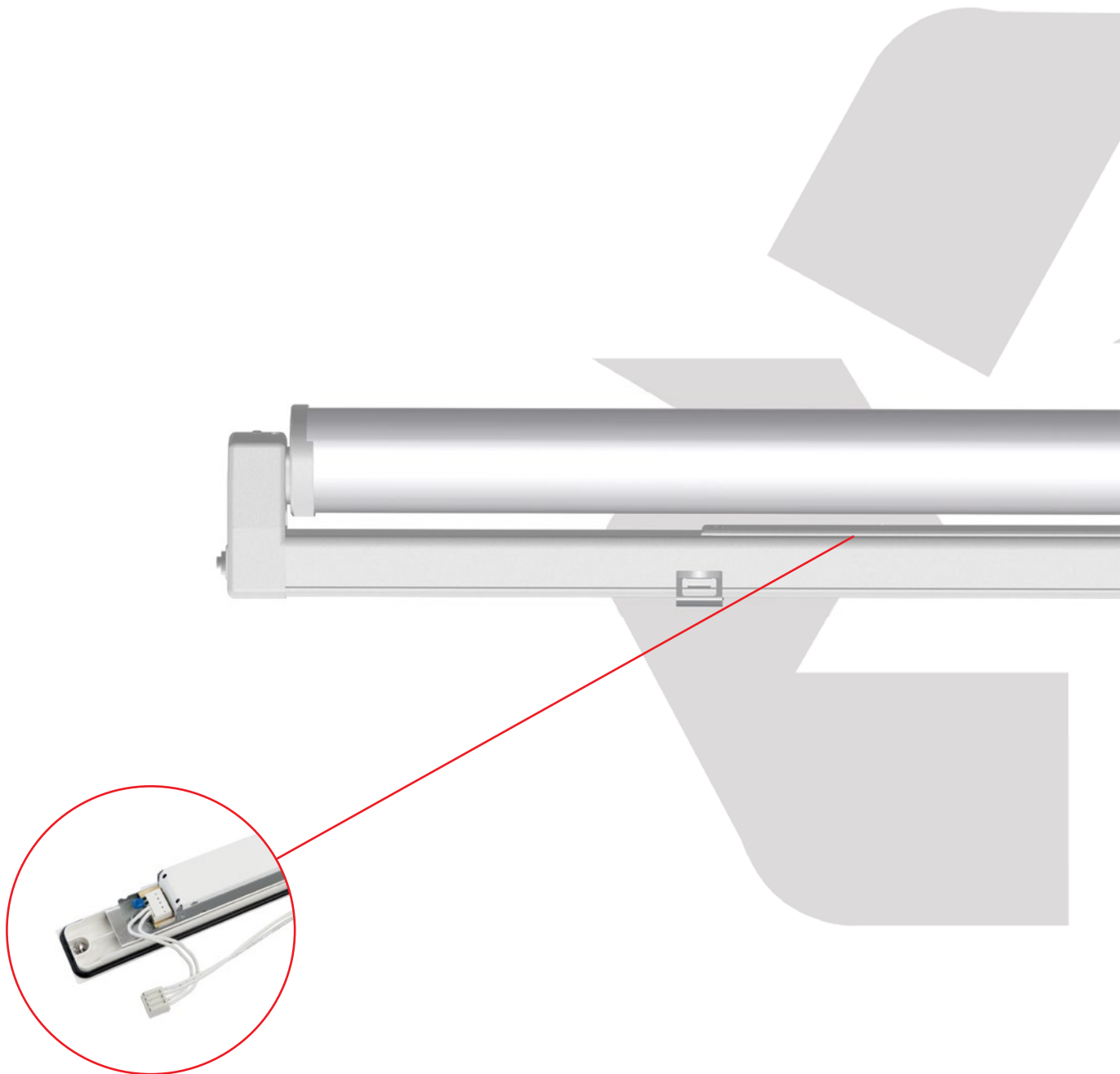
175 t

REPARABILITY & SPARE PARTS

LUMINAIRES THAT LAST

NORKA luminaires are designed for use in the most demanding environmental conditions. They are characterised above all by their long service life and high resistance to a large number of chemicals and other environmental influences. These are luminaires that last.

Due to their excellent durability, NORKA luminaire housings often outlive the life cycles of the built-in electronic components. For this reason, NORKA offers several options for recycling the inner parts of the luminaires.



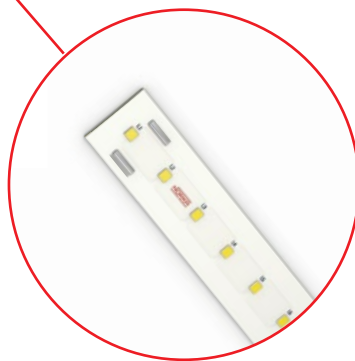
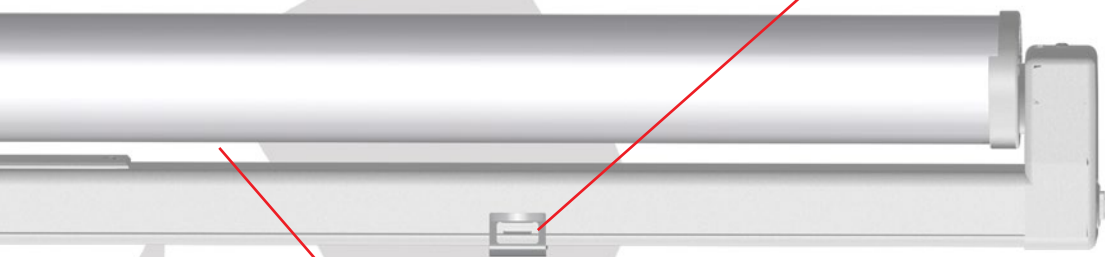
NEW DRIVE

The driver is the key element of every luminaire. If the driver is damaged or fails, the luminaire will no longer function.

In NORKA luminaires, the driver can be replaced **in all LED luminaires**. To make this easy and fast, we have developed the RAPDEX module. This is optionally available for a large number of luminaires. Please pay attention to the RAPDEX marking on the product pages.

NEW COMPONENTS

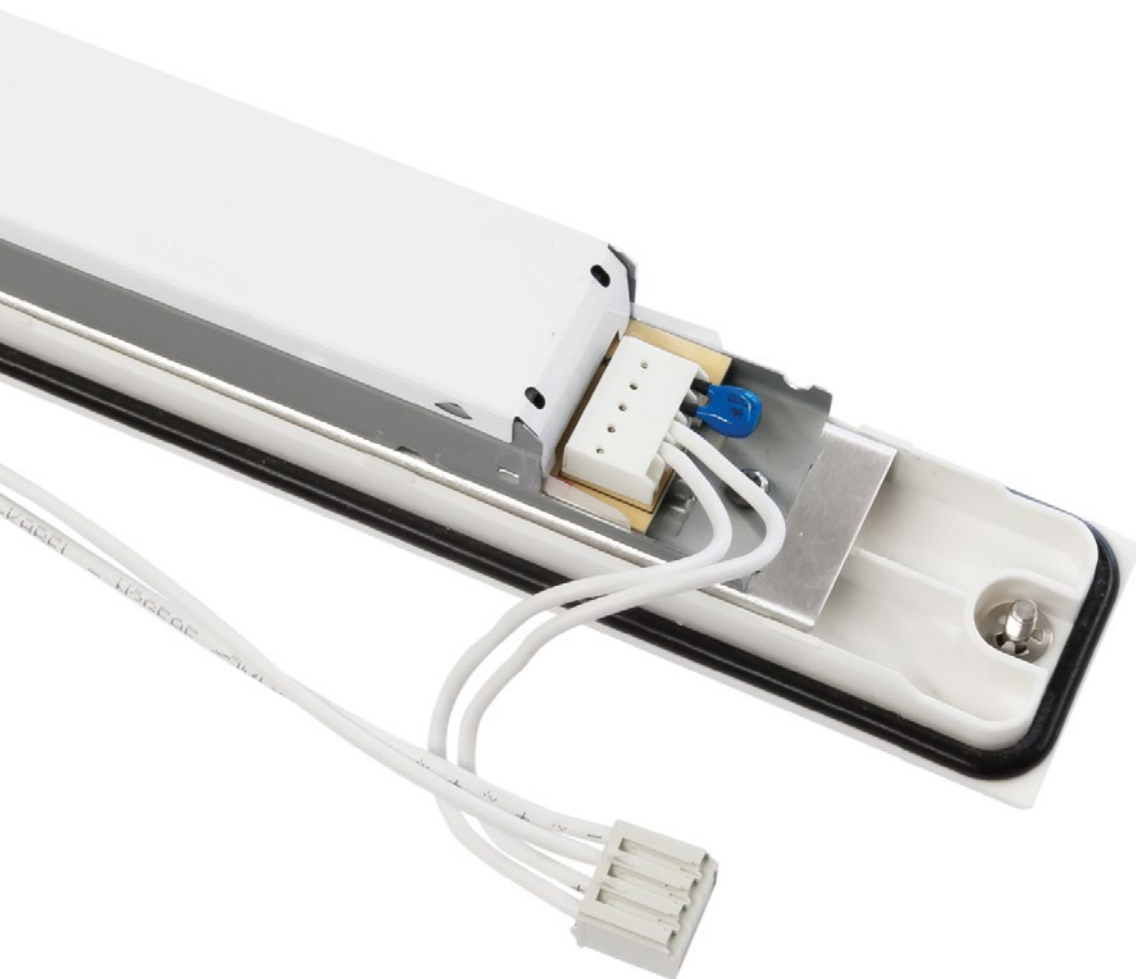
Over time, something can break – a gasket, mounting clamp or pressure cap. NORKA keeps a large number of spare parts in stock which you can purchase as required. You will find a list of spare parts in the main LED catalogue.




NEW SHINE

LEDs give the luminaire its function – light – but at the same time they are highly sensitive. NORKA therefore protects the installed LED boards against damage as effectively as possible. Nevertheless, LEDs do not last indefinitely – they age and in most cases “only” last 60,000 hours or 100,000 hours. The rest of the luminaire, such as gaskets, fastenings and housing, are often still completely intact after 60,000 hours. NOKRA lights are therefore designed to allow them to be easily fitted with new LEDs, thus extending their service life by another 60,000 hours.


RAPDEX — FOR THE NEXT 60,000 HOURS



 **RAPid Driver EXchange**, or RAPDEX for short, enables the simple and fast exchange of LED drivers.

Efficient LEDs and drivers bring many advantages, such as energy savings and easy control options. The inner workings, however, are much more complex than in the case of conventional luminaires. While the throttles used earlier had an almost unlimited service life, even the highest-quality LED drivers have to be exchanged someday. Built-in LEDs also have a limited service life.

In many cases, the driver and LEDs have to be exchanged after 60,000 hours, while the housing of the luminaire is still completely intact because NORKA housings are designed for robustness and durability.

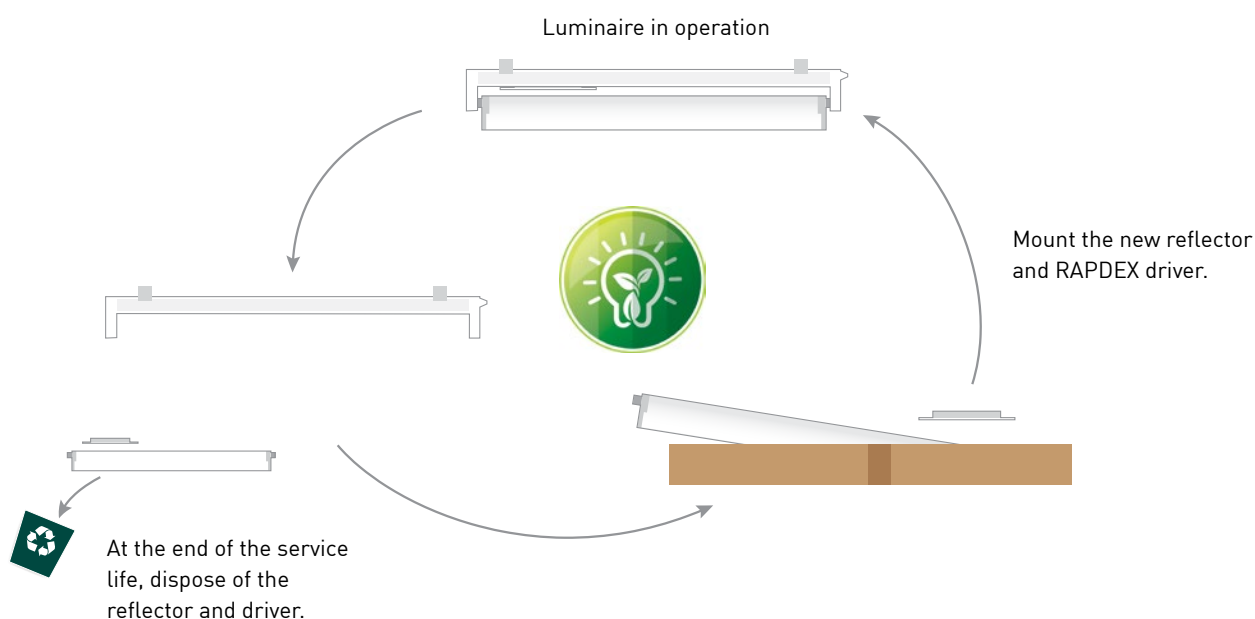
In the process,  RAPDEX saves time and money: No disassembly of the luminaire, no new installation and therefore shorter maintenance times. The luminaire can remain mounted at its place of use as RAPDEX drivers contain both the end cap and driver.

Equipped with a simple plug connection, the driver can be exchanged without a problem. The built-in RAPDEX end cap must only be unscrewed and the plug connection of the driver loosened. After that, plug in the new RAPDEX driver and mount the end cap: Quick change without removing the luminaire from the ceiling.

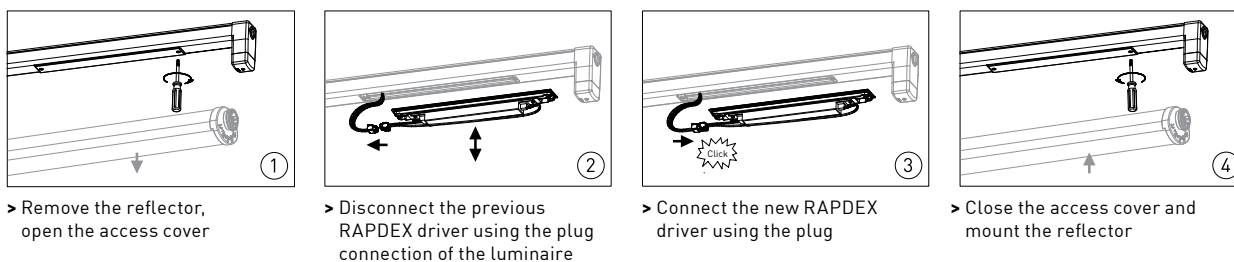
RAPDEX – RAPID DRIVER EXCHANGE

Together with a new LED reflector tubes, your luminaire is once again state-of-the-art and can tackle the next 60,000 at the very least. LED reflector tubes are available separately. The system is considered to be in a new condition after the replacement of the reflector and driver.

LIFE CYCLE



RAPDEX – Quick change of the driver







LUMINAIRES FOR RECESSED AND SURFACE CEILING MOUNTING

There are two models in this category. Luminaires with cover offer the advantage of reduced total height and are ideal for integrating inconspicuously into the architecture. Luminaires with reflector tube achieve a spatial separation between driver and light source which results

in improved heat management, increasing system service life. There is a wide range of different lighting technologies available for both models. These tools allow all required lighting tasks to be resolved. The principle of short gaskets permanently protects the optical system against dirt and the

penetration of moisture, ensuring high light efficiency over the long term.





LUMINAIRES FOR RECESSED AND SURFACE CEILING MOUNTING

INDEX



BERLIN LED 36



BREMER-HAVEN LED 38



BRÜNN LED 40



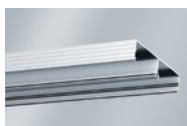
COESFELD 42



COESFELD PLUS 44



DUBLIN LED 46



TRUNKING SYSTEM 185 50



ERFURT LED 52



ERFURT LED EXTREME 56



ERFURT LED HIGH OUTPUT 58



GENF 62



GERA LED 66



HAMBURG LED 70



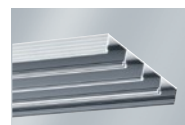
JENA LED 72



KIEL LED 76



LONDON LED 78



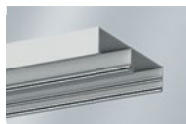
TRUNKING SYSTEM 285 82



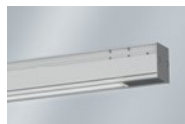
MERKUR LED 84



MÜNCHEN LED 86



TRUNKING SYSTEM 191 90



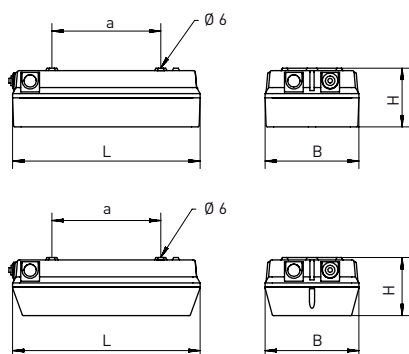
NIGHTLINE 92



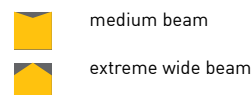
TALON 96

BERLIN LED

LED



 **XARA® lighting control**
[see introduction and app. B]



Lamp	Version	L	B	H	a	Max. weight
LED	straight side walls	310 mm	155 mm	96 mm	180 mm	1.5 kg
LED	sloping side walls	310 mm	155 mm	96 mm	180 mm	1.5 kg

AREAS OF APPLICATION

Polymer luminaire for recessed and surface ceiling mounting with LED lamps. Useable in e.g. railway loop lines, section doors, storage rooms, cellars and technical side rooms. Suitable for cold areas down to -25 °C.

HOUSING

Weather-proof and UV-resistant luminaire housing made of polymer, anthracite. Useable for indoor and outdoor areas according to protection rating IP 65. Sealing system made of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

Hinged lamp diffuser made of PC Tropal® (fracture proof).

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver 230 V AC/DC, optionally suitable for emergency lighting. One cable membrane M20. 2 kV transient filter.

MOUNTING

Single mounting. Ceiling or wall fixing with two concealed rear mounting apertures.

INFORMATION

- > BERLIN LED 50 replaces 11 W TC-SEL
- > BERLIN LED 100 replaces 18 W TC-L / TC-D

BERLIN LED, PC TROPAL® (FRACTURE PROOF), STRAIGHT SIDE WALLS, INTERNAL DRIVER

Medium beam version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
50 <input type="checkbox"/> 840/4000	530	7	-25 °C to +40 °C	421 050 34 01-E
100 <input type="checkbox"/> 840/4000	1065	11	-25 °C to +35 °C	421 100 34 01-E
150 <input type="checkbox"/> 840/4000	1490	13	-25 °C to +35 °C	421 150 34 01-E

BERLIN LED, PC TROPAL® (FRACTURE PROOF), SLOPING SIDE WALLS, INTERNAL DRIVER

Medium beam version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
50 <input type="checkbox"/> 840/4000	530	7	-25 °C to +40 °C	421 050 34 02-E
100 <input type="checkbox"/> 840/4000	1065	11	-25 °C to +35 °C	421 100 34 02-E
150 <input type="checkbox"/> 840/4000	1490	13	-25 °C to +35 °C	421 150 34 02-E

Extreme wide beam version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
70 <input type="checkbox"/> 840/4000	710	8	-25 °C to +35 °C	421 070 54 02-E
100 <input type="checkbox"/> 840/4000	1065	11	-25 °C to +35 °C	421 100 54 02-E

BERLIN LED OPTIONS

Version	Article no.
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	421 010
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
Inrush current limiter (including 4 kV transient filter)	100 922
4 kV transient filter	100 530

BERLIN LED ACCESSORIES

Version	Article no.
Corner fixing, stainless steel	200 208
Wall fixing, stainless steel	200 207
Anti-vibration damper, standard for special application areas	421 004



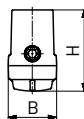
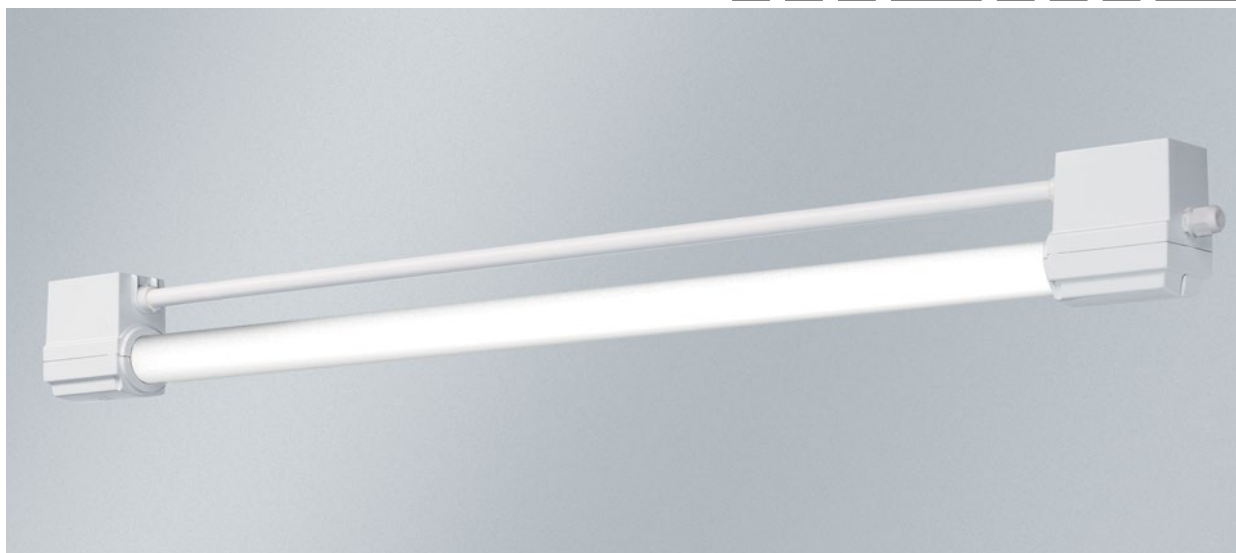
> BERLIN LED
version with sloping side panels



> BERLIN LED
wall mounting fixation in
stainless steel,
article no. 200 207

BREMERHAVEN LED

LED



 **XARA® lighting control**
[see introduction and app. B]



wide beam

Lamp	Version	L	B	H	a	Max. weight
LED	HT, m1200	1432 mm	77 mm	129 mm	1005 mm	2.9 kg
LED	HT, m1500	1732 mm	77 mm	129 mm	1305 mm	3.4 kg
LED	VHT, m1200	1432 mm	77 mm	129 mm	1005 mm	2.7 kg
LED	VHT, m1500	1732 mm	77 mm	129 mm	1305 mm	3.2 kg

AREAS OF APPLICATION

Polymer luminaire with LED lamps. Useable in industrial applications with demanding ambient conditions. Suitable for production facilities and suppliers in the food and beverages industry. **Heat-resistant (high temperature (HT)) version suitable for temperatures up to +60 °C, highly heat-resistant (very high-temperature (VHT)) version suitable for temperatures up to +90 °C.**

HOUSING

Weatherproof luminaire housing made of thermosetting polymer. Useable for indoor and outdoor areas according to protection rating IP 66, IP 67 and IP 68, 1 m. Thermally separated lamp chamber and driver chamber. Short sealing system consisting of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

Protection tube 38 mm made of PC Tropal® (fracture proof) with internal aluminium reflector.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Two M20 cable glands on face side and 4 x 1.5 mm² through wiring. Two types are available.

Type 1: HT version with built-in driver 230 V AC/DC.

Type 2: VHT version with 230 V AC/DC driver in separate polymer housing (driver to be ordered separately).

Maximum connecting cable length of 10 m.

MOUNTING

Single or row mounting. Ceiling installation using two polymer stirrup clamps, variable mounting distance.



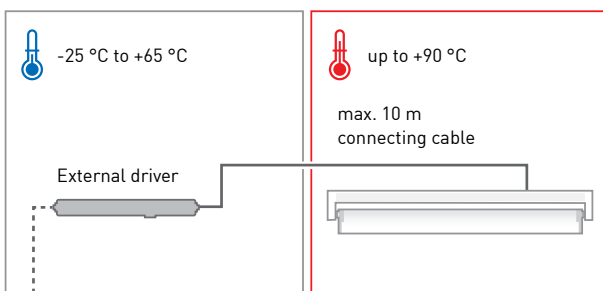
BREMERHAVEN LED – VERSION HT

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1200 <input type="checkbox"/> 840/4000 K	3800	30	-25 °C to +60 °C	596 480 44 84
m1500 <input type="checkbox"/> 840/4000 K	4750	37	-25 °C to +60 °C	596 680 44 84

BREMERHAVEN LED – VERSION VHT

Driver has to be ordered separately (see accessories).

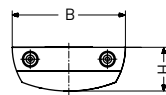
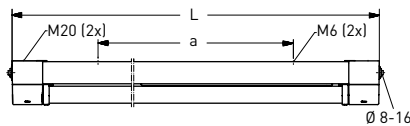
Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1200 <input type="checkbox"/> 840/4000 K	3640	30	-25 °C to +90 °C	597 480 44 84
m1500 <input type="checkbox"/> 840/4000 K	4550	37	-25 °C to +90 °C	597 680 44 84








> Through the use of an external driver the version VHT can be used in areas up to +90 °C.

BREMERHAVEN LED ACCESSORIES

Version	Article no.
Driver in polymer housing, IP 65, protection class II	597 186



-  **FOCUSSED LIGHTING**
(see appendix E)
-  **XARA® lighting control**
(see introduction and app. B)
-  Further colour temperatures
(see appendix D)

-  medium beam
-  asymmetric beam

Lamp	Version	L	B	H	a	Max. weight
LED	single lamp, m1200	1285 mm	220 mm	85 mm	951 ± 5 mm	4.6 kg
LED	single lamp, m1500	1585 mm	220 mm	85 mm	1251 ± 5 mm	5.0 kg

AREAS OF APPLICATION

Polymer luminaire for surface ceiling mounting with LED lamps. Useable in underground stations, pedestrian underpasses and tunnels, multi-storey car parks or swimming pools (see options).

HOUSING

Flat, weather-proof and UV-resistant luminaire housing made of fibre-glass-reinforced polymer, similar to RAL 9010, with low installed height. Useable for indoor and outdoor areas according to protection rating IP 65. Thermally separated lamp chamber and driver chamber. Short sealing system consisting of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

Lamp diffuser made of PMMA Transopal® (impact strengthened) or PC Tropol® (fracture proof) with internal aluminium reflector (MIRO-SILVER®).

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver 230 V AC/DC, optionally suitable for emergency lighting. Two access covers, four cable entries M20 and 4 x 1.5 mm² through wiring. 2 kV transient filter.

MOUNTING

Single or row mounting. Ceiling installation using split washers for easy mounting. Captive end caps.



BRÜNN LED

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no. + MC
m1200 <input type="checkbox"/> 840/4000	2770 - 3480 - 6320	19 - 24 - 44	-25 °C to +40 °C	485 480 A4 B4 -
m1500 <input type="checkbox"/> 840/4000	4350 - 5240 - 7900	29 - 35 - 53	-25 °C to +40 °C	485 680 A4 B4 -

Standard luminous flux T8, for other lumen packages, see appendix E

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

LIDC characteristic / A

3 = medium beam
6 = asymmetric beam

Lamp diffuser / B

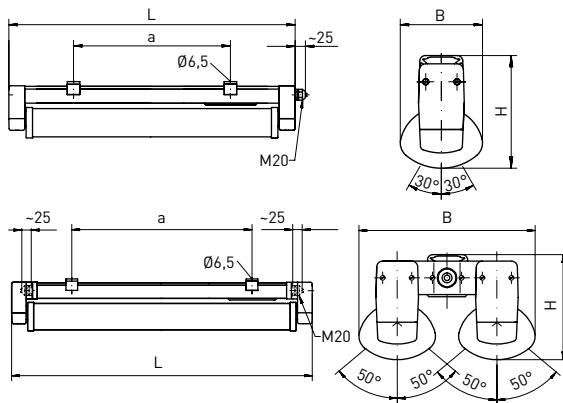
2 = PMMA Transopal® (impact strengthened)
8 = PC Tropol® (fracture proof)

BRÜNN LED OPTIONS

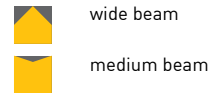
Version	Article no.
DALI	100 502
Polymer cable gland with strain relief, M20 (single side)	200 427
Polymer cable gland with strain relief, M20 (both sides)	201 427
RAL finish	485 960
Through wiring 4 x 2.5 mm ²	485 821
Through wiring 5 x 1.5 mm ²	485 831
Through wiring 5 x 2.5 mm ²	485 391
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	485 010
Halogen-free version	480 003
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
Version for operation on PASSAU LED	see p. 192
Rear-mounted cable entry M20 (4 pieces), sides closed	201 310
Swimming pool version	480 036
Inrush current limiter (including 4 kV transient filter)	100 922
Further colour temperatures	see appendix D
4 kV transient filter	100 530
HCL (Human Centric Lighting)	available on request

BRÜNN LED ACCESSORIES

Version	Article no.
Continuous row connector 4 x 1.5 mm ²	485 023
Continuous row connector 4 x 2.5 mm ²	485 024



XARA® lighting control
(see introduction and app. B)



Other dimensioned drawings on the internet

Lamp	Version	L	B	H	a	Max. weight
LED	single lamp, m1500	1551 mm	107 mm	144 mm	1280 ± 40 mm	3.4 kg
LED	twin lamp m1500	1551 mm	242 mm	144 mm	1220 ± 80 mm	4.6 kg

AREAS OF APPLICATION

Ammonia resistant polymer luminaire with LED lamp, single or twin lamp. Useable in stables or aviaries with high ammonia levels and special safety requirements.

HOUSING

Weather-proof luminaire housing made of fibreglass reinforced polymer, similar to RAL 9010. Useable for indoor and outdoor areas according to protection rating IP 65 (single or twin lamp) resp. optional IP 67 (single lamp). Thermally separated lamp chamber and driver chamber. Fume-proof, short sealing system consisting of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

With reflector tubes that can be swivelled independently, made of PMMA Transopal® [impact strengthened] with internal aluminium reflector (MIRO-SILVER®). Reflector tube can be locked in steps of 10°.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in, ammonia resistant driver 230 V AC/DC, optionally suitable for emergency lighting. One access cover, one M20 cable gland on face side. Ready for connection via ammonia resistant connecting cable (2 m). Optional through wiring. 2 kV transient filter.

MOUNTING

Single mounting. Ceiling or wall fixing using two polymer mounting clamps with variable mounting distance. Suspension system possible (see accessories).

COESFELD, SINGLE LAMP

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1500 <input type="checkbox"/> 840/4000 K	5280	30	-25 °C to +45 °C	445 680 A4 25-E
m1500 <input checked="" type="checkbox"/> 850/5000 K	5280	30	-25 °C to +45 °C	445 680 A5 25-E

COESFELD, TWIN LAMP

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1500 <input type="checkbox"/> 840/4000 K	10560	60	-25 °C to +45 °C	446 680 A4 25-E
m1500 <input checked="" type="checkbox"/> 850/5000 K	10560	60	-25 °C to +45 °C	446 680 A5 25-E

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

LIDC characteristic / A

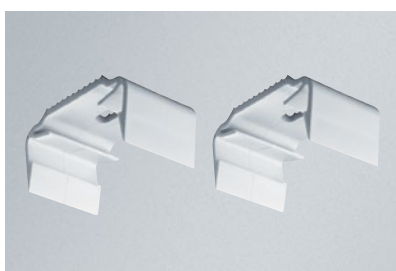
3 = medium beam
4 = wide beam

COESFELD OPTIONS

Version	Article no.
RAL finish	445 960
Through wiring 2 x 2.5 mm ² with second connecting cable (2 m)	445 933
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	445 010
Inrush current limiter (including 4 kV transient filter)	100 922
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
4 kV transient filter	100 530

COESFELD ACCESSORIES

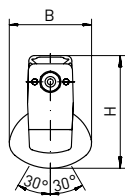
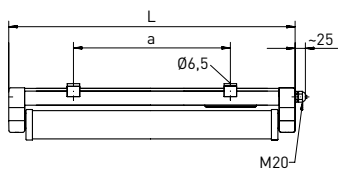
Version	Article no.
Polymer suspension for 1.0 m suspension (pair) including stainless steel mounting clamp (pair)	available on request



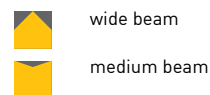
> Polymer mounting clamps, included in scope of delivery

COESFELD PLUS

LED



 **XARA® lighting control**
[see introduction and app. B]



Lamp	Version	L	B	H	a	Max. weight
LED	single lamp, m1200	1251 mm	107 mm	144 mm	980 ± 40 mm	2.0 kg
LED	single lamp, m1500	1551 mm	107 mm	144 mm	1280 ± 40 mm	3.6 kg

AREAS OF APPLICATION

Ammonia resistant polymer luminaire with LED lamps, single lamp. Useable in stables, aviaries or milking stations with particularly high requirements for colour rendering as well as for high ammonia exposure and intensive cleaning processes.

HOUSING

Weather-proof luminaire housing made of fibreglass-reinforced polymer, similar to RAL 9010. Useable for indoor and outdoor areas according to protection rating IP 65 and IP 67. Suitable for intensive cleaning processes using pressure washers due to high protection rating IP 69K. Thermally separated lamp chamber and driver chamber. Profile including coating for increased resistance against acids and cleaning agents. Fume-proof, short sealing system consisting of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

Reflector tube that can be swivelled, made of PMMA Transopal® (impact strengthened) with internal aluminium reflector (MIRO-SILVER®). Reflector tube can be locked in steps of 10°.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in, ammonia-resistant DALI driver 230 V AC/DC, optionally suitable for emergency lighting. One access cover, one M20 cable gland on face side. Ready for connection via ammonia resistant connecting cable (2 m, 4 x 2.5 mm², dimmer line is routed out as well). Optional through wiring. 2 kV transient filter.

MOUNTING

Single mounting. Ceiling or wall fixing using two polymer mounting clamps with variable mounting distance. Suspension system possible (see accessories).

COESFELD PLUS

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1200 <input type="checkbox"/> 840/4000 K	3420	20	-25 °C to +50 °C	445 480 A4 26-E
m1500 <input type="checkbox"/> 840/4000 K	5280	30	-25 °C to +45 °C	445 680 A4 26-E
m1200 <input checked="" type="checkbox"/> 850/5000 K	3420	20	-25 °C to +50 °C	445 480 A5 26-E
m1500 <input checked="" type="checkbox"/> 850/5000 K	5280	30	-25 °C to +45 °C	445 680 A5 26-E

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

LIDC characteristic / A

3 = medium beam

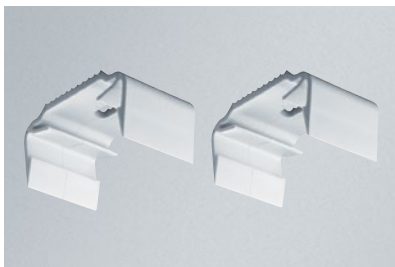
4 = wide beam

COESFELD PLUS OPTIONS

Version	Article no.
RAL finish	445 960
Through wiring 4 x 2.5 mm ² (mains 2 x 2.5 mm ² , DALI 2 x 2.5mm ²) with second connecting cable (2 m)	445 821
Inrush current limiter (including 4 kV transient filter)	100 922
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
4 kV transient filter	100 530

COESFELD PLUS ACCESSORIES

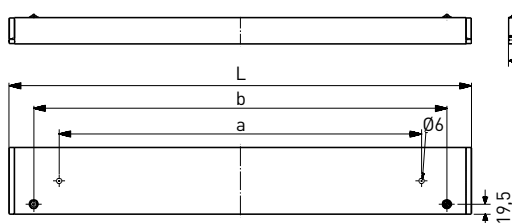
Version	Article no.
Polymer suspension for 1.0 m suspension (pair) including stainless steel mounting clamp (pair)	available on request



> Polymer mounting clamps, included in scope of delivery

DUBLIN LED

LED



XARA® lighting control
(see introduction and app. B)

K Further colour temperatures
(see appendix D)



medium beam

asymmetric beam

Lamp	Version	L	B	H	a	b	Max. weight
LED	single lamp, m1200	1276 mm	185 mm	73 mm	1000 mm	1140 mm	9.2 kg
LED	single lamp, m1500	1576 mm	185 mm	73 mm	1300 mm	1440 mm	11.8 kg

AREAS OF APPLICATION

Aluminium luminaire for recessed and surface ceiling mounting with LED stripes. Useable in underground stations, pedestrian underpasses and tunnels, passages, multi-storey car parks, swimming pools (see options), sports halls, transport areas and under canopies.

HOUSING

Silver anodised aluminium profile housing. Hinged, clear cover screen made of PMMA or PC (fracture proof) or decorative screen print pattern. Useable for indoor and outdoor areas according to protection rating IP 65. Protection class II.

LIGHTING TECHNOLOGY

LED unit made of PMMA Transopal® (impact strengthened) that can be swivelled in 10° steps, with reverse polarity protection. Internal aluminium reflector (MIRO-SILVER®).

ELECTRICAL CONSTRUCTION

Built-in driver 230 V AC/DC, optionally suitable for emergency lighting. Through wiring 4 x 1.5 mm². Ready for connection via two rear-mounted cable entries. 2 kV transient filter.

MOUNTING

Single mounting. Optional continuous row version or on NORKA trunking system 185 (the luminaire must be ordered in this specification). Mounting on four concealed mounting apertures at the rear. Ceiling mounting frame optionally available (see accessories).

DUBLIN LED

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1200 <input type="checkbox"/> 840/4000	3420	20	-25 °C to +40 °C	585 480 34 A4 -E
m1500 <input type="checkbox"/> 840/4000	4780	29	-25 °C to +40 °C	585 680 34 A4 -E

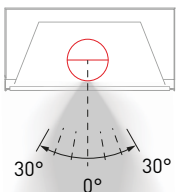
When ordering, please replace the highlighted letters with the corresponding numbers

Cover screen / A

- 1 = PMMA clear
- 3 = PMMA clear with decorative screen print pattern
- 4 = PC (fracture proof), clear
- 5 = PC (fracture proof), clear with decorative screen print pattern

DUBLIN LED OPTIONS

Version	Article no.
DALI	100 502
Version with two pairs of cable entries on the face side (continuous row version)	201 442
Swimming pool version	580 824
Ball impact resistant version	100 901
Inrush current limiter (including 4 kV transient filter)	100 922
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	610 010
Version for NORKA trunking system 185	100 904
Protection against unauthorised opening	610 003
Further colour temperatures	see appendix D
4 kV transient filter	100 530
Emergency light versions [Please specify precise specifications in your inquiry.]	available on request



> LED unit can be swivelled in 10° steps.

For additional articles, please turn the page! ►

NOTE

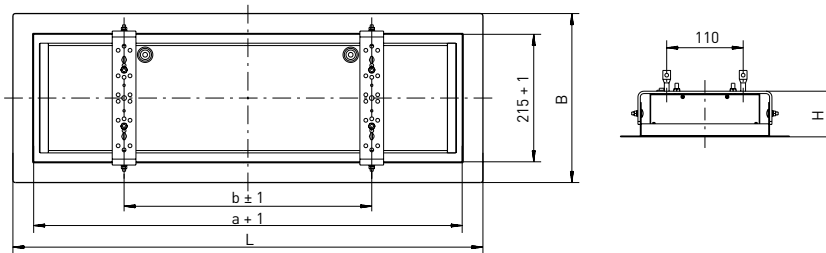
- > LIDC data for various turning positions of the LED unit is available on request.
- > The luminaire is delivered with the LED units in the 0° position.

IMPORTANT

- > The distance of the mounting apertures has been modified for the version on the trunking system. The standard version for ceiling installation cannot be installed on the trunking system.

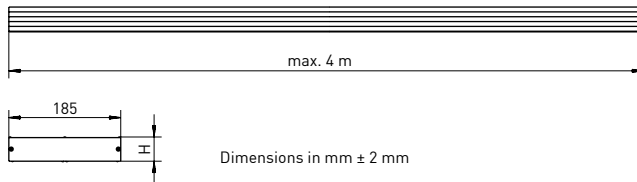
DUBLIN LED ACCESSORIES

Version	Module size	Article no.
Ceiling mounting frame, white, for single mounting	m1200	203 201
	m1500	203 202
Entrance/end frame, white, for continuous row mounting	m1200	203 204
	m1500	203 205
Middle section frame, white, for continuous row mounting	m1200	203 207
	m1500	203 208
Further frame colours		available on request
Trunking system 185		see p. 50



Version	Required ceiling cut-out	L	B	H	a	b	Max. weight
m1200	1310 x 256	1364 mm	285 mm	77 mm	1294 mm	1000 mm	3.6 kg
m1500	1610 x 256	1664 mm	285 mm	77 mm	1594 mm	1300 mm	4.2 kg

TRUNKING SYSTEM 185



Version	H	Weight	Article no.
Aluminium trunking system, per full metre	40 mm	2.6 kg/m	580 100
Aluminium trunking system, per full metre	70 mm	3.2 kg/m	580 150

AREAS OF APPLICATION

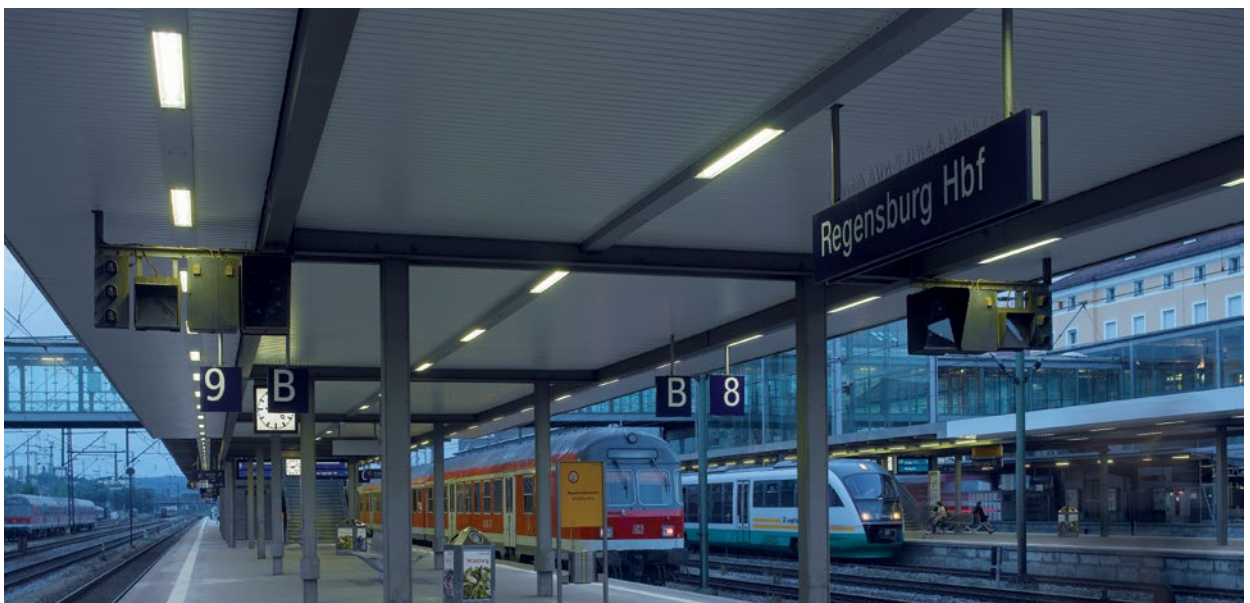
Trunking system with a module width of 185 mm. Mounting accessories for the DUBLIN LED luminaires. Useable in underground and suburban railway stations, pedestrian underpasses and tunnels, passages, swimming pools, transport areas and under canopies.

HOUSING

Anodised silver extruded aluminium profile in customisable lengths with two subdivided cable ducts or the separate laying of cables for various applications and equipment. Cables and wires are fixed using the four enclosed cable holders in the installation grooves, depending on the standard length.

MOUNTING

Row mounting. Ceiling installation via rear fixing points, spacing depending on the mounting situation (on site).



Subject to technical changes without prior notice. LED modules and drivers are subject to constant efficiency increase. Current luminous flux and system power data can be found on our homepage.

