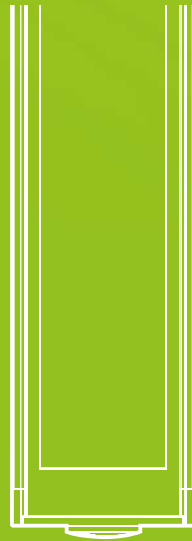




## LED INDUSTRIAL LIGHTING

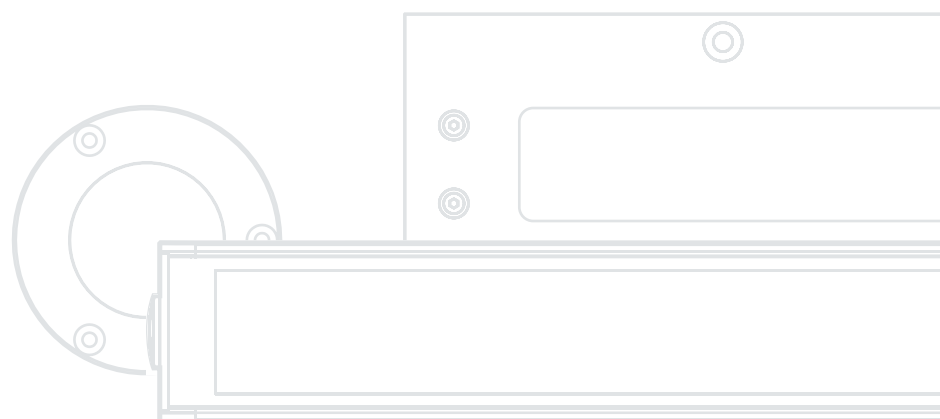


Designed and Made in Germany



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INTELLIGENCE IN LIGHT

## LED lights: From intention to serial production

We were one of the first companies to start designing and manufacturing exclusively specialized LED luminaires for machine and industrial applications.

Today we are one of the leading companies in the field and we employ innovative ideas to create better and better lighting.

The best light is the one that optimally meets the respective requirements and needs. Sometimes it must be extremely acid- and cooling lubricant-resistant, sometimes particularly bright and bundled so that it illuminates exactly the 1,000th of the surface that must be in view.

All of our lights have one thing in common: Economy, durability and unbeatable energy efficiency with ergonomic design and optimized handling.



Yours Jan Schiga  
CEO



INTELLIGENCE IN LIGHT



**LIGHTING  
MADE  
IN GERMANY**



MADE IN GERMANY luminaire production: In-house development and structure of the assemblies

## We develop, manufacture and market

Development comes before production. We do the engineering, all tests and trials in-house. For this, we have a staff of engineers, proven practitioners and a test facility. All that ensures sophisticated product solutions and later consistently high quality.

We have a wide range of expert knowledge and qualified employees as well as the production and assembly capacities to make high-quality products with the "Made in Germany" seal.

The result is an efficient and economical process chain: From the concept stage and prototyping to high-quality serial products or individual lighting solutions based on LED technology.



Precise cutting of profiles and housings



Gluing of covers made of safety glass



**LIGHTING  
MADE  
IN GERMANY**



MADE IN GERMANY luminaire production: Employees setting up a CNC-controlled gluing robot

## Market-oriented better light concept

There is nothing more fascinating than working with light. With a forward-looking view, we pick up new trends and developments in the market and turn them into products. And all with a single goal: To create the perfect lighting.

### This is what LED2WORK stands for:

- Improvement of existing lighting solutions – brighter, more durable, more economical - with a single target: Achieving higher productivity through perfectly tuned light
- Own development, production and assembly
- Secure and coordinated supply chains
- We are MADE in GERMANY manufacturer and marketer



The high level of vertical integration requires good warehousing logistics



Many luminaires are available for prompt delivery

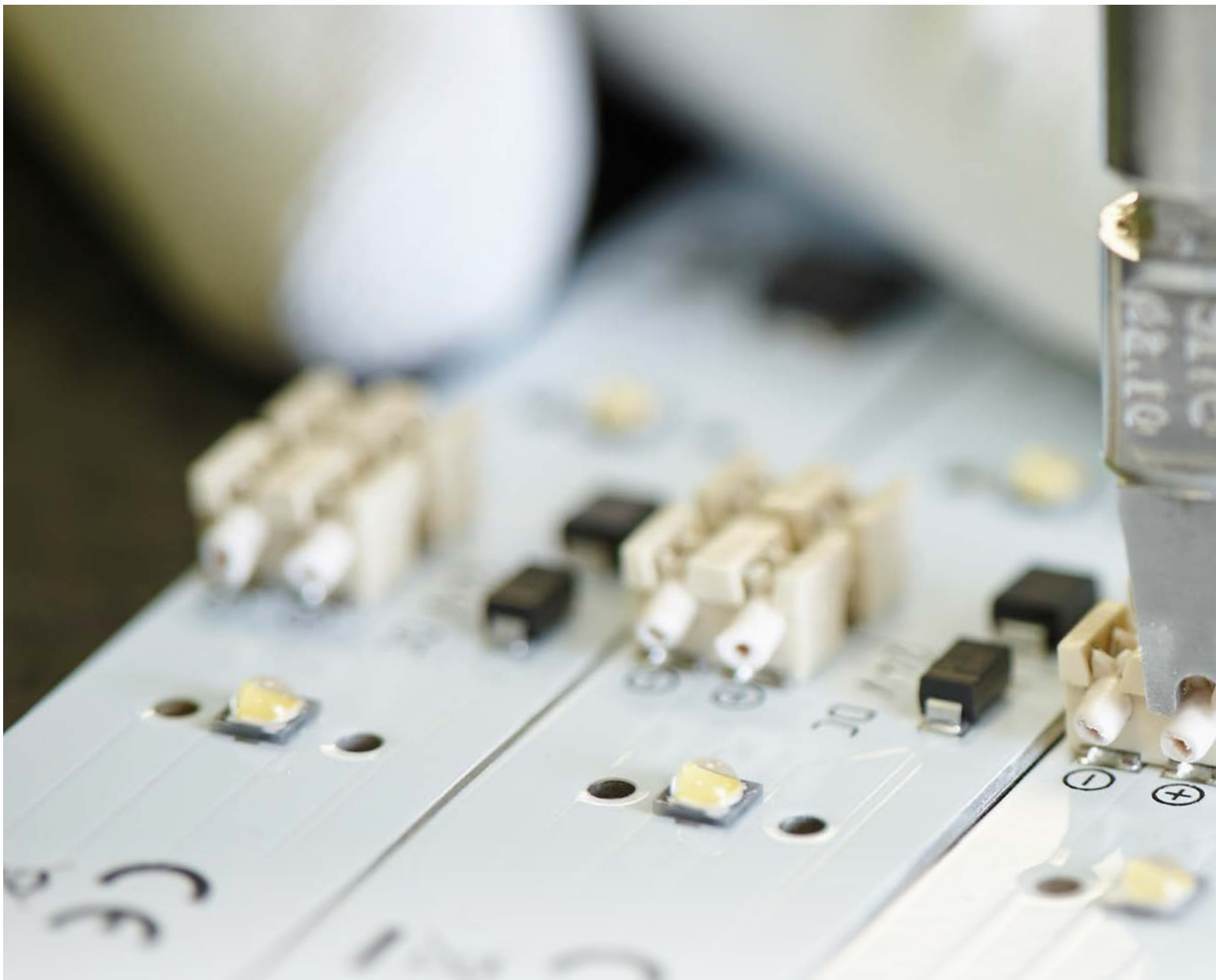




**LIGHTING  
MADE  
IN GERMANY**



MADE IN GERMANY luminaire production: Communication between individual fields allows planning in a market-oriented manner and process optimization



## Better through experience

Good light is not more expensive than poorer light, only better and more economical. It is always the better ideas, the engineering and the skilful implementation that make good lighting. This is why we demand and promote innovative thinking and value-oriented work in our company - across the entire workforce.



**LIGHTING  
MADE  
IN GERMANY**

MADE IN GERMANY luminaire production: Assembling of assemblies

**A few keywords:**

- Use of high-quality and state-of-the-art electronic components
- Special product design that meets all the requirements of the prescribed protection classes and reported types of protection
- Smart thermal management over the selected housing geometry
- High-quality seals, e.g., Viton®
- Lifetime of up to 60,000 operating hours and 36 months warranty
- LED chips with very narrow binnings, which means almost no deviations in the colour temperature and brightness values and high efficiency
- Excellent energy efficiency
- Maintenance free
- Designed for a long service life and sustainability

## LED: Light, technology and requirements

### Service life

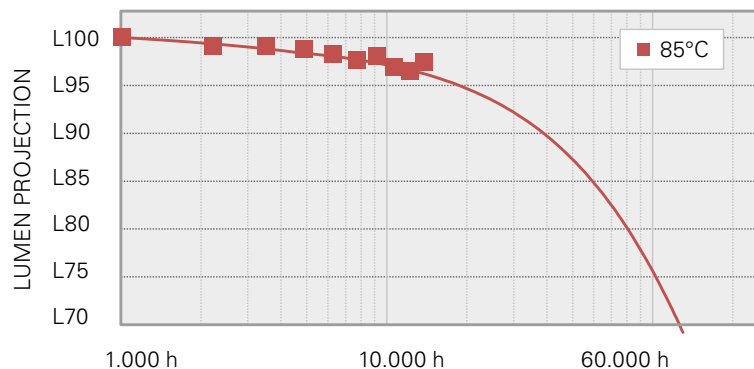
LED luminaires from LED2WORK are developed as durable products. The service life of the luminaire and the installed electronics is at least 50,000 operating hours (high-power LED technology) or at least 60,000 operating hours (mid-power LED technology). As soon as the luminous intensity drops below 80 %, the service life of the LED is considered fulfilled. However, this does not mean that the luminaire fails immediately, but a further reduction in luminous flux below 80 % of the original value can be expected.

Beispiele:

Service life	50,000 h	60,000 h
1-shift operation	21.8 years	26.1 years
2-shift operation	10.9 years	13.1 years
3-shift operation	8.2 years	9.8 years

This information is based on 250 work days a year

LED chips are also much less sensitive to vibrations than conventional light sources. As a rule, the luminaires outlive the plant in which they are installed.



■ **L80:** The L-value of a luminaire indicates the percentage of the total luminous flux of an individual LED module at the end of its service life (LED2WORK usually, 50,000 to 60,000 operating hours) has remained.

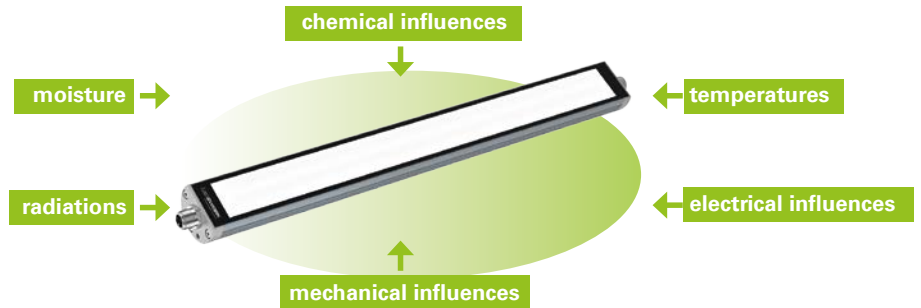
The reason for this is that a light source slowly degenerates over its lifetime and emits less and less light. In the case of LED2WORK, this maximum reduction corresponds to the 20% mentioned above after 60,000 hours.

■ **B10:** The B value indicates that 10 % of the LED modules used can exceed the drop in total luminous flux specified by the L value, but maintain at least 90 % of it or even fall below that.

**External influences on service life**

Compared to conventional light sources, a total failure of LED chips is extremely rare. They are practically maintenance-free after installation. Only the brightness, i.e. the luminous flux, decreases slightly over the service life. Internal and external factors influence the service life of the LED.

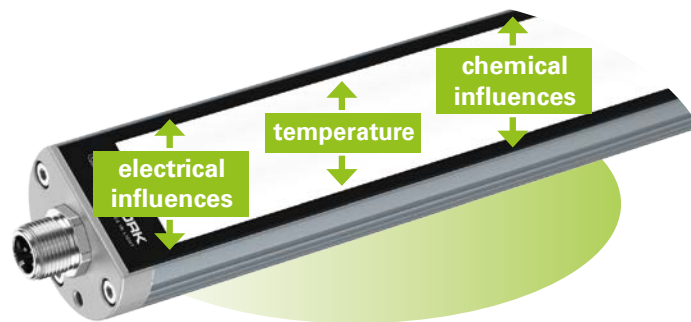
**External influences**



**Thermal management**

High-quality housings made of specially alloyed aluminium serve as housing and heat sinks for the built-in electronics and at the same time ensure optimum thermal management of the LED chips. LED2WORK works with aluminium core circuit boards for fast heat dissipation on the housing. With the right thermal management, LED2WORK succeeds in maximising the service life of the LED chips used.

**Internal influences**



**Colour Rendering Index R<sub>a</sub>**

**The higher the colour rendering index, the more faithful the colour rendering.**

The R<sub>a</sub> value for the representation of the colour rendering index (CRI) is an indicator for the colour rendering of light sources. This value describes how the colour rendering of an artificial light source is compared to the colour rendering in sunlight. The higher the R<sub>a</sub> value, the better the colour rendering of the light source. The colour rendering index can reach R<sub>a</sub> values of up to 100, which corresponds to absolutely lifelike colour rendering (sunlight, black body radiation).

Colour Rendering Index R <sub>a</sub>	Quality
90...100	Outstanding
80...90	Good
70...80	Satisfactory
60...70	Adequate
50...60	Poor
0...50	Unsatisfactory

Light	Index R <sub>a</sub>
Sunlight	100
Light bulb	bis 100
White LED	75...98
OLED	80...90
Fluorescent lamp	50...90
Energy-saving lamps	85...90

**Energy efficiency**

**LED itself stands for energy-efficient lighting.**

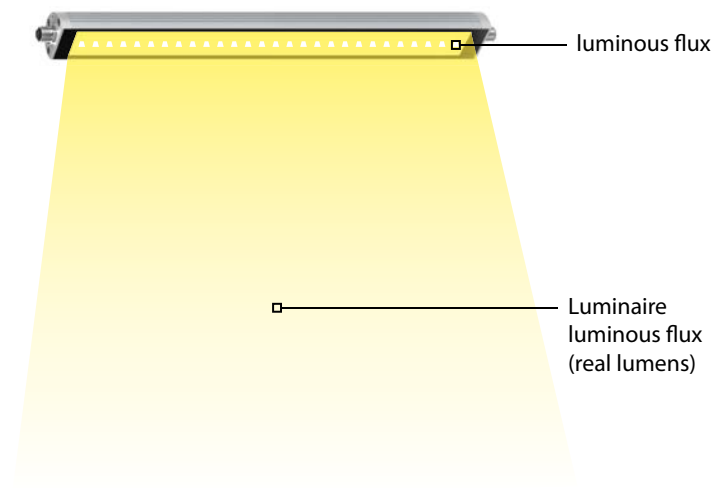
All LED2WORK luminaires feature high energy efficiency. Conventional lighting concepts from previous years are considerably below the values currently being achieved. For example, a light bulb has a luminous efficacy of up to 12 lm/W and a fluorescent lamp of up to 100 lm/W. Today, the LED chips used by LED2WORK are up to 180 lm/W (laboratory value, junction temperature at 25 °C Tj). The LED2WORK luminaire specifications generally include the light source luminous flux (junction temperature at approx. 85 °C Tj).

## Lumen

Lumen is the basic unit of luminous flux. Manufacturers of incandescent bulbs, fluorescent tubes or LED chips usually state the value of the total luminous flux of the light source in the technical data sheets. This defines which luminous flux (in lumens) is to be expected.

## Luminaire luminous flux

The luminous flux of a luminaire (also called real lumens) is the luminous flux actually emitted by a luminaire in lumens, i.e., a lumen value measured from the outside that, depending on the luminaire, is weakened by diffusers or covers or enhanced by reflectors.



## Lamp luminous flux

The lamp luminous flux (light source luminous flux) is the total luminous flux of the light source which is measured by the manufacturer and specified for LED chips.

**Binning**

**The quality of each LED chip is due to the narrow binning.**

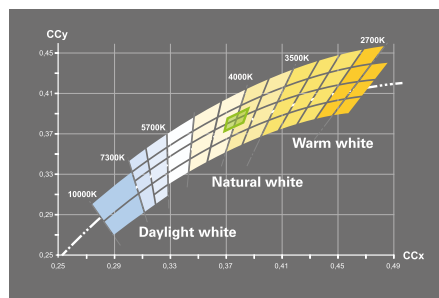
In the industrial production process of LED chips, there are also small deviations within individual batches and thus small differences between the individual LED chips.

The colour temperature (Kelvin), the colour and luminous flux (lumens), and the required forward voltage drop, differ from each other within a production batch. As a result, LED chips that are installed in a single luminaire, for example, can differ slightly from each other. This process is called binning. The LED chips, whose characteristics are wider or narrower depending on the desired quality, are sorted into different bins – i.e. containers. The larger the container or the greater the sorting tolerance, the greater the differences between the values of the individual LED chips to each other. The narrower the binning, the more complex the sorting process and, ultimately, the more expensive and high-quality the end product.

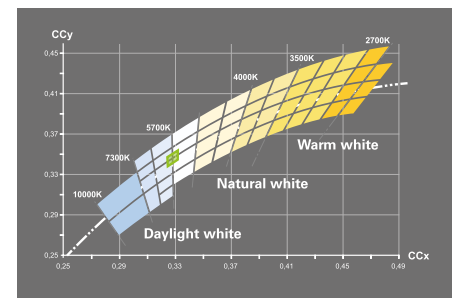


In order to guarantee a uniform character of the light, the LED chips used by LED2WORK are sorted according to their properties within narrow tolerances. This guarantees you: reproducibility of luminous flux, light colour and colour rendering; within one batch and, of course, across future batches.

■ Binning of LED2WORK LEDs



LED binning white light 4000 K



LED binning white light 5000 K



**UGR**

**The lower the UGR value, the lower the glare.**

The UGR value (Unified Glare Rating) is a dimensionless figure that indicates the degree of psychological glare of a lighting system in a standardised interior. UGR values are defined in steps for the range from 10 to 30, with a lower UGR value equating to lower glare.

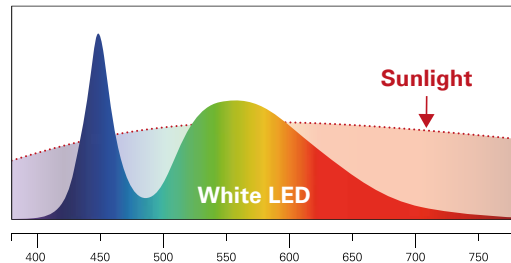
The UGR includes not only direct glare from the luminaire itself, but also reflected light from walls, floors and ceilings in a standardised room (DIN EN 12464-1). The actual UGR depends on the installation situation of the light source, the position of an observer and the actual structure of the luminaire.

**UGR (Unified Glare Rating)**

Technical drawings	≤ 16
Reading, writing, inspection work	≤ 19
Working in industry and manual work	≤ 22
Rough work, stairwell lighting	≤ 25
Hallways	≤ 28

**White LED**

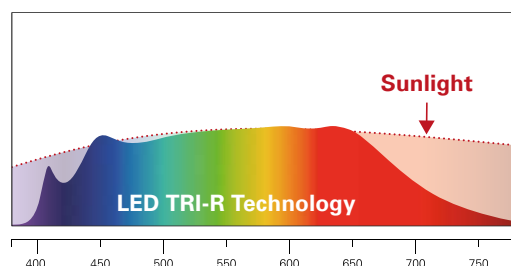
Seen from a physical aspect, there are no LED chips that emit white light. To generate white light, an LED chip is used which guides blue light through a phosphorous layer. The phosphorous layer complements the spectral components of the blue light, making it white.



Spectral distribution white LED 4000-5700K

**LED chips with TRI-R technology**

The LED chips with TRI-R technology use a semiconductor chip that emits violet light for light conversion. This light is completely converted into red, green and blue by photo luminescence. Thus there is no unconverted light from the semiconductor chip in the spectrum of these LED chips and there are no gaps in the bandwidth of this LED light. The light of the LEDs with TRI-R technology contains the entire colour spectrum comparable to sunlight and is characterised by a high colour rendering and colour quality.



Spectral distribution LED with TRI-R technology

### Light spectrum

All LED chips used by LED2WORK have a wavelength of 400 nm to 800 nm.

### Ergonomics

#### Light ergonomics: well illuminated work areas.

Light from LED2WORK also contributes to ergonomics in trade and industry. Ergonomic working lights for ergonomic working – that is our motto. Our LED industrial luminaires developed with under the aspect of improving light quality, lighting conditions and lighting atmosphere. The continuous further development with product solutions for better vision and work and the associated health aspects make us a strong partner for LED workplace and industrial lighting.

The LED chips we use are mercury-free and emit no UV or infrared radiation. Good contrast vision and high colour rendering are a matter of course with LED2WORK luminaires. We guarantee lighting that is homogeneous, low-shadow as well as glare and flicker-free. This prevents rapid fatigue. Colours and contrasts can be easily recognised thanks to high colour rendering. To adapt the amount of light to your visual task, some of our luminaires are additionally equipped with infinitely variable dimming.

### Beam angle/ beam characteristic

The beam angle provides information on the angle at which most of the forward light is emitted. This angle depends on the type of luminaire (spotlight luminaire or surface luminaire) and is between 10° and 125°. For focused lighting (spotlights), we have LED luminaires with 10°, 16°, 25° or 40° optics, a lens bundles the light and thus prevents scattering. The aim of surface area luminaires is to illuminate a larger area homogeneously, with these luminaires the angles are 60°, 100°, 120° and 125°.

### Photo biological safety

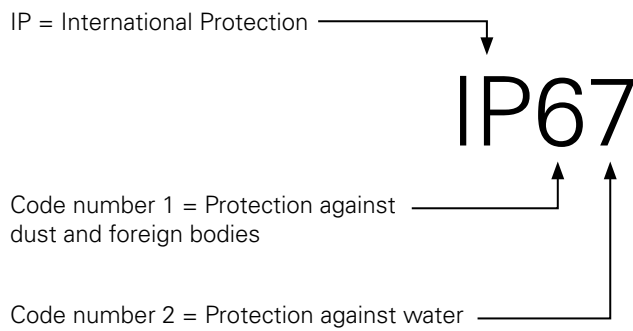
All electrically operated incoherent broadband radiation sources fall within the scope of the international standards for photo biological safety, i.e. conventional light sources, including LED chips, but not lasers.

The relevant wavelength range is from 200 nm to 3,000 nm, i.e. from infrared to ultraviolet. Our LED chips emit light in the visible spectrum (400 nm to 800 nm) and are therefore subject to the DIN 62471 application area, which defines limit values for emitted light with regard to its health hazard and prescribes measurement methods. In this context, two types of hazards have to be investigated: photochemical and thermal retinal hazards. For quick classification, DIN 62471 divides luminaires and light sources into 4 so-called risk classes: "Free class", "Risk group 1" (low risk), "Risk group 2" (medium risk) and "Risk group 3" (high risk). Our LED chips are assigned to the free class or Risk group 1 and in many respects fall short of their limit values even further.

**Degrees of protection**

Our luminaires are protected against external influences such as dust, foreign bodies, moisture and water. The degrees of protection are specified in IP codes, whereby IP stands for protection against ingress. The IEC 60529 standard defines the degrees of protection and divides them into various classes.

To identify a degree of protection, the first code number refers to the protection against the ingress of dust and solid foreign bodies. The second code number stands for protection against the ingress of water.



**Degree of protection coding**

First digit	Protection against the ingress of dust and foreign bodies	Second digit	Protection against ingress of water
0	Not protected	0	Not protected
1	Protection against the ingress of solid foreign bodies with a diameter > than 50 mm	1	Protection against vertically dripping water
2	Protection against the ingress of solid foreign bodies with a diameter > than 12.5 mm	2	Protection against water spray with 15° inclination
3	Protection against the ingress of solid foreign bodies with a diameter > than 2.5 mm	3	Protection against water spray with 60° inclination
4	Protection against the ingress of solid foreign bodies with a diameter > than 1 mm	4	Protection against water spray
5	Protected against dust in harmful quantities	5	Protection against water jets
6	Dustproof	6	Protection against strong water jets
		7	Protection against temporary submersion (max. 30 min at water depth 1 m)
		8	Protection against continuous immersion
		9K	Protection against very intensive water jets

### Suppressor circuit

To protect against voltage surges and transients, our luminaires always have a protective circuit on the circuit board. This additional circuit protects the luminaire from annoying failures caused by time-limited coupled external signals and electrostatic transients.

In addition, each light source has an additional reverse polarity protection, which protects the luminaire from defects if the polarity is incorrect for a short time (e.g. when mounting or connecting the lamp).

### Protection classes

The designation of the protection class describes how hazards caused by electrical currents and voltages are reduced and prevented. The protection classes describe the safety measures provided by the customer to prevent electric shock. A distinction is made between three approved protection classes:



Protection class I is for luminaires which require a protective conductor connection.



Protection class II refers to increased protective insulation without a separate protective conductor connection.



Luminaires operated with safety extra-low voltage are assigned to protection class III

LED luminaires with 24V supply voltage and special power supply units have the electrical protection class III and are therefore only supplied with safety extra-low voltage (SELV). This means that the supply voltage is so low that there is no danger of electric shock because the voltage is outside the dangerous range and there is no reference to the earth conductor.

For LED luminaires with 110-240V AC supply voltage, all electrically conductive housing parts are connected to the protective conductor system of the fixed electrical installation, which is earthed. LED2WORK offers luminaires with protection classes III and I.

### Areas of application

LED2WORK offers the ideal lighting for every application and ensures excellent lighting conditions in industrial environments for optimal integration.

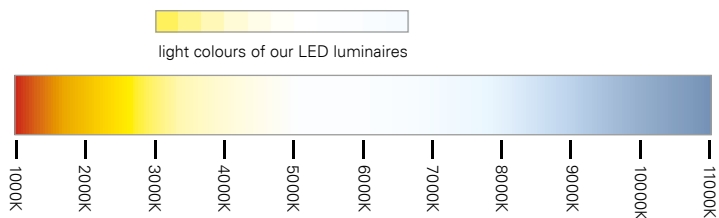
Depending on the requirements, the LED industrial luminaires meet special challenges that, for example, harsh production environments place on them: depending on the type of luminaire, there is resistance to high temperatures or a proven proofness against oil, cooling lubricant and water. The functioning of 100% CNC-suitable LED lights cannot be affected even when they are bombarded by flying chips. In addition, many luminaires are prepared for electrical interlinking. Materials that conduct heat well, such as aluminium for the housing and safety glass for the covers, are used.

**Light colour [K]**

The LED industrial lights declared as FDA-compliant, are resistant to acids and alkalis; they are made of FDA-compliant materials and are therefore prepared for use in hygiene-sensitive areas – such as in production lines for the production and packaging of food or in clean rooms.

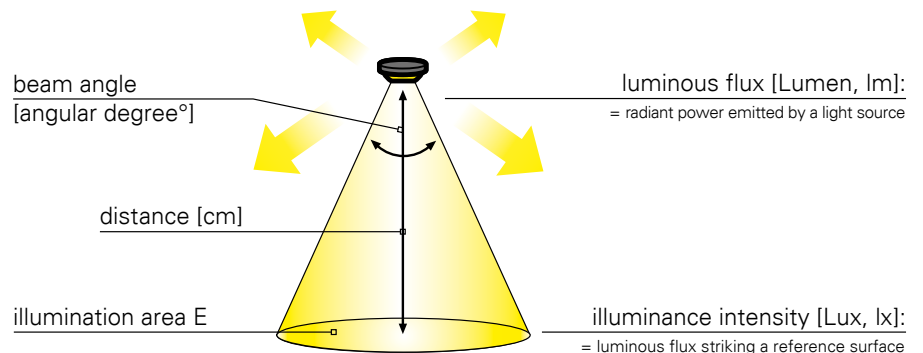
RGB signal lights and RGB-W hybrid lights can be used wherever attention needs to be drawn, for example by changing the light colour or flashing intervals.

The light colour, also called colour temperature, is specified in Kelvin. The higher the Kelvin number, the colder the light is perceived. In trade and industrial environments, lighting usually has colour temperatures between 3,000 K and 6,500 K, depending on the application and requirements.



**Lumen [lm]**

Lumen, with the unit symbol lm, is the unit of the total luminous flux of a luminaire or the module that is used. The total luminous flux is a measure of the total amount of light emitted in all spatial directions.

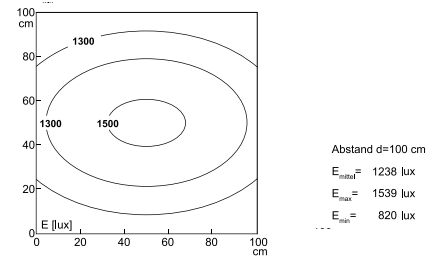


**Lux [lux]**

Lux, with the unit symbol lx or Lux, is the unit of illuminance intensity of a luminaire or of the module that is used. The intensity of illuminance is a measure of the amount of incident light from a light source on an area of 1m<sup>2</sup>.

**Isolux diagram**

An Isolux diagram describes the light distribution of the luminaire in a previously defined area, usually 100 cm x 100 cm in the distance of 100 cm from the luminaire.



The values given for  $E_{max}$  describe the maximum lux value to be achieved in the centre on the surface. The value  $E_{min}$  describes the minimum value on the surface and the value  $E_{average}$  indicates the average value of all measured values on the surface.

**Light-Forming Technology**

The LED chip has a beam angle of 100°. The light is directed and amplified by means of reflectors made of highly reflective aluminium as well as special light diffusing films.

**Flicker**

Flicker is the term used to describe fluctuations in the light density of light sources caused by fluctuating supply voltages, such as in the 230V AC low-voltage network. With regard to LED technology and the ballasts used (particularly with simple transformers, clear flicker can be measured), these fluctuations are very high-frequency and cannot be detected by the naked eye.

The LED chips used by LED2WORK are all equipped with technical devices to stabilise the luminous flux and compensate for voltage fluctuations of the power supplies over wide input voltage ranges. These are specified for the respective luminaires.

**Strobe effect**

Conventional light sources often work directly with the mains voltage and are therefore subject to a frequency of 50 Hz. The current changes direction 100 times per second. The generated light pulsates at a speed not visible to the naked eye. This circumstance can make rotating parts appear to be stationary in this light. If our LED chips are supplied with regulated switching power supplies and not dimmed by pulse width modulation, a stroboscopic effect can be excluded. Thus our lamps are also suitable for camera applications, as they are used in optical inspections.

**Flickering**

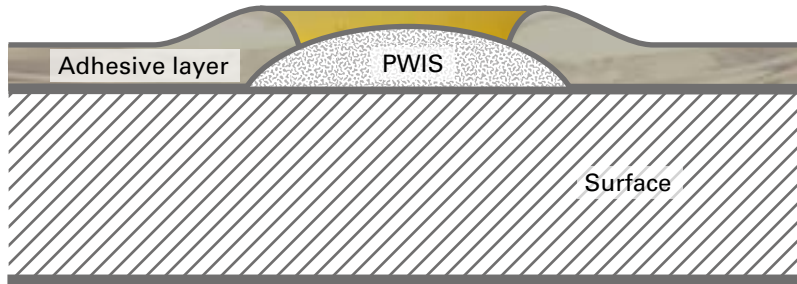
Technically, flickering means fluctuations in luminance that are not generated by the supply voltage but by the structure of the lighting source itself.

Almost all LED2WORK light sources use continuously operating linear regulators to stabilise and control the supply currents instead of fast switching elements (switching converters), which could generate additional flicker.

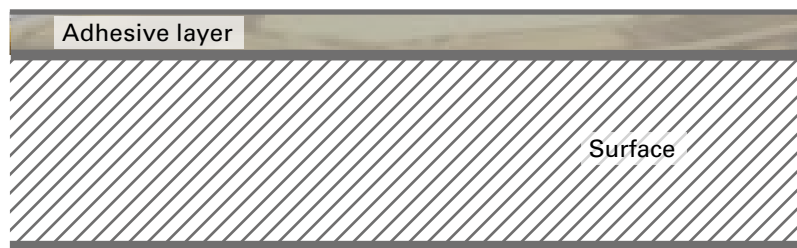
**PWIS free**

**Clean surfaces for seamless adhesive layers.**

Substances that interfere with the lacquering process – Paint-Wetting Impairment Substances = PWIS for short – can cause coating defects on surfaces and impair the quality of an applied adhesive layer.



In order to seal our LED luminaires against external influences and thus immunise them against oils or coolants, the high-quality seals must be bonded cleanly. In order to achieve a good, complete adhesive coating, it is extremely important to prepare the surfaces of the components in such a way that they are clean, dry, free of oil and silicone, and cleaned down to the pores of other contaminating substances – i.e. PWIS free – so that no impurities occur in the adhesive layer. In addition to cleaning all relevant surfaces before bonding the seals, we also rely on PWIS compliant production areas.



**HACCP certification**

The HACCP certification guarantees the testing of LED lights in various ways in order to avoid dangers that can lead to illness or injury to consumers in connection with food. The concept for hazard analysis and critical control points constitutes strict requirements for quality assurance in the production and handling of food.

**Ecolab® coating**

Ecolab® is a leading global provider of products, solutions and services related to water, hygiene and infectious disease prevention. The multi-resistant coating that surrounds our Ecolab®-marked lights reduces the adhesion of dirt, which is particularly desired or required in hygiene-sensitive areas of the food and beverage industry.



MADE IN GERMANY luminaire production: Soldering by hand

LEDs are uniquely flexible in their shape. Whether in tight machine rooms, as a design element in automotive interiors or as an architectural highlight: Shape and colour can be varied like no other lighting technology, as long as the technology is known and used. In terms of energy consumption and durability, LED lighting is far superior to anything else.



## Branches and applications



### LED workplace lighting

Ergonomic LED luminaires in various sizes and designs for individual and system workstations as well as for in laboratories. As a stand-alone solution or as an electrically interlinkable luminaires for optimum lighting conditions and ergonomic operation.

