



INTELLIGENCE IN LIGHT

LED INDUSTRIAL LIGHTING

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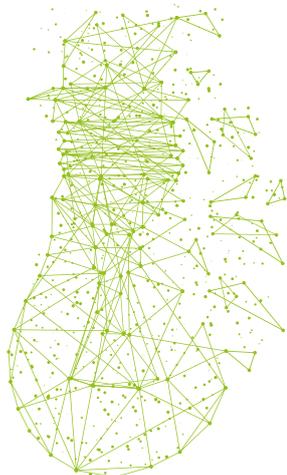
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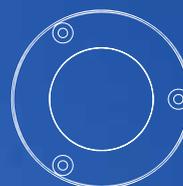
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INTELLIGENCE IN LIGHT

Our mission - Intelligence in Light



As one of the first companies, we began to design and manufacture highly specialised LED luminaires for machine and industrial applications.

Nowadays we are one of the leading companies in this sector and work with innovative ideas to supplement light with meaningful added value or to make targeted use of the possibilities of its properties.

Our promise to you:

- Improving existing lighting solutions – brighter, more durable, more economical
- Higher productivity thanks to perfectly coordinated lighting

We call this added value: "Intelligence in Light".

A handwritten signature in blue ink, appearing to read 'J. Schiga'.

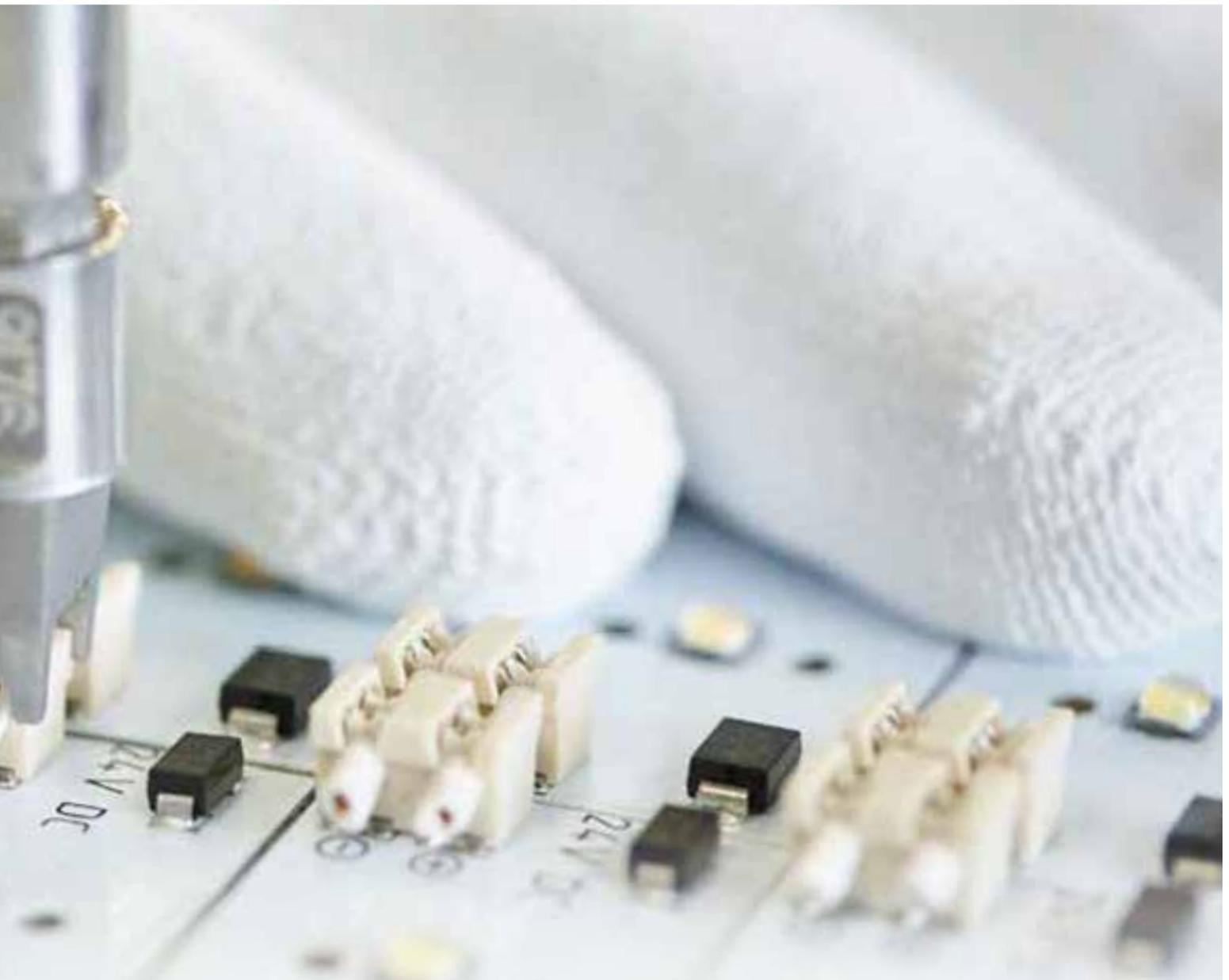
Your Jan Schiga
CEO





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.



A few keywords:

- Use of high-quality and up-to-date electronic components
- Special product design that meets all the requirements of the prescribed protection classes and proven degrees of protection
- Intelligent thermal management via sophisticated housing geometry
- High-quality Viton® seals
- Service life of up to 60,000 operating hours and 36 months warranty
- LED chips with very narrow binnings, which result in almost no deviations in colour temperature and brightness values and high efficiency (min. >150 lumen/watt)
- Excellent energy efficiency
- Maintenance-free
- Designed for long service life and sustainability

Light and LED technology

Service life

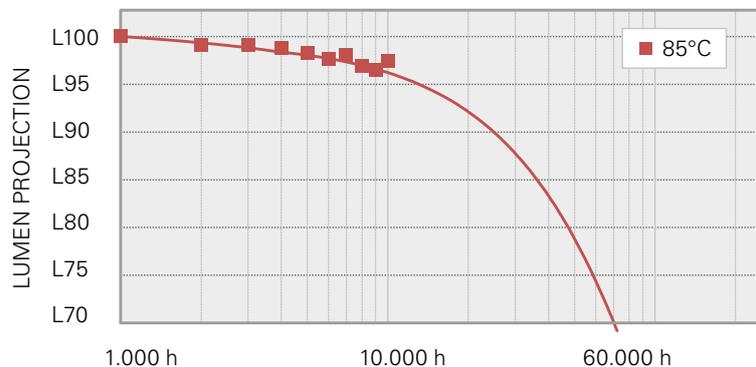
LED luminaires from LED2WORK are developed as durable products. The service life of the luminaire and the installed electronics is at least 50,000 operating hours (high-power LED technology) or at least 60,000 operating hours (mid-power LED technology). As soon as the luminous intensity drops below 70 %, 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 70 % of the original value can be expected.

Examples:

Service life	50,000 hours	60,000 hours
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.



■ **L70:** 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 60,000h) has remained.

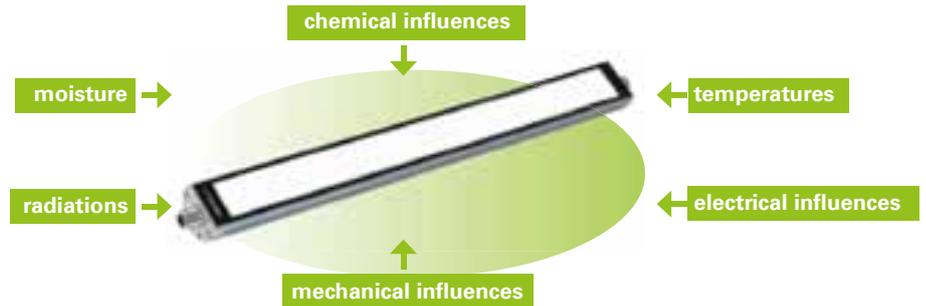
The reason for this is that a light source slowly degenerates over its lifetime and emits less and less light. In the case of LED2WORK, this maximum reduction corresponds to the 30% mentioned above after 60,000 hours.

■ **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.

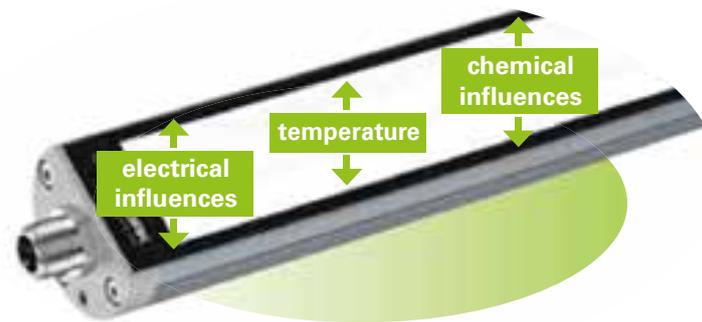
External influences



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_a

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

The R_a 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_a value, the better the colour rendering of the light source. The colour rendering index can reach R_a values of up to 100, which corresponds to absolutely lifelike colour rendering (sunlight, black body radiation).

Colour Rendering Index R _a	Quality
R _a 100-90	Outstanding
R _a 90-80	Good
R _a 80-70	Satisfactory
R _a 70-60	Adequate
R _a 60-50	Poor
R _a 50-0	Unsatisfactory

Light	Index R _a
Sunlight	100
Light bulb	to 100
White LED	75...98
OLED	80...90
Fluorescent lamp	50...90
Energy-saving lamps	90...90

Energy efficiency

LED itself stands for energy-efficient lighting.