TRUNKING SYSTEM 185 ACCESSORIES

Version	Module size	Weight	Article no.
Additional cable bracket			580 105
End cap for trunking system 185 with height 40 mm			580 101
End cap for trunking system 185 with height 70 mm			583 101
Aluminium cover plate, 2 mm, per full metre		1.0 kg/m	580 102
Speaker housing with aluminium shutter, 300 x 185 x 70 mm, perforated		2.6 kg/m	580 115
Threaded eyebolt, M8 x 30, galvanised steel, for on-site suspension			200 458
Blind cover aluminium, 70 mm high, with fixing	per pre-cut, max. 2.0 m	3.2 kg/m	580 114
	m3	1.8 kg/m	available on request
	m6	3.6 kg/m	available on request
	m9	5.3 kg/m	available on request



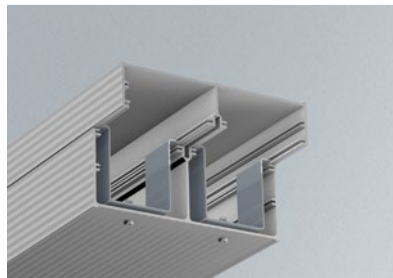
► Aluminium cover plate, 2 mm
article no. 580 102



► Empty housing for speaker installation with aluminium cover, perforated
article no. 580 115



► Blind cover, 70 mm
article no. 580 114



► Fixing for blind cover, included in blind cover

ERFURT LED

LED

LUCON®

EL

IP 65

IP 67

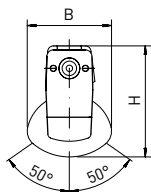
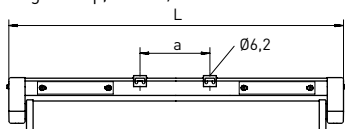


IK 04 PMMA

IK 09 PC



single lamp, m1200/1500



FOCUSSED LIGHTING
[see appendix E]

XARA® lighting control
[see introduction and app. B]

RAPDEX [see p. 30]

K Further colour temperatures
[see appendix D]



medium beam

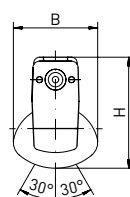
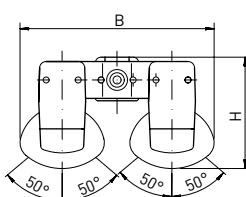
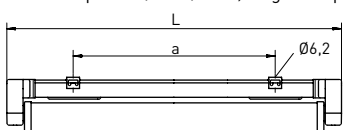


narrow beam



wide beam

Twin lamp m600/1200/1500, single lamp m600



Other dimensioned drawings on the internet

Lamp	Version	L	B	H	a	Max. weight
LED	single lamp, m600	685 mm	107 mm	140 mm	465 ± 30 mm	1.6 kg
LED	single lamp, m1200	1251 mm	107 mm	140 mm	590 ± 40 mm	2.6 kg
LED	single lamp, m1500	1551 mm	107 mm	140 mm	890 ± 40 mm	3.1 kg
LED	twin lamp m600	685 mm	242 mm	140 mm	420 ± 30 mm	2.7 kg
LED	twin lamp m1200	1251 mm	242 mm	140 mm	920 ± 80 mm	4.7 kg
LED	twin lamp m1500	1551 mm	242 mm	140 mm	1220 ± 80 mm	5.3 kg

AREAS OF APPLICATION

Polymer luminaire for ceiling and wall mounting with LED lamps, single or twin lamps. Useable in industrial and public applications, such as swimming pools [see options], and areas with special safety requirements.

HOUSING

Weather-proof and UV-resistant luminaire housing made of fibre-glass-reinforced polymer, similar to RAL 9010. Useable for indoor and outdoor areas according to protection rating IP 65 (single or twin lamp) resp. optional IP 67 (single lamp). Thermally separated lamp chamber and driver chamber. Short sealing system consisting of age-resistant, form-retaining silicone/ synthetic rubber.

LIGHTING TECHNOLOGY

With reflector tubes that can be swivelled independently made of PMMA Transopal® (impact strengthened) or PC Tropol® (fracture proof) with internal aluminium reflector (MIRO-SILVER®). Reflector tube can be locked in increments of 10°.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver 230 V AC/DC, optionally suitable for emergency lighting. Two access covers, two cable entries M20 on the face side and 4 x 1.5 mm² through wiring. 2 kV transient filter.

MOUNTING

Single or row mounting. Ceiling or wall fixing using two stainless steel mounting clamps with variable mounting distance. Quick-mounting pressure cap with LUCON® luminaire connection system optionally available [see options]. Suspension system possible [see accessories].

ERFURT LED, SINGLE LAMP

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no. + MC
m600 <input type="checkbox"/> 840/4000	1300 - 1710 - 2930	9 - 11 - 18	-25 °C to +40 °C	445 280 A4 B4 -E-
m1200 <input type="checkbox"/> 840/4000	2600 - 3420 - 6270	16 - 20 - 36	-25 °C to +40 °C	445 480 A4 B4 -E-
m1500 <input type="checkbox"/> 840/4000	4270 - 5280 - 7830	25 - 30 - 44	-25 °C to +40 °C	445 680 A4 B4 -E-

ERFURT LED, TWIN LAMP

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no. + MC
m600 <input type="checkbox"/> 840/4000	2600 - 3420 - 5860	14 - 18 - 32	-25 °C to +40 °C	446 280 A4 B4 -E-
m1200 <input type="checkbox"/> 840/4000	5200 - 6840 - 12540	32 - 40 - 72	-25 °C to +40 °C	446 480 A4 B4 -E-
m1500 <input type="checkbox"/> 840/4000	8540 - 10560 - 15660	50 - 60 - 88	-25 °C to +40 °C	446 680 A4 B4 -E-

Standard luminous flux T8, for other lumen packages, see appendix E

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

LIDC characteristic / A

2 = narrow beam
3 = medium beam
4 = wide beam

Reflector tube / B

2 = PMMA Transopal® (impact strengthened)
8 = PC Tropol® (fracture proof)

ERFURT LED OPTIONS

Version	Article no.
DALI single lamp (double adder price for twin lamp version)	100 502
Polymer cable gland with strain relief, M20 (single side)	200 427
Polymer cable gland with strain relief, M20 (both sides)	201 427
Lateral cable entries M20 (pair) on level with the access cover	201 438
LUCON® luminaire connection system (1 unit)	100 111
RAL finish	445 960
Through wiring 4 x 2.5 mm ²	445 821
Through wiring 5 x 1.5 mm ²	445 831
Through wiring 5 x 2.5 mm ²	445 383
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	445 010
Halogen-free version	445 032
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
Version for operation on PASSAU LED	See p. 192
Swimming pool version	445 036
IP 67 version with access cover 130 mm (m1200/m1500 single lamp only)	445 400
Variably adjustable luminous flux, in fixed stages	445 037
Inrush current limiter (including 4 kV transient filter)	100 922
Further colour temperatures	see appendix D
4 kV transient filter	100 530
HCL (Human Centric Lighting)	available on request
RAPDEX m1200 access cover (IP 65, single lamp only)	200 950
RAPDEX m1500 access cover (IP 65, single lamp only)	200 951



► Stainless steel mounting clamps, included in scope of delivery

For additional articles, please turn the page! ►

ERFURT LED ACCESSORIES

Version	Article no.
Continuous row connector 4 x 1.5 mm ²	201 423
Polymer suspension for 1.0 m suspension (pair)	200 278
Cable suspension for mounting clamps, (not suitable for chlorine atmosphere)	200 277
Safety clip / theft protection (only in connection with standard mounting), stainless steel clamps (pair), (not suitable for chlorine atmosphere)	200 224
Polymer mounting clamps, for chlorine / acidic atmospheres (pair)	200 226
Quick-release fasteners (pair), single lamp only, (not suitable for chlorine atmosphere)	202 220
RAPDEX replacement access cover, including driver	see appendix C

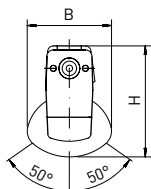
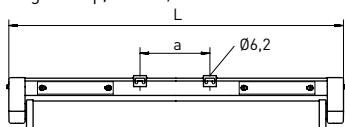


ERFURT LED EXTREME

LED



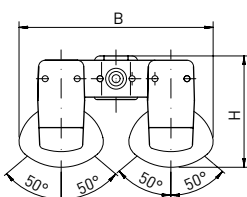
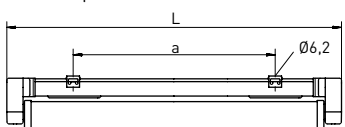
single lamp, m1200/1500



XARA® lighting control
[see introduction and app. B]



twin lamp m1200/1500



Other dimensioned drawings on the internet

Lamp	Version	L	B	H	a	Max. weight
LED	single lamp, m1200	1251 mm	107 mm	140 mm	590 ± 40 mm	2.8 kg
LED	single lamp, m1500	1551 mm	107 mm	140 mm	890 ± 40 mm	3.6 kg
LED	twin lamp m1200	1251 mm	242 mm	140 mm	920 ± 80 mm	5.2 kg
LED	twin lamp m1500	1551 mm	242 mm	140 mm	1220 ± 80 mm	5.8 kg

AREAS OF APPLICATION

Polymer luminaire for surface ceiling mounting with LED lamps, single or twin lamps. Useable in industrial applications and areas with special safety requirements. **Long expected service life, useable up to +65 °C.**

HOUSING

Weather-proof and UV-resistant luminaire housing made of fibreglass-reinforced polymer, similar to RAL 9010. Useable for indoor and outdoor areas according to protection rating IP 65 (single or twin lamp) resp. optionally IP 67 (single lamp). Thermally separated lamp chamber and driver chamber. Short sealing system consisting of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

Reflector tube that can be swivelled made of PMMA Transopal® (impact strengthened) or PC Tropol® (fracture proof) with internal aluminium reflector (MIRO-SILVER®). Reflector tube can be locked in increments of 10°.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver 230 V AC/DC, optionally suitable for emergency lighting. Two cable entries M20 on face side and 4 x 1.5 mm² through wiring. Two access covers.

L80 B10 > 100,000 h at +65 °C.
4 kV transient filter.

MOUNTING

Single or row mounting. Ceiling or wall fixing using two stainless steel mounting clamps with variable mounting distance. Quick-mounting pressure cap with LUCON® luminaire connection system optionally available (see options). Suspension system possible (see accessories).

ERFURT LED EXTREME, SINGLE LAMP

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1200 <input type="checkbox"/> 840/4000	4030	28	-40 °C to +65 °C	433 480 A4 B1
m1500 <input type="checkbox"/> 840/4000	5050	35	-40 °C to +65 °C	433 680 A4 B1

ERFURT LED EXTREME, TWIN LAMP

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1200 <input type="checkbox"/> 840/4000	8060	56	-40 °C to +65 °C	434 480 A4 B1
m1500 <input type="checkbox"/> 840/4000	10100	70	-40 °C to +65 °C	434 680 A4 B1

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

LIDC characteristic / A

2 = narrow beam
3 = medium beam
4 = wide beam

Reflector tube / B

2 = PMMA Transopal® (impact strengthened)
8 = PC Tropol® (fracture proof)

ERFURT LED EXTREME OPTIONS

Version	Article no.
DALI single lamp/twin lamp	100 502
Polymer cable gland with strain relief, M20 (single side)	200 427
Polymer cable gland with strain relief, M20 (both sides)	201 427
Lateral cable entries M20 (pair) on level with the access cover	201 438
RAL finish	445 960
Through wiring 4 x 2.5 mm ²	445 821
Through wiring 5 x 1.5 mm ²	445 831
Through wiring 5 x 2.5 mm ²	445 383
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	445 010
Halogen-free version	445 032
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
Swimming pool version	445 036
LUCON® luminaire connection system (1 unit)	100 111
IP 67 version with access cover 130 mm (m1200/m1500 single lamp only)	445 400
Inrush current limiter (including 4 kV transient filter)	100 922

ERFURT LED EXTREME ACCESSORIES

Version	Article no.
Continuous row connector 4 x 1.5 mm ²	201 423
Polymer suspension for 1.0 m suspension (pair)	200 278
Safety clip / theft protection (only in connection with standard mounting), stainless steel clamps (pair), (not suitable for chlorine atmosphere)	200 224
Polymer mounting clamps, for chlorine / acidic atmospheres (pair)	200 226
Quick-release fasteners (pair), single lamp only, (not suitable for chlorine atmosphere)	202 220



➤ Stainless steel mounting clamps, included in scope of delivery

ERFURT LED HIGH OUTPUT

LED

LUCON®

EL

IP 65

IP 67

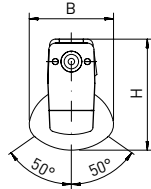
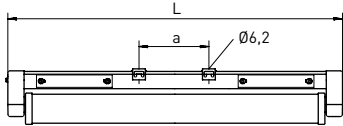


IK 04 PMMA

IK 09 PC



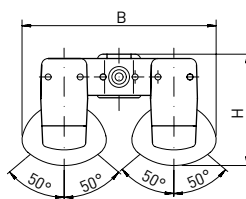
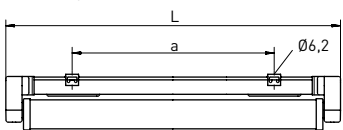
single lamp, m1200/1500



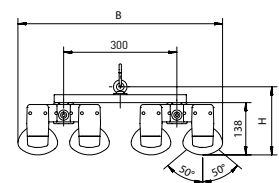
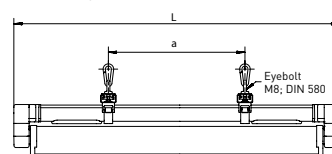
XARA® lighting control
[see introduction and app. B]



twin lamp m1200/1500



four lamp, m1200/1500



Other dimensioned drawings on the internet

Lamp	Version	L	B	H	a	Max. weight
LED	single lamp, m1200	1251 mm	107 mm	140 mm	590 ± 40 mm	2.8 kg
LED	single lamp, m1500	1551 mm	107 mm	140 mm	890 ± 40 mm	3.4 kg
LED	twin lamp m1200	1251 mm	242 mm	140 mm	920 ± 80 mm	5.2 kg
LED	twin lamp m1500	1551 mm	242 mm	140 mm	1220 ± 80 mm	5.8 kg
LED	four lamp, m1200	1251 mm	542 mm	180 mm	750 mm	11.0 kg
LED	four lamp, m1500	1551 mm	542 mm	180 mm	1050 mm	12.7 kg

AREAS OF APPLICATION

Polymer luminaire for surface ceiling mounting with LED lamps, single, twin or four lamps. Useable in industrial applications and in areas with special safety requirements and special demands on the illumination level from great mounting heights.

HOUSING

Weather-proof and UV-resistant luminaire housing made of fibreglass-reinforced polymer, similar to RAL 9010. Useable for indoor and outdoor areas according to protection rating IP 65 (single, twin or four lamp) resp. optional IP 67 (single lamp). Thermally separated lamp chamber and driver chamber. Short sealing system

consisting of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

With reflector tubes that can be swivelled independently made of PMMA Transopal® (impact strengthened) or PC Tropolat® (fracture proof) with internal aluminium reflector (MIRO-SILVER®). Reflector tube can be locked in steps of 10°.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver 230 V AC/DC, optionally suitable for emergency lighting. Two cable entries M20 on face side and 4 x 1.5 mm² through wiring. Two access covers.

L80 B10 > 100,000 h at +40 °C.

4 kV transient filter. 8 years warranty.

MOUNTING

Single or row mounting. Ceiling or wall fixing using two stainless steel mounting clamps with variable mounting distance. Quick-mounting pressure cap with LUCON® luminaire connection system optionally available (see options). Suspension system possible (see accessories).

Subject to technical changes without prior notice. LED modules and drivers are subject to constant efficiency increase. Current luminous flux and system power data can be found on our homepage.

ERFURT LED HIGH OUTPUT 1, HIGH OUTPUT 2, HIGH OUTPUT 3, SINGLE LAMP

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no. + lm
m1200 HO1 <input type="checkbox"/> 840/4000	5330	38	-40 °C to +40 °C	438 480 A4 B1 – 5300lm
m1200 HO2 <input type="checkbox"/> 840/4000	6610	48	-40 °C to +40 °C	438 480 A4 B1 – 6600lm
m1200 HO3 <input type="checkbox"/> 840/4000	7900	58	-40 °C to +40 °C	438 480 A4 B1 – 8000lm
m1500 HO1 <input type="checkbox"/> 840/4000	6600	47	-40 °C to +40 °C	438 680 A4 B1 – 6600lm
m1500 HO2 <input type="checkbox"/> 840/4000	11490	85	-40 °C to +40 °C	438 680 A4 B1 – 11500lm
m1500 HO3 <input type="checkbox"/> 840/4000	13100	97	-40 °C to +40 °C	438 680 A4 B1 – 13000lm

ERFURT LED HIGH OUTPUT 1, HIGH OUTPUT 2, HIGH OUTPUT 3, TWIN LAMP

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no. + lm
m1200 HO1 <input type="checkbox"/> 840/4000	10660	76	-40 °C to +40 °C	439 480 A4 B1 – 10600lm
m1200 HO2 <input type="checkbox"/> 840/4000	13220	96	-40 °C to +40 °C	439 480 A4 B1 – 13200lm
m1200 HO3 <input type="checkbox"/> 840/4000	15800	116	-40 °C to +40 °C	439 480 A4 B1 – 16000lm
m1500 HO1 <input type="checkbox"/> 840/4000	13200	94	-40 °C to +40 °C	439 680 A4 B1 – 13200lm
m1500 HO2 <input type="checkbox"/> 840/4000	22980	170	-40 °C to +40 °C	439 680 A4 B1 – 23000lm
m1500 HO3 <input type="checkbox"/> 840/4000	26200	194	-40 °C to +40 °C	439 680 A4 B1 – 26000lm

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

LIDC characteristic / A

2 = narrow beam
3 = medium beam
4 = wide beam

Reflector tube / B

2 = PMMA Transopal® (impact strengthened)
8 = PC Tropol® (fracture proof)



> ERFURT HO four lamp

ERFURT LED HIGH OUTPUT 3, FOUR LAMP

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no. + lm
m1200 HO3 <input type="checkbox"/> 840/4000	31600	232	-40 °C to +40 °C	439 480 A4 B1 – 31600lm
m1500 HO3 <input type="checkbox"/> 840/4000	52400	388	-40 °C to +40 °C	439 680 A4 B1 – 52000lm

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

LIDC characteristic / A

2 = narrow beam
3 = medium beam
4 = wide beam

Reflector tube / B

2 = PMMA Transopal® (impact strengthened)
8 = PC Tropol® (fracture proof)

For additional articles, please turn the page! ►

ERFURT LED HIGH OUTPUT 1, HIGH OUTPUT 2, HIGH OUTPUT 3 SINGLE AND TWIN LAMP VERSIONS – OPTIONS

Version	Article no.
DALI single lamp/twin lamp	100 502
Polymer cable gland with strain relief, M20 (single side)	200 427
Polymer cable gland with strain relief, M20 (both sides)	201 427
Lateral cable entries M20 (pair) on level with the access cover	201 438
LUCON® luminaire connection system (1 unit)	100 111
RAL finish	445 960
Through wiring 4 x 2.5 mm ²	445 821
Through wiring 5 x 1.5 mm ²	445 831
Through wiring 5 x 2.5 mm ²	445 383
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	445 010
Halogen-free version	445 032
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
Swimming pool version	445 036
IP 67 version with access cover 130 mm (m1200/m1500 single lamp only)	445 400
Inrush current limiter (including 4 kV transient filter)	100 922

ERFURT LED HIGH OUTPUT 1, HIGH OUTPUT 2, HIGH OUTPUT 3 SINGLE AND TWIN LAMP VERSIONS – ACCESSORIES

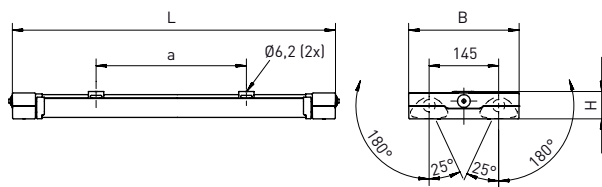
Version	Article no.
Continuous row connector 4 x 1.5 mm ²	201 423
Polymer suspension for 1.0 m suspension (pair)	200 278
Safety clip / theft protection (only in connection with standard mounting), stainless steel clamps (pair), (not suitable for chlorine atmosphere)	200 224
Polymer mounting clamps, for chlorine / acidic atmospheres (pair)	200 226
Quick-release fasteners (pair), single lamp only, (not suitable for chlorine atmosphere)	202 220



- Stainless steel mounting clamps, included in scope of delivery

ERFURT LED HIGH OUTPUT 3 FOUR LAMP VERSION – OPTIONS

Version	Article no.
DALI	100 502
Polymer cable gland with strain relief, M20 (single side)	200 427
Polymer cable gland with strain relief, M20 (both sides)	201 427
RAL finish	445 960
Through wiring 4 x 2.5 mm ²	445 821
Through wiring 5 x 1.5 mm ²	445 831
Through wiring 5 x 2.5 mm ²	445 383
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	445 010
Halogen-free version	445 032
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
LUCON® luminaire connection system (1 unit)	100 111
Inrush current limiter (including 4 kV transient filter)	100 922



- FOCUSSED LIGHTING**
(see appendix E)
 - XARA® lighting control**
(see introduction and app. B)
 - Further colour temperatures**
(see appendix D)
- medium beam

Lamp	Version	L	B	H	a	Max. weight
LED	twin lamp m1200	1260 mm	230 mm	61 mm	800 ± 80 mm	3.1 kg
LED	twin lamp m1500	1560 mm	230 mm	61 mm	1100 ± 80 mm	3.5 kg

AREAS OF APPLICATION

Very flat polymer luminaire for surface ceiling mounting with LED lamps. Useable in industrial and public applications, multi-storey car parks, swimming pools (see options), and areas near offices with special safety requirements.

HOUSING

Weather-proof and UV-resistant luminaire housing made of fibreglass-reinforced polymer, similar to RAL 9010, with low installed height. Useable for indoor and outdoor areas according to protection rating IP 65. Thermally separated lamp chamber and driver chamber. Short sealing system consisting of silicone-free elastomer.

LIGHTING TECHNOLOGY

Two reflector tubes that can be swivelled independently made of PMMA Transopal® (impact strengthened) or PC Tropol® (fracture proof) with internal aluminium reflector (MIRO-SILVER®). 25° internal rotation on each reflector tube for focussed light emission and up to 180° external rotation for indirect lighting. For ceiling mounting, the reflector tubes can be swivelled up to 60° outwards.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver 230 V AC/DC, optionally suitable for emergency lighting. Two face-side cable membranes M20 and 4 x 1.5 mm² through wiring. 2 kV transient filter.

MOUNTING

Single or row mounting. Ceiling installation with two polymer mounting clamps, variable mounting distance. Suspension system possible (see accessories).

GENF, TWIN LAMP

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no. + MC
m1200 □ 840/4000	5200 - 6840 - 12540	32 - 40 - 72	-25 °C to +35 °C	335 480 34 B4-E - ...
m1500 □ 840/4000	8540 - 10560 - 15660	50 - 60 - 88	-25 °C to +35 °C	335 680 34 B4-E - ...

Standard luminous flux T8, for other lumen packages, see appendix E

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

Reflector tube / B

2 = PMMA Transopal® (impact strengthened)

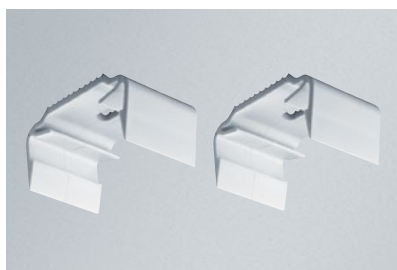
8 = PC Tropol® (fracture proof)

GENF OPTIONS

Version	Article no.
DALI	100 502
Polymer cable gland with strain relief, M20 (single side)	200 427
Polymer cable gland with strain relief, M20 (both sides)	201 427
Rear cable entry M20 (pair)	201 300
RAL finish	335 960
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	335 010
Halogen-free version	335 032
Swimming pool version	available on request
Through wiring 4 x 2.5 mm ²	335 821
Through wiring 5 x 1.5 mm ²	335 831
Through wiring 5 x 2.5 mm ²	335 383
Inrush current limiter (including 4 kV transient filter)	100 922
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
Version for operation on PASSAU LED	See p. 192
Further colour temperatures	see appendix D
4 kV transient filter	100 530
HCL (Human Centric Lighting)	available on request

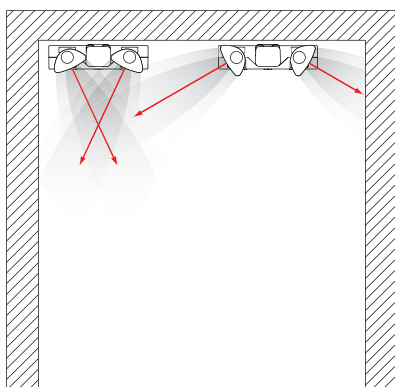
GENF ACCESSORIES

Version	Article no.
Continuous row connector 4 x 1.5 mm ²	201 423
Polymer suspension for 1.0 m suspension (pair)	200 278
RAPDEX replacement access cover, including driver	see appendix C

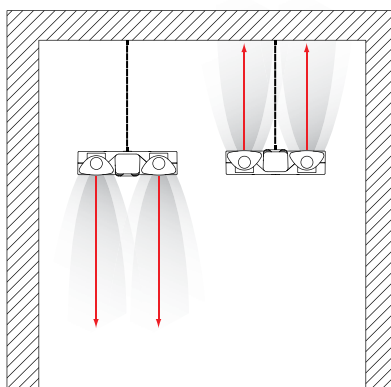


> Polymer mounting clamps, included in scope of delivery

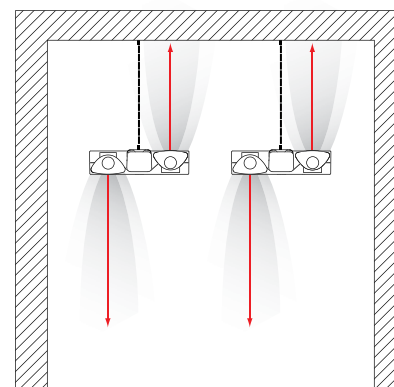
GENF, SAMPLE APPLICATIONS



> Ceiling mounting:
direct light distribution, inner
rotation up to 25°, outer rotation
up to 60°



> Suspension system:
direct/indirect light distribution

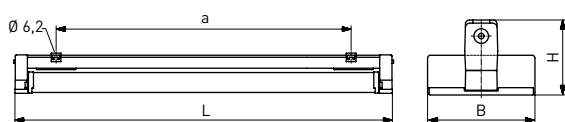
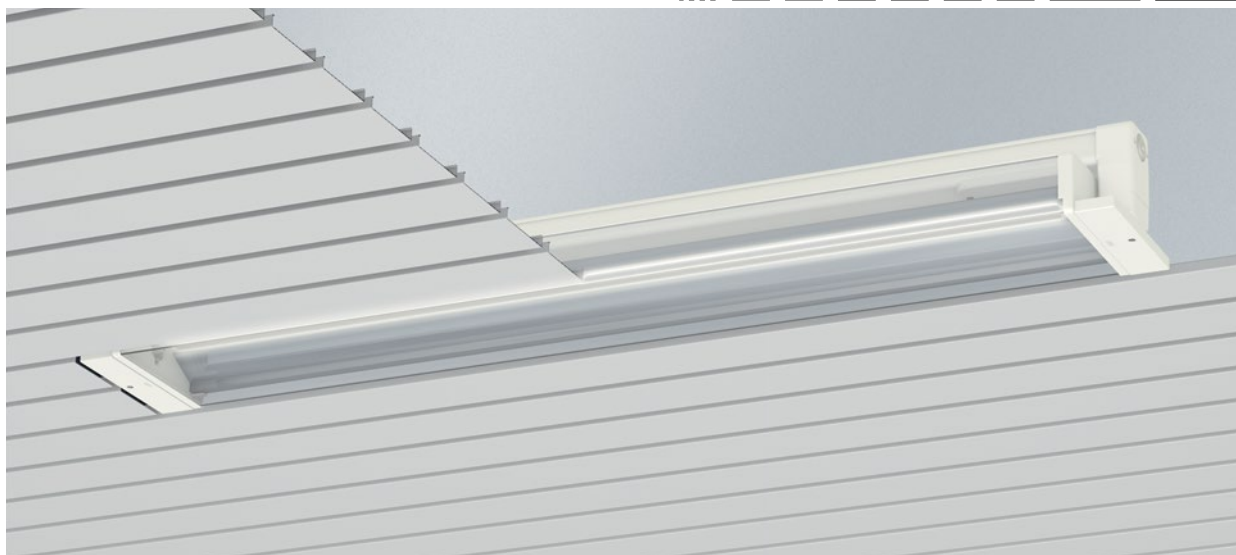


> Suspension system:
direct/indirect light distribution
in **one** luminaire, outer rotation
up to 180°



GERA LED

LED

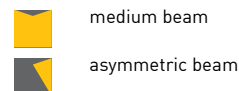


FOCUSSED LIGHTING
[see appendix E]

RAPDEX [see p. 30]

XARA® lighting control
[see introduction and app. B]

K Further colour temperatures
[see app. D]



Lamp	Version	L lengthwise (standard)	L crosswise (optional)	B	H	a	Max. weight
LED	single lamp, m1200	1251 mm	1285 mm	192 mm	132 mm	980 ± 80 mm	3.2 kg
LED	single lamp, m1500	1551 mm	1585 mm	192 mm	132 mm	1280 ± 80 mm	4.1 kg

AREAS OF APPLICATION

Polymer luminaire for recessed ceiling mounting with LED lamps. Useable in panel ceilings with 2 panel widths, module 100. Suitable, for example, in underground stations, passages, multi-storey car parks and swimming pools (optional).

HOUSING

Weather-proof and UV-resistant luminaire housing made of fibre-glass-reinforced polymer, similar to RAL 9010. Useable for indoor and outdoor areas according to protection rating IP 65. Thermally separated lamp chamber and driver chamber. Short sealing system consisting of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

Lamp diffuser made of PMMA clear or PC clear (fracture proof) with internal Transopal® additional diffusor and internal aluminium reflector (MIRO-SILVER®).

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver 230 V AC/DC, optionally suitable for emergency lighting. Two access covers, two cable entries M20 on the face side and 4 x 1.5 mm² through wiring. 2 kV transient filter.

MOUNTING

Single or row mounting. Panel fixing for panel width module 100, lengthwise to the panel with stainless steel mounting clamps. Captive end caps. Ceiling mounting frame and universal panel suspensions available as accessories. Recessed mounting crosswise to the panel optional.

GERA LED

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no. + MC
m1200 □ 840/4000	2600 - 3420 - 6270	16 - 20 - 36	-25 °C to +40 °C	784 480 A4 B4 - E-...
m1500 □ 840/4000	4270 - 5280 - 7830	25 - 30 - 44	-25 °C to +40 °C	784 680 A4 B4 - E-...

Standard luminous flux T8, for other lumen packages, see appendix E

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

LIDC characteristic / A

3 = medium beam
6 = asymmetric beam

Lamp diffuser / B

1 = PMMA clear
4 = PC (fracture proof) clear

GERA LED OPTIONS

Version	Article no.
DALI	100 502
Endcap crosswise to the direction of the panels	782 001
Polymer cable gland with strain relief, M20 (single side)	200 427
Polymer cable gland with strain relief, M20 (both sides)	201 427
Lateral cable entries M20 (pair) on level with the access cover	201 438
RAL finish	784 960
Through wiring 4 x 2.5 mm ²	784 821
Through wiring 5 x 1.5 mm ²	784 834
Through wiring 5 x 2.5 mm ²	784 391
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	784 010
Halogen-free version	784 007
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
Version for operation on PASSAU LED	see p. 192
Swimming pool version	784 036
Inrush current limiter (including 4 kV transient filter)	100 922
Further colour temperatures	see appendix D
4 kV transient filter	100 530
HCL (Human Centric Lighting)	available on request
RAPDEX m1200 access cover (IP 65 only)	200 950
RAPDEX m1500 access cover (IP 65 only)	200 951

GERA LED ACCESSORIES

Version	Article no.
Polymer mounting clamps, for chlorine / acidic atmospheres (pair)	200 226
RAPDEX replacement access cover, including driver	see appendix C



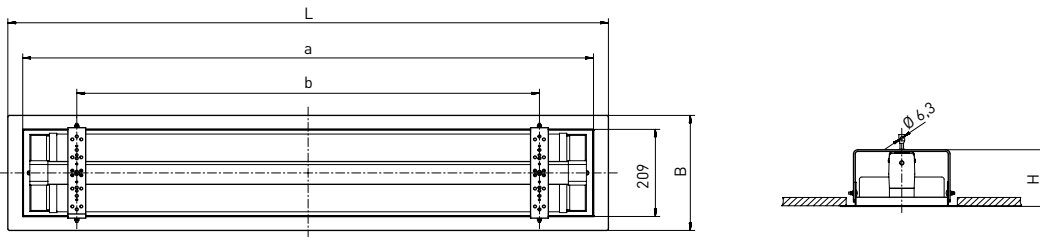
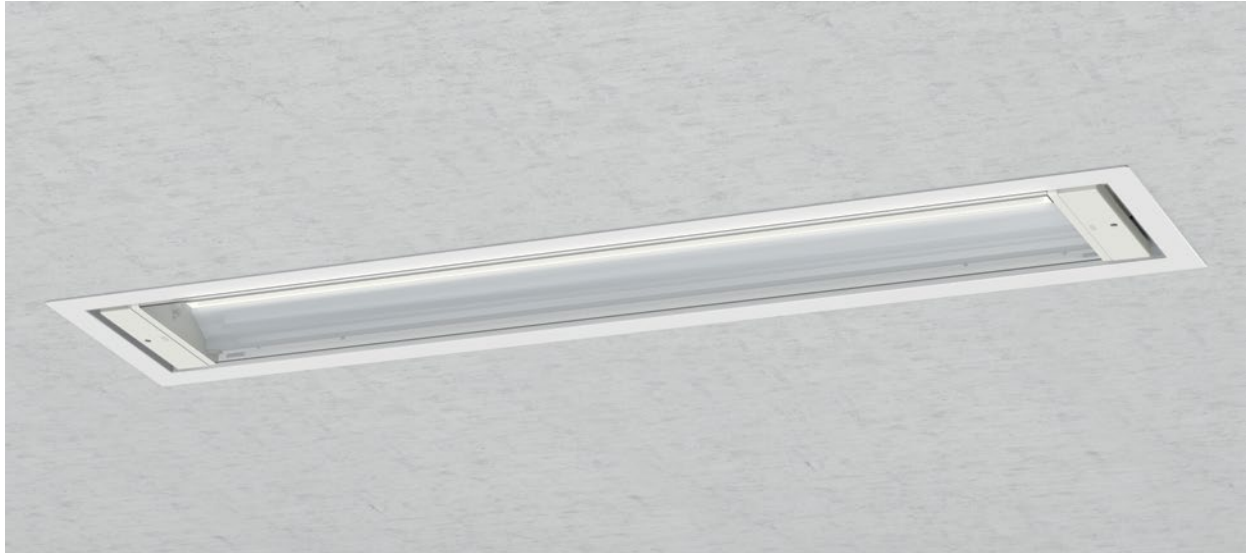
> RAPDEX
Access cover including driver;
for further information
see page 30



> Stainless steel mounting clamps, included in
scope of delivery

For additional articles, please turn the page! ►

INSTALLATION IN CLOSED CEILINGS

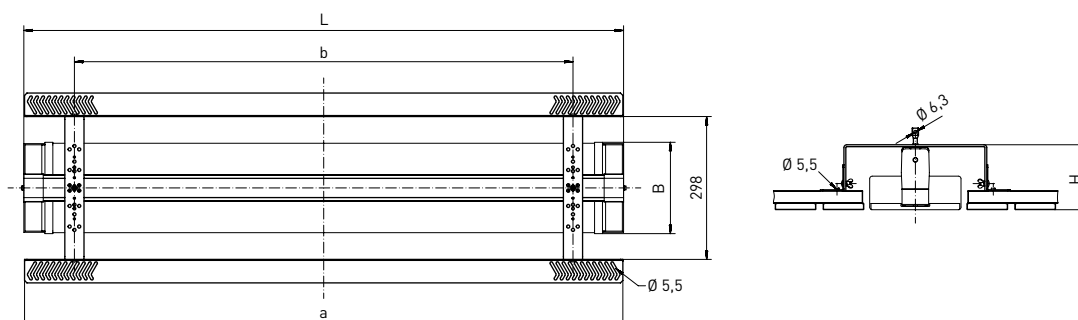
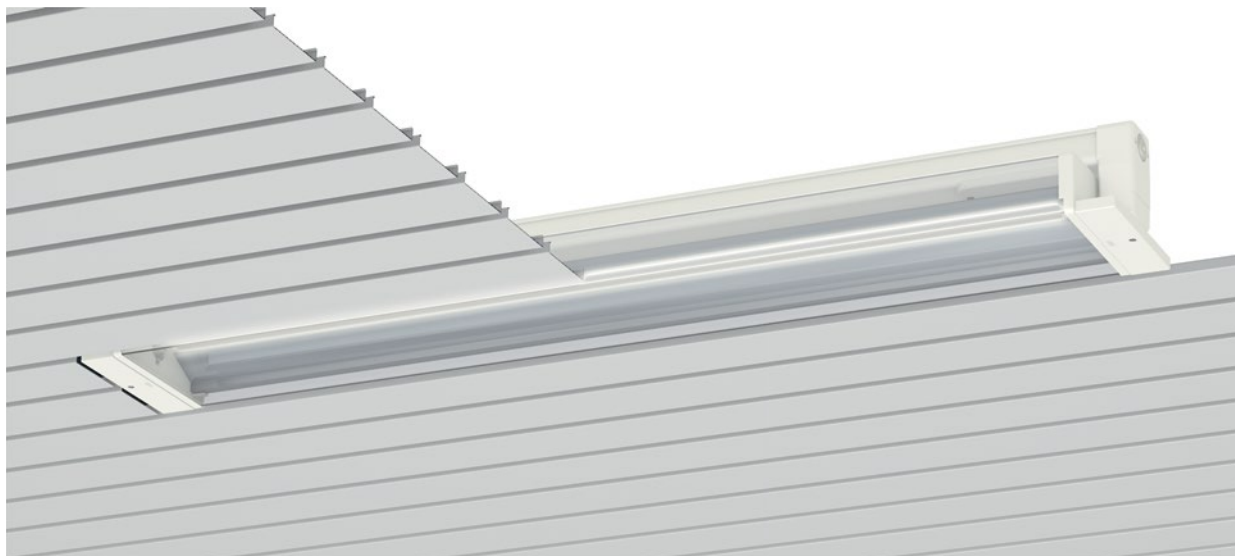


Version	Required ceiling cut-out	L	B	H	a	b	Max. weight
m1200	1295 x 242 mm	1350 mm	276 mm	136 mm	1283 mm	1040 mm	3.6 kg
m1500	1595 x 242 mm	1650 mm	276 mm	136 mm	1583 mm	1340 mm	4.2 kg

GERA LED ACCESSORIES

Version	Module size	Article no.
Continuous row connector 4 x 1.5 mm ²		784 023
Continuous row connector 4 x 2.5 mm ²		784 024
Recessed ceiling mounting frame, white, for single mounting in closed ceilings	m1200	203 230
	m1500	203 231
Entrance/end frame, white, for continuous row mounting in closed ceilings	m1200	203 282
	m1500	203 284
Middle section frame, white, for continuous row mounting in closed ceilings	m1200	203 283
	m1500	203 285
Further frame colours		available on request

INSTALLATION IN PANEL CEILINGS



PANEL DIRECTION LENGTHWISE (STANDARD)

Version	Required panel recess	L lengthwise (standard)	B	H	a	b	Max. weight
m1200	1265 x 215 mm	1251 mm	192 mm	134 mm	1248 mm	1040 mm	3.6 kg
m1500	1565 x 215 mm	1551 mm	192 mm	134 mm	1548 mm	1340 mm	4.2 kg

PANEL DIRECTION CROSSWISE

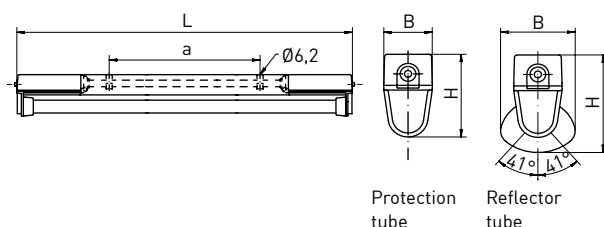
Version	Required panel recess	L crosswise	B	H	a	b	Max. weight
m1200	13 units	1285 mm	192 mm	134 mm	1248 mm	1040 mm	3.6 kg
m1500	16 units	1585 mm	192 mm	134 mm	1548 mm	1340 mm	4.2 kg

GERA LED ACCESSORIES

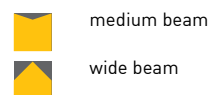
Version	Module size	Article no.
Panel ceiling hanger, universal	m1200	200 230
	m1500	200 231

HAMBURG LED

LED



XARA® lighting control
[see introduction and app. B]



Lamp	Version	L	B	H	a	Max. weight
LED	with protection tube, m600	649 mm	68 mm	123 mm	180 ± 30 mm	3.0 kg
LED	with protection tube, m1200	1259 mm	68 mm	123 mm	740 ± 80 mm	3.9 kg
LED	with protection tube, m1500	1559 mm	68 mm	123 mm	1040 ± 80 mm	4.6 kg
LED	with reflector tube, m600	649 mm	107 mm	145 mm	180 ± 30 mm	3.0 kg
LED	with reflector tube, m1200	1259 mm	107 mm	145 mm	740 ± 80 mm	3.9 kg
LED	with reflector tube, m1500	1559 mm	107 mm	145 mm	1040 ± 80 mm	4.6 kg

AREAS OF APPLICATION

Polymer luminaire with LED lamps. Useable in industrial applications.

HOUSING

Weather-proof luminaire housing made of thermoplastic polymer, similar to RAL 9010. Useable for indoor and outdoor areas according to protection rating IP 65. Thermally separated lamp chamber and driver chamber. Short sealing system consisting of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

With protection tube 38 mm or a reflector tube that can be swivelled made of PMMA Transopal® (impact strengthened) or PC Tropolal® (fracture proof) with internal aluminium reflector (MIRO-SILVER®).

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver, 230 V AC/DC. Two M20 cable glands on face side and 5 x 1.5 mm² through wiring.

MOUNTING

Single or row mounting. Ceiling installation using two polymer stirrup clamps, variable mounting distance.

HAMBURG LED, MEDIUM BEAM, WITH REFLECTOR TUBE

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m600 <input type="checkbox"/> 840/4000	1770	13	-25 °C to +40 °C	305 280 34 A1 -E
m1200 <input type="checkbox"/> 840/4000	3350	21	-25 °C to +40 °C	305 480 34 A1 -E
m1500 <input type="checkbox"/> 840/4000	5220	31	-25 °C to +40 °C	305 680 34 A1 -E

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

Protective reflector tube / A

2 = PMMA Transopal® (impact strengthened)
8 = PC Tropol® (fracture proof)

HAMBURG LED, WIDE BEAM, WITH PROTECTION TUBE

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m600 <input type="checkbox"/> 840/4000	1770	13	-25 °C to +40 °C	305 280 44 A2 -E
m1200 <input type="checkbox"/> 840/4000	3820	23	-25 °C to +40 °C	305 480 44 A2 -E
m1500 <input type="checkbox"/> 840/4000	5280	30	-25 °C to +40 °C	305 680 44 A2 -E

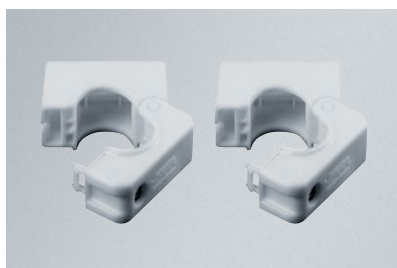
When ordering, please replace the highlighted letters with the corresponding numbers

Protection tube / A

2 = PMMA Transopal® (impact strengthened)
8 = PC Tropol® (fracture proof)

HAMBURG LED OPTIONS

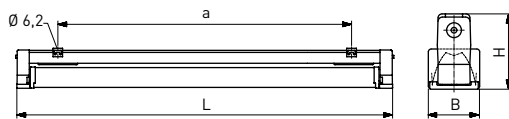
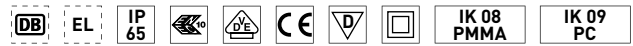
Version	Article no.
RAL finish	303 960
Through wiring 4 x 2.5 mm ²	303 822
Through wiring 5 x 2.5 mm ²	303 392
Halogen-free version	303 003



> Polymer stirrup clamps, included in scope of delivery

JENA LED

LED



- FOCUSSED LIGHTING**
(see appendix E)
 - RAPDEX** (see p. 30)
 - XARA® lighting control**
(see introduction and app. B)
 - Further colour temperatures
(see app. D)
- medium beam
 - asymmetric beam

Lamp	Version	L lengthwise (standard)	L crosswise (optional)	B	H	a	Max. weight
LED	m1200	1251 mm	1285 mm	92 mm	133 mm	980 ± 80 mm	2.4 kg
LED	m1500	1551 mm	1585 mm	92 mm	133 mm	1280 ± 80 mm	3.2 kg
LED	m1200, DB 48 V	1251 mm	1285 mm	92 mm	133 mm	980 ± 80 mm	2.4 kg
LED	m1500, DB 48 V	1551 mm	1585 mm	92 mm	133 mm	1280 ± 80 mm	3.2 kg

AREAS OF APPLICATION

Polymer luminaire for recessed ceiling mounting with LED lamps. Useable in panel ceilings with a module width of 100. Suitable, for example, in underground and suburban railway stations, passages, multi-storey car parks and swimming pools.