- Homogeneous and shadow-free, as well as
- glare-free and flicker-free illumination of the work surface
- Coordinated HCL (human centric light) technology
- Compatible with all common system workstation luminaires



### LED machinery lighting

Machine and plant-specific luminaires in numerous designs. M12 plug connections for AC or DC connection ensure a standardised and at the same time tight power connection.

- Can be integrated into the tightest of spaces
- Extremely robust and resistant
- Use of focused luminaire up to homogeneous surface luminaire
- Can be interconnected electrically (depending on the product)



### LED industrial lighting

Robustness and a wide range of possible uses, paired with industrial design – this is what distinguishes our industrial lights.

- Suitable for food & beverage industry: HACCP and Ecolab certificates as well as FDA-compliant materials
- High light output for visual systems
- Also, as RGB signal lights or RGB-W hybrid lights; the latter can be used for lighting and signalling with a single light



### OEM and special solutions

We have an efficient process chain to implement new ideas for special lights that are precisely tailored to meet the very special requirements of our OEM partners:

We start with an economic analysis, which requires an agreed number of pieces per annum, and then continue with the concept phase. It is then followed by prototyping in our in-house prototype manufacturing facility and ends in the production of an individualized series of lights.

## Certifications and market requirements

In order to meet the high quality demands and special requirements in the commercial environment, we develop and produce the luminaires ourselves. Starting with the thermal management of the base bodies, to the respective IP protection class and including the electronics installed.

### We have:

- The basic DIN EN ISO 9001 certification
- Listings in operating equipment regulations of numerous automobile and industrial companies
- The luminaires designed for Food & Beverage industry are HACCP and Ecolab® certified
- Certifications for export, e.g. ETL (UL and CSA standards)
- All requirements up to protection class III (devices with safety extra-low voltage) and up to the degree of protection IPX9K (product-dependent)



Ecolab®



MADE IN GERMANY luminaire production: The individual luminaire assemblies wait for the final assembly in production racks



### Suitable for CNC

These include oil-resistant components such as seals made of FKM (Viton®) and luminous surfaces made of toughened safety glass (TSG), which are between 3 mm and 5 mm thick depending on the luminaire type. The housings are made entirely of aluminium and have a very high degree of protection (IP67, IP68, IP69K or IPX9K). The luminaires are therefore suitable for the toughest production environments such as CNC machining centres, where they can also be exposed to chip bombardment and coolant<sup>1</sup>. The warranty period is 36 months from the date of purchase – including leak tightness.

<sup>1</sup> Resistances must be tested on a case-by-case basis in the application.



### Suitable for F&B

For applications in the food industry (food & beverage) according to DIN 10500. They guarantee food safety through splinter-free covers made of PMMA or potting compounds and solid housings made of V4A or polycarbonate (PC). The design facilitates easy cleaning. The luminaires are chemically and mechanically resistant to many common acids and alkalis, as well as to H<sub>2</sub>O<sub>2</sub> (max. 35 %) used for disinfection/sterilisation. The warranty period is 36 months.

**LIGHTING  
MADE  
IN GERMANY**

### Explanation of symbols

	Voltage		RGB LED chips (additional for hybrid lights inside the RGB-W chip cluster)		Luminaires can be dimmed using optional accessories
	IP degree of protection		with M12 connection		Maintenance-free
	Warranty in months		Cable length in meters		ETL Listed Security Test Seal
	Operating hours in continuous light mode		Ambient temperature of the operating in °C		Resistant against chip bombardment, vibration and impacts, oil and coolants
	Colour rendering index (R <sub>a</sub> )		Electrical protection class		Food & Beverage – suitable for the food and beverage industry
	Light colour in Kelvin		Impact resistance		Made in Germany

# Product overview

## LED workplace lighting

### Flex-arm luminaire Page 32

CENALED SPOT  
Flexarm  
(flexible arm)



### Articulated-arm luminaires from Page 34

CENALED SPOT  
Gelenkarm  
(adjustable arm)



LENSELED II



UNILED II



UNILED II  
TUNABLE WHITE



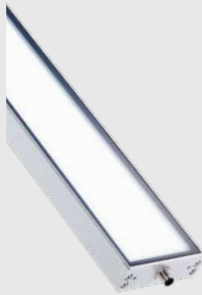
## LED machinery lighting

### Surface mounted luminaires from Page 58

CENALED SPOT  
Gelenkkopf



FIELDLED II



LEANLED II



MIDILED



TOPLED  
SPOTLED II



TUBELED\_40  
Element



## LED lighting with signal function

### LED signal luminaires / LED hybrid lights ab Seite 88

INROLED\_50 Ecolab  
RGB-W



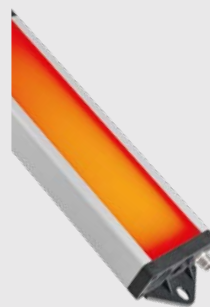
SIGNALED II RGB



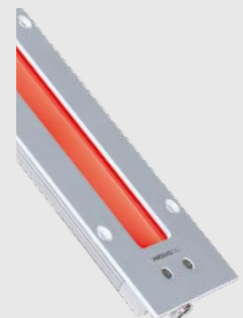
TUBELED\_40 II  
RGB-W



UNILED SL  
RGB-W



TUBELED\_40 II  
Integrated RGB-W



**System luminaires from Page 42**

PROFILED



SYSTEMLED



SYSTEMLED  
TUNABLE WHITE



UNILED SL DC



UNILED SL AC



UNILED SL AC  
Zugpendel  
(height adjustable)



**Recessed luminaires from Page 80**

TUBELED\_40 II



TUBELED\_70



FIELDLED II



SPOTLED II



TUBELED\_40 II  
Integrated



**LED industrial lighting**

**Surface mounted luminaires / tube luminaires from Page 100**

INROLED\_25



INROLED\_50 Ecolab



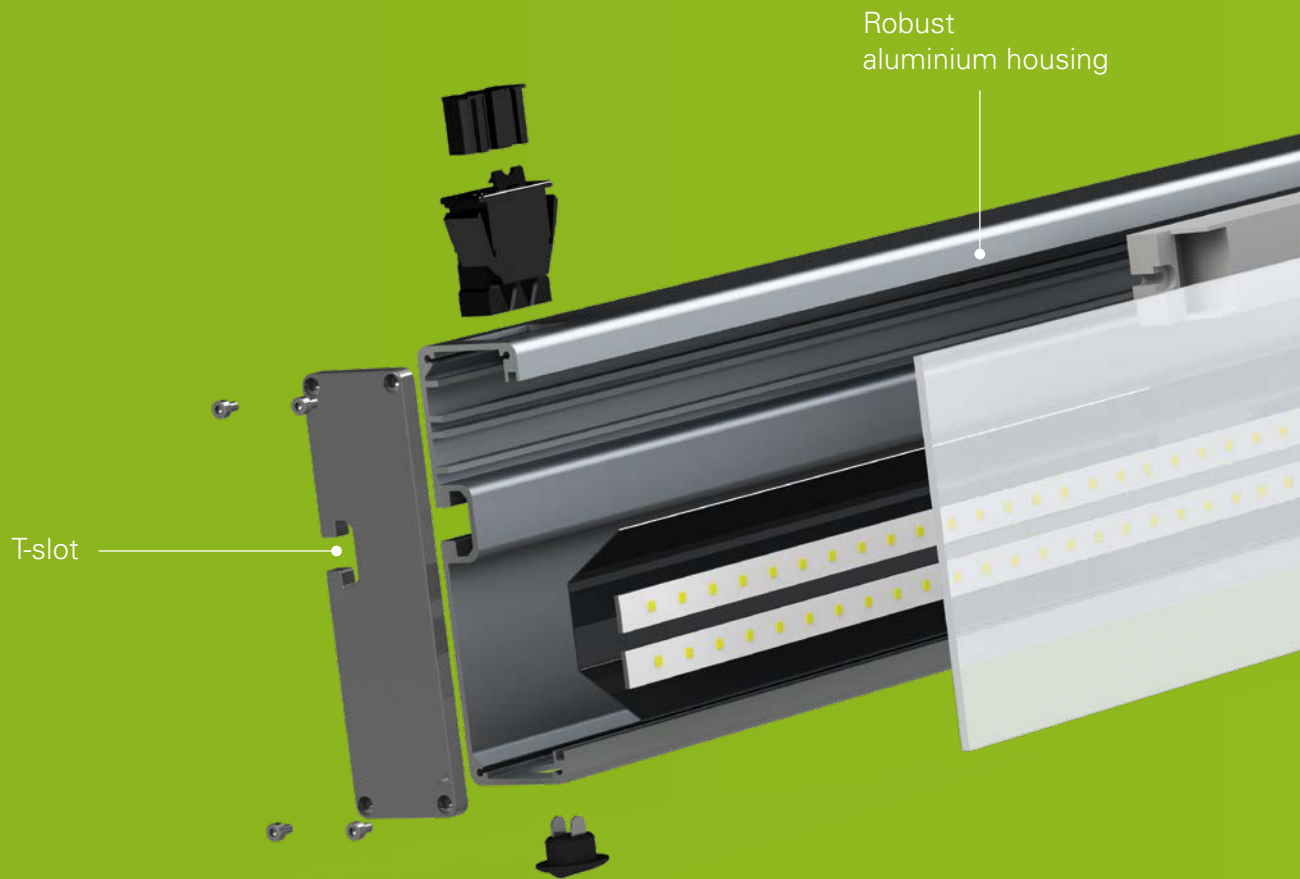
INROLED\_70



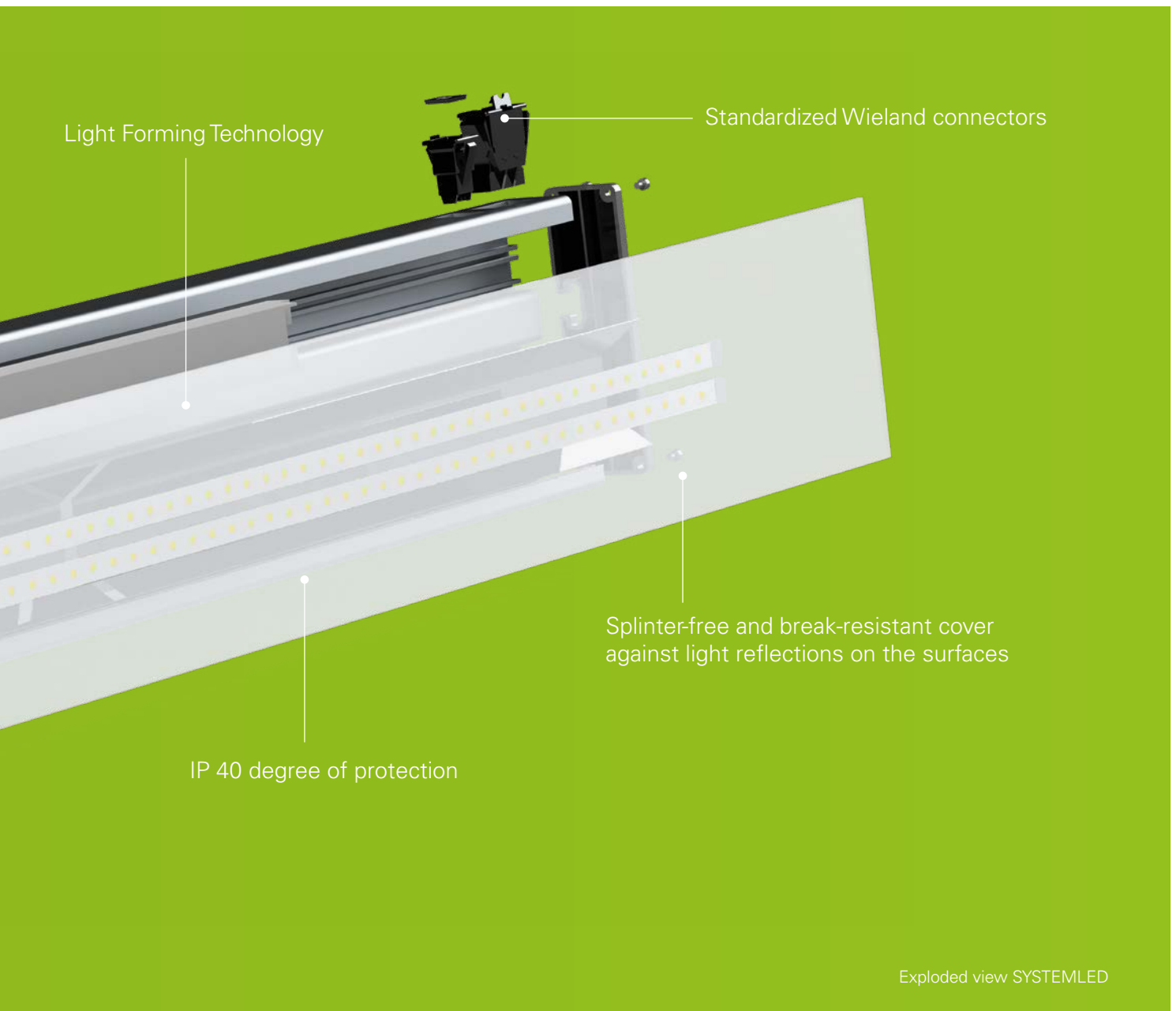
**Accessories Page 110**



## LED workplace lighting



Our range of workplace luminaires is just as versatile as the variety of applications. Our workplace luminaires are sought after wherever excellent lighting conditions are required, and where precise, focussed light is crucial for quality. They enable good contrast vision with a very high degree of colour rendering. Ergonomic LED luminaires are available in different sizes and designs, depending on the respective application requirements.

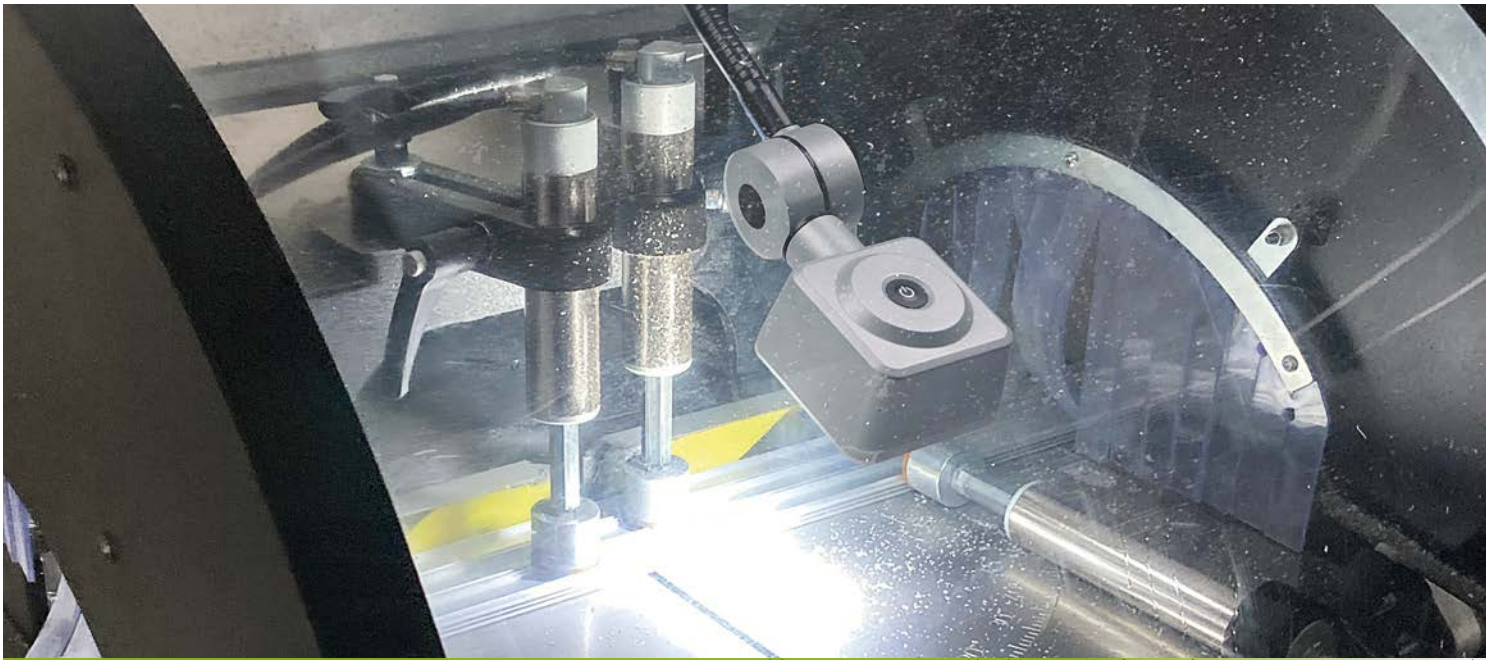


### Our standard for workplace lighting

- High energy efficiency through LED technology
- Glare-free and flicker-free light
- Precise light focusing
- Switching independent service life of up to 60,000 operating hours (L80 / B10)
- This corresponds to a service life of approx. 15 - 30 years!
- Degree of protection IP40 to IP67
- Aluminium housing for heat dissipation to the rear – no risk of burns
- Quick mounting and easy handling of luminaires
- Maintenance-free

In our range of workstation lighting, we have a wide variety of "lighting specialists" which enable homogeneous and shadow-free illumination of the work surface in every case.

Now also available with TUNABLE WHITE (HCL) technology!



**NEW**

## CENALED SPOT Flexarm

Focused, versatile and robust

The CENALED SPOT flexible arm brings light to every workplace. It is also suitable for use in machine tools and the lighting of workbenches. The flexible LED luminaire with a coated, oil-resistant flexible arm and safety glass in front of the LED chips cuts a fine figure even in rough manufacturing plant conditions. Equipped with a screw-on base and optional magnetic plate, the CENALED SPOT can also be used quickly wherever light is needed.

### The Technology

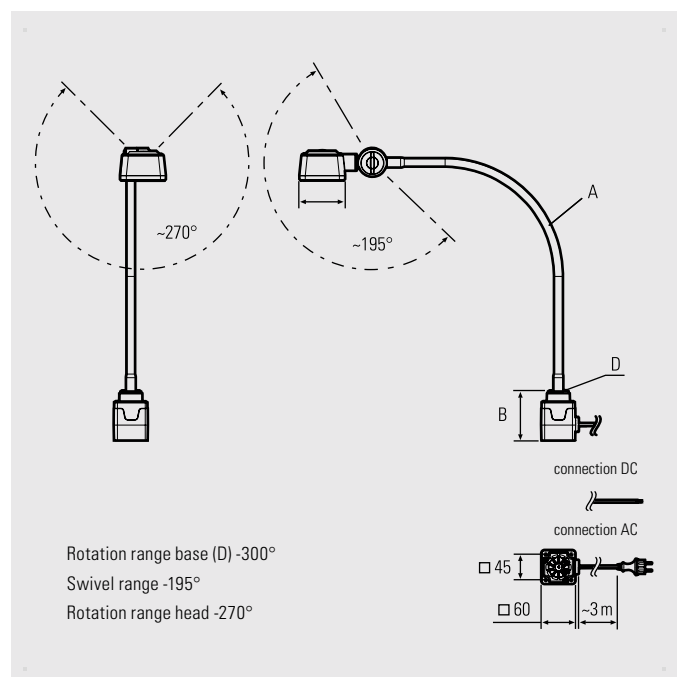
- High-performance LED chips for 5 000K neutral white
- ON / OFF and dimmable using buttons on the lamp head
- A 500 mm long high-quality gooseneck - highly flexible, tested for 20,000 bending cycles and with oil-resistant coating
- It is also supplied in a 24V DC variant or in a variant for direct connection to 100-305V AC, each with a 3 m lead

### Your benefits

- Compact luminaires for bright illumination in neutral white and with a high level of detailed sharpness
- Can be precisely aligned using the gooseneck
- 30° beam angle for focused illumination

### Areas of application

- Workplaces at machines and equipment without their own lighting, such as drilling machines, cutting machines or injection moulding machines, if local or direct lighting is required





## Flexarm | CENALED SPOT Flexarm

ON / OFF and dimming button

Sheathed and steplessly repositionable gooseneck

Die-cast aluminium

Safety glass, crack-proof, 4 mm

High performance LED chips

Screw-on base, prepared for further fastening options, e.g., a magnetic base (screws included)

CENALED SPOT Flexarm DC

version 24 V DC

- 24V DC
- IP67
- 3m

version 100-305 V AC

- 100 V - 305 V AC
- IP65
- 3m

≥80, 5000K, +50 -10, 36 months, 60.000h (L80/B10), Germany flag

CENALED SPOT Flexarm	Product no.	Length of arm (A)	Base (B)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
CENALED SPOT Flexarm DC, screw-on base	121012-01	500 mm	59 mm	30°	9212 lx	1120 lm	~8,5 W	24V DC
CENALED SPOT Flexarm AC, screw-on base	121012-11	500 mm	88 mm	30°	9212 lx	1120 lm	~9 W	100-305V AC

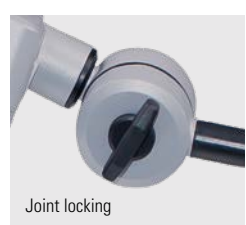
Power supply, dimmboxes and connection materials, see Accessories. \* maximum lighting intensities, measurement area 100 cm x 100 cm at 50 cm distance

Accessories	Product no.
Holding magnet for CENALED screw-on base	220500-01
Table clamp for CENALED screw-on base	220500-02
Wall bracket for CENALED screw-on base	220500-03



The CENALED SPOT is part of the CENALED modular system. The basic module of every light is the screw-on base for a 24V DC or 100-305 VAC connection. The modular structure is supplemented with an articulated arm, flexible arm or a directly mounted swivel head. The lamp head has an on/off switch and brightness control (dimming).

The screw-on base allows several optional fastening options, for example using a magnetic clamp or a table clamp.





**NEW**

## CENALED SPOT Gelenkarm (articulated arm)

Bright, practical and adaptable

The CENALED SPOT Gelenkarm (articulated arm) is the LED arm luminaire for manual workstations as well as for machine tools. The generously dimensioned aluminium articulated arm of the otherwise graceful looking lamp guarantees a wide projection to bring light wherever it is needed. The CENALED SPOT Gelenkarm is one of the few arm-mounted lights that, thanks to its high degree of protection, can also be used in harsh manufacturing conditions.

### The Technology

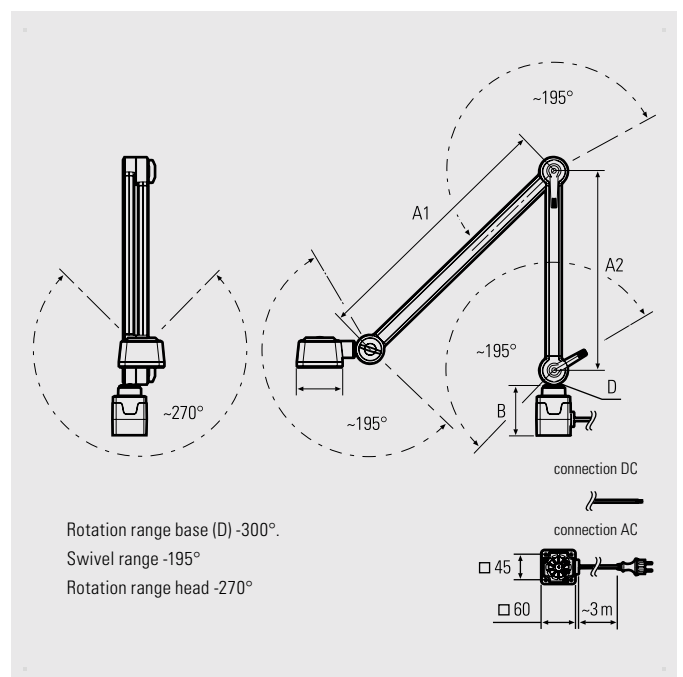
- High-performance LED chips for 5 000K neutral white
- On / off and dimmable using buttons on the lamp head
- Extensive articulated arm made of aluminium, freely adjustable via joints and with protected power supply lines
- Connection, depending on the variant, 24V DC or 110-305V AC, each with a 3 m lead

### Your benefits

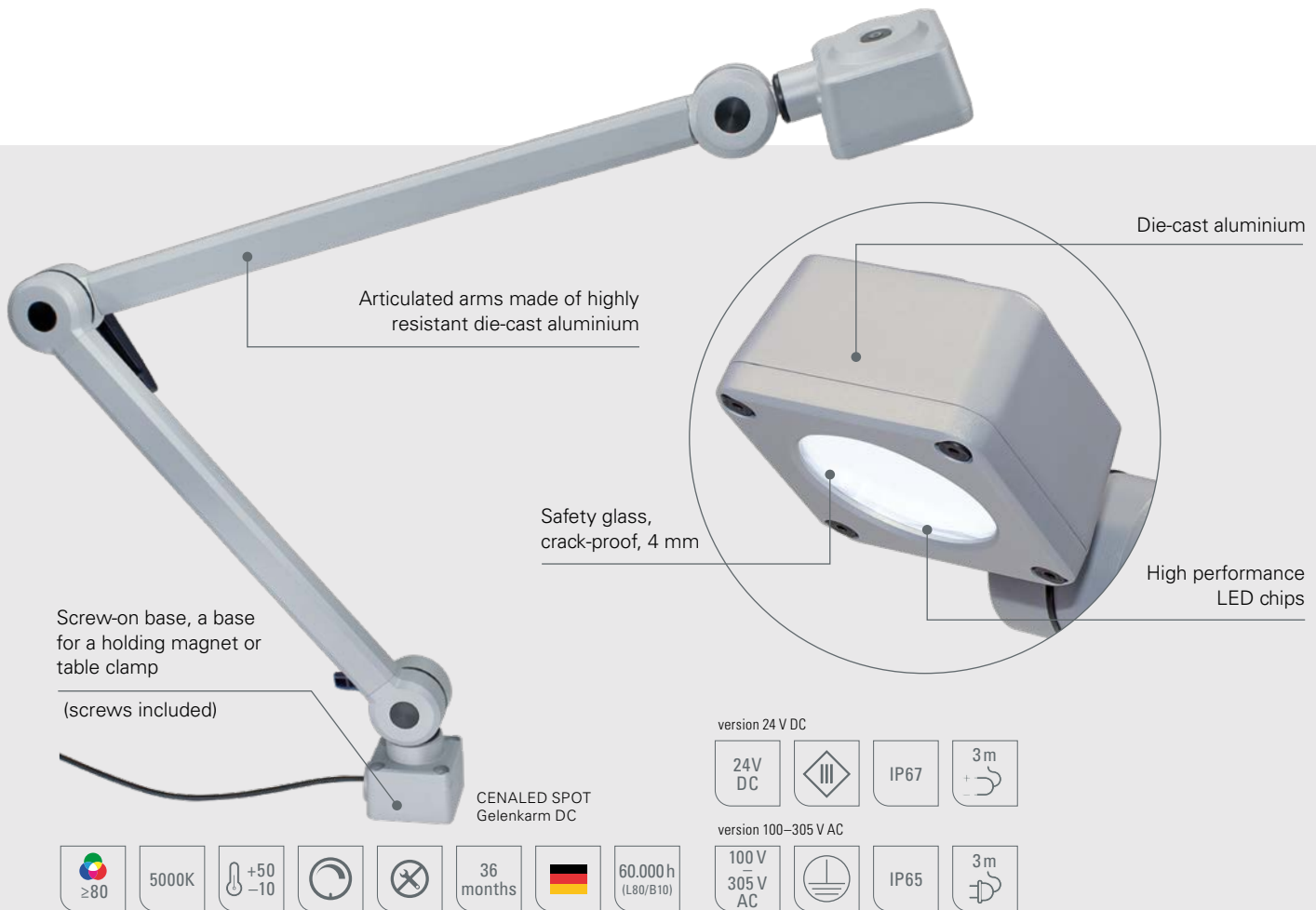
- Durable LED luminaire for bright illumination in neutral white and with a high level of detail sharpness
- Can be precisely aligned using the joints
- 30° beam angle for focused illumination

### Areas of application

- Workplaces at machines, systems or in the craft workshops
- Goldsmiths, dental laboratories or watchmakers
- Workbenches and test stations
- Conventional machine tools



## Articulated arm | CENALED SPOT Gelenkarm



CENALED SPOT Gelenkarm (articulated arm)	Product no.	Length of arms (A)	Base (B)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
CENALED SPOT Gelenkarm DC, screw-on base	121012-02	450 mm / 350 mm	59 mm	30°	9212 lx	1120 lm	-8,5 W	24V DC
CENALED SPOT Gelenkarm AC, screw-on base	121012-12	450 mm / 350 mm	88 mm	30°	9212 lx	1120 lm	-9 W	100-305V AC

Power supply, dimmboxes and connection materials, see Accessories.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 50 cm distance

Accessories	Product no.
Holding magnet for CENALED screw-on base	220500-01
Table clamp for CENALED screw-on base	220500-02
Wall bracket for CENALED screw-on base	220500-03



The CENALED SPOT is part of the CENALED modular system. The basic module of every light is the screw-on base for a 24V DC or 100-305 VAC connection. The modular structure is supplemented with an articulated arm, flexible arm or a directly mounted swivel head. The lamp head has an on/off switch and brightness control (dimming).

The screw-on base allows several optional fastening options, for example using a magnetic clamp or a table clamp.





The LENSLED II is the magnifying lamp par excellence. Developed for stationary use at assembly or control workstations, the LED light with its magnifying lens can be positioned as desired thanks to the aluminium spring arm. The extremely scratch-resistant lens is made of glass and offers 1.85x magnification. The high-intensity illumination of the magnification area is free of shadows and glare, and the luminous intensity can be adjusted via infinitely variable dimming.

#### The Technology

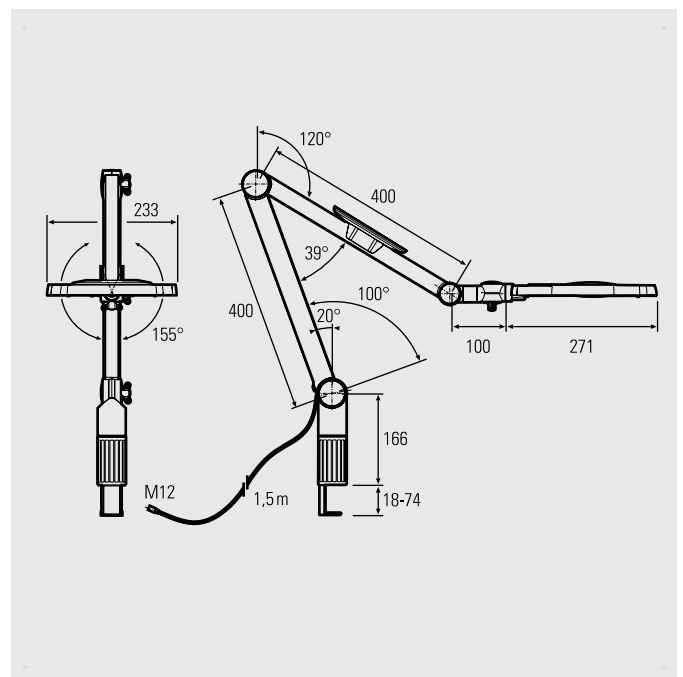
- Aluminium spring arm, 3D head joint
- Head and spring arm can be pivoted and locked in position
- Aluminium head with rear heat dissipation
- Glass loupe, Ø 160 mm, extremely scratch-resistant with 1.85x magnification (optional as biconvex lens with additional recessed bifocal Ø 31.5 mm, 8 dpt)

#### Your benefits

- Bright, glare-free and flicker-free illumination
- Infinitely variable dimming with memory function
- Universal power supply unit and table clamp included
- Cover for the lens
- Optional accessories for various mounting options: e.g. wall bracket or bracket for T-slot profiles

#### Areas of application

- Assembly and inspection workstations, manual workplaces in the goldsmith, dental laboratory and watchmaking.
- Testing/inspection stations on machines



Articulated arm | LENSLED II

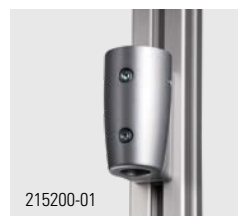


LENSLED II articulated arm	Product no.	Length of arm (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
LENSLED II, 3,5 dpt., dimmable	120810-11	800 mm	120°	7000 lx	1570 lm	~15 W	24V DC**
LENSLED II, 3,5 dpt.+ 8 dpt., dimmable	120810-12	800 mm	120°	7000 lx	1570 lm	~15 W	24V DC**

\*\* including power supply 110-240 V and table clamp

\* maximum lighting intensity, 15 cm distance

Accessories	Product no.
Wall bracket for luminaires with an articulated arm	215100-01
Adapter for T-slot profile for luminaires with an articulated arm	215200-01
Screw-on base for luminaires with an articulated arm, plastic screws included	215400-01
Adapter for luminaires with an articulated arm, aluminium (for existing screw-on dimensions 60 x 60 mm on LED2WORK)	215400-02





## UNILED II

Ergonomic, efficient, wide-ranging

The UNILED II luminaire with an articulated arm is the logical further development of its predecessor. A high-quality aluminium spring arm, 2 different light colours and power levels as well as flicker-free illumination and infinitely variable dimming are the quality features of this luminaire. With up to 3300 lx at a distance of 500 mm, it provides the right light for every workplace and every visual task.