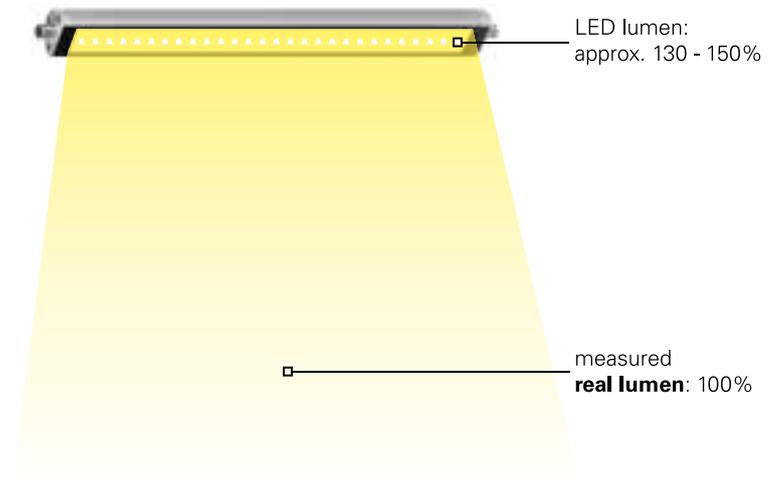
All LED2WORK luminaires feature high energy efficiency. Conventional lighting concepts from previous years are considerably below the values currently being achieved. For example, a light bulb has a luminous efficacy of up to 12 lm/W and a fluorescent lamp of up to 100 lm/W. Today, the LED chips used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

Real lumen

Real lumen is the actual measured brightness of the entire luminaire.

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

Due to the laboratory measurement procedures of the light manufacturers, the lumen values stated in the data sheets are not reached in reality. In addition, any other material in the path of the light emitted (diffusers, covers, glass panes) further reduce the light.



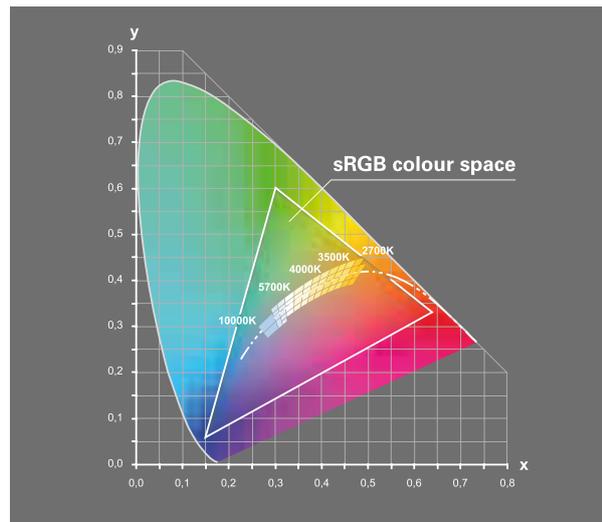
Real lumens are the actual lumens measured and emitted from the luminaire on the product. We are not talking about a theoretically calculated value or scaled value based on data sheet lumens of the LED chips, but about measured and certified values. LED2WORK generally indicates real lumens for its luminaires.

Binning

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

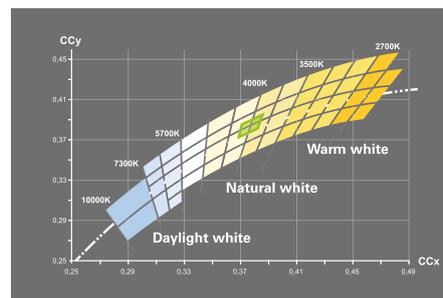
In the industrial production process of LED chips, there are also small deviations within individual batches and thus small differences between the individual LED chips.

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.

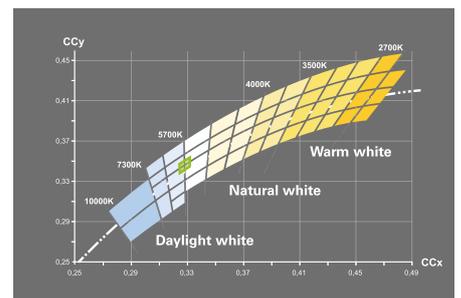


In order to guarantee a uniform character of the light, the LED chips used by LED2WORK are sorted according to their properties within narrow tolerances. This guarantees you: reproducibility of luminous flux, light colour and colour rendering; within one batch and, of course, across future batches.

■ 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.

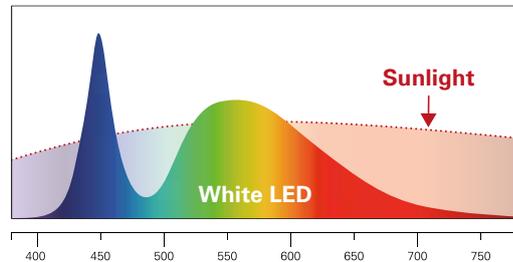
The UGR includes not only direct glare from the luminaire itself, but also reflected light from walls, floors and ceilings in a standardised room (DIN EN 12464-1). The actual UGR depends on the installation situation of the light source, the position of an observer and the actual structure of the luminaire.

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

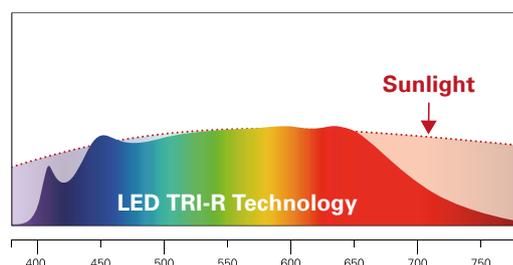
Seen from a physical aspect, there are no LED chips that emit white light. To generate white light, an LED chip is used which guides blue light through a phosphorous layer. The phosphorous layer complements the spectral components of the blue light, making it white.



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

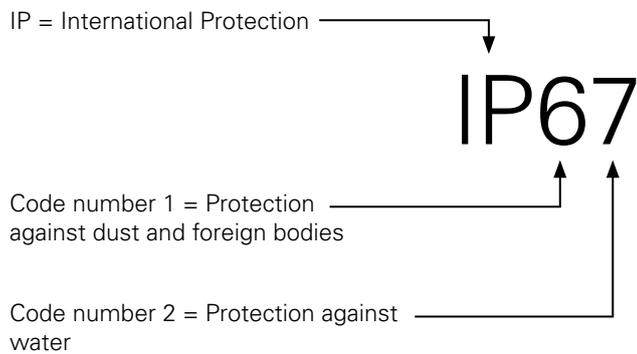
All electrically operated incoherent broadband radiation sources fall within the scope of the international standards for photo biological safety, i.e. conventional light sources, including LED chips, but not lasers.

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

Protection lighting

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 solution for every application and ensures optimum integration and excellent lighting conditions in your industrial environment.

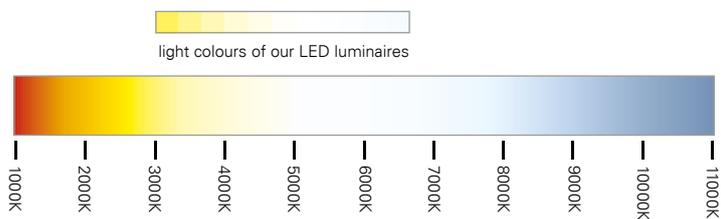
Depending on the requirements, the LED industrial luminaires meet special challenges, such as harsh production environments:

Depending on the type of luminaire, they are resistant to high temperatures and are one hundred percent impermeable to oil, coolants and water. Even chip bombardment does not affect the LED luminaires in any way. Connection to the machine or mains voltage is possible, and the luminaires can also be electrically linked (depending on the product). Materials such as aluminium for the housing, safety glass for the screens (single-paned, tempered safety glass) and Viton® seals are used.

Light colour [K]

Marked luminaires according to DIN 10500 are resistant to chemicals, are splinter-free due to polycarbonate housing or stainless steel base body, and are hygienic and safe due to the use of FDA-compliant materials.

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.

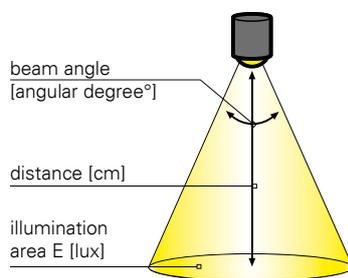


Lumen [lm]

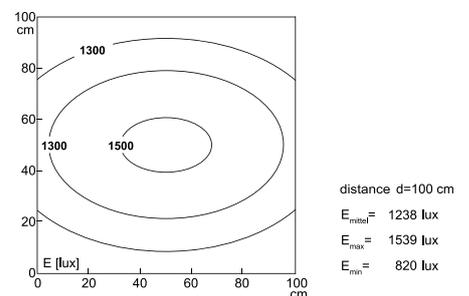
Lumen, with the unit symbol lm, is the unit of the total luminous flux of a luminaire or the module that is used. The total luminous flux is a measure of the total amount of light emitted in all spatial directions.

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 1 m².



Isolux diagram



Isolux diagram

An Isolux diagram describes the light distribution of the luminaire over a defined area, usually 100 cm x 100 cm with a luminaire distance of 100 cm. The values given for E_{max} describe the maximum lux value to be achieved in the centre of 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 120°. 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

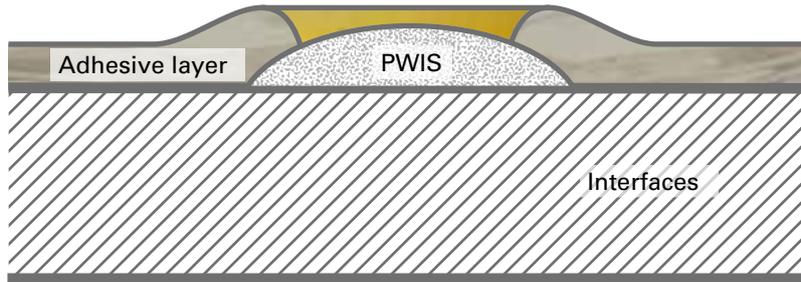
Technically, flickering means fluctuations in luminance that are not generated by the supply voltage but by the structure of the lighting source itself.

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.

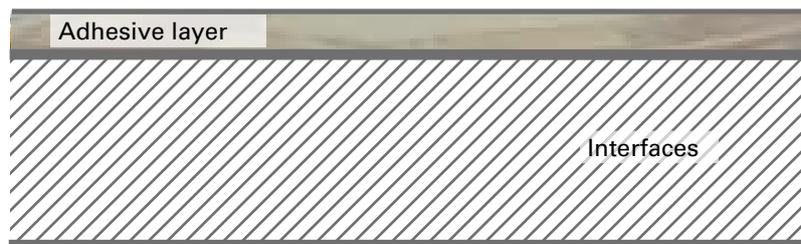
PWIS free

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.





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



LED industrial lighting

Robustness and a wide range of possible applications, coupled with industrial designs - these are the distinguishing features of our industrial luminaires.