HOUSING

Weather-proof and UV-resistant luminaire housing made of fibre-glass-reinforced polymer, similar to RAL 9010. Useable for indoor and outdoor areas according to protection rating IP 65. Thermally separated lamp chamber and driver chamber. Short sealing system consisting of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

Lamp diffuser made of PMMA Transopal® (impact strengthened) or PC Tropol® (fracture proof) with internal aluminium reflector (MIRO-SILVER®).

DB (Deutsche Bahn) version:

Optimum colour rendering of red tones by special LED modules with an increased R9 value (> 46). Lamp diffuser PMMA, clear, with Transopal® prismatic cover glass and cross louvre.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Two access covers, two cable entries M20 and 4 x 1.5 mm² through wiring. There are two types of luminaires:

1. Standard version:

Built-in driver 230 V AC/DC, optionally suitable for emergency lighting. 2 kV transient filter.

2. DB (Deutsche Bahn) version:

Built-in driver with secondary safety extra low voltage (SELV). Optimised with additional inrush current limiter (ESSB II). 4 kV transient filter.

MOUNTING

Single or row mounting. Panel fixing for panel width module 100, lengthwise to the panel with stainless steel mounting clamps. Captive end caps. Ceiling mounting frame and universal panel suspensions available as accessories. Recessed mounting crosswise to the panel optional.

NOTE ON DB (DEUTSCHE BAHN) VERSION

- > Increased safety against electric shock thanks to **secondary safety extra low voltage according to DIN VDE 0100-410 (SELV)**.
- > Very good differentiation of cable sheathing thanks to a high R9 value.
- > With cross louvre.
- > Listed: DB Station & Service – Group 20.

JENA LED

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no. + MC
m1200 <input type="checkbox"/> 840/4000	2600 - 3420 - 6270	16 - 20 - 36	-25 °C to +40 °C	783 480 A4 B4 -E - ...
m1500 <input type="checkbox"/> 840/4000	4270 - 5280 - 7830	25 - 30 - 44	-25 °C to +40 °C	783 680 A4 B4 -E - ...

Standard luminous flux T8, for other lumen packages, see appendix E

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

LIDC characteristic / A

3 = medium beam
6 = asymmetric beam

Lamp diffuser / B

2 = PMMA Transopal® (impact strengthened)
8 = PC Tropol® (fracture proof)

JENA LED – DB (DEUTSCHE BAHN) VERSION, PMMA CLEAR WITH TRANSOPAL® PRISMATIC COVER GLASS AND CROSS LOUVRE

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1200, DB 48 V <input type="checkbox"/> 940/4000	4040	29	-25 °C to +40 °C	783 480 A4 23 – SG1
m1500, DB 48 V <input type="checkbox"/> 940/4000	5050	35	-25 °C to +40 °C	783 680 A4 23 – SG1

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

LIDC characteristic / A

3 = medium beam
6 = asymmetric beam

JENA LED OPTIONS

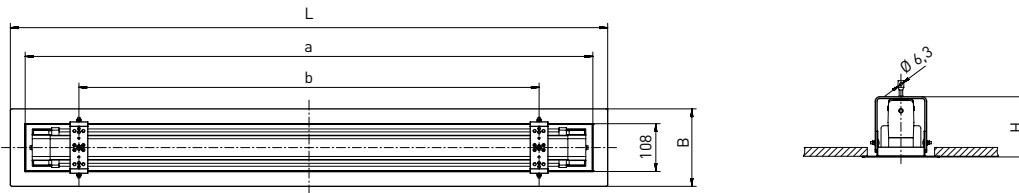
Version	Article no.
DALI	100 502
Endcap crosswise to the direction of the panels (longer cover)	781 001
Polymer cable gland with strain relief, M20 (single side)	200 427
Polymer cable gland with strain relief, M20 (both sides)	201 427
Lateral cable entries M20 (pair) on level with the access cover	201 438
RAL finish	783 960
Through wiring 4 x 2.5 mm ²	783 821
Through wiring 5 x 1.5 mm ²	783 834
Through wiring 5 x 2.5 mm ²	783 391
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	783 010
Halogen-free version	783 007
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
Version for operation on PASSAU LED	see p. 192
Swimming pool version	783 036
Inrush current limiter (including 4 kV transient filter)	100 922
Further colour temperatures	see appendix D
4 kV transient filter	100 530
HCL (Human Centric Lighting)	available on request
RAPDEX m1200 access cover (IP 65 only)	200 950
RAPDEX m1500 access cover (IP 65 only)	200 951

JENA LED ACCESSORIES

Version	Article no.
Polymer mounting clamps, for chlorine / acidic atmospheres (pair)	200 226
RAPDEX replacement access cover, including driver	see appendix C

For additional articles, please turn the page! ►

INSTALLATION IN CLOSED CEILINGS

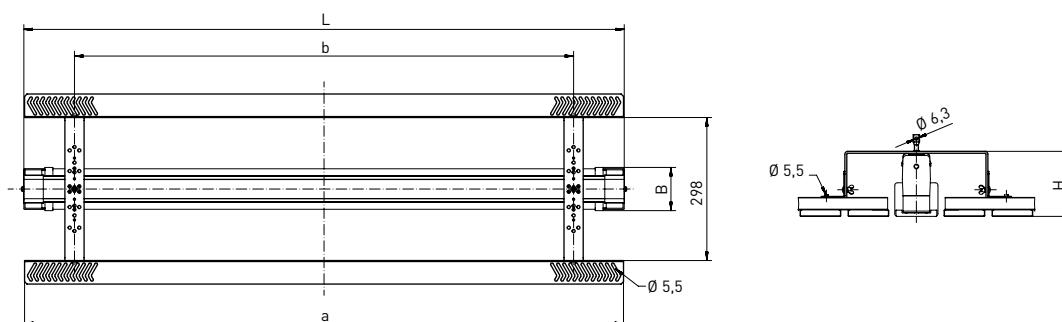


Version	Required ceiling cut-out	L	B	H	a	b	Max. weight
m1200	1295 x 150 mm	1350 mm	175 mm	136 mm	1283 mm	1040 mm	3.3 kg
m1500	1595 x 150 mm	1650 mm	175 mm	136 mm	1583 mm	1340 mm	3.9 kg

JENA LED ACCESSORIES

Version	Module size	Article no.
Continuous row connector 4 x 1.5 mm ²		783 023
Continuous row connector 4 x 2.5 mm ²		783 024
Recessed ceiling mounting frame, white, for single mounting in closed ceilings	m1200	203 238
	m1500	203 239
Entrance/end frame, white, for continuous row mounting in closed ceilings	m1200	203 288
	m1500	203 290
Middle section frame, white, for continuous row mounting in closed ceilings	m1200	203 289
	m1500	203 291
Further frame colours		available on request

INSTALLATION IN PANEL CEILINGS



PANEL DIRECTION LENGTHWISE (STANDARD)

Version	Required panel recess	L lengthwise (standard)	B	H	a	b	Max. weight
m1200	1265 x 115 mm	1251 mm	92 mm	134 mm	1248 mm	1040 mm	3.3 kg
m1500	1565 x 115 mm	1551 mm	92 mm	134 mm	1548 mm	1340 mm	3.9 kg

PANEL DIRECTION CROSSWISE

Version	Required panel recess	L crosswise	B	H	a	b	Max. weight
m1200	13 units	1285 mm	92 mm	134 mm	1248 mm	1040 mm	3.3 kg
m1500	16 units	1585 mm	92 mm	134 mm	1548 mm	1340 mm	3.9 kg

JENA LED ACCESSORIES

Version	Module size	Article no.
Panel ceiling hanger, universal	m1200	200 230
	m1500	200 231

KIEL LED

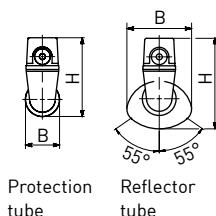
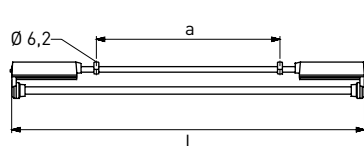
LED

IP 65

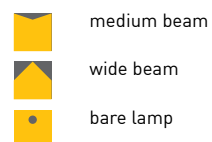


IK 04
PMMA

IK 09
PC



XARA® lighting control
[see introduction and app. B]



Lamp	Version	L	B	H	a	Max. weight
LED	with protection tube, m600	638 mm	56 mm	129 mm	90 ± 30mm	2.3 kg
LED	with protection tube, m1200	1248 mm	56 mm	129 mm	650 ± 80 mm	3.1 kg
LED	with protection tube, m1500	1548 mm	56 mm	129 mm	950 ± 80 mm	3.9 kg
LED	with reflector tube, m600	638 mm	107 mm	151 mm	90 ± 80 mm	2.3 kg
LED	with reflector tube, m1200	1248 mm	107 mm	151 mm	650 ± 80 mm	3.1 kg
LED	with reflector tube, m1500	1548 mm	107 mm	151 mm	950 ± 80 mm	3.9 kg

AREAS OF APPLICATION

Polymer luminaire with LED lighting. Useable in industrial applications.

HOUSING

Weather-proof luminaire housing made of thermosetting polymer, similar to RAL 9010 and RAL 9005. Useable for indoor and outdoor areas according to protection rating IP 65. Thermally separated lamp chamber and driver chamber. Short sealing system consisting of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

With protection tube 38 mm or a reflector tube that can be swivelled made of PMMA Transopal® (impact strengthened) or PC Tropolal® (fracture proof) with internal aluminium reflector (MIRO-SILVER®).

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver 230 V AC/DC. Two M20 cable entries on face side and 4 x 1.5 mm² through wiring.

MOUNTING

Single or row mounting. Ceiling installation using two polymer stirrup clamps, variable mounting distance.



KIEL LED, MEDIUM BEAM, WITH REFLECTOR TUBE

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m600 <input type="checkbox"/> 840/4000	1770	13	-25 °C to +40 °C	375 280 34 A1 -E
m1200 <input type="checkbox"/> 840/4000	3350	21	-25 °C to +45 °C	375 480 34 A1 -E
m1500 <input type="checkbox"/> 840/4000	5220	31	-25 °C to +45 °C	375 680 34 A1 -E

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

Reflector tube / A

2 = PMMA Transopal® (impact strengthened)
8 = PC Tropol® (fracture proof)

KIEL LED, WIDE BEAM, WITH PROTECTION TUBE

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m600 <input type="checkbox"/> 840/4000	1770	13	-25 °C to +40 °C	375 280 44 A2 -E
m1200 <input type="checkbox"/> 840/4000	3820	23	-25 °C to +45 °C	375 480 44 A2 -E
m1500 <input type="checkbox"/> 840/4000	5280	30	-25 °C to +45 °C	375 680 44 A2 -E

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

Protection tube / A

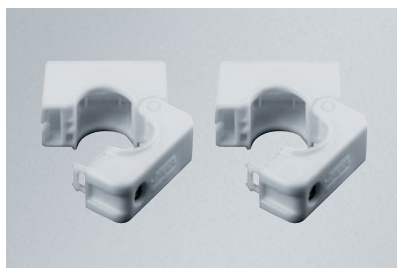
2 = PMMA Transopal® (impact strengthened)
8 = PC Tropol® (fracture proof)

KIEL LED, BARE LAMP, WITH PROTECTION TUBE

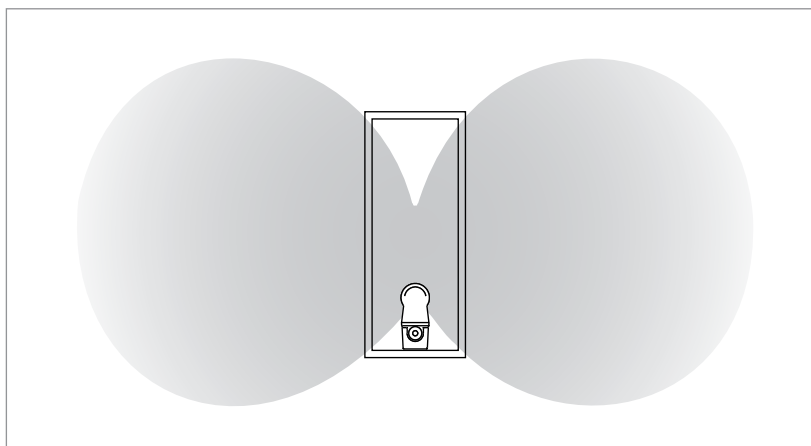
Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1200 <input type="checkbox"/> 840/4000	3570	20	-25 °C to +45 °C	375 480 44 23-E
m1500 <input type="checkbox"/> 840/4000	4460	25	-25 °C to +45 °C	375 680 44 23-E

KIEL LED OPTIONS

Version	Article no.
Polymer cable gland with strain relief, M20 (both sides)	201 475
Through wiring 4 x 2.5 mm ²	303 822
RAL finish	375 960



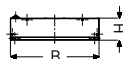
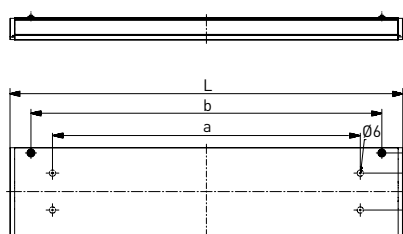
> Polymer stirrup clamps, included in scope of delivery



> Schematic LIDC diagram of the KIEL LED bare lamp in a backlit information box (side view)

LONDON LED

LED



XARA® lighting control
[see introduction and app. B]

K Further colour temperatures
[see app. D]



medium beam

asymmetric beam

Lamp	Version	L	B	H	a	b	Max. weight
LED	twin lamp m1200	1276 mm	285 mm	73 mm	1000 mm	1140 mm	12.7 kg
LED	twin lamp m1500	1576 mm	285 mm	73 mm	1300 mm	1440 mm	15.4 kg

AREAS OF APPLICATION

Aluminium luminaire for recessed and surface ceiling mounting with LED lamps. Useable in underground stations, pedestrian underpasses and tunnels, passages, multi-storey car parks, swimming pools (see options), sports halls, transport areas and under canopies.

HOUSING

Silver anodised aluminium profile housing, similar to RAL 9006. 285 mm profile width with low installed height. Cover screen with tool-free opening. Useable for indoor and outdoor areas according to protection rating IP 65. Sealing system consisting of age-resistant, form-retaining silicone/synthetic rubber. Protection class II.

LIGHTING TECHNOLOGY

Two LED units, can be swivelled independently of each other in 10° steps. The light distribution of the luminaire is adjusted on site. Cover screen made of PMMA or PC (fracture proof), clear or decorative screen print pattern. Internal aluminium reflector (MIRO-SILVER®).

ELECTRICAL CONSTRUCTION

LED units with reverse polarity protected connection plugs. Built-in driver 230 V AC/ DC, optionally suitable for emergency lighting. Through wiring 4 x 1.5 mm². Ready for connection via two rear-mounted cable entries. 2 kV transient filter.

MOUNTING

Single mounting. Optional continuous row version or on NORKA trunking system 285 (the luminaire must be ordered in this specification). Mounting on four concealed mounting apertures at the rear. Ceiling mounting frame optionally available (see accessories).

LONDON LED

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1200 <input type="checkbox"/> 840/4000 K	6840	40	-25 °C to +40 °C	615 480 34 A4 -E
m1500 <input type="checkbox"/> 840/4000 K	9560	58	-25 °C to +40 °C	615 680 34 A4 -E

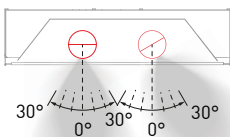
When ordering, please replace the highlighted letters with the corresponding numbers

Cover screen / A

- 1 = PMMA clear
- 3 = PMMA clear with decorative screen print pattern
- 4 = PC (fracture proof), clear
- 5 = PC (fracture proof), clear with decorative screen print pattern

LONDON LED OPTIONS

Version	Article no.
DALI	100 502
Version with two cable membranes on face side (continuous row version)	201 442
Through wiring 4 x 2.5 mm ²	610 822
Swimming pool version	686 036
Ball impact resistant version	available on request
Inrush current limiter (including 4 kV transient filter)	100 922
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	610 010
Version for NORKA trunking system 285	610 103
Protection against unauthorised opening	610 003
Further colour temperatures	see appendix D
4 kV transient filter	100 530
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request



> LED unit can be swivelled in 10° steps.

> medium beam (0°, 0°)



> asymmetric beam (-30°, +30°)



> asymmetric beam (30°, 30°)



For additional articles, please turn the page! ►

NOTE

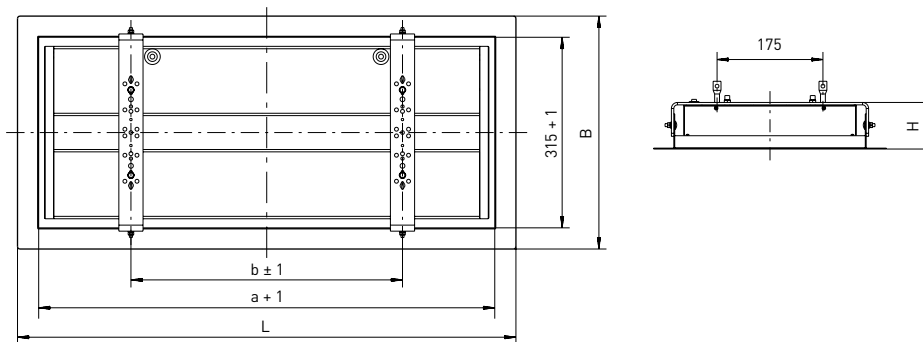
- > LIDC data for various turning positions of the LED unit is available on request.
- > The luminaire is delivered with the LED units in the 0°, 0° position.

IMPORTANT

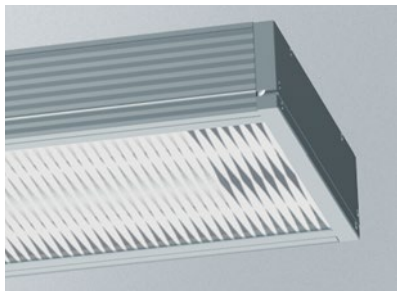
- > The distance of the mounting apertures has been modified for the version on the trunking system. The standard version for ceiling installation cannot be installed on the trunking system.

LONDON LED ACCESSORIES

Version	Module size	Article no.
Ceiling mounting frame, white, for single mounting	m1200	203 191
	m1500	203 192
Entrance/end frame, white, for continuous row mounting	m1200	203 194
	m1500	203 195
Middle section frame, white, for continuous row mounting	m1200	203 197
	m1500	203 198
Further frame colours		available on request
Trunking system 285		see p. 82



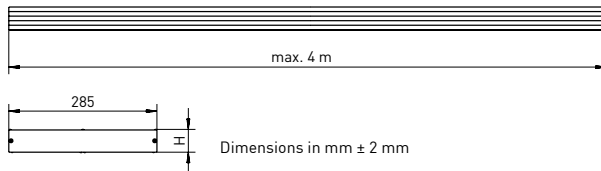
Version	Required ceiling cut-out	L	B	H	a	b	Max. weight
m1200	1310 x 356 mm	1364 mm	385 mm	77 mm	1294 mm	1000 mm	4.2 kg
m1500	1610 x 356 mm	1664 mm	385 mm	77 mm	1594 mm	1300 mm	4.8 kg



> LONDON LED with decorative screen print pattern



TRUNKING SYSTEM 285



Version	H	Weight	Article no.
Aluminium trunking system, per commenced metre	40 mm	4.0 kg/m	610 100
	70 mm	5.3 kg/m	610 150

AREAS OF APPLICATION

Trunking system with a module width of 285 mm. Mounting accessories for the luminaires TALON, TALON LINEAR and LONDON LED. Useable in underground and suburban railway stations, pedestrian underpasses and tunnels, passages, swimming pools, transport areas and under canopies.

HOUSING

Anodised silver extruded aluminium profile in customisable lengths with four subdivided cable ducts or the separate laying of cables for various applications and equipment. Cables and wires are fixed using the four enclosed cable holders in the installation grooves, depending on the standard length.

MOUNTING

Row mounting. Ceiling installation via rear fixing points, spacing depending on the mounting situation (on site).



Subject to technical changes without prior notice. LED modules and drivers are subject to constant efficiency increase. Current luminous flux and system power data can be found on our homepage.

TRUNKING SYSTEM 285 ACCESSORIES

Version	Module size	Weight	Article no.
Additional cable bracket			610 105
End cap for trunking system 285 with height 40 mm			610 101
End cap for trunking system 285 with height 70 mm			611 101
Aluminium cover plate, 2 mm, per full metre		1.5 kg/m	610 102
Speaker housing with aluminium shutter, 300 x 285 x 70 mm, perforated		3.9 kg/m	611 115
Threaded eyebolt, M8 x 30, galvanised steel, for on-site suspension			200 458
Blind cover aluminium, 70 mm high, with fixing	per pre-cut, max. 2.0 m	5.3 kg/m	611 114
	m2	3.0 kg/m	available on request
	m4	6.0 kg/m	available on request
	m6	9.0 kg/m	available on request



► Aluminium cover plate, 2 mm article no. 610 102



► Empty housing for speaker installation with aluminium cover, perforated article no. 611 115



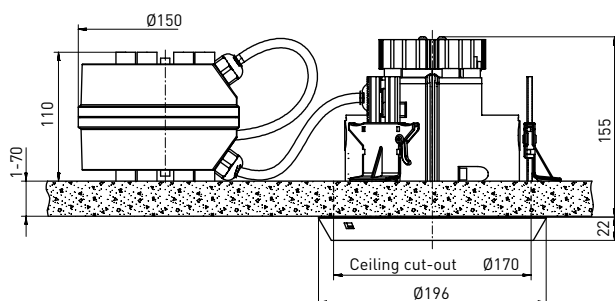
► Blind cover, 70 mm article no. 611 114



► Fixing for blind cover

MERKUR LED

LED



XARA® lighting control
[see introduction and app. B]

K Further colour temperatures available on request



narrow beam

wide beam
CDP prism screen

Lamp	Version	L	B	H	a	Max. weight
LED	m1	196 mm	196 mm	177 mm	-	1.7 kg

AREAS OF APPLICATION

Recess-mounted ceiling luminaire made of polymer that is resistant to temperature, acid, alkaline substances and fuel. Useable in industrial and public applications, such as swimming pools (see options).

HOUSING

Weather-proof luminaire housing made of fibreglass-reinforced polymer, similar to RAL 9005. Useable for indoor and outdoor areas according to protection rating IP 65. Sealing system made of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

Cover screen made of single pane safety glass with polymer frame for cover glass. Internal aluminium reflector (MIRO-SILVER®).

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Supply voltage 220-240 V AC/DC, optionally suitable for emergency lighting. With connecting cable (1.5 m) 2 x 1.0 mm². 2 kV transient filter.

MOUNTING

Separated driver chamber, useable in addition to the luminaire. Mounting with quick-mounting frame with mounting clamp system. Frame for cover glass with easy to install snap lock.

MERKUR LED

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1 <input type="checkbox"/> 840/4000 K	4240	28	-25 °C to +45 °C	978 140 A4 61

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

LIDC characteristic / A

2 = narrow beam

4 = wide beam (CDP prism screen)

MERKUR LED OPTIONS

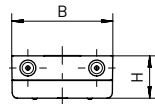
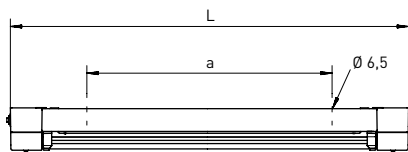
Version	Article no.
DALI	100 502
Swimming pool version	978 970
RAL finish for frame for cover glass	978 911
Further colour temperatures	available on request
Inrush current limiter (including 4 kV transient filter)	100 922
4 kV transient filter	100 530
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
Protection class IK 10	100 555

MERKUR LED ACCESSORIES

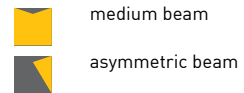
Version	Article no.
Adapter ring for ceiling cut-out Ø 200 mm	978 901
Adapter ring for ceiling cut-out Ø 250 mm	978 902
Panel ceiling suspension	975 911
Locking mechanism for frame for cover glass	available on request
Blind cover for partial installation, height up to 100 mm	available on request



> MERKUR LED with white lacquered frame for cover glass



- **FOCUSSED LIGHTING**
(see appendix E)
- **XARA® lighting control**
(see introduction and app. B)
- **K** Further colour temperatures
(see app. D)



Lamp	Version	L	B	H	a	Max. weight
LED	m600	782 mm	191 mm	80 mm	493 ± 5 mm	3.5 kg
LED	m1200	1392 mm	191 mm	80 mm	1103 ± 5 mm	5.6 kg
LED	m1500	1692 mm	191 mm	80 mm	1403 ± 5 mm	6.1 kg

AREAS OF APPLICATION

Polymer luminaire for recessed and surface ceiling mounting with LED lamps. Useable, e.g., in underground and suburban railway stations, passages, multi-storey car parks and swimming pools (see options).

HOUSING

Flat, weather-proof and UV-resistant luminaire housing made of fibre-glass-reinforced polymer, similar to RAL 9010, with low installed height. Useable for indoor and outdoor areas according to protection rating IP 65. Thermally separated lamp chamber and driver chamber. Short sealing system consisting of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

Lamp diffuser made of PMMA Transopal® (impact strengthened) or PC Tropolal® (fracture proof) with internal aluminium reflector (MIRO-SILVER®).

DB (Deutsche Bahn) version:

Optimum colour rendering of red tones by special LED modules with an increased R9 value (> 46) Lamp diffuser PMMA Transopal® (impact strengthened).

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Two access covers, four cable entries M20 on the face side and 4 x 1.5 mm² through wiring. There are two types of luminaires:

1. Standard version:

Built-in driver 230 V AC/DC, optionally suitable for emergency lighting. 2 kV transient filter.

2. DB (Deutsche Bahn) version:

Built-in driver with secondary safety extra low voltage (SELV). Optimised with additional inrush current limiter (ESSB II). 4 kV transient filter.

MOUNTING

Single or row mounting. Ceiling installation using split washers for easy mounting. Captive end caps. Optional on NORKA trunking system 191 (the luminaire must be ordered in this specification). Ceiling mounting frames and universal panel suspensions optionally available (see accessories).

NOTE ON DB (DEUTSCHE BAHN) VERSION

- > Increased safety against electric shock thanks to **secondary safety extra low voltage according to DIN VDE 0100-410 (SELV)**.
- > Very good differentiation of cable sheathing thanks to a high R9 value.
- > Listed: DB Station & Service – Group 20.

MÜNCHEN LED

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no. + MC
m600 <input type="checkbox"/> 840/4000	1380 - 2800	10 - 20	-25 °C to +40 °C	455 280 A4 B4 - ...
m1200 <input type="checkbox"/> 840/4000	2770 - 3480 - 6320	19 - 24 - 44	-25 °C to +40 °C	455 480 A4 B4 - ...
m1500 <input type="checkbox"/> 840/4000	4350 - 5240 - 7900	29 - 35 - 53	-25 °C to +40 °C	455 680 A4 B4 - ...

Standard luminous flux T8, for other lumen packages, see appendix E

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

LIDC characteristic / A

3 = medium beam
6 = asymmetric beam

Lamp diffuser / B

2 = PMMA Transopal® (impact strengthened)
8 = PC Tropol® (fracture proof)

MÜNCHEN LED – DB (DEUTSCHE BAHN) VERSION, PMMA TRANSOPAL® (IMPACT STRENGTHENED)

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m600, DB <input type="checkbox"/> 940/4000	2020	16	-25 °C to +40 °C	455 280 A4 23-SG1
m1200, DB <input type="checkbox"/> 940/4000	4040	29	-25 °C to +40 °C	455 480 A4 23-SG1
m1500, DB <input type="checkbox"/> 940/4000	5050	35	-25 °C to +40 °C	455 680 A4 23-SG1

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

LIDC characteristic / A

3 = medium beam
6 = asymmetric beam

MÜNCHEN LED OPTIONS

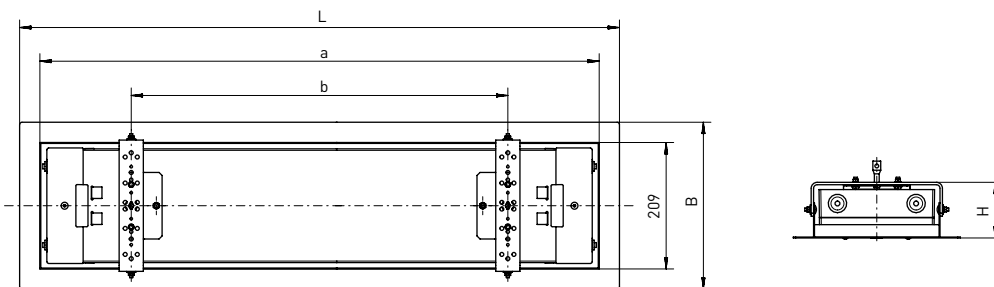
Version	Article no.
DALI	100 502
Polymer cable gland with strain relief, M20 (single side)	200 427
Polymer cable gland with strain relief, M20 (both sides; continuous row version)	201 427
Rear-mounted cable entry M20 (4 pieces), sides closed	201 310
RAL finish	455 960
Through wiring 4 x 2.5 mm ²	455 823
Through wiring 5 x 1.5 mm ²	455 833
Through wiring 5 x 2.5 mm ²	455 393
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	455 010
Halogen-free version	455 032
Swimming pool version	455 036
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
Version for operation on PASSAU LED	see p. 192
Inrush current limiter (including 4 kV transient filter)	100 922
Further colour temperatures	see appendix D
Version for NORKA trunking system 191	available on request
4 kV transient filter	100 530
HCL (Human Centric Lighting)	available on request

MÜNCHEN LED ACCESSORIES

Version	Article no.
Continuous row connector 4 x 1.5 mm ²	201 023
Continuous row connector 4 x 2.5 mm ²	201 024
Trunking system 191	see p. 90

For additional articles, please turn the page! ►

INSTALLATION IN CLOSED CEILINGS

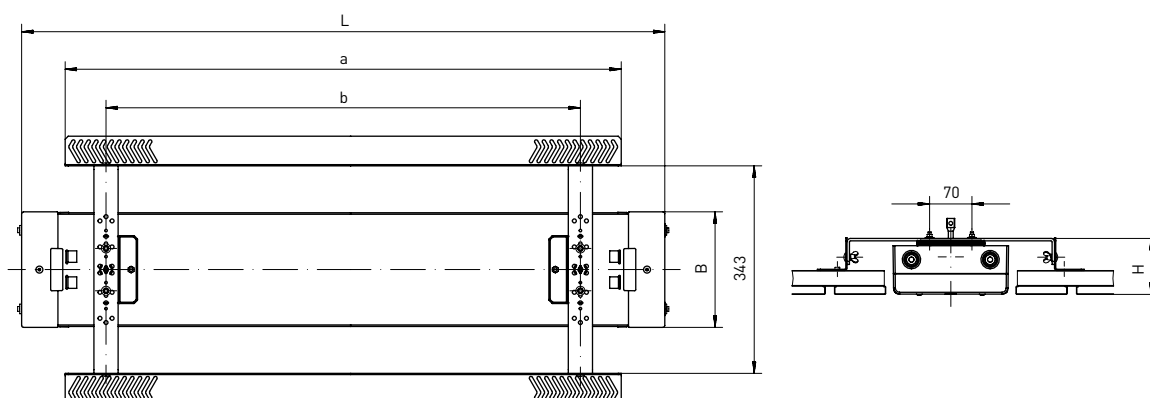


Version	Required ceiling cut-out	L	B	H	a	b	Max. weight
m600	820 x 242 mm	872 mm	276 mm	92 mm	805 mm	503 mm	2.5 kg
m1200	1430 x 242 mm	1482 mm	276 mm	92 mm	1415 mm	1113 mm	3.6 kg
m1500	1730 x 242 mm	1782 mm	276 mm	92 mm	1715 mm	1413 mm	4.2 kg

MÜNCHEN LED ACCESSORIES

Version	Module size	Article no.
Recessed ceiling mounting frame, white, for single mounting in closed ceilings	m600	203 226
	m1200	203 227
	m1500	203 228
Entrance/end frame, white, for continuous row mounting in closed ceilings	m600	203 210
	m1200	203 212
	m1500	203 214
Middle section frame, white, for continuous row mounting in closed ceilings	m600	203 211
	m1200	203 213
	m1500	203 215
Further frame colours		available on request

INSTALLATION IN PANEL CEILINGS

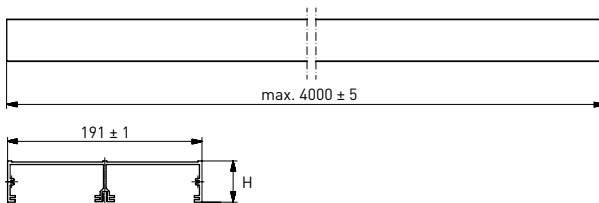


Version	Panel recess	L	B	H	a	b	Max. weight
m600	8 units	782 mm	191 mm	92 mm	638 mm	503 mm	1.8 kg
m1200	14 units	1392 mm	191 mm	92 mm	1248 mm	1113 mm	3.6 kg
m1500	17 units	1692 mm	191 mm	92 mm	1548 mm	1413 mm	4.2 kg

MÜNCHEN LED ACCESSORIES

Version	Module size	Article no.
Panel ceiling hanger, universal	m600	220 233
	m1200	200 234
	m1500	200 235

TRUNKING SYSTEM 191



Version	H	Weight	Article no.
Aluminium trunking system, per commenced metre	40 mm	2.5 kg/m	466 100

AREAS OF APPLICATION

Trunking system with a module width of 191 mm. Mounting accessories for the MÜNCHEN LED luminaires. Useable in underground and suburban railway stations, pedestrian underpasses and tunnels, passages, swimming pools, transport areas and under canopies.

HOUSING

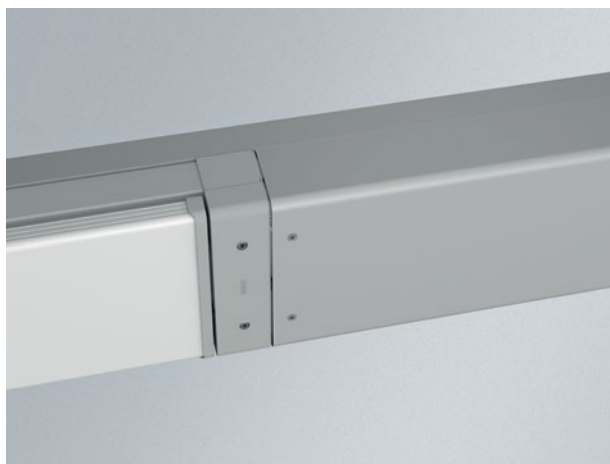
Anodised silver extruded aluminium profile in customisable lengths with two subdivided cable ducts or the separate laying of cables for various applications and equipment. Cables and wires are fixed using the four enclosed cable holders in the installation grooves, depending on the standard length.

MOUNTING

Row mounting. Ceiling installation via rear fixing points, spacing depending on the mounting situation (on site).

TRUNKING SYSTEM 191 ACCESSORIES

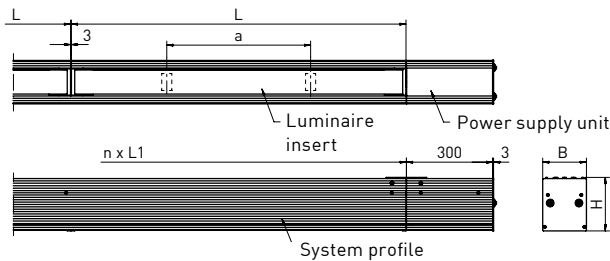
Version	Module size	Weight	Article no.
Additional cable bracket			466 105
End cap			466 101
Threaded eyebolt, M8 x 30, galvanised steel, for on-site suspension			200 458
Blind cover aluminium, 80 mm high, with fixing	per pre-cut, max. 2.0 m	3.1 kg/m	466 114







> MÜNCHEN LED in colour-coordinated lacquering on trunking system 191 with blind cover

NIGHTLINE

LED



-  **XARA® lighting control**
(see introduction and app. B)
-  Further colour temperatures
(see app. D)

-  medium beam
-  asymmetric beam

Lamp	Version	L	L1	B	H	a	Max. weight
LED	m1500	1443 ± 2 mm	4338	152 mm	186 mm	780 ± 25 mm	12.0 kg/m

AREAS OF APPLICATION

Continuous row version made of anodised extruded aluminium profile with LED lamps. Continuous, homogeneous light emission. Useable in underground and metro stations, multi-storey car parks, foyers and swimming pools (optional).

HOUSING

Weather and age resistant extruded profile made of anodised aluminium. Luminaire insert made of fibre-glass-reinforced polymer. Useable for indoor and outdoor areas according to protection rating IP 65. Thermally separated lamp chamber and driver chamber. Short sealing system consisting of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

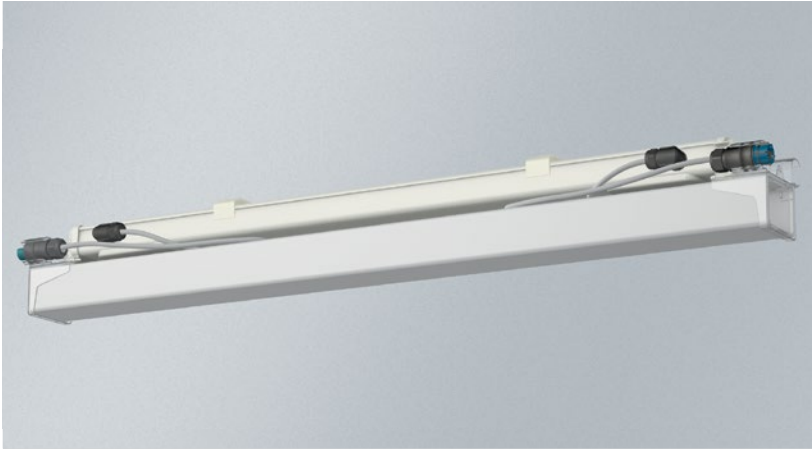
Lamp diffuser made of PMMA Transopal® (impact strengthened) or PC Tropol® (fracture proof) with internal aluminium reflector (MIRO-SILVER®).

ELECTRICAL CONSTRUCTION

Luminaire insert ready for mounting and installation. Built-in driver 230 V AC/DC, optionally suitable for emergency lighting. Through wiring 5 x 2.5 mm² (DALI 7 x 2.5 mm²) with plug-and-socket system. 2 kV transient filter.

MOUNTING

Continuous row mounting of the aluminium profile to the ceiling module. Mounting with tube pendulum possible (see accessories).



NIGHTLINE LUMINAIRE INSERT

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no. + MC
m1500 □ 840/4000	4270 - 7830	25 - 44	-25 °C to +40 °C	788 680 A4 BC -E-....

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

LIDC characteristic / A

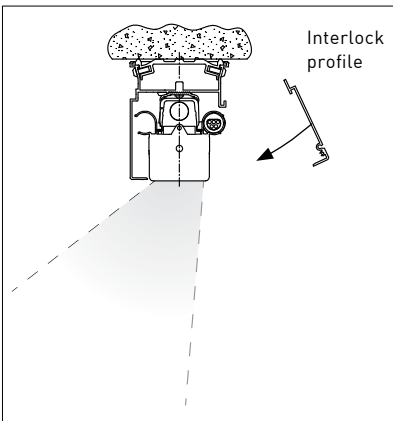
3 = medium beam
6 = asymmetric beam

Lamp diffuser / B

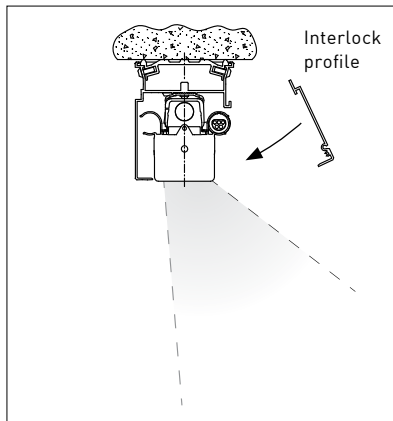
2 = PMMA Transopal®
(impact strengthened)
8 = PC Tropol® (fracture proof)

Direction / C

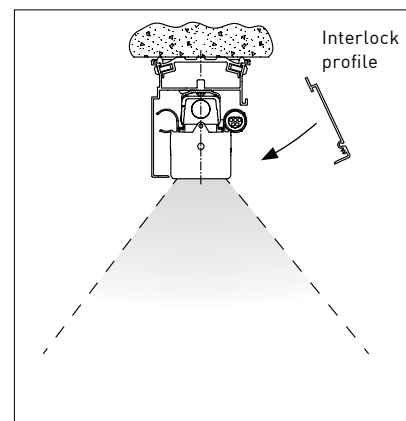
1 = Version asymmetric beam 1
2 = Version asymmetric beam 2
4 = Standard



> NIGHTLINE version asymmetric beam 1



> NIGHTLINE version asymmetric beam 2



> NIGHTLINE standard version, medium beam



NIGHTLINE SYSTEM PROFILE

Version	Article no..
System profile for 3 x m1500, max. length 4338 mm	788 150
Power supply unit (5-pole)	788 105
Power supply unit (7-pole)	788 107
End cap	788 101

NIGHTLINE OPTIONS

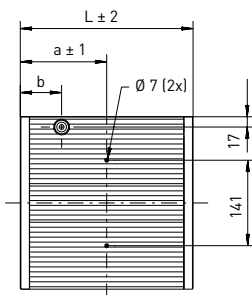
Version	Article no.
DALI	100 502
RAL finish	available on request
Swimming pool version	788 036
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	788 010
Inrush current limiter (including 4 kV transient filter)	100 922
Further colour temperatures	s. Anhang D
4 kV transient filter	100 530
HCL (Human Centric Lighting)	available on request
RAPDEX m1200 access cover (IP 65)	available on request

NIGHTLINE ACCESSORIES

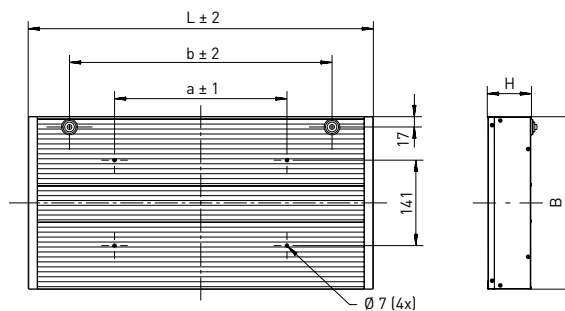
Version	Article no.
Additional auxiliary tool for luminaire insert	788 207
Mounting kit for ceiling mounting, mounting profiles for system profile 4338 mm	788 201
Mounting kit for pendant installation, system height 500 mm, for system profile 4338 mm (other heights available on request)	788 202
Blind cover incl. connection cable 5 x 2.5 mm ² , m1500, incl. plug/socket system	788 203
Blind cover incl. connection cable 7 x 2.5 mm ² , m1500, incl. plug/socket system	788 204
Plug/socket system cap for luminaire insert at the end, 5-pole	788 205
Plug/socket system cap for luminaire insert at the end, 7-pole	788 206



Version m1:



Version m2:



- extreme wide beam
- wide beam CDP
- medium beam cover screen
PMMA Transopal® (impact strengthened),
PMMA white printed or
PC white printed

XARA® lighting control
(see introduction and app. B)

Lamp	Version	L	B	H	a	b	Max. weight
LED array	m1	285 mm	285 mm	73 mm	142.5 mm	68 mm	5.0 kg
LED array	m2	570 mm	285 mm	73 mm	285 mm	434 mm	8.8 kg

AREAS OF APPLICATION

Aluminium luminaire for recessed and surface ceiling mounting with LED array, single or twin lamp. Useable in underground and suburban railway stations, pedestrian underpasses and tunnels, passages, multi-storey car parks, swimming pools, transport areas, under canopies and façades.

HOUSING

Silver anodised aluminium profile housing. Hinged cover screen made of PMMA or PC (fracture proof). Useable for indoor and outdoor areas according to protection rating IP 65. Protection class II.

LIGHTING TECHNOLOGY

Clear cover screen made of PMMA or PC (fracture proof) with printed image, or white printed cover screen made of PMMA or PC (fracture proof), or PMMA Transopal® without printed image. Internal aluminium reflector, extreme wide beam. Version with integrated prism screen for rotation-symmetric glare reduction (circular deglare), wide beam.