### The Technology

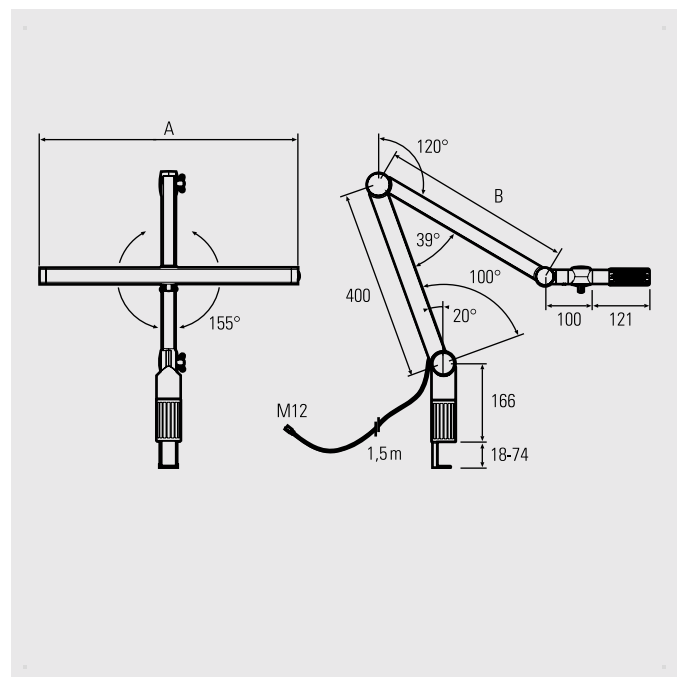
- Aluminium spring arm, 3D head joint
- Head and articulated arm can be pivoted and locked in any position
- Aluminium head with rear heat dissipation

### Your benefits

- Excellent ergonomic handling
- Homogeneous shadow-free and glare-free illumination
- Variants with infinitely variable dimming and memory function in a luminaire

### Areas of application

- For assembly and inspection workstations, manual workplaces in the goldsmith, dental laboratory and watchmaking sectors



## Articulated arm | UNILED II



UNILED II, head width 548 mm

UNILED II, head width 298 mm

Optional magnifying glass  
215500-01

UNILED II Watchmaker

## variants



## PSU

110 V  
240 V  
AC

UNILED II, articulated arm, 5200-5700 K	Product no.	Width head (A)	Arm (B)	Optics	$E_{max}^*$	Lamp luminous flux	Output	Connection
UNILED II	120610-01	298 mm	400 mm	100°	1905 lx	1617 lm	~14 W	24V DC**
UNILED II, dimmable	120610-02	298 mm	400 mm	100°	1905 lx	1617 lm	~14 W	24V DC**
UNILED II	120710-01	548 mm	400 mm	100°	3360 lx	3217 lm	~27 W	24V DC**
UNILED II, dimmable	120710-02	548 mm	400 mm	100°	3360 lx	3217 lm	~27 W	24V DC**

UNILED II, articulated arm, 5200-5700 K	Product no.	Width head (A)	Arm (B)	Optics	$E_{max}^*$	Lamp luminous flux	Output	Connection
UNILED II Watchmaker	120910-01	380 mm	250 mm	100°	2563 lx	2139 lm	~19 W	24V DC**
UNILED II Watchmaker, dimmable	120910-02	380 mm	250 mm	100°	2563 lx	2139 lm	~19 W	24V DC**

UNILED II, articulated arm, 4000-4500 K	Product no.	Width head (A)	Arm (B)	Optics	$E_{max}^*$	Lamp luminous flux	Output	Connection
UNILED II	120720-01	548 mm	400 mm	100°	2720 lx	3217 lm	~26 W	24V DC**
UNILED II, dimmable	120720-02	548 mm	400 mm	100°	2720 lx	3217 lm	~26 W	24V DC**

\*\* including power supply 110-240 V and table clamp

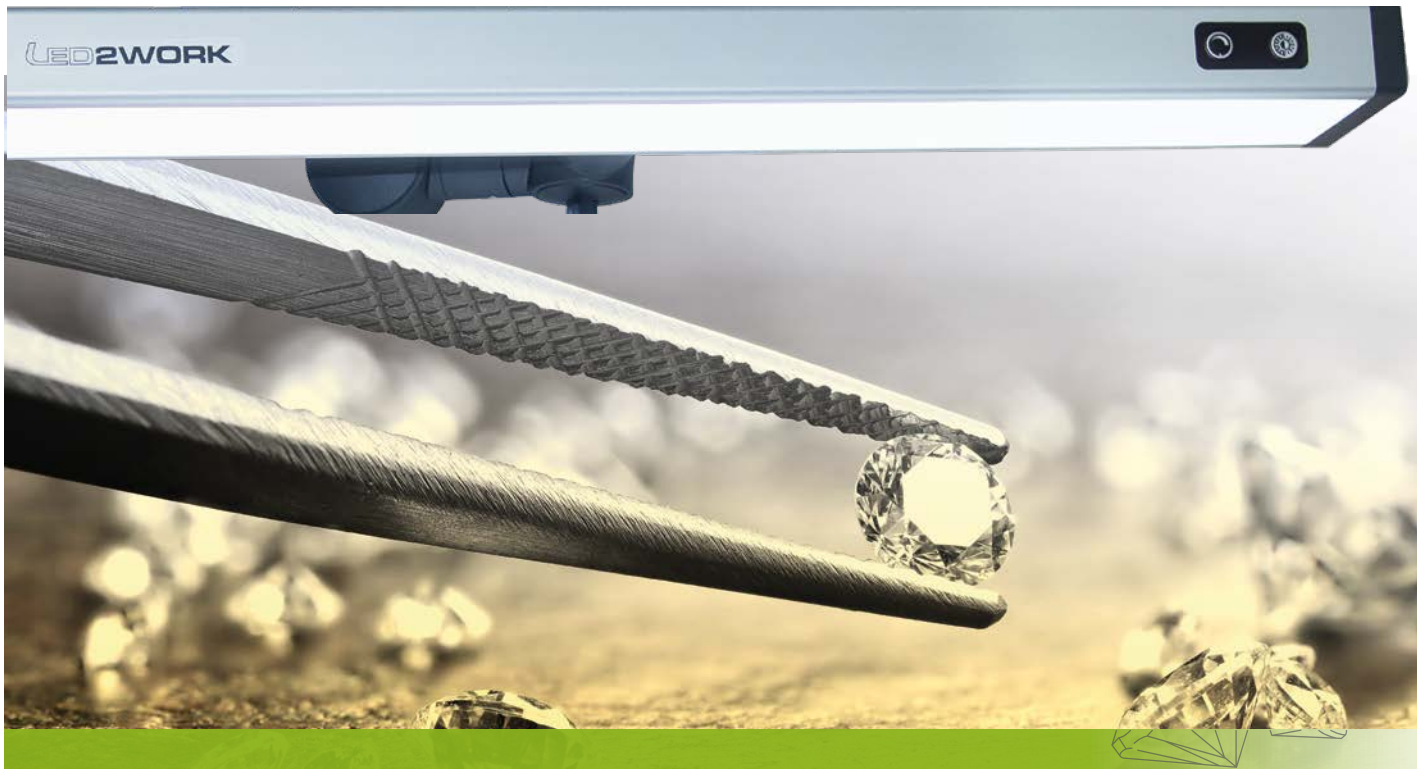
\* maximum lighting intensities, measurement area 100 cm x 100 cm at 50 cm distance

Accessories	Product no.
Wall bracket for luminaires with an articulated arm	215100-01
Adapter for T-slot profile for luminaires with an articulated arm	215200-01
Screw-on base for luminaires with an articulated arm, plastic screws included	215400-01
Adapter for luminaires with an articulated arm, aluminium (for existing screw-on dimensions 60 x 60 mm on LED2WORK)	215400-02
Additional magnifier UNILED II, 3.39 dpt.	215500-01



Clamping base

Illustrations of accessories on UNILED II TUNABLE WHITE



## UNILED II TUNABLE WHITE

Sunlight at the workplace

The light colours of the UNILED II TUNABLE WHITE are infinitely variable and their colour rendering almost corresponds to that of the sunlight surrounding us, which, as is well known, has a positive influence on the human organism. An opal-white glare control via the LED chips ensures homogeneous and shadow-free illumination of the work area. The aluminium spring arm allows the LED luminaire to be positioned anywhere in the workplace.

### The Technology

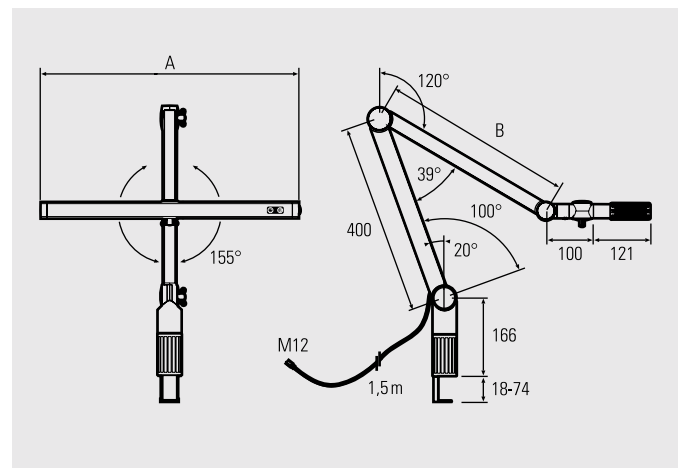
- Aluminium spring arm, 3D head joint
- Head and articulated arm can be pivoted and locked in any position
- Aluminium head with rear heat dissipation

### Your benefits

- Colour rendering up to  $Ra > 98$ . This corresponds approximately to the quality of the sunlight
- Promotes concentration and reduces signs of fatigue
- Adjustable from 3,000 K to 6,500 K via an easy-to-use keypad on the luminaire head
- Choice of colour temperature between warm white, neutral white and daylight white
- Variants with infinitely variable dimming and memory function

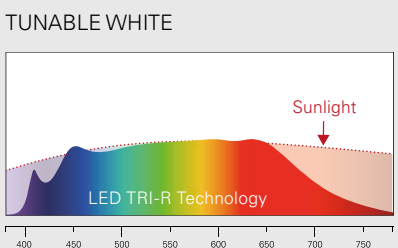
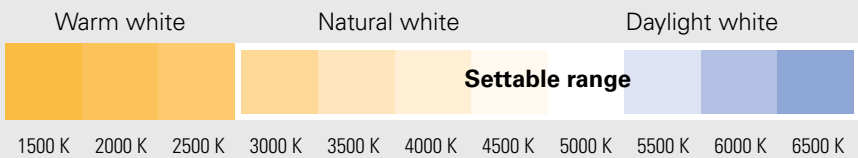
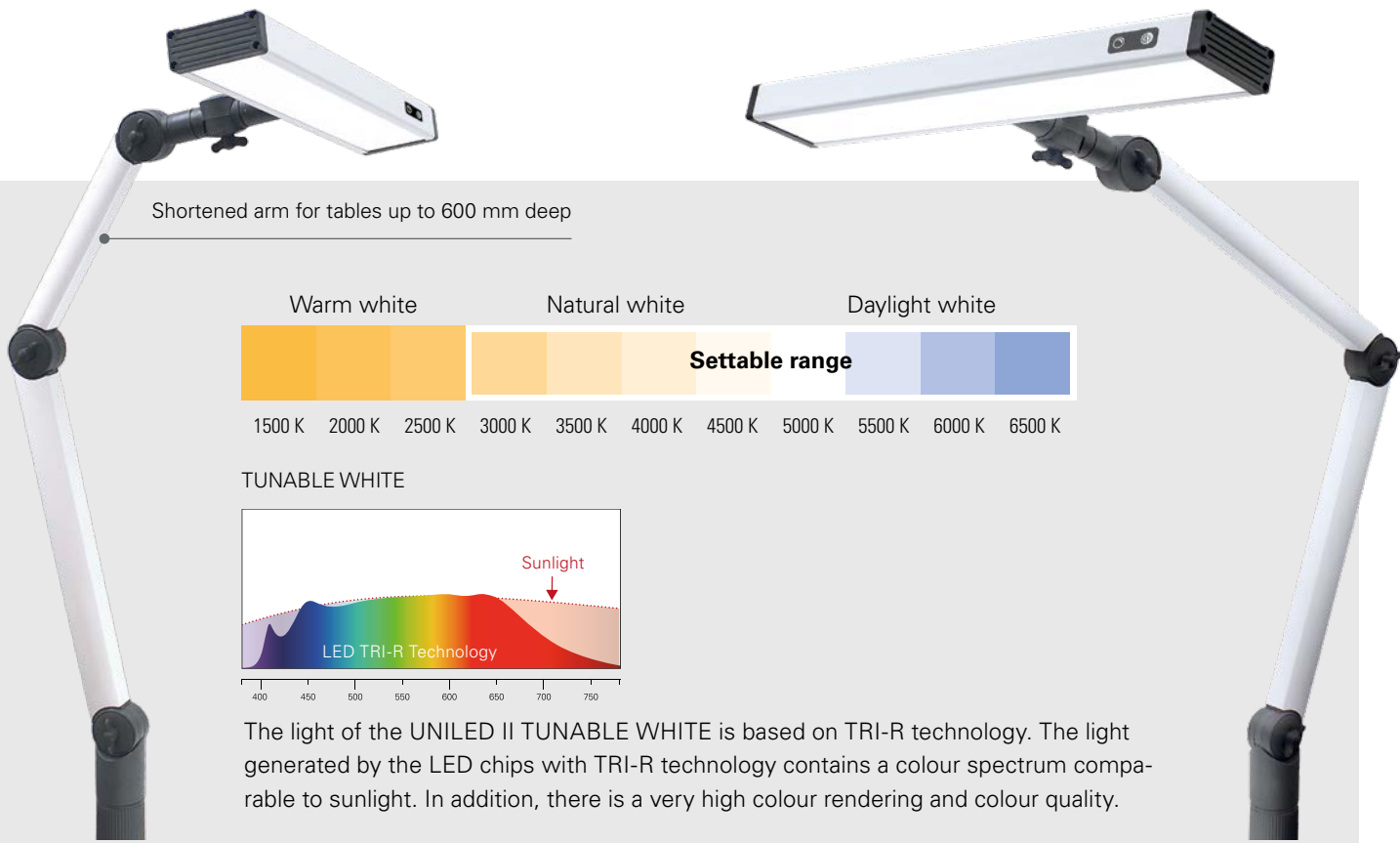
### Areas of application

- For assembly and inspection workstations, workplaces in the goldsmith, dental laboratory, watchmaking sectors and quality control
- For surface control and under different light colours





Articulated arm | UNILED II



The light of the UNILED II TUNABLE WHITE is based on TRI-R technology. The light generated by the LED chips with TRI-R technology contains a colour spectrum comparable to sunlight. In addition, there is a very high colour rendering and colour quality.

UNILED II TUNABLE WHITE Watchmaker

UNILED II TUNABLE WHITE

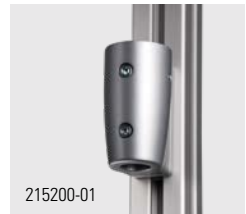
24V DC, III, IP40, ≥98, 3000K-6500K, 60.000h (L80/B10), 3m, +40/-10, variants, 36 months, Germany, PSU 110V-240V AC

UNILED II TUNABLE WHITE, articulated arm, 3000–6500K (Ra > 98)	Product no.	Width head (A)	Length arm (B)	Optics	Light colour	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
UNILED II TUNABLE WHITE	120700-01	548 mm	400 mm	100°	3000 K 6500 K	1995 lx 2279 lx	2373 lm 2202 lm	~28 W	24V DC**
UNILED II TUNABLE WHITE, dimmable	120700-02	548 mm	400 mm	100°	3000 K 6500 K	1995 lx 2279 lx	2373 lm 2202 lm	~28 W	24V DC**
UNILED II TUNABLE WHITE Watchmaker	120900-01	380 mm	250 mm	100°	3000 K 6500 K	1340 lx 1742 lx	1582 lm 1468 lm	~20 W	24V DC**
UNILED II TUNABLE WHITE Watchmaker, dimmable	120900-02	380 mm	250 mm	100°	3000 K 6500 K	1340 lx 1742 lx	1582 lm 1468 lm	~20 W	24V DC**

\*\* including power supply 110-240 V and table clamp

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 50 cm distance

Accessories	Product no.
Wall bracket for luminaires with an articulated arm	215100-01
Adapter for T-slot profile for luminaires with an articulated arm	215200-01
Screw-on base for luminaires with an articulated arm, plastic screws included	215400-01
Adapter for luminaires with an articulated arm, aluminium (for existing screw-on dimensions 60 x 60 mm on LED2WORK)	215400-02
Additional magnifier UNILED II, 3.39 dpt.	215500-01





**NEW PROFILED**  
Universal, standardized and yet flexible

The PROFILED was developed as a universal lamp or work lamp. As a strong light source, it illuminates individual workplaces as well as assembly areas homogeneously. In addition, the PROFILED can be used to illuminate technical equipment or packaging stations or as a workbench light. The profiled luminaire body enables the LED luminaire to be attached horizontally or vertically to a T-slot profile.

**The Technology**

- 24V DC or 220-240V AC LED technology for bright and daylight-white illumination of work areas
- Microprismatic cover for higher light diffusion and robust profile housing made of aluminium with a rear T-slot

**Your benefits**

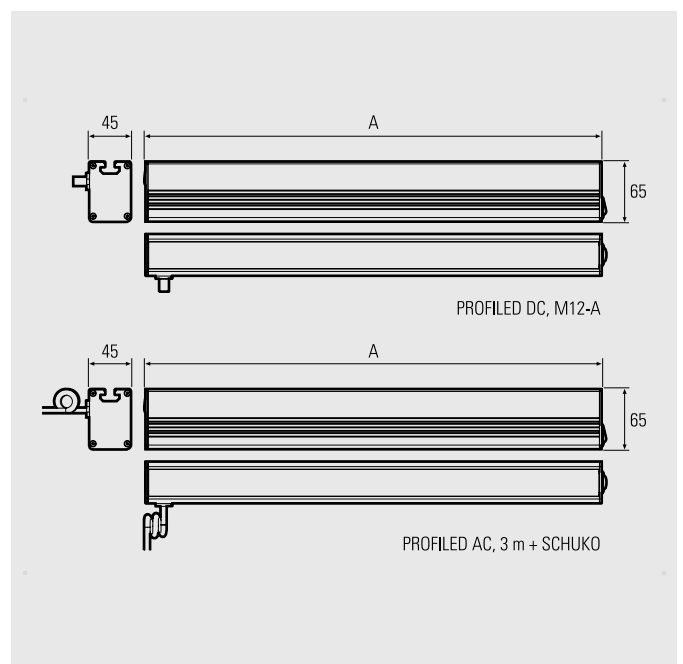
- Strong light in daylight white 5,200–5,700 K
- Homogeneous, low-shadow, glare-free illumination

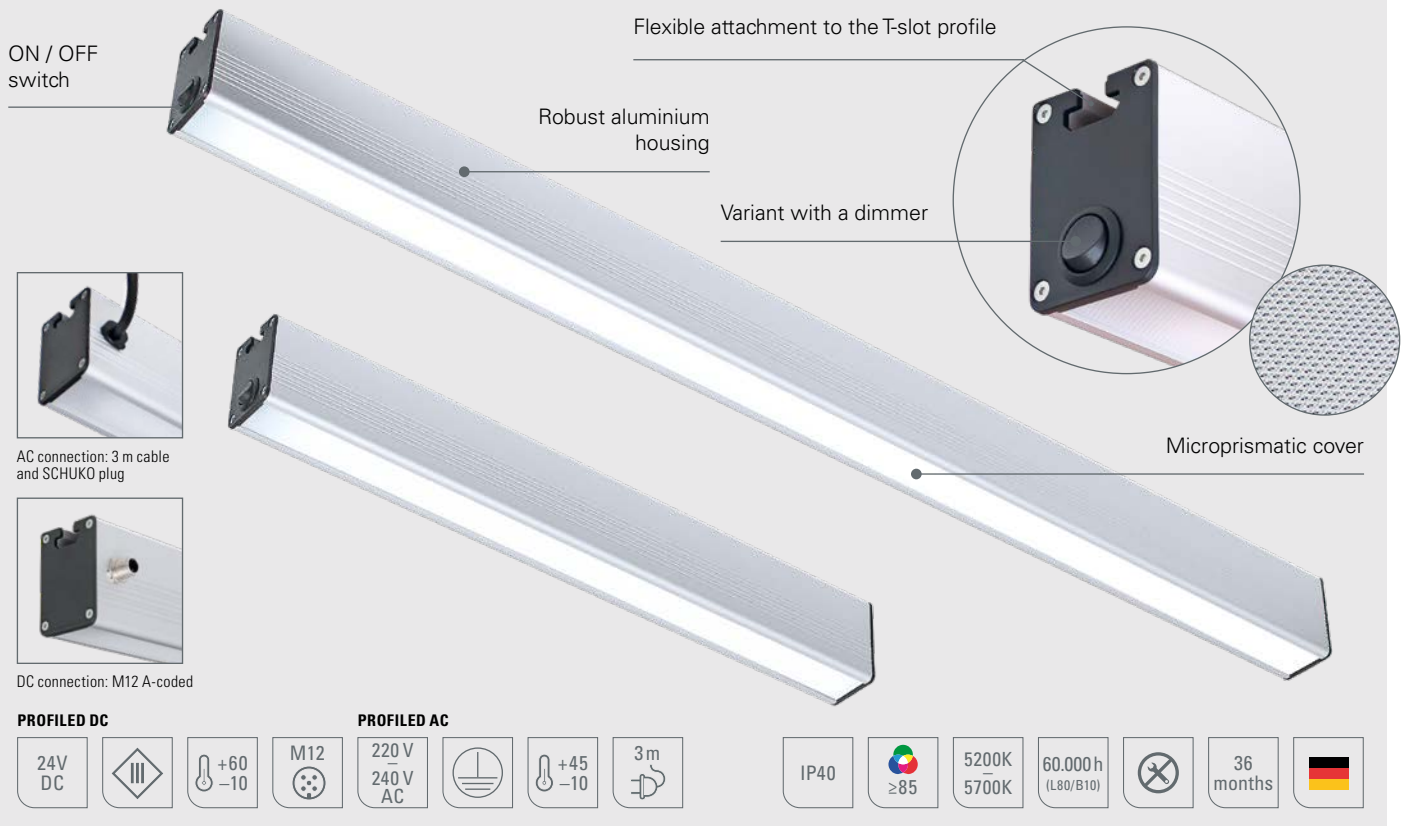
**Areas of application**

- System and assembly workplaces or workstations
- Packing stations and storage areas
- Technical equipment, test stations and workbenches

**Design**

- 24V DC with M12 plug connector or 220-240V AC direct connection via 3 m cable and SCHUKO plug
- 4 lengths: 500 mm, 900 mm, 1,000 mm, 1,200 mm
- Variants with dimming using buttons in the housing





PROFILED DC, 5200–5700 K, 24V DC	Product no.	Length (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
PROFILED DC, microprism covers	150314-01	500 mm	100°	647 lx	1575 lm	~11 W	24V DC
PROFILED DC, microprism covers	150614-01	900 mm	100°	1176 lx	3150 lm	~21 W	24V DC
PROFILED DC, microprism covers	150714-01	1000 mm	100°	1258 lx	3465 lm	~23 W	24V DC
PROFILED DC, microprism covers	150814-01	1200 mm	100°	1506 lx	4410 lm	~32 W	24V DC
PROFILED DC, microprism covers, dimmable	150314-02	500 mm	100°	647 lx	1575 lm	~11 W	24V DC
PROFILED DC, microprism covers, dimmable	150614-02	900 mm	100°	1176 lx	3150 lm	~21 W	24V DC
PROFILED DC, microprism covers, dimmable	150714-02	1000 mm	100°	1258 lx	3465 lm	~23 W	24V DC
PROFILED DC, microprism covers, dimmable	150814-02	1200 mm	100°	1506 lx	4410 lm	~32 W	24V DC

Power supplies, dimming box and connection materials, see accessories.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance

PROFILED AC, 5200–5700 K, 220-240V AC	Product no.	Length (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
PROFILED AC, microprism covers	150314-03	500 mm	100°	647 lx	1575 lm	~14 W	220-240V AC
PROFILED AC, microprism covers, dimmable	150614-03	900 mm	100°	1176 lx	3150 lm	~27 W	220-240V AC
PROFILED AC, microprism covers, dimmable	150714-03	1000 mm	100°	1258 lx	3465 lm	~29 W	220-240V AC
PROFILED AC, microprism covers, dimmable	150814-03	1200 mm	100°	1506 lx	4410 lm	~36 W	220-240V AC
PROFILED AC, microprism covers, dimmable	150314-04	500 mm	100°	647 lx	1575 lm	~14 W	220-240V AC
PROFILED AC, microprism covers, dimmable	150614-04	900 mm	100°	1176 lx	3150 lm	~27 W	220-240V AC
PROFILED AC, microprism covers, dimmable	150714-04	1000 mm	100°	1258 lx	3465 lm	~29 W	220-240V AC
PROFILED AC, microprism covers, dimmable	150814-04	1200 mm	100°	1506 lx	4410 lm	~36 W	220-240V AC

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance

Accessories	Product no.
Mounting kit, flat, with ESD insulation	240400-01
Mounting kit, pivotable, with ESD insulation	240400-02

For illustrations of accessories, see SYSTEMLED



Developed for system workstations, the SYSTEMLED enables absolutely fast and simple replacement of fluorescent tube luminaires with LED luminaires. This is why the SYSTEMLED has the same dimensions and connections as the leading conventional luminaires. The electrical interlinkability of the SYSTEMLED makes it possible to create large, particularly efficient lighting surfaces.

#### The Technology

- Opal white, shatter-proof and splinter-proof luminaire cover, optionally also available with a prism cover (greater light scattering)
- Heat is dissipated to the rear via aluminium base bodies
- T-slot mounting slots for stable locking on walls, ceilings, machines or system workstations
- Flicker-free light without UV and IR components
- Infinitely variable dimming via optional accessories

#### Your benefits

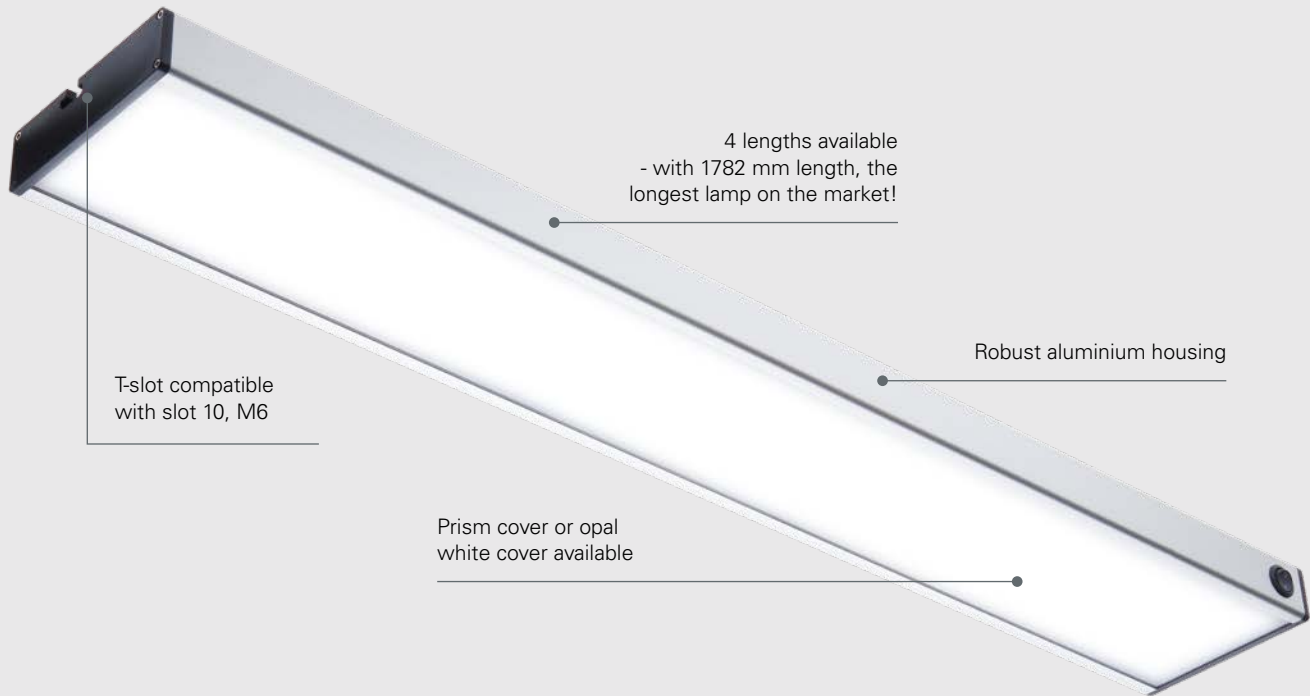
- The SYSTEMLED is the only luminaire on the market with 1782 mm length!
- Luminaire is cascable = electric interlinkable. Glare-free illumination without reflections on the metal surfaces
- Microprismatic glare suppression: generates drop-shaped light scattering and thus brings more "light power" to the workplace

#### Areas of application

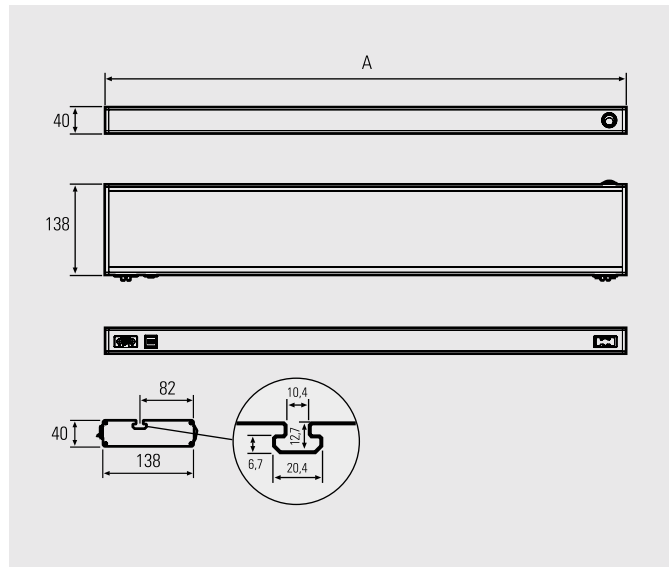
- Permanently installed lighting solution for system workplaces, machines and plants

#### Designs

- Four different lengths: 472 mm, 898 mm, 1342 mm, 1782 mm
- Standard: T-slot in the housing for mounting via T-slot profiles. Optionally also pivotable with wall or joint angles
- Version Power with 28 W, 52 W, 72 W or 100 W
- Version ECO with 14 W, 28 W, 42 W or 56 W



220 V 240 V AC		IP40	$\geq 93$	Natural white 4000K 4500K	Daylight white $\geq 85$ 5200K 5700K	60.000h (L80/B10)	+50 -10			36 months	
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## System luminaires | SYSTEMLED

SYSTEMLED 5200–5700K Power	Product no.	Length (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
SYSTEMLED Power, 898 mm, matte cover	141014-01	898 mm	100°	1602 lx	5356 lm	~52 W	220-240V AC
SYSTEMLED Power, 898 mm, microprism covers	141014-02	898 mm	100°	1925 lx	5356 lm	~52 W	220-240V AC
SYSTEMLED Power, 472 mm, matte cover	141014-03	472 mm	100°	883 lx	2678 lm	~28 W	220-240V AC
SYSTEMLED Power, 472 mm, microprism covers	141014-04	472 mm	100°	1061 lx	2678 lm	~28 W	220-240V AC
SYSTEMLED Power, 1342 mm, matte cover	141014-05	1342 mm	100°	2100 lx	8034 lm	~77 W	220-240V AC
SYSTEMLED Power, 1342 mm, microprism covers	141014-06	1342 mm	100°	2513 lx	8034 lm	~77 W	220-240V AC
SYSTEMLED Power, 1782 mm, matte cover	141014-07	1782 mm	100°	2413 lx	11234 lm	~100 W	220-240V AC
SYSTEMLED Power, 1782mm, microprism covers	141014-08	1782 mm	100°	2891 lx	11234 lm	~100 W	220-240V AC

SYSTEMLED 4000–4500K Power	Product no.	Length (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
SYSTEMLED Power, 898 mm, matte cover	141024-01	898 mm	100°	1245 lx	5356 lm	~52 W	220-240V AC
SYSTEMLED Power, 898 mm, microprism covers	141024-02	898 mm	100°	1526 lx	5356 lm	~52 W	220-240V AC
SYSTEMLED Power, 472 mm, matte cover	141024-03	472 mm	100°	684 lx	2678 lm	~28 W	220-240V AC
SYSTEMLED Power, 472 mm, microprism covers	141024-04	472 mm	100°	777 lx	2678 lm	~28 W	220-240V AC
SYSTEMLED Power, 1342 mm, matte cover	141024-05	1342 mm	100°	1642 lx	8034 lm	~77 W	220-240V AC
SYSTEMLED Power, 1342 mm, microprism covers	141024-06	1342 mm	100°	2009 lx	8034 lm	~77 W	220-240V AC
SYSTEMLED Power, 1782 mm, matte cover	141024-07	1782 mm	100°	1901 lx	11234 lm	~100 W	220-240V AC
SYSTEMLED Power, 1782 mm, microprism covers	141024-08	1782 mm	100°	2308 lx	11234 lm	~100 W	220-240V AC

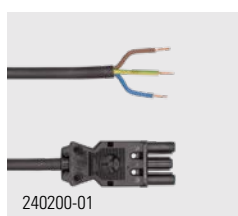
SYSTEMLED 5200–5700K ECO	Product no.	Length (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
SYSTEMLED ECO, 898 mm,matte cover	141014-21	898 mm	100°	813 lx	3150 lm	~28 W	220-240V AC
SYSTEMLED ECO, 898 mm, microprism covers	141014-22	898 mm	100°	1002 lx	3150 lm	~28 W	220-240V AC
SYSTEMLED ECO, 472 mm,matte cover	141014-23	472 mm	100°	448 lx	1575 lm	~14 W	220-240V AC
SYSTEMLED ECO, 472 mm, microprism covers	141014-24	472 mm	100°	551 lx	1575 lm	~14 W	220-240V AC
SYSTEMLED ECO, 1342 mm, matte cover	141014-25	1342 mm	100°	1068 lx	4725 lm	~42 W	220-240V AC
SYSTEMLED ECO, 1342 mm, microprism covers	141014-26	1342 mm	100°	1263 lx	4725 lm	~42 W	220-240V AC
SYSTEMLED ECO, 1782 mm, matte cover	141014-27	1782 mm	100°	1229 lx	6150 lm	~52 W	220-240V AC
SYSTEMLED ECO, 1782 mm, microprism covers	141014-28	1782 mm	100°	1490 lx	6150 lm	~52 W	220-240V AC

SYSTEMLED 4000–4500K ECO	Product no.	Length (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
SYSTEMLED ECO, 898 mm, matte cover	141024-21	898 mm	100°	642 lx	3150 lm	~28 W	220-240V AC
SYSTEMLED ECO, 898 mm, microprism covers	141024-22	898 mm	100°	773 lx	3150 lm	~28 W	220-240V AC
SYSTEMLED ECO, 472 mm, matte cover	141024-23	472 mm	100°	353 lx	1575 lm	~14 W	220-240V AC
SYSTEMLED ECO, 472 mm, microprism covers	141024-24	472 mm	100°	425 lx	1575 lm	~14 W	220-240V AC
SYSTEMLED ECO, 1342 mm, matte cover	141024-25	1342 mm	100°	848 lx	4725 lm	~42 W	220-240V AC
SYSTEMLED ECO, 1342 mm, microprism covers	141024-26	1342 mm	100°	1014 lx	4725 lm	~42 W	220-240V AC

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance

Accessories	Product no.
Wieland GST18 cable socket / right-angle plug, 5 m	240100-01
Wieland GST18 cable socket / right-angle plug, 3 m	240100-02
Wieland GST18 cable socket / open end, 5 m	240200-01
Wieland extension cord GST18, 1 m	240300-01
Wieland extension cord GST18, 2 m	240300-02
Wieland extension cord GST18, 5 m	240300-03
Mounting kit for SYSTEMLED, flat, with ESD insulation	240400-01
Mounting kit for SYSTEMLED, pivotable, with ESD insulation	240400-02
Mounting kit for SYSTEMLED / PROFILED, 1 pair of slot nuts with cylinder head screws	240400-03
SYSTEMLED DIMMmodule, external for operating a luminaire, incl. 3 m connecting cable	240500-01
SYSTEMLED DIMMmodule, external for operating a luminaire, incl. 5 m connecting cable	240500-03
SYSTEMLED DIMMmodule, external for central operation of a max. of 6 luminaires (connecting cables 240600-0X are required for each luminaire)	240500-02
SYSTEMLED DIMMmodule connecting cable length 1 m, 2-pole	240600-01
SYSTEMLED DIMMmodule connecting cable length 2 m, 2-pole	240600-02
SYSTEMLED DIMMmodule connecting cable length 3 m, 2-pole	240600-03
SYSTEMLED DIMMmodule connecting cable length 4 m, 2-pole	240600-04
SYSTEMLED DIMMmodule connecting cable length 5 m, 2-pole	240600-05

You can interlink several SYSTEMLED luminaires electrically (cascadable). 230V mains voltage is applied to the first luminaire and Wieland extension cables are used to connect further luminaires to each other via the inputs and outputs in the luminaire housing. The total current of the interlinked luminaires must not exceed the fuse rating of the 230V connection on the operating side.