- FDA-compliant materials, therefore suitable for food & beverage
- Slender illuminant, also suitable for architecture and design
- Electrically interlinkable (product-dependent)



OEM and special solutions

We have an efficient process chain at our disposal to implement new ideas for special luminaires that are precisely customised to the very special requirements of our OEM partners:

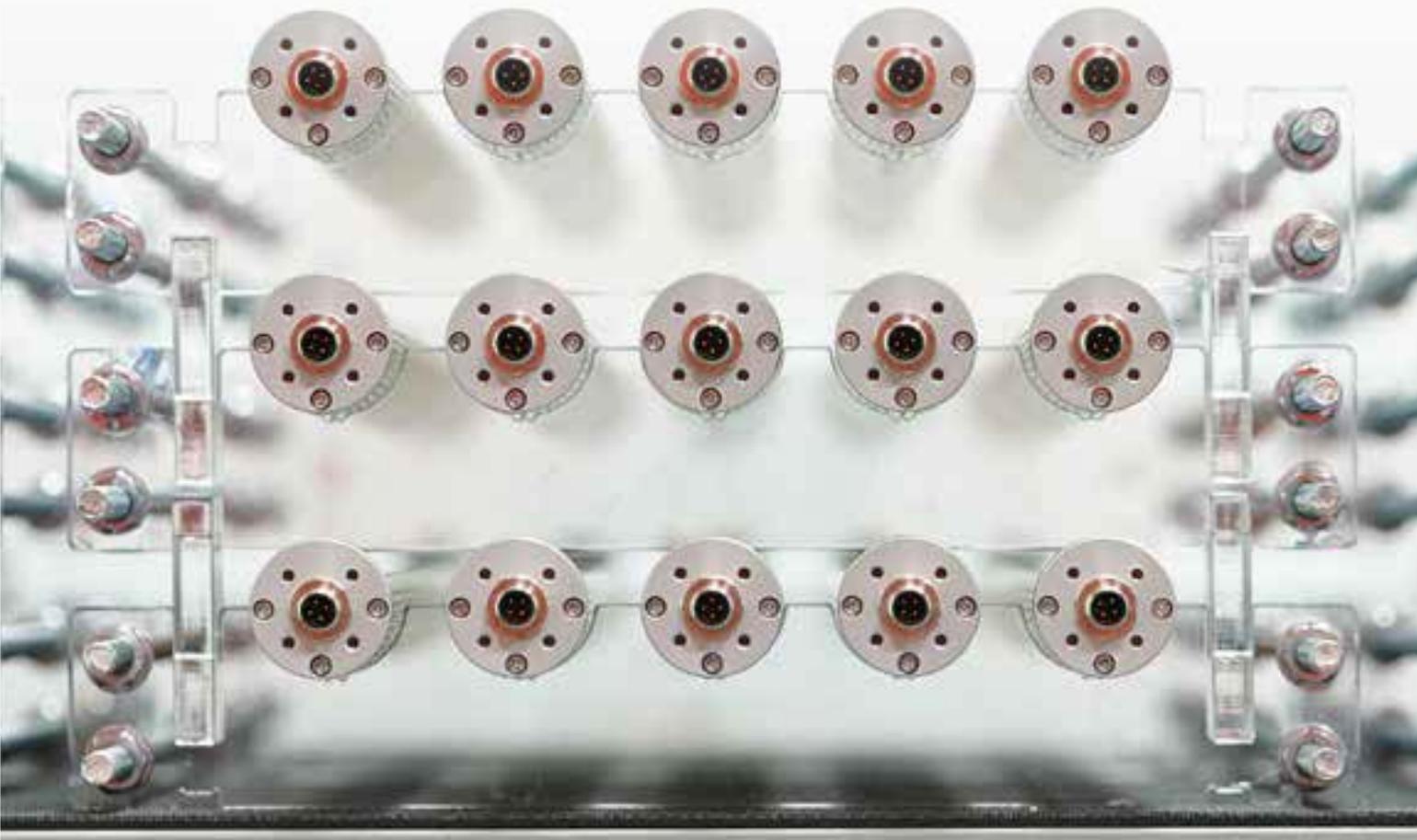
From the concept phase, prototyping in our own sample production department to the production and delivery of individualised series-produced luminaires.

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 certifications (9001, 14001)
- listings in operating equipment regulations of numerous automobile and industrial companies
- 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)





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 coolant². The warranty period is 36 months from the date of purchase - including leak tightness.

¹ Not food safe

² 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 compounds¹ 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 H₂O₂ (max. 35 %) used for disinfection/sterilisation.² The warranty period is 36 months.

Explanation of symbols

	Voltage		Colour rendering index (Ra)		ETL Listed Security Test Seal
	IP degree of protection		Light colour in Kelvin		Suitable for CNC/oil resistant
	Light output		with M12 connection		Maintenance-free
	Max. power consumption in watts		Cable length in meters		Food & Beverage – suitable for the food and beverage industry
	Warranty in months		Ambient temperature		Made in Germany
	Operating hours in continuous light mode		Electrical protection class		Luminaires can be dimmed using optional accessories