ELECTRICAL CONSTRUCTION

Built-in driver 230 V AC/DC supply voltage. Ready for connection via a rear-mounted cable entry. 2 kV transient filter.

MOUNTING

Single mounting. Optional continuous row version or on NORKA trunking system 285. Ceiling installation via rear 2/4-point fixing system.

TALON WITH LED ARRAY

Version		Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1	■ 830/3000	1800	17	-35 °C to +35 °C	685 127 03 A9
m1	■ 830/3000	4180	35	-35 °C to +35 °C	685 142 03 A9
m1	□ 840/4000	1920	17	-35 °C to +35 °C	685 127 04 A9
m1	□ 840/4000	4360	35	-35 °C to +35 °C	685 142 04 A9
m1	■ 750/5000	2040	17	-35 °C to +35 °C	685 123 05 A9
m1	■ 750/5000	4880	35	-35 °C to +35 °C	685 142 05 A9

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

Extreme wide beam: Cover screen / A

1 = PMMA clear
4 = PC (fracture proof) clear

Medium beam: Cover screen / A

2 = PMMA Transopal®
(impact strengthened)
3 = PMMA, white printed
5 = PC (fracture proof) white printed

TALON WITH ONE LED ARRAY AND CDP PRISM SCREEN, WIDE BEAM

Version		Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1	■ 830/3000	1800	17	-35 °C to +35 °C	685 127 83 A9
m1	■ 830/3000	4180	35	-35 °C to +35 °C	685 142 83 A9
m1	□ 840/4000	1920	17	-35 °C to +35 °C	685 127 84 A9
m1	□ 840/4000	4360	35	-35 °C to +35 °C	685 142 84 A9
m1	■ 750/5000	2040	17	-35 °C to +35 °C	685 123 85 A9
m1	■ 750/5000	4880	35	-35 °C to +35 °C	685 142 85 A9

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

Cover screen / A

1 = PMMA clear
4 = PC (fracture proof) clear

TALON WITH TWO LED ARRAYS

Version		Luminous flux/lm	System power/W	Ambient temperature	Article no.
m2	■ 830/3000	8360	70	-35 °C to +35 °C	685 242 03 A9
m2	□ 840/4000	8720	70	-35 °C to +35 °C	685 242 04 A9
m2	■ 750/5000	9760	70	-35 °C to +35 °C	685 242 05 A9

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

Extreme wide beam: Cover screen / A

1 = PMMA clear
4 = PC (fracture proof) clear

Medium beam: Cover screen / A

2 = PMMA Transopal®
(impact strengthened)
3 = PMMA, white printed
5 = PC (fracture proof) white printed

For additional articles, please turn the page! ►

TALON WITH TWO LED ARRAYS AND CDP PRISM SCREEN, WIDE BEAM

Version		Luminous flux/lm	System power/W	Ambient temperature	Article no.
m2	■ 830/3000	8360	70	-35 °C to +35 °C	685 242 83 A9
m2	□ 840/4000	8720	70	-35 °C to +35 °C	685 242 84 A9
m2	■ 750/5000	9760	70	-35 °C to +35 °C	685 242 85 A9

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

Cover screen / **A**

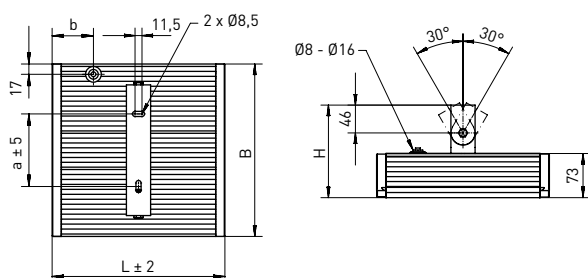
1 = PMMA clear

4 = PC (fracture proof) clear



TALON OPTIONS

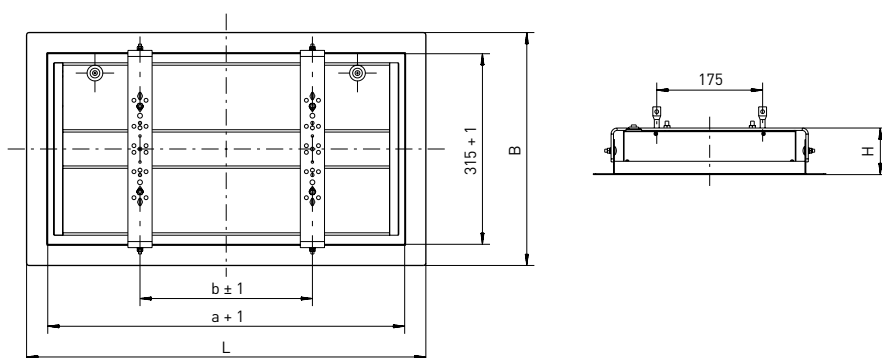
Version	Article no.
Version with two cable membranes on face side (continuous row version)	201 442
Ball impact resistant version	100 901
Swimming pool version	685 036
DALI	100 502
Protection against unauthorised opening	610 003
With swivel bracket, module size m1, (not suitable for chlorine atmosphere)	685 107
Version for NORKA trunking system 285	685 037



Version	L ± 2	B	H	a ± 5	b ± 2	Max. weight
TALON with swivel bracket, module size m1	285 mm	285 mm	153 mm	120 mm	68 mm	5.9 kg

TALON ACCESSORIES

Version	Article no.
Recessed ceiling mounting frame, white, module size m1	685 610
Recessed ceiling mounting frame, white, module size m2	685 620



Version	Required ceiling cut-out	L	B	H	a	b	Max. weight
m1	325 x 356 mm	375 mm	385 mm	77 mm	305 mm	215 mm	1.5 kg
m2	610 x 356 mm	660 mm	385 mm	77 mm	590 mm	285 mm	2.2 kg



LUMINAIRES FOR RECESSED AND SURFACE WALL MOUNTING

Geometric shapes and clear lines are the hallmarks of these luminaires. Wall luminaires with hinged cover screens offer a wide range of lighting technology accessories. The outer appearance can be modified in a variety of ways to enable straight

shapes to be integrated into modern façades and passages. Different colour temperatures support lighting design. Alongside the decorative approach, selected wall luminaires offer a high level of safety in tunnels or underpasses.



LUMINAIRES FOR RECESSED AND SURFACE WALL MOUNTING

INDEX



BRIG

104



BERLIN LED **36**

> Luminaires for recessed and surface ceiling mounting



ERFURT LED **52**

> Luminaires for recessed and surface ceiling mounting

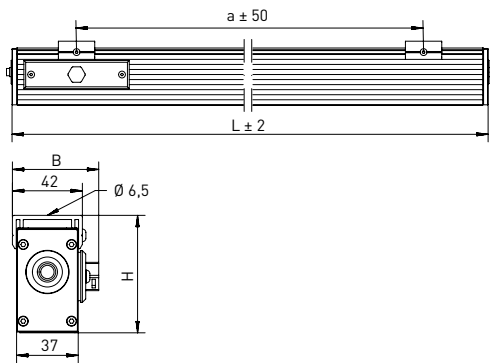
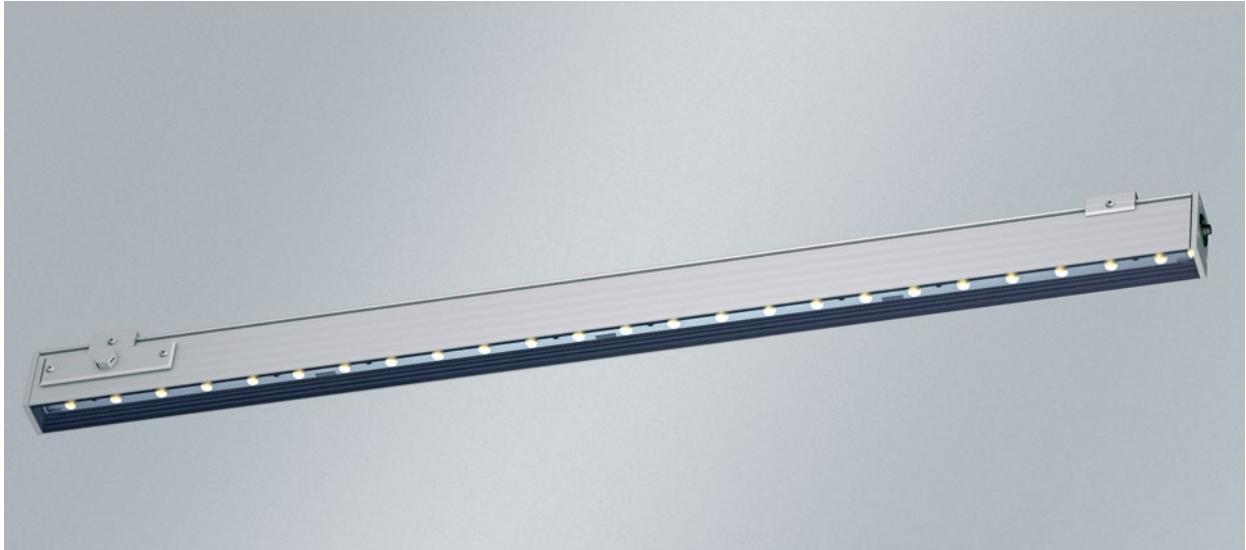


URANUS PF **142**

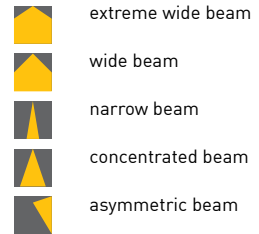
> Floodlights

BRIG

LED



 **XARA® lighting control**
(see introduction and app. B)



Lamp	Version	L	B	H	a	Max. weight
24 V LED	m500	508 mm	52 mm	70.5 mm	366 ± 50 mm	0.85 kg
24 V LED	m1000	988 mm	52 mm	70.5 mm	846 ± 50 mm	1.80 kg
24 V LED	m1500	1468 mm	52 mm	70.5 mm	1326 ± 50 mm	2.70 kg
24 V LED	m2000	1948 mm	52 mm	70.5 mm	1806 ± 50 mm	3.60 kg

AREAS OF APPLICATION

Aluminium luminaire for surface wall mounting with LED stripes, singlerow. Useable in subways, pedestrian tunnels, passages, multi-storey car parks, swimming pools, transport areas, under canopies and façades.

HOUSING

Silver anodised aluminium profile housing. Cover screen made of PMMA clear. Useable for indoor and outdoor areas according to protection rating IP 65. Protection class III.

LIGHTING TECHNOLOGY

Fresnel lenses pre-assembled at the factory with a variety of beam angles.

ELECTRICAL CONSTRUCTION

The operation of this luminaire at 230 V mains requires a separate driver, which supplies 24 V constant voltage (SK III). This can be found with the accessories. Please select a device with a suitable connected load.

MOUNTING

Single or row mounting. Ceiling mounting with aluminium clamps. Wall mounting using two stainless steel wall brackets or wall pendant suspension on continuous U-profile rail with accessories.

BRIG WITH 24 V LED, EXTREME WIDE BEAM

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m500 <input type="checkbox"/> 840/4000	1220	12	-40 °C to +40 °C	539 412 04 39
m1000 <input type="checkbox"/> 840/4000	2440	24	-40 °C to +40 °C	539 424 04 39
m1500 <input type="checkbox"/> 840/4000	3660	36	-40 °C to +40 °C	539 436 04 39
m2000 <input type="checkbox"/> 840/4000	4880	48	-40 °C to +40 °C	539 448 04 39

The driver (constant 24 V voltage) has to be ordered separately.

BRIG WITH 24 V LED, FRESNEL LENS 6°, NARROW BEAM WITH ASYMMETRIC BEAM ANGLE

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m500 <input type="checkbox"/> 840/4000	1220	12	-40 °C to +40 °C	539 416 04 39
m1000 <input type="checkbox"/> 840/4000	2440	24	-40 °C to +40 °C	539 428 04 39
m1500 <input type="checkbox"/> 840/4000	3660	36	-40 °C to +40 °C	539 441 04 39
m2000 <input type="checkbox"/> 840/4000	4880	48	-40 °C to +40 °C	539 452 04 39

The driver (constant 24 V voltage) has to be ordered separately.

BRIG WITH 24 V LED, FRESNEL LENS 12°, NARROW BEAM

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m500 <input type="checkbox"/> 840/4000	1220	12	-40 °C to +40 °C	539 413 04 39
m1000 <input type="checkbox"/> 840/4000	2440	24	-40 °C to +40 °C	539 425 04 39
m1500 <input type="checkbox"/> 840/4000	3660	36	-40 °C to +40 °C	539 437 04 39
m2000 <input type="checkbox"/> 840/4000	4880	48	-40 °C to +40 °C	539 449 04 39

The driver (constant 24 V voltage) has to be ordered separately.

BRIG WITH 24 V LED, FRESNEL LENS 30°, CONCENTRATED BEAM

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m500 <input type="checkbox"/> 840/4000	1220	12	-40 °C to +40 °C	539 414 04 39
m1000 <input type="checkbox"/> 840/4000	2440	24	-40 °C to +40 °C	539 426 04 39
m1500 <input type="checkbox"/> 840/4000	3660	36	-40 °C to +40 °C	539 439 04 39
m2000 <input type="checkbox"/> 840/4000	4880	48	-40 °C to +40 °C	539 450 04 39

The driver (constant 24 V voltage) has to be ordered separately.

BRIG WITH 24 V LED, 60° FRESNEL LENS, WIDE BEAM

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m500 <input type="checkbox"/> 840/4000	1220	12	-40 °C to +40 °C	539 415 04 39
m1000 <input type="checkbox"/> 840/4000	2440	24	-40 °C to +40 °C	539 427 04 39
m1500 <input type="checkbox"/> 840/4000	3660	36	-40 °C to +40 °C	539 440 04 39
m2000 <input type="checkbox"/> 840/4000	4880	48	-40 °C to +40 °C	539 451 04 39

The driver (constant 24 V voltage) has to be ordered separately.

For additional articles, please turn the page! ►

BRIG LED OPTIONS

Version	Article no.
Rearward cable entry, M16 (pair)	539 438
LED through wiring with second access cover, 2 x 1.5 mm ²	539 624
LED through wiring with second access cover, 2 x 2.5 mm ²	539 932
Further colour temperatures: 3000 K and 5600 K (specify when placing order)	available on request
Other LED colours for 24 V LED: red, blue, green, amber (specify when placing order)	available on request
Dimmable version	available on request

BRIG LED ACCESSORIES

Version	Article no.
Continuous row mounting clamp (1 piece)	539 010
Wall bracket, 30 cm, aluminium (pair)	539 921
Wall bracket, 15 cm, aluminium (pair)	539 922
Driver in polymer housing, IP 65, protection class II, Supply voltage 24 V DC, primary power supply 230/240 V AC/DC Max. 35 W connected load, 180 x 94 x 57 mm (LxBxH)	537 184
Max. 100 W connected load, 254 x 180 x 63 mm (LxBxH)	537 182
Max. 200 W connected load, 254 x 180 x 90 mm (LxBxH)	537 183
Driver without polymer housing Supply voltage 24 V DC, primary power supply 230/240 V AC/DC Max. 35 W connected load, 99 x 82 x 36 mm (LxBxH)	643 64
Max. 100 W connected load, 191 x 99 x 45 mm (LxBxH)	614 79
Max. 200 W connected load, 210 x 99 x 50 mm (LxBxH)	547 40





A105



TUBULAR LUMINAIRES

Tubular luminaires can be used for many different applications: in architecture to accentuate building contours, as directional lighting integrated into handrails, as decorative shop lighting, as robust machine lighting and as chemical resistant luminaires in work pits. Due to their

protection rating of IP 69K, tubular luminaires can also be used as an optimum lighting solution in the food processing industry as well as in underwater applications and in explosive atmospheres, e.g. in mines. Three different tube diameters allow a wide range of applications.

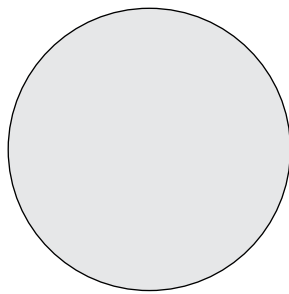
The variable mounting distances make mounting very easy.



TUBULAR LUMINAIRES OVERVIEW

INDEX

ZUG LED

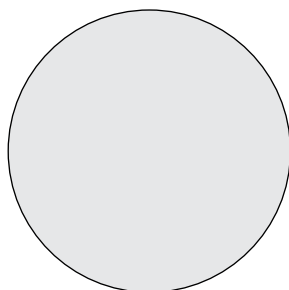
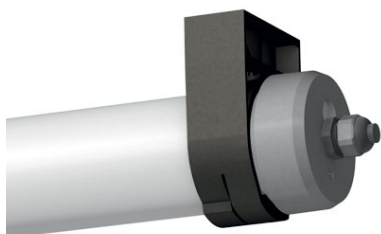


Ø 75 mm

IP 65 IP 66 IP 68 20m IP 69K

- > Minimised dark spot
- > Quick-mounting pressure cap
- > Protection against unauthorised opening using a hexagon socket screw
- > M20 cable gland
- > Through wiring up to 5 x 2.5 mm²

LUGANO

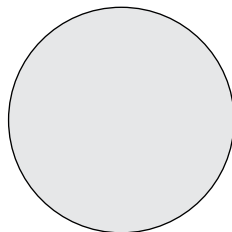


Ø 75 mm

IP 65 IP 66 IP 67 IP 68 20m IP 69K

- > Gas-tight and ammonia-resistant tubular luminaire
- > Standard version with built-in DALI driver
- > Through wiring 5 x 1.5 mm²

BERN LED



Ø 60 mm

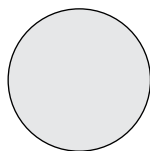
IP 65 IP 66 IP 68 20m IP 69K

- > Minimised dead spot
- > Quick-mounting pressure cap
- > Protection against unauthorised opening using a hexagon socket screw
- > M20 cable gland
- > Through wiring up to 4 x 2.5 mm²
- > For explosion-proof version see "luminaires for explosion-proof areas"
- > Suitable for temperatures down to -40 °C

LUZERN 38 LED



Ø 38 mm

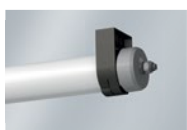


IP 65

- > Minimised dark spot
- > M16 cable gland
- > Through wiring up to 2 x 1.5 mm²
- > White end caps
- > Suitable for temperatures down to -40 °C



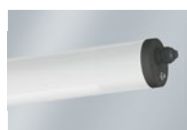
BERN LED 112



LUGANO 118



LUZERN 38 LED 120



ZUG LED 122

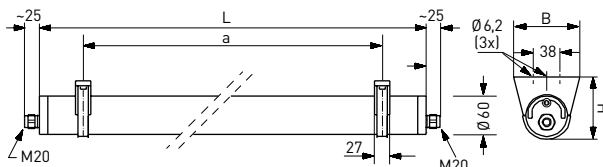
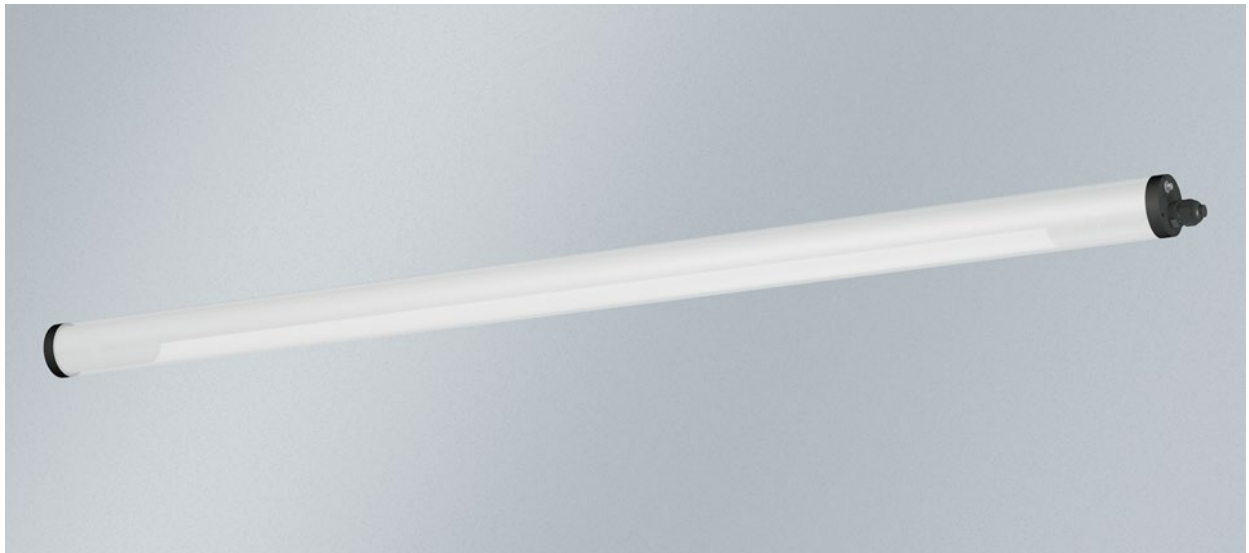


BERN LED EX 176

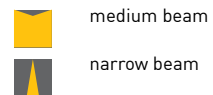
- > Luminaires for explosion-proof areas

BERN LED

LED



- **FOCUSSED LIGHTING**
(see appendix E)
- ➔ **XARA® lighting control**
(see introduction and app. B)
- **K** Further colour temperatures
(see appendix D)



Lamp	Version	L	B	H	a ± 50	Max. weight
230 V AC/DC LED – Focussed lighting	m600	750 mm	95 mm	89.5 mm	650 mm	2.5 kg
230 V AC/DC LED – Focussed lighting	m1200	1310 mm	95 mm	89.5 mm	1210 mm	3.6 kg
230 V AC/DC LED – Focussed lighting	m1500	1590 mm	95 mm	89.5 mm	1490 mm	4.7 kg
24 V DC LED	m500	780 mm	95 mm	89.5 mm	640 mm	1.8 kg
24 V DC LED	m1000	1260 mm	95 mm	89.5 mm	1120 mm	2.9 kg
24 V DC LED	m1500	1740 mm	95 mm	89.5 mm	1600 mm	4.0 kg
24 V DC LED	m2000	2220 mm	95 mm	89.5 mm	2 x 1040 mm*	5.1 kg

*m2000 including third mounting clamp

AREAS OF APPLICATION

Tubular luminaire with LED lamps. Useable in industrial applications, in work pits used for maintenance and repair work and for decorative indoor and outdoor lighting. Version with high protection rating IP 69K suitable for production facilities and suppliers in the food and beverage industry. **24 V version suitable for low temperatures up to -40 °C.**

HOUSING

Polymer luminaire tube (Ø 60 mm) with two quick-mounting pressure caps and protection against unauthorised opening. Useable for indoor and outdoor areas according to protection rating IP 65, IP 66 and IP 67. Resistant to pressurised water to 20 m due to protection rating IP 68, 20 m. Suitable for intensive cleaning processes using pressure washers due to high protection rating IP 69K.

LIGHTING TECHNOLOGY

Luminaire tube made of PMMA Transopal® (impact strengthened) or PC Tropol® (fracture proof).

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. There are two types of luminaires:

Type 1 - Focussed lighting:

One cable gland M20 per face side. 4 x 1.5 mm² through wiring. Built-in driver 230 V AC/DC, optionally suitable for emergency lighting. 2 kV transient filter.

Type 2 - 24 V:


For operation on 24 V constant voltage.

MOUNTING

Individual or row mounting. Ceiling or wall fixing using two or three mounting clamps made of stainless steel/black/translucent polymer, including protection against unauthorised opening.

BERN LED – TYPE 1 – FOCUSED LIGHTING , MEDIUM BEAM

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no. + MC
m600 <input type="checkbox"/> 840/4000	1300 - 1710 - 2930	9 - 11 - 18	-25 °C to +40 °C	536 280 34 A4 -E -
m1200 <input type="checkbox"/> 840/4000	2600 - 3420 - 6270	16 - 20 - 36	-25 °C to +40 °C	536 480 34 A4 -E -
m1500 <input type="checkbox"/> 840/4000	4270 - 5280 - 7830	25 - 30 - 44	-25 °C to +40 °C	536 680 34 A4 -E -

 Standard luminous flux T8, for other lumen packages, see appendix E

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

Protection tube / A

2 = PMMA Transopal® (impact strengthened)
8 = PC Tropal® (fracture proof)

BERN LED – TYPE 2 – 24 V LED

Version	Luminous flux/lm	System power / W, 24 V	Ambient temperature	Article no.
m500 <input type="checkbox"/> 840/4000	1220	12	-40 °C to +40 °C	53A 417 B4 00
m1000 <input type="checkbox"/> 840/4000	2440	24	-40 °C to +40 °C	53A 429 B4 00
m1500 <input type="checkbox"/> 840/4000	3660	36	-40 °C to +40 °C	53A 441 B4 00
m2000 <input type="checkbox"/> 840/4000	4880	48	-40 °C to +40 °C	53A 453 B4 00

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

Protection tube / A

1 = PC Tropal® (fracture proof)
6 = PMMA Transopal®
(impact strengthened)

LIDC characteristic / B

2 = narrow beam
3 = medium beam



► Mounting clamps for BERN LED
Stainless steel / black/transparent polymer
(pair), included in scope of delivery

For additional articles, please turn the page! ►

BERN LED OPTIONS

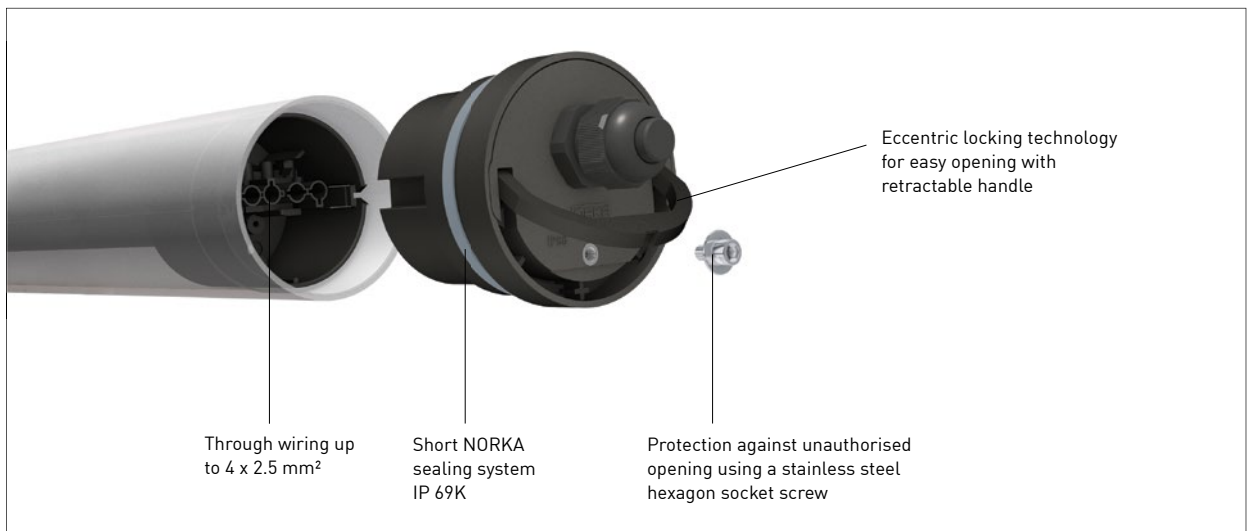
Version	Article no.
Through wiring 4 x 2.5 mm ²	536 945
Transparent cover with M20 cable entry	534 001
Luminaire tube coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	536 010
Halogen-free version	536 032
Swimming pool version without polymer mounting clamps	536 036
Swimming pool version with polymer mounting clamps	536 037

BERN LED – FOCUSED LIGHTING VERSION OPTIONS

Version	Article no.
DALI	100 502
Halogen-free version	536 032
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
Version for operation on PASSAU LED	see p. 192
Inrush current limiter (including 4 kV transient filter)	100 922
Further colour temperatures	see appendix D
4 kV transient filter	100 530
HCL (Human Centric Lighting)	available on request

BERN LED – 24 V VERSION OPTIONS

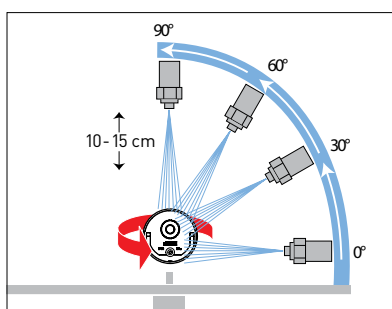
Version	Article no.
Other LED colours for 24 V LED: red, blue, green, amber (specify when placing order)	available on request
Other colour temperatures for 24 V LED versions: 3000 K and 5600 K (specify when placing order)	available on request



> BERN LED quick-mounting pressure cap

BERN LED ACCESSORIES

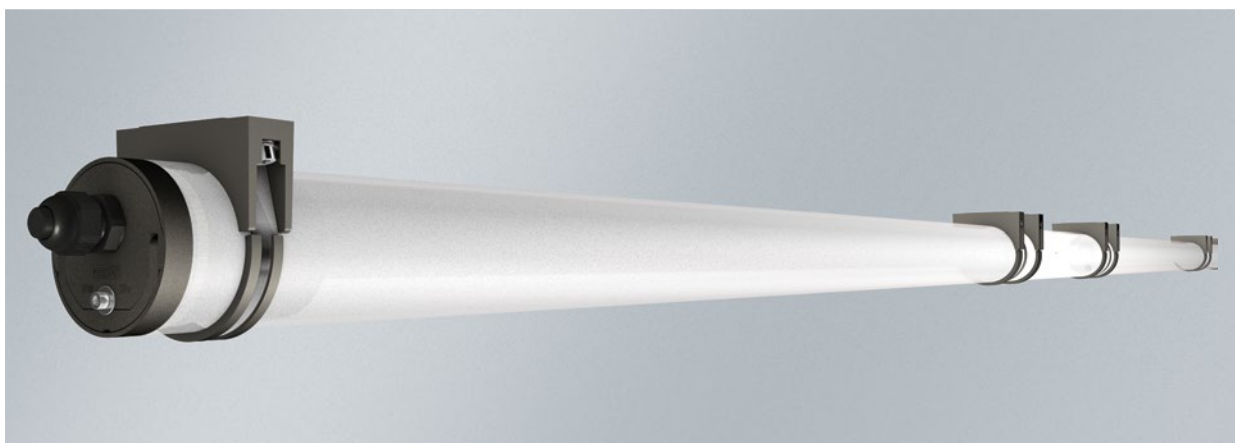
Version	Article no.
Empty tube for continuous row version; length as specified, max. 4 m	available on request
Suspension system, for 1 m suspension, with stainless steel clamps (pair), (not suitable for chlorine atmosphere)	534 166
Mounting clamps, stainless steel/black polymer (pair), (not suitable for chlorine atmosphere)	534 218
Mounting clamps, stainless steel/transparent polymer (pair), (not suitable for chlorine atmosphere)	534 208
Mounting clamps, stainless steel/transparent polymer, for suspension system (pair), (not suitable for chlorine atmosphere)	534 319
Mounting clamps, stainless steel V4A, angled (pair), (not suitable for chlorine atmosphere)	534 118
Mounting clamps, suitable for swimming pools, grey polymer, Ø 60 mm, for ceiling mounting (pair)	534 209
Driver in polymer housing, IP 65, protection class II, Supply voltage 24 V DC, primary power supply 230/240 V AC/DC Max. 35 W connected load, 180 x 94 x 57 mm (LxBxH)	537 184
Max. 100 W connected load, 254 x 180 x 63 mm (LxBxH)	537 182
Max. 200 W connected load, 254 x 180 x 90 mm (LxBxH)	537 183
Driver without polymer housing Supply voltage 24 V DC, primary power supply 230/240 V AC/DC Max. 35 W connected load, 99 x 82 x 36 mm (LxBxH)	643 64
Max. 100 W connected load, 191 x 99 x 45 mm (LxBxH)	614 79
Max. 200 W connected load, 210 x 99 x 50 mm (LxBxH)	547 40



> Test IP 69K:

The IP 69K test verifies the protection against hot water during high-pressure or steam-jet cleaning according to EN 60529. The test conditions require a pressure of 100 bar at a temperature of 80 °C.

BERN LED ACCESSORIES



> BERN LED continuous row version with empty tube (length as specified, max. 4 m), available on request, shown with mounting clamp, article no. 534 218



> Mounting clamps for BERN LED
Stainless steel/black polymer (pair),
article no. 534 218



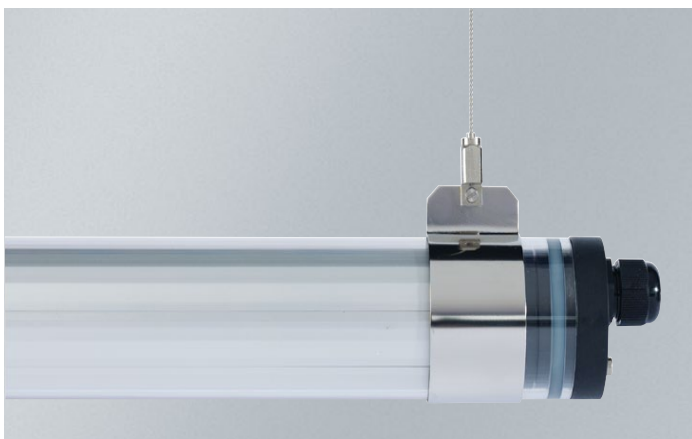
> Mounting clamps for BERN LED
Stainless steel/polymer transparent (pair),
article no. 534 208



> Mounting clamps for BERN LED
Stainless steel V4A, angled (pair),
article no. 534 118



> Mounting clamps
Suitable for swimming pools, for BERN LED
Grey polymer, Ø 60 mm, for ceiling
installation (pair),
article no. 534 209



> BERN LED suspension system for 1 m suspension with stainless steel clamps (pair),
article no. 534 166

BERN LED ACCESSORIES

Wall and ceiling installation system made of stainless steel

Article no.

End cap with internal luminaire fastening clamp* (* Fixes the luminaire in 5 x 45° steps for a uniform appearance in the continuous row system) (not suitable for chlorine atmosphere)	536 001
Centre piece (not suitable for chlorine atmosphere)	536 002
End cap without luminaire fastening clamp (not suitable for chlorine atmosphere)	536 003



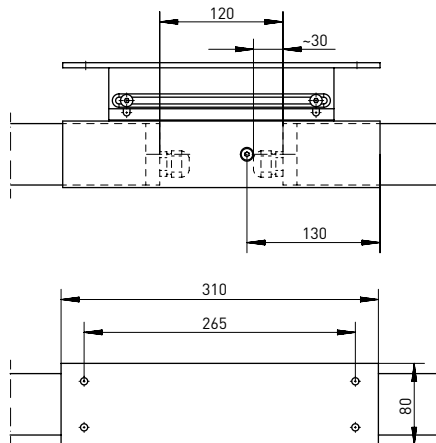
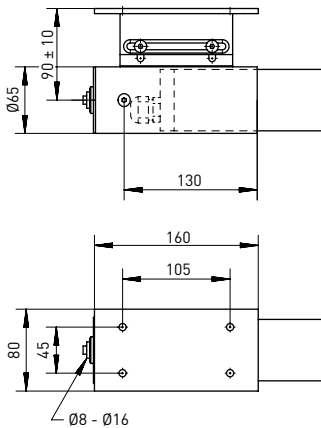
> Stainless steel suspension system for BERN LED with end cap and centre piece



> End cap for BERN LED
article no. 536 001 with internal luminaire fastening clamp
article no. 536 003 without luminaire fastening clamp

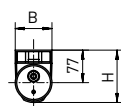
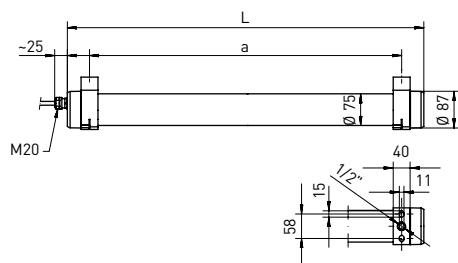
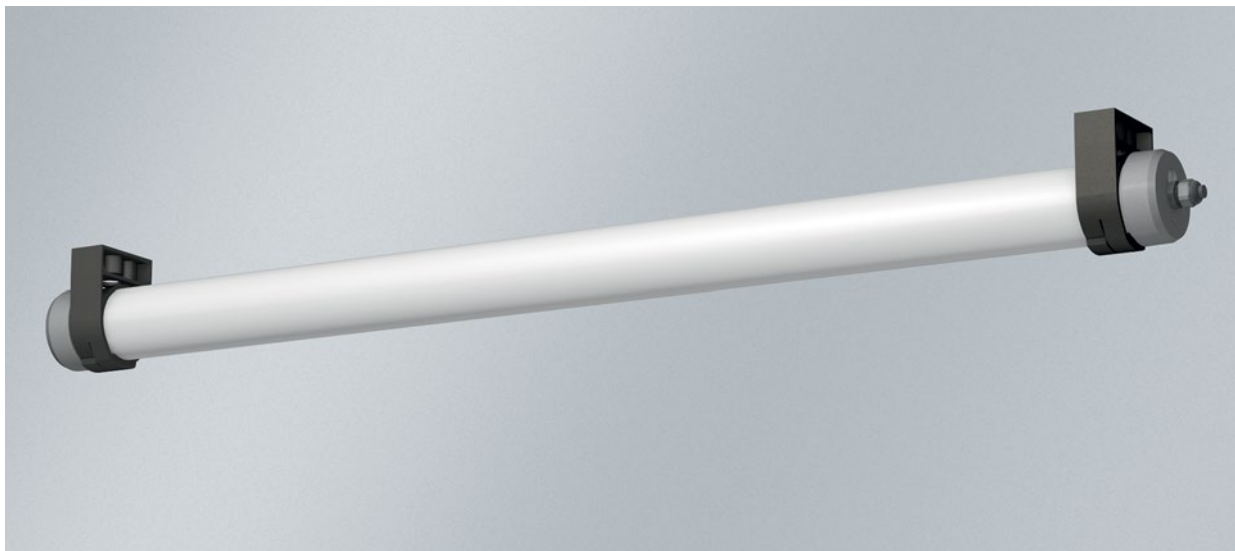


> Centre piece for BERN LED
article no. 536 002



LUGANO

LED



XARA® lighting control
(see introduction and app. B)



raumstrahlend

K Further colour temperatures
(see appendix D)

Lamp	Version	L	B	H	a	max. weight
LED	m600	650 mm	87 mm	124 mm	350 ± 25 mm	2.4 kg
LED	m1200	1260 mm	87 mm	124 mm	1060 ± 25 mm	3.7 kg
LED	m1500	1560 mm	87 mm	124 mm	1360 ± 25 mm	4.6 kg

AREAS OF APPLICATION

Gas-tight and ammonia-resistant tubular luminaire with LED lamps. Useable indoors and outdoors with special requirements.

HOUSING

Luminaire tube (Ø 75 mm) made of polymer with two end caps made of PBT, electric grey. Useable for indoor and outdoor areas according to protection rating IP 65, IP 66 and IP 67. Resistant to pressurised water up to 20 m; compliant with protection rating IP 68, 20 m. Suitable for intensive cleaning processes using pressure washers due to high protection rating IP 69K.

LIGHTING TECHNOLOGY

Luminaire tube made of PMMA Transopal® (impact strengthened), homogeneously illuminated.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in DALI driver 230 V AC/DC and 2 m connecting cable 5 x 1.5 mm² (mains 3 x 1.5 mm², DALI 2 x 1.5 mm²).

MOUNTING

Single or continuous row mounting. Ceiling or wall fixing with two polymer mounting clamps.

LUGANO

Version	Luminous flux/lm	System power / W	Ambient temperature	Article no.
m600 <input type="checkbox"/> 840/4000	1740	13	-25 °C to +40 °C	776 280 34 21
m1200 <input type="checkbox"/> 840/4000	3480	25	-25 °C to +40 °C	776 480 34 21
m1500 <input type="checkbox"/> 840/4000	5240	36	-25 °C to +40 °C	776 680 34 21

LUGANO OPTIONS

Version	Article no.
Through wiring 5 x 1.5 mm ² (mains 3 x 1.5 mm ² , DALI 2 x 1.5mm ²) and second connecting cable (2 m)	776 831
Luminaire tube coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	776 010
Inrush current limiter (including 4 kV transient filter)	100 922
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
Further colour temperatures	see appendix D



LUZERN 38 LED

LED

IP 65

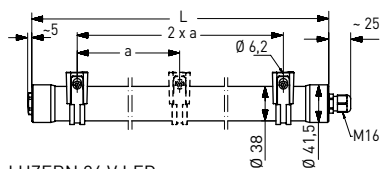
CE

▽

⬆

IK 07 PMMA

IK 09 PC



LUZERN 24 V LED



XARA® lighting control
(see introduction and app. B)



medium beam

Lamp	Version	L	B	H	a	Max. weight
24 V LED	m500	605 mm	50 mm	57.5 mm	495 mm	0.4 kg
24 V LED	m1000	1085 mm	50 mm	57.5 mm	975 mm	0.6 kg
24 V LED	m1500	1565 mm	50 mm	57.5 mm	1450 mm	0.9 kg
24 V LED	m2000	2045 mm	50 mm	57.5 mm	2 x 968 mm*	1.1 kg

*m2000 including third mounting clamp

AREAS OF APPLICATION

Tubular luminaire with LED lamps. Useable in industrial applications and for decorative indoor and outdoor lighting.

HOUSING

Polymer luminaire tube (Ø 38 mm). End caps, white. Useable for indoor and outdoor areas according to protection rating IP 65.

LIGHTING TECHNOLOGY

Luminaire tube made of PMMA Transopal® (impact strengthened) or PC Tropol® (fracture proof).

ELECTRICAL CONSTRUCTION

Luminaire for operation on a 24 V DC power supply, protection class III. Operation of this luminaire at 230 V mains requires a driver which supplies 24 V constant voltage. This can be found with the accessories. Please select a device with a suitable connected load.

MOUNTING

Single mounting. Ceiling or wall fixing using two or three stainless steel/transparent polymer mounting clamps, variable mounting distance.

LUZERN 38 LED

Version	Luminous flux/lm	System power / W, 24 V	Ambient temperature	Article no.
m500 <input type="checkbox"/> 840/4000	1220	12	-40 °C to +30 °C	538 A 12 34 00
m1000 <input type="checkbox"/> 840/4000	2440	24	-40 °C to +30 °C	538 A 24 34 00
m1500 <input type="checkbox"/> 840/4000	3660	36	-40 °C to +30 °C	538 A 36 34 00
m2000 <input type="checkbox"/> 840/4000	4880	48	-40 °C to +30 °C	538 A 48 34 00

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

Luminaire tube / A

4 = PMMA Transopal® (impact strengthened)
3 = PC Tropolat® (fracture proof)

LUZERN 38 LED OPTIONS

Version	Article no.
Through wiring 2 x 1.5 mm ²	538 690
Through wiring with two couplings and 2 x 2 m connecting cable (2 x 1.5 mm ²) (24 V)	available on request
Plug and coupling with 5 m connecting cable, Lapp Ölflex classic 110 black 2 x 1.5 mm ² (unit)	available on request
Luminaire tube coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	538 010
Halogen-free version	538 032
Other LED colours: red, blue, green, amber (specify when placing order)	available on request
Other colour temperatures: 3000 K and 5400 K (specify when placing order)	available on request
End caps transparent	538 002

LUZERN 38 LED ACCESSORIES

Version	Article no.
Empty tube for continuous row version; length as specified, max. 4 m	available on request
Plug and coupling (unit)	available on request
Suspension system, 1 m, made of stainless steel/polymer transparent, Ø 38 mm, pair	537 266
Mounting clamp, stainless steel/transparent polymer, Ø 38 mm, for suspension system (pair)	538 319
Mounting clamps, suitable for swimming pools, grey polymer, Ø 38 mm, for ceiling and wall mounting (pair)	538 003
Driver in polymer housing, IP 65, protection class II, 24 V DC supply voltage, primary power supply 230/240 V, 0/50/60 Hz. Max. 35 W connected load, 180 x 94 x 57 mm (LxBxH)	537 184
Max. 100 W connected load, 254 x 180 x 63 mm (LxBxH)	537 182
Max. 200 W connected load, 254 x 180 x 90 mm (LxBxH)	537 183
Driver without polymer housing, 24 V DC supply voltage, primary power supply 230/240 V AC/DC. Max. 35 W connected load, 99 x 82 x 36 mm (LxBxH)	643 64
Max. 100 W connected load, 191 x 99 x 45 mm (LxBxH)	614 79
Max. 200 W connected load, 210 x 99 x 50 mm (LxBxH)	547 40



> Mounting clamps for LUZERN 38 LED, Stainless steel/transparent polymer, included in scope of delivery (pair)



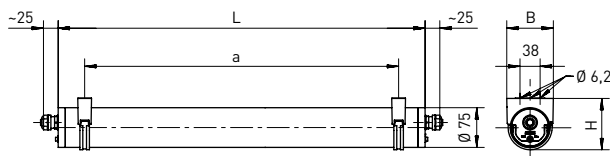
> Mounting clamps for LUZERN 38 LED, Stainless steel/polymer transparent, Ø 38 mm, for suspension system (pair), article no. 538 319



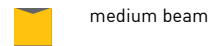
> Mounting clamps, Suitable for swimming pools, for LUZERN 38 LED Grey polymer, Ø 38 mm, for ceiling and wall mounting (pair), article no. 538 003

ZUG LED

LED



- **FOCUSSED LIGHTING**
(see appendix E)
- ⚡ **XARA® lighting control**
(see introduction and app. B)
- K Further colour temperatures
(see appendix D)



medium beam

Lamp	Version	L	B	H	a	Max. weight
LED	m600	800 mm	88 mm	97 mm	700 ± 25 mm	2.7 kg
LED	m1200	1410 mm	88 mm	97 mm	1310 ± 25 mm	4.0 kg
LED	m1500	1710 mm	88 mm	97 mm	1610 ± 25 mm	4.9 kg

AREAS OF APPLICATION

Tubular luminaire with LED lamps. Useable in industrial applications, in work pits used for maintenance and repair work and for decorative indoor and outdoor lighting with special requirements, such as swimming pools (see options).