## SYSTEMLED TUNABLE WHITE

Variable in light colour, unbeatable in colour fidelity

With this TUNABLE WHITE LED luminaire too, the light colour can be infinitely varied between warm, natural and daylight white and can also be changed as required, which generates enthusiasm at optical control workstations and during installation. The colour rendering of the light comes very close to natural sunlight with a colour rendering index of  $Ra > 98$ . At the same time, the LED luminaire provides homogeneous, shadow-free illumination of the work area.

### The Technology

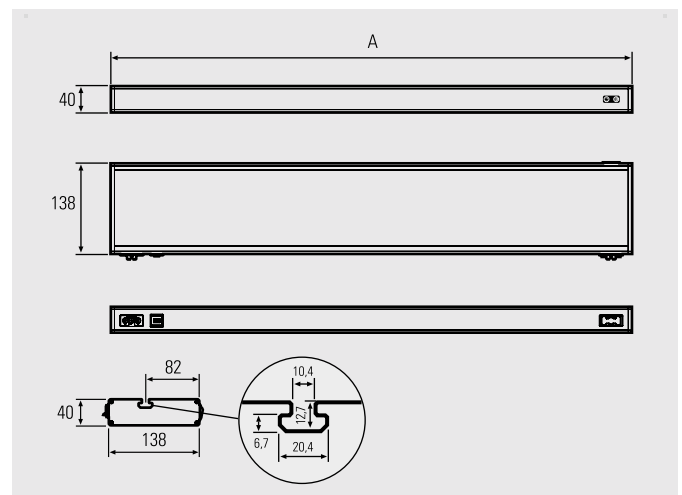
- Opal white, shatter-proof and splinter-proof luminaire cover, optionally also available with a prism cover (greater light scattering)
- Heat dissipation via aluminium base body to the rear
- T-slot mounting slots for stable mounting on walls, ceilings or system workstations
- Flicker-free light without UV and IR components
- Infinitely variable dimming via optional accessories

### Your benefits

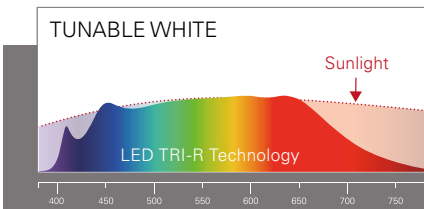
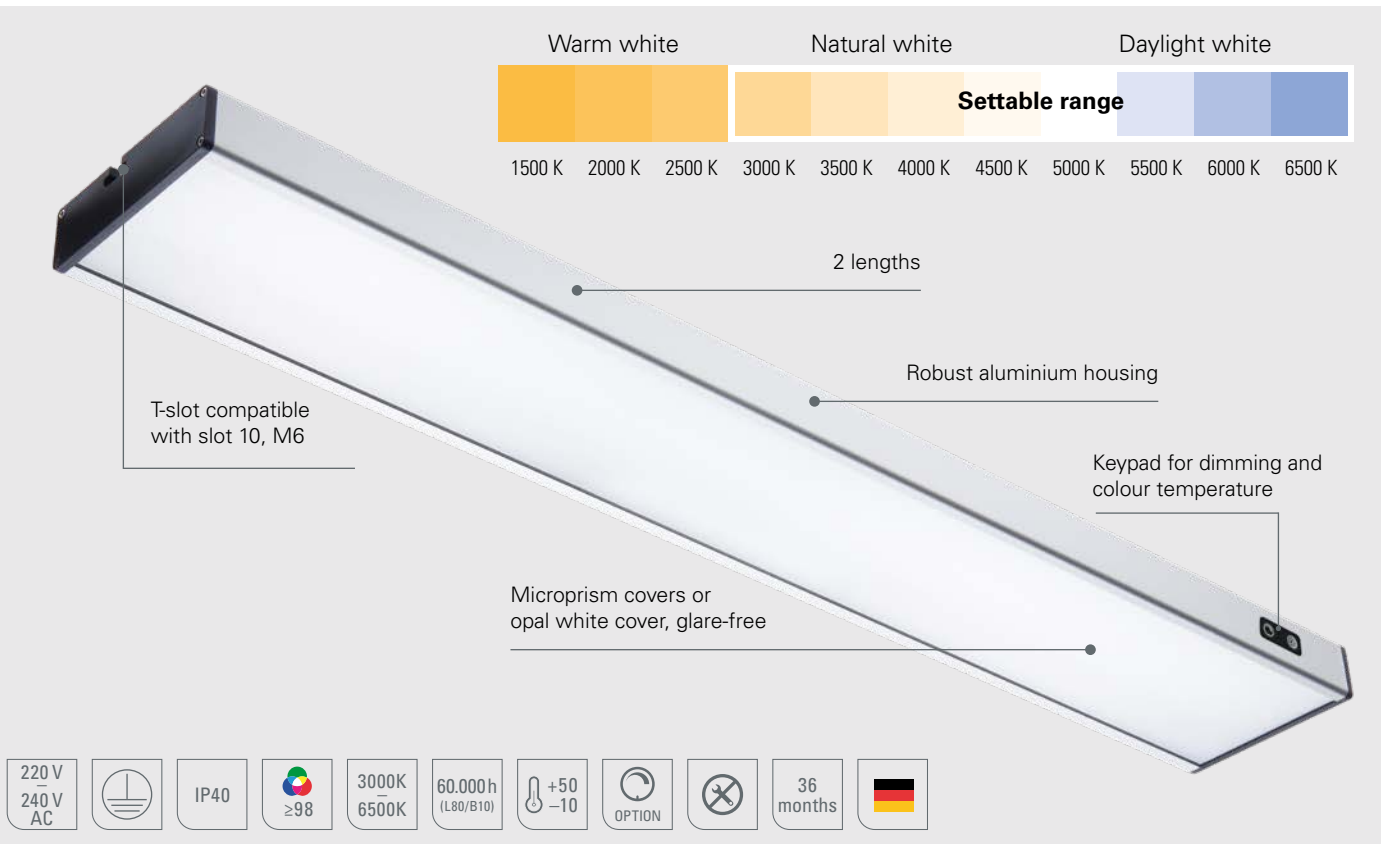
- Colour rendering up to  $Ra > 98$ . This corresponds approximately to sunlight
- Promotes concentration and reduces signs of fatigue
- Adjustable from 3,000 K to 6,500 K via an easy-to-use keypad on the luminaire head
- Choice of colour temperature between warm white, neutral white and daylight white

### Areas of application

- Optical inspection workstations, assembly workplaces and manual workplaces in the goldsmith, dental laboratory, watchmaking sectors and quality control
- For surface control and under different light colours







The light of the SYSTEMLED TUNABLE WHITE is based on TRI-R technology. The LED chips generate a light that has a colour spectrum comparable to sunlight. In addition, there is a very high colour rendering and colour quality.

SYSTEMLED TUNABLE WHITE	Product no.	Length (A)	Optics	Light colour	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
SYSTEMLED TUNABLE WHITE, matte cover	141004-01	898 mm	100°	3000 K 6500 K	928 lx 1184 lx	3670 lm 3955 lm	-49 W	220-240V AC
SYSTEMLED TUNABLE WHITE, microprism covers	141004-02	898 mm	100°	3000 K 6500 K	1075 lx 1228 lx	3670 lm 3955 lm	-49 W	220-240V AC
SYSTEMLED TUNABLE WHITE, matte cover	141004-05	1342 mm	100°	3000 K 6500 K	1782 lx 2100 lx	5138 lm 5537 lm	-69 W	220-240V AC
SYSTEMLED TUNABLE WHITE, microprism covers	141004-06	1342 mm	100°	3000 K 6500 K	2132 lx 2513 lx	5138 lm 5537 lm	-69 W	220-240V AC

Mounting accessories and connection material as well electric interlinking see SYSTEMLED

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance

Accessories	Product no.
SYSTEMLED TUNABLE WHITE control module, external, incl. 3 m connection cable (Dimming and colour change with memory function)	240500-04





## UNILED SL DC

Strong, sensitive, pleasant

The UNILED SL DC not only creates a pleasant, motivating lighting atmosphere at system workstations. Thanks to its matt cover, the LED workstation light generates homogeneous, glare-free and shadow-free illumination with a strong light output. The UNILED SL DC is the first choice when a system light with a 24V DC connection and UL/CSA certificate is required.

### The Technology

- Robust aluminium housing with integrated mounting for horizontal installation
- Heat is dissipated to the rear via aluminium base bodies

### Your benefits

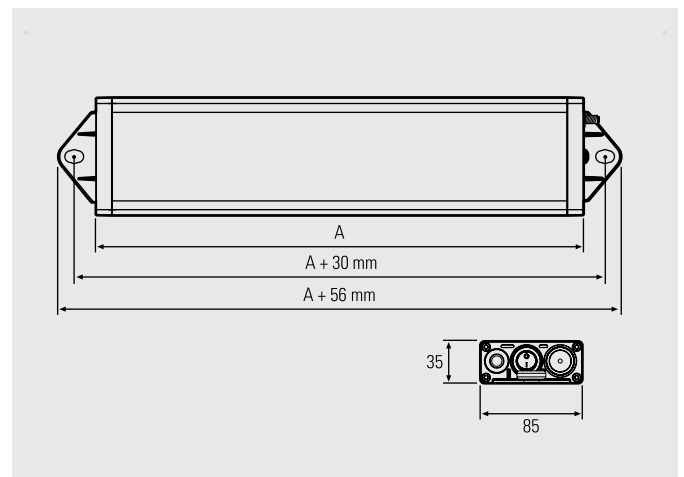
- Creates a pleasant atmosphere through daylight white 5200-5700 K
- Homogeneous, low-shadow, glare-free illumination

### Areas of application

- System and assembly workstations, test/inspection workstations
- Can be used in machines without coolant and chip bombardment
- Assembly lines

### Designs

- Four different powers: 15 W, 24 W, 48 W, 72 W
- Four lengths: 295 mm, 595 mm, 1045 mm, 1545 mm
- Special version: with dimming via button in the housing





UNILED SL DC, 5200–5700 K	Product no.	Length (A)	Optics	$E_{max}^*$	Lamp luminous flux	Output	Connection
UNILED SL DC, cover in opal white	110914-11	295 mm	100°	501 lx	1617 lm	~15 W	24V DC
UNILED SL DC, cover in opal white	110914-12	545 mm	100°	966 lx	3217 lm	~24 W	24V DC
UNILED SL DC, cover in opal white	110914-13	1045 mm	100°	1705 lx	6417 lm	~48 W	24V DC
UNILED SL DC, cover in opal white	110914-14	1545 mm	100°	2180 lx	9634 lm	~72 W	24V DC
UNILED SL DC, microprism covers	110914-21	295 mm	100°	605 lx	1617 lm	~15 W	24V DC
UNILED SL DC, microprism covers	110914-22	545 mm	100°	1171 lx	3217 lm	~24 W	24V DC
UNILED SL DC, microprism covers	110914-23	1045 mm	100°	2086 lx	6417 lm	~48 W	24V DC
UNILED SL DC, microprism covers	110914-24	1545 mm	100°	2680 lx	9634 lm	~72 W	24V DC

Power supply, dimmboxes and connection materials, see Accessories.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance

Accessories	Product no.
UNILED joint angle, 1 pair	213200-02





**NEW**

## UNILED SL AC

Bright and motivating light

The UNILED SL AC is structurally identical to the UNILED SL, but is connected directly to a 230V network. The LED luminaire can easily be used as an under-cabinet light and table light at workbenches, control workstations or in the laboratory. The UNILED SL AC illuminates work areas with a pleasant, motivating light. The light scattering is increased by more than 25% via the microprismatic glare control.

### The Technology

- Powerful LED technology with a shatterproof micro prismatic cover and 230V AC connection
- Profiled aluminium body ensuring heat dissipation

### Your benefits

- Productive atmosphere thanks to daylight white 5200-5700 K
- Homogeneous, low-shadow, glare-free illumination
- Very good colour rendering and contrast values

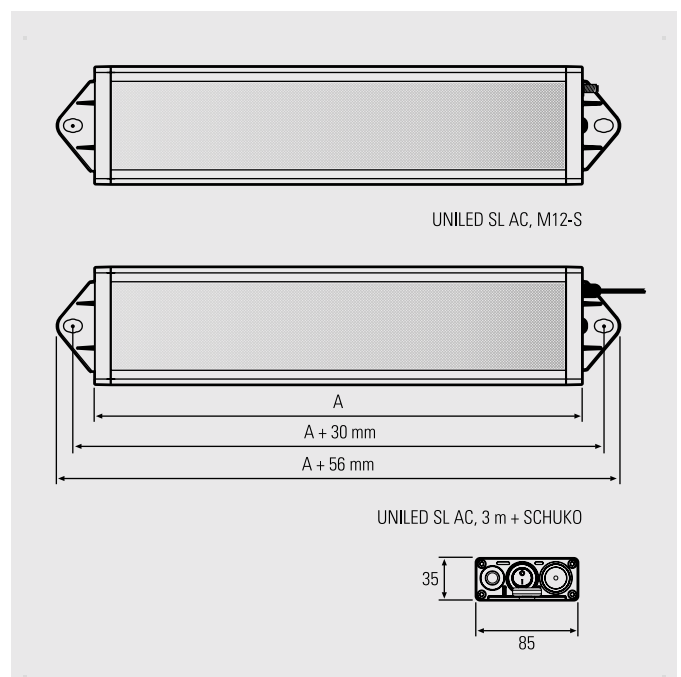
### Areas of application<sup>(1)</sup>

- System workstations and for visual inspection workplaces
- Using in machines without coolant and chip bombardment
- Laboratory workplaces

### Designs

- Variants with 230V AC mains connection via M12-S plug or a 3 m cable with SCHUKO plug
- 4 lengths: 295 mm, 545 mm, 1,045 mm, 1,545 mm

<sup>(1)</sup> Not suitable for machines with rotating parts or camera applications





220 V / 240 V AC, IP50, ≥80, 5200K / 5700K, 50.000 h (L80/B10), +60 / -10, M12 [S], 3m, 36 months, Germany flag.

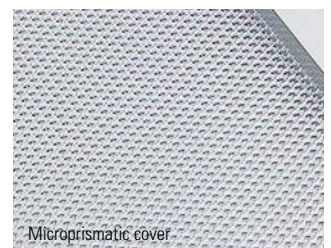
UNILED SL AC, 5200–5700 K	Product no.	Length (A)	Optics	$E_{max}^*$	Lamp luminous flux	Output	Connection
UNILED SL AC, microprism covers	110914-41	295 mm	100°	314 lx	1030 lm	~8,5 W	220-240V AC M12 connector, S-type
UNILED SL AC, microprism covers	110914-42	545 mm	100°	608 lx	2060 lm	~17 W	220-240V AC M12 connector, S-type
UNILED SL AC, microprism covers	110914-43	1045 mm	100°	985 lx	5120 lm	~34 W	220-240V AC M12 connector, S-type
UNILED SL AC, microprism covers	110914-44	1545 mm	100°	1265 lx	6180 lm	~51 W	220-240V AC M12 connector, S-type

UNILED SL AC, 5200–5700 K	Product no.	Length (A)	Optics	$E_{max}^*$	Lamp luminous flux	Output	Connection
UNILED SL AC, microprism covers	110914-61	295 mm	100°	314 lx	1030 lm	~8,5 W	220-240V AC 3 m cable and SCHUKO plug
UNILED SL AC, microprism covers	110914-62	545 mm	100°	608 lx	2060 lm	~17 W	220-240V AC 3 m cable and SCHUKO plug
UNILED SL AC, microprism covers	110914-63	1045 mm	100°	985 lx	5120 lm	~34 W	220-240V AC 3 m cable and SCHUKO plug
UNILED SL AC, microprism covers	110914-64	1545 mm	100°	1265 lx	6180 lm	~51 W	220-240V AC 3 m cable and SCHUKO plug

Connection materials, see Accessories.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance

Accessories	Product no.
UNILED joint angle, 1 pair	213200-02





**NEW**

## UNILED SL AC Zugpendel (adjustable pull pendants) Height adjustable, flexible, bright

UNILED SL AC Zugpendel with adjustable pull pendants is a powerful ceiling light mounted on two height-adjustable rise and fall attachments with spiral cables for flexible workplace lighting. Handling is very easy: Once installed and connected to the ceiling, the LED luminaire is pulled down or pushed up using the rise and fall attachment. Especially at smaller manual workstations or in the laboratory, it is popular to be able to adjust the illuminance as required by adjusting the height of the light.

### The Technology

- Powerful LED technology with shatterproof microprism cover and 230V AC connection from the ceiling transfer point
- Ceiling suspension via height-adjustable pull pendants

### Your benefits

- Productive atmosphere thanks to daylight white
- Variable illuminance through height adjustment
- Homogeneous, low-shadow, glare-free illumination
- Very good colour rendering and contrast values

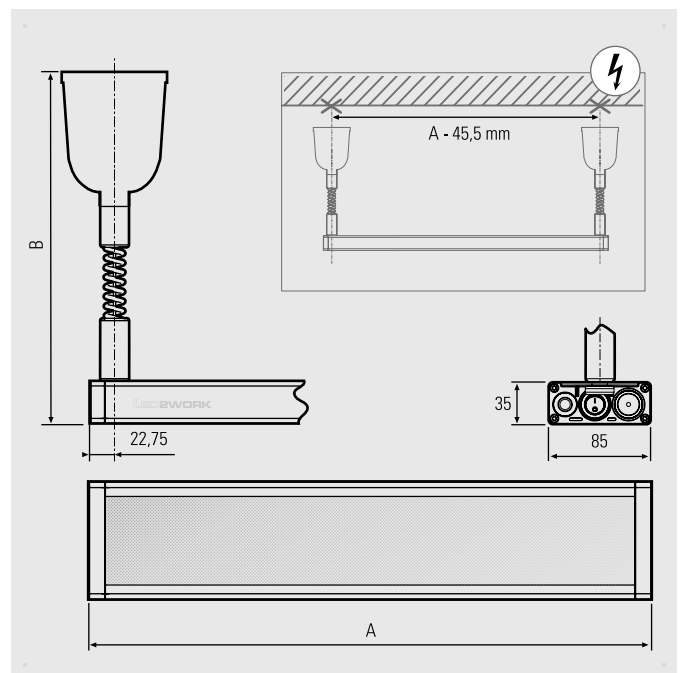
### Areas of application <sup>(1)</sup>

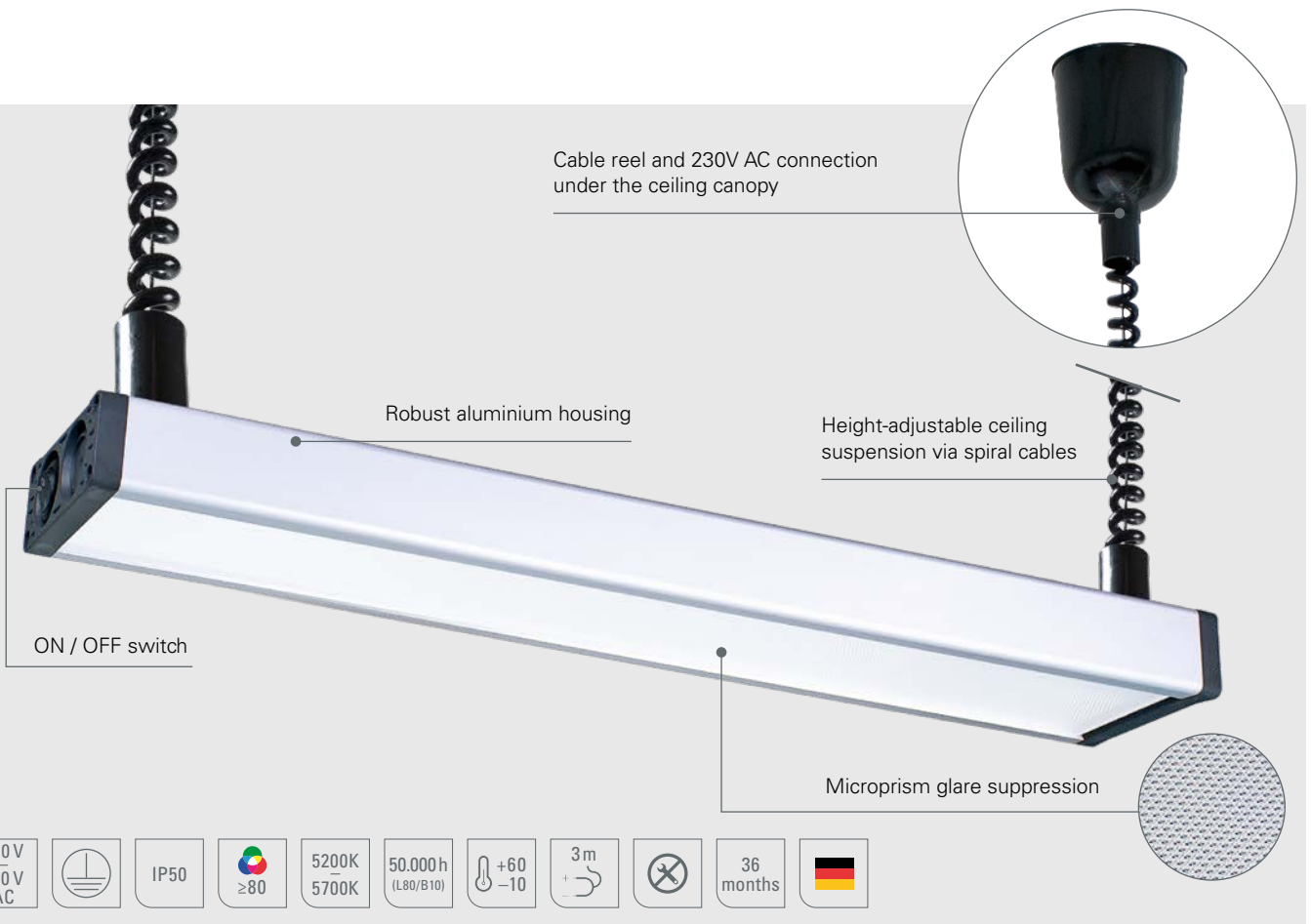
- Assembly and manual workstations in the trade as well as the dental and jewellery industry
- Work and test stations in laboratories

### Design

- 3 luminaire lengths: 570 mm, 1,070 mm, 1,570 mm
- Two extension ranges for the pull pendants: from 74 cm to 190 cm and from 34 cm to 130 cm

<sup>(1)</sup> Not suitable for machines with rotating parts or camera applications





The intensity of the light in the work area can be varied easily by pulling and pushing the UNILED SL AC luminaire via the pull pendants down or up. In addition to three lengths of the luminaire housing, you can also choose between two different rise and fall lengths of the adjustable pull pendants when choosing the LED luminaire.

UNILED SL AC, adjustable pull pendants, 5200–5700 K	Product no.	A	B	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
UNILED SL AC, adjustable pull pendants, microprismatic cover	110914-82	570 mm	~740... 1900 mm	100°	608 lx	2060 lm	~17 W	220-240V AC
UNILED SL AC, adjustable pull pendants, microprismatic cover	110914-83	1070 mm	~740... 1900 mm	100°	985 lx	5120 lm	~34 W	220-240V AC
UNILED SL AC, adjustable pull pendants, microprismatic cover	110914-84	1570 mm	~740... 1900 mm	100°	1265 lx	6180 lm	~51 W	220-240V AC

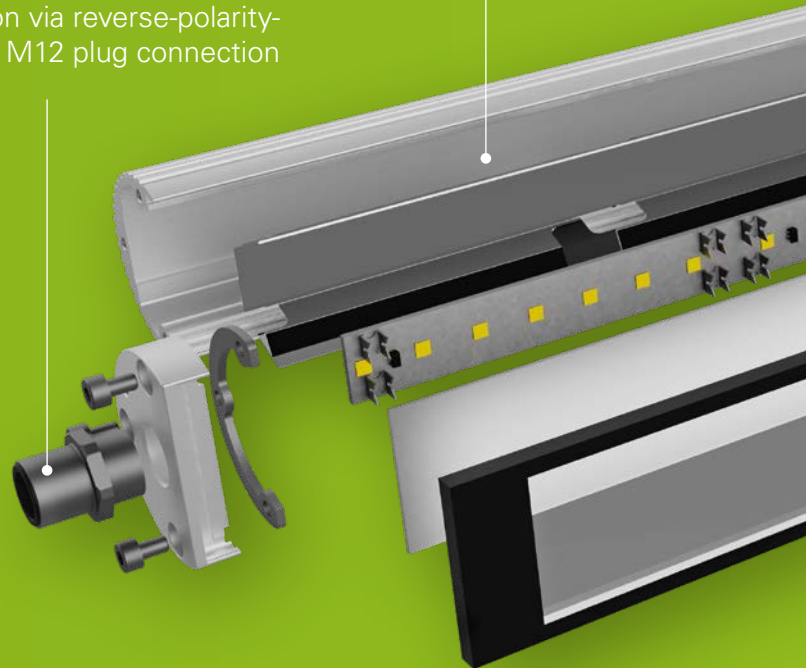
UNILED SL AC, adjustable pull pendants, 5200–5700 K	Product no.	A	B	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
UNILED SL AC, adjustable pull pendants, microprismatic cover	110914-85	570 mm	~340... 1300 mm	100°	608 lx	2060 lm	~17 W	220-240V AC
UNILED SL AC, adjustable pull pendants, microprismatic cover	110914-86	1070 mm	~340... 1300 mm	100°	985 lx	5120 lm	~34 W	220-240V AC
UNILED SL AC, adjustable pull pendants, microprismatic cover	110914-87	1570 mm	~340... 1300 mm	100°	1265 lx	6180 lm	~51 W	220-240V AC

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance

## LED machinery lighting

Aluminium housing  
for optimum thermal  
management

Connection via reverse-polarity-  
protected M12 plug connection

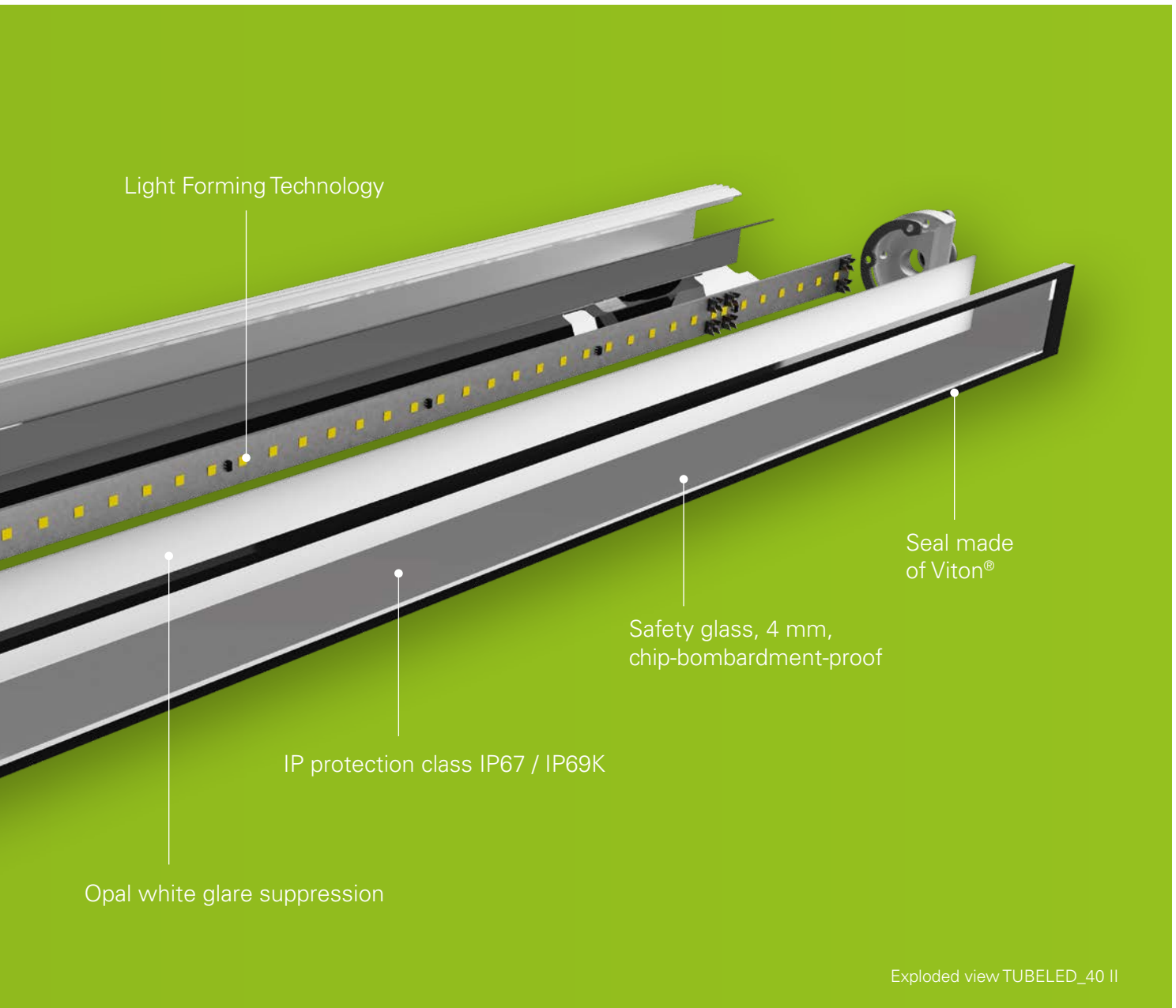


### Two variants

The machine lighting is divided into two installation variants:

- **LED recessed luminaires** are installed in the standardised recessed shafts of machines
- **LED surface-mounted luminaires** are attached to the machine with brackets or magnetically





### Our quality standards

Robust, indestructible, durable, easy to install and bright – these are the five characteristics that count when it comes to machine lighting. As a specialist in this field, we have equipped our luminaires accordingly:

- Extremely robust aluminium housing
- Safety glass covers
- Seals made of Viton® for a high degree of protection
- High-performance LED luminaires for spotlight function to homogeneous area light
- Can be integrated into the tightest of installation situations
- The machine luminaires are shock and vibration resistant

Equipped in this way, extreme temperatures, oil, water, hot chips, coolant and other emulsions do not affect either the service life or the luminosity.

### Key data of our machine luminaires

- High energy efficiency through efficient LED chips
- No maintenance times because they are completely maintenance-free
- Circuit-independent service life approx. 50,000 to 60,000 operating hours L70/B10
- 36 months warranty
- Easy retrofitting in existing machines, even in confined spaces
- Optimised lighting (daylight white 5,200K–5,700K)



**NEW**

**CENALED SPOT Gelenkkopf** (swivel head)  
**Shadow-free, object accuracy, movable**

With the CENALED SPOT swivel head, every workplace can be illuminated quickly and easily. Its fastening, either stationary via the screw-on base or flexible via accessories such as magnetic clamps or table clamps, allows focused illumination of work areas in machine tools and equipment. It does not matter whether it is a simple application or use under harsh production conditions. The CENALED SPOT is optimally protected with IP65 or IP67.