Product overview

LED workplace lighting

Flexarm luminaires from Page 28

FLEXLED



MECHALED



MIDILED Flexarm



LEANLED Flexarm



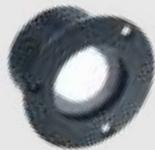
LED machinery lighting

Recessed luminaires from Page 52

FIELDLED II



SPOTLED II



VARILED



FIELDLED II



LEANLED



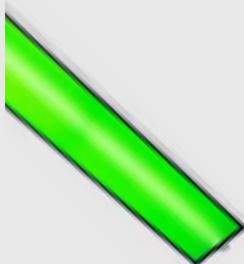
LED machinery lighting

Signal luminaires from Page 80

SIGNALED RGB



STATUSLED RGB-W



TUBELED_40 II RGB-W



INROLED_50 RGB-W



Articulated-arm luminaires from Page 36

LENSLED II



UNILED II
UNILED II TUNABLE WHITE



System luminaires from Page 42

SYSTEMLED
SYSTEMLED TUNABLE WHITE



UNILED SL



Surface mounted luminaires from Page 58

MIDILED



SPOTLED II



TOPLED



TUBELED_40 II



TUBELED_70



VARILED / V4A



LED industrial lighting

Surface mounted luminaires/tube luminaires from Page 90

TECLEL



INROLED_25 / _50



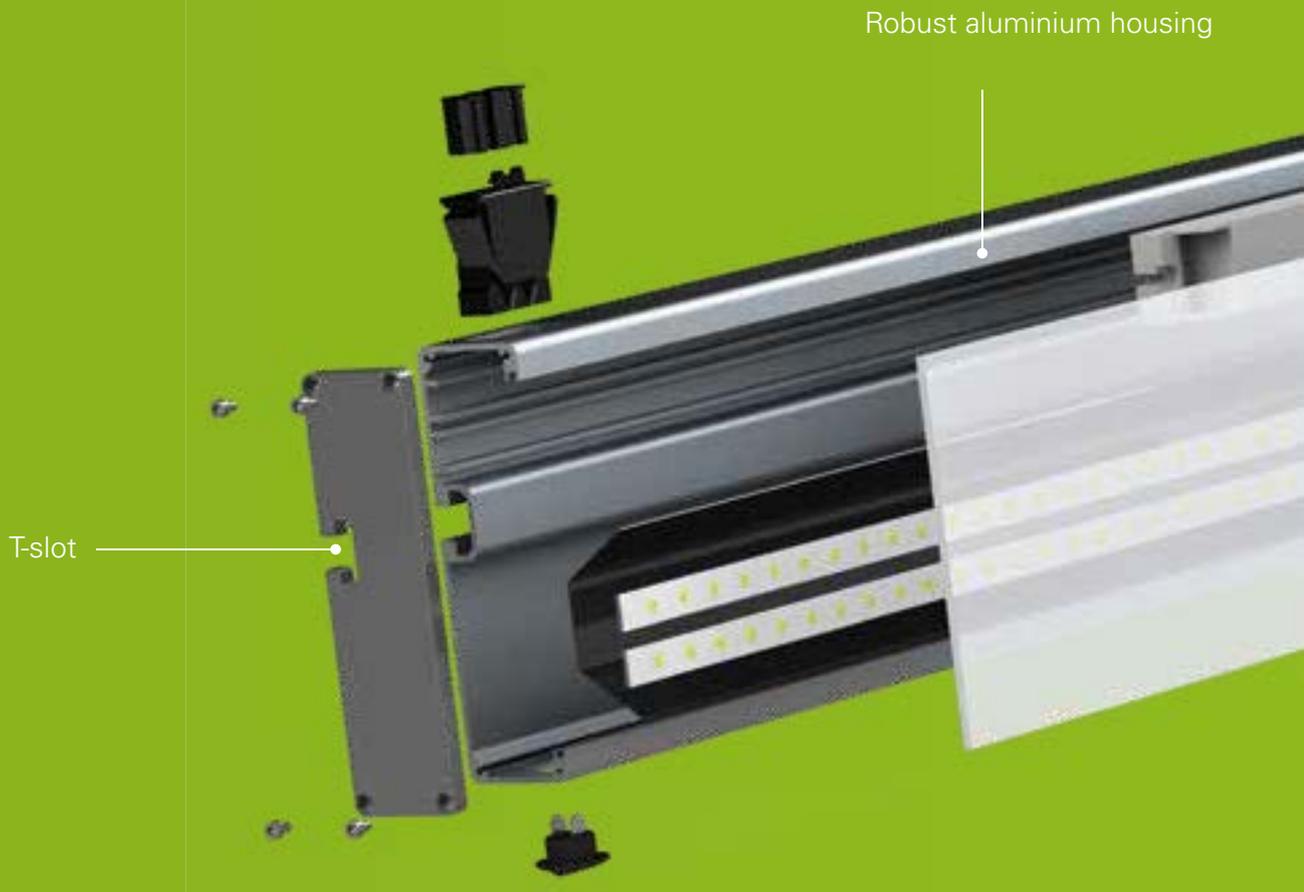
INROLED_70



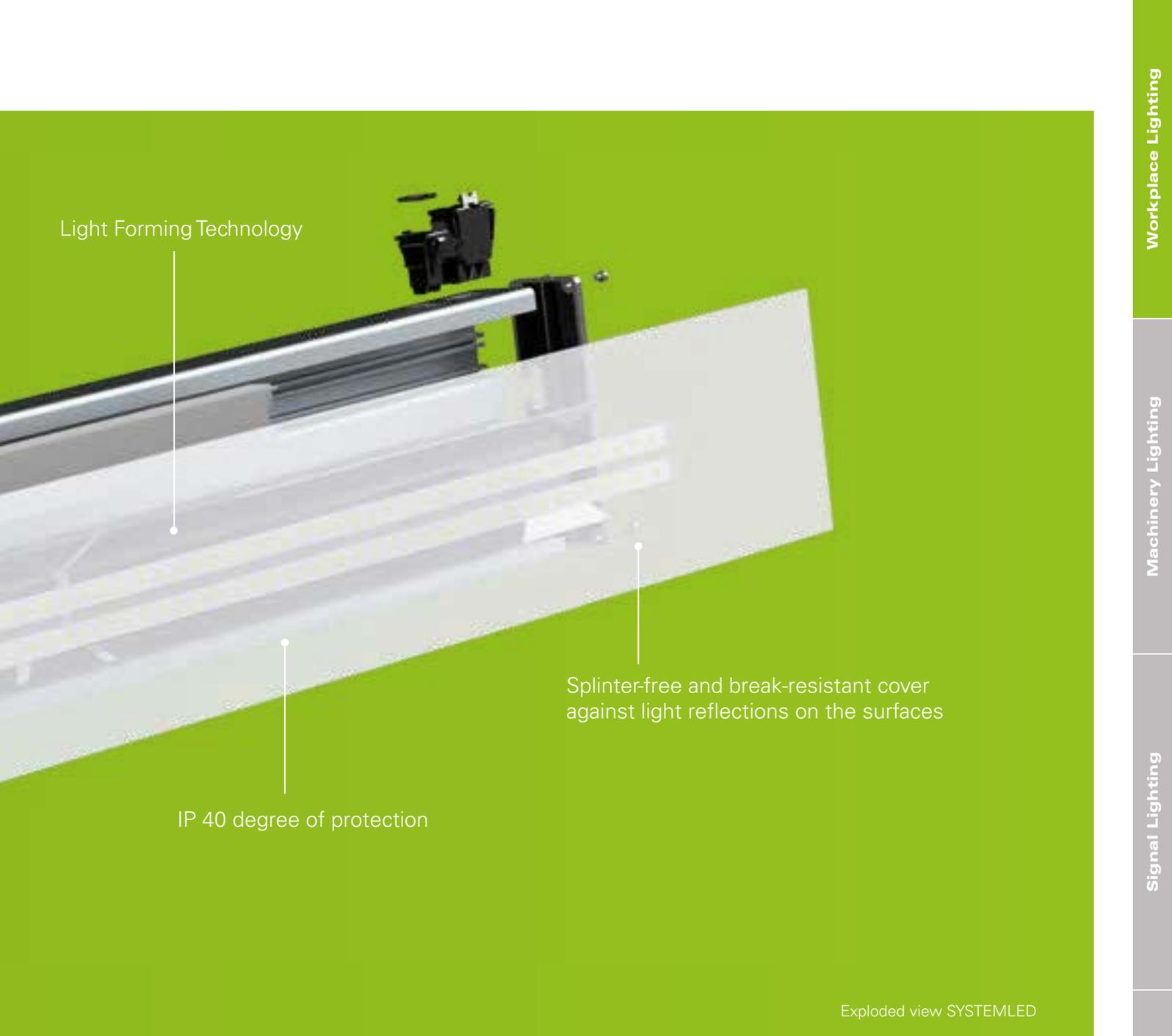
Accessories Page 100



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.



Light Forming Technology

Splinter-free and break-resistant cover
against light reflections on the surfaces

IP 40 degree of protection

Exploded view SYSTEMLED

Our standard for workplace luminaires

- Circuit-independent service life approx. 60,000 operating hours L70/B10
- This corresponds to a lifespan of approx. 15 - 30 years!
- Degree of protection IP40 to IP65, protection class III
- Aluminium housing for heat dissipation to the rear - no risk of burns
- Quick mounting and easy handling of luminaires
- High energy efficiency through LED technology
- Glare and flicker-free light
- Precise light focusing
- 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.



FLEXLED

Versatile, flexible, indestructible

The FLEXLED brings the light exactly where it is needed. With its waterproof, oil-resistant Flexarm and LED chips protected by safety glass, the flexible LED luminaire cuts a fine figure even under harsh manufacturing conditions. Whether as a short flange version, with screw-on base or magnetic base, the FLEXLED can be used permanently or temporarily at any time where sufficient light is needed.

The Technology

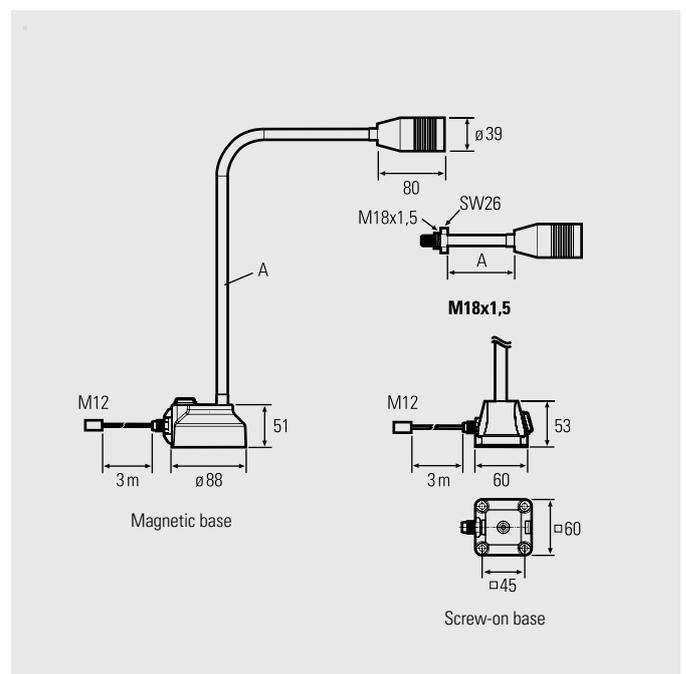
- Gooseneck, waterproof, oil-resistant
- Infinitely variable and repositionable to exactly where needed due to the gooseneck
- Submersible aluminium head with rear heat dissipation
- Crack-resistant safety glass (TSG 4 mm)

Your benefits

- Focused light for medium area illumination
- Quality gooseneck - highly flexible, tested for 30,000 bending cycles

Areas of application

- Workstations at plants and individual machines, e.g. without their own lighting and limited space conditions
- Inspection stations, work benches, microscopic lighting





24V DC	III	5 Watt	>400 lumens	Head IP67	Foot IP65	Flange version IP67	≥80	5200K 5700K	60,000 h (L70/B10)	M12	3 m	+40 -10	36 months	Germany
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FLEXLED	Product no.	Length of arm (A)	Optics	E _{max} *	Luminous flux	Output	Connection
FLEXLED, Flexarm, M 18 x 1.5	120512-01	80 mm	25°	1600 lx	approx. 400 lm	5 W	24V DC
FLEXLED, Flexarm, magnetic base	120512-02	600 mm	25°	1600 lx	approx. 400 lm	5 W	24V DC
FLEXLED, Flexarm, screw-on base	120512-03	600 mm	25°	1600 lx	approx. 400 lm	5 W	24V DC

Power supply, 110-240V exclusive, fastening parts, dimmboxes, power supply and connection materials, see Accessories

* Maximum lighting intensities, measurement area 40 cm at 100 cm distance





MECHALED

Average width scattering or accurate to the point

When space is tight, the MECHALED is just right. Thanks to the highly flexible gooseneck, the LED luminaire is suitable as a table or work luminaire wherever particularly bright light is required. Equipped with high-performance LED chips, it is extremely bright and illuminates work areas selectively – thanks to its interchangeable optics – homogeneously over the entire surface or precisely. With its magnetic base, it adheres reliably to any metal surface with magnetic properties.

The Technology

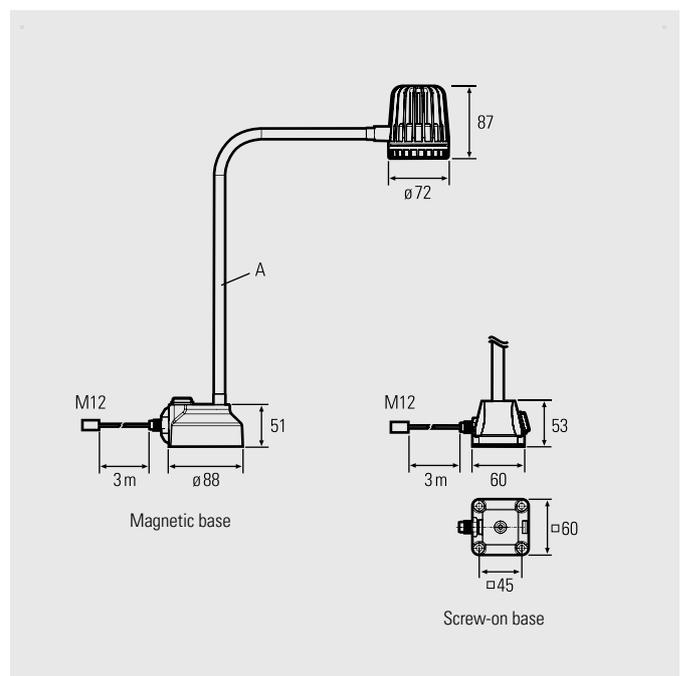
- Infinitely variable and repositionable to exactly where needed due to the gooseneck
- Splash proof aluminium head with rear heat dissipation
- Crack-resistant safety glass (TSG 3 mm)

Your benefits

- 80 % more economical and brighter than the 50 W halogen version
- Quality gooseneck - highly flexible and tested for 30,000 bending cycles
- 3 versions: 250 mm, 500 mm and 600 mm Flexarm
- 2 interchangeable optics included in delivery scope: Scattered light with 25° beam angle and spotlight with 10° beam angle
- Special version: dimmable via the switch on the housing

Areas of application

- Workplaces at plants and machines without their own lighting, such as bench drilling machines, cutting machines, injection moulding machines, machine testing/inspecting stations





24V DC | III | 8.5 Watt | >750 lumens | IP64 | ≥80 | 5200K - 5700K | 60,000 h (L70/B10) | M12 | 3 m | +40 -10 | OPTION | 36 months | Germany