HOUSING

Polymer luminaire tube (Ø 75 mm) with two quick-mounting pressure caps and protection against unauthorised opening. Useable for indoor and outdoor areas according to protection rating IP 65, IP 66 and IP 67. Resistant to pressurised water up to 20 m; due to protection rating IP 68, 20 m. Suitable for intensive cleaning processes using pressure washers due to high protection rating IP 69K.

LIGHTING TECHNOLOGY

Luminaire tube made of PMMA Transopal® (impact strengthened) or PC Tropol® (fracture proof), homogeneous illumination.

DB (Deutsche Bahn) version: Optimum colour rendering of red tones by special LED modules with an increased R₉ value (> 46).

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. One cable gland M20 per face side and 4 x 1.5 mm² through wiring. There are two types of luminaires:

1. Standard version:

Built-in driver 230 V AC/DC, optionally suitable for emergency lighting. 2 kV transient filter.

2. DB (Deutsche Bahn) version:

Built-in driver with secondary safety extra low voltage (SELV). Optimised with additional inrush current limiter (ESSB II). 4 kV transient filter.

MOUNTING

Single or row mounting. Ceiling or wall fixing using two mounting clamps made of stainless steel / black/transparent polymer with variable mounting distance, including protections against unauthorised opening.

NOTE ON DB (DEUTSCHE BAHN) VERSION

- > Increased safety against electric shock thanks to secondary safety extra low voltage **according to DIN VDE 0100-410 (SELV)**.
- > Very good differentiation of cable sheathing thanks to a high R₉ value.
- > Listed: DB Netz – Group 7.

ZUG LED

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no. + MC
m600 <input type="checkbox"/> 840/4000	1300 - 1710 - 2930	9 - 11 - 18	-25 °C to +40 °C	775 280 34 A4 -E -
m1200 <input type="checkbox"/> 840/4000	2600 - 3420 - 6270	16 - 20 - 36	-25 °C to +40 °C	775 480 34 A4 -E -
m1500 <input type="checkbox"/> 840/4000	4270 - 5280 - 7830	25 - 30 - 44	-25 °C to +40 °C	775 680 34 A4 -E -

Standard luminous flux T8, for other lumen packages, see appendix E

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

Protective reflector tube / A

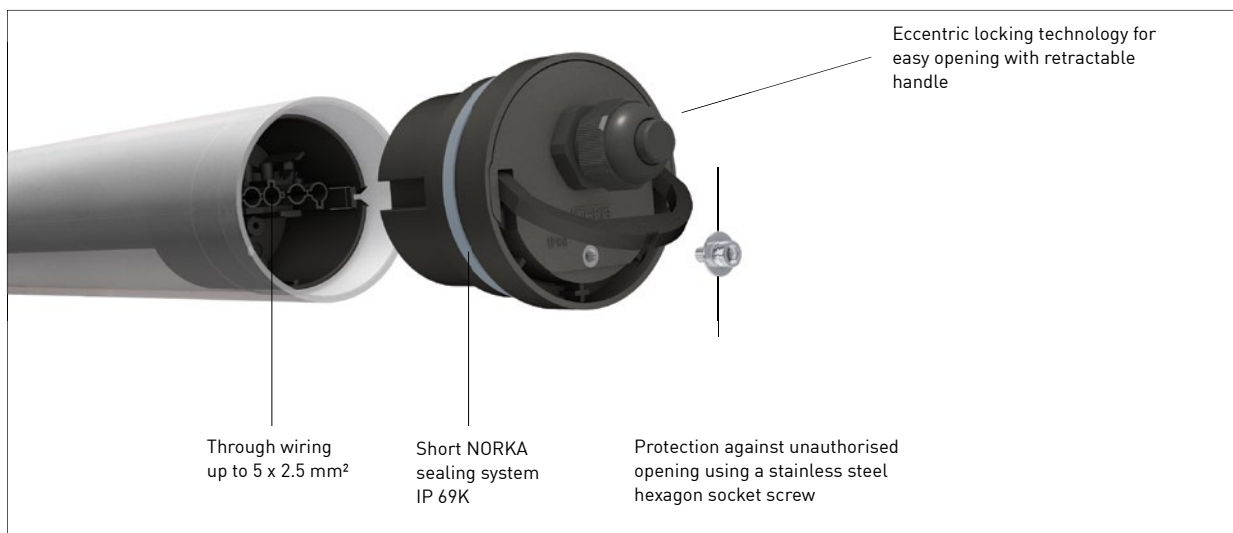
2 = PMMA Transopal® (impact strengthened)
8 = PC Tropol® (fracture proof)

ZUG LED – DB (DEUTSCHE BAHN) VERSION, PMMA TRANSOPAL® (IMPACT STRENGTHENED), MEDIUM BEAM

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m600, DB <input type="checkbox"/> 940/4000	1010	10	-25 °C to +40 °C	775 280 34 23 – SG1
m1200, DB <input type="checkbox"/> 940/4000	3030	22	-25 °C to +40 °C	775 480 34 23 – SG1
m1500, DB <input type="checkbox"/> 940/4000	3800	27	-25 °C to +40 °C	775 680 34 23 – SG1

ZUG LED OPTIONS

Version	Article no.
DALI	100 502
Through wiring 4 x 2.5 mm ²	775 981
Through wiring 5 x 1.5 mm ²	775 831
Through wiring 5 x 2.5 mm ²	775 392
Luminaire tube coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	775 010
Halogen-free version	770 035
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
Version for operation on PASSAU LED	see p. 192
Swimming pool version without polymer mounting clamps	770 038
Swimming pool version with polymer mounting clamps	770 039
Inrush current limiter (including 4 kV transient filter)	100 922
Further colour temperatures	see appendix D
4 kV transient filter	100 530
HCL (Human Centric Lighting)	available on request



> ZUG LED quick-mounting pressure cap

ZUG LED ACCESSORIES

Version	Article no.
Empty tube for continuous row version; length as specified, max. 4 m	available on request
Mounting clamps, stainless steel/black polymer (pair), (not suitable for chlorine atmosphere)	770 209
Mounting clamps, stainless steel V4A, angled (pair), (not suitable for chlorine atmosphere)	770 118
Mounting clamps, suitable for swimming pools, grey polymer, Ø 75 mm, for ceiling and wall mounting (pair)	770 210
Mounting clamps, stainless steel/transparent polymer (pair), (not suitable for a chlorinated atmosphere)	770 208
Quick mounting clamp (pair), (not suitable for chlorine atmosphere)	770 211
Suspension system, for 1 m suspension, with stainless steel clamps (pair), (not suitable for chlorine atmosphere)	770 166



> Mounting clamps for ZUG LED
Stainless steel / black/transparent polymer (pair), included in scope of delivery



> Mounting clamps for ZUG LED
Stainless steel/black polymer (pair), article no. 770 209



> Mounting clamps for ZUG LED
Stainless steel V4A, angled (pair), article no. 770 118



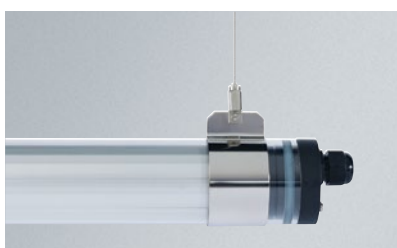
> Mounting clamps,
Suitable for swimming pools, for ZUG LED, article no. 770 210



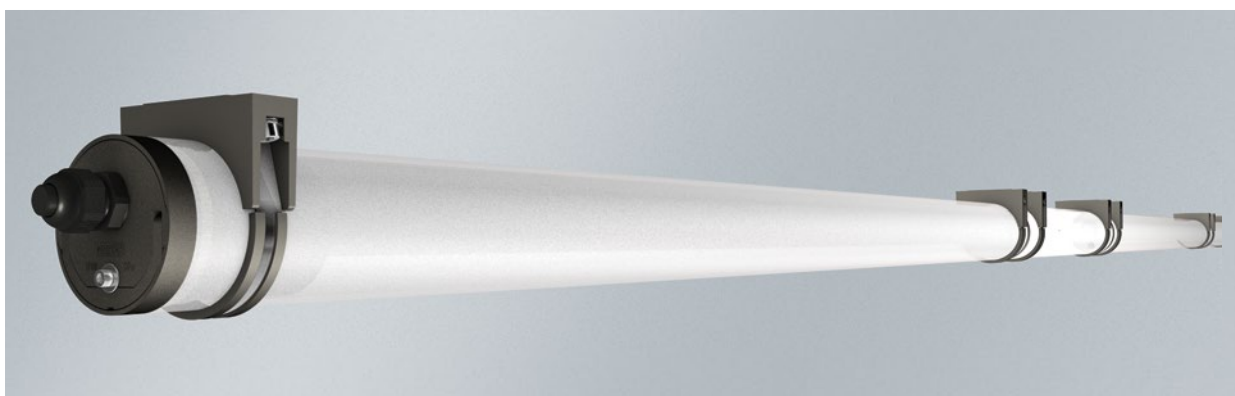
> Quick mounting clamp for ZUG LED, article no. 770 211



> Mounting clamps for ZUG LED
Stainless steel/polymer transparent (pair), article no. 770 208



> Suspension system for 1 m suspension with stainless steel clamps (pair), article no. 770 166



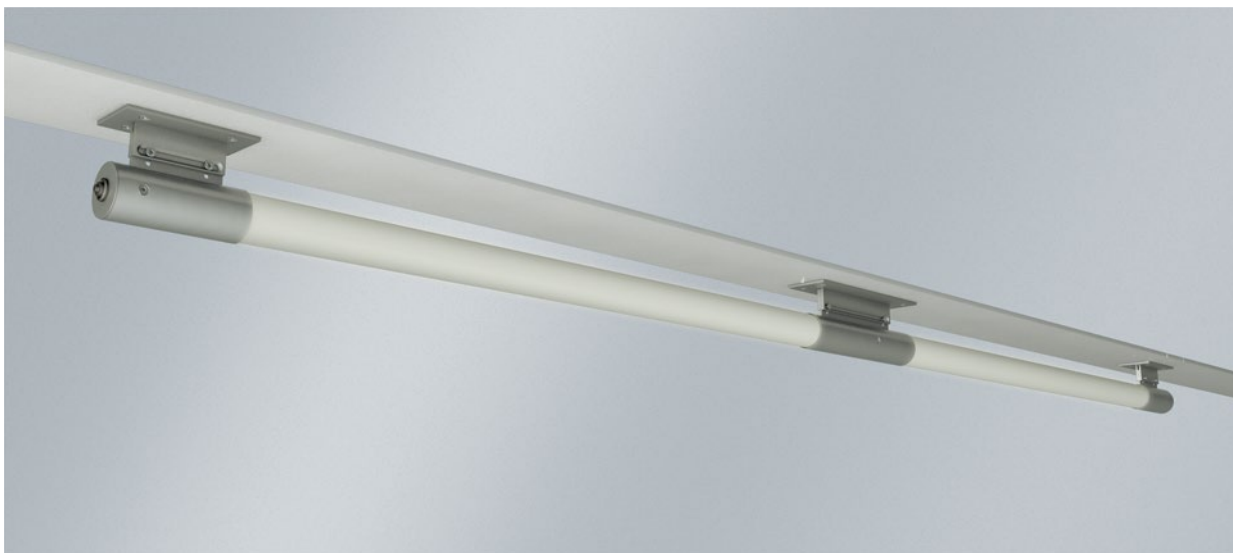
> ZUG LED continuous row version with empty tube, available on request; shown with mounting clamp, article no. 770 209

ZUG LED ACCESSORIES

Wall and ceiling installation system made of stainless steel

Article no.

End cap with internal luminaire fastening clamp* (* Fixes the luminaire in 5 x 45° steps for a uniform appearance in the continuous row system) (not suitable for chlorine atmosphere)	775 007
Centre piece (not suitable for chlorine atmosphere)	775 008
End cap without luminaire fastening clamp (not suitable for chlorine atmosphere)	775 009



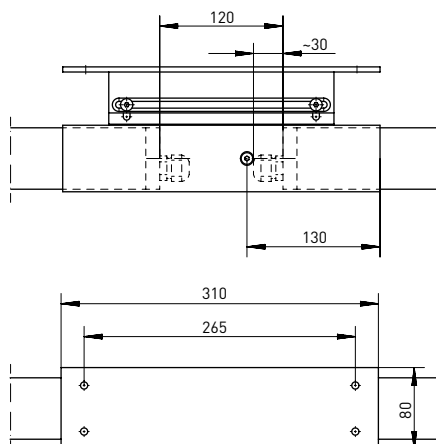
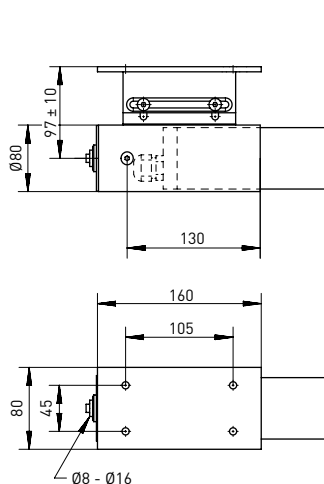
> Wall and ceiling installation system for ZUG LED with end cap and centre piece



> End cap for ZUG LED
article no. 775 007 with internal luminaire fastening clamp
article no. 775 009 without luminaire fastening clamp



> Centre piece for ZUG LED
article no. 775 008







FLOODLIGHTS

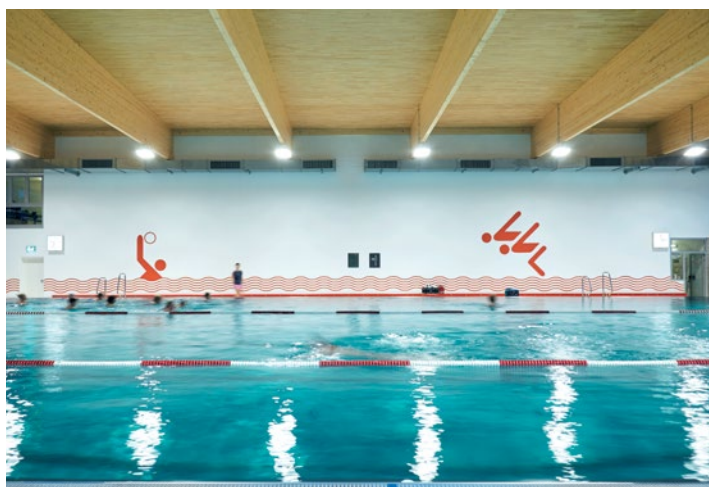
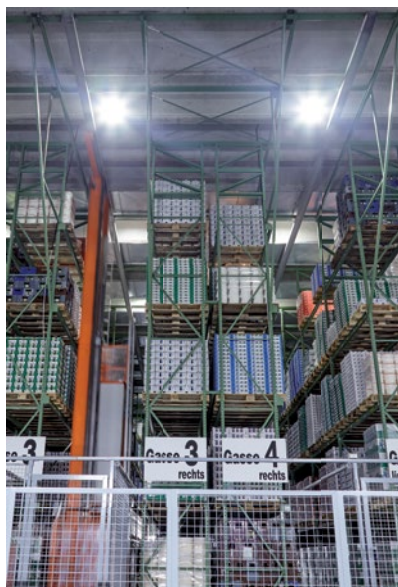
Floodlights are compact light sources with extensive mounting accessories. Their applications range from simple ceiling mounting and pole top mounting to fixing on crane tracks. The luminaire housing consists entirely of extremely weatherproof polymers or diecast aluminium. The luminaires

are used in sports halls and factory buildings, as light sources under canopies, for lighting transport areas or for illuminating building façades.



FLOODLIGHTS

INDEX



CENTAURUS 130



POLARIS 134



URANUS 138



URANUS PF 142



MERKUR LED 84

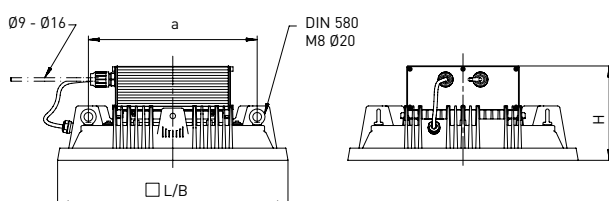
> Luminaires for recessed and surface ceiling mounting

CENTAURUS

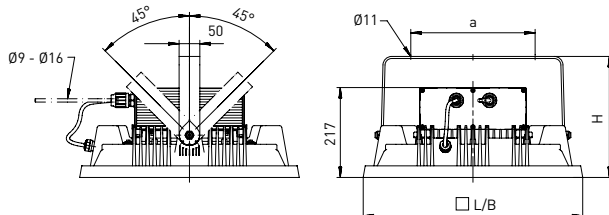
LED



CENTAURUS with eyebolt screws



CENTAURUS with swivel bracket



XARA® lighting control
(see introduction and app. B)

Further colour temperatures available on request

- medium beam
- narrow beam
single reflectors
- wide beam
DDP prism screen
- concentrated beam
DDP prism screen
+ single reflectors

Dimensioned drawing for version VHT available on the Internet

Lamp	Version	L	B	H	a	Max. weight
LED array	with eyebolt screws	530 mm	530 mm	217 mm	388 mm	18.2 kg
LED array	with swivel bracket	530 mm	530 mm	292 mm	300 ± 1 mm	20.2 kg
LED array	VHT with eyebolts	530 mm	530 mm	125 mm	388 mm	18.2 kg
LED array	VHT with swivel bracket	530 mm	530 mm	292 mm	300 ± 1 mm	20.2 kg

AREAS OF APPLICATION

Floodlight with LED array. Useable in spacious or extremely high industrial halls, manufacturing areas with a requirement for high illumination levels or best colour rendering and sports halls, as well as mounting on industrial cranes or large pieces of equipment and environments containing chlorine, such as swimming pools. Optional outdoor version. **Version CENTAURUS VHT up to +85 °C.**

HOUSING

Robust luminaire housing made of corrosion-resistant, powder-coated cast aluminium, similar to RAL 9006. Useable for indoor and outdoor areas according to protection rating IP 65. With age-resistant, form-retaining gasket made of silicone/synthetic rubber. Pressure balancing system

with climate membrane against the formation of condensate in the housing.

LIGHTING TECHNOLOGY

Cover screen made of PC clear (fracture proof), clear or safety glass cover screen. Internal aluminium reflector with adapter for a prism screen for circular deglare (DDP). Narrow beam version with specially adapted individual reflectors (MIRO-SILVER®).

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Dimmable driver 1-10 V included, thermally separated. Supply voltage 230-240 V AC/DC. There are two types of luminaire:

1. CENTAURUS:

Ready for connection via LUCON® luminaire connection system.

2. CENTAURUS VHT version:

Luminaire for maximum ambient temperatures +60 °C to +85 °C. Driver in separate housing IP 65, for the maximum ambient temperature see table. Luminaire and external driver connectable over max. 50 m with heat-resistant 5 x 1.5 mm² connecting cable. The connecting cable must be provided on site.

MOUNTING

Single mounting. Ceiling installation using mounting bracket, can be swivelled (for ball impact resistant version see options) or preparation for suspension system including four eyebolts. Cord and ceiling installation are to be provided on site. Optional anti-vibration damper (not chlorine-resistant, only suspended installation) for cranes.

Subject to technical changes without prior notice. LED modules and drivers are subject to constant efficiency increase. Current luminous flux and system power data can be found on our homepage.

CENTAURUS

Version		Luminous flux/lm	System power/W	Ambient temperature	Article no.
270W	■ 830/3000	24190	150	-35 °C to +50 °C	915 270 A3 BC
400W	■ 830/3000	36000	236	-35 °C to +40 °C	915 400 A3 BC
520W	■ 830/3000	47310	313	-35 °C to +30 °C	915 520 A3 BC
650W	■ 830/3000	58270	400	-35 °C to +30 °C	915 650 A3 BC
270N	□ 840/4000	25460	150	-35 °C to +50 °C	915 270 A4 BC
400N	□ 840/4000	37900	236	-35 °C to +40 °C	915 400 A4 BC
520N	□ 840/4000	49800	313	-35 °C to +30 °C	915 520 A4 BC
650N	□ 840/4000	61340	400	-35 °C to +30 °C	915 650 A4 BC
270C	■ 750/5000	27500	150	-35 °C to +50 °C	915 270 A5 BC
400C	■ 750/5000	40450	236	-35 °C to +40 °C	915 400 A5 BC
520C	■ 750/5000	52880	313	-35 °C to +30 °C	915 520 A5 BC
650C	■ 750/5000	65070	400	-35 °C to +30 °C	915 650 A5 BC

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

LIDC characteristic / A

2 = narrow beam (with individual reflectors)
 3 = medium beam (without)
 4 = wide beam (DDP prism screen)
 8 = concentrated beam (DDP prism screen + single reflectors)

Cover screen / B

4 = PC (fracture proof), clear
 6 = single pane safety glass, clear

Installation type / C

2 = swivel bracket
 6 = prepared for suspension system

CENTAURUS – VERSION VHT

Version		Luminous flux/lm	System power/W	Ambient temperature luminaire	Ambient temperature driver	Article no.
270W VHT	■ 830/3000	22340	150	-35 °C to +85 °C	-35 °C to +55 °C	915 271 A3 6C
400W VHT	■ 830/3000	33530	236	-35 °C to +80 °C	-35 °C to +45 °C	915 401 A3 BC
520W VHT	■ 830/3000	43570	313	-35 °C to +70 °C	-35 °C to +40 °C	915 521 A3 BC
650W VHT	■ 830/3000	53200	400	-35 °C to +60 °C	-35 °C to +35 °C	915 651 A3 BC
270N VHT	□ 840/4000	23520	150	-35 °C to +85 °C	-35 °C to +55 °C	915 271 A4 6C
400N VHT	□ 840/4000	35320	236	-35 °C to +80 °C	-35 °C to +45 °C	915 401 A4 BC
520N VHT	□ 840/4000	45860	313	-35 °C to +70 °C	-35 °C to +40 °C	915 521 A4 BC
650N VHT	□ 840/4000	56000	400	-35 °C to +60 °C	-35 °C to +35 °C	915 651 A4 BC
270C VHT	■ 750/5000	25530	150	-35 °C to +85 °C	-35 °C to +55 °C	915 271 A5 6C
400C VHT	■ 750/5000	37320	236	-35 °C to +80 °C	-35 °C to +45 °C	915 401 A5 BC
520C VHT	■ 750/5000	48250	313	-35 °C to +70 °C	-35 °C to +40 °C	915 521 A5 BC
650C VHT	■ 750/5000	59030	400	-35 °C to +60 °C	-35 °C to +35 °C	915 651 A5 BC

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

LIDC characteristic / A

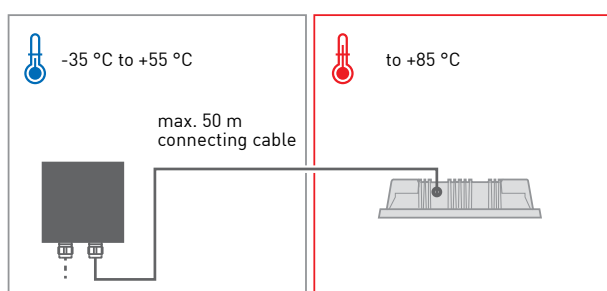
2 = narrow beam (with individual reflectors)
 3 = medium beam (without)

Cover screen / B

4 = PC clear (fracture proof), clear, not for versions VHT 270
 6 = single pane safety glass, clear

Installation type / C

2 = swivel bracket
 6 = prepared for suspension system

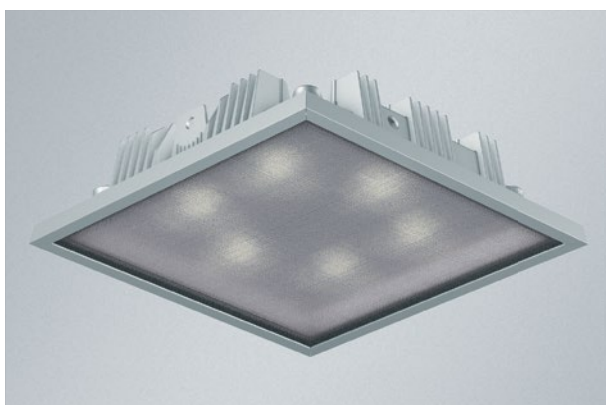


> Through the use of an external driver, version VHT can be used in areas up to +85 °C.

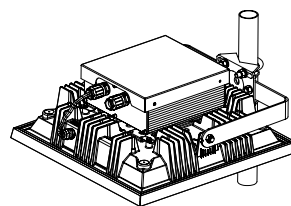
Precise ambient temperatures can be found in the item table.

CENTAURUS OPTIONS

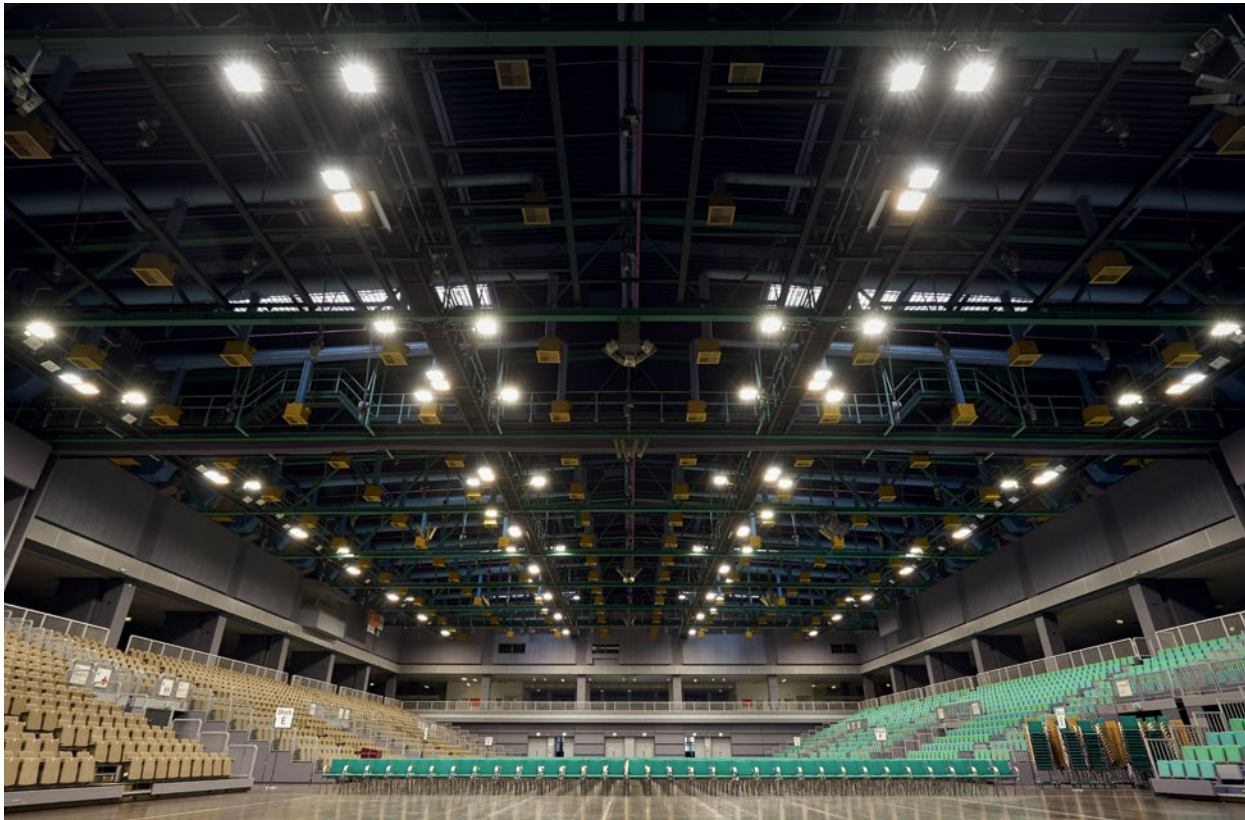
Version	Article no.
DALI	100 502
Ball impact resistant version via locking swivel bracket	915 007
Vibration-proof version with anti-vibration damper (swivel bracket for crane fixing)	915 190
Version for harsh operating conditions	915 192
Swimming pool version for suspension system	915 036
Swimming pool version with swivel bracket	915 191
Outdoor version	915 016
Cover coated, increased resistance to acids, bases, and cleaning agents	915 010
Further colour temperatures	available on request
Pole mounting version, including swivel bracket and mounting clamp for pole top Ø 96-110 mm	915 125



> CENTAURUS with DDP prism screen



> CENTAURUS with pole mounting option and as outdoor version, article no. 915 125 and 915 016

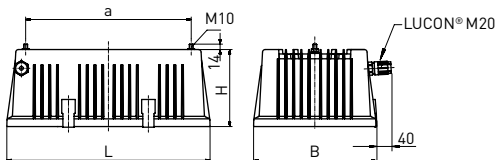


POLARIS

LED







POLARIS with fixing bolts



More dimensioned drawings available on the Internet

XARA® lighting control
(see introduction and app. B)

K Further colour temperatures available on request

-  medium beam
PMMA Transopal®
(impact strengthened)
-  asymmetric beam
Single pane safety glass or
PC (fracture proof) clear
with asymmetric deglare
-  narrow beam single pane
safety glass, structured
-  concentrated beam
Safety glass clear or
PC clear

Lamp	Version	L	B	H	a	Max. weight
LED array	with mounting bolts	528 mm	318 mm	200 mm	430 mm	11.0 kg
LED array	with swivel bracket, crosswise	589 mm	357 mm	340 mm	430 mm	13.0 kg
LED array	with swivel bracket, lengthwise	567 mm	380 mm	445 mm	123 mm	13.0 kg
LED array	prepared for suspension system	528 mm	318 mm	200 mm	430 mm	11.0 kg

AREAS OF APPLICATION

Floodlights with LED array. Useable in cold storage, warehouses, dispatch and outdoor facilities and industrial cranes, as well as, optionally, environments containing chlorine, such as swimming pools. **POLARIS HT version up to +70 °C.**

HOUSING

Robust luminaire housing, made of cast aluminium with coated surface, colour similar to RAL 9006. Useable for indoor and outdoor areas according to protection rating IP 65. Sealing system made of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

Hinged, frameless cover screen made of PC (fracture proof) clear, safety glass cover screen (single pane) clear or structured safety glass cover screen (single pane). Internal aluminium reflector (MIRO-SILVER®) with adapter for a prism screen for asymmetric (ADP), circular (CDP) or linear (LDP) deglare.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Supply voltage 220-240 V AC/DC. Two types are available:
1. POLARIS: Built-in DALI-driver. Ready for connection via LUCON® luminaire connection system.
2. POLARIS HT up to +70 °C: Driver in separate housing IP 65, max. ambient temperature +35 °C. Luminaire and external driver connectable over max. 10 m with 3 x 1.5 mm² connecting cable. The connecting cable must be provided on site.

MOUNTING

Ceiling installation with two fixing bolts M10 or stainless steel swivel bracket. Pole-mount adapter for swivel bracket (lengthwise or crosswise) or ceiling plate for short ceiling mounting distances optionally available (see accessories). Lengthwise pole attachment also available. Suspension system possible. Optional anti-vibration damper (not chlorine-resistant, only suspended installation) for cranes.

POLARIS

Version		Luminous flux/lm	System power/W	Ambient temperature	Article no.
HT*	■ 830/3000	9800	80	-35 °C to +70 °C	988 122 13 AB
186W	■ 830/3000	15440	115	-35 °C to +45 °C	988 187 03 AB
248W	■ 830/3000	19900	162	-35 °C to +40 °C	988 248 03 AB
HT*	□ 840/4000	10200	80	-35 °C to +70 °C	988 122 14 AB
186N	□ 840/4000	16110	115	-35 °C to +45 °C	988 187 04 AB
248N	□ 840/4000	20820	162	-35 °C to +40 °C	988 248 04 AB
HT*	■ 750/5000	11600	80	-35 °C to +70 °C	988 122 15 AB
186C	■ 750/5000	18250	115	-35 °C to +45 °C	988 187 05 AB
248C	■ 750/5000	23520	162	-35 °C to +40 °C	988 248 05 AB

* Driver in external housing

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

Cover screen / A

- 4 = PC (fracture proof), clear
- 6 = single pane safety glass, clear
- 7 = single pane safety glass, textured

Installation type / B

- 1 = ceiling mounting with 2 x M10 bolts
- 2 = swivel bracket, lengthwise
- 3 = swivel bracket, crosswise
- 4 = swivel bracket, anti vibration damper, lengthwise
- 5 = swivel bracket, anti vibration damper, crosswise
- 6 = prepared for suspension system



NOTICE REGARDING LIDC LIGHTING CHARACTERISTIC

You can obtain your required lighting characteristic as follows:

Lighting characteristic	Cover screen / A	Additional screen (see accessories)
concentrated beam	4 = PC (fracture proof), clear	-
	6 = single pane safety glass, clear	-
medium beam	4 = PC (fracture proof), clear	+ PMMA Transopal®
	6 = single pane safety glass, clear	+ PMMA Transopal®
asymmetric beam	4 = PC (fracture proof), clear	+ ADP prism screen:
	6 = single pane safety glass, clear	+ ADP prism screen:
narrow beam	7 = single pane safety glass, textured	-

The additional screen must be ordered separately.

For additional articles, please turn the page! ►

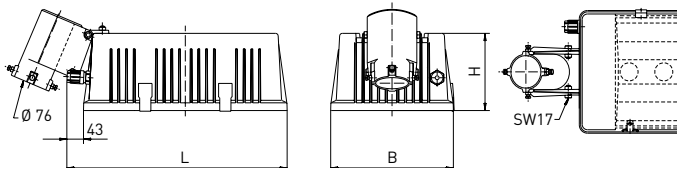
POLARIS OPTIONS

Version	Article no.
Polymer cable glands with strain relief, M20	988 936
Ball impact resistant version including ceiling bracket (pair)	982 110
Ball impact resistant version via locking swivel bracket	982 007
Vibration-proof version with anti-vibration damper (swivel bracket for crane fixing)	982 189
Version for harsh operating conditions	982 193
Coating to RAL	988 960
Halogen-free version	988 032
Swimming pool version prepared for suspension system	988 036
Swimming pool version with swivel bracket, crosswise	982 108
Further colour temperatures	available on request

POLARIS ACCESSORIES

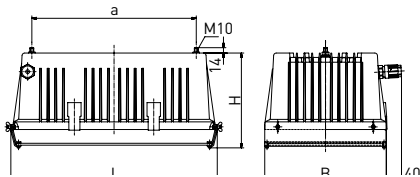
Version	Article no.
ADP prism screen, asymmetric deglare (asymmetric beam)	988 501
CDP prism screen, circular deglare	988 502
LDP prism screen, linear deglare (linear to the luminaire)	988 503
Additional screen PMMA Transopal® (impact strengthened), medium beam	988 504
Ceiling bracket for short ceiling distance (pair)	982 109
Pole-mount adapter for swivel bracket for a pole top diameter of 70 to 89 mm	982 125
Pole-mount adapter for swivel bracket for a pole top diameter of 96 to 110 mm	982 126
Wearing screen with frame	982 103
Pole-mount adapter, can be swivelled and locked from 8° to 53°, for pole top diameter of 76 mm	982 128

POLARIS ACCESSORIES



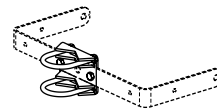
> POLARIS with pole-mount adapter

Can be swivelled and locked 8° to 53°, for pole top diameter 76 mm
Pole-mount adapter, article no. 982 128



> POLARIS with wearing screen

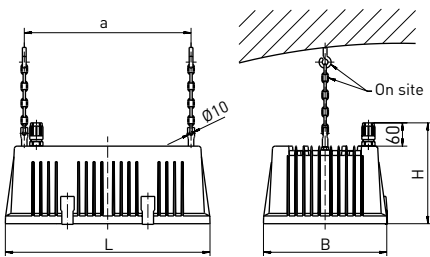
Wearing screen, article no. 982 103



> Pole-mount adapter for swivel bracket

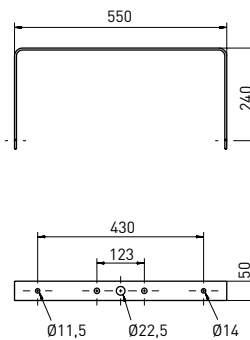
For pole top diameter 70 - 89 mm
96 - 110 mm

article no. 982 125
article no. 982 126



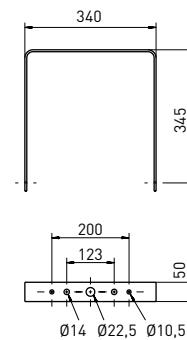
> POLARIS for suspension system

Suspension system and ceiling installation have to be provided on site



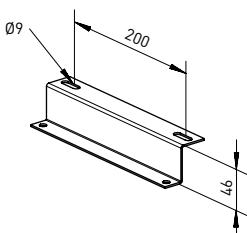
> Swivel bracket

Fixed crosswise
Dimensions in mm ± 2 mm

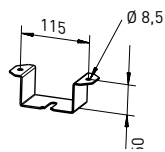


> Swivel bracket

Fixed lengthwise
Dimensions in mm ± 2 mm



> Ceiling bracket for ball impact resistant version
(see options)
(pair), article no. 982 110

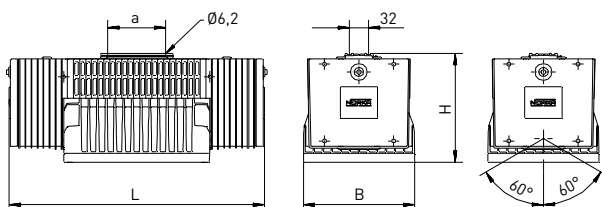


> Ceiling bracket for short ceiling distance
(pair), article no. 982 109

Lamp	Version	L	B	H	a	b	Max. weight
LED array	with pole attachment	571 mm	318 mm	200 mm	-	-	14.0 kg
LED array	with wearing screen	540 mm	318 mm	248 mm	430 mm	-	14.0 kg
LED array	for suspension system	528 mm	318 mm	260 mm	430 mm	-	11.0 kg






URANUS

LED



XARA® lighting control
[see introduction and app. B]

K Further colour temperatures available on request

-  extreme wide beam
-  wide beam
CDP prism screen
-  medium beam
PMMA Transopal® (impact strengthened) screen
-  narrow beam
-  concentrated beam

Lamp	Version	L	B	H	a	b	Max. weight
LED array	Floodlight	424 mm	185 mm	180 mm	96 mm	-	4.7 kg

AREAS OF APPLICATION

Floodlight with LED array. Useable in industrial facilities with different mounting heights, for illuminating buildings and advertising spaces and for car park illumination, among others.

HOUSING

Weather-proof and UV-resistant luminaire housing made of fibreglass-reinforced polymer. Reflector housing made of cast aluminium, similar to RAL 9005. Reflector housing swivelling and locking up to 120°. Thermally separated lamp chamber and driver chamber. Sealing system made of age-resistant, form-retaining silicone/synthetic rubber. Useable for indoor and outdoor areas according to protection rating IP 65. Protection class II.

LIGHTING TECHNOLOGY

Cover screen made of single pane safety glass (ECG), PC (fracture proof), clear with internal aluminium reflector made of MIRO-SILVER®.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver 230-240 V AC/DC, optionally suitable for emergency lighting. Two cable glands on face side M20 and 5 x 2.5 mm² through wiring. Two additional, concealed cable glands M20 at rear.

MOUNTING

Single Mounting. Ceiling or wall fixing using aluminium mounting clamp. Wall and pole bracket optionally available [see accessories].

URANUS

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
077W ■ 830/3000	7100	58	-25 °C to +35 °C	967 077 A3 B9
113W ■ 830/3000	10290	84	-25 °C to +35 °C	967 113 A3 B9
077N □ 840/4000	7390	58	-25 °C to +35 °C	967 077 A4 B9
113N □ 840/4000	10740	84	-25 °C to +35 °C	967 113 A4 B9
077C ■ 750/5000	8320	58	-25 °C to +35 °C	967 077 A5 B9
113C ■ 750/5000	12160	84	-25 °C to +35 °C	967 113 A5 B9

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

LIDC characteristic / A

2 = narrow beam
 3 = medium beam (PMMA Transopal®
 (impact strengthened) additional screen)
 4 = wide beam (circular deglare prism screen)
 5 = extreme wide beam
 8 = concentrated beam

Cover screen / B

4 = PC (fracture proof) clear
 6 = single pane safety glass, clear

URANUS OPTIONS

Version	Article no.
DALI	100 502
RAL finish	967 960
Cover coated, increased resistance to acids, bases, and cleaning agents (anti-graffiti coating)	967 010
Further colour temperatures	available on request
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
Swimming pool version	967 036
Version for operation on PASSAU LED	see p. 192

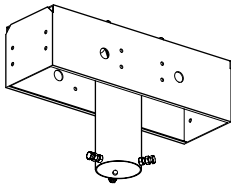


> Aluminium mounting clamps, included in scope of delivery

For additional articles, please turn the page! ►

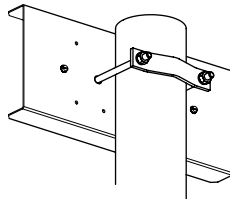
URANUS ACCESSORIES

Version	Article no.
Pole bracket, 4 units, stainless steel, pole top 60-76 mm diameter	967 971
Pole bracket, 1 unit, anodised aluminium, black, pole top 50-110 mm diameter	967 905
Eyebolts M6 (pair), galvanised steel, for pendant installation	967 901
Ground spike, anodised aluminium, black, 35 cm above ground	967 903
Ground spike, anodised aluminium, black, 100 cm above ground	967 904
Anti-vibration damper	967 935



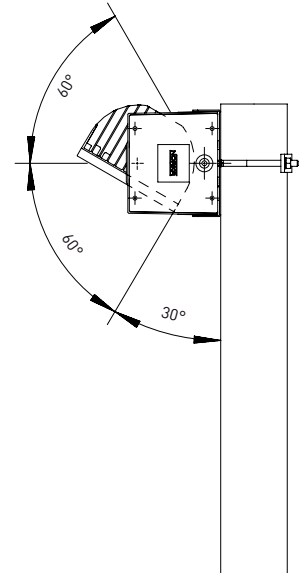
> Pole bracket 4 units

Stainless steel, pole top diam. 60 - 76 mm, article no. 967 971



> Pole bracket 1 units

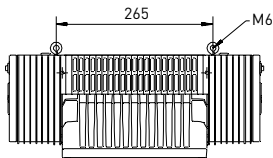
Anodised aluminium, black, pole top diam. 50 - 110 mm, article no. 967 905



> URANUS spotlight swivelled

On pole bracket 1 unit.