**The technology**

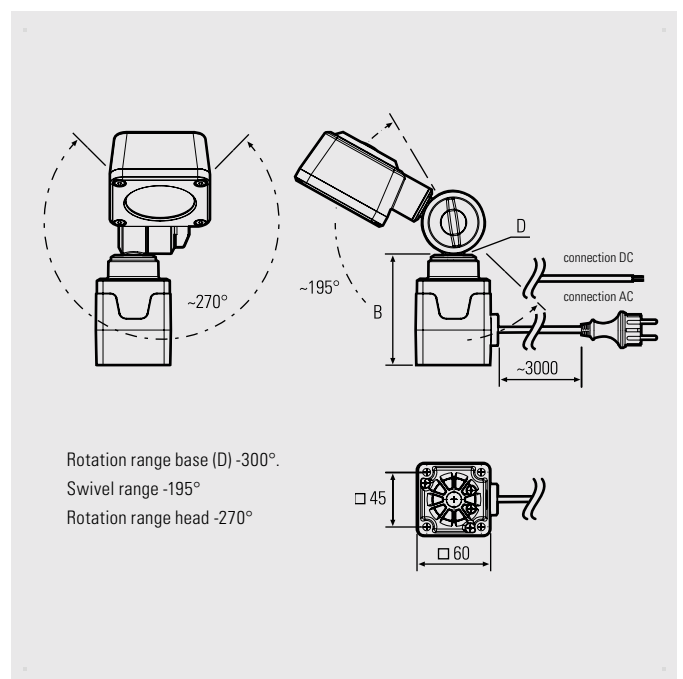
- High-performance LED chips for 5 000K neutral white
- On / off and dimmable using buttons on the lamp head
- It is also supplied in a 24V DC variant or in a variant for direct connection to 100-305V AC, each with a 3 m lead

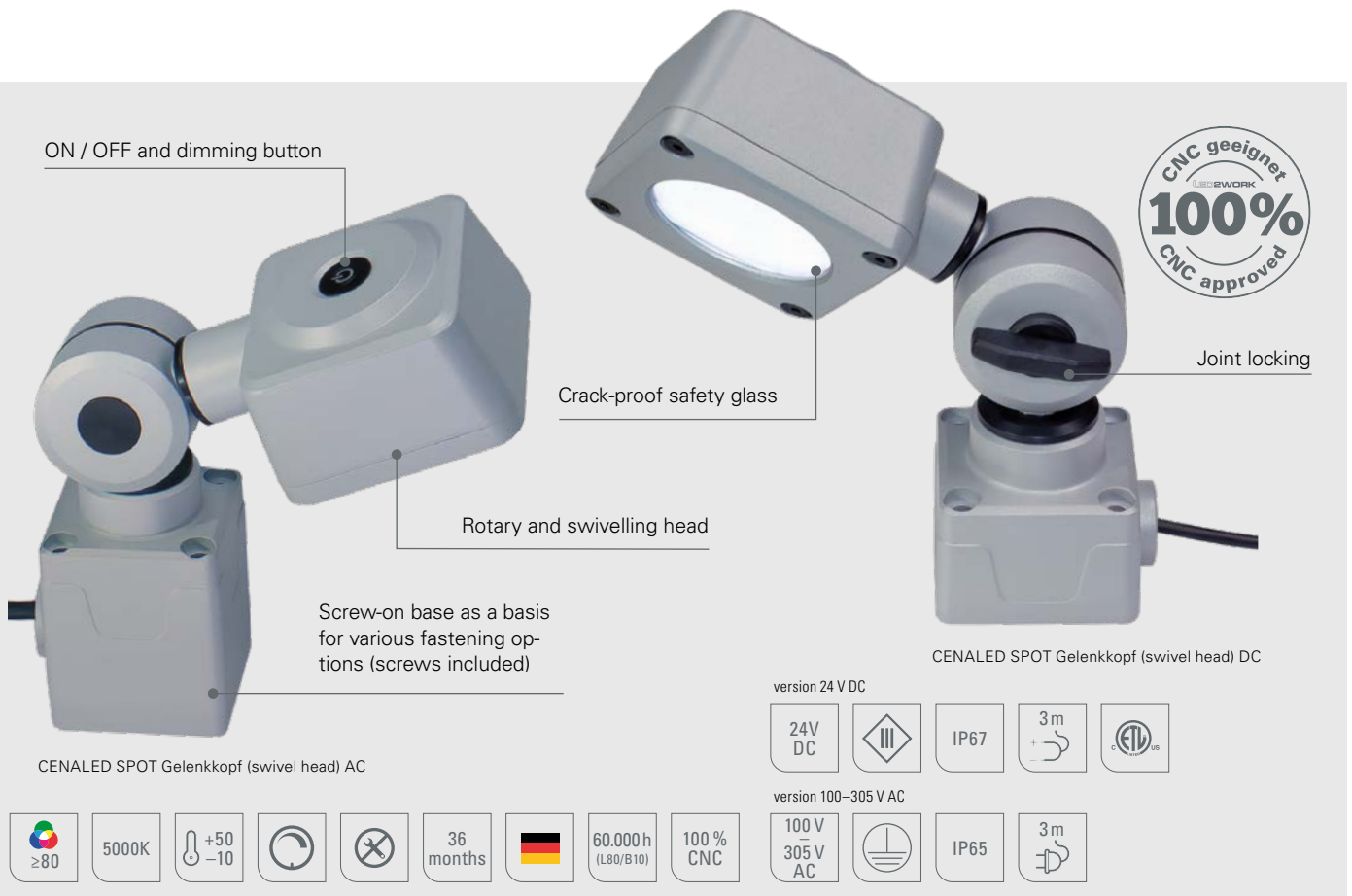
**Your benefits**

- Compact luminaires for bright illumination in neutral white and with a high level of detailed sharpness
- If necessary, the head can be brought into almost any position via the head and base joint and the light can be directed to the object in question
- 30° beam angle for focused illumination

**Areas of application**

- Work areas of machines such as drilling machines, machine tools or injection moulding machines
- Areas in industry and in plants where focused light is needed





CENALED SPOT Gelenkkopf (swivel head)	Product no.	Base (B)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
CENALED SPOT Gelenkkopf DC, screw-on base	121012-03	59 mm	30°	9212 lx	1120 lm	~8,5 W	24V DC
CENALED SPOT Gelenkkopf AC, screw-on base	121012-13	88 mm	30°	9212 lx	1120 lm	~9 W	100-305V AC

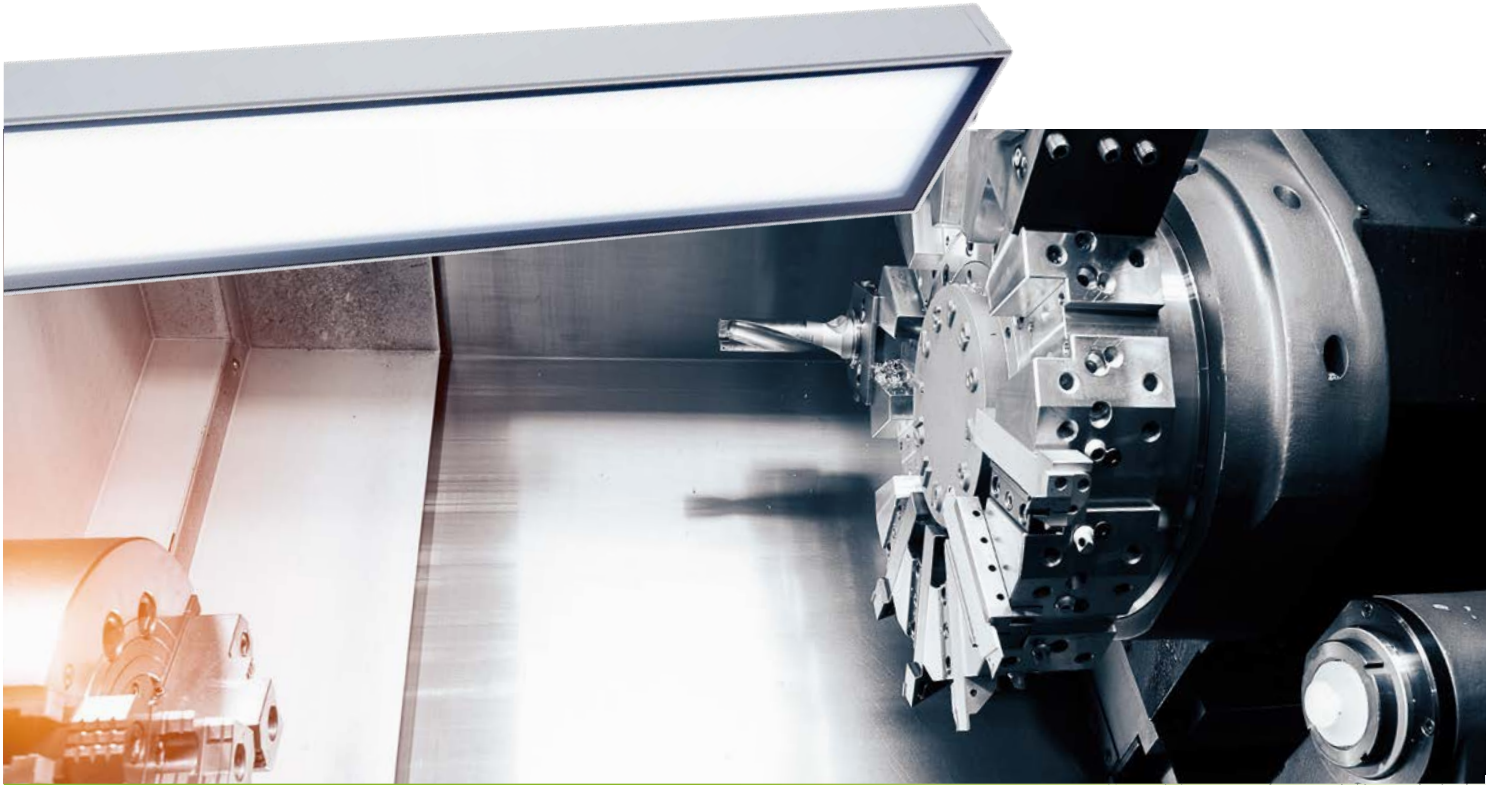
Connection materials or power supply units, see Accessories.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance

The CENALED SPOT is part of the CENALED modular system. The basic module of every light is the screw-on base for a 24V DC or 100-305 V AC connection. The modular structure is supplemented with an articulated arm, flexible arm or a directly mounted swivel head. The lamp head has an on/off switch and brightness control (dimming). The screw-on base allows several fastening options, for example using a magnetic clamp or a table clamp.

Accessories	Product no.
Holding magnet for CENALED screw-on base	220500-01
Table clamp for CENALED screw-on base	220500-02
Wall bracket for CENALED screw-on base	220500-03





## FIELDLED II

Very bright luminosity and indestructible

The FIELDLED II light is designed for harsh production environments: Oil, water, chips and cooling lubricants cannot harm the LED light. The frosted safety glass, which is firmly glued to the aluminium housing, ensures the necessary IP protection class. For long-term operation in extremely rugged environments, such as in blasting cabins, there is the option of replaceable protective films. Perfect resilience.

### The technology

- Frosted 5 mm safety glass and Light Forming Technology
- Heat dissipation via rear aluminium body
- Densely packed LED mounting - extremely powerful

### Your benefits

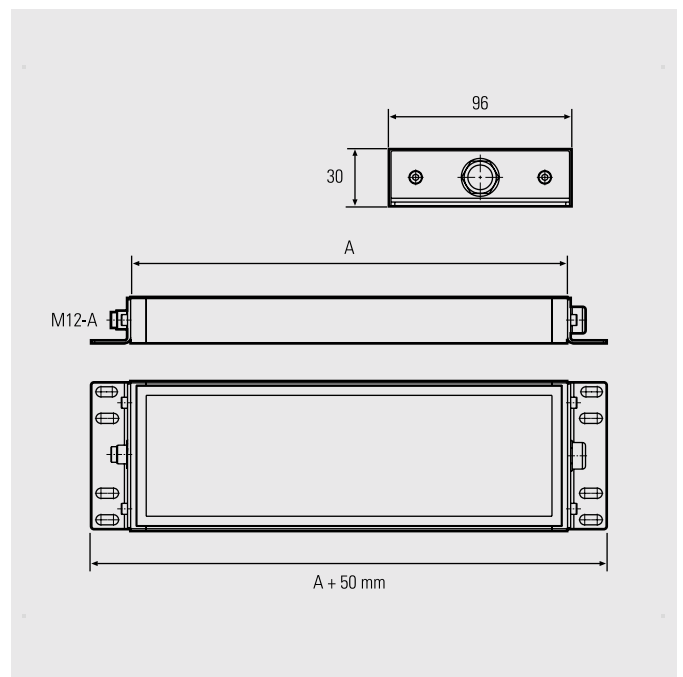
- Light emission across the entire area of the light
- Wide-angle, homogeneous illumination, flicker-free without UV and IR component
- Oil-resistant and chip bombardment-proof
- Permanent luminous efficacy as no oil or coolant burns into the glass

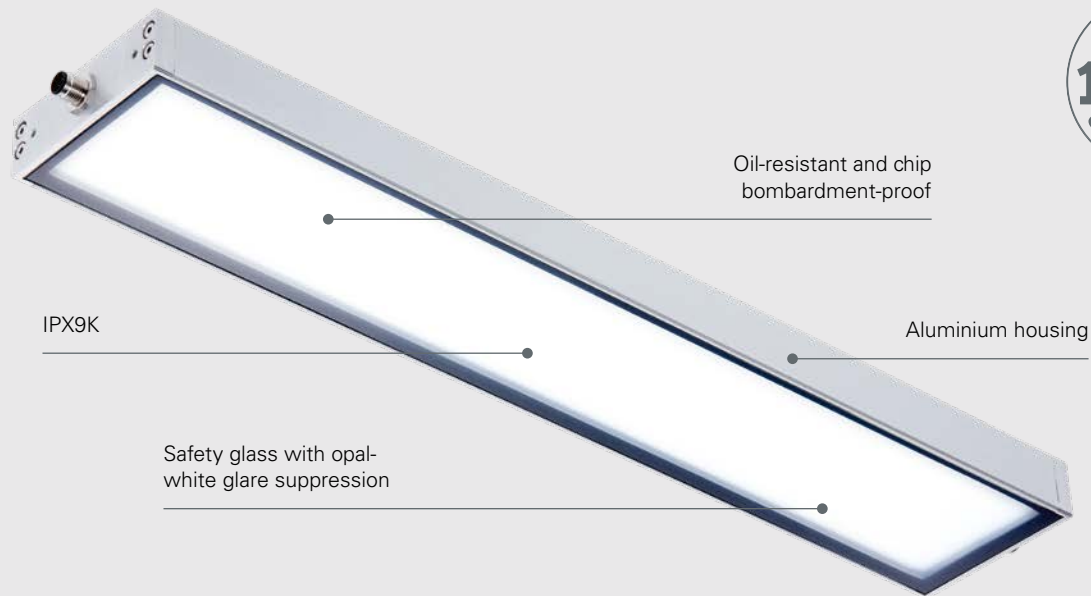
### Areas of application

- Large volume machines and plants
- CNC machines, machine tools
- Milling machines, surface grinding machines ...

### Designs

- 4 lengths: 280 mm, 540 mm, 790 mm, 1040 mm



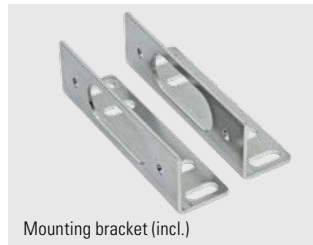


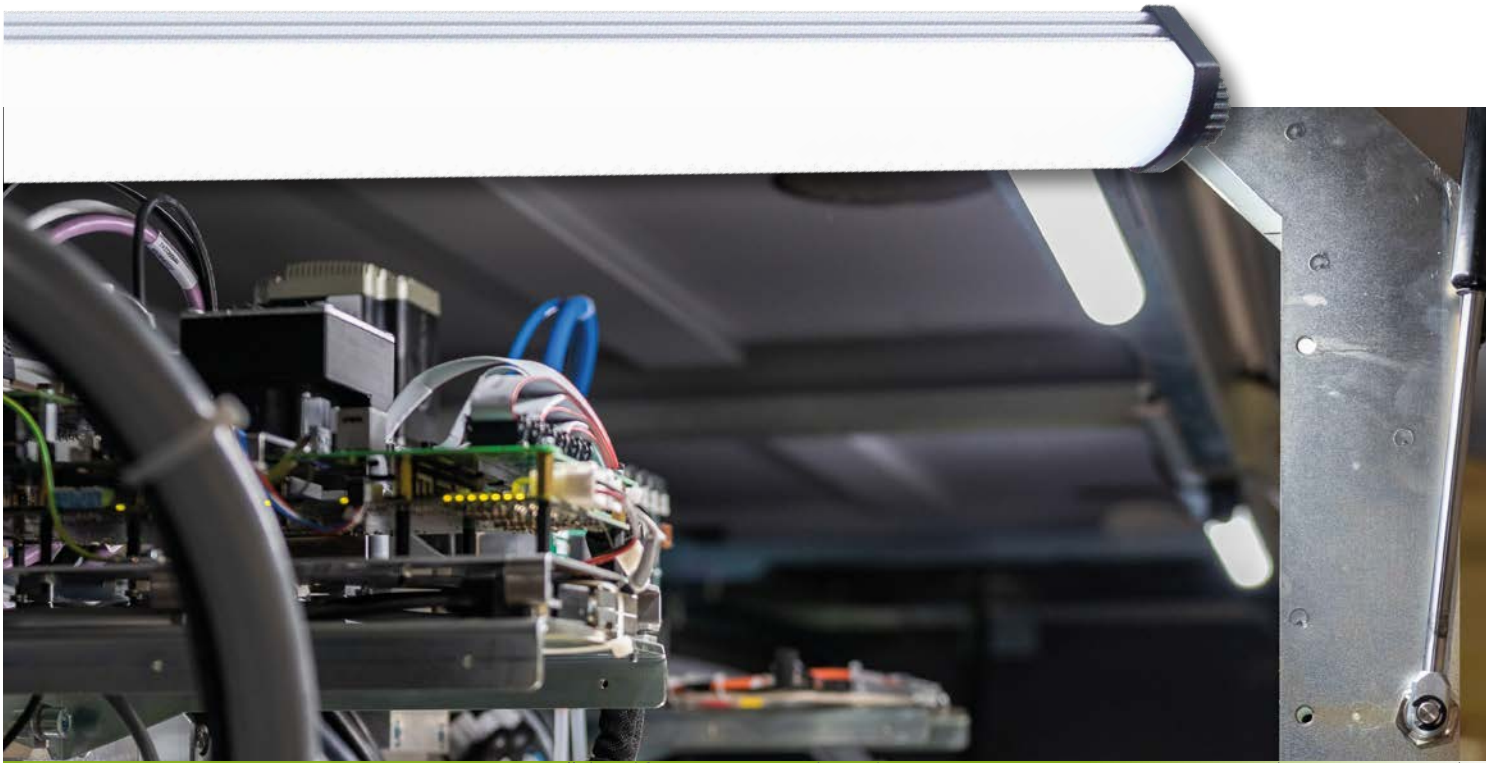
FIELDLED II mounting version, 5200–5700K	Product no.	Length (A)	Optics	$E_{max}^*$	Lamp luminous flux	Output	Connection
FIELDLED II mounting version	113010-01	280 mm	120°	1004 lx	2640 lm	~20 W	24V DC
FIELDLED II mounting version	113110-01	540 mm	120°	1673 lx	4752 lm	~36 W	24V DC
FIELDLED II mounting version	113210-01	790 mm	120°	2247 lx	7392 lm	~56 W	24V DC
FIELDLED II mounting version	113310-01	1040 mm	120°	2679 lx	9504 lm	~72 W	24V DC

Delivery incl. V2A luminaire holder, 1 pair | Power supplies, dimmer switch and connection materials, see Accessories.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance

Accessories	Product no.
STATUSLED luminaire holder for rotatable mounting, V2A, 1 pair	210200-03





**NEW**

## LEANLED II

Slender, very bright, cascadable

Due to its extremely compact design (25 x 30 mm), the LEANLED can be used in almost any machine space without chip bombardment or coolant (IP54). A polycarbonate cover protects the LED chips from dust and splash water. The electrical interlinking enables very simple and quick installations that can illuminate large production areas homogeneously and uniformly.

### The Technology

- Slender, barely protruding LED luminaire, only 25 mm high
- Clear or opal white cover made of polycarbonate, shatter and splinter-free
- Heat is dissipated to the rear via aluminium base bodies

### Your benefits

- Uniform, flicker-free illumination
- Very bright LED luminaire
- Homogeneous illumination with opal white glare suppression
- Cascadable, i.e. electrically interlinkable versions –
- thus simple power supply of several luminaires with one supply cable.

### Areas of application

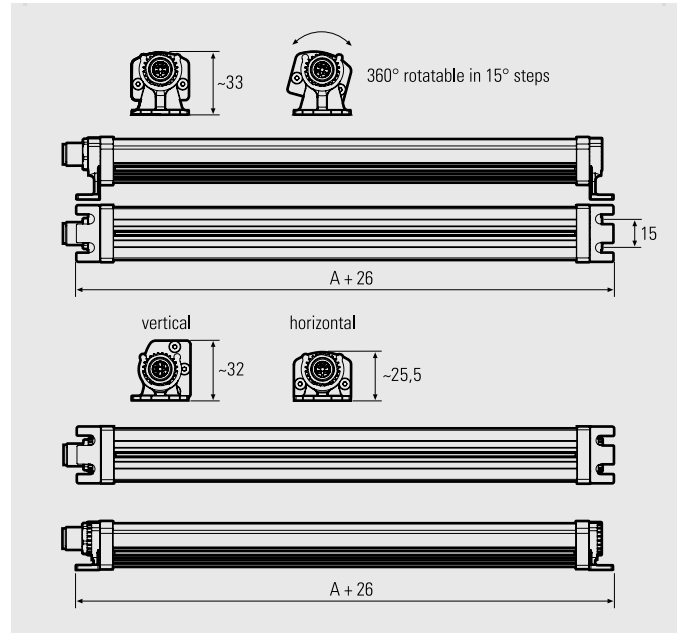
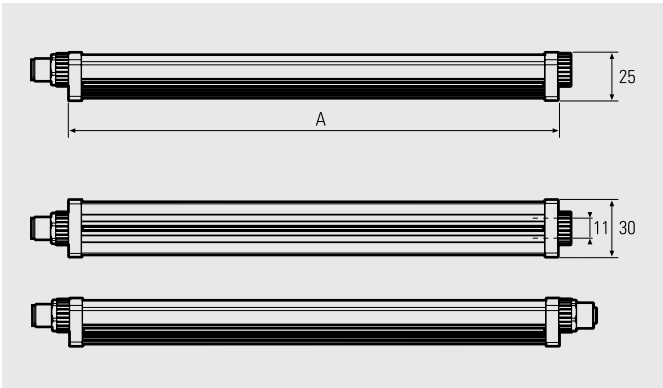
- For machines and plants with very little space
- Automatic machines, bending machines, punching machines, conveyor belts
- Woodworking
- Logistics and many other applications

### Designs

- 7 lengths: 180 mm, 260 mm, 350 mm, 520 mm, 760 mm, 1020 mm, 1520 mm
- Available with clear cover or opal white glare suppression
- Single solution or electrically interlinkable



- 24V  
DC
- III
- IP54
- $\geq 85$
- 5200K  
 -  
 5700K
- 60.000 h  
 (L80/B10)
- M12
- +60  
 -10
- OPTION
- 
- 
- 36  
 months
- 



2 pairs of lamp holders are included

## Surface mounted luminaires | LEANLED II

LEANLED II, 5200–5700K	Product no.	Length (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
LEANLED II, clear cover	111010-01	180 mm	120°	232 lx	630 lm	~4 W	24V DC
LEANLED II, clear cover	111010-02	260 mm	120°	350 lx	945 lm	~6 W	24V DC
LEANLED II, clear cover	111010-03	350 mm	120°	461 lx	1260 lm	~8 W	24V DC
LEANLED II, clear cover	111010-04	520 mm	120°	680 lx	1890 lm	~13 W	24V DC
LEANLED II, clear cover	111010-05	760 mm	120°	953 lx	2835 lm	~19 W	24V DC
LEANLED II, clear cover	111010-06	1020 mm	120°	1219 lx	3780 lm	~24 W	24V DC
LEANLED II, clear cover	111010-07	1520 mm	120°	1588 lx	5670 lm	~37 W	24V DC
LEANLED II, opal white glare suppression	111010-11	180 mm	120°	160 lx	630 lm	~4 W	24V DC
LEANLED II, opal white glare suppression	111010-12	260 mm	120°	241 lx	945 lm	~6 W	24V DC
LEANLED II, opal white glare suppression	111010-13	350 mm	120°	318 lx	1260 lm	~8 W	24V DC
LEANLED II, opal white glare suppression	111010-14	520 mm	120°	471 lx	1890 lm	~13 W	24V DC
LEANLED II, opal white glare suppression	111010-15	760 mm	120°	658 lx	2835 lm	~19 W	24V DC
LEANLED II, opal white glare suppression	111010-16	1020 mm	120°	840 lx	3780 lm	~24 W	24V DC
LEANLED II, opal white glare suppression	111010-17	1520 mm	120°	1089 lx	5670 lm	~37 W	24V DC

LEANLED II, cascadable, 5200–5700K	Product no.	Length (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
LEANLED II, clear cover, casacadable	111010-21	180 mm	120°	232 lx	630 lm	~4 W	24V DC
LEANLED II, clear cover, casacadable	111010-22	260 mm	120°	350 lx	945 lm	~6 W	24V DC
LEANLED II, clear cover, casacadable	111010-23	350 mm	120°	461 lx	1260 lm	~8 W	24V DC
LEANLED II, clear cover, casacadable	111010-24	520 mm	120°	680 lx	1890 lm	~13 W	24V DC
LEANLED II, clear cover, casacadable	111010-25	760 mm	120°	953 lx	2835 lm	~19 W	24V DC
LEANLED II, clear cover, casacadable	111010-26	1020 mm	120°	1219 lx	3780 lm	~24 W	24V DC
LEANLED II, clear cover, casacadable	111010-27	1520 mm	120°	1588 lx	5670 lm	~37 W	24V DC
LEANLED II, opal white glare suppression, cascadable	111010-31	180 mm	120°	160 lx	630 lm	~4 W	24V DC
LEANLED II, opal white glare suppression, cascadable	111010-32	260 mm	120°	241 lx	945 lm	~6 W	24V DC
LEANLED II, opal white glare suppression, cascadable	111010-33	350 mm	120°	318 lx	1260 lm	~8 W	24V DC
LEANLED II, opal white glare suppression, cascadable	111010-34	520 mm	120°	471 lx	1890 lm	~13 W	24V DC
LEANLED II, opal white glare suppression, cascadable	111010-35	760 mm	120°	658 lx	2835 lm	~19 W	24V DC
LEANLED II, opal white glare suppression, cascadable	111010-36	1020 mm	120°	840 lx	3780 lm	~24 W	24V DC
LEANLED II, opal white glare suppression, cascadable	111010-37	1520 mm	120°	1089 lx	5670 lm	~37 W	24V DC

With feed-through wiring (cascadable), several luminaires can be interlinked electrically. The entire power consumption may not exceed 4A DC at ta at a max. of +40 °C.

Delivery incl. 2 pairs of lamp holders for assembly | Power supply units and connection materials, see Accessories.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at a distance of 100 cm

Accessories	Product no.
Spring clamps, galvanised steel, 1 pair	210200-07
Spring clamps with magnet, 1 pair	210200-08









## MIDILED

Compact, space-saving, strong on the surface

The MIDILED is the right choice if a strong, flat illumination is required, but where the working area at the machine offers very little space. The LED luminaire provides daylight white illumination in the machine room. It can be attached via the stainless steel mounting bracket and its inclination can be adjusted.

### The Technology

- Crack-resistant safety glass, 4 mm thick
- Heat dissipation via rear aluminium base body
- IP68 degree of protection

### Your benefits

- Strong surface illumination, flicker-free without UV and IR component
- Very compact (total length: 148 mm)
- Simple upgrading or retrofitting in machine tools
- Chip bombardment-proof and oil-resistant

### Areas of application

- for machines or working environments with very little space
- Lathes, drilling, milling and grinding machines

### Design

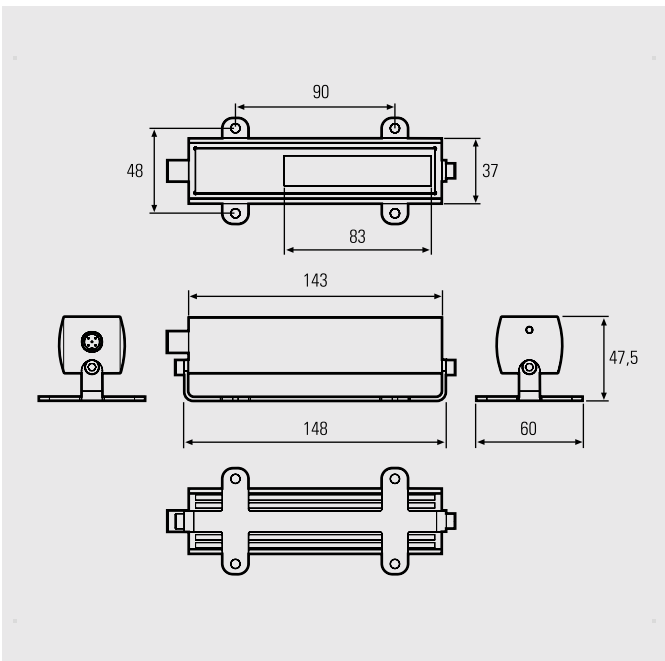
- Very compact LED luminaire for fixture using the mounting bracket made of stainless steel, adjustable at an angle of  $\pm 30^\circ$



MIDILED, 5200-5700K	Product no.	Optics	$E_{max}^*$	Lamp luminous flux	Output	Connection
MIDILED	110614-01	120°	1118 lx	882 lm	~7 W	24V DC

Incl. V2A mounting bracket for pivotable mounting  
Power supply units and connection material, see Accessories.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance





## SPOTLED II

Spotlight or wide spread light

Together with its sister model – the recessed version – the SPOTLED II surface-mounted luminaire is the universal whiz for spotlight luminaires. Depending on the beam angle, the luminaire can be selected as a spotlight or as a wide-angled floodlight. With the separately available 3D joint angle, the luminaire can be rotated 60° to either side and positioned continuously 90° upwards and downwards.

### The Technology

- Designed for harsh operating conditions: oil-resistant, chip bombardment-proof
- Crack-resistant safety glass, 4 mm thick
- Aluminium base body, hard anodised for heat dissipation to the rear - no burning in of coolant or emulsions

### Your benefits

- Spotlight or wide spread, flicker-free light without UV and IR components
- High versatility due to optional 3D joint angle

### Areas of application

- For the OEM area, as well as for retrofitting in machines
- Machine tools, CNC machines
- For camera-supported quality assurance during processing

### Designs/mounting

- 3 different beam angles: Spotlight (16°), floodlight (25°), full floodlight (40°)
- Also available as F&B version made of V4A (stainless steel)
- The structure/fastening via a fixed connection with the metal surface of the machine, optionally also with pivotable joint angle



Robust aluminium housing for heat dissipation

FKM seals

Safety glass 4 mm

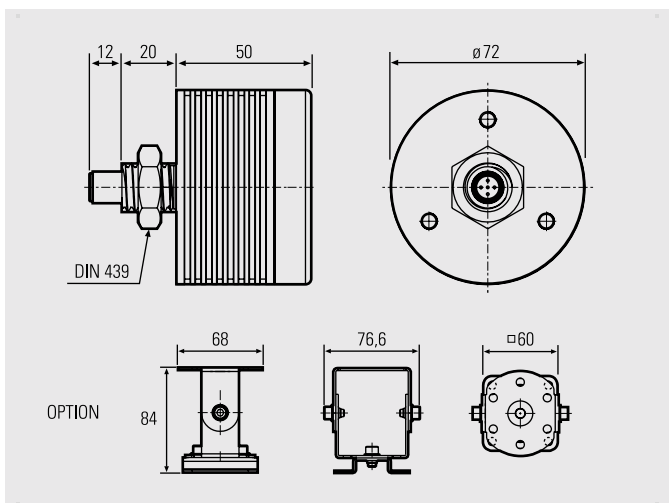
24V DC | III | 16° | 25° | 40° | IP67 | 100% CNC | ≥80 | 5200K-5700K | 50.000h (L80/B10) | M12 | +40/-10 | OPTION | 36 months | Germany flag

SPOTLED II mounting version, 5200–5700K	Product no.	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
SPOTLED II mounting version Spot	111111-11	16°	5382 lx	982 lm	-8,5 W	24V DC
SPOTLED II mounting version Medium	111112-11	25°	2349 lx	982 lm	-8,5 W	24V DC
SPOTLED II mounting version Wide	111113-11	40°	1498 lx	982 lm	-8,5 W	24V DC

Power supply, dimmboxes and connection materials, see Accessories.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance. From an ambient temperature of 40°C, the luminaire must be firmly connected to a 150 x 150 mm metal sheet (e.g. the machine cladding) for heat dissipation, heat conduction paste recommended.

Accessories	Product no.
SPOTLED II articulated joint, V2A, exclusive luminaire	214300-01





## TOPLED

Small and extremely robust

The TOPLED was developed for the illumination of a work piece to be machined at close range. The LED luminaire requires only minimal space, is extremely robust and provides powerful and accurate illumination. Thanks to its small size, it can be used very close to the machining area.

### The Technology

- Safety glass, 4 mm thick: oil-resistant and chip bombardment-proof
- Aluminium body for good heat dissipation to the rear – no thermal stress on the work piece
- Connection using 150 mm connection cable with M12 plug connector

### Your benefits

- Simple upgrading or retrofitting in machine tools
- Close, low-shadow lighting on the machining area

### Areas of application

- Machine tools, CNC plants and machines for wood working
- Ideal light for use on the spindle or on the spindle head

### Design

- Diameter 50 mm with beam angle of 40°
- Also available in V4A stainless steel version with a beam angle of 120° and in OEM program

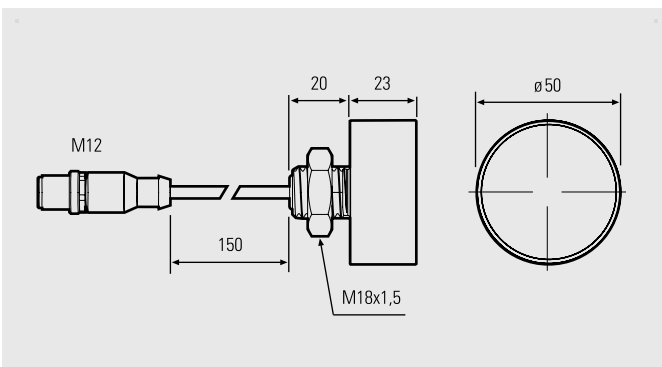


TOPLED Mounted version, 5200-5700K	Product no.	Diameter	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
TOPLED Aufbau	111913-01	50 mm	40°	800 lx	982 lm	-8,5 W	24V DC

Power supply units, dimmboxes and connection materials, see Accessories.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 50 cm distance

For sufficient cooling, the luminaire must be mounted on a metallic surface, e.g. machine cladding 400 x 400 mm, thickness 3 mm. Heat conducting paste is recommended.