MECHALED	Product no.	Length of arm (A)	Change optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
MECHALED, Flexarm, magnetic base	120112-01	250 mm	10°	735 lx	20816 lx	approx. 750 lm	8.5 W	24V DC
			25°	644 lx	9040 lx	approx. 750 lm		
MECHALED, Flexarm, magnetic base	120112-02	500 mm	10°	735 lx	20816 lx	approx. 750 lm	8.5 W	24V DC
			25°	644 lx	9040 lx	approx. 750 lm		
MECHALED, Flexarm, magnetic base	120112-03	600 mm	10°	735 lx	20816 lx	approx. 750 lm	8.5 W	24V DC
			25°	644 lx	9040 lx	approx. 750 lm		
MECHALED, Flexarm, screw-on base	120212-01	250 mm	10°	735 lx	20816 lx	approx. 750 lm	8.5 W	24V DC
			25°	644 lx	9040 lx	approx. 750 lm		
MECHALED, Flexarm, screw-on base	120212-02	500 mm	10°	735 lx	20816 lx	approx. 750 lm	8.5 W	24V DC
			25°	644 lx	9040 lx	approx. 750 lm		
MECHALED, Flexarm, screw-on base	120212-03	600 mm	10°	735 lx	20816 lx	approx. 750 lm	8.5 W	24V DC
			25°	644 lx	9040 lx	approx. 750 lm		

Luminaires with two optics: 25° optics installed and a 10° interchangeable optics is included
 Power supply 110-240 V exclusive, fastenings, dimmboxes, power supply units and connection material see Accessories

* Average and maximum illuminance, measuring field 100 cm x 100 cm at 50 cm distance



Screw-on base



999999-10

Accessories	Product no.
Glass pane matt	220400-02
Dimming with switch (special design - installed in the luminaire when the order is placed)	999999-10



MIDILED

Wide angle, economical, space-saving

The MIDILED Flexarm is our specialist solution for economical lighting of large areas. The LED light with SMD-LEDs has a wide beam (120°), but can also be used at short distances. Due to its flexibly positionable gooseneck, it reliably remains in the position where you need the light. Due to its simple installation, the MIDILED Flexarm is suitable for immediate, short-term or long-term lighting solutions.

The Technology

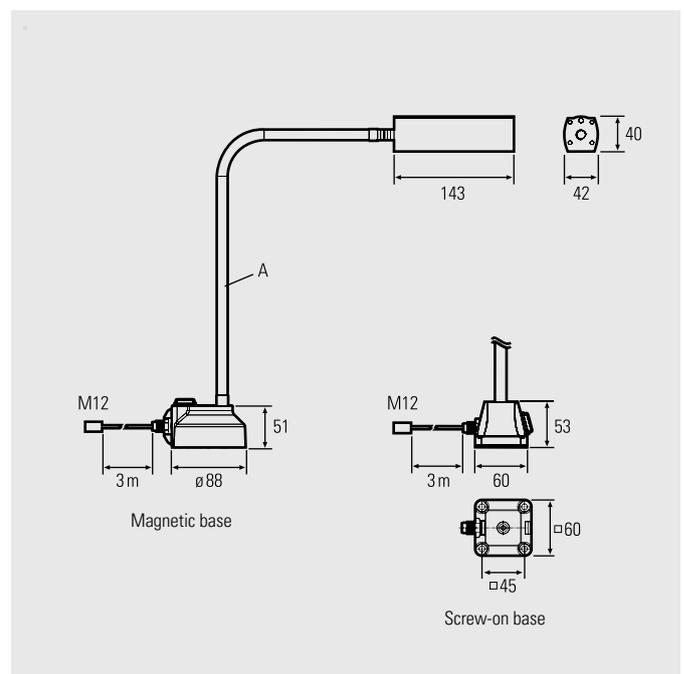
- Infinitely variable and precisely repositionable gooseneck
- Splash proof aluminium head with rear heat dissipation
- Crack-resistant safety glass (TSG 4 mm)

Your benefits

- Flexible, wide-area illumination due to wide-angle 120° beam angle
- Two gooseneck versions: 300 mm and 600 mm
- Quality gooseneck - highly flexible and tested for 30,000 bending cycles
- Special version: dimmable via the switch on the housing

Areas of application

- Workstations at machines, e.g. without their own lighting, such as cutting machines or injection moulding machines and extruders, when lighting is needed in certain places or spontaneously



Flexarm | MECHALED



24V DC III 7 Watt >600 lumens IP65 ≥80 5200K - 5700K 60,000 h (L70/B10) M12 3 m +40 -10 OPTION 36 months Germany

MIDILED Flexarm	Product no.	Length of arm (A)	Optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
MIDILED, Flexarm, magnetic base	110614-02	600 mm	120°	400 lx	1039 lx	approx. 609 lm	7 W	24V DC
MIDILED, Flexarm, magnetic base	110614-03	300 mm	120°	400 lx	1039 lx	approx. 609 lm	7 W	24V DC
MIDILED, Flexarm, screw-on base	110614-04	600 mm	120°	400 lx	1039 lx	approx. 609 lm	7 W	24V DC
MIDILED, Flexarm, screw-on base	110614-05	300 mm	120°	400 lx	1039 lx	approx. 609 lm	7 W	24V DC

Power supply, 110–240 V exclusive, fastening parts, dimmboxes, power supply and connection materials, see Accessories

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

Accessories	Product no.
Dimming with switch (special design - installed in the luminaire when the order is placed)	999999-10





LEANLED

Shadow-free, wide beam, slender

For manual workstations or quality control, the light must be absolutely uniform, glare-free and flicker-free. This is why a LEANLED Flexarm variant also has an opal white cover. The result: a very bright and uniformly illuminated surface without glare or flickering and a higher luminous flux due to the diffusion. Whether with an opal white or clear cover –the slender LED light can be universally set up or mounted and positioned as required.

The Technology

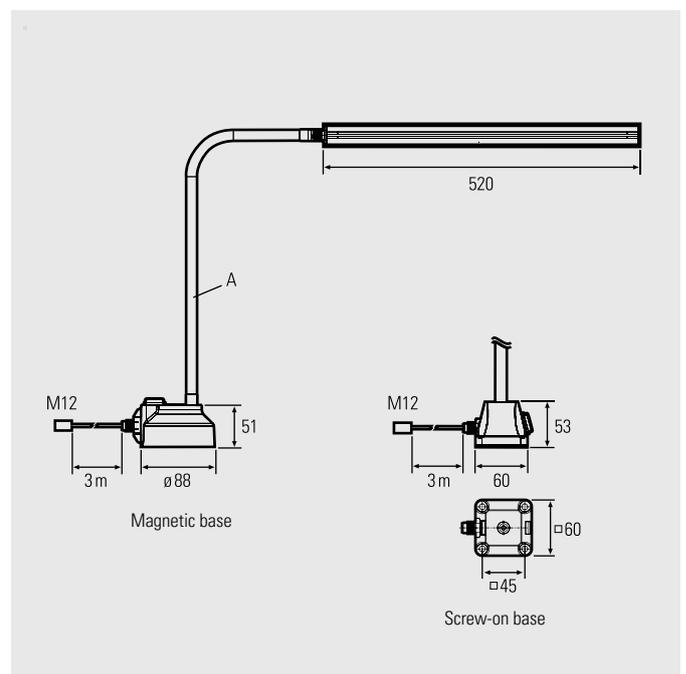
- Infinitely variable and repositionable to exactly where needed due to the gooseneck
- Splash-proof head, 180° rotatable, made of aluminium with rear heat dissipation

Your benefits

- Very bright and wide beam
- Quality gooseneck - highly flexible and tested for 30,000 bending cycles
- Special version: dimmable via the switch on the housing
- 2 versions available: clear or opal white cover
- Can also be used as table lamp with magnetic base and optional base plate

Areas of application

- Manual workplaces, quality control, assembly, inspection stations, work benches





Clear cover Opal-white cover

24V DC	III	13 Watt	>1500 lumens	>1250 lumens	IP54	≥85	5200K 5700K	60,000 h (L70/B10)	M12	3m	+40 -10	OPTION	36 months	Germany
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LEANLED Flexarm	Product no.	Length of arm (A)	Optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
LEANLED Flexarm, magnetic base, clear cover	110814-03	500 mm	120°	862 lx	1776 lx	approx. 1500 lm	13 W	24V DC
LEANLED Flexarm, screw-on base, clear cover	110814-04	500 mm	120°	862 lx	1776 lx	approx. 1500 lm	13 W	24V DC
LEANLED Flexarm, magnetic base, white cover	110814-13	500 mm	120°	505 lx	1021 lx	approx. 1250 lm	13 W	24V DC
LEANLED Flexarm, screw-on base, white cover	110814-14	500 mm	120°	505 lx	1021 lx	approx. 1250 lm	13 W	24V DC

Power supply, 110–240 V exclusive, fastening parts, dimmboxes, power supply and connection materials, see Accessories * Average and maximum lighting intensities, measurement area 100 cm x 100 cm at 50 cm distance

Accessories	Product no.
Dimming with switch (special design - installed in the luminaire when the order is placed)	999999-10



Articulated arm | LENSLED II



LENSLED II

Elegant, precise, powerful

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

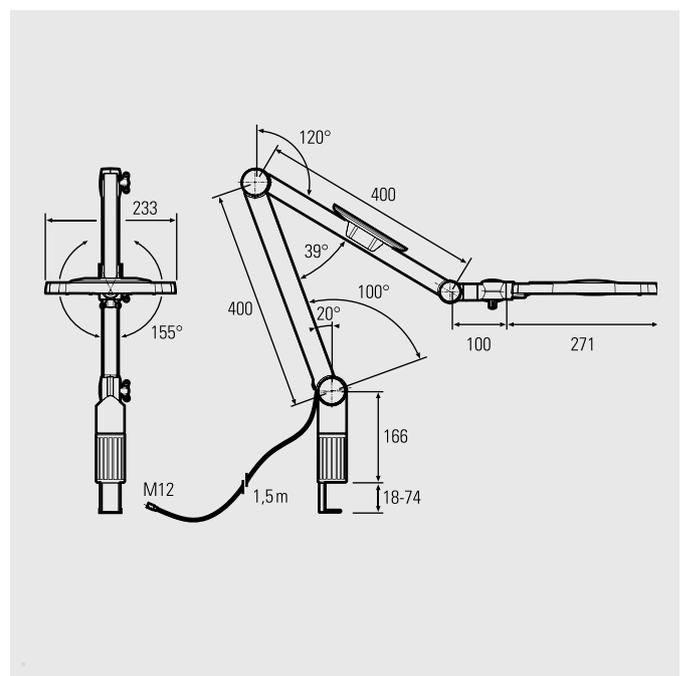
- Aluminium spring arm, 3D head joint
- Head and spring arm can be pivoted and locked in position
- Aluminium head with rear heat dissipation
- Glass loupe, Ø 160 mm, extremely scratch-resistant with 1.85x magnification (optional as biconvex lens with additional recessed bifocal Ø 31.5 mm, 8 dpt)