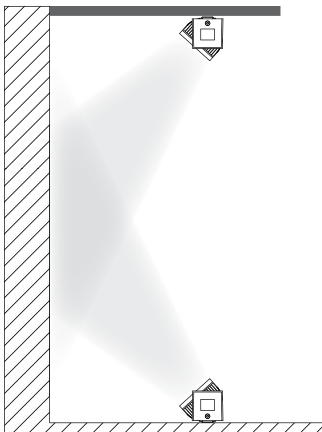
NOTE: limited mounting options



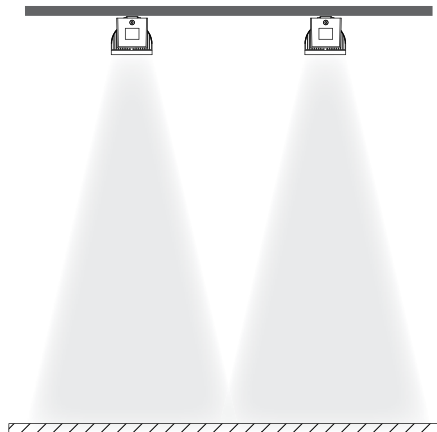
> Eyebolts M6 (pair)

Galvanised steel, for suspension system, article no. 967 901

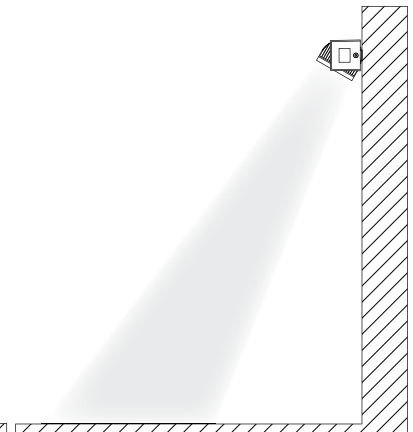
URANUS SAMPLE APPLICATIONS



> Façade illumination from below/above



> Illumination of rooms/halls/workshops

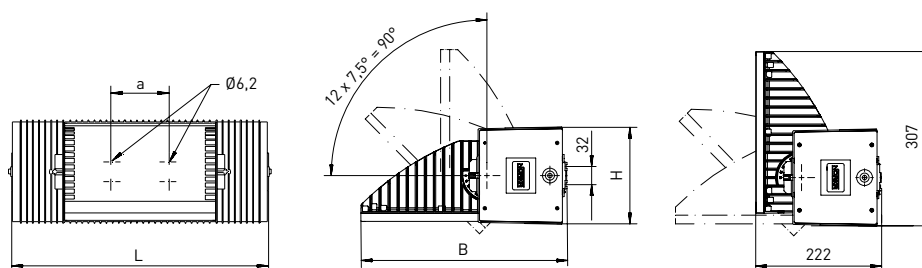



> Illumination of traffic areas and forecourts




URANUS PF

LED



 asymmetric beam

 **XARA® lighting control**
[see introduction and app. B]

 Further colour temperatures available on request

Lamp	Version	L	B	H	a	b	Max. weight
LED array	Plane floodlight	424 mm	364 mm	170 mm	96 mm	-	5.4 kg

AREAS OF APPLICATION

Floodlight with LED array. Useable in industrial facilities with different mounting heights, for illuminating buildings and advertising spaces and for car park illumination, among others.

HOUSING

Weather-proof and UV-resistant luminaire housing made of fibreglass-reinforced polymer. Reflector housing made of cast aluminium, similar to RAL 9005. Reflector housing swivelling and locking up to 90°. Thermally separated lamp chamber and driver chamber. Sealing system made of age-resistant, form-retaining silicone/synthetic rubber. Useable for indoor and outdoor areas according to protection rating IP 65. Protection class II.

LIGHTING TECHNOLOGY

Cover screen made of single pane safety glass (ECG), PC (fracture proof), clear with internal aluminium reflector made of MIRO-SILVER®.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver, 230-240 V AC/DC, optionally suitable for emergency lighting. Two cable glands on face side M20 and 5 x 2.5 mm² through wiring. Two additional, concealed cable glands M20 at rear.

MOUNTING

Single Mounting. Ceiling or wall fixing using aluminium mounting clamp. Wall and pole bracket optionally available [see accessories].

URANUS PF, ASYMMETRIC BEAM

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
077W ■ 830/3000	7100	58	-25 °C to +35 °C	968 077 13 A9
113W ■ 830/3000	10290	84	-25 °C to +35 °C	968 113 13 A9
077N 840/4000	7390	58	-25 °C to +35 °C	968 077 14 A9
113N 840/4000	10740	84	-25 °C to +35 °C	968 113 14 A9
077C ■ 750/5000	8320	58	-25 °C to +35 °C	968 077 15 A9
113C ■ 750/5000	12160	84	-25 °C to +35 °C	968 113 15 A9

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

Cover screen / A

4 = PC (fracture proof) clear
6 = single pane safety glass

URANUS PF OPTIONS

Version	Article no.
DALI	100 502
RAL finish	967 960
Cover coated, increased resistance to acids, bases, and cleaning agents (anti-graffiti coating)	967 010
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
Further colour temperatures	available on request
Swimming pool version	967 036
Version for operation on PASSAU LED	see p. 192

URANUS PF ACCESSORIES

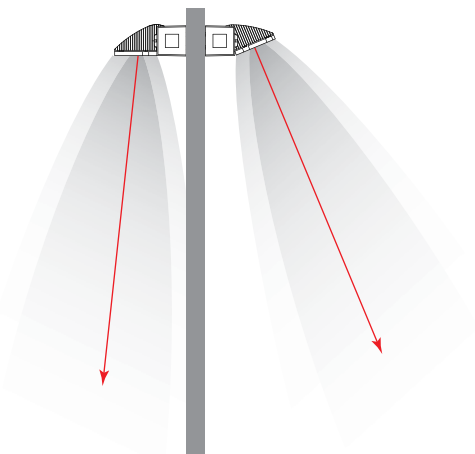
Version	Article no.
Pole bracket, 4 units, stainless steel, pole top 60-76 mm diameter	967 971
Pole bracket, 1 unit, anodised aluminium, black, pole top 50-110 mm diameter	967 905
Ground spike, anodised aluminium, black, 35 cm above ground	967 903
Ground spike, anodised aluminium, black, 100 cm above ground	967 904
Anti-vibration damper	967 935



> Aluminium mounting clamps, included in scope of delivery

URANUS PF, SAMPLE APPLICATIONS

> Illumination of car parks and forecourts with URANUS PF, external rotation in 12 x 7.5° stages





ZKL 11

ZKL 12

ZKL 4

HACCP/IFS CERTIFIED LUMINAIRES

Any company that produces, processes or stores foodstuffs is subject to strict hygiene regulations. The Hazard Analysis and Critical Control Point (HACCP) concept has been enshrined in German law through the Food Hygiene Regulation since 1998. This is a preventative system for the safety

of foodstuffs and consumers. Safety that also has to be reflected in the installed lighting system. Specific rules and standards stipulate that the lamp must be covered. This excludes the possibility of glass entering the production line following a lamp breakage. However, at the same time

the actual lamp diffusers must not pose any hazards. NORKA luminaires can be installed in food processing companies and will allow for a positive IFS certification, where the luminaires are an integral part of the overall operation.



HACCP/IFS CERTIFIED LUMINAIRES

INDEX

IFS and HACCP declarations of conformance can be found on norka.com



HACCP
IFS



BITBURG LED 148



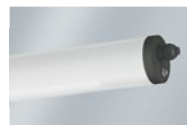
BITBURG LED EXTREME 150



ERFURT LED 52
> Luminaires for recessed and surface ceiling mounting



MÜNCHEN LED 86
> Luminaires for recessed and surface ceiling mounting



ZUG LED 122
> Tubular luminaires



CENTAURUS 130
> Floodlights



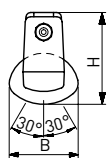
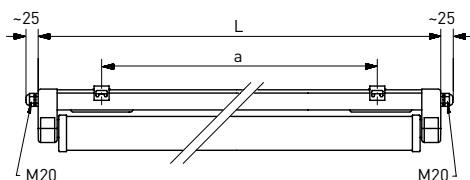
COBURG LED 190
> Emergency and safety luminaires



POLYMER MOUNTING RAIL 205
> Mounting rails

BITBURG LED

LED



- FOCUSSED LIGHTING**
(see appendix E)
- XARA® lighting control**
(see introduction and app. B)
- K** Further colour temperatures
(see appendix D)



Lamp	Version	L	B	H	a	Max. weight
LED	m1200	1251 mm	107 mm	140 mm	980 ± 80 mm	3.3 kg
LED	m1500	1551 mm	107 mm	140 mm	1280 ± 80 mm	4.2 kg

AREAS OF APPLICATION

Polymer luminaire for surface ceiling and wall surface-mounting for HACCP/IFS applications with LED lamps, single lamp. Useable in production facilities and suppliers in the food and beverage industry.

HOUSING

Acid, alkaline and fuel-resistant luminaire housing made of fibreglass reinforced polymer, similar to RAL 9010. Useable for indoor and outdoor areas according to protection rating IP 65, IP 66 and IP 67. Suitable for intensive cleaning processes using pressure washers due to high protection rating IP 69K. Thermally separated lamp chamber and driver chamber. Short sealing system consisting of age-resistant, form-retaining silicone/synthetic rubber. Profile including coating for increased resistance against acids, bases, and cleaning agents.

LIGHTING TECHNOLOGY

Reflector tube that can be swivelled made of PMMA Transopal® (impact strengthened) or PC Tropolal® (fracture proof) with internal aluminium reflector (MIRO-SILVER®). Reflector tube can be locked in increments of 10°.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver 230 V AC/DC, optionally suitable for emergency lighting. Two access covers, two cable glands on face side M20 and 4 x 1.5 mm² through wiring. 2 kV transient filter.

MOUNTING

Single or row mounting. Ceiling installation using two stainless steel mounting clamps, variable mounting distance. Captive end caps.

BITBURG LED

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no. + MC
m1200 <input type="checkbox"/> 840/4000	2600 - 3420 - 6270	16 - 20 - 36	-25 °C to +40 °C	645 480 A4 B4 - E - ...
m1500 <input type="checkbox"/> 840/4000	4270 - 5280 - 7830	25 - 30 - 44	-25 °C to +40 °C	645 680 A4 B4 - E - ...

Standard luminous flux T8, for other lumen packages, see appendix E

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

LIDC characteristic / A

2 = narrow beam
3 = medium beam
4 = wide beam

Reflector tube / B

2 = PMMA Transopal® (impact strengthened)
8 = PC Tropol® (fracture proof)

BITBURG LED OPTIONS

Version	Article no.
DALI	100 502
RAL finish	645 960
Through wiring 4 x 2.5 mm ²	645 824
Through wiring 5 x 1.5 mm ²	645 834
Through wiring 5 x 2.5 mm ²	645 394
Cover coated, increased resistance to acids, bases, and cleaning agents (anti-graffiti coating)	645 010
Halogen-free version	645 032
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
Version for operation on PASSAU LED	see p. 192
Inrush current limiter (including 4 kV transient filter)	100 922
Further colour temperatures	see appendix D
HCL (Human Centric Lighting)	available on request

BITBURG LED ACCESSORIES

Version	Article no.
Polymer mounting clamps, for chlorine / acidic atmospheres (pair)	200 226
Safety clip / theft protection (only in connection with standard mounting)	200 224
Quick mounting clamps (pair)	202 220



➤ Stainless steel mounting clamps, included in scope of delivery

The requirements in terms of technology and equipment in production facilities for the food processing and beverage industry and their suppliers are particularly high and are increasing constantly. Measures to avert risks to health complying with the principles of the **HACCP** concept (Hazard Analysis Critical Control Point) for production hygiene, cleaning and disinfection are prerequisites. HACCP is a key criterion of the **IFS** (International Food Standard) in terms of quality system requirements.

NORKA has catered for the requirements of the food processing and beverage industry and work pit sectors for many years, offering a variety of luminaires that are able to withstand the following risks:

➤ Protection against glass fragments

- Protection against falling metal pieces
- Chemical resistance
- Mechanical resistance
- Protection rating up to IP 69K
- Temperature (heat/cold)
- Easy maintenance and cleaning

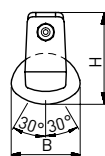
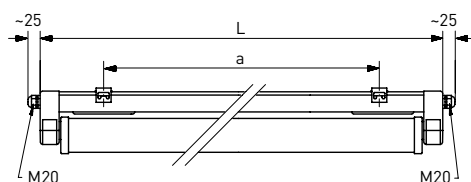
APPLICATIONS:

- Production facilities and suppliers in the food and beverage industry
- Production facilities with raised ambient temperatures
- Cold stores
- Work pits and maintenance areas

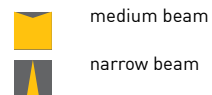
IFS and HACCP declarations of conformance can be found on norka.com

BITBURG LED EXTREME

LED



XARA® lighting control
(see introduction and app. B)



Lamp	Version	L	B	H	a	Max. weight
LED	m1200	1251 mm	107 mm	140 mm	980 ± 80 mm	3.3 kg
LED	m1500	1551 mm	107 mm	140 mm	1280 ± 80 mm	4.2 kg

AREAS OF APPLICATION

Polymer luminaire for surface ceiling and wall-surface mounting for HACCP/IFS applications with LED lamps, single lamp. Useable in production facilities and suppliers in the food and beverage industry **with a long service life at up to +65 °C.**

HOUSING

Acid, alkaline and fuel-resistant luminaire housing made of fibre-glass-reinforced polymer, similar to RAL 9010. Useable for indoor and outdoor areas according to protection rating IP 65, IP 66 and IP 67. Suitable for intensive cleaning processes using pressure washers due to high protection rating IP 69K. Thermally separated lamp chamber and driver chamber. Short sealing system consisting of age-resistant, form-retaining silicone/synthetic rubber. Profile including coating for increased resistance against acids, bases, and cleaning agents.

LIGHTING TECHNOLOGY

Reflector tube that can be swivelled made of PMMA Transopal® (impact strengthened) or PC Tropolal® (fracture proof) with internal aluminium reflector (MIRO-SILVER®). Reflector tube can be locked in increments of 10°.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver 230 V AC/DC, optionally suitable for emergency lighting. Two access covers, two cable glands on face side M20 and 4 x 1.5 mm² through wiring.

L80 B10 >100,000 h at +65 °C.
4 kV transient filter.

MOUNTING

Single or row mounting. Ceiling installation using two stainless steel mounting clamps, variable mounting distance. Captive end caps.

BITBURG LED EXTREME

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1200 <input type="checkbox"/> 840/4000	4030	28	-40 °C to +65 °C	647 480 A4 B1
m1500 <input type="checkbox"/> 840/4000	5050	35	-40 °C to +65 °C	647 680 A4 B1

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

LIDC characteristic / A

2 = narrow beam
3 = medium beam

Reflector tube / B

2 = PMMA Transopal® (impact strengthened)
8 = PC Tropol® (fracture proof)

BITBURG LED EXTREME OPTIONS

Version	Article no.
DALI	100 502
RAL finish	645 960
Through wiring 4 x 2.5 mm ²	645 824
Through wiring 5 x 1.5 mm ²	645 834
Through wiring 5 x 2.5 mm ²	645 394
Cover coated, increased resistance to acids, bases, and cleaning agents (anti-graffiti coating)	645 010
Halogen-free version	645 032
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
Inrush current limiter (including 4 kV transient filter)	100 922
HCL (Human Centric Lighting)	available on request

BITBURG LED EXTREME ACCESSORIES

Version	Article no.
Polymer mounting clamps, for chlorine / acidic atmospheres (pair)	200 226
Safety clip / theft protection (only in connection with standard mounting)	200 224
Quick mounting clamps (pair)	202 220



> Stainless steel mounting clamps, included in scope of delivery





VANDALISM-PROOF LUMINAIRES

NORKA specialises in solutions for the lighting of public and unsupervised areas. The luminaires installed in these areas are sometimes at risk of deliberate or negligent destruction. High mechanical impact forces destroy the luminaire housings. But not the vandalism-proof luminaires from

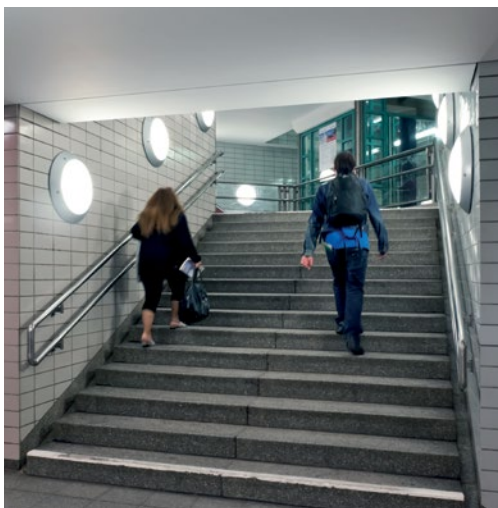
NORKA. The design and construction of these luminaires protects them to a level far exceeding the protection rating. Our luminaires remain intact despite the effects of massive forces of up to 150 joules. In addition to this, they cannot be opened or manipulated without special tools (different keys

are optionally available). This makes them particularly interesting for use in prisons. Under the premise of safer, longer lasting lighting, vandalism-proof luminaires from NORKA offer effective protection against destruction.



VANDALISM-PROOF LUMINAIRES

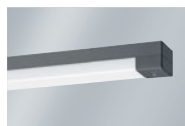
INDEX



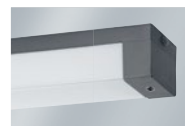
BELFAST 156



PHALANX 158
430/620



PHALANX 160
LINEAR 75



PHALANX 162
LINEAR 115



PHALANX 164
LINEAR 200



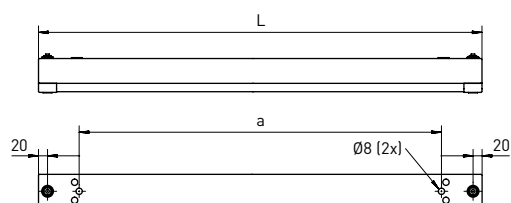
PHALANX 166
LINEAR 240



ZUG LED AL 168

BELFAST

LED



 **XARA® lighting control**
(see introduction and app. B)



medium beam



medium beam with indirect uplighting

Lamp	Version	L	B	H	a	b	Max. weight
LED	m600	700 mm	75 mm	75 mm	520 mm	—	3.4 kg
LED	m1200	1260 mm	75 mm	75 mm	1080 mm	—	5.8 kg
LED	m1500	1540 mm	75 mm	75 mm	1360 mm	—	7.6 kg

AREAS OF APPLICATION

Extremely impact-resistant surface mounted ceiling luminaire with LED lamps. Vandalism-proof up to 150 joules. Useable in prisons, detention cells and all areas at risk of deliberate or negligent vandalism, as well as pedestrian underpasses and tunnels.

HOUSING

Luminaire housing made of stainless steel, polished (protection rating IP 44) with integrated polymer luminaire. Useable for indoor and outdoor areas according to protection rating IP 65. Anti-graffiti coating for lamp diffuser protects against dirt and paint residue, optionally available (see options).

LIGHTING TECHNOLOGY

Rectangular, 4 mm thick lamp diffuser made of PC (fracture proof), opal white or PC (fracture proof), clear textured.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver 230 V AC/DC, optionally suitable for emergency lighting. Two rearward, concealed cable entries M20 and 4 x 1.5 mm² through wiring (only m1200 and m1500).

L80 B10 > 100,000 h at +35 °C. Retains operation in case of vandalism.

MOUNTING

Single or row mounting. Ceiling or wall fixing with two concealed rear mounting apertures. Luminaire cover fixing with two stainless steel sealing screws with hexagon sockets. Special screws optionally available (see options).

BELFAST

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m600 <input type="checkbox"/> 840/4000	2660	21	-25 °C to +35 °C	656 280 A4 B1
m1200 <input type="checkbox"/> 840/4000	5330	38	-25 °C to +35 °C	656 480 A4 B1
m1500 <input type="checkbox"/> 840/4000	6660	47	-25 °C to +35 °C	656 680 A4 B1

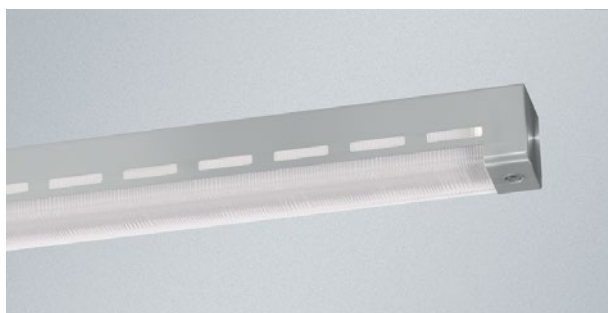
When ordering, please replace the highlighted letters with the corresponding numbers

LIDC characteristic / A

0 = medium beam with indirect uplighting
3 = medium beam

Luminaire cover / B

0 = PC (fracture proof), opal white
9 = PC (fracture proof), clear textured



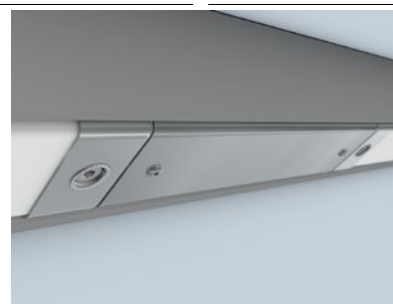
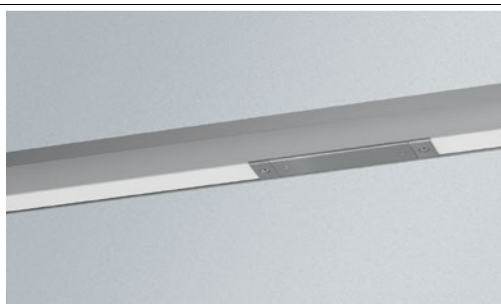
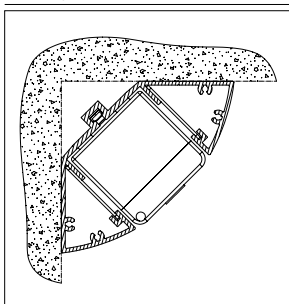
> BELFAST medium beam with indirect uplighting, PC (fracture proof), clear textured

BELFAST OPTIONS

Version	Article no.
DALI	100 502
Special screw, semi-circle (requires special tool)	700 001
Special screw, three hole (requires special tool)	700 002
Special screw, oval (requires special tool)	700 003
Through wiring 4 x 2.5 mm ² (only m1200 and m1500)	656 822
Through wiring 5 x 1.5 mm ² (only m1200 and m1500)	656 832
Through wiring 5 x 2.5 mm ² (only m1200 and m1500)	656 392
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	656 010
Halogen-free version	656 007
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
RAL finish	available on request
Version for trunking system (see accessories)	100 904

BELFAST ACCESSORIES

Version	Article no.
Trunking system for corner mounting, aluminium, silver anodised, per full metre section, max. 4 m	650 100
Blind cover of trunking system, stainless steel, length 1540 mm	650 114
Key for semi circle screw	734 007
Key for three hole nut/screw	734 008
Key for oval screw	717 008
Endcap	650 115

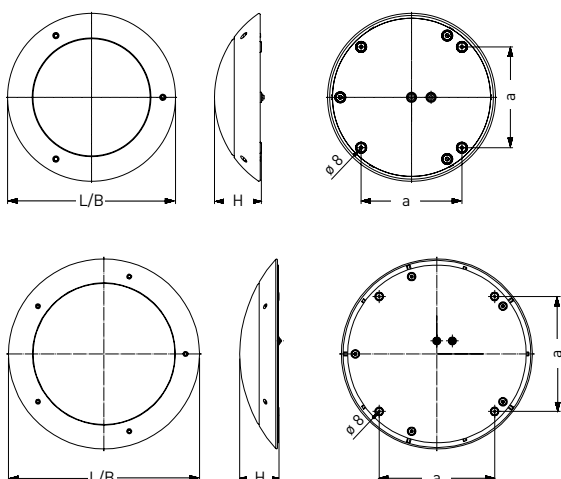


> Trunking system for BELFAST made of aluminium, article no. 650 100


> Blind cover made of stainless steel for trunking system, article no. 650 114

PHALANX 430/620

LED



 **XARA® lighting control**
(see introduction and app. B)

 medium beam

Lamp	Version	L	B	H	a	b	Max. weight
LED	430	430 mm	430 mm	120 mm	258 mm	—	5.8 kg
LED	620	620 mm	620 mm	128 mm	375 mm	—	11.5 kg

AREAS OF APPLICATION

Extremely impact-resistant surface mounted luminaire with LED lamps. Vandalism-proof up to 150 Joule while retaining full operation. Useable in all areas at risk of deliberate or negligent destruction.

HOUSING

Luminaire housing made of cast aluminium, powder coated RAL 7016. Useable for indoor and outdoor areas according to protection rating IP 65. Anti-graffiti coating for lamp diffuser protects against dirt and paint residue, optionally available (see options).

LIGHTING TECHNOLOGY

Convex, 4 mm thick lamp diffuser made of PC (fracture-proof), opal white.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver 230 V AC/DC, optionally suitable for emergency lighting. Two rear-mounted cable entries M20.

L80 B10 > 100,000 h at +30 °C/+40 °C (PHALANX 430/620). Retains operation in case of vandalism. 8 years warranty.

MOUNTING

Single mounting. Ceiling or wall fixing with four concealed mounting apertures on the rear. Special caps optionally available (see options).

PHALANX, PC (FRACTURE PROOF), OPAL WHITE, MEDIUM BEAM

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
430 <input type="checkbox"/> 840/4000	1970	15	-25 °C to +30 °C	318 480 34 01 - E
430 <input type="checkbox"/> 840/4000	2500	18	-25 °C to +30 °C	318 480 34 02 - E
620 <input type="checkbox"/> 840/4000	3030	23	-40 °C to +40 °C	319 680 34 01
620 <input type="checkbox"/> 840/4000	5450	41	-40 °C to +40 °C	319 680 34 02

PHALANX 430/620 OPTIONS

Version	Article no.
DALI 430 / 620	100 502
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	318 010
Special nut, three holes	318 009
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
RAL finish	available on request

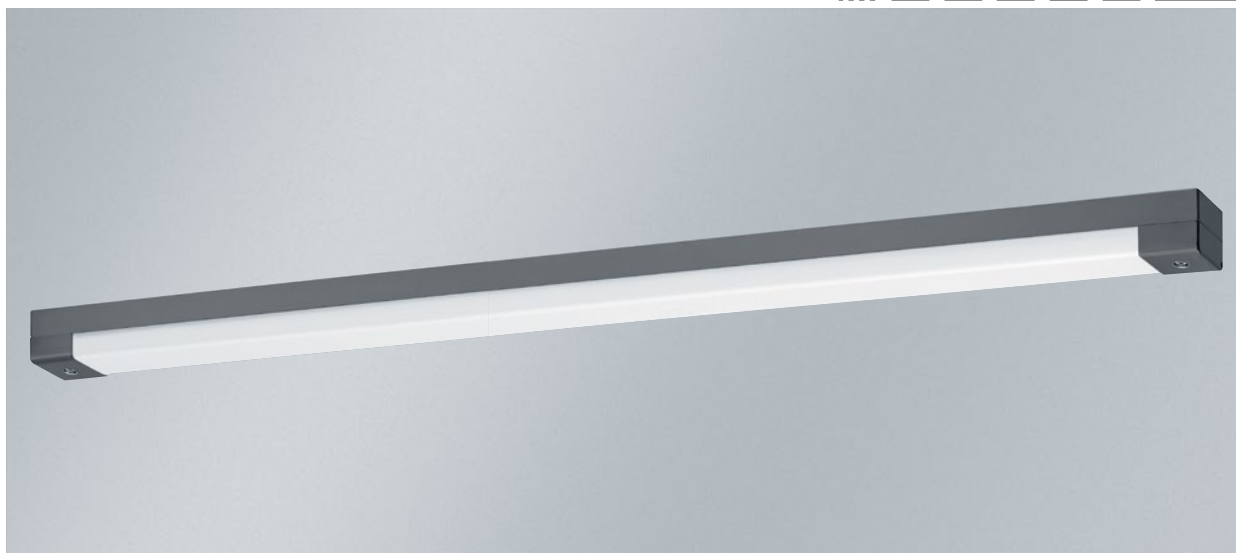
PHALANX 430/620 ACCESSORIES:

Version	Article no.
Key for three hole nut/screw	734 008



PHALANX LINEAR 75

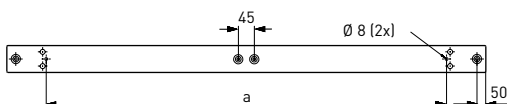
LED



 **XARA® lighting control**
(see introduction and app. B)



medium beam



Lamp	Version	L	B	H	a	b	Max. weight
LED	m1200	1340 mm	75 mm	75 mm	1120 mm	—	5.3 kg
LED	m1500	1640 mm	75 mm	75 mm	1420 mm	—	6.5 kg

AREAS OF APPLICATION

Extremely impact-resistant surface mounted ceiling luminaire with LED lamps. Vandalism-proof up to 150 joules. Useable in prisons, detention cells and all areas at risk of deliberate or negligent destruction.

HOUSING

Luminaire housing made of metal, powder coated RAL 7016, protection rating IP 44. Anti-graffiti coating for lamp diffuser protects against dirt and paint residue, optionally available (see options).

LIGHTING TECHNOLOGY

Rectangular, 4 mm thick lamp diffuser made of PC (fracture proof) opal white or PC (fracture proof) clear, textured.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver, 230 V AC/DC, optionally suitable for emergency lighting. LED unit exchangeable. Four rear-mounted cable entries M20 and 3 x 1.5 mm² through wiring.

L80 B10 > 100,000 h at +40 °C.
Retains functionality in case of vandalism. 8 years warranty.

MOUNTING

Single or row mounting. Ceiling or wall fixing with two concealed rear mounting apertures. Luminaire cover fixing with two stainless steel sealing screws with hexagon sockets. Special screws optionally available (see options).

PHALANX LINEAR 75, PC (FRACTURE PROOF), OPAL WHITE, MEDIUM BEAM

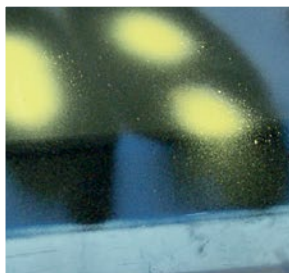
Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1200 <input type="checkbox"/> 840/4000	5330	38	-40 °C to +40 °C	655 480 34 91
m1500 <input type="checkbox"/> 840/4000	6660	47	-40 °C to +40 °C	655 680 34 91

PHALANX LINEAR 75, PC (FRACTURE PROOF), CLEAR TEXTURED, MEDIUM BEAM

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1200 <input type="checkbox"/> 840/4000	5330	38	-40 °C to +40 °C	655 480 34 91
m1500 <input type="checkbox"/> 840/4000	6660	47	-40 °C to +40 °C	655 680 34 91

PHALANX LINEAR 75 OPTIONS

Version	Article no.
DALI	100 502
Special screw, semi-circle (requires special tool)	700 001
Special screw, three hole (requires special tool)	700 002
Special screw, oval (requires special tool)	700 003
Through wiring 5 x 1.5 mm ²	655 832
Through wiring 5 x 2.5 mm ²	655 392
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	655 010
Halogen-free version	655 007
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
RAL finish	available on request



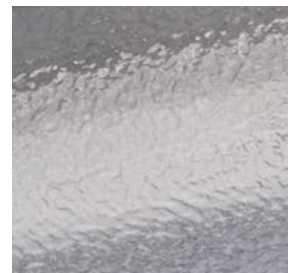
> Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating), article no. 655 010



> Special screws, three-hole or semi-circle, article no. 700 002 / 700 001



> Special screw, oval, prevents unauthorised opening, article no. 700 003



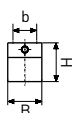
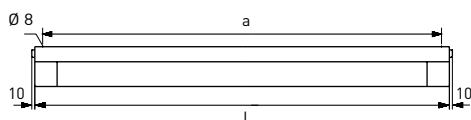
> Version with lamp diffuser, PC (fracture proof), clear textured

PHALANX LINEAR 75 ACCESSORIES

Version	Article no.
Key for semi circle screw	734 007
Key for three hole nut/screw	734 008
Key for oval screw	717 008

PHALANX LINEAR 115

LED



XARA® lighting control
(see introduction and app. B)



medium beam

asymmetric beam

Lamp	Version	L	B	H	a	b	Max. weight
LED	m1200	1340 mm	115 mm	130 mm	1290 mm	80 mm	8.2 kg
LED	m1500	1640 mm	115 mm	130 mm	1590 mm	80 mm	10.5 kg

AREAS OF APPLICATION

Extremely impact-resistant surface mounted ceiling luminaire with LED lamps. Vandalism-proof up to 150 joules. Useable in prisons, detention cells and all areas at risk of deliberate or negligent destruction.

HOUSING

Luminaire housing made of metal, powder-coated similar to RAL 7016, protection rating IP 44, with integrated polymer luminaire. Useable for indoor and outdoor areas according to protection rating IP 65. Anti-graffiti coating for lamp diffuser protects against dirt and paint residue, optionally available (see options). Short sealing system consisting of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

Rectangular, 4 mm thick lamp diffuser made of PC (fracture proof) opal white or PC (fracture proof) clear textured.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver, 230 V AC/DC, optionally suitable for emergency lighting. Luminaire housing with two face-side cable entries M20, recessed luminaire with two access covers.

4 x 1.5 mm² through wiring.

L80 B10 > 100,000 h at +40 °C.

Retains operation in case of vandalism. 8 years warranty.

MOUNTING

Single or row mounting. Ceiling or wall fixing with four concealed mounting apertures on the rear. Luminaire cover fixing with two stainless steel sealing screws with hexagon sockets. Special screws optionally available (see options).

PHALANX LINEAR 115, PC (FRACTURE PROOF), OPAL WHITE, MEDIUM BEAM

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1200 <input type="checkbox"/> 840/4000	5330	38	-40 °C to +40 °C	743 480 34 02
m1500 <input type="checkbox"/> 840/4000	6660	47	-40 °C to +40 °C	743 680 34 02

PHALANX LINEAR 115, PC (FRACTURE PROOF), CLEAR TEXTURED

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1200 <input type="checkbox"/> 840/4000	5330	38	-40 °C to +40 °C	743 480 A4 92
m1500 <input type="checkbox"/> 840/4000	6660	47	-40 °C to +40 °C	743 680 A4 92

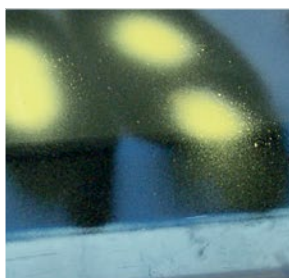
When ordering, please replace the highlighted letters with the corresponding numbers

LIDC characteristic / A

3 = medium beam
6 = asymmetric beam

PHALANX LINEAR 115 OPTIONS

Version	Article no.
DALI	100 502
Closed on face sides with two rear cable entries	available on request
Special screw, semi-circle (requires special tool)	700 001
Special screw, three hole (requires special tool)	700 002
Special screw, oval (requires special tool)	700 003
Through wiring 4 x 2.5 mm ²	743 822
Through wiring 5 x 1.5 mm ²	743 832
Through wiring 5 x 2.5 mm ²	743 392
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	743 010
Halogen-free version	743 007
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
RAL finish	available on request
Inrush current limiter (including 4 kV transient filter)	100 922
Version MARBURG LED (stainless steel housing)	743 100



> Cover coated, increased resistance to acids, bases, and cleaning agents (anti-graffiti coating), article no. 743 010



> Special screws, three-hole or semi-circle, article no. 700 002 / 700 001



> Special screw, oval, prevents unauthorised opening, article no. 700 003



> Version with lamp diffuser, PC (fracture proof), clear textured

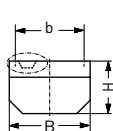
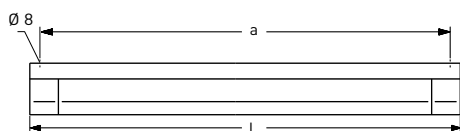
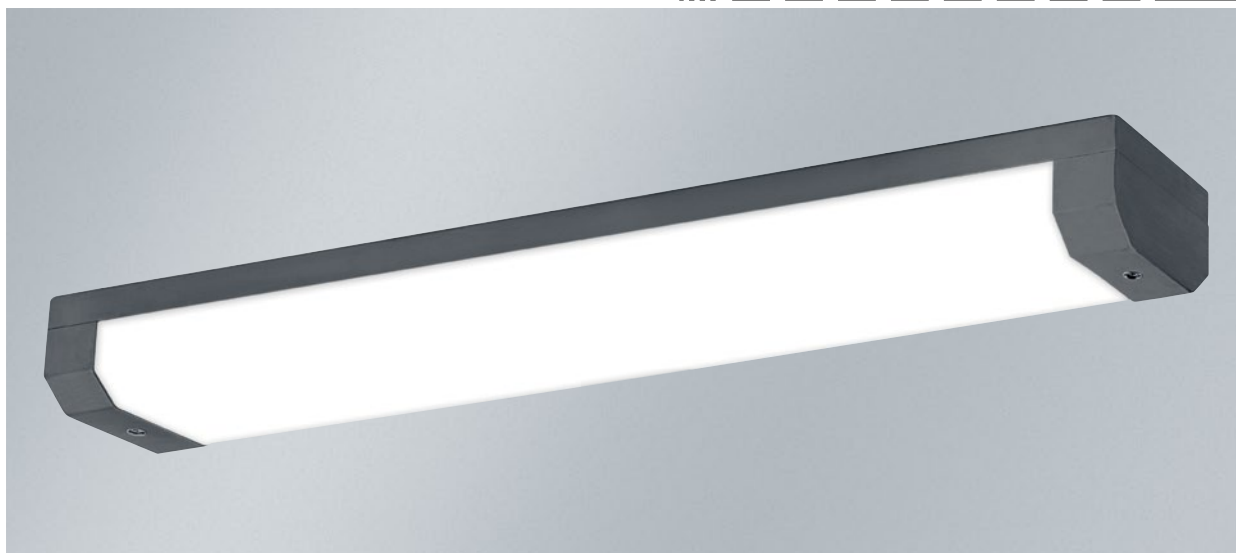
PHALANX LINEAR 115 ACCESSORIES

Version	Article no.
Key for semi circle screw	734 007
Key for three hole nut/screw	734 008
Key for oval screw	717 008



PHALANX LINEAR 200

LED



 **XARA® lighting control**
(see introduction and app. B)



medium beam

asymmetric beam

Lamp	Version	L	B	H	a	b	Max. weight
LED	m1200	1340 mm	200 mm	130 mm	1290 mm	170 mm	15.3 kg
LED	m1500	1640 mm	200 mm	130 mm	1590 mm	170 mm	18.3 kg

AREAS OF APPLICATION

Extremely impact-resistant surface mounted ceiling luminaire with LED lamps. Vandalism-proof up to 150 joules. Useable in all areas at risk of deliberate or negligent destruction.

HOUSING

Luminaire housing made of metal, powder coated similar to RAL 7016, protection rating IP 44, with integrated polymer luminaire. Useable for indoor and outdoor areas according to protection rating IP 65. With concealed cable channel on the rear. Anti-graffiti coating for lamp diffuser protects against dirt and paint residue, optionally available (see options). Short sealing system consisting of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

Rectangular, 4 mm thick lamp diffuser made of PC (fracture proof) opal white or PC (fracture proof) clear textured.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver 230 V AC/DC, optionally suitable for emergency lighting. Luminaire housing with two rear-side cable entries M20, recessed luminaire with two access covers. 4 x 1.5 mm² through wiring.

L80 B10 > 100,000 h at +40 °C.

Retains operation in case of vandalism. 8 years warranty.

MOUNTING

Single or row mounting. Ceiling or wall fixing with four concealed mounting apertures on the rear. Concealed cable duct on rear with 2 x M20 for flush mounting. Luminaire cover fixing with two stainless steel sealing screws with hexagon sockets. Special screws optionally available (see options).

PHALANX LINEAR 200, PC (FRACTURE PROOF) OPAL WHITE, MEDIUM BEAM

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1200 <input type="checkbox"/> 840/4000	5330	38	-40 °C to +40 °C	733 480 34 02
m1200 <input type="checkbox"/> 840/4000	10660	76	-40 °C to +40 °C	736 480 34 02
m1500 <input type="checkbox"/> 840/4000	6660	47	-40 °C to +40 °C	733 680 34 02
m1500 <input type="checkbox"/> 840/4000	13320	94	-40 °C to +40 °C	736 680 34 02

PHALANX LINEAR 200, PC (FRACTURE PROOF), CLEAR TEXTURED

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1200 <input type="checkbox"/> 840/4000	5330	38	-40 °C to +40 °C	733 480 A4 92
m1200 <input type="checkbox"/> 840/4000	10660	76	-40 °C to +40 °C	736 480 A4 92
m1500 <input type="checkbox"/> 840/4000	6660	47	-40 °C to +40 °C	733 680 A4 92
m1500 <input type="checkbox"/> 840/4000	13320	94	-40 °C to +40 °C	736 680 A4 92

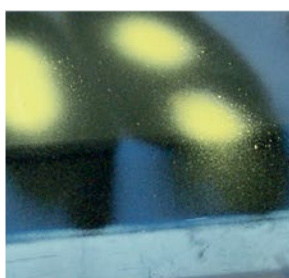
When ordering, please replace the highlighted letters with the corresponding numbers

LIDC characteristic / A

3 = medium beam
6 = asymmetric beam

PHALANX LINEAR 200 OPTIONS

Version	Article no.
DALI driver (including four rearward cable entries)	100 502
Special screw, semi-circle (requires special tool)	700 001
Special screw, three hole (requires special tool)	700 002
Special screw, oval (requires special tool)	700 003
Through wiring 4 x 2.5 mm ²	733 822
Through wiring 5 x 1.5 mm ²	733 832
Through wiring 5 x 2.5 mm ²	733 392
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	733 010
Halogen-free version	733 007
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
RAL finish	available on request
Inrush current limiter (including 4 kV transient filter)	100 922
Version KREUZBERG LED (stainless steel housing)	733 100



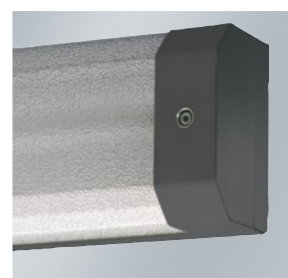
> Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating), article no. 733 010



> Special screws, three-hole or semi-circle, article no. 700 002 / 700 001



> Concealed rearward cable channel



> Version with lamp diffuser PC (fracture proof), clear textured

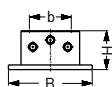
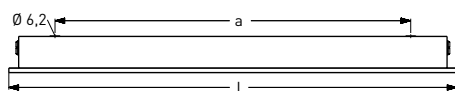
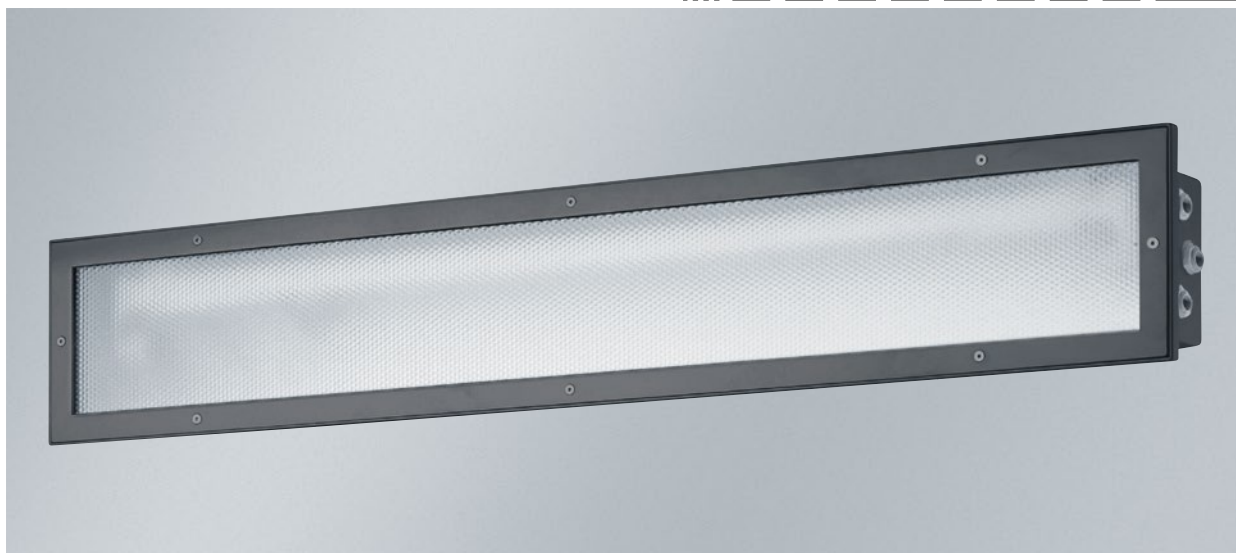
PHALANX LINEAR 200 ACCESSORIES

Version	Article no.
Key for semi circle screw	734 007
Key for three hole nut/screw	734 008
Key for oval screw	717 008



PHALANX LINEAR 240

LED



 **XARA® lighting control**
(see introduction and app. B)



medium beam

asymmetric beam

Lamp	Version	L	B	H	a	b	Max. weight
LED	m1200	1360 ± 2 mm	240 mm	110 mm	1065 mm	120 mm	7.9 kg
LED	m1500	1660 ± 2 mm	240 mm	110 mm	1365 mm	120 mm	10.0 kg

AREAS OF APPLICATION

Extremely impact-resistant luminaire for wall and ceiling surface mounting with LED lamps. Vandalism-proof up to 150 joules. Useable in all areas at risk of deliberate or negligent destruction.