**NEW**

## TUBELED\_40 Element

As simple as possible, but not simpler

The TUBELED\_40 Element is the LED light for everyone who doesn't necessarily need the strong protection of a TUBELED\_40 II. The slim industrial luminaire with protection class IP54 is still sufficiently protected to be able to sufficiently illuminate work areas of machines, lines and systems without coolant and chip bombardment. In addition, there is a variant for electrical interlinking and, in addition to the 24V DC version, there is also a version with a 230V AC connection.

### The Technology

- Slim luminaire body made of extruded aluminium profile with black plastic end caps and sealed PMMA cover

### Your benefits

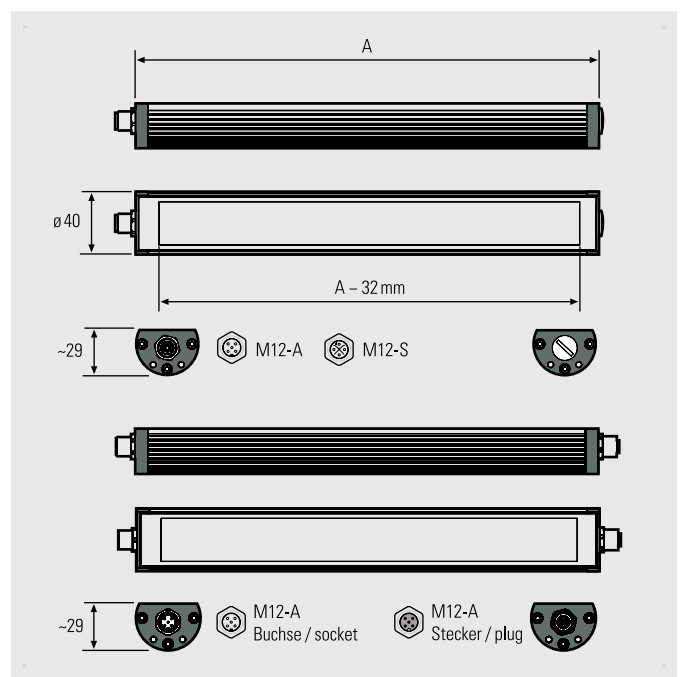
- Flicker-free and performance-optimized surface light, without UV and IR components.
- Daylight white
- Can be linked electrically (cascadable)

### Areas of application

- Metal or woodworking as well as plastics processing
- Equipment for assembly and packaging

### Design

- Available in 7 lengths
- Variants for electrical interlinking (cascadable)
- Connection variants: 24V DC, 24V DC cascadable or 220-240V AC, each with M12 plug connections







TUBELED_40 Element DC, 5200K-5700K	Product no.	Length (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
TUBELED_40 Element	119010-02	190 mm	100°	219 lx	630 lm	-4 W	24V DC
TUBELED_40 Element	119110-02	280 mm	100°	325 lx	945 lm	-6 W	24V DC
TUBELED_40 Element	119210-02	365 mm	100°	428 lx	1260 lm	-8,5 W	24V DC
TUBELED_40 Element	119310-02	540 mm	100°	623 lx	1890 lm	-13 W	24V DC
TUBELED_40 Element	119410-02	715 mm	100°	796 lx	2520 lm	-17 W	24V DC
TUBELED_40 Element	119510-02	1040 mm	100°	1080 lx	3780 lm	-24 W	24V DC
TUBELED_40 Element	119610-02	1540 mm	100°	1348 lx	5670 lm	-37 W	24V DC
TUBELED_40 Element, cascadable	119010-12	190 mm	100°	219 lx	630 lm	-4 W	24V DC
TUBELED_40 Element, cascadable	119110-12	280 mm	100°	325 lx	945 lm	-6 W	24V DC
TUBELED_40 Element, cascadable	119210-12	365 mm	100°	428 lx	1260 lm	-8,5 W	24V DC
TUBELED_40 Element, cascadable	119310-12	540 mm	100°	623 lx	1890 lm	-13 W	24V DC
TUBELED_40 Element, cascadable	119410-12	715 mm	100°	796 lx	2520 lm	-17 W	24V DC
TUBELED_40 Element, cascadable	119510-12	1040 mm	100°	1080 lx	3780 lm	-24 W	24V DC
TUBELED_40 Element, cascadable	119610-12	1540 mm	100°	1348 lx	5670 lm	-37 W	24V DC

With feed-through wiring (cascadable) several luminaires can be electrically interlinked. The entire power consumption may not exceed 8 A DC at max. +30° C or 7 A DC at max. +40° C.

TUBELED_40 Element, 5200K-5700K	Product no.	Length (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
TUBELED_40 Element AC	119110-03	280 mm	100°	262 lx	1030 lm	-8,5 W	220-240V AC
TUBELED_40 Element AC	119310-03	540 mm	100°	502 lx	2060 lm	-17 W	220-240V AC
TUBELED_40 Element AC	119510-03	1040 mm	100°	957 lx	5120 lm	-34 W	220-240V AC
TUBELED_40 Element AC	119610-03	1540 mm	100°	1194 lx	6180 lm	-51 W	220-240V AC

Power supply units and connection materials, see Accessories | Fastening accessories for TUBELED\_40 Element can be found at TUBELED\_40 II

\* maximum lighting intensities, area 100 cm x 100 cm at 100 cm distance



## TUBELED\_40 II

Strikingly inconspicuous, varied

Narrow installation space with harsh production conditions and temperatures of up to +70 °C – the TUBELED\_40 II can deal with that like no other. With a luminaire diameter of just 40 mm and seven available lengths, the slim LED luminaire is truly an all-rounder: robust and bright, it enhances the value of every machine.

### The Technology

- Heat dissipation using aluminium extruded profile to the rear – no burn-in of coolant
- Safety glass cover, crack-proof, 4 mm thick
- Light Forming Technology
- Oil-resistant seals (FKM seal Viton®)
- Machine room lighting - chip bombardment-proof, vibration and shock resistant – 100% CNC suitable

### Your benefits

- Easy and quick retrofitting of machines
- Optimum lighting through 100° surface light
- Flicker-free without UV and IR components
- High degree of protection IP67/IP69K
- Electrically interlinkable (cascadable)
- Can be used in ambient temperatures up to +70 °C
- ON/OFF interface: load-free switching, flashing and dimming possible

### Areas of application

- Micro-precision machines, eroding machines, punching automation
- Wherever tight installation conditions prevail

### Designs/installation

- 7 lengths: 190 mm, 280 mm, 365 mm, 540 mm, 715 mm, 1040 mm, 1540 mm
- Luminous flux-optimized Power version and performance-optimized ECO version:
- Power version for larger distances and high light requirements
- ECO version for high ambient temperatures – price-performance ratio winner
- Variants for electrical interlinking (cascadable)
- Mounting via separately available mounting accessories

Safety glass 4 mm with opal white glare suppression

Space-saving geometr

Liquid-tight and temperature-resistant

Robust aluminium housing

ET ERHÖHT TEMPERATURBESTÄNDIG ENHANCED TEMPERATURE-RESISTANT

CNC geeignet 100% CNC approved

24V DC

IP67/ IP69K

100 % CNC

≥85

5200K - 5700K

60.000h (L80/B10)

M12

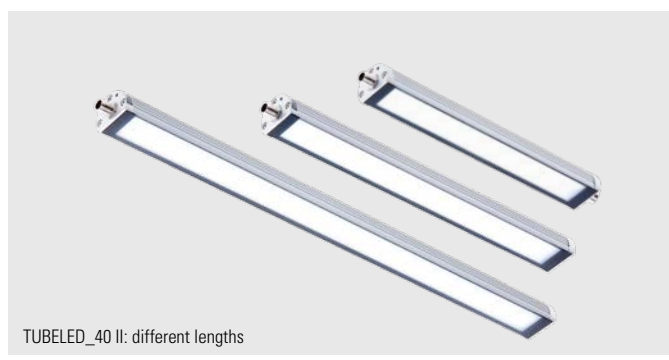
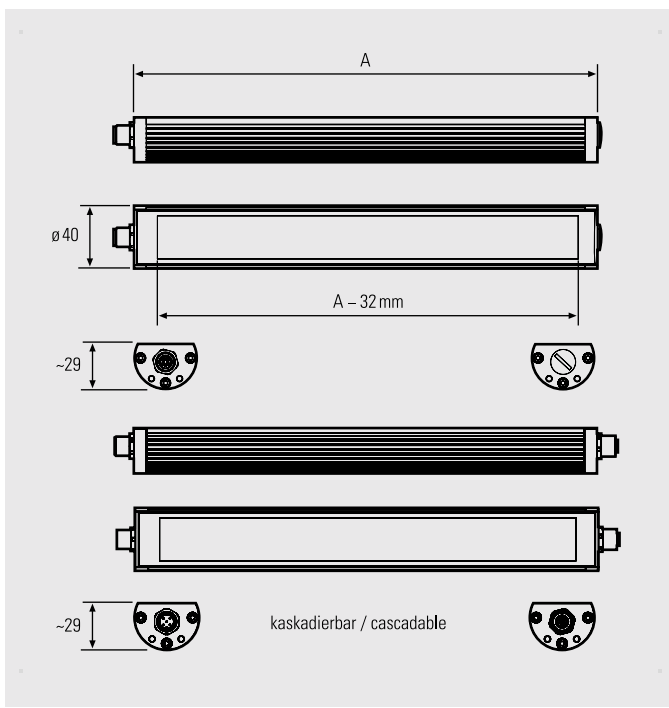
version POWER +60 -30

version ECO +70 -30

OPTION

36 months

Germany flag



## Surface mounted luminaires | TUBELED\_40 II

TUBELED_40 II	Product no.	Length (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
TUBELED_40 II Power	118010-01	190 mm	100°	415 lx	1078 lm	~8 W	24V DC
TUBELED_40 II Power	118110-01	280 mm	100°	617 lx	1617 lm	~12 W	24V DC
TUBELED_40 II Power	118210-01	365 mm	100°	815 lx	2139 lm	~16 W	24V DC
TUBELED_40 II Power	118310-01	540 mm	100°	1184 lx	3217 lm	~24 W	24V DC
TUBELED_40 II Power	118410-01	715 mm	100°	1514 lx	4278 lm	~32 W	24V DC
TUBELED_40 II Power	118510-01	1040 mm	100°	2049 lx	6417 lm	~48 W	24V DC
TUBELED_40 II Power	118610-01	1540 mm	100°	2553 lx	9634 lm	~72 W	24V DC
TUBELED_40 II ECO	118010-02	190 mm	100°	250 lx	630 lm	~4 W	24V DC
TUBELED_40 II ECO	118110-02	280 mm	100°	371 lx	945 lm	~6 W	24V DC
TUBELED_40 II ECO	118210-02	365 mm	100°	489 lx	1260 lm	~8,5 W	24V DC
TUBELED_40 II ECO	118310-02	540 mm	100°	711 lx	1890 lm	~13 W	24V DC
TUBELED_40 II ECO	118410-02	715 mm	100°	909 lx	2520 lm	~17 W	24V DC
TUBELED_40 II ECO	118510-02	1040 mm	100°	1233 lx	3780 lm	~24 W	24V DC
TUBELED_40 II ECO	118610-02	1540 mm	100°	1539 lx	5670 lm	~38 W	24V DC

TUBELED_40 II, cascadable	Product no.	Length (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
TUBELED_40 II Power, cascadable	118010-11	190 mm	100°	415 lx	1078 lm	~8 W	24V DC
TUBELED_40 II Power, cascadable	118110-11	280 mm	100°	617 lx	1617 lm	~12 W	24V DC
TUBELED_40 II Power, cascadable	118210-11	365 mm	100°	815 lx	2139 lm	~16 W	24V DC
TUBELED_40 II Power, cascadable	118310-11	540 mm	100°	1184 lx	3217 lm	~24 W	24V DC
TUBELED_40 II Power, cascadable	118410-11	715 mm	100°	1514 lx	4278 lm	~32 W	24V DC
TUBELED_40 II Power, cascadable	118510-11	1040 mm	100°	2049 lx	6417 lm	~48 W	24V DC
TUBELED_40 II Power, cascadable	118610-11	1540 mm	100°	2553 lx	9634 lm	~72 W	24V DC
TUBELED_40 II ECO, cascadable	118010-12	190 mm	100°	250 lx	630 lm	~4 W	24V DC
TUBELED_40 II ECO, cascadable	118110-12	280 mm	100°	371 lx	945 lm	~6 W	24V DC
TUBELED_40 II ECO, cascadable	118210-12	365 mm	100°	489 lx	1260 lm	~8,5 W	24V DC
TUBELED_40 II ECO, cascadable	118310-12	540 mm	100°	711 lx	1890 lm	~13 W	24V DC
TUBELED_40 II ECO, cascadable	118410-12	715 mm	100°	909 lx	2520 lm	~17 W	24V DC
TUBELED_40 II ECO, cascadable	118510-12	1040 mm	100°	1233 lx	3780 lm	~24 W	24V DC
TUBELED_40 II ECO, cascadable	118610-12	1540 mm	100°	1539 lx	5670 lm	~38 W	24V DC

Power supply units, dimmboxes and connection materials, see Accessories.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance

With feed-through wiring (cascadable) several luminaires can be electrically interlinked. The entire power consumption may not exceed 8 A DC at max. + 30° C or 7 A DC at max. + 40° C.

Accessories	Product no.
Luminaire holder, aluminium, 1 pair	210200-06
Mounting bracket, VA, 1 pair, (LED luminaire is infinitely adjustable by 111° in its rotation axis)	210200-11
Mounting bracket, VA, 1 pair, incl. magnet (LED luminaire is infinitely adjustable by 111° in its rotation axis)	210200-12
Luminaire holder, VA, 1 pair, adjustable +/- 180°	210200-14



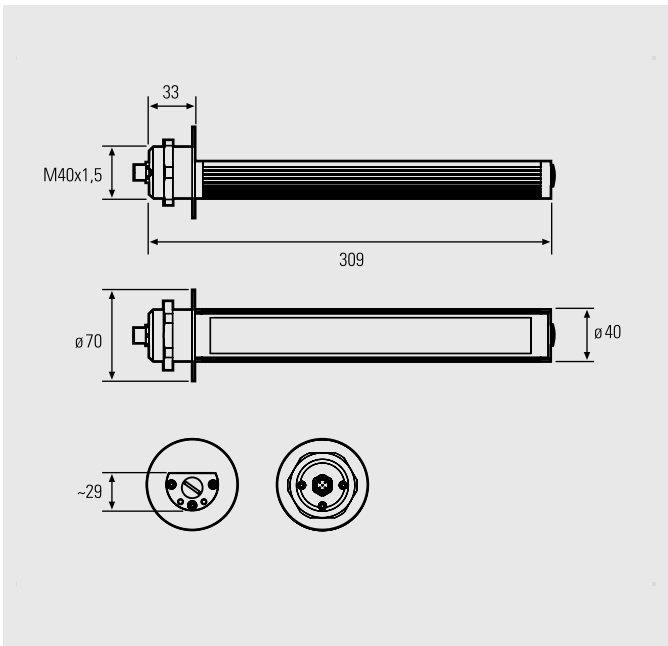


24V DC	III	IP67/ IP69K	100 % CNC	≥85	5200K - 5700K	60.000h (L80/B10)	M12	version POWER +60 -30	version ECO +70 -30	OPTION	ETL US	36 months	Germany
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TUBELED_40 II M40x1,5	Product no.	Length (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
TUBELED_40 II M40x1,5 Power	118110-03	309 mm	100°	617 lx	1617 lm	-12 W	24V DC
TUBELED_40 II M40x1,5 ECO	118110-04	309 mm	100°	371 lx	945 lm	-6 W	24V DC

Power supply units, dimmboxes and connection materials, see Accessories.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance





The TUBELED\_70 is the ultimate LED machine light. A luminaire with the latest LED technology that fits exactly into the brackets of conventional tubular luminaires of older machine tools and enables a quick 1:1 exchange for a previous  $\varnothing 70$  mm luminaire. Two optics and two connection variants are available for initial equipment or for conversion. Thanks to good thermal management, the TUBELED\_70 is also suitable for use in higher temperature ranges.

#### The Technology

- Heat dissipation via the extruded aluminium profile
- Safety glass, crack-proof, 4 mm thick
- Oil-resistant seals (FKM seal Viton®)
- Installed in the "machine space" – chip bombardment-proof, vibration and shock resistant – 100% CNC suitable

#### Your benefits

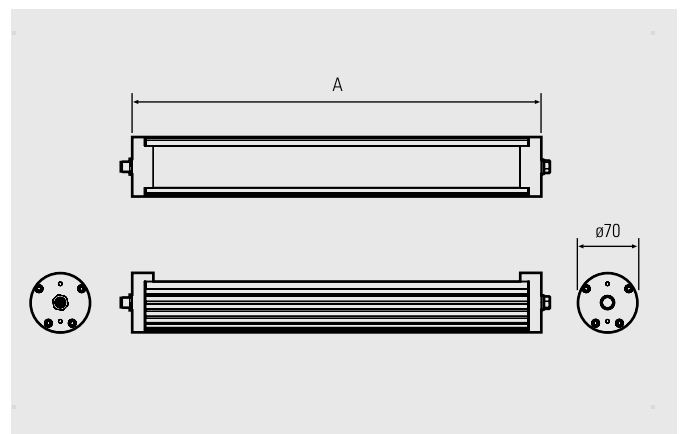
- Concentrated light (60° variant) or wide spread light (100° variant) – individual optics possible on request
- Flicker-free without UV and IR components
- Quick and easy upgrading or retrofitting

#### Areas of application

- Machine tools, CNC machines, outdoor applications

#### Designs/installation

- 4 lengths 300 mm, 560 mm, 1100 mm, 1580 mm
- Mounting via separately available luminaire holders



210200-01



210200-02



TUBELED_70, 24V DC, 5200–5700K	Product no.	Length (A)	Optics	$E_{max}^*$	Lamp luminous flux	Output	Connection
TUBELED_70 DC, 100° optics	110310-01	300 mm	100°	522 lx	1848 lm	~15 W	24V DC
TUBELED_70 DC, 60° optics	110314-01	300 mm	60°	1455 lx	1526 lm	~15 W	24V DC
TUBELED_70 DC, 100° optics	110410-02	560 mm	100°	1005 lx	3032 lm	~27 W	24V DC
TUBELED_70 DC, 60° optics	110414-02	560 mm	60°	2720 lx	3052 lm	~27 W	24V DC
TUBELED_70 DC, 100° optics	110510-02	1100 mm	100°	1695 lx	6064 lm	~54 W	24V DC
TUBELED_70 DC, 60° optics	110514-02	1100 mm	60°	4173 lx	6104 lm	~54 W	24V DC
TUBELED_70 DC, 100° optics	110710-02	1580 mm	100°	2047 lx	9096 lm	~80 W	24V DC
TUBELED_70 DC, 60° optics	110714-02	1580 mm	60°	4762 lx	9156 lm	~80 W	24V DC
TUBELED_70, 220–240V AC, 5200–5700K	Product no.	Length (A)	Optics	$E_{max}^*$	Lamp luminous flux	Output	Connection
TUBELED_70 AC, 100° optics	110310-11	300 mm	100°	522 lx	1848 lm	~17 W	220-240V AC
TUBELED_70 AC, 60° optics	110314-11	300 mm	60°	1455 lx	1526 lm	~16 W	220-240V AC
TUBELED_70 AC, 100° optics	110410-12	560 mm	100°	1005 lx	3032 lm	~28 W	220-240V AC
TUBELED_70 AC, 60° optics	110414-12	560 mm	60°	2720 lx	3052 lm	~31 W	220-240V AC
TUBELED_70 AC, 100° optics	110510-12	1100 mm	100°	1695 lx	6064 lm	~52 W	220-240V AC
TUBELED_70 AC, 60° optics	110514-12	1100 mm	60°	4173 lx	6104 lm	~60 W	220-240V AC
TUBELED_70 AC, 100° optics	110710-12	1580 mm	100°	2047 lx	9096 lm	~74 W	220-240V AC
TUBELED_70 AC, 60° optics	110714-12	1580 mm	60°	4762 lx	9156 lm	~85 W	220-240V AC

PSU and connection materials, see Accessories.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance

Accessories	Product no.
TUBELED_70 Mounting bracket, V2A, 1 pair	210200-01
TUBELED_70 Luminaire holder, aluminium, 1 pair	210200-02



## FIELDLED II

**Bright, indestructible, unobtrusive**

Standardised connections and their ideal fit make the FIELDLED II the perfect machine luminaire. It has been developed for harsh production environments – oil, water, chips, coolants and emulsions cannot harm it. The frosted safety glass is bonded solidly to the aluminium housing. The seal, which is sprayed on at the back, ensures the tightness between the lamp and the machine housing. Perfect resilience.

### The Technology

- No burning in of coolant or emulsions on the illuminated surface due to heat dissipation via aluminium body to the rear
- Flat installation structure
- Compact LED mounting inside - extremely powerful
- Degree of protection IPX9K
- Light Forming Technology

### Your benefits

- Light emission across the entire area of the light
- Wide-angle, homogeneous illumination, flicker-free without UV and IR component
- No accumulation of chips on and at the luminaire
- Permanent luminous efficacy as no oil or coolant burns into the glass

### Areas of application

- Large-volume plants and machines
- CNC machines, machine tools
- Milling machines, surface grinding machines

### Designs

- 4 lengths available: 300 mm, 560 mm, 810 mm, 1060 mm
- Mounting using M6 countersunk screws

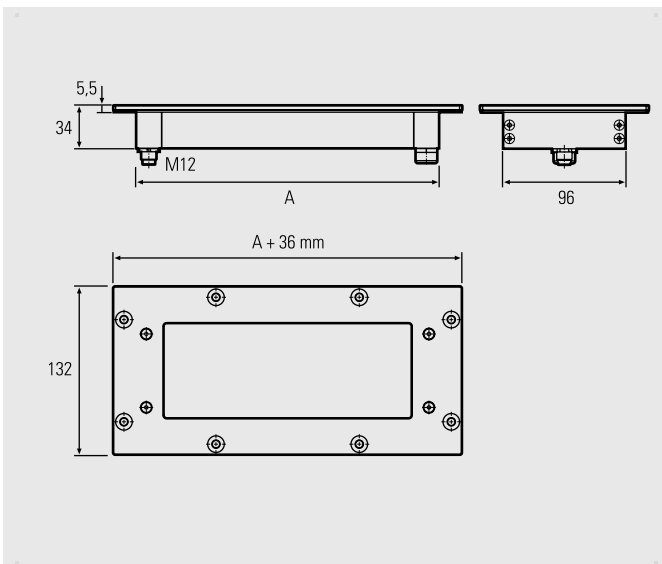




FIELDLED recessed luminaire, 5200–5700K	Product no.	Length (A)	Optics	$E_{max}^*$	Lamp luminous flux	Output	Connection
FIELDLED II Integrated version	113010-11	300 mm	120°	1004 lx	2640 lm	~20 W	24V DC
FIELDLED II Integrated version	113110-11	560 mm	120°	1673 lx	4752 lm	~36 W	24V DC
FIELDLED II Integrated version	113210-11	810 mm	120°	2247 lx	7392 lm	~56 W	24V DC
FIELDLED II Integrated version	113310-11	1060 mm	120°	2679 lx	9504 lm	~72 W	24V DC

Power supply units, dimmboxes and connection materials, see Accessories.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance





## SPOTLED II

Spot or wide spread light

The SPOTLED II is our universal whiz for spotlights. Depending on the beam angle, the luminaire can be selected as a spotlight or as a wide-angled floodlight. The SPOTLED II only protrudes minimally when recess mounted. This means that it can be used in any desired installation situation.

### The Technology

- Safety glass cover, oil-resistant, chip bombardment-proof: made for harsh production environments
- Aluminium base body for heat dissipation to the rear – no burning in of coolant or emulsions
- Connection via M12 plug connector on rear side
- FKM seal (Viton®) In the delivery scope

### Your benefits

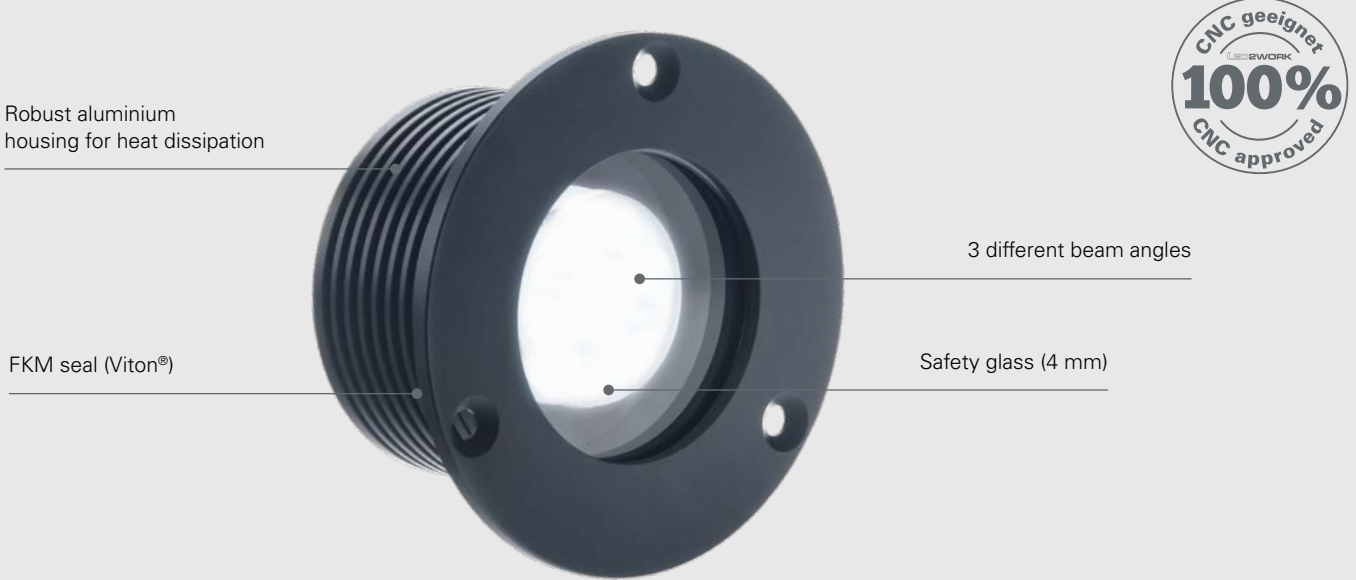
- Installation in recess by means of screws
- Low installation depth and only 4 mm surface protrusion
- No formation of chip nests
- Spotlight or wide spread, flicker-free light without UV and IR components

### Areas of application

- Machine tools, CNC machines
- For camera-supported quality assurance during processing
- For serial use, as well as for retrofitting in machines

### Designs

- 3 different beam angles: 16°, 25° or 40°
- Also available in stainless steel version in OEM program

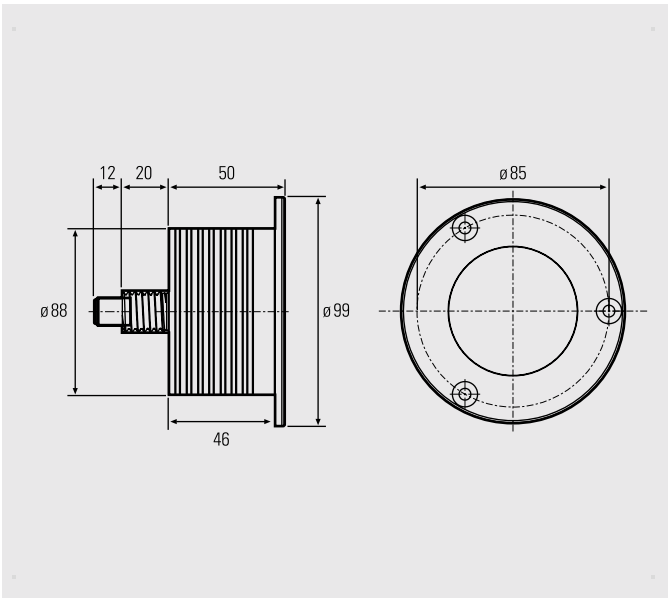


24V DC    III    16°    25°    40°    IP67    100% CNC    ≥80    5200K-5700K    50.000h (L80/B10)    M12    +40/-10    OPTION    36 months    Germany

SPOTLED II recessed luminaire, 5200–5700K	Product no.	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
SPOTLED II Integrated version Spot	111111-12	16°	5382 lx	982 lm	-8,5 W	24V DC
SPOTLED II Integrated version Medium	111112-12	25°	2349 lx	982 lm	-8,5 W	24V DC
SPOTLED II Integrated version Wide	111113-12	40°	1498 lx	982 lm	-8,5 W	24V DC

Power supply, dimmboxes and connection materials, see Accessories.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance





**NEW** **TUBELED\_40 II Integrated**  
Elegant, strong, flat and robust

The TUBELED\_40 II Integrated recessed luminaire is designed for initial equipment and retrofitting of machines and equipment. The sizes of the outer panels are based on the dimensions of standardized installation shafts of machine tools. The sealed LED luminaire is built in to be resistant to cooling lubricant as well as chip-proof and oil-resistant. Its absolute advantage is the homogeneous and low-glare illumination of work spaces, for example in machine tools.

**The Technology**

- Aluminium body and a glare control with an opal white safety glass cover
- Heat dissipation to the rear - no cooling lubricant burn-in
- Seamless sealing on the installation surface by means of a seal sprayed onto the back
- Connection using an M12 connector

**Your benefits**

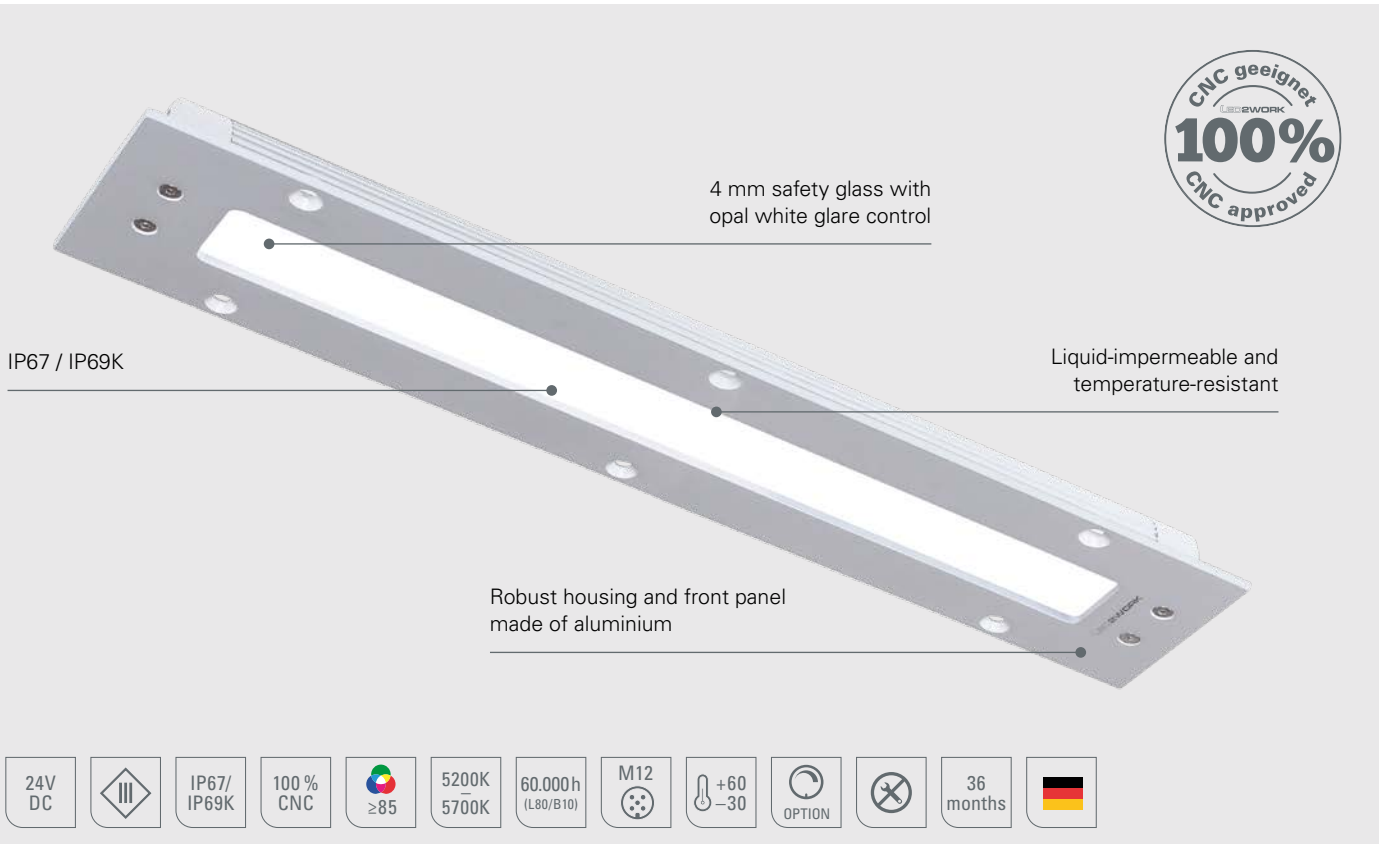
- Flat and space-saving installation
- Minimum interfering edges – no areas where chips could settle

**Areas of application**

- Machines or work environments with little space
- Turning, drilling, milling and grinding machines
- Injection moulding machines, extruders and blow moulding machines

**Design**

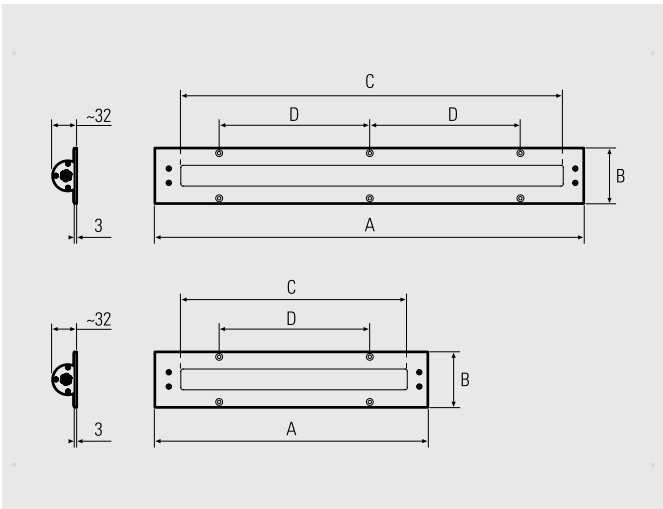
- 6 different lengths and 2 widths of the glare control
- External dimming possible