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 _{max} *	Luminous flux	Output	Connection
LENSLED II, 3,5 dpt., dimmable	120810-11	800 mm	120°	7000 lx	approx. 2000 lm	18 W	110-240V AC
LENSLED II, 3,5 dpt.+ 8 dpt., dimmable	120810-12	800 mm	120°	7000 lx	approx. 2000 lm	18 W	110-240V AC

Including power supply 110-240 V and table clamp

** Maximum lighting intensity, 15 cm distance

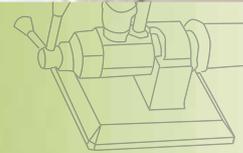
Accessories	Product no.
Wall bracket for luminaires with an articulated arm	215100-01
Adapter for T-slot profile for luminaires with an articulated arm	215200-01
Screw-on base for luminaires with an articulated arm, plastic screws included	215400-01
Adapter for luminaires with an articulated arm, aluminium (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

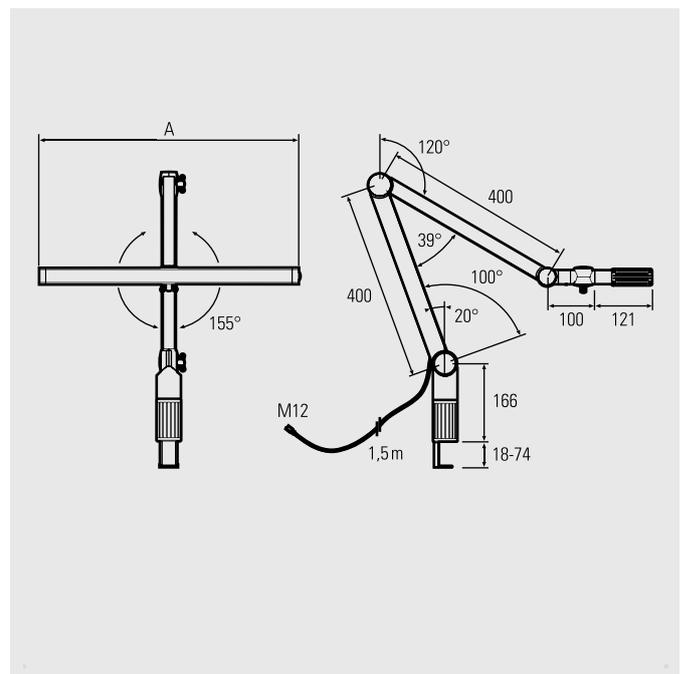
- Aluminium spring arm, 3D head joint
- Head and articulated arm can be pivoted and locked in any position
- Aluminium head with rear heat dissipation

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



24V DC	III	IP40	60,000 h (L70/B10)	M12	3 m	+40 -10	Variant	36 months	Germany
16 W Version	16 Watt	≥85	5200K 5700K	28 W Version	Natural white	Daylight white	PSU	110 V 240 V AC	

UNILED II articulated arm, 5200-5700 K	Product no.	Length Head (A)	Optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
UNILED II, table clamp	120610-01	298 mm	100°	773 lx	1905 lx	approx. 1740 lm	16 W	110-240V AC
UNILED II, dimmable, table clamp	120610-02	298 mm	100°	773 lx	1905 lx	approx. 1740 lm	16 W	110-240V AC
UNILED II, table clamp	120710-01	548 mm	100°	1503 lx	3360 lx	approx. 2930 lm	28 W	110-240V AC
UNILED II, dimmable, table clamp	120710-02	548 mm	100°	1503 lx	3360 lx	approx. 2930 lm	28 W	110-240V AC

Including power supply 110-240 V and table clamp

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

UNILED II articulated arm, 4000-4500 K	Product no.	Length Head (A)	Optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
UNILED II, table clamp	120720-01	548 mm	100°	1273 lx	2720 lx	approx. 2176 lm	28 W	110-240V AC
UNILED II, dimmable, table clamp	120720-02	548 mm	100°	1273 lx	2720 lx	approx. 2176 lm	28 W	110-240V AC

Including power supply 110-240 V and table clamp

* Average and maximum lighting intensities, measuring 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

Illustrations of accessories on the following page



NEW

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

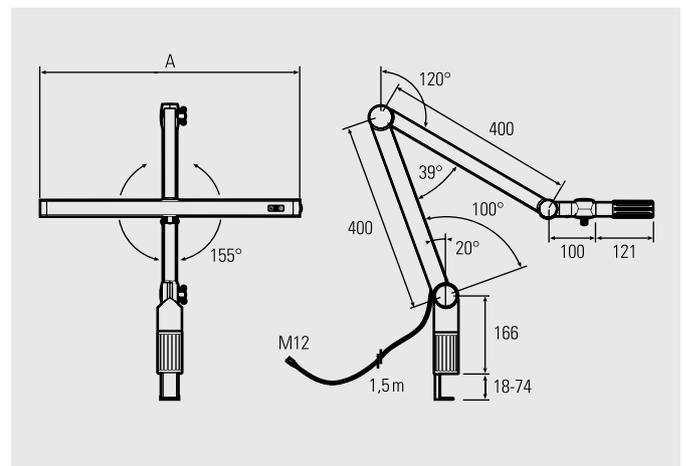
- Aluminium spring arm, 3D head joint
- Head and articulated arm can be pivoted and locked in any position
- Aluminium head with rear heat dissipation

Your benefits

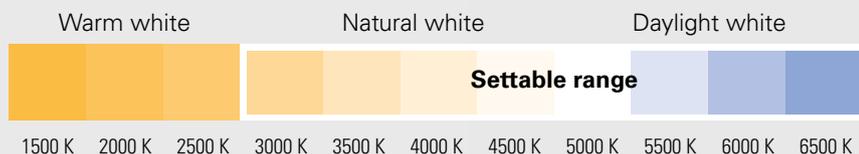
- Colour rendering up to $R_a > 98$. This corresponds approximately to the quality of the sunlight
- Promotes concentration and reduces signs of fatigue
- Adjustable from 3,000 K to 6,500 K via an easy-to-use keypad on the luminaire head
- Choice of colour temperature between warm white, neutral white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

Areas of application

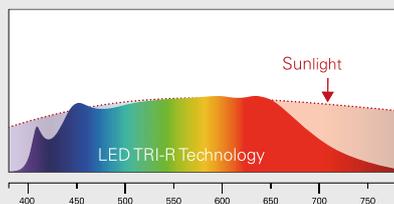
- For assembly and inspection workstations, workplaces in the goldsmith, dental laboratory, watchmaking sectors and quality control
- For surface control and under different light colours



Membrane keypad



TUNABLE WHITE



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.

24V DC, III, IP40, ≥ 98 , 3000K-6500K, 60,000 h (L70/B10), 3m, +40/-10, Variant, 36 months, Germany, PSU 110V-240V AC

UNILED II articulated arm TUNABLE WHITE 3000–6500K (Ra > 98)	Product no.	Length Head (A)	Optics	Light colour	E _{average} *	E _{max} *	Luminous flux	Output	Connection
UNILED II articulated arm TUNABLE WHITE, table clamp	120700-01	548 mm	100°	3000 K 6500 K	893 lx 1023 lx	1995 lx 2279 lx	approx. 1466 lm approx. 1685 lm	28 W	110-240V AC
UNILED II articulated arm TUNABLE WHITE, dimmable, table clamp	120700-02	548 mm	100°	3000 K 6500 K	893 lx 1023 lx	1995 lx 2279 lx	approx. 1466 lm approx. 1685 lm	28 W	110-240V AC

Including power supply 110-240 V and table clamp

Other power supply units (PSU), dimmboxes, and connection material see Accessories

* Average and maximum lighting intensities, measuring 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





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

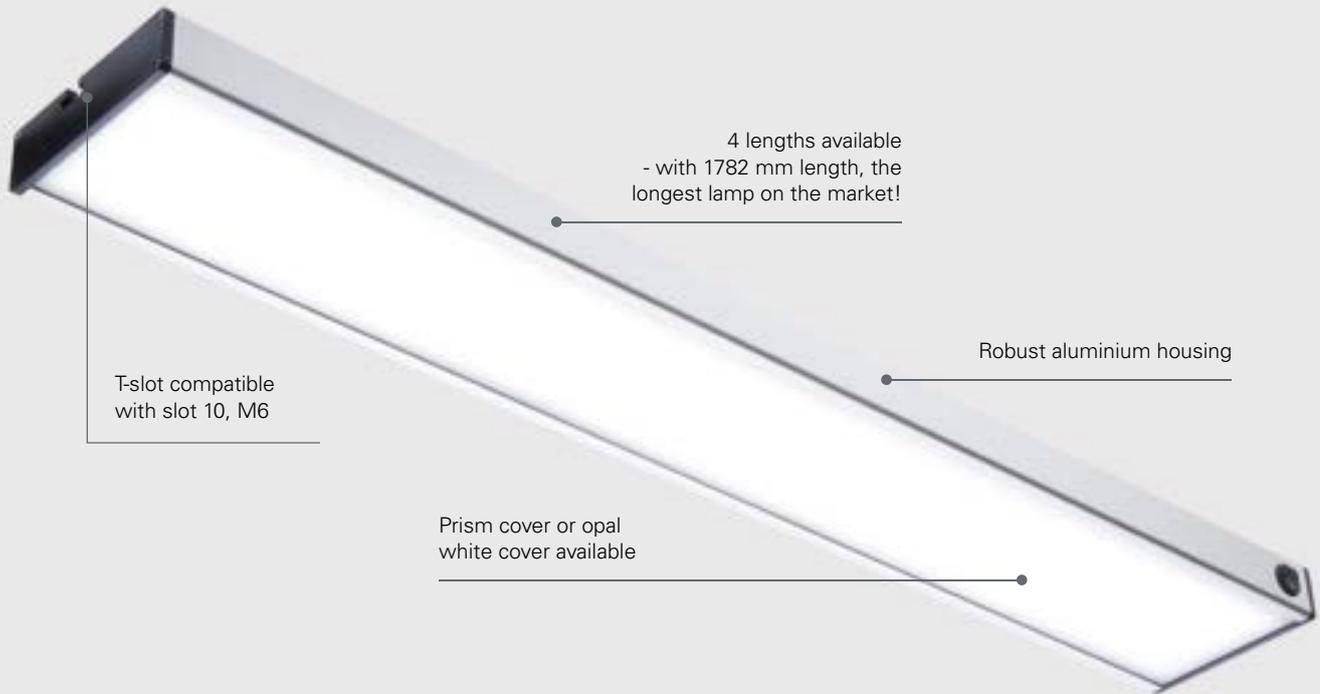
- The SYSTEMLED is the only luminaire on the market with 1782 mm length!
- Luminaire is cascadable = electric interlinkable. Glare-free illumination without reflections on the metal surfaces
- Microprismatic glare suppression: generates drop-shaped light scattering and thus brings more "light power"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