HOUSING

Metal installation housing, powder coated inside and outside, RAL 7016. With integrated polymer luminaire. Useable for indoor and outdoor areas according to protection rating IP 65. Suitable for intensive cleaning processes using pressure washers due to high protection rating IP 69K. Anti-graffiti coating for lamp diffuser protects against dirt and paint residue, optionally available (see options). Short sealing system consisting of age-resistant, form retaining silicone/ synthetic rubber.

LIGHTING TECHNOLOGY

Flat, 3 mm thick cover screen made of PC (fracture proof), clear/with prism or PC (fracture proof) opal white.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver 230 V AC/ DC, optionally suitable for emergency lighting. Luminaire housing with six face-side cable entries M20, recessed luminaire with two access covers. 4 x 1.5 mm² through wiring.

L80 B10 > 100,000 h at +40 °C.

Retains functionality in case of vandalism. 8 years warranty.

MOUNTING

Single or row mounting. Fixing with four rear bores, flush on the rear recess wall. Fixing of the luminaire cover with stainless steel sealing screws with hexagon sockets. Special screws optionally available (see options).

PHALANX LINEAR 240, PC (FRACTURE PROOF), OPAL WHITE COVER SCREEN, MEDIUM BEAM

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1200 <input type="checkbox"/> 840/4000	5330	38	-40 °C to +40 °C	729 480 A4 92
m1500 <input type="checkbox"/> 840/4000	6660	47	-40 °C to +40 °C	729 680 A4 92

PHALANX LINEAR 240, COVER SCREEN MADE OF PC (FRACTURE PROOF), CLEAR, WITH PRISM

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1200 <input type="checkbox"/> 840/4000	5330	38	-40 °C to +40 °C	729 480 A4 92
m1500 <input type="checkbox"/> 840/4000	6660	47	-40 °C to +40 °C	729 680 A4 92

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

LIDC characteristic / A

3 = medium beam
6 = asymmetric beam

PHALANX LINEAR 240 OPTIONS

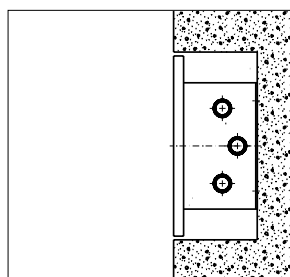
Version	Article no.
DALI	100 502
Special screw, two-hole (requires special tool)	700 004
Through wiring 4 x 2.5 mm ²	729 822
Through wiring 5 x 1.5 mm ²	729 832
Through wiring 5 x 2.5 mm ²	729 392
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	729 010
Halogen-free version	729 007
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
RAL finish	available on request
Inrush current limiter (including 4 kV transient filter)	100 922
Version LUTTEROTH LED (stainless steel housing)	729 100



> Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating), article no. 729 010



> Special screw, two-hole, article no. 700 004



> Concrete recess dimensions:
Luminaire dimensions + 10 mm

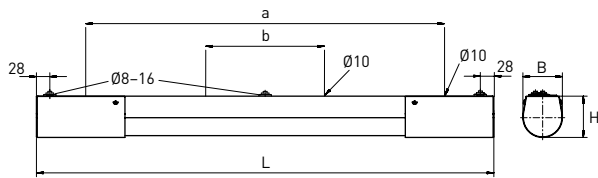
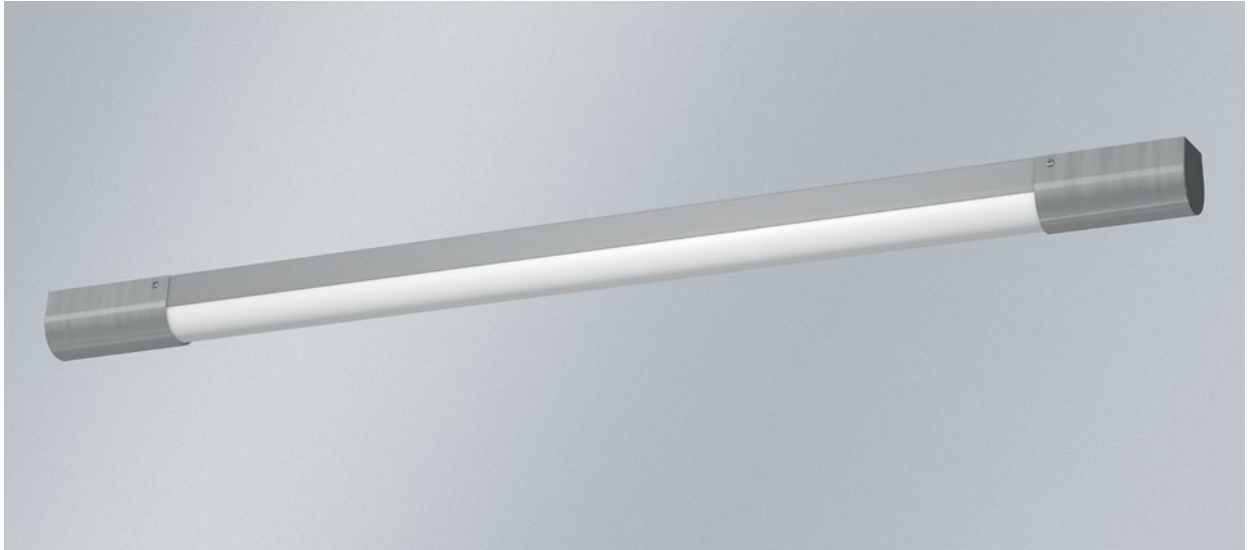
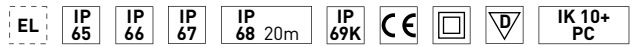
PHALANX LINEAR 240 ACCESSORIES

Version	Article no.
Key for two-hole screw	734 009



ZUG LED AL

LED



- **FOCUSED LIGHTING**
(see appendix E)
 - **XARA® lighting control**
(see introduction and app. B)
 - K Further colour temperatures
(see appendix D)
- medium beam

Lamp	Version	L	B	H	a	b	Max. weight
LED	m600	956 mm	82.5 mm	86 mm	750 mm	-	5.4 kg
LED	m1200	1566 mm	82.5 mm	86 mm	1350 mm	360 mm	8.0 kg

AREAS OF APPLICATION

Extremely impact-resistant surface mounted ceiling luminaire with LED lamps. Vandalism-proof up to 50 joules. Useable in prisons, detention cells and all areas at risk of deliberate or negligent destruction.

HOUSING

Polymer luminaire tube (Ø 75 mm) with two quick-mounting pressure caps in vandalism-proof, polished stainless steel housing. Useable for indoor and outdoor areas according to protection rating IP 65 and IP 66. Resistant to pressurised water to 20 m due to protection rating IP 68, 20 m. Suitable for intensive cleaning processes using pressure washers due to high protection rating IP 69K. Anti-graffiti coating for luminaire tube protects against dirt and paint residue, optionally available (see options).

LIGHTING TECHNOLOGY

4 mm thick cover screen made of PC Tropal® (fracture proof).

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver 230 V AC/DC, optionally suitable for emergency lighting. Luminaire housing with three rear-side cable entries M20 and 4 x 1.5 mm² through-wiring.

MOUNTING

Single mounting. Ceiling or wall mounting with two or four concealed rearward mounting apertures.

ZUG LED AL

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no. + MC
m600 <input type="checkbox"/> 840/4000	1300 - 1710 - 2930	9 - 11 - 18	-25 °C to +40 °C	722 280 34 84 - E - ...
m1200 <input type="checkbox"/> 840/4000	2600 - 3420 - 6270	16 - 20 - 36	-25 °C to +40 °C	722 480 34 84 - E - ...

Standard luminous flux T8, for other lumen packages, see appendix E

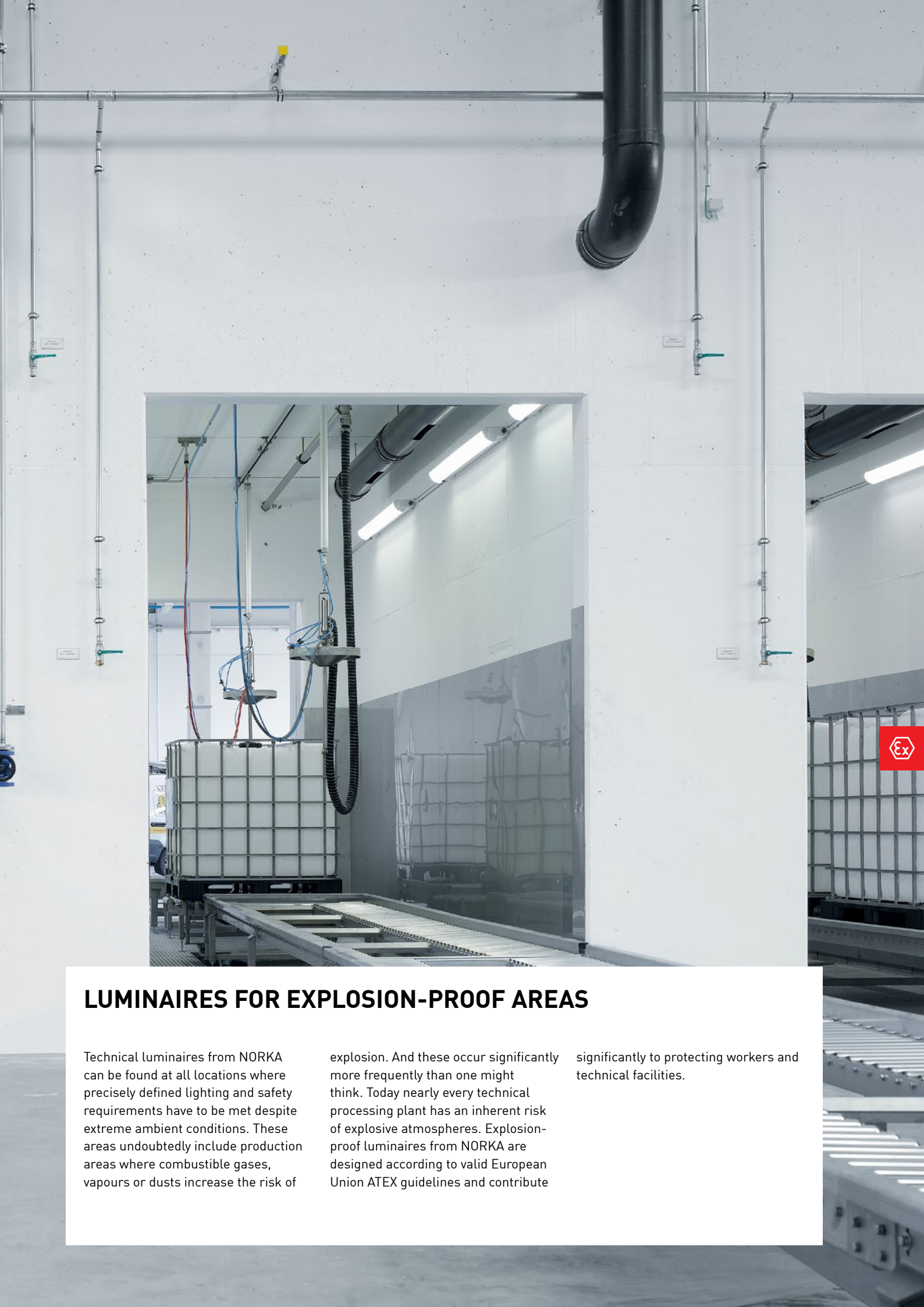
When ordering, please replace the highlighted letters with the corresponding numbers

ZUG LED AL OPTIONS

Version	Article no.
DALI	100 502
Through wiring 4 x 2.5 mm ²	775 981
Through wiring 5 x 1.5 mm ²	775 831
Through wiring 5 x 2.5 mm ²	775 392
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	775 010
Halogen-free version	770 035
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
Version for operation on PASSAU LED	see p. 192
Inrush current limiter (including 4 kV transient filter)	100 922
Further colour temperatures	see appendix D
4 kV transient filter	100 530







LUMINAIRES FOR EXPLOSION-PROOF AREAS

Technical luminaires from NORKA can be found at all locations where precisely defined lighting and safety requirements have to be met despite extreme ambient conditions. These areas undoubtedly include production areas where combustible gases, vapours or dusts increase the risk of

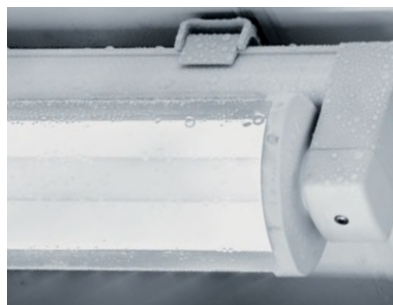
explosion. And these occur significantly more frequently than one might think. Today nearly every technical processing plant has an inherent risk of explosive atmospheres. Explosion-proof luminaires from NORKA are designed according to valid European Union ATEX guidelines and contribute

significantly to protecting workers and technical facilities.



LUMINAIRES FOR EXPLOSION-PROOF AREAS

INDEX



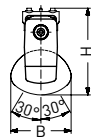
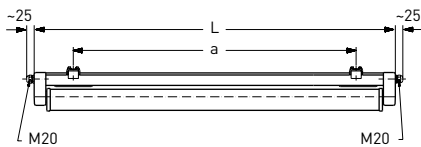
BASEL LED 174



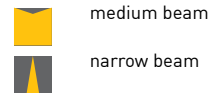
BERN LED 176
EX

BASEL LED

LED



 **XARA® lighting control**
(see introduction and app. B)



Lamp	Version	L	B	H	a	Max. weight
LED	m600	685 mm	107 mm	153 mm	465 ± 30 mm	1.7 kg
LED	m1200	1251 mm	107 mm	153 mm	980 ± 80 mm	2.0 kg
LED	m1500	1551 mm	107 mm	153 mm	1280 ± 80 mm	3.6 kg

AREAS OF APPLICATION

Explosion-proof surface mounted ceiling luminaire made of polymer with LED lamps, single lamp. Useable in industrial applications with explosive atmospheres according to zone 2, 22. Designed according to the applicable European Directives.

HOUSING

Weather-proof and UV-resistant luminaire housing made of fibre-glass-reinforced polymer, similar to RAL 9010. Useable for indoor and outdoor areas according to protection rating IP 65. Thermally separated lamp chamber and driver chamber. Short sealing system consisting of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

Reflector tube that can be swivelled, made of PC Tropol® (fracture proof) with internal aluminium reflector (MIRO-SILVER®). Reflector tube can be locked in steps of 10°.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver 230 V AC/DC. Two access covers, two cable glands on face side M20 and 5 x 1.5 mm² through wiring.

MOUNTING

Single or row mounting. Ceiling installation using two special polymer mounting clamps, variable mounting distance.

BASEL LED

⊕ II 3G Ex nR IIC T4 Gc, ⊕ II 3D Ex tc IIIC T120 °C Dc

Version		Luminous flux/lm	System power/W	Ambient temperature	Article no.
m600	<input type="checkbox"/> 840/4000	1710	11	-20 °C to +40 °C	525 280 A4 84 - E
m1200	<input type="checkbox"/> 840/4000	3420	20	-20 °C to +40 °C	525 480 A4 84 - E
m1500	<input type="checkbox"/> 840/4000	5280	30	-20 °C to +40 °C	525 680 A4 84 - E

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

LIDC characteristic / A

2 = narrow beam
3 = medium beam



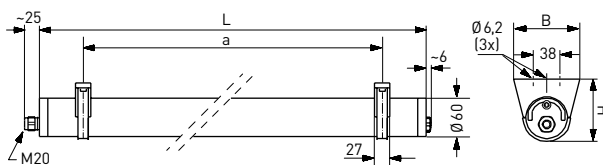
> Mounting clamps for BASEL LED, included in scope of delivery




BERN LED EX

LED

IP 65 IP 67 IP 68 20m IP 69K CE   IK 10 PC ZONE 2 ZONE 22



 **XARA® lighting control**
(see introduction and app. B)

 medium beam

Lamp	Version	L	B	H	a	Max. weight
LED	m600	750 mm	95 mm	89.5 mm	650 ± 50 mm	2.5 kg
LED	m1200	1310 mm	95 mm	89.5 mm	1210 ± 50 mm	3.6 kg
LED	m1500	1590 mm	95 mm	89.5 mm	1490 ± 50 mm	4.7 kg

AREAS OF APPLICATION

Explosion-proof tubular luminaire with LED, resistant to pressurised water. Useable in explosive atmospheres in zone 2, 22. Suitable for production facilities and suppliers in the food and beverage industry. Designed according to the applicable European standards and directives. Suitable for temperatures of -25 °C up to +40 °C.

HOUSING

Luminaire tube (Ø 60 mm) made of polymer with two quick-release fasteners and protection against unauthorised opening. End caps black. Useable for indoor and outdoor areas according to protection rating IP 65 and IP 67. Resistant to pressurised water according to protection rating IP 68, 20 m. Suitable for intensive cleaning processes using pressure washers due to high protection rating IP 69K.

LIGHTING TECHNOLOGY

Luminaire tube made of PC Tropal® (fracture proof), medium beam.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in DALI driver 230 V AC/DC. One cable gland M20.

MOUNTING

Single mounting. Ceiling or wall fixing with two polymer mounting clamps.

BERN LED EX

⊕ II 3G Ex nR IIC T6 Gc, ⊕ II 3D Ex tc IIIC T80 °C Dc

Version		Luminous flux/lm	System power/W	Ambient temperature	Article no.
m600	<input type="checkbox"/> 840/4000	1300	9	-25 °C to +40 °C	531 280 34 84 - E
m1200	<input type="checkbox"/> 840/4000	2600	16	-25 °C to +40 °C	531 480 34 84 - E
m1500	<input type="checkbox"/> 840/4000	4270	25	-25 °C to +40 °C	531 680 34 84 - E

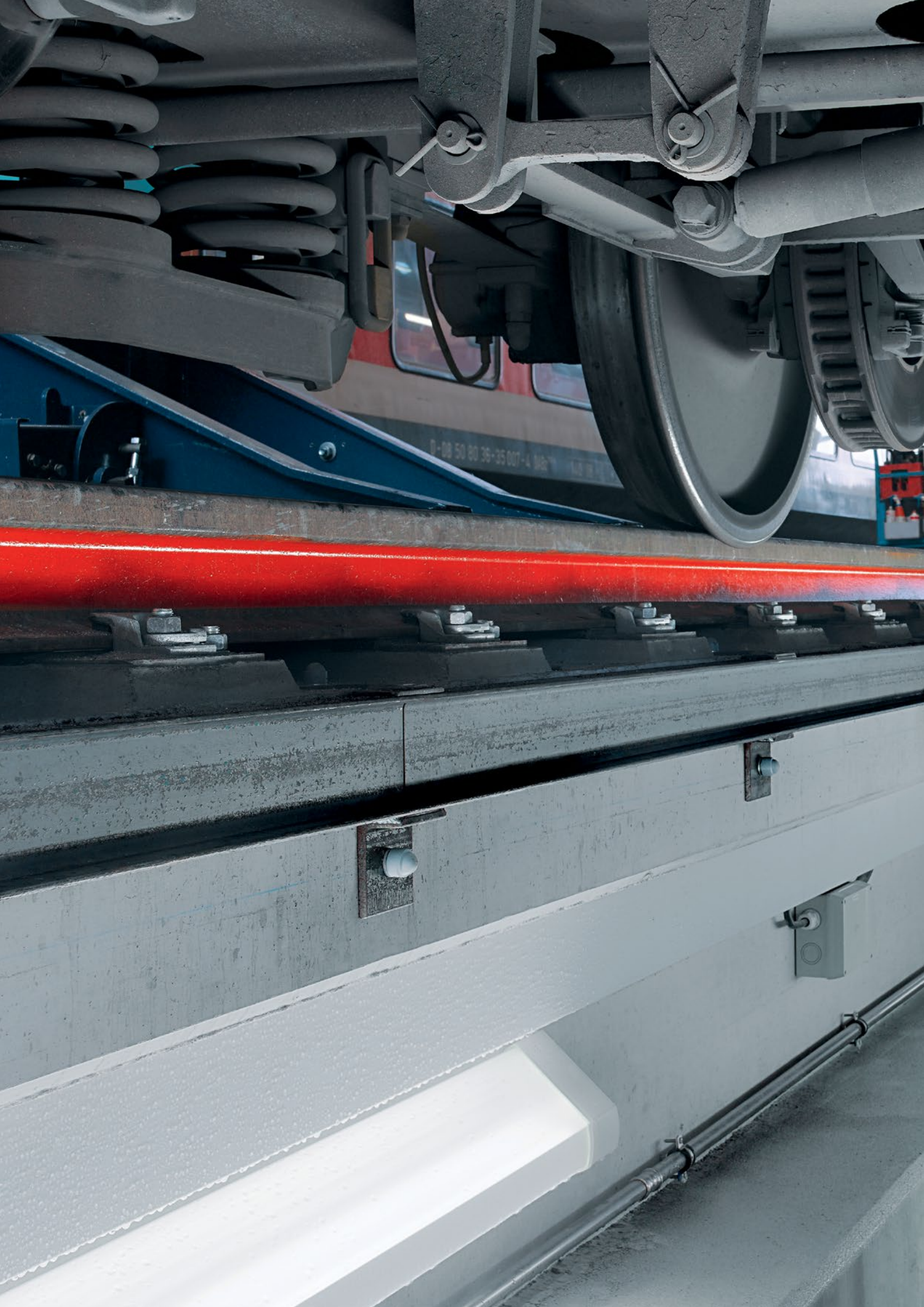


> Mounting clamps for BERN LED EX
Stainless steel/black/transparent polymer,
included in scope of delivery

BERN LED EX OPTIONS

Version	Article no.
LED colour temperature 3000 K for version m600	123 000
LED colour temperature 5000 K for version m600	125 000
LED colour temperature 3000 K for version m1200	143 000
LED colour temperature 5000 K for version m1200	145 000
LED colour temperature 3000 K for version m1500	163 000
LED colour temperature 5000 K for version m1500	165 000







WORK PIT LUMINAIRES

Good illumination is one of the most important conditions for many businesses. This applies particularly to mounting and work pits with restricted space, as accurate repair work is not possible without high quality, glare-free lighting. At the same time, work pits with continuous

moisture or a corrosive atmosphere require luminaires of high technical quality. NORKA has been committed to meet the requirements for work and installation pits for many years. Our range of robust, chemically-resistant and long-life luminaires meet all requirements for trouble free and easy

maintenance lighting for work pits and vehicle test rigs.



WORK PIT LUMINAIRES

INDEX



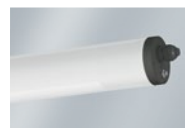
BEBRA LED 182



FULDA LED 184



BERN LED 112



ZUG LED 122

> Tubular luminaires

> Tubular luminaires



BEBRA LED

LED

IP 65

IP 66

IP 67

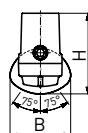
IP 68 1m

CE

D

IK 07 PMMA

IK 10 PC



 **XARA® lighting control**
(see introduction and app. B)



medium beam

Lamp	Version	L	B	H	a	Max. weight
LED	m1200	1432 mm	107 mm	142 mm	1005 ± 80 mm	4.5 kg
LED	m1500	1732 mm	107 mm	142 mm	1305 ± 80 mm	5.2 kg

AREAS OF APPLICATION

Work pit luminaires with LED lamps, single lamp. Useable in work pits used for maintenance and repair work.

HOUSING

Acid, alkaline and fuel-resistant luminaire housing made of thermosetting polymer, similar to RAL 9010. Useable for indoor and outdoor areas according to protection rating IP 66. Resistant to pressurised water to 1 m due to protection rating IP 68, 1 m. Thermally separated lamp chamber and driver chamber. Short sealing system consisting of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

Reflector tube that can be swivelled, made of PC Tropal® (fracture proof) or PMMA Transopal® (impact strengthened) with internal aluminium reflector (MIRO-SILVER®). Pivoting and lockable reflector tube.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Built-in driver 230 V AC/DC. Two M20 cable glands on face side and 4 x 1.5 mm² through-wiring.

MOUNTING

Single or row mounting. Ceiling installation using reinforced polymer stirrup clamps, adjustable mounting distance.

BEBRA LED

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m1200 <input type="checkbox"/> 840/4000	3350	21	-25 °C to +45 °C	535 480 34 A1 - E
m1500 <input type="checkbox"/> 840/4000	5220	31	-25 °C to +45 °C	535 680 34 A1 - E

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

Reflector tube / A

2 = PMMA Transopal® (impact strengthened)
8 = PC Tropol® (fracture proof)



> Polymer stirrup clamps, included in scope of delivery

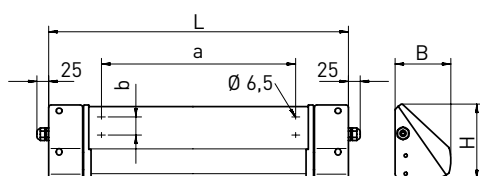
BEBRA LED OPTIONS

Version	Article no.
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	645 010



FULDA LED

LED



- FOCUSSED LIGHTING**
[see appendix E]
- XARA® lighting control**
[see introduction and app. B]
- RAPDEX** [see p. 30]
- K** Further colour temperatures
[see appendix D]

- asymmetric beam
- asymmetric beam with indirect uplighting

Lamp	Version	L	B	H	a	b	Max. weight
LED	m1200	1317 mm	123 mm	165 mm	1085 ± 4 mm	40 mm	4.0 kg
LED	m1500	1617 mm	123 mm	165 mm	1385 ± 4 mm	40 mm	5.3 kg

AREAS OF APPLICATION

Polymer luminaire for ceiling and wall mounting with LED lamps. Useable in work pits used for maintenance and repair work. Suitable for production facilities and suppliers for the food and beverage industry, work pits, underpasses, underground and suburban railway stations and passages.

HOUSING

Acid, alkaline and fuel-resistant luminaire housing made of fibreglass-reinforced polymer, similar to RAL 9010. Useable for indoor and outdoor areas according to protection rating IP 66. High IP protection rating IP 69K optionally available. Thermally separated lamp chamber and driver chamber. Short sealing system consisting of age-resistant, form-retaining silicone/synthetic rubber. Anti-graffiti coating for lamp diffuser optionally available (protects against dirt and paint residue, see options).

LIGHTING TECHNOLOGY

Lamp diffuser made of PMMA Transopal® (impact strengthened) or PC Tropal® (fracture proof) with inner aluminium reflector (MIRO-SILVER®).

DB (Deutsche Bahn) version:

Optimum colour rendering of red tones by special LED modules with an increased R9 value (> 46).

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Two cable glands on face side M20 and 4 x 1.5 mm² through wiring.

There are two types of luminaires:

1. Standard version:

Built-in driver 230 V AC/DC, optionally suitable for emergency lighting. 2 kV transient filter.

2. DB (Deutsche Bahn) version:

Built-in driver with secondary safety extra low voltage (SELV). Optimised with additional inrush current limiter (ESSB II). 4 kV transient filter.

MOUNTING

Single or row mounting. Ceiling, wall or corner fixing using two stainless steel mounting plates.

NOTE ON DB (DEUTSCHE BAHN) VERSION

- > Increased safety against electric shock thanks to **secondary safety extra low voltage according to DIN VDE 0100-410 (SELV)**.
- > Very good differentiation of cable sheathing thanks to a high R9 value.
- > Listed: DB Netz – Group 7.

FULDA LED

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no. + MC
m1200 <input type="checkbox"/> 840/4000	2600 - 3420 - 6270	16 - 20 - 36	-25 °C to +40 °C	545 480 A4 B4 - E - ...
m1500 <input type="checkbox"/> 840/4000	4270 - 5280 - 7830	25 - 30 - 44	-25 °C to +40 °C	545 680 A4 B4 - E - ...

Standard luminous flux T8, for other lumen packages, see appendix E

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

LIDC characteristic / A

0 = asymmetric beam with indirect uplighting
6 = asymmetric beam

Lamp diffuser / B

2 = PMMA Transopal® (impact strengthened)
8 = PC Tropol® (fracture proof)

FULDA LED – DB (DEUTSCHE BAHN) VERSION, PMMA TRANSOPAL® (IMPACT STRENGTHENED), ASYMMETRIC BEAM WITH INDIRECT UPLIGHTING

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no.
m600, DB <input type="checkbox"/> 940/4000	2020	16	-25 °C to +40 °C	545 280 04 23 – SG1
m1200, DB <input type="checkbox"/> 940/4000	4040	29	-25 °C to +40 °C	545 480 04 23 – SG1
m1500, DB <input type="checkbox"/> 940/4000	5050	35	-25 °C to +40 °C	545 680 04 23 – SG1

FULDA LED OPTIONS

Version	Article no.
DALI	100 502
Rear cable entry M20 (pair) (only IP 65)	201 438
Version for row mounting with 2 membrane seals instead of cable glands (only IP 65)	545 003
IP 69K version	545 400
RAL finish	545 960
Through wiring 4 x 2.5 mm ²	545 821
Through wiring 5 x 1.5 mm ²	545 831
Through wiring 5 x 2.5 mm ²	545 391
Cover coated, increased resistance to acids, bases, cleaning agents (anti-graffiti coating)	545 015
Halogen-free version	545 032
Emergency light versions (Please specify precise specifications in your inquiry.)	available on request
Version for operation on PASSAU LED	see p. 192
Inrush current limiter (including 4 kV transient filter)	100 922
Further colour temperatures	see appendix D
HCL (Human Centric Lighting)	available on request
RAPDEX m1200 access cover (IP 65 only)	200 950
RAPDEX m1500 access cover (IP 65 only)	200 951



> RAPDEX
Access cover including driver;
for further information
see page 30

FULDA LED ACCESSORIES

Version	Article no.
RAPDEX replacement access cover, including driver	see appendix C





EMERGENCY AND SAFETY LUMINAIRES

No light without electricity. And no orientation without light. When basic lighting fails after a power cut, self-sufficient emergency lighting has to come on. This is a top priority and is a legal requirement. Battery operated emergency luminaires are equipped with an integrated emergency lighting

unit. This provides feedback on the condition of the luminaire and ensures that the luminaire is always ready for use for 1 h or 3 h and that no total discharge occurs.

LED safety luminaires provide information or navigation instructions through pictographs or text. Working

in combination with each other, the NORKA emergency and safety luminaires contribute greatly to people orienting themselves faster in emergency situations and enabling them to access the emergency exits and escape routes to safe areas.



EMERGENCY AND SAFETY LUMINAIRES

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COBURG LED 190



PASSAU LED 192



SCHÖNEFELD 194



STEGLITZ 196

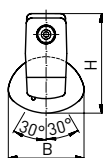
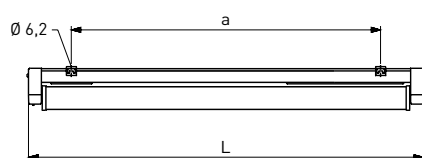


TEGEL 198



COBURG LED

LED



- **FOCUSSED LIGHTING**
(see appendix E)
- ⚡ **XARA® lighting control**
(see introduction and app. B)
- K Further colour temperatures
(see appendix D)



narrow beam
medium beam

Lamp	Version	Emergency lighting duration	L	B	H	a	Max. weight
LED	m1200	1 h	1251 mm	107 mm	140 mm	980 ± 40 mm	3.0 kg
LED	m1200	3 h	1251 mm	107 mm	140 mm	980 ± 40 mm	3.1 kg
LED	m1500	1 h	1551 mm	107 mm	140 mm	1280 ± 40 mm	3.6 kg
LED	m1500	3 h	1551 mm	107 mm	140 mm	1280 ± 40 mm	3.7 kg

AREAS OF APPLICATION

Single-battery safety luminaire with LED lamps, single lamp. Useable in industrial applications. Permissible ambient temperature in continuous mode -5 °C to +30 °C; in standby mode 0 °C to +35 °C.

HOUSING

Weather-proof and UV-resistant luminaire housing made of fibreglass-reinforced polymer, similar to RAL 9010. Useable for indoor and outdoor areas according to protection rating IP 65. Thermally separated lamp chamber and driver chamber. Short sealing system consisting of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

With reflector tubes that can be swivelled, made of PMMA Transopal® (impact strengthened) or PC Tropolal® (fracture proof) with internal aluminium reflector (MIRO-SILVER®). Reflector tube can be locked in increments of 10°.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Mains operation using LED driver 230 V AC. One access cover, one M20 cable gland on face side. Emergency operation through fully electronic integrated emergency lighting unit, including automatic selftest, charging, check display, mains monitoring and protection against total discharge. Emergency lighting duration 1 h or 3 h. 2 kV transient filter.

MOUNTING

Single mounting. Ceiling installation using two stainless steel mounting clamps, variable mounting distance.

COBURG LED

Version	Emergency lighting duration/h	Luminous flux/lm Mains operation	Luminous flux/% Emergency mode	System power/W	Article no. + MC
m1200 □ 840/4000	1	2600 - 3420 - 6270	35 - 30 - 13	18 - 22 - 38	835 491 A4 B4 - E - ...
m1200 □ 840/4000	3	2600 - 3420 - 6270	35 - 30 - 13	18 - 22 - 38	835 493 A4 B4 - E - ...
m1500 □ 840/4000	1	4270 - 5280 - 7830	25 - 20 - 13	27 - 32 - 46	835 691 A4 B4 - E - ...
m1500 □ 840/4000	3	4270 - 5280 - 7830	25 - 20 - 13	27 - 32 - 46	835 693 A4 B4 - E - ...

Standard luminous flux T8, for other lumen packages, see appendix E

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

LIDC characteristic / **A**

2 = narrow beam
3 = medium beam

Reflector tube / **B**

2 = PMMA Transopal® (impact strengthened)
8 = PC Tropol® (fracture proof)

COBURG LED OPTIONS

Version	Article no.
DALI central monitoring	available on request
DALI	100 502
Inrush current limiter (including 4 kV transient filter)	100 922
Lateral cable entries M20 (pair) on level with the access cover	201 438
Further colour temperatures	see appendix D
HCL (Human Centric Lighting)	available on request



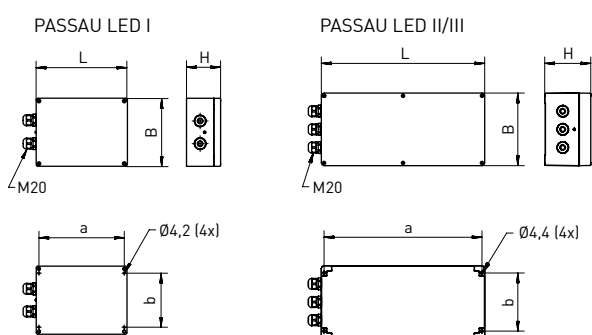
> Stainless steel mounting clamps, included in scope of delivery

ACCORDING TO

- > EN 50 172 (VDE 0108)
- > EN 1838
- > EN 60598-2-22



PASSAU LED



Lamp	Version	Emergency lighting duration	L	B	H	a	b	Max. weight
LED	PASSAU LED I	1 h / 3 h	200 mm	150 mm	75 mm	188 mm	119 mm	1.2 kg
LED	PASSAU LED II	1 h / 3 h	360 mm	160 mm	100 mm	348 mm	128 mm	2.2 kg
LED	PASSAU LED III	1 h / 3 h	360 mm	160 mm	100 mm	348 mm	128 mm	2.2 kg

AREAS OF APPLICATION

Electronic single-battery emergency lighting supply unit for the supply of a LED luminaire. Useable in emergency lighting systems according to EN 50172/ VDE 0108 in industrial applications. Permissible ambient temperature in continuous mode $-5\text{ }^{\circ}\text{C}$ to $+35\text{ }^{\circ}\text{C}$; in standby mode $0\text{ }^{\circ}\text{C}$ to $+40\text{ }^{\circ}\text{C}$.

HOUSING

Housing made of fiberglass-reinforced polymer. Useable for indoor and outdoor areas according to protection rating IP 65.

ELECTRICAL CONSTRUCTION

Fully automatic self test with status display by LED according to EN 62034, electronic driver for mains and emergency operation, mains monitoring, battery charging, protection against total discharge, including maintenance-free NiMh battery. Emergency lighting duration 1 h or 3 h. Maximum cable length between luminaire and supply unit: 50 m. Two or three cable glands.

MOUNTING

Wall fixing through four fastening points.

NOTE

The desired luminaire for operation on a PASSAU LED emergency lighting supply unit must be ordered separately.

NOT SUITABLE FOR STANDARD LED LUMINAIRES! WHEN ORDERING THE LUMINAIRE, ADD THE NOTE "PASSAU LED" AS THE CONSTRUCTION OF THE LUMINAIRE MUST BE ADAPTED.

PASSAU LED I – FOR TEGEL

Please order the luminaire separately. When ordering the luminaire, please add the note "PASSAU LED".

Version	Luminous flux/lm Emergency mode	System power/W	Ambient temperature	Article no.
For TEGEL	90	6 W	-5 °C to +35 °C / CO 0 °C to +40 °C / SO	845 AB0

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

Emergency lighting duration / A

1 = 1 h
3 = 3 h

Driver / B

0 = standard
1 = DALI driver and DALI emergency lighting supply unit

PASSAU LED II – FOR LUMINAIRES WITH FOCUSED LIGHTING

Please order the luminaire separately. When ordering the luminaire, please add the note "PASSAU LED".

Version	Luminous flux/lm Emergency mode	System power/W	Ambient temperature	Article no.
m600	865	Luminaire plus 2 W	-5 °C to +35 °C / CO 0 °C to +40 °C / SO	847 AB1
m1200	1065	Luminaire plus 2 W	-5 °C to +35 °C / CO 0 °C to +40 °C / SO	847 ABC
m1500	1155	Luminaire plus 2 W	-5 °C to +35 °C / CO 0 °C to +40 °C / SO	847 ABC

Continuous operation = CO Standby operation = SO When ordering, please replace the highlighted letters with the corresponding numbers

Emergency lighting duration / A

1 = 1 h
3 = 3 h

Driver / B

0 = standard
1 = DALI driver and DALI emergency lighting supply unit

Lumen package / C

7 = MC1 – MC7
9 = MC9

PASSAU LED III – FOR URANUS, URANUS PF

Please order the luminaire separately. When ordering the luminaire, please add the note "PASSAU LED".

Version	Luminous flux/lm Emergency mode	System power/W	Ambient temperature	Article no.
For URANUS, URANUS PF	545	Luminaire plus 2 W	-5 °C to +35 °C / CO 0 °C to +40 °C / SO	849 AB0

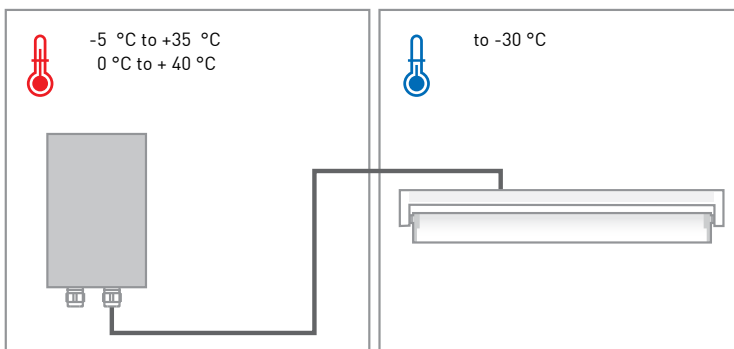
When ordering, please replace the highlighted letters with the corresponding numbers

Emergency lighting duration / A

1 = 1 h
3 = 3 h

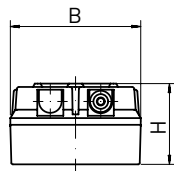
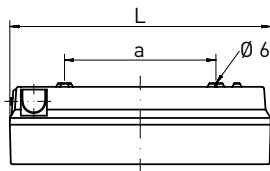
Driver / B

0 = standard
1 = DALI driver and DALI emergency lighting supply unit



> The external use of the PASSAU LED permits an expanded useful temperature range.





Picture 1

Picture 2

Picture 3

Lamp	Version	L	B	H	a	Max. weight
LED	SCHÖNEFELD	310 mm	155 mm	96 mm	180 mm	1.1 kg

AREAS OF APPLICATION

Single-battery escape route luminaire with LED lamps. Viewing distance 28 m.

HOUSING

Weather-proof and UV-resistant luminaire housing made of polymer, anthracite. Useable for indoor and outdoor areas according to protection rating IP 65. Sealing system made of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

Hinged lamp diffuser made of PC (fracture proof) opal or with pictogram according to ENISO7010 for safety luminaires.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. One M20 lateral cable entry. Emergency operation through integrated emergency lighting unit, including automatic self-test, charging, indicator, mains monitoring and protection against total discharge. Emergency lighting duration 1 h or 3 h.

MOUNTING

Single mounting. Wall fixing through two sealed openings in the luminaire base.

SCHÖNEFELD, PC (FRACTURE PROOF) OPAL WHITE, AS SINGLE-BATTERY ESCAPE ROUTE LUMINAIRE

Version	Emergency lighting duration/h	System power/W	Ambient temperature	Article no.
No picture <input type="checkbox"/> 840/4000	1	6	-5 °C to +30 °C / CO 0 °C to +35 °C / SO	421 610
Picture 1 <input type="checkbox"/> 840/4000	1	6	-5 °C to +30 °C / CO 0 °C to +35 °C / SO	421 611
Picture 2 <input type="checkbox"/> 840/4000	1	6	-5 °C to +30 °C / CO 0 °C to +35 °C / SO	421 612
Picture 3 <input type="checkbox"/> 840/4000	1	6	-5 °C to +30 °C / CO 0 °C to +35 °C / SO	421 613
No picture <input type="checkbox"/> 840/4000	3	6	-5 °C to +30 °C / CO 0 °C to +35 °C / SO	421 620
Picture 1 <input type="checkbox"/> 840/4000	3	6	-5 °C to +30 °C / CO 0 °C to +35 °C / SO	421 621
Picture 2 <input type="checkbox"/> 840/4000	3	6	-5 °C to +30 °C / CO 0 °C to +35 °C / SO	421 622
Picture 3 <input type="checkbox"/> 840/4000	3	6	-5 °C to +30 °C / CO 0 °C to +35 °C / SO	421 623

Continuous operation = CO
Standby operation = SO

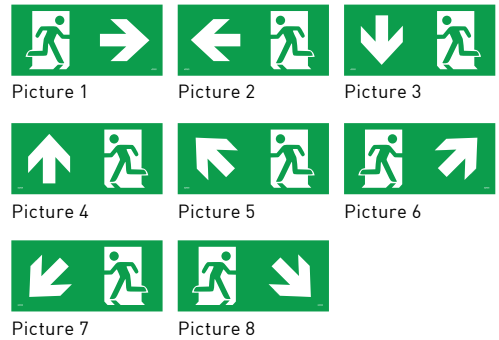
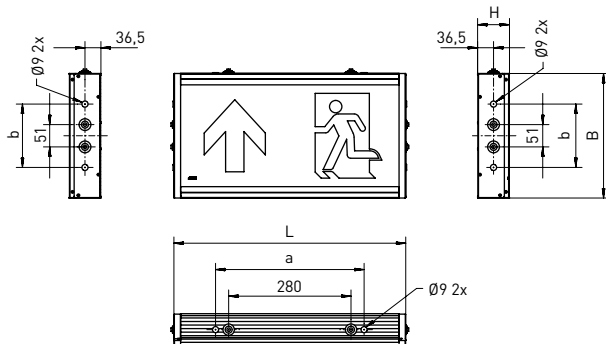
SCHÖNEFELD OPTIONS

Version	Article no.
DALI central monitoring	available on request

ACCORDING TO

- > EN 50 172 (VDE 0108)
- > EN 1838
- > EN 60598-2-22
- > Luminous flux in emergency mode 100%





Lamp	Version	L	B	H	a	b	Max. weight
LED	STEGLITZ	530 ± 2 mm	285 mm	73 mm	340 mm	145 mm	4.6 kg

AREAS OF APPLICATION

Centrally powered escape route luminaires with LED lamps, single lamp. Suitable for use in emergency lighting mode according to EN 50172 (VDE0108). Useable in industrial applications. Viewing distance 48 m.

HOUSING

Luminaire housing made of anodised aluminium profile, similar to RAL 9006. Useable for indoor and outdoor areas according to protection rating IP 65. Short sealing system consisting of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

Hinged lamp diffuser made of PC Tropal® (fracture proof) with internal aluminium reflector (MIRO-SILVER®).

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation. Mains operation using LED driver 230 V AC/DC. Ready for connection with lateral M20 cable entries. 2 kV transient filter.

MOUNTING

Single mounting. Ceiling or wall mounting with sealed mounting apertures.