TUBELED_40 II Integrated, 5200-5700K	Product no.	A	B	C	D	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
TUBELED_40 II Integrated Power	151010-01	220 mm	74 mm	158 mm	125 mm	100°	415 lx	1078 lm	-8 W	24V DC
TUBELED_40 II Integrated Power	151110-01	395 mm	74 mm	333 mm	250 mm	100°	815 lx	2139 lm	-16 W	24V DC
TUBELED_40 II Integrated Power	151210-01	570 mm	74 mm	508 mm	200 mm	100°	1184 lx	3217 lm	-24 W	24V DC
TUBELED_40 II Integrated Power	151310-01	745 mm	74 mm	508 mm	250 mm	100°	1184 lx	3217 lm	-24 W	24V DC
TUBELED_40 II Integrated Power	152010-01	340 mm	78 mm	248 mm	240 mm	100°	617 lx	1617 lm	-12 W	24V DC
TUBELED_40 II Integrated Power	152210-01	700 mm	78 mm	508 mm	305 mm	100°	1184 lx	3217 lm	-24 W	24V DC

Power supply, dimmboxes and connection materials, see Accessories.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance

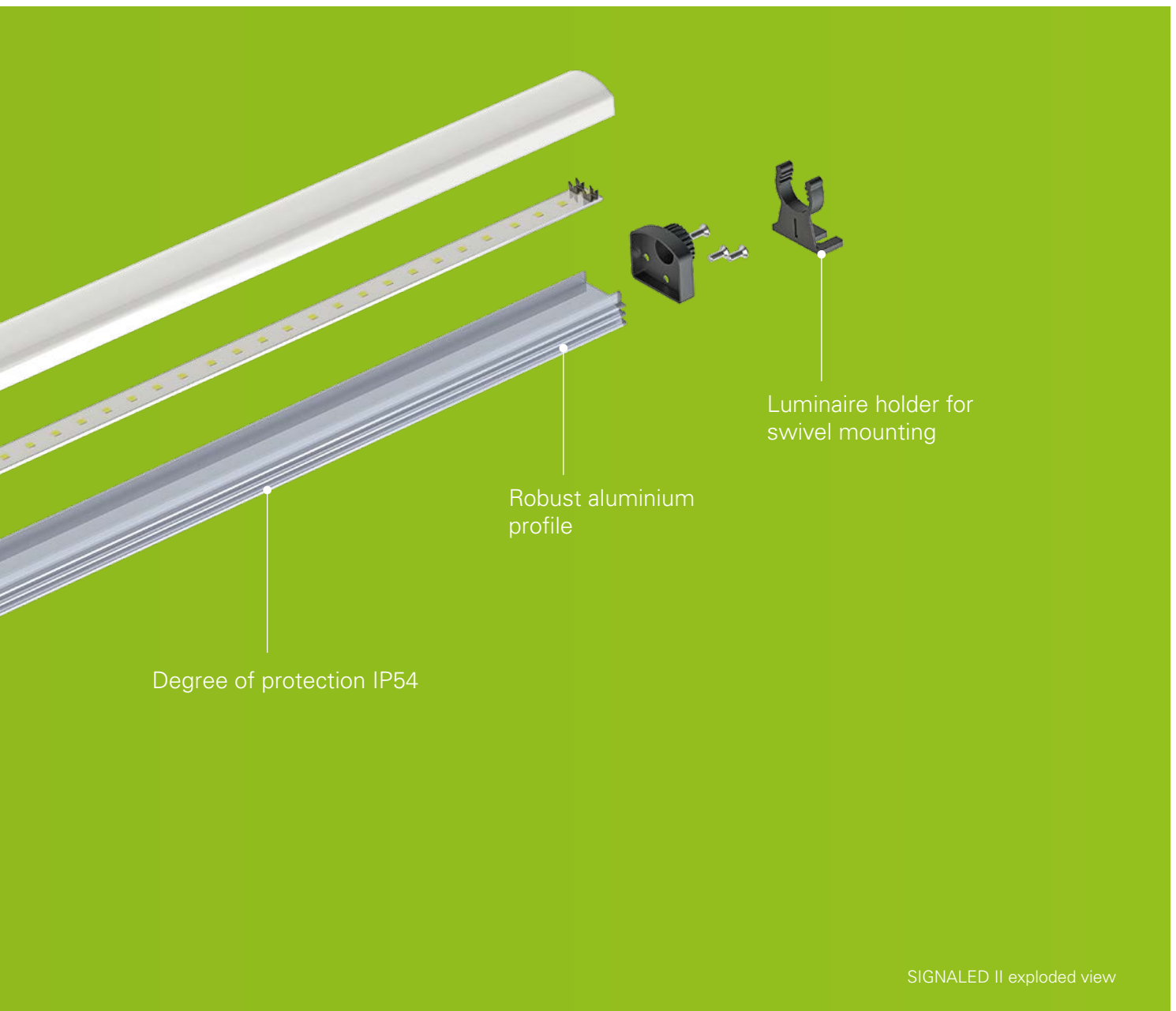


## LED signal lighting



One of the main tasks of signal luminaires is to make it possible to see from a distance whether the machines are running properly or whether there is a fault. They are used at the workplace as well as for machine lighting.

In the machine version, they are frequently controlled via the PLC signal and can thus display much more than just "OK" or "Stop". In addition to a high-calibre working light (flicker-free and without UV and IR components), they often also have a flashing function. Together with the RGB LED chips, which allow the entire colour spectrum to be represented, our LED signal lights are real all-rounders in the field of safety and perfect illumination.



SIGNALLED II exploded view

**Key data of our signal luminaires**

- High visibility thanks to bright LED technology and large-surface display
- Completely maintenance-free
- Connection via PLC/PWM control module
- Circuit-independent service life approx. 60,000 operating hours L80/B10
- Protection class III
- 36 months warranty
- Space-saving design due to thin LED chip panels. This allows easy installation even in confined spaces



**NEW**

## INROLED\_50 Ecolab RGB-W

50 mm in diameter, dirt-repellent, bright

INROLED\_50 Ecolab RGB-W in industry: strong, homogeneous illumination, high protection class and signalling function via a change in light colour – and all in one LED luminaire. An opal white protective tube with a dirt-repellent coating completely seals off the luminaire body from the outside environment. It makes INROLED\_50 Ecolab RGB-W ideal for lighting hygiene-sensitive areas such as those found in the food, pharmaceutical and packaging industries.

### The Technology

- White light and RGB LED chips
- RGB LED chips can signal different states of machines and equipment by changing colours
- Control of the LED chips is ensured via by the PLC control of a machine or system
- Protective tube with dirt-repellent Ecolab coating
- M12 connector, made of stainless steel (F&B suitable)
- High degree of protection IP67 / IP69K

### Your benefits

- Flicker-free, homogeneous illumination without UV radiation and IR radiation and signalling using different colours - the polycarbonate housing is then fully illuminated
- Resistant to hydrogen peroxide ( $H_2O_2$ , max. 35%), acids and alkalis\*
- Ecolab certification, therefore resistant to Ecolab cleaning agents in full scope

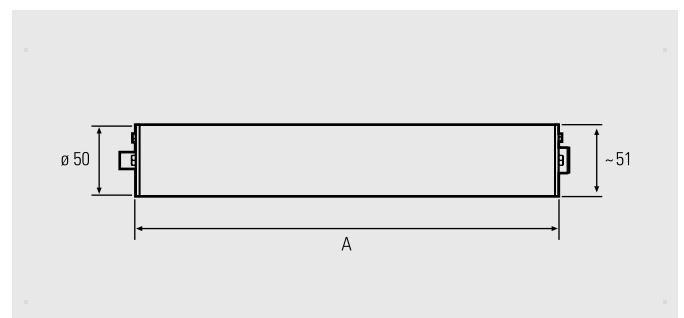
\* Preliminary check in individual cases

### Areas of application

- Equipment in the packaging, food & beverage and pharmaceutical industry
- Logistics workplaces and assembly lines

### Designs/installation

- 3 lengths: 305 mm, 565 mm, 1065 mm
- Simple assembly using the supplied lamp holder
- Optional accessories: Lamp holder for F&B industry or spring clips







INROLED_50 Ecolab RGB-W	Product no.	Length (A)	Optics	E <sub>max</sub> * [W]	Lamp luminous flux [W]	Output				Connection
						[R]	[G]	[B]	[W]	
INROLED_50 Ecolab RGB-W	110090-01	305 mm	100°	222 lx	1215 lm	~9 W	~2,5 W	~9 W	~9,5 W	24V DC
INROLED_50 Ecolab RGB-W	110190-01	565 mm	100°	443 lx	2430 lm	~18 W	~5 W	~18 W	~19 W	24V DC
INROLED_50 Ecolab RGB-W	110290-01	1065 mm	100°	820 lx	4860 lm	~36 W	~10 W	~36 W	~38 W	24V DC

Delivery <sup>(1)</sup> incl. lamp holder, cable tie + base made of metal detectable PP, suitable for F&B, 1 pair for adjustable mounting  
For connection material as well as dimming box and power supply units for fixed voltage 24V DC see accessories.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance

Accessories	Product no.
INROLED_50 luminaire holder, suitable for F&B industry, 1 pair	210200-09
Luminaire holder, screw-on base + cable ties <sup>(1)</sup>	210200-13
INROLED_50 lamp holder 1 pair of brackets, galvanized steel	210200-17





**NEW**

## SIGNALLED II RGB

One lamp, all colours, clear information

The SIGNALLED II RGB is a pure signal light that emits a uniformly coloured light over the entire surface. The LED luminaire uses coloured light to signalize attention and safety notices that are visible from afar. Depending on the control and the desired signal effect, all colour tones of the RGB colour space can be selected. The LED signal light has IP54 protection class and can be used in almost every machine without cooling lubricants and chip bombardment.

### The Technology

- RGB technology for coloured light: Control of the LED chips is ensured via by the PLC control of a machine or system
- Opal white cover, break and splinter-free

### Your benefits

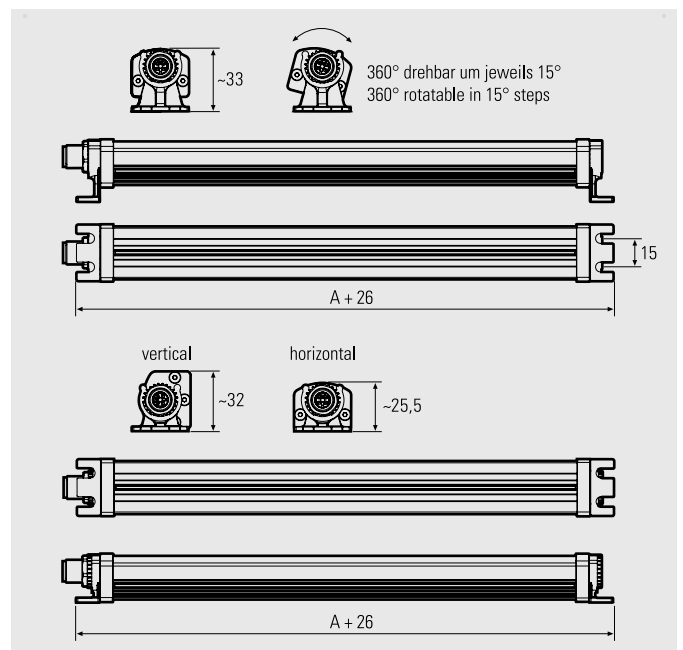
- All colours from the RGB colour spectrum can be selected for signalling
- Coloured light can signal different states of machines and equipment

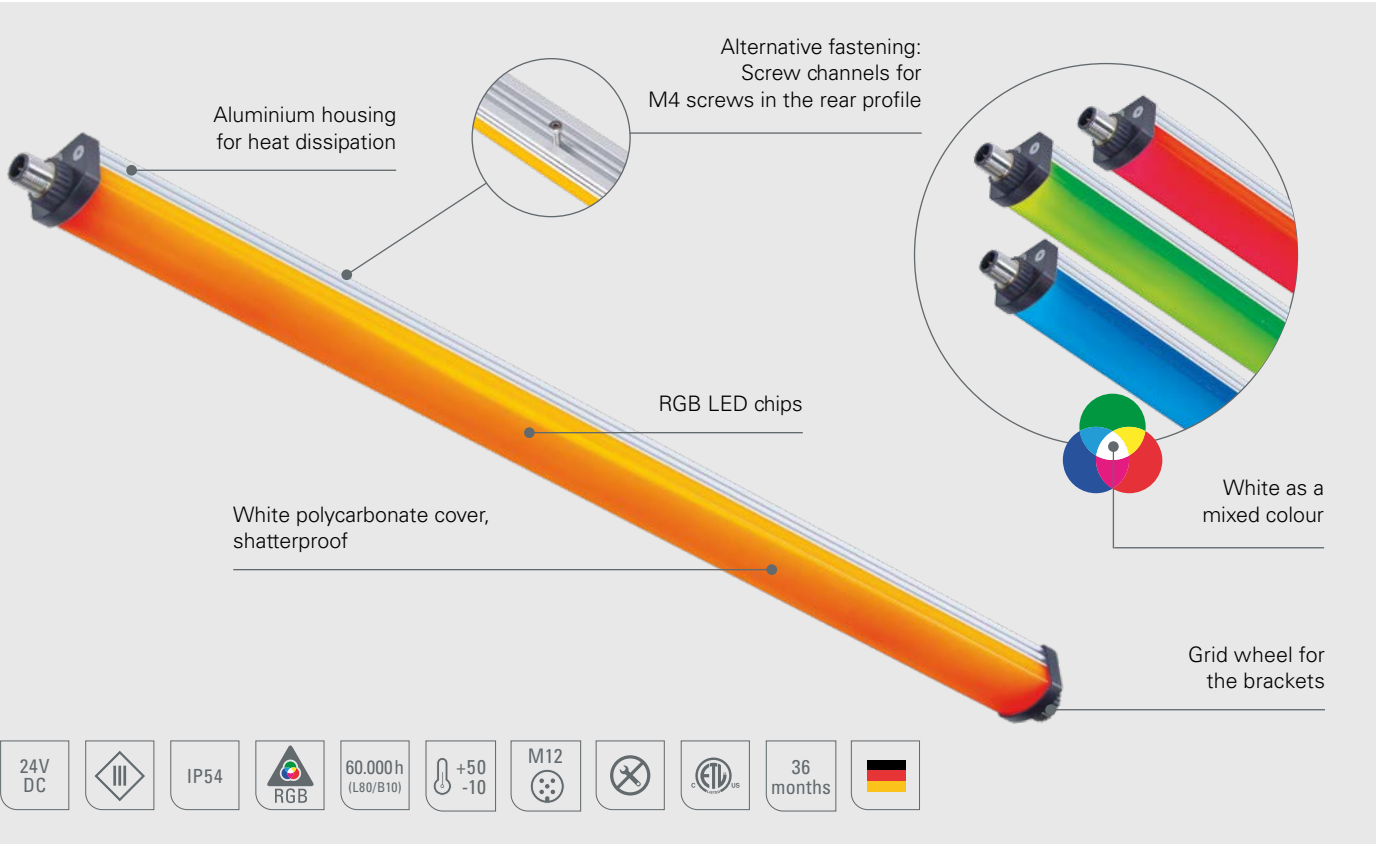
### Areas of application

- As a signal function for machines and equipment without chip bombardment or KSS and with very little space
- Bending machines, automatic punching machines, conveyor belts, logistics workstations and automation

### Design

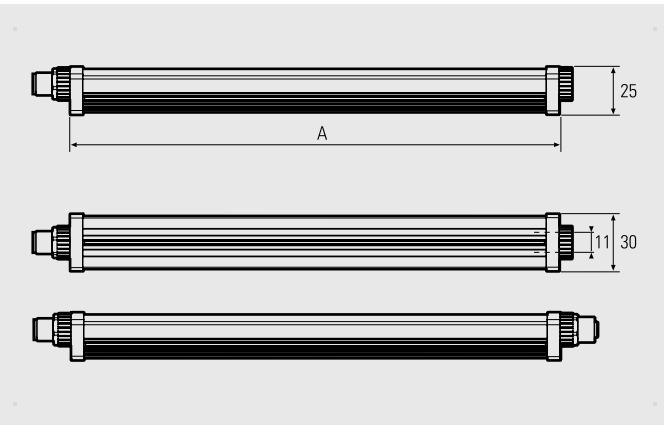
- 7 lengths: 180 mm, 260 mm, 350 mm, 520 mm, 760 mm, 1020 mm, 1520 mm





SIGNALED II RGB	Product no.	Length (A)	Optics	Lamp luminous flux			Output			Connection
				[R]	[G]	[B]	[R]	[G]	[B]	
SIGNALED II RGB	111090-11	180 mm	120°	39 lm	18 lm	61 lm	~1,8 W	~1,8 W	~1,8 W	24V DC
SIGNALED II RGB	111090-12	260 mm	120°	59 lm	27 lm	93 lm	~2,6 W	~2,6 W	~2,6 W	24V DC
SIGNALED II RGB	111090-13	350 mm	120°	98 lm	45 lm	154 lm	~4,4 W	~4,4 W	~4,4 W	24V DC
SIGNALED II RGB	111090-14	520 mm	120°	118 lm	54 lm	186 lm	~5,3 W	~5,3 W	~5,3 W	24V DC
SIGNALED II RGB	111090-15	760 mm	120°	177 lm	81 lm	279 lm	~7,9 W	~7,9 W	~7,9 W	24V DC
SIGNALED II RGB	111090-16	1020 mm	120°	236 lm	108 lm	372 lm	~10,6 W	~10,6 W	~10,6 W	24V DC
SIGNALED II RGB	111090-17	1520 mm	120°	354 lm	162 lm	558 lm	~15,8 W	~15,8 W	~15,8 W	24V DC

Power supply and connection materials, see Accessories.  
 Delivery incl. 2 pairs of plastic lamp holders for planar or rotatable mounting



Accessories	Product no.
Spring clip, galvanized steel, 1 pair	210200-07
Spring clip with a magnet, 1 pair	210200-08
Luminaire holder set (spare part), 1 pair planar, 1 pair rotatable	210200-18





**NEW** **TUBELED\_40 II Integrated RGB-W**  
Elegant, highly resistant, signalling function

M - CODES LIST		
M00	Program Stop	
M01	Optional Stop	
M02	Program End	
M03	Spindle CW	
M04	Spindle CCW	
M05	Spindle Stop	
M06	Turnt. Index	
M08	Coolant ON	
M09	Coolant OFF	
M10	Quill Forward	
M11	Quill Reverse	
M12	Steady Arm Close	
M13	Steady Arm Open	Optional
M14	Chip Conv. Forward	Optional
M15	Chip Conv. Reverse	Optional
M20	Chuck External Clamp Select	
M21	Chuck Internal Clamp Select	
M22	Chuck Function Disable	
M23	Chuck Function Enable	
M24	Chuck Clamp	
M25	Chuck Declamp	
M27	Auto Door Close	Optional
M28	Auto Door Open	Optional
M30	Program End	
M38	Quill Function Enable	Optional
M39	Quill Function Disable	Optional
M50	Chip Conv. Function Enable	Optional
M51	Chip Conv. Function Disable	Optional
M58	Steady Rest Function Enable	Optional
M59	Steady Rest Function Disable	Optional
M75	Auto Door Function Enable	Optional
M76	Auto Door Function Disable	Optional

The TUBELED\_40 II Integrated RGB-W comes with white light for optimal lighting and RGB-LED chips installed in parallel for signalling. The sizes of the outer panels are based on the dimensions of standardized installation shafts. The recessed LED luminaire is built in to be resistant to cooling lubricant as well as chip-proof and oil-resistant. With this LED light, production areas can be ideally illuminated and changes in the status of machines and equipment can be signalled in colour.

**The Technology**

- White light and RGB LED chips in a single light
- RGB LED chips can signal different states of machines and equipment by changing colours
- Control of the LED chips is ensured via by the PLC control of a machine or system
- Crack-proof TSG (single-pane or tempered safety glass)
- Elegant cover for flush installation without dirty edges

**Your benefits**

- Flicker-free, homogeneous lighting without UV and IR components as well as signal function via freely definable colours or flashing intervals
- Simple upgrading or retrofitting in machine tools
- Optimal lighting through 100° area light
- Oil and cooling lubricant resistant, chip-proof
- The installation dimensions are designed for the most common installation shafts used in the industry

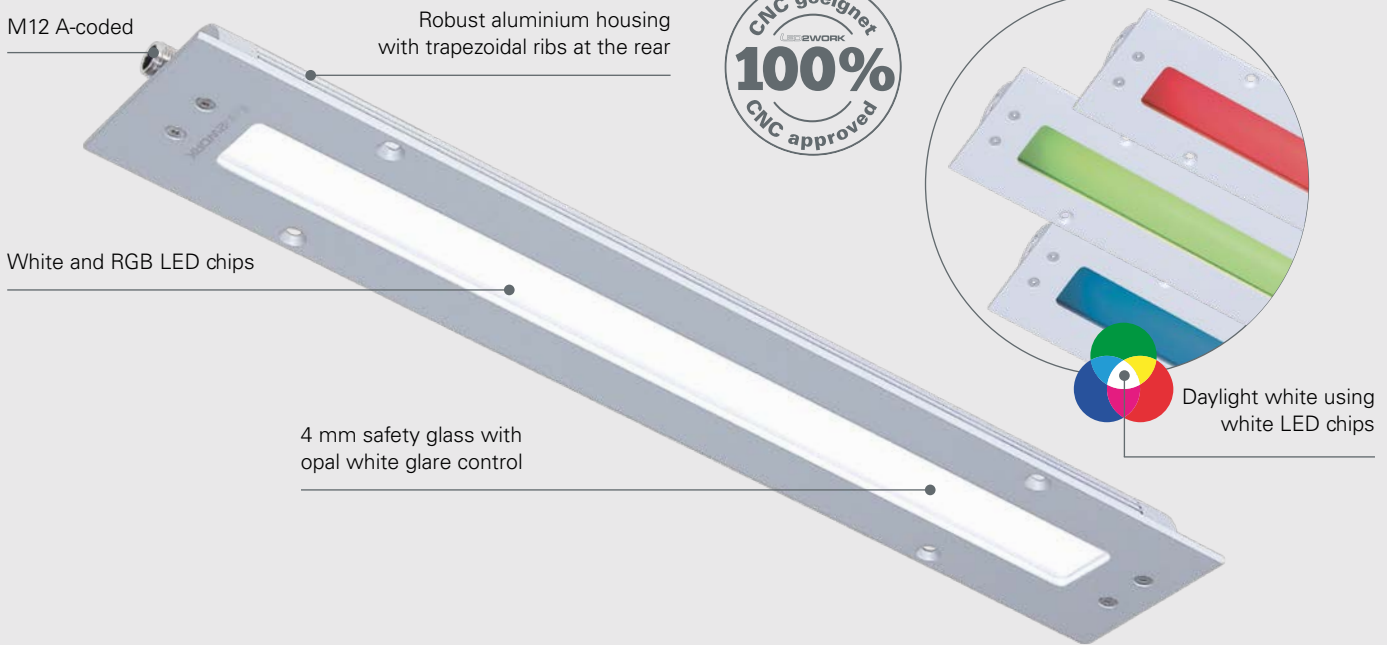
**Areas of application**

- Machine tools and CNC machines
- Injection moulding machines, eroding machines, stamping automation
- Plants or productions as well as manufacturing areas with little space

**Designs/installation**

- 5 variants
- Installation in machine environment necessary

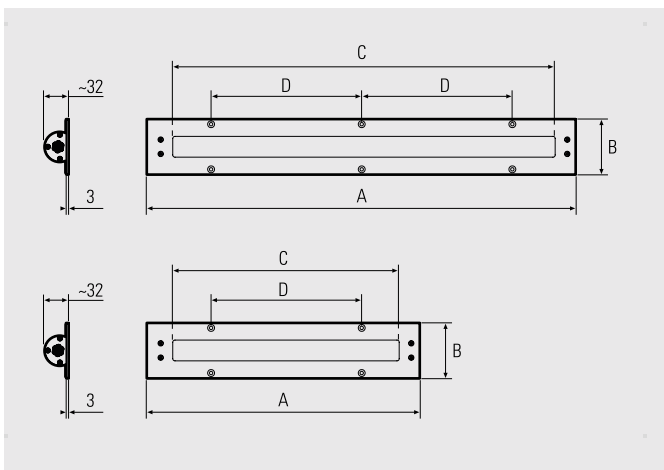
# Recessed luminaire | TUBELED\_40 II Integrated RGB-W



TUBELED_40 II Integrated RGB-W	Product no.	A	B	C	D	Optics	E <sub>max</sub> *	Lamp luminous flux [W]	Output				Connection
									[R]	[G]	[B]	[W]	
TUBELED_40 II Integrated RGB-W	151190-01	395 mm	74 mm	333 mm	250 mm	100°	324 lx	1215 lm	~9 W	~2,5 W	~9 W	~9,5 W	24V DC
TUBELED_40 II Integrated RGB-W	151290-01	570 mm	74 mm	508 mm	200 mm	100°	607 lx	2430 lm	~18 W	~5 W	~18 W	~19 W	24V DC
TUBELED_40 II Integrated RGB-W	151390-01	745 mm	74 mm	508 mm	250 mm	100°	607 lx	2430 lm	~18 W	~5 W	~18 W	~19 W	24V DC
TUBELED_40 II Integrated RGB-W	152090-01	340 mm	78 mm	248 mm	240 mm	100°	324 lx	1215 lm	~9 W	~2,5 W	~9 W	~9,5 W	24V DC
TUBELED_40 II Integrated RGB-W	152290-01	700 mm	78 mm	508 mm	305 mm	100°	607 lx	2430 lm	~18 W	~5 W	~18 W	~19 W	24V DC

Power supply and connection materials, see Accessories.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance





## TUBELED\_40 II RGB-W

Highly resistant, capable of signalling, bright

White LED chips for optimum illumination and RGB LED chips for colour changes in a luminaire – that's the TUBELED\_40 II RGB-W. With a diameter of 40 mm and its compact design, this luminaire is the preferred choice where space is at a premium and production environments are harsh. But this is not the only application for the machine luminaire: Every production area can be ideally illuminated and changes in the status of machines and plants can be signalled in colour.

### The Technology

- White light and RGB LED chips in one luminaire
- RGB LED chips can signal different states of machines and plants by changing colours
- Control of the LED chips by the machine or plant PLC control
- Crack-resistant TSG (tempered safety glass) 4 mm

### Your benefits

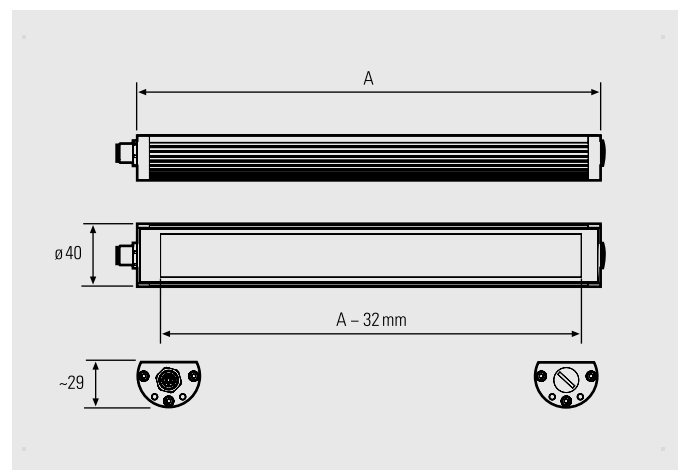
- Flicker-free, homogeneous lighting without UV and IR components as well as a signal function via freely definable colours or flashing intervals
- Simple upgrading or retrofitting in tool machines
- Optimum lighting through 100° surface light
- Oil and coolant-resistant, chip bombardment-proof

### Areas of application

- Machine tools and CNC machines
- Injection moulding, eroding machines, punching automation
- Production and manufacturing areas with tight space

### Designs/installation

- 4 lengths: 260 mm, 540 mm, 1040 mm, 1540 mm
- Installation via optional brackets or existing brackets, with 1:1 exchange of conventional, standardised lighting





TUBELED_40 II RGB-W Power	Product no.	Length (A)	Optics	E <sub>max</sub> * [W]	Lamp luminous flux [W]	Output				Connection
						[R]	[G]	[B]	[W]	
TUBELED_40 II RGB-W Power	118190-01	280 mm	100°	324 lx	1215 lm	~9 W	~2,5 W	~9 W	~9,5 W	24V DC
TUBELED_40 II RGB-W Power	118390-01	540 mm	100°	607 lx	2430 lm	~18 W	~5 W	~18 W	~19 W	24V DC
TUBELED_40 II RGB-W Power	118590-01	1040 mm	100°	1078 lx	4860 lm	~36 W	~10 W	~36 W	~38 W	24V DC
TUBELED_40 II RGB-W Power	118690-01	1540 mm	100°	1346 lx	7290 lm	~72 W	~20 W	~72 W	~76 W	24V DC

TUBELED_40 II RGB-W ECO	Product no.	Length (A)	Optics	E <sub>max</sub> * [W]	Lamp luminous flux [W]	Output				Connection
						[R]	[G]	[B]	[W]	
TUBELED_40 II RGB-W ECO	118190-02	280 mm	100°	282 lx	945 lm	~2,64 W	~2,64 W	~2,64 W	~6 W	24V DC
TUBELED_40 II RGB-W ECO	118390-02	540 mm	100°	540 lx	1890 lm	~5,28 W	~5,28 W	~5,28 W	~13 W	24V DC
TUBELED_40 II RGB-W ECO	118590-02	1040 mm	100°	962 lx	3780 lm	~10,6 W	~10,6 W	~10,6 W	~24 W	24V DC
TUBELED_40 II RGB-W ECO	118690-02	1540 mm	100°	1201 lx	5670 lm	~15,8 W	~15,8 W	~15,8 W	~38 W	24V DC

Power supply and connection materials, see Accessories.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance



210200-06



210200-11



210200-12



210200-14

Luminaire holders as accessory	Product no.	Luminaire holders as accessory	Product no.
Luminaire holder, aluminium, 1 pair	210200-06	Luminaire holder, V2A angle pivotable incl. magnet, 1 pair	210200-12
Luminaire holder, V2A angle pivotable mounting, 1 pair	210200-11	Luminaire holder, VA, 1 pair, adjustable +/- 180°	210200-14



**NEW**

## UNILED SL RGB-W

High level of performance, capable of signalling and flexible

UNILED SL RGB-W – a system luminaire for lighting and signalling. The LED light has a function of signalling via colour changes and brings light directly to the workplace. The UNILED SL RGB-W creates a pleasant, motivating lighting atmosphere. The strong light output of the LED technology is filtered through the matt, opal white cover and thus a homogeneous, glare-free and shadow-free illumination of system workplaces or production plants is created.