Areas of application:

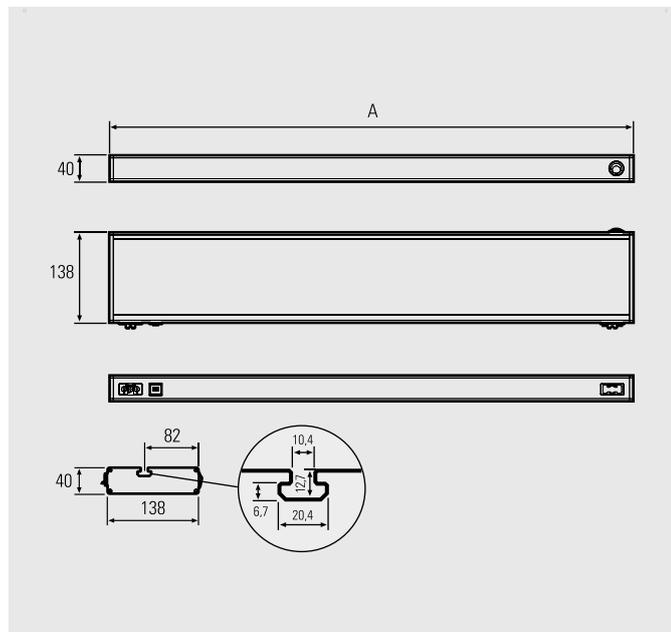
- Permanently installed lighting solution for system workplaces, machines and plants

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		≥93	Natural white 4000K 4500K	Daylight white 	≥85	5200K 5700K	60,000 h (L70/B10)		+50 -10		OPTION		36 months	
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System luminaires | SYSTEMLED

SYSTEMLED 5200–5700K Power	Product no.	Length (A)	Optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
SYSTEMLED, 898 mm, matte cover	141014-01	898 mm	100°	1224 lx	1602 lx	approx. 4784 lm	52 W	220-240V AC
SYSTEMLED, 898 mm, microprism cover	141014-02	898 mm	100°	1437 lx	1925 lx	approx. 4472 lm	52 W	220-240V AC
SYSTEMLED, 472 mm, matte cover	141014-03	472 mm	100°	648 lx	883 lx	approx. 2576 lm	28 W	220-240V AC
SYSTEMLED, 472 mm, microprism covers	141014-04	472 mm	100°	763 lx	1061 lx	approx. 2408 lm	28 W	220-240V AC
SYSTEMLED, 1342 mm, matte cover	141014-05	1342 mm	100°	1676 lx	2100 lx	approx. 7084 lm	77 W	220-240V AC
SYSTEMLED, 1342 mm, microprism cover	141014-06	1342 mm	100°	1958 lx	2513 lx	approx. 6622 lm	77 W	220-240V AC
SYSTEMLED, 1782 mm, matte cover	141014-07	1782 mm	100°	1998 lx	2413 lx	approx. 9200 lm	100 W	220-240V AC
SYSTEMLED, 1782mm, microprism cover	141014-08	1782 mm	100°	2331 lx	2891 lx	approx. 8600 lm	100 W	220-240V AC

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

SYSTEMLED 4000-4500K Power	Product no.	Length (A)	Optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
SYSTEMLED, 898 mm, matte cover	141024-01	898 mm	100°	963 lx	1245 lx	approx. 3803 lm	52 W	220-240V AC
SYSTEMLED, 898 mm, microprism covers	141024-02	898 mm	100°	1154 lx	1526 lx	approx. 3528 lm	52 W	220-240V AC
SYSTEMLED, 472 mm, matte cover	141024-03	472 mm	100°	509 lx	684 lx	approx. 1902 lm	28 W	220-240V AC
SYSTEMLED, 472 mm, microprism covers	141024-04	472 mm	100°	569 lx	777 lx	approx. 1638 lm	28 W	220-240V AC
SYSTEMLED, 1342 mm, matte cover	141024-05	1342 mm	100°	1322 lx	1642 lx	approx. 5705 lm	77 W	220-240V AC
SYSTEMLED, 1342 mm, microprism covers	141024-06	1342 mm	100°	1574 lx	2009 lx	approx. 5292 lm	77 W	220-240V AC
SYSTEMLED, 1782 mm, matte cover	141024-07	1782 mm	100°	1580 lx	1901 lx	approx. 7606 lm	100 W	220-240V AC
SYSTEMLED, 1782 mm, microprism cover	141024-08	1782 mm	100°	1867 lx	2308 lx	approx. 7056 lm	100 W	220-240V AC

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

SYSTEMLED 5200–5700K ECO	Product no.	Length (A)	Optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
SYSTEMLED, 898 mm, matte cover	141014-21	898 mm	100°	624 lx	813 lx	approx. 2548 lm	28 W	220-240V AC
SYSTEMLED, 898 mm, microprism covers	141014-22	898 mm	100°	745 lx	1002 lx	approx. 2380 lm	28 W	220-240V AC
SYSTEMLED, 472 mm, matte cover	141014-23	472 mm	100°	330 lx	448 lx	approx. 1274 lm	14 W	220-240V AC
SYSTEMLED, 472 mm, microprism covers	141014-24	472 mm	100°	396 lx	551 lx	approx. 1190 lm	14 W	220-240V AC
SYSTEMLED, 1342 mm, matte cover	141014-25	1342 mm	100°	854 lx	1068 lx	approx. 3822 lm	42 W	220-240V AC
SYSTEMLED, 1342 mm, microprism covers	141014-26	1342 mm	100°	1003 lx	1263 lx	approx. 3570 lm	42 W	220-240V AC
SYSTEMLED, 1782 mm, matte cover	141014-27	1782 mm	100°	1019 lx	1229 lx	approx. 4732 lm	52 W	220-240V AC
SYSTEMLED, 1782 mm, microprism covers	141014-28	1782 mm	100°	1201 lx	1490 lx	approx. 4420 lm	52 W	220-240V AC

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

SYSTEMLED 4000–4500K ECO	Product no.	Length (A)	Optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
SYSTEMLED, 898 mm, matte cover	141024-21	898 mm	100°	497 lx	642 lx	approx. 1968 lm	28 W	220-240V AC
SYSTEMLED, 898 mm, microprism covers	141024-22	898 mm	100°	584 lx	773 lx	approx. 1812 lm	28 W	220-240V AC
SYSTEMLED, 472 mm, matte cover	141024-23	472 mm	100°	263 lx	353 lx	approx. 985 lm	14 W	220-240V AC
SYSTEMLED, 472 mm, microprism covers	141024-24	472 mm	100°	310 lx	425 lx	approx. 906 lm	14 W	220-240V AC
SYSTEMLED, 1342 mm, matte cover	141024-25	1342 mm	100°	683 lx	848 lx	approx. 2954 lm	42 W	220-240V AC
SYSTEMLED, 1342 mm, microprism covers	141024-26	1342 mm	100°	797 lx	1014 lx	approx. 2718 lm	42 W	220-240V AC
SYSTEMLED, 1782 mm, matte cover	141024-27	1782 mm	100°	816 lx	981 lx	approx. 3938 lm	52 W	220-240V AC
SYSTEMLED, 1782 mm, microprism covers	141024-28	1782 mm	100°	945 lx	1162 lx	approx. 3625 lm	52 W	220-240V AC

* Average and 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	240400-02
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 SYSTEMLEDs 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.





NEW

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 $R_a > 98$. At the same time, the LED luminaire provides homogeneous, shadow-free illumination of the work area.

The Technology

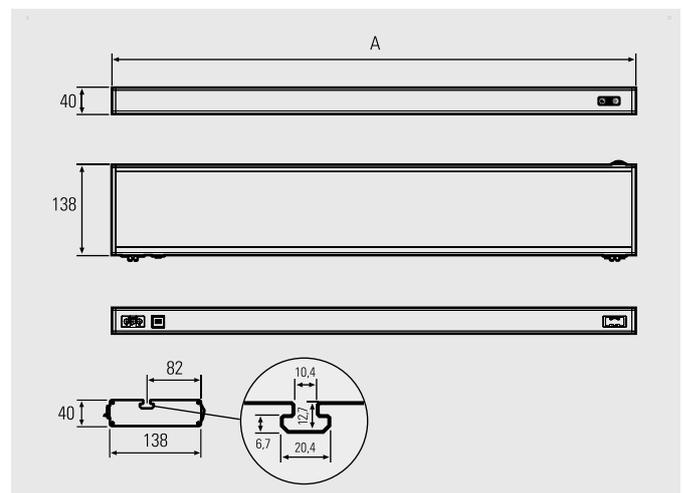
- Opal white, shatter-proof and splinter-proof luminaire cover, optionally also available with a prism cover (greater light scattering)
- Heat dissipation via aluminium base body to the rear
- T-slot mounting slots for stable mounting on walls, ceilings or system workstations
- Flicker-free light without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

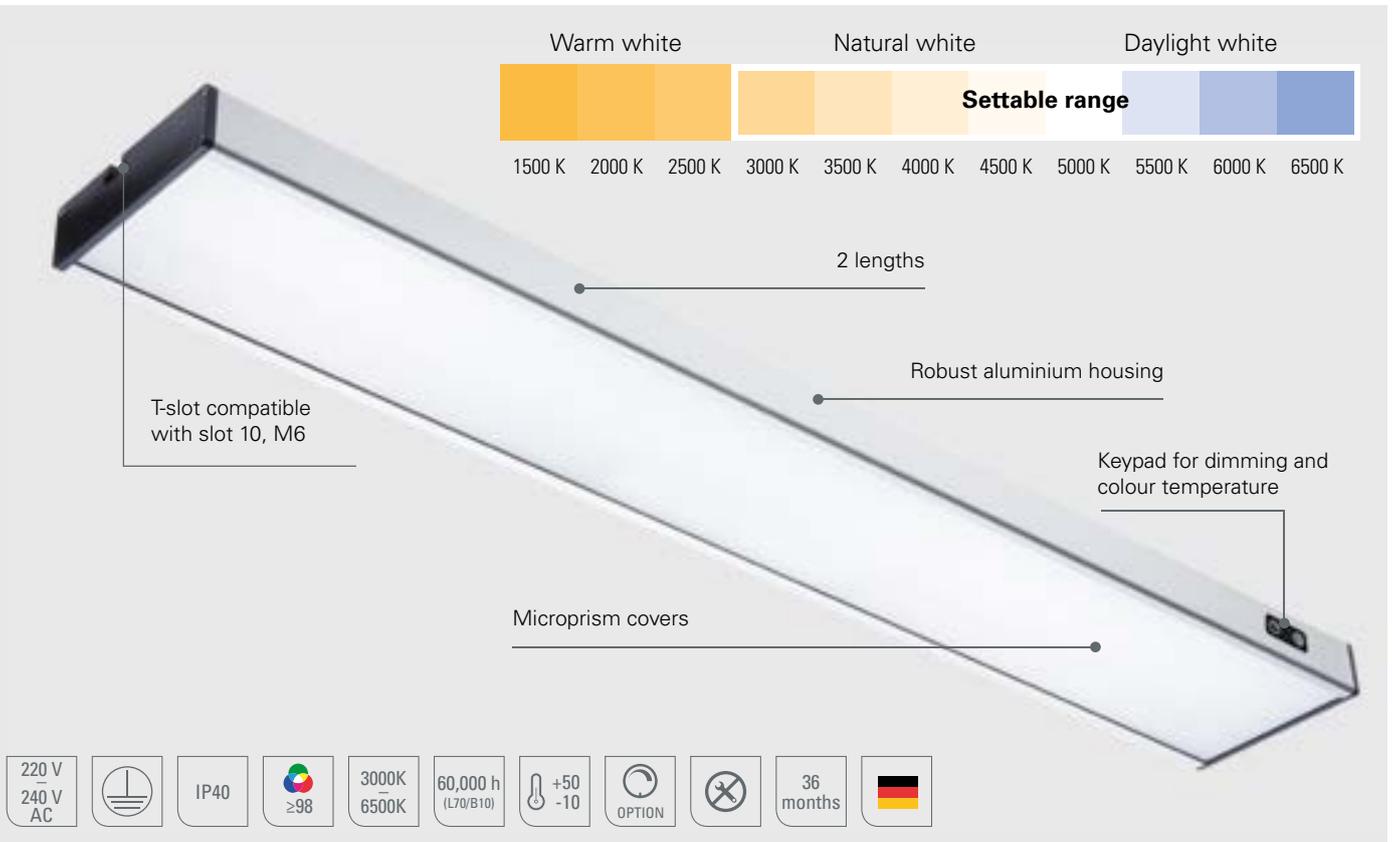
Your benefits

- Colour rendering up to $R_a > 98$. 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 TUNEABLE WHITE	Product no.	Length (A)	Optics	Light colour	E _{average} *	E _{max} *	Luminous flux	Output	Connection
SYSTEMLED TUNABLE WHITE, 898 mm, microprism covers	141004-02	898 mm	100°	3000 K 6500 K	808 lx 924 lx	1075 lx 1228 lx	approx. 2474 lm approx. 2833 lm	49 W	220-240V AC
SYSTEMLED TUNABLE WHITE, 1342 mm, microprism covers	141004-06	1342 mm	100°	3000 K 6500 K	1640 lx 1958 lx	2132 lx 2513 lx	approx. 3464 lm approx. 3966 lm	69 W	220-240V AC

Mounting accessories and connection material as well electric interlinking see SYSTEMLED

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





UNILED SL

Strong, sensitive, pleasant

The UNILED SL creates a pleasant, motivating lighting atmosphere at (system) workplaces. Fitted with a matte disc, it produces a homogeneous, glare-free and shadow-free illumination with high luminous efficacy at the same time. Wherever a system luminaire with 24 V connection and UL / CSA certificate is needed, the UNILED SL is the first choice.

The Technology

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

Your benefits

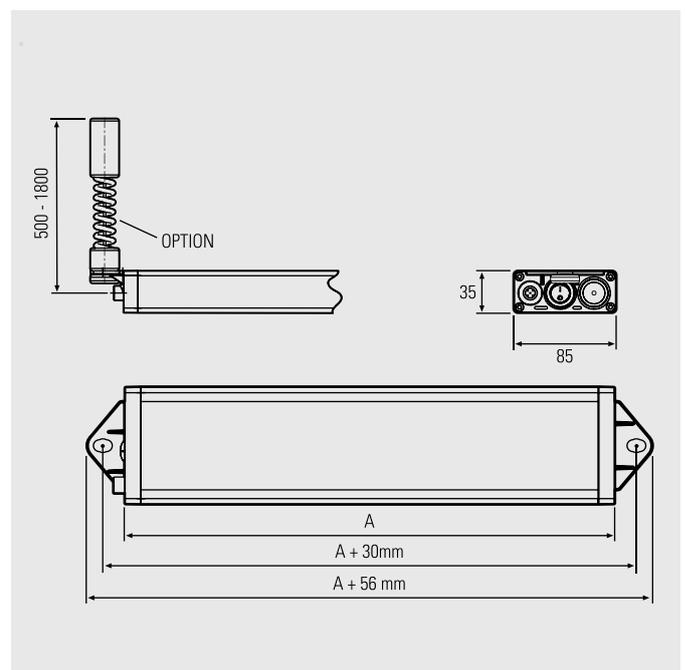
- Creates a pleasant atmosphere through daylight white 5200-5700 K
- Homogeneous, low-shadow, glare-free illumination

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





24V DC, III, IP50, ≥85, 5200K-5700K, 60,000 h (L70/B10), M12, +50/-10, OPTION, 36 months, Germany flag

UNILED SL, 5200–5700 K	Product no.	Length (A)	Optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
UNILED SL cover in opal white	110914-11	295 mm	100°	360 lx	501 lx	approx. 1234 lm	12 W	24V DC
UNILED SL cover in opal white	110914-12	545 mm	100°	706 lx	966 lx	approx. 2468 lm	24 W	24V DC
UNILED SL cover in opal white	110914-13	1045 mm	100°	1308 lx	1705 lx	approx. 4936 lm	48 W	24V DC
UNILED SL cover in opal white	110914-14	1545 mm	100°	1752 lx	2180 lx	approx. 7405 lm	72 W	24V DC
UNILED SL microprism covers	110914-21	295 mm	100°	442 lx	605 lx	approx. 1312 lm	12 W	24V DC
UNILED SL microprism covers	110914-22	545 mm	100°	866 lx	1171 lx	approx. 2626 lm	24 W	24V DC
UNILED SL microprism covers	110914-23	1045 mm	100°	1608 lx	2086 lx	approx. 5252 lm	48 W	24V DC
UNILED SL microprism covers	110914-24	1545 mm	100°	2150 lx	2680 lx	approx. 7879 lm	72 W	24V DC

Power supply, dimmboxes and connection materials, see Accessories

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



Accessories	Product no.
UNILED wall bracket, 1 pair	213200-01
UNILED joint angle, 1 pair	213200-02
UNILED SL draw bar 1 pair	213300-01
IMPORTANT: (Special design) power supply 210100-06/-07 required for 230 V. Please order separately	
Dimming with switch (special design - installed in the luminaire when the order is placed)	999999-10

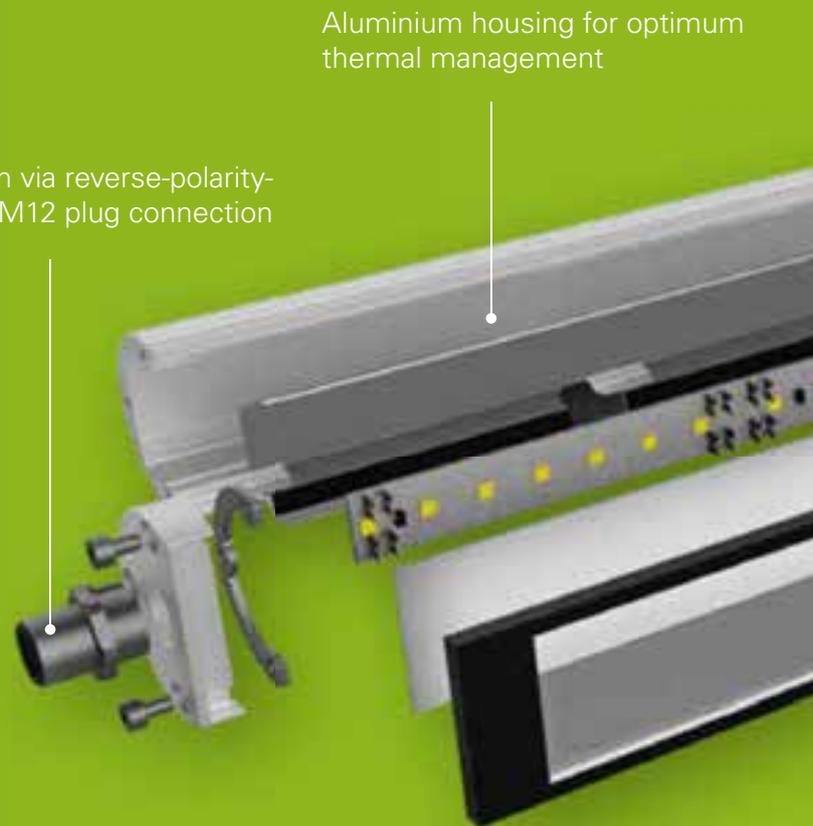


213300-01

213200-01

213200-02

LED machinery lighting