STEGLITZ, AS CENTRALLY POWERED ESCAPE ROUTE LUMINAIRE

Version		System power/W	Ambient temperature	Article no.
No picture	<input type="checkbox"/> 840/4000	6	-25 °C bis +30 °C	617 290 34 01 -E-0 A
Picture 1	<input type="checkbox"/> 840/4000	6	-25 °C bis +30 °C	617 290 34 01 -E-1 A
Picture 2	<input type="checkbox"/> 840/4000	6	-25 °C bis +30 °C	617 290 34 01 -E-2 A
Picture 3	<input type="checkbox"/> 840/4000	6	-25 °C bis +30 °C	617 290 34 01 -E-3 A
Picture 4	<input type="checkbox"/> 840/4000	6	-25 °C bis +30 °C	617 290 34 01 -E-4 A
Picture 5	<input type="checkbox"/> 840/4000	6	-25 °C bis +30 °C	617 290 34 01 -E-5 A
Picture 6	<input type="checkbox"/> 840/4000	6	-25 °C bis +30 °C	617 290 34 01 -E-6 A
Picture 7	<input type="checkbox"/> 840/4000	6	-25 °C bis +30 °C	617 290 34 01 -E-7 A
Picture 8	<input type="checkbox"/> 840/4000	6	-25 °C bis +30 °C	617 290 34 01 -E-8 A

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

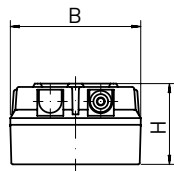
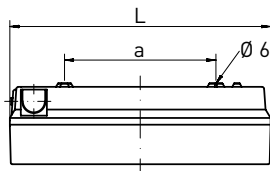
Connection / **A**

- 1 = left
- 2 = right
- 3 = top

STEGLITZ OPTIONS

Versions	Article no.
Central monitoring	available on request





Picture 1

Picture 2

Picture 3

Lamp	Version	L	B	H	a	Max. weight
LED	TEGEL	310 mm	155 mm	96 mm	180 mm	1.1 kg

AREAS OF APPLICATION

Escape route luminaire with LED lamps. Viewing distance 28 m.

HOUSING

Weather-proof and UV-resistant luminaire housing made of polymer, anthracite. Useable for indoor and outdoor areas according to protection rating IP 65. Sealing system made of age-resistant, form-retaining silicone/synthetic rubber.

LIGHTING TECHNOLOGY

Hinged lamp diffuser made of PC (fracture proof) opal or with pictogram according to EN ISO 7010 for safety luminaires.

ELECTRICAL CONSTRUCTION

Luminaire ready for mounting and installation with one lateral cable gland M20.

There are two types of luminaire:

Type 1:

TEGEL as centrally powered escape route luminaire with built-in driver 230 V AC/DC.

Type 2:

TEGEL for operation on PASSAU LED I.

The emergency lighting supply unit PASSAU LED I must be ordered separately.

MOUNTING

Single mounting. Wall fixing through two openings in the luminaire base.

TEGEL, PC (FRACTURE PROOF) OPAL WHITE, AS CENTRALLY POWERED ESCAPE ROUTE LUMINAIRE

Version		System power/W	Ambient temperature	Article no.
No picture	<input type="checkbox"/> 840/4000	5	-30 °C to +40 °C	421 520
Picture 1	<input type="checkbox"/> 840/4000	5	-30 °C to +40 °C	421 521
Picture 2	<input type="checkbox"/> 840/4000	5	-30 °C to +40 °C	421 522
Picture 3	<input type="checkbox"/> 840/4000	5	-30 °C to +40 °C	421 523

TEGEL, PC (FRACTURE PROOF) OPAL WHITE, FOR OPERATION WITH PASSAU LED I

Electronic single-battery emergency lighting supply unit PASSAU LED I to be ordered separately

Version		System power/W	Ambient temperature	Article no.
No picture	<input type="checkbox"/> 840/4000	5	-30 °C to +40 °C	421 525
Picture 1	<input type="checkbox"/> 840/4000	5	-30 °C to +40 °C	421 526
Picture 2	<input type="checkbox"/> 840/4000	5	-30 °C to +40 °C	421 527
Picture 3	<input type="checkbox"/> 840/4000	5	-30 °C to +40 °C	421 528

TEGEL OPTIONS

Version	Article no.
Central monitoring	available on request

ACCORDING TO

- > EN 50 172 (VDE 0108)
- > EN 1838
- > EN 60598-2-22
- > Luminous flux in emergency mode 100%







MOUNTING RAILS

A combination of mounting rails and luminaires arranged in a continuous row is available for illuminating large areas. Such intelligent lighting solutions have many advantages over individually mounted high-bay luminaires. Electrical installation work is minimised and the spacing between

the luminaires can be flexibly adjusted to the visual task. With our polymer or aluminium mounting rails we offer sustainable products that guarantee the security of the investment. All mounting rail components, such as luminaire inserts and blind covers, are pre-installed in the factory.

The electronic specifications such as phase distribution, dimmer function and emergency lighting are configured according to the design plan.





MOUNTING RAILS

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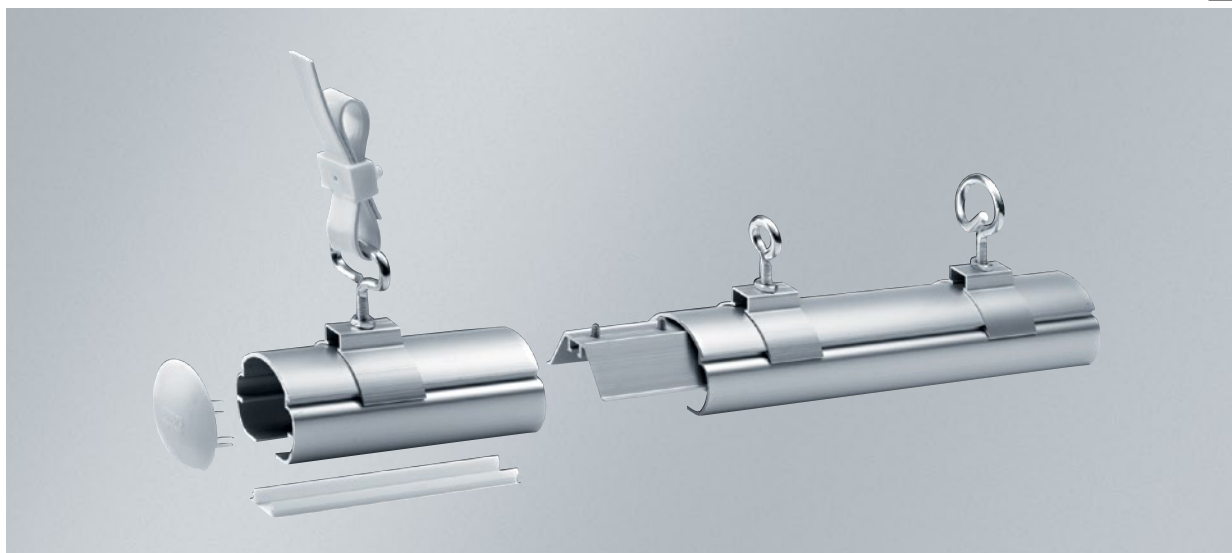
ALUMINIUM **204**
MOUNTING
RAIL



POLYMER **205**
MOUNTING
RAIL



ALUMINIUM MOUNTING RAIL













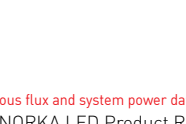
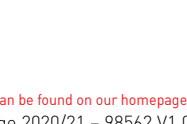
MATERIAL

Aluminium corrosion resistant, available in standard lengths of 3.0 m and 6.0 m. Round cross-section with smooth upper surface: dust repellent, easy cleaning and removal of deposits (hygiene friendly). Ø 60 mm.

MOUNTING

Profile connectors, mounting rail flanges and ceiling flanges. Polymer wide pendant with internal steel wires available on request. Maximum pendant spacing beneath each other 3.0 m, sliding profile nuts (luminaire holders) for attaching the luminaires, option of feeding through cables.

Mounting rail, aluminium and accessories

Version	Article no.		
Mounting rail, untreated aluminium			
- 3.0 m length	200 550/3	No. 200 551	No. 200 753
- 6.0 m length	200 550/6		
- Other lengths	available on request		
Profile connector, untreated aluminium for connecting two mounting rail sections	200 551		
Polymer end cap for front sealing of mounting rail	200 552	No. 200 554	No. 200 560
Polymer profile nut (luminaire holder) for luminaire fixture with M6 screw, stainless steel (two fixtures required per luminaire)	200 753		
Aluminium mounting rail flange , for pendant installation with bracket screw, M8 x 30, galvanised, for polymer wide pendant	200 554	No. 200 555	No. 200 761
- with M8 x 30 hook, galvanised, for conventional wire and cable pendants	200 560		
- with threaded M8 x 30 eyelet, galvanised	200 555		
- for direct ceiling installation	200 761		
Polymer cover strip , 3.0 m long	200 556/3		
Safety socket, IP 54 , with mounting flange	200 591	No. 200 593	No. 200 591
Cable holder	200 593		
Protective earth conductor connection, aluminium , with mark (1 per continuous row system)	200 557		
White polymer wide pendant with internal steel cores, with ceiling and mounting rail flange for 1.0 m suspension		No. 200 557	
- as initial pendant (with cable clips)	200 558		
- as intermediate or end pendant (without cable clips)	200 559		
White polymer wide pendant , by the metre, with internal steel cores, available in reels of 50 m (0.5 m per pendant required for looping)	200 280		
White polymer ceiling flange for wide pendant	200 290		
White polymer pendant lock			
- with cable clips	200 294		
- without cable clips	200 295		

POLYMER MOUNTING RAIL



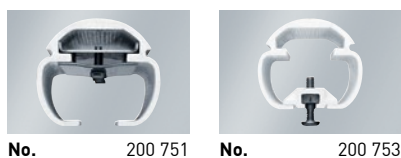
MATERIAL

Fibreglass-reinforced polyester, white, corrosion resistant, available in standard lengths of 4.0 m and 6.0 m. Round cross-section with smooth upper surface: dust repellent, easy cleaning and removal of deposits, (particularly suitable high level hygiene areas), Ø 60 mm.

MOUNTING

Profile connectors, mounting rail flanges and ceiling flanges. Polymer wide pendant with internal steel wires available on request. Maximum pendant spacing beneath each other 2.0 m, sliding profile nuts (luminaire holders) for attaching the luminaires, option of feeding through cables.

Mounting rail, polymer and accessories



No. 200 751



No. 200 753



No. 200 754



No. 200 760



No. 200 755



No. 200 761



No. 200 556



No. 200 591



No. 200 593



Version	Article no.
Polymer mounting rail	
- 4.0 m length	200 750/4
- 6.0 m length	200 750/6
- Other lengths	available on request
Profile connector, stainless steel, for connecting two mounting rail sections	200 751
Polymer end cap for front sealing of mounting rail	200 552
Polymer profile nut (luminaire holder) for luminaire fixture with M6 screw, stainless steel (two fixtures required per luminaire)	200 753
Mounting rail flange for pendant installation, with bracket screw M8 x 30, stainless steel, for polymer wide pendant	200 754
- with M8 x 30 hook, stainless steel, for conventional wire and cable pendants	200 760
- with threaded M8 x 30 eyelet, stainless steel	200 755
- for direct ceiling installation	200 761
Polymer cover strip, 3.0 m long	200 556/3
Safety socket, IP 54, with mounting flange	200 591
Cable holder	200 593
Mounting flange for equipment; 4 M4 boreholes	200 595
White polymer wide pendant with internal steel cores, with ceiling and mounting rail flange for 1.0 m suspension	
- as initial pendant (with cable clips)	200 758
- as intermediate or end pendant (without cable clips)	200 759
White polymer wide pendant, by the metre, with internal steel cores, available in reels of 50 m (0.5 m per pendant required for looping)	200 280
White polymer ceiling flange for wide pendant	200 290
White polymer pendant lock	
- with cable clips	200 294
- without cable clips	200 295

TECHNICAL INFORMATION



TECHNICAL INFORMATION

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INGRESS PROTECTION

As rule, NORKA luminaires are designed for a rated power of 230 V/50 Hz. Versions for other mains voltages and frequencies are available on request.

The ingress protection rating for luminaires is defined in EN 60 598. The products are labelled accordingly with IP codes. The first number indicates the protection against accidental contact and foreign bodies

while the second number refers to protection against water.

When installing the luminaires, the installer has to use all seals and cable entries provided with the luminaire. If these parts are not used or installed improperly, the indicated protection rating is not guaranteed.

Material codes

PMMA	=	polymethyl methacrylate
PC	=	polycarbonate
PBT	=	polyethylene terephthalate
PPO	=	polyphenylene oxide (old designation)
PPE	=	polyphenylene ether (new designation)
GRP	=	fibreglass-reinforced polymer
ALU	=	aluminium

Ingress protection for protection against accidental contact and foreign bodies

1 Index	Protection type Designation	Description
0	No protection	No special protection against injury from inadvertent contact with live or moving parts. No protection against ingress of foreign bodies.
1	Protection against large foreign bodies > 50 mm	Protection against inadvertent body contact of live and internal, moving parts (e.g. hand contact) but no protection against intentional contact with such parts. Protection against ingress of solid foreign bodies with a diameter greater than 50 mm.
2	Protection against medium-sized foreign bodies > 12 mm	Protection against hand contact with live or internal moving parts. Protection against ingress of solid foreign bodies with a diameter greater than 12.5 mm.
3	Protection against small foreign bodies > 2.5 mm	Protection against contact with live or internal moving parts with tools, wires and similar objects with a diameter greater than 2.5 mm. Protection against ingress of solid foreign bodies with a diameter greater than 2.5 mm.
4	Protection against granular foreign bodies > 1 mm	Protection against contact with live or internal moving parts with tools, wires and similar objects with a diameter greater than 1 mm. Protection against ingress of solid foreign bodies with a diameter greater than 1 mm.
5	Protected against dust	Total protection against contact with live or internal, moving parts. Protection against harmful dust deposits. While the ingress of dust is not completely prevented, dust can only enter the device in very small quantities that do not affect its operation.
6	Dust-proof	Total protection against contact with live or internal moving parts. Protection against dust ingress.

Ingress protection for water protection

2 Index	Protection type Designation	Description
	No protection	No special protection.
.1	Protection against vertically falling drops of water	Vertically dripping water must have no harmful effect.
.2	Protection against drops of water falling at an angle	Water drops that impact at any angle up to 15° from the vertical must not cause any damage.
.3	Protection against direct water spray	Water that impacts at any angle up to 60° from the vertical must not cause damage.
.4	Protection against water spray	Water impacting on the luminaire from all directions must not cause any damage.
.5	Protection against water jets	Water jets from a nozzle impacting on the luminaire from all directions do not result in water ingress.
.6	Protection against flooding	Water temporarily flooding the luminaire (e.g. high water) must not lead to water ingress.
.7	Protection against immersion in water	The luminaire is protected against water ingress if the device is immersed for a specific time and at specific pressure conditions in water. Observe the manufacturer instructions!
.8	Protection against long periods of immersion under pressure	The luminaire is protected against water ingress if it is immersed at a specific pressure and for an unlimited time in water. Observe the manufacturer instructions!
.9K	Protection against water ingress during high-pressure/steam jet cleaning	Hot water (80 °C) impacting from any direction under high pressure (80-100 bar) on the luminaire must not enter.

TABLE OF RESISTANCE

POLYMERS USED IN LUMINAIRE PRODUCTION

Polymer components have become important and proven functional elements in modern luminaire production. They are chosen, processed and used according to the latest technical knowledge.

However, inadmissible stress and exposure to damaging influences reduce the ageing resistance of these parts, which means that the serial polymer components wear much faster.

This table contains a list of materials that are most commonly used in the production of NORKA luminaires. The chemical resistances indicated are guide values only and apply to an ambient temperature of 25 °C.

If luminaires are installed and used according to the instructions, these polymer components will age normally, ensuring consistent reliability.

Please do not hesitate to contact us if you have any problems.

KEY:

■ resistant
 □ limited resistance
 — not resistant

Chemical substances, alphabetical	Phenolic resin Moulding material	Acrylic glass PMMA	Polycarbonate PC	Polyester	PBT/ Aluminium
Acetone	■	—	—	—	■
Ether	■	—	—	—	■
Alcohol, max. 30%	■	■	■	■	□
Alcohol, concentrated	■	—	—	□	■
Ammonia	■	■	—	□	■
Aniline	—	—	—	—	■
Benzol	■	—	—	—	□
Chloroform	■	—	—	—	■
Acetic acid, max. 5%	■	□	■	■	□
Acetic acid, max. 30%	—	—	—	■	—
Ethylacetate	■	—	—	—	■
Glycerine	■	■	□	■	■
NaCl solution	■	■	■	■	■
Hydrocarbons	■	□	—	□	■
Synthetic alkaline solutions	■	■	□	■	□
Sea water	■	■	■	■	□
Methyl chloride	■	—	—	—	□
Sodium hydroxide 2 %	■	■	—	□	—
Sodium hydroxide 10%	■	■	—	—	—
Normal petrol	■	■	□	■	■
Petroleum ether	■	■	□	■	■
Phenol	□	—	—	—	□
Nitric acid, max. 10%	■	■	■	■	—
Nitric acid, max. 20%	□	□	□	□	—
Hydrochloric acid, max. 15%	■	■	■	■	□
Hydrochloric acid, min. 20%	■	■	—	■	—
Sulphur dioxide	■	—	□	□	□
Sulphuric acid, max. 50%	■	■	■	■	—
Sulphuric acid, max. 70%	■	□	□	■	—
Soda	■	■	■	■	—
Premium petrol	■	■	—	■	■
Carbon tetrachloride	■	—	—	■	■
Oil of turpentine	■	□	□	■	■
Trichloroethylene	■	—	—	—	■
Hydrogen sulphide	■	■	■	■	■

Damaging influence	Possible cause	Effect
Inadmissibly high temperature	- excessive operating voltage - excessive ambient temperature - improper mounting	- deformation - embrittlement - discolouration
Short wave UV radiation	- high pressure mercury lamps with excessive UV radiation component - germicidal lamps	- yellowing - embrittlement
Aggressive substances	- softening agents (released from cable insulation etc.) - use of unsuitable cleaning agents and disinfectants	- crack formation - reduced stability - surface damage



EXPLOSION TEMPERATURE CLASSES

ALLOCATION OF FLAMMABLE GASES AND VAPOURS TO EXPLOSION GROUPS AND TEMPERATURE CLASSES

Explosion group	Temperature classes					
	T1 (450 °C)	T2 (300 °C)	T3 (200 °C)	T4 (135 °C)	T5 (100 °C)	T6 (85 °C)
IIA	Acetone (540 °C)	1,2-dichloroethane (440 °C)	Petrol (220–300 °C)	Acetaldehyde (140 °C)		
	Ammonia (630 °C)	Cyclohexanone (430 °C)	Diesel fuel (220–300 °C)			
	Benzol (555 °C)	i-amylacetate (380 °C)	Aeroplane fuel (220–300 °C)			
	Ethane (515 °C)	n-butane (365 °C)	Heating oil (220–300 °C)			
	Ethylacetate (460 °C)	n-butyl alcohol (340 °C)	n-hexane (240 °C)			
	Acetic acid (485 °C)					
	Carbon oxide (605 °C)					
	Methanol (455 °C)					
	Propane (470 °C)					
	Toluene (535 °C)					
IIB	City gas (560 °C)	Ethanol (425 °C)	Ethyl glycol (235 °C)	Ethyl ether (180 °C)		
		Ethylene (425 °C)	Hydrogen sulphide (270 °C)			
		Ethylene oxide (440 °C)				
IIC	Hydrogen (560 °C)	Acetylene (305 °C)				Carbon disulphide (95 °C)

Temperature class according to: IEC 60079-4	Ignition temperature range	Permissible surface temperature of electrical equipment
T1	> 450 °C	450 °C
T2	> 300 ... ≤ 450 °C	300 °C
T3	> 200 ... ≤ 300 °C	200 °C
T4	> 135 ... ≤ 200 °C	135 °C
T5	> 100 ... ≤ 135 °C	100 °C
T6	> 85 ... ≤ 100 °C	85 °C

Classification of the explosion hazard zones

Gases	Zone 0 is an area where a hazardous explosive atmosphere as a mixture of air and combustible gases, vapours or mists is present continuously, over prolonged periods of time or often.	Zone 1 is an area where during normal operations a hazardous explosive atmosphere as a mixture of air and combustible gases, vapours or mists may form occasionally.	Zone 2 is an area where during normal operations a hazardous explosive atmosphere as a mixture of air and combustible gases, vapours or mists does not normally occur or only briefly.
Dusts	Zone 20 is an area where a hazardous explosive atmosphere in the form of a cloud consisting of combustible dust contained in the air is present continuously, over prolonged periods of time or often.	Zone 21 is an area where during normal operations a hazardous explosive atmosphere in the form of a cloud consisting of combustible dust contained in the air is present occasionally.	Zone 22 is an area where during normal operations a hazardous explosive atmosphere in the form of a cloud consisting of combustible dust contained in the air does not normally occur or only briefly.

IMPRINT

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Despite all the care taken in producing and copying these catalogue documents, errors cannot be completely ruled out. We reserve the right to make formal and technical changes. Any measurements, weights and design details are provided without obligation. Figures may vary from the products.

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:

The prices given are recommended retail prices valid as of 01/04/2020. They apply to normal commercial transactions.

For large construction projects, particularly within the context of tenders, we ask that you request submission of net prices. Prices do not include value added tax. This will be calculated at the valid percentage rate on the day of delivery.



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






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GLOSSARY OF SYMBOLS























LAMPS

	Low-pressure discharge lamps (fluorescent lamps Ø 16 mm)
	Optional: Low-pressure discharge lamps (fluorescent lamps Ø 16 mm)
	Low-pressure discharge lamps (fluorescent lamps Ø 26 mm)
	Optional: Low-pressure discharge lamps (fluorescent lamps Ø 26 mm)
	Low-pressure discharge lamps (compact fluorescent lamps)
	Light emitting diodes
	Optional: Light emitting diodes








LIGHT CHARACTERISTIC

	BARE LAMP
	MEDIUM BEAM
	MEDIUM BEAM WITH INDIRECT UPLIGHTING
	ASYMMETRIC BEAM
	ASYMMETRIC BEAM WITH INDIRECT UPLIGHTING
	EXTREME NARROW BEAM
	WIDE BEAM
	EXTREME WIDE BEAM
	CONCENTRATED BEAM
	CONCENTRATED WIDE BEAM
	INDIRECT BEAM Luminaire with soft ceiling illumination

TECHNICAL SYMBOLS

	Luminaire protected against ingress of foreign bodies with a diameter > 12.5 mm		Protection class I / protective earthing Protection against electric shock is provided by the basic insulation and connection of all touchable metal parts to the protective earth conductor.
	Luminaire protected against ingress of foreign bodies with a diameter > 1 mm		
	Luminaire protected against ingress of foreign bodies with a diameter > 1 mm and splash-proof		Optional: Protection class I / protective earthing Protection against electric shock is provided by the basic insulation and connection of all touchable metal parts to the protective earth conductor.
	Dust and spray-proof luminaire		
	Dust and splash-proof luminaire		
	Luminaire protected against dust and water jets		Protection class II / double insulation Live parts are equipped with double insulation in addition to the basic insulation.
	Dust-proof luminaire protected against strong water jets		
	Luminaire protected against dust and temporary immersion		Optional: Protection class II / double insulation Live parts are equipped with double insulation in addition to the basic insulation.
	Luminaire protected against dust and permanent immersion (up to 20 m)		
	As standard: dust-proof luminaire protected against hot water used in high pressure cleaning		Protection class III / Safety extra low voltage SELV Protection against electric shock is based on the use of safety extra low voltage.
	Optional: dust-proof luminaire protected against hot water used in high pressure cleaning		
	CE certification indicates the conformity of a product with the applicable EC Directives.		As standard: luminaires are suitable for premises with a fire hazard due to dust or fibrous particles.
	European test and certification symbol for luminaires and their electric components. It indicates compliance with European standards governing safety and methods of operation.		Optional: luminaires are suitable for premises with a fire hazard due to dust or fibrous particles.
	German test and certification symbol for luminaires. It indicates compliance with German safety standards.		This luminaire family contains the luminaires certified for the Deutsche Bahn railway company.

TECHNICAL SYMBOLS

LUCON	As standard: luminaires are equipped with the LUCON®luminaire connection system.
LUCON®	Optional: luminaires are equipped with the LUCON®luminaire connection system.
	As standard: luminaires have been tested in line with EN 12 193 (or DIN VDE 0710) for ball impact resistance.
	Optional: luminaires have been tested in line with EN 12 193 (or DIN VDE 0710) for ball impact resistance.
	As standard: luminaires are designed for harsh operating conditions.
EL	As standard: emergency lighting with independent power supply, tested in line with IEC 61347-2-13.
EL	Optional: emergency lighting with independent power supply, tested in line with IEC 61347-2-13.
	XARA® The luminaire can be integrated into the lighting control system. The sensor is optional.
	FOCUSSED LIGHTING Luminaire with optional lumen package.
	The luminaire is optionally available in further colour temperatures.
	RAPDEX The luminaire is available with a RAPDEX driver.

ZONE 1	Luminaires are approved for EX zone 1 in line with the ATEX Directive. This covers areas in which an explosive atmosphere may occasionally develop from a mixture of air and combustible gases, vapours or mists. Complies with device protection level Gb.
ZONE 2	Luminaires are approved for EX zone 2 in line with the ATEX Directive. This covers areas in which an explosive atmosphere usually does not form or may only develop temporarily from a mixture of air and combustible gases, vapours or mists. Complies with device protection level Gc.
ZONE 21	Luminaires are approved for EX zone 21 in line with the ATEX Directive. This covers areas in which an explosive atmosphere may occasionally develop in the form of a cloud of combustible dust present in the air. Complies with device protection level Db.
ZONE 22	Luminaires are approved for EX zone 22 in line with the ATEX Directive. This covers areas in which an explosive atmosphere usually does not develop or may only develop temporarily in the form of a cloud of combustible dust present in the air. Complies with device protection level Dc.

IK PROTECTION CLASSES

IK 02 PMMA	Luminaire with PMMA cover tested with an impact energy of 0.2 joules.
IK 03 PMMA	Luminaire with PMMA cover tested with an impact energy of 0.35 joules.
IK 04 ESG	Luminaire with single pane safety glass cover tested with an impact energy of 0.5 joules.
IK 04 PMMA	Luminaire with PMMA cover tested with an impact energy of 0.5 joules.
IK 07 ESG	Luminaire with single pane safety glass cover tested with an impact energy of 2 joules.
IK 07 PC	Luminaire with PC cover tested with an impact energy of 2 joules.
IK 07 PMMA	Luminaire with PMMA cover tested with an impact energy of 2 joules.
IK 07 ESG	Luminaire with single pane safety glass cover tested with an impact energy of 2 joules.
IK 08 PC	Luminaire with PC cover tested with an impact energy of 5 joules.
IK 08 PMMA	Luminaire with PMMA cover tested with an impact energy of 5 joules.
IK 09 PC	Luminaire with PC cover tested with an impact energy of 10 joules.
IK 09 ESG	Luminaire with single pane safety glass cover tested with an impact energy of 10 joules.
IK 10 PC	Luminaire with PC cover tested with an impact energy of 20 joules.
IK 10+	Luminaire with cover made of extremely impact strengthened material tested with an impact energy of 150 J.



- > Placeholder letters are integrated into the product overview tables to provide a clear overview of the versatility of the product range.
- > These placeholders always have to be replaced with the corresponding number when ordering.
- > Depending on the luminaire version, up to three of these placeholders (A, B or C) have to be replaced. The respective allocation of the version and the different variants are shown below the tables.

EXAMPLE FOR DETERMINING THE ARTICLE NUMBER:

Target luminaire CENTAURUS 650C, wide beam, clear safety glass cover screen, with swivel bracket.

CENTAURUS

Version		Luminous flux/lm	System power/W	Ambient temperature	Article no.
270W	<input type="checkbox"/> 830/3000	24190	150	-35 °C to +50 °C	915 270 A3 BC
400W	<input type="checkbox"/> 830/3000	36000	236	-35 °C to +40 °C	915 400 A3 BC
520W	<input type="checkbox"/> 830/3000	47310	313	-35 °C to +30 °C	915 520 A3 BC
650W	<input type="checkbox"/> 830/3000	58270	400	-35 °C to +30 °C	915 650 A3 BC
270N	<input type="checkbox"/> 840/4000	25460	150	-35 °C to +50 °C	915 270 A4 BC
400N	<input type="checkbox"/> 840/4000	37900	236	-35 °C to +40 °C	915 400 A4 BC
520N	<input type="checkbox"/> 840/4000	49800	313	-35 °C to +30 °C	915 520 A4 BC
650N	<input type="checkbox"/> 840/4000	61340	400	-35 °C to +30 °C	915 650 A4 BC
270C	<input type="checkbox"/> 750/5000	27500	150	-35 °C to +50 °C	915 270 A5 BC
400C	<input type="checkbox"/> 750/5000	40450	236	-35 °C to +40 °C	915 400 A5 BC
520C	<input type="checkbox"/> 750/5000	52880	313	-35 °C to +30 °C	915 520 A5 BC
650C	<input type="checkbox"/> 750/5000	65070	400	-35 °C to +30 °C	915 650 A5 BC

LIDC characteristic / A

- 2 = narrow beam (with individual reflectors)
- 3 = medium beam (without)
- 4 = wide beam (DDP prism screen)
- 8 = concentrated beam (DDP prism screen + individual reflectors)

Cover screen / B

- 4 = PC (fracture proof) clear
- 6 = single pane safety glass, clear

Installation type/ C

- 2 = swivel bracket
- 6 = prepared for suspension system

Please enter the following article number when ordering: **915 650 45 62**

The price comprises the base price and surcharge of the selected options:

- > Please specify any additional options. **NOTE:** Not all options are combinable. Please contact our Sales Department, which is happy to advise you in regard to options and accessories at any time.

ORDERING PROCESS FOR LED LUMINARIES WITH FOCUSSED LIGHTING

- > The item selection tables for the luminaires show the guide values for the available luminous fluxes. The standard luminous flux for the direct replacement of luminaire lengths of a T8 fluorescent lamp is shaded in grey.
- > On the right you can find further guide values for the available luminous fluxes. When ordering, the corresponding guide value is added to the article number.
- > For optimised planning according to "Focussed lighting", please find the current luminous flux and system power values from the luminous flux table on the following pages or on our homepage.
- > Luminaire length and lumen package are calculated according to the optimised design.

EXAMPLE FOR DETERMINING THE ARTICLE NUMBER:

Target luminaire ERFURT LED m1500 - MC 3, single lamp, medium beam, reflector tube PMMA Transopal® (impact strengthened)

ERFURT LED, SINGLE LAMP

Version	Luminous flux/lm	System power/W	Ambient temperature	Article no. + MC
m600 <input type="checkbox"/> 840/4000	1380 - 2800	10 - 20	-25 °C to +40 °C	445 280 A4 B4 -E- ...
m1200 <input type="checkbox"/> 840/4000	2770 - 3480 - 6320	19 - 24 - 44	-25 °C to +40 °C	445 480 A4 B4 -E- ...
➤ m1500 <input type="checkbox"/> 840/4000	4350 - 5240 - 7900	29 - 35 - 53	-25 °C to +40 °C	445 680 A4 B4 -E- ...

LIDC characteristic / A

- 2 = narrow beam
- 3 = medium beam
- 4 = wide beam

Reflector tube / B

- 2 = PMMA Transopal® (impact strengthened)
- 8 = PC Tropol® (fracture proof)

Lumen package / + MC

- MC 1
- MC 3
- MC 5
- MC 7
- MC 9

Please enter the following article number when ordering: **445 680 34 21 - E - MC 3**

- > The luminaire is set to the selected lumen package (here: MC 3) at the factory.
- > Please specify any additional options. **NOTE:** Not all options are combinable. Please contact our Sales Department, which is happy to advise you in regard to options and accessories at any time.



ORDERING PROCESS RAPDEX ACCESSORIES

Rapid Driver **EX**change enables the quick replacement of the driver. For further information, see page 30.

How to find the RAPDEX exchange accessories that are right for you:

What is the length of the luminaire?

Is the built-in driver DALI compatible?

What is the lumen package of the luminaire?

EXAMPLE FOR DETERMINING THE ARTICLE NUMBER:

Aim: RAPDEX accessories for luminaire ERFURT LED m1500, single lamp, DALI compatible, lumen package MC 3.

RAPDEX ACCESSORIES FOR SINGLE LAMP VERSION

Version	Article no.
RAPDEX replacement access cover for version m1200 and lumen package	
MC1	200 480-MC1
MC3	200 480-MC3
MC5	200 480-MC5
MC7	200 480-MC7
MC9	200 480-MC9
RAPDEX replacement access cover for version m1200, DALI compatible and lumen package	
MC1	200 485-MC1
MC3	200 485-MC3
MC5	200 485-MC5
MC7	200 485-MC7
MC9	200 485-MC9
RAPDEX replacement access cover for version m1500 and lumen package:	
MC1	200 680-MC1
MC3	200 680-MC3
MC5	200 680-MC5
MC7	200 680-MC7
MC9	200 680-MC9
RAPDEX replacement access cover for version m1500, DALI compatible and lumen package	
MC1	200 685-MC1
➤ MC3	200 685-MC3
MC5	200 685-MC5
MC7	200 685-MC7
MC9	200 685-MC9



APPENDIX

APPENDIX

INDEX



APPENDIX A **226**
SPARE
PARTS



APPENDIX B **228**
XARA®
COMPONENTS



APPENDIX C **229**
RAPDEX
ACCESSORIES





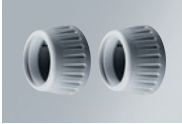









APPENDIX D **230**
COLOUR
TEMPERATURES



APPENDIX E **232**
LUMINOUS
FLUX TABLES
FOR LED
LUMINAIRES
WITH FOCUSSED
LIGHTING

SPARE PARTS

APPENDIX A

Luminaire family	Version	Article no.		
General	Access cover GD 372 x 54 x 14 mm, with gasket and screws	200 971		
	Access cover MD 132 x 54 mm, with gasket and screws	200 973		
	Access cover SD 189 x 31 mm, with gasket and screws	200 977		
	Stainless steel mounting clamp (pair)	200 222		
	Polymer mounting clamp for chlorine atmosphere, acid-resistant, white (pair)	200 226		
	Polymer stirrup clamp, black (pair)	200 211		
	Polymer stirrup clamp, white (pair)	200 210		
	Polymer cable gland with strain relief, M20, white (pair)	200 427		
	Polymer cable gland with strain relief, M20, black (pair)	201 427		
	Cable entry M20, white (pair)	200 423		
	Silicone gasket 38 mm (pair)	200 352		
	Silicone gasket 50 mm (pair)	200 351		
	LUCON luminaire connection system (1 unit)	100 111		
	BASEL LED	Polymer pressure cap, white, with mounting screw	200 220	
BEBRA LED	Polymer pressure cap, white, with mounting screw	200 119		
	Polymer stirrup clamp, black (pair)	200 211		
BERLIN LED	Lamp diffuser PC Tropol®, sloping side panels	421 040		
	Lamp diffuser PC Tropol®, inside ribbed, straight side panels	421 041		
BERN LED	End cap, black, with cable gland M20, 2-pole	536 971		
	Mounting clamp, stainless steel / black/ transparent polymer (pair)	534 220		
BITBURG LED	Polymer pressure cap, white, with stainless steel clamps	200 238		
	Stainless steel mounting clamp (pair)	200 222		
BITBURG LED EXTREME	Polymer pressure cap, white, with stainless steel clamps	200 238		
	Stainless steel mounting clamp (pair)	200 222		
BRIG	Housing cover with membrane seal	539 924		
	Access cover with pressure balancing system	539 925		
BRÜNN	Polymer pressure cap, white, with mounting screws	485 020		
	Access cover 366 x 42 x 18 mm, with gasket and screws	200 241		
COBURG LED	Pressure cap with borehole for LED	835 970		
	Spare battery 1 h, 6.0 V/2.0 Ah, including battery cable	100 420		
	Spare battery 3 h, 6.0 V/4.0 Ah, including battery cable	100 430		
	Stainless steel mounting clamp (pair)	200 222		
COESFELD	Polymer pressure cap, white, with mounting screw	200 220		
	Polymer mounting clamp for chlorine atmosphere, acid-resistant, white (pair)	200 226		
COESFELD PLUS	Polymer pressure cap, white, with stainless steel clamps	200 238		
	Polymer mounting clamp for chlorine atmospheres, acid-resistant, white (pair)	200 226		
ERFURT LED, ERFURT LED EXTREME, ERFURT LED HO single lamp	Polymer pressure cap, white, with mounting screw	200 220		
	Stainless steel mounting clamp (pair)	200 222		
FULDA LED	Pressure cap, right, polymer, white	545 970		
	Pressure cap, left, polymer, white	545 971		
	Stainless steel mounting plate with mounting materials (pair)	530 001		





















Luminaire family	Version	Article no.
GENF	Polymer pressure cap, white, with mounting screws	335 970
	Polymer mounting clamp for chlorine atmospheres, acid-resistant, white (pair)	200 226
GERA LED	Pressure cap with panel end piece, lengthwise (pair)	784 970
	Pressure cap with panel end piece, crosswise (pair)	784 971
	Stainless steel mounting clamp (pair)	200 222
HAMBURG LED	Blind cover for STAPA pipe, m600	305 011
	Blind cover for STAPA pipe, m1200	305 012
	Blind cover for STAPA pipe, m1500	305 013
	Screw ring, 38mm, white (pair)	200 318
	Polymer stirrup clamp, white (pair)	200 214
JENA LED	Pressure cap with panel end piece, lengthwise (pair)	783 970
	Stainless steel mounting clamp (pair)	200 222
KIEL LED	Polymer screw cap, black. Including mounting materials	375 970
	Polymer folding stirrup clamp, white (pair)	200 214
LUZERN 38 LED	Mounting clamps, stainless steel/polymer transparent (pair)	537 010
TRUNKING SYSTEM 185	End cap for trunking system 185, height 40 mm Including mounting materials	580 101
	End cap for trunking system 185, height 70 mm Including mounting materials	583 101
TRUNKING SYSTEM 191	End cap for trunking system 191, height 40 mm Including mounting materials	466 101
TRUNKING SYSTEM 285	End cap for trunking system 285, height 40 mm Including mounting materials	610 101
	End cap for trunking system 285, height 70 mm Including mounting materials	611 101
MÜNCHEN LED	Polymer pressure cap, white, Including mounting materials	455 970
	Access cover 366 x 42 x 18 mm with gasket and screws	200 241
URANUS	Lateral housing cover including membrane seal	967 970
	Locking slide	14 177
	Aluminium mounting clamp	967 909
URANUS PF	Lateral housing cover including membrane seal	967 970
	Locking slide	14 177
	Aluminium mounting clamp	967 909
ZUG LED	End cap, black, with cable gland M20, 4-pole	775 971
	Mounting clamps, stainless steel/polymer transparent (pair)	770 212

XARA® FUNCTION OVERVIEW

APPENDIX B

Our XARA® lighting control system provides a vast range of functions. Here you find a selection of these. Please consult us for further functions.

For general Information about XARA® see page 20 and our other publications about XARA® lighting control.

	Motion detection		Visualisation web based or via touch panel
	Daylight-level and motion detection		Monitor function
	Daylight detection control		Night light
	Daylight detection control and motion detection		Connection to building control
	Integration of switching elements		Energy monitoring
	Time-dependent control / day and week plans		Remote maintenance
	Integration of single and central battery emergency luminaires		E-mail / SMS-service
	Error search driver failure		Customised requirements
	Error search LED / lamp failure		Integration of luminaires of other manufactures
	Error search communication DALI-bus		
	Text book emergency luminaires according VDE 0108		

RAPDEX ACCESSORIES

APPENDIX C


General information on  RAPDEX can be found on page 28.

RAPDEX ACCESSORIES FOR SINGLE LAMP VERSION

Version	Article no.
RAPDEX replacement access cover for version m1200 and lumen package:	
MC1	200 480-MC1
MC3	200 480-MC3
MC5	200 480-MC5
MC7	200 480-MC7
MC9	200 480-MC9
RAPDEX replacement access cover for version m1200, DALI compatible and lumen package:	
MC1	200 485-MC1
MC3	200 485-MC3
MC5	200 485-MC5
MC7	200 485-MC7
MC9	200 485-MC9
RAPDEX replacement access cover for version m1500 and lumen package:	
MC1	200 680-MC1
MC3	200 680-MC3
MC5	200 680-MC5
MC7	200 680-MC7
MC9	200 680-MC9
RAPDEX replacement access cover for version m1500, DALI compatible and lumen package:	
MC1	200 685-MC1
MC3	200 685-MC3
MC5	200 685-MC5
MC7	200 685-MC7
MC9	200 685-MC9

K COLOUR TEMPERATURE

APPENDIX D

LED luminaires with FOCUSED LIGHTING  and additional selected luminaires are available in the colour temperatures listed here. Please additionally enter the article number of the desired colour temperature when ordering. The standard colour temperature is 4000 K.

FURTHER COLOUR TEMPERATURES

	Article no.
For single lamp version, m600	
 2700K	122 700
 3000K	123 000
 5000K	125 000
 6500K	126 500
For single lamp version, m1200	
 2700K	142 700
 3000K	143 000
 5000K	145 000
 6500K	146 500
For single lamp version, m1500	
 2700K	162 700
 3000K	163 000
 5000K	165 000
 6500K	166 500
For twin lamp version, m600	
 2700K	222 700
 3000K	223 000
 5000K	225 000
 6500K	226 500
For twin lamp version, m1200	
 2700K	242 700
 3000K	243 000
 5000K	245 000
 6500K	246 500
For twin lamp version, m1500	
 2700K	262 700
 3000K	263 000
 5000K	265 000
 6500K	266 500

LUMINOUS FLUX TABLES FOR LED LUMINAIRES WITH FOCUSED LIGHTING

APPENDIX E

LUMEN PACKAGES OF LAMPS FOR m600

SINGLE LAMP

BERN LED, ERFURT LED, ZUG LED

Article number of the lumen package	System power/W	Lamp luminous flux/lm
MC 1	9	1300
MC 3 (± 18 W, T8)	11	1710
MC 5	13	2110
MC 7	17	2730
MC 9	18	2930

TWIN LAMP

ERFURT LED

Article number of the lumen package	System power/W	Lamp luminous flux/lm
MC 1	14	2600
MC 3 (± 2 x 18 W, T8)	18	3420
MC 5	22	4220
MC 7	30	5460
MC 9	32	5860

SINGLE LAMP

MÜNCHEN LED

Article number of the lumen package	System power/W	Lamp luminous flux/lm
MC 1	10	1380
MC 3 (± 18 W, T8)	13	1740
MC 5	15	2090
MC 7	19	2630
MC 9	20	2800

LUMEN PACKAGES OF LAMPS FOR m1200

SINGLE LAMP

BERN LED*, BITBURG LED, COBURG LED**, ERFURT LED, FULDA LED, GERA LED, JENA LED, ZUG LED, ZUG LED AL

Article number of the lumen package	System power/W	Lamp luminous flux/lm
MC 1	16	2600
MC 3 (± 36 W, T8)	20	3420
MC 5	27	4640
MC 7	34	5860
MC 9	36	6270

TWIN LAMP

ERFURT LED, GENF LED

Article number of the lumen package	System power/W	Lamp luminous flux/lm
MC 1	32	5200
MC 3 (± 2 x 36 W, T8)	40	6840
MC 5	54	9280
MC 7	68	11720
MC 9	72	12540

SINGLE LAMP

BRÜNN LED, MÜNCHEN LED

Article number of the lumen package	System power/W	Lamp luminous flux/lm
MC 1	19	2770
MC 3 (± 18 W, T8)	24	3480
MC 5	31	4540
MC 7	41	5960
MC 9	44	6320

LUMEN PACKAGES OF LAMPS FOR m1500

SINGLE LAMP

**BERN LED*, BITBURG LED, BRÜNN LED,
COBURG LED**, ERFURT LED, FULDA LED, GERA
LED, JENA LED, MÜNCHEN LED, ZUG LED, ZUG LED AL**

Article number of the lumen package	System power/W	Lamp luminous flux/lm
MC 1	25	4270
MC 3 (± 58 W, T8)	30	5280
MC 5	36	6300
MC 7	42	7320
MC 9	44	7830

TWIN LAMP

ERFURT LED, GENF LED

Article number of the lumen package	System power/W	Lamp luminous flux/lm
MC 1	50	8570
MC 3 (± 2 x 58 W, T8)	60	10560
MC 5	72	12600
MC 7	84	14640
MC 9	88	15660

SINGLE LAMP

BRÜNN LED, MÜNCHEN LED

Article number of the lumen package	System power/W	Lamp luminous flux/lm
MC 1	29	4350
MC 3 (± 18 W, T8)	35	5240
MC 5	44	6570
MC 7	50	7450
MC 9	53	7900

NOTE:

NORKA LED products mainly have a service life of **L80 B10 > 60,000 h**.

Divergent service lives are specified separately.

* BERN LED: Version m1200 and m1500 are not available with lumen package MC 9.

** COBURG LED: plus 2 W system power

Standard luminous flux, corresponds to the luminous flux of a luminaire with T8 of the same length

NORKA

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