### The Technology

- White and RGB LED chips in a single light
- Robust aluminium housing with integrated fastening for horizontal installation
- The RGB LED chips can indicate changes to system workstations or production plants in colour

### Your benefits

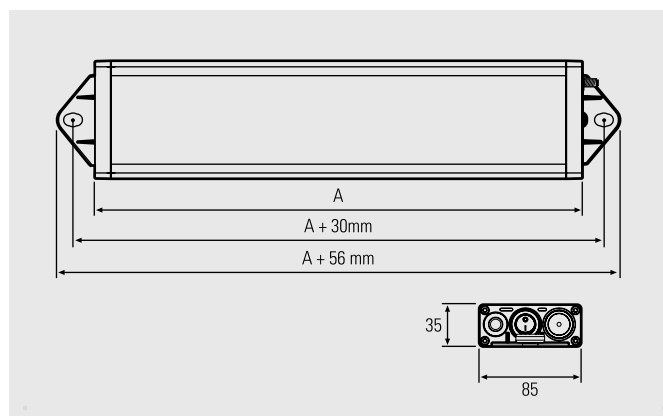
- Two in one: Flicker-free lighting without UV and IR components as well as signalling in different colours of the RGB colour spectrum
- Creates a pleasant atmosphere through daylight white.
- Homogeneous, low-shadow, glare-free illumination of work areas

### Areas of application

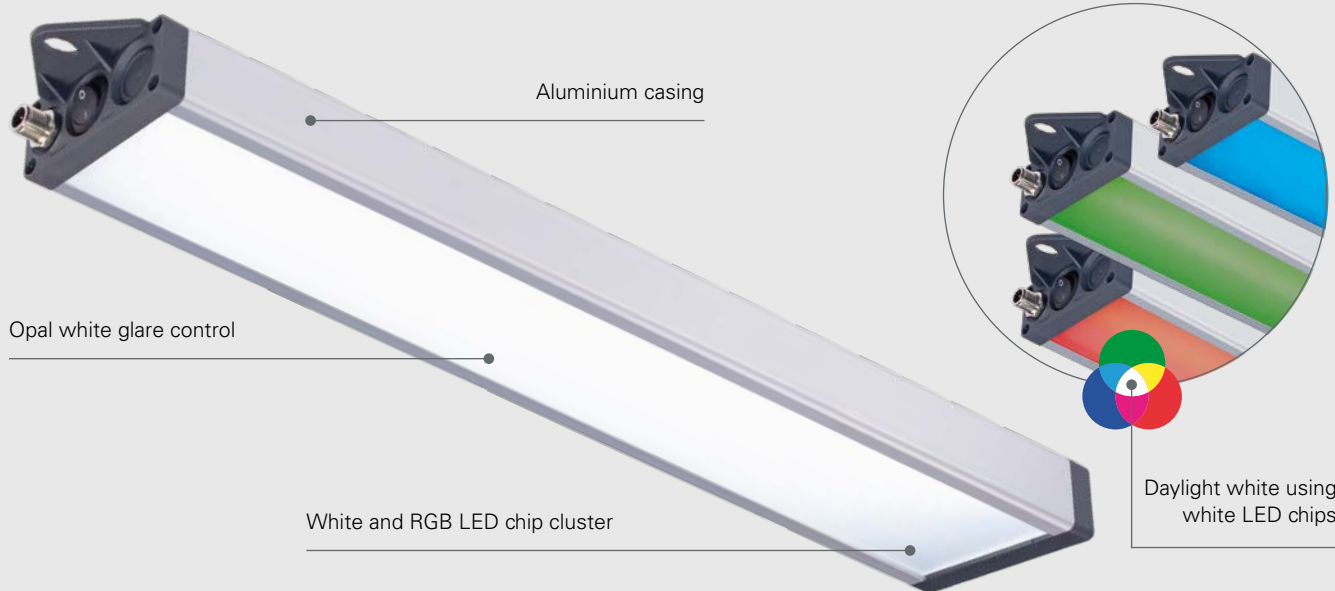
- System and assembly workstations, test workstations
- Using in machines without coolant and chip bombardment
- Assembly lines

### Designs/installation

- 4 lengths: 295 mm, 545 mm, 1045 mm, 1545 mm
- Optional brackets for a swivel mounting







UNILED SL RGB-W	Product no.	Length (A)	Optics	E <sub>max</sub> * [W]	Lamp luminous flux [W]	Output				Connection
						[R]	[G]	[B]	[W]	
UNILED SL RGB-W	110994-11	295 mm	100°	370 lx	1215 lm	~9 W	~2,5 W	~9 W	~9,5 W	24V DC
UNILED SL RGB-W	110994-12	545 mm	100°	714 lx	2430 lm	~18 W	~5 W	~18 W	~19 W	24V DC
UNILED SL RGB-W	110994-13	1045 mm	100°	1264 lx	4860 lm	~36 W	~10 W	~36 W	~38 W	24V DC
UNILED SL RGB-W	110994-14	1545 mm	100°	1616 lx	7290 lm	~72 W	~20 W	~72 W	~76 W	24V DC

Power supply and connection materials, see Accessories.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance

Accessories	Product no.
UNILED joint angle, 1 pair	210200-02

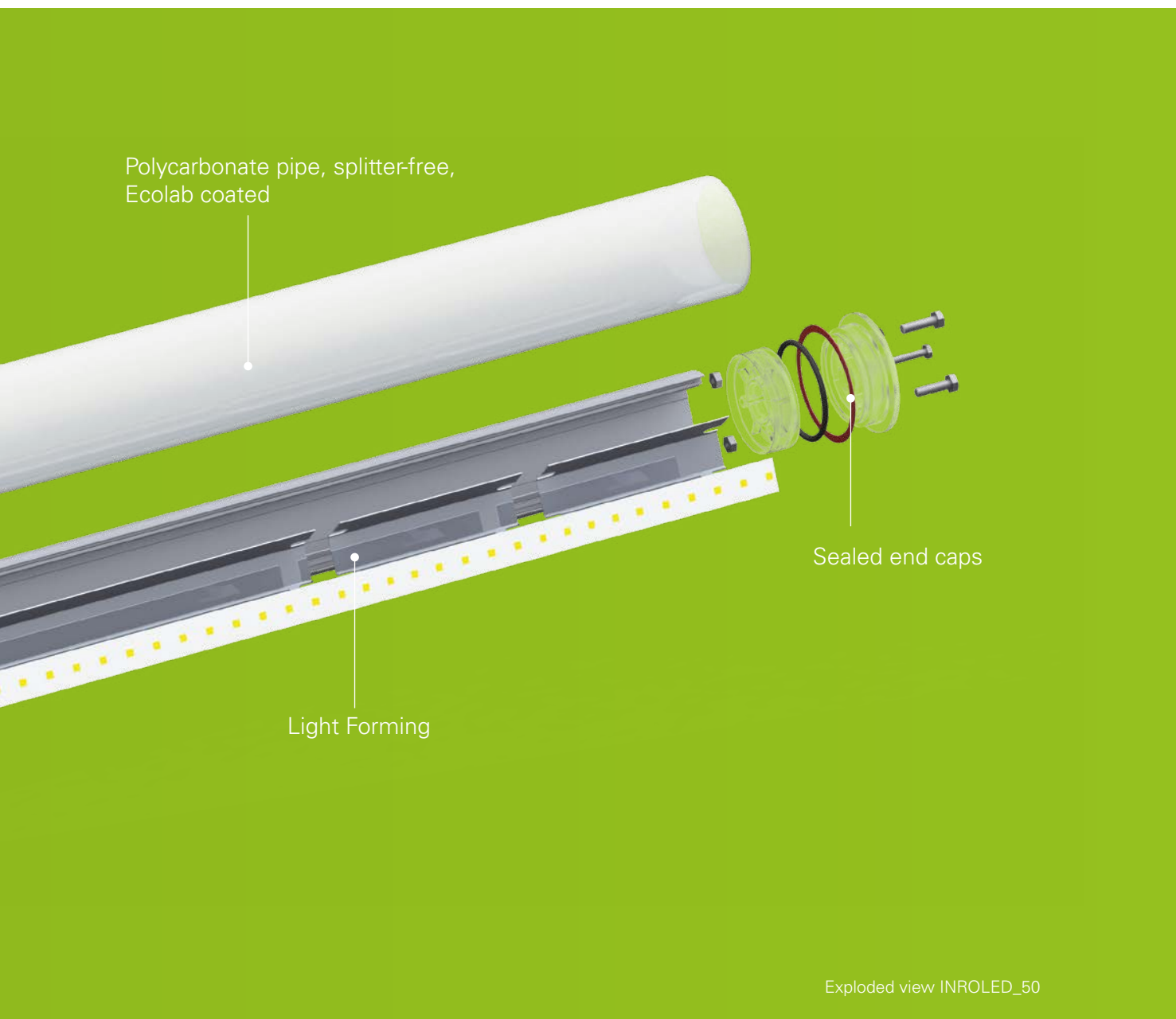


## LED industrial lighting



Robustness and versatility characterises our industrial luminaires.

They are resistant to a variety of chemicals and splinter-free, thanks to a polycarbonate tube or well-protected by borosilicate glass. LED industrial luminaires are also suitable for use in industrial image processing and ID systems. They combine high illumination intensity with homogeneous, flicker-free illumination. The camera's field of vision is optimally illuminated and, if required, the luminaires can also be dimmed via PWM.



Polycarbonate pipe, splitter-free,  
Ecolab coated

Sealed end caps

Light Forming

Exploded view INROLED\_50

### Key figures of our industrial luminaires

- High energy efficiency through efficient LED chips
- No maintenance times because they are completely maintenance-free
- Circuit-independent service life approx. 60,000 operating hours L80/B10 (approx. 15 – 30 years)
- 36 months warranty
- Optimised lighting (daylight white 5,200K–5,700K; Ra 80/85)



## INROLED\_25

Slender, lightweight, discreet

The INROLED\_25 was developed for hygiene-sensitive areas, such as the food industry or pharmaceutical industry, but is also used in other industrial areas. The very slim LED luminaire is manufactured using only FDA-compliant materials and fully complies with the requirements of the current food safety standards. The INROLED\_25 has a diameter of only 25 mm and is very easy and quick to assemble.

### The Technology

- Housing: Protective tube made of 2 mm thick, splinter-free polycarbonate with sealed end caps
- No dirt-collecting edges
- Hardly any heating, residual heat dissipation through ribbed internal aluminium base body
- FDA compliant materials; M12 plug connector made of stainless steel (F&B compliant) encapsulated in housing

### Your benefits

- Flicker-free light without UV and IR components
- Wide spread and homogeneous light
- Very slender construction and extremely lightweight
- Luminaire can be freely positioned within the pivot range
- Resistant to hydrogen peroxide ( $H_2O_2$ , max. 35%), acids as well as alkaline solutions\*

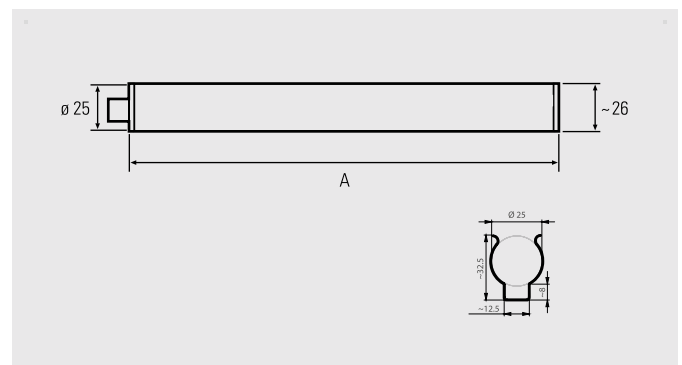
\*Preliminary examination on a case-by-case basis

### Areas of application

- Packaging industry, food and beverages, pharmaceuticals
- Machines, conveyor belts, architecture and buildings

### Designs/installation

- 3 lengths: 348 mm, 552 mm, 952 mm
- Spring clamps for mounting and quick change





INROLED_25, 5200K-5700K	Product no.	Length (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
INROLED_25	117010-01	348 mm	100°	405 lx	583 lm	~4,5 W	24V DC
INROLED_25	117110-01	552 mm	100°	658 lx	972 lm	~7,5 W	24V DC
INROLED_25	117210-01	952 mm	100°	916 lx	1750 lm	~13 W	24V DC

Delivery incl. luminaire holders (retainer clips) for pivotable mounting

\* maximum lighting intensities, measuring area 100 cm x 100 cm at 100 cm distance

Accessories	Product no.
INROLED_25 luminaire holder 1 pair cable ties + base, metal detectable PP	210200-13

Power supply, dimmboxes and connection material, see Accessories.





**NEW**

## INROLED\_50 Ecolab

Bright, temperature-resistant and dirt-repellent

Opal white and with a dirt-repellent coating: The INROLED\_50 Ecolab is a powerful light for the F&B industry areas. Being completely sealed, the LED light is ideal for hygiene-sensitive areas in the food and beverage industry as well as in the pharmaceutical and packaging industry. The robust luminaire will undoubtedly also find its fans in building and house technology as well as in architecture, thanks to its excellent light output and fully illuminated body.

### The Technology

- Luminous flux-optimized and power-optimized LED technology with 24V DC or 230V AC connection via M12 connector
- Casing: Protective tube made of 4 mm thick, shatterproof, opal white polycarbonate with sealed end caps
- FDA-compliant materials and M12 connectors made of stainless steel – meet the requirements of food & beverage industry
- Special Ecolab coating

### Your benefits

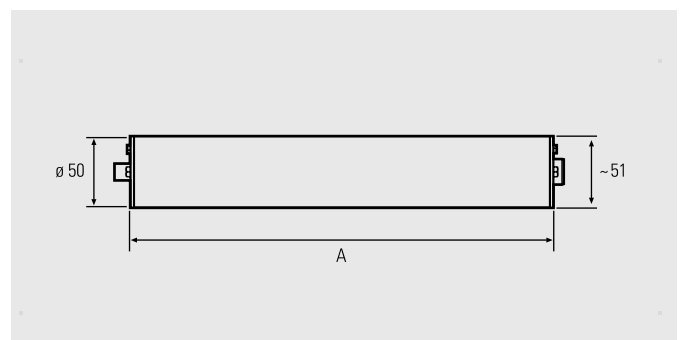
- Strong, flicker-free light without UV and IR radiation
- Very high degree of protection (IP67/IP69K); Impact resistance IK09 and dirt-repellent Ecolab coating
- For the production and handling of foodstuffs: HACCP certification
- Resistant to hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>, max. 35%), acids and alkalis\*
- Ecolab certification, therefore resistant to Ecolab cleaning agents in full scope

### Areas of application

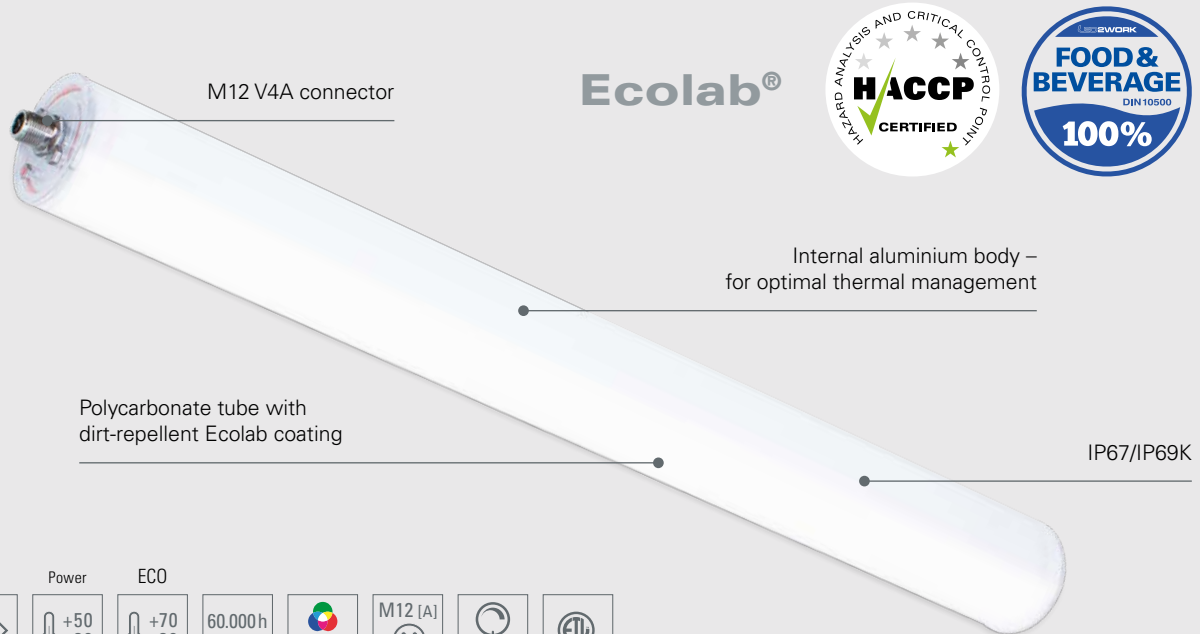
- Equipment in the packaging, food & beverage and pharmaceutical industry
- Machines and assembly lines, as well as architecture

### Designs/installation

- 3 variants: 24V DC in Power and ECO as well as 220-240V AC
- Each variant available in 3 lengths: 305 mm, 565 mm, 1,065 mm
- Including lamp holder made of metal detectable PP



\*Preliminary examination on a case-by-case basis



M12 V4A connector

Ecolab®



Internal aluminium body – for optimal thermal management

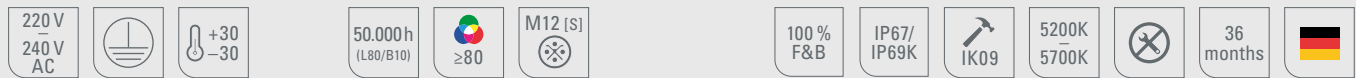
Polycarbonate tube with dirt-repellent Ecolab coating

IP67/IP69K

DC variant



AC variant



INROLED_50 Ecolab Power, 24V DC, 5200K–5700K	Product no.	Length (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
INROLED_50 Ecolab DC Power	110010-01	305 mm	100°	405 lx	1617 lm	~12 W	24V DC
INROLED_50 Ecolab DC Power	110110-01	565 mm	100°	813 lx	3217 lm	~24 W	24V DC
INROLED_50 Ecolab DC Power	110210-01	1065 mm	100°	1507 lx	6417 lm	~48 W	24V DC

INROLED_50 Ecolab ECO, 24V DC, 5200K–5700K	Product no.	Length (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
INROLED_50 Ecolab DC ECO	110010-02	305 mm	100°	235 lx	945 lm	~6 W	24V DC
INROLED_50 Ecolab DC ECO	110110-02	565 mm	100°	456 lx	1890 lm	~13 W	24V DC
INROLED_50 Ecolab DC ECO	110210-02	1065 mm	100°	825 lx	3780 lm	~24 W	24V DC

INROLED_50 Ecolab, 220-240V AC, 5200K–5700K	Product no.	Length (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
INROLED_50 Ecolab AC	110010-03	305 mm	100°	148 lx	1030 lm	~8,5 W	220-240V AC
INROLED_50 Ecolab AC	110110-03	565 mm	100°	310 lx	2060 lm	~17 W	220-240V AC
INROLED_50 Ecolab AC	110210-03	1065 mm	100°	574 lx	5120 lm	~34 W	220-240V AC

Delivery <sup>(1)</sup>incl. lamp holder, cable tie + base made of metal detectable PP, suitable for F&B, 1 pair for adjustable mounting  
For connection material as well as dimming box and power supply units for fixed voltage 24V DC, see accessories.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance



Mounting accessories	Product no.
INROLED_50 luminaire holder, suitable for F&B industry, 1 pair	210200-09
Luminaire holder, screw-on base + cable ties <sup>(1)</sup>	210200-13
INROLED_50 lamp holder 1 pair of brackets, galvanized steel	210200-17



## INROLED\_70 Borosilikat

Linkable, universal, indestructible

Equipped with a protective tube made of borosilicate glass (safety glass), the INROLED\_70 can be used in many ways. The diameter of 70 mm gives the luminaire a high light output. In addition to the classic areas of application such as machines and equipment, it can also be used in buildings or in building services. Since several lights can be linked electrically, homogeneous and economical illumination of large areas is also ensured.

### The Technology

- 4 mm borosilicate glass protects the electronics from water, dust and moisture
- All variants can be electrically interlinked (cascadable)
- Hardly any heating up, residual heat dissipation through ribbed internal aluminium base body
- Safe cable gland outside, WAGO terminal inside

### Your benefits

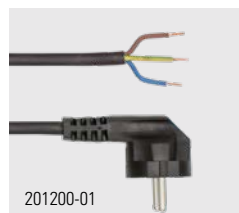
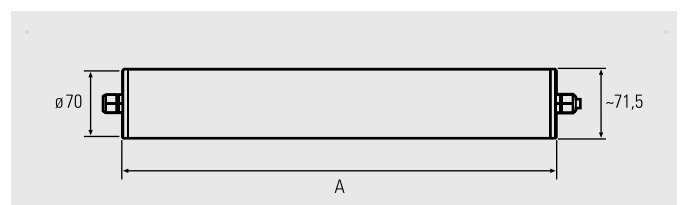
- Optimum glare control and light scattering due to microprismatic cover
- High degree of protection (IP67/IP69K)
- High light output; flicker-free light without UV and IR components; wide spread and homogeneous light
- Simple retrofitting

### Areas of application

- For permanent installation all around machines, technical plants, building services, underground garages, architecture

### Designs/installation

- Performance-optimized variants with 24 V DC or 230 V AC connection (the latter with an integrated power supply unit)
- 5 lengths: 354 mm, 513 mm, 650 mm, 921 mm, 1214 mm
- Installation using optional lamp holders







version 24V DC

version 220-240V AC

IP67/IP69K, ≥85, 5200K-5700K, 60.000 h (L80/B10), 36 months, Germany flag, 24V DC, +45/-10, OPTION, ETL, 220V-240V AC, +40/-10

INROLED_70 ECO, borosilicate glass, 24V DC, 5200-5700K, cascable	Product no.	Length (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
INROLED_70 ECO DC, borosilicate glass	115010-01	354 mm	125°	352 lx	945 lm	~8 W	24V DC
INROLED_70 ECO DC, borosilicate glass	115110-01	513 mm	125°	518 lx	1575 lm	~12 W	24V DC
INROLED_70 ECO DC, borosilicate glass	115210-01	650 mm	125°	535 lx	1890 lm	~13 W	24V DC
INROLED_70 ECO DC, borosilicate glass	115310-01	921 mm	125°	747 lx	3150 lm	~20 W	24V DC
INROLED_70 ECO DC, borosilicate glass	115410-01	1214 mm	125°	791 lx	4095 lm	~24 W	24V DC

With feed-through wiring (cascable) several luminaires can be electrically interlinked. The entire power consumption may not exceed 4 A DC at ta max. +40 °C. Power supply, dimmboxes and connection material, see Accessories.

INROLED_70 ECO, borosilicate glass, 220-240V AC, 5200-5700K, cascable	Product no.	Length (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
INROLED_70 ECO AC, borosilicate glass	115010-02	354 mm	125°	352 lx	945 lm	~10 W	220-240V AC
INROLED_70 ECO AC, borosilicate glass	115110-02	513 mm	125°	518 lx	1575 lm	~14 W	220-240V AC
INROLED_70 ECO AC, borosilicate glass	115210-02	650 mm	125°	535 lx	1890 lm	~15 W	220-240V AC
INROLED_70 ECO AC, borosilicate glass	115310-02	921 mm	125°	747 lx	3150 lm	~23 W	220-240V AC
INROLED_70 ECO AC, borosilicate glass	115410-02	1214 mm	125°	791 lx	4095 lm	~28 W	220-240V AC

Feed-through wiring (cascable): The entire power consumption may not exceed 16A AC at ta max. +40°C.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance

Accessories	Product no.
Power cord PVC, 5m, black, angled plug/open end for 220-240V AC	201200-01
INROLED_70 luminaire holder, aluminium, 1 pair	210200-02



**NEW**

## INROLED\_70 Polycarbonat

Versatile, solid and weight-optimized

A high degree of protection and light, the INROLED\_70 equipped with a polycarbonate protective tube can be used in a variety of ways. Homogeneous, soft lighting, low weight and the option of through wiring speak for INROLED\_70. The shatterproof protective tube protects the luminaire from the ingress of water, dust and moisture. Use in buildings or building services is just as possible as in logistics or technical equipment.

### The Technology

- Polycarbonate protective tube protects the electronics from water, dust and moisture
- All variants can be linked electrically (cascadable)
- Secure cable gland on the outside, WAGO terminal inside

### Your benefits

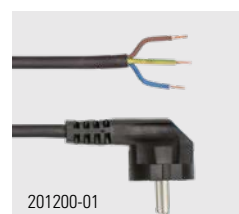
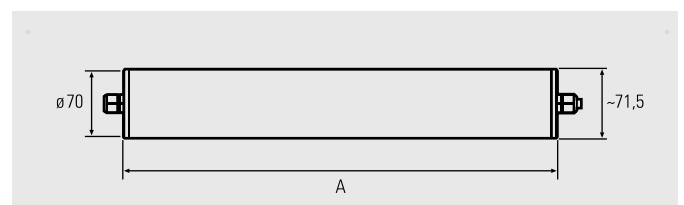
- Opal white glare control
- High degree of protection (IP67/IP69K)
- High light output; Flicker-free light without UV and IR radiation; flat and homogeneous light
- Easy retrofitting

### Areas of application

- Technical equipment
- Machinery
- House and building technology

### Designs/installation

- Performance-optimized versions with 24 V DC or 230 V AC mains connection
- 5 lengths: 354 mm, 513 mm, 650 mm, 921 mm, 1,214 mm
- Installation using optional luminaire holders





version 24V DC

version 220-240V AC

IP67/IP69K, ≥85, 5200K-5700K, 60.000h (L80/B10), 36 months, Germany, 24V DC, +45/-10, OPTION, ETL US, 220V-240V AC, +40/-10

INROLED_70 ECO, polycarbonate protective tube, 24V DC, 5200-5700K, cascable	Product no.	Length (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
INROLED_70 ECO DC, polycarbonate protective tube	115010-03	354 mm	125°	251 lx	945 lm	~8 W	24V DC
INROLED_70 ECO DC, polycarbonate protective tube	115110-03	513 mm	125°	369 lx	1575 lm	~12 W	24V DC
INROLED_70 ECO DC, polycarbonate protective tube	115210-03	650 mm	125°	381 lx	1890 lm	~13 W	24V DC
INROLED_70 ECO DC, polycarbonate protective tube	115310-03	921 mm	125°	532 lx	3150 lm	~20 W	24V DC
INROLED_70 ECO DC, polycarbonate protective tube	115410-03	1214 mm	125°	564 lx	4095 lm	~24 W	24V DC

With feed-through wiring (cascable) several luminaires can be electrically interlinked. The entire power consumption may not exceed 4 A DC at ta max. +40 °C. Power supply, dimmboxes and connection material, see Accessories.

INROLED_70 ECO, polycarbonate protective tube, 220-240V AC, 5200-5700K, cascable	Product no.	Length (A)	Optics	E <sub>max</sub> *	Lamp luminous flux	Output	Connection
INROLED_70 ECO AC, polycarbonate protective tube	115010-04	354 mm	125°	251 lx	945 lm	~10 W	220-240V AC
INROLED_70 ECO AC, polycarbonate protective tube	115110-04	513 mm	125°	369 lx	1575 lm	~14 W	220-240V AC
INROLED_70 ECO AC, polycarbonate protective tube	115210-04	650 mm	125°	381 lx	1890 lm	~15 W	220-240V AC
INROLED_70 ECO AC, polycarbonate protective tube	115310-04	921 mm	125°	532 lx	3150 lm	~23 W	220-240V AC
INROLED_70 ECO AC, polycarbonate protective tube	115410-04	1214 mm	125°	564 lx	4095 lm	~28 W	220-240V AC

Feed-through wiring (cascable): The entire power consumption may not exceed 16A AC at ta max. +40°C.

\* maximum lighting intensities, measurement area 100 cm x 100 cm at 100 cm distance

Accessories	Product no.
Power cord PVC, 5m, black, angled plug/open end for 220-240V AC	201200-01
INROLED_70 luminaire holder, aluminium, 1 pair	210200-02

## Accessory LED luminaires



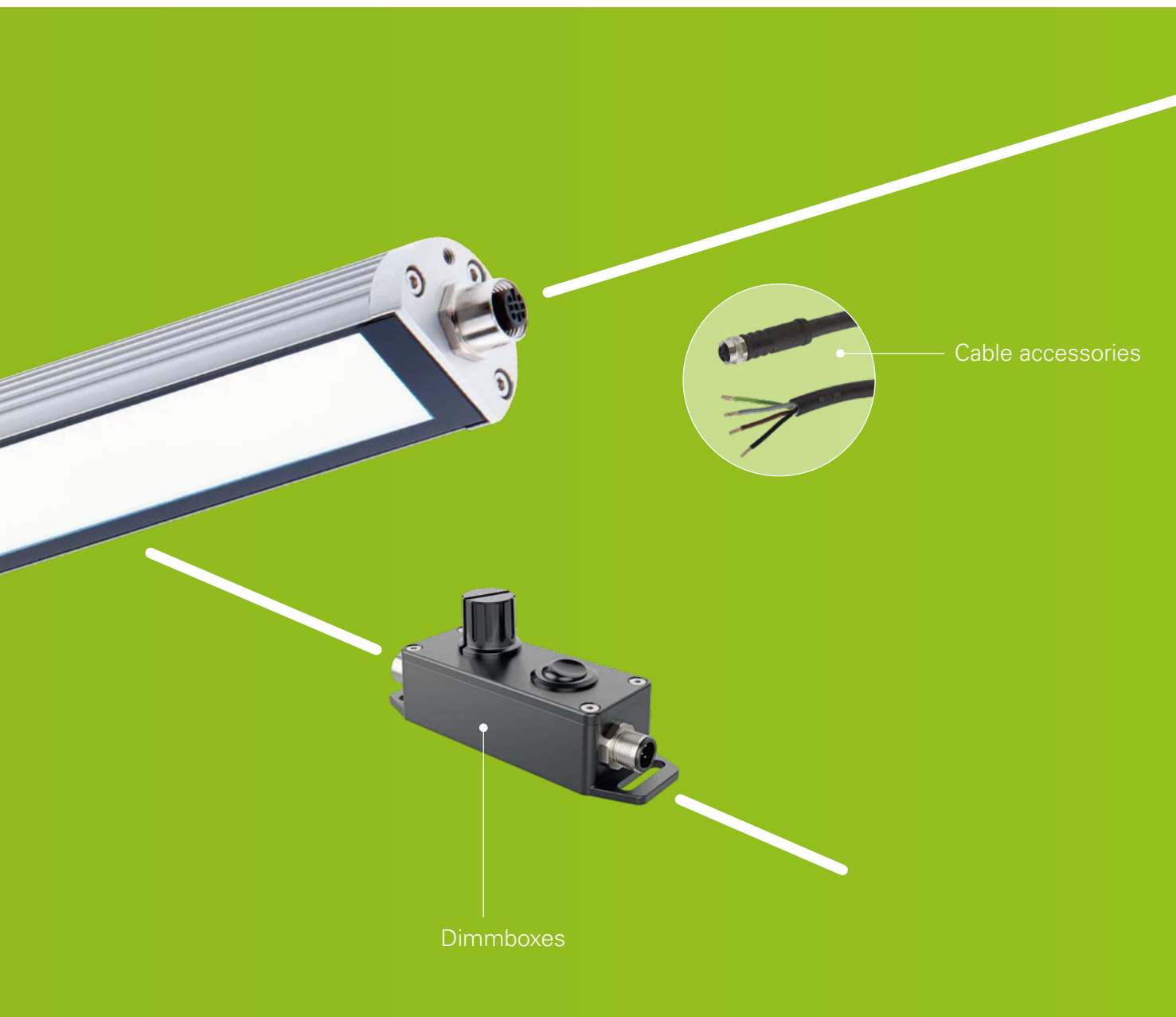
Cable accessories



Power supply units



The following accessory is coordinated exactly to our luminaires. Whether workplace, machine or industrial luminaires – almost any installation scenario can be covered. With all 24V DC luminaires and most 230V AC luminaires, the connections are based on standardised M12 plug connections so that a luminaire can be integrated immediately into existing installations.



Cable accessories

Dimmboxes

- Standardised M12 plug connections allow luminaires to be used in installations already in operation
- Whether plug, table or DIN rail power supply – the luminaires are ready for use immediately after connection
- Power supply units with fixed voltage matched to the luminaires generate a constant voltage and thus guarantee constant brightness
- Almost all 24V DC lights can be dimmed by means of dimming boxes.
- All individual accessory components are matched to the existing luminaires. Each luminaire can be individually connected and configured via the plugs and sockets in conjunction with the power supply unit and dimmbox.

## Accessories

### M12 cables, plug connectors for assembly M12, M12 distributor

Description	Product no.	Cable length	Material cable	Design	Operating voltage
Sensor cable	200100-01	5 m	PUR	M12 socket/M12 plug, A-coded	24V DC
Sensor cable	200100-02	2,5 m	PUR	M12 socket/M12 plug, A-coded	24V DC
Sensor cable	200100-03	10 m	PUR	M12 socket/M12 plug, A-coded	24V DC
Sensor cable	200100-04	5 m	PUR	M12 socket /open, four-core, A-coded	24V DC
Sensor cable	200100-05	2,5 m	PUR	M12 socket /open, four-core, A-coded	24V DC
Sensor cable	200100-06	10 m	PUR	M12 socket /open, four-core, A-coded	24V DC
Sensor cable	200100-07	5 m	PUR	M12 socket angled /open, four-core, A-coded	24V DC
Sensor cable	200100-09	2,5 m	PUR	M12 socket /open, five-core, A-coded	24V DC
Sensor cable	200100-10	5 m	PUR	M12 socket /open, five-core, A-coded	24V DC
Sensor cable	200100-11	10 m	PUR	M12 socket /open, five-core, A-coded	24V DC
Sensor cable	200100-14	5 m	PUR	M12 socket /open, S-coded	220-240V AC
Sensor cable	200100-15	2,5 m	PUR	M12 socket /open, S-coded	220-240V AC
Sensor cable	200100-16	10 m	PUR	M12 socket /open, S-coded	220-240V AC



Description	Product no.	Design	Operating voltage
M12 socket	200200-01	M12 socket, straight	24V DC
M12 socket	200200-02	M12 socket, angled	24V DC
M12 T distributor	200200-03	M12 T-piece, A-coded	24V DC
M12 plug	200200-04	M12 plug, straight	24V DC
M12 plug	200200-05	M12 plug, angled	24V DC
M12 protective plug	200200-06	Cover for M12 socket	-
M12 Y distributor	200200-09	1x M12 plug, 2x M12 socket, 3-wire, max. 4 A	24V DC
M12 socket	200200-11	M12 socket, straight	220-240V AC
M12 Sensor/actuator box	200300-01	BOX with connection cable, 4 plug-in slots, 4 A max.	24V DC



## M12 lines, FDA approved materials, for food and beverages – 24V DC A-type coded

Description	Product no.	Cable length	Material cable	Design	Operating voltage
Sensor cable, TPE grey, seal EPDM, coupler V4A, 5 m, M12 socket/M12 plug	201100-01	5 m	TPE grey, seal EPDM, coupler V4A	M12 socket / M12 plug	24V DC
Sensor cable, TPE grey, seal EPDM, coupler V4A, 5 m, socket/open line end	201100-04	5 m	TPE grey, seal EPDM, coupler V4A	socket/open	24V DC
Sensor cable, TPE grey, seal EPDM, coupler V4A, 10 m, socket/open line end	201100-06	10 m	TPE grey, seal EPDM, coupler V4A	socket/open	24V DC



201100-01



201100-04/-06

## Power supply units (PSU) with fixed voltage

Description	Product no.	Power consumption	Input voltage	Output voltage	Design
Plug-in power supply, M12 socket, straight	210100-03	36 W	100-240V AC	24V DC	M12-A
Plug-in power supply, M12 socket, angled	210100-13	36 W	100-240V AC	24V DC	M12-A
Desktop power supply, M12 socket, IEC cable	210100-02	60 W	90-264V AC	24V DC	M12-A
Desktop power supply, M12 socket, IEC cable	210100-05	120 W	85-264V AC	24V DC	M12-A
Switching power supply, IP67, M12 Socket, open ends	210100-06	60 W	90-305V AC	24V DC	M12-A
Switching power supply, IP67, M12 Socket, open ends	210100-07	100 W	90-305V AC	24V DC	M12-A
Switching power supply, IP67, M12 Socket, open ends	210100-08	150 W	90-305V AC	24V DC	M12-A
Switching power supply, M12 socket, SCHUKO	210100-11	60 W	100-240V AC	24V DC	M12-A
DIN rail power supply	210100-01	72 W	88-264V AC	24V DC	-
DIN rail power supply	210100-04	480 W	90-264V AC	24V DC	-
DIN rail power supply	210100-09	120 W	88-264V AC	24V DC	-
DIN rail power supply	210100-10	240 W	88-264V AC	24V DC	-



210100-01



210100-02



210100-03



210100-04



210100-05



210100-06/-07/-08



210100-09



210100-10



210100-11



210700-04

## External dimmer (for all 24V DC luminaires, except for RGB)

Description	Product no.	Degree of protection	Current intensity	Input voltage	Output
DIMMbox, for T-slot, ready for connection	210700-04	IP40	max. 4,0 A	24V DC	96 W

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This catalogue was prepared with care. Printing errors as well as technical changes are subject to change without notice.

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MADE  
IN GERMANY**

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INTELLIGENCE IN LIGHT

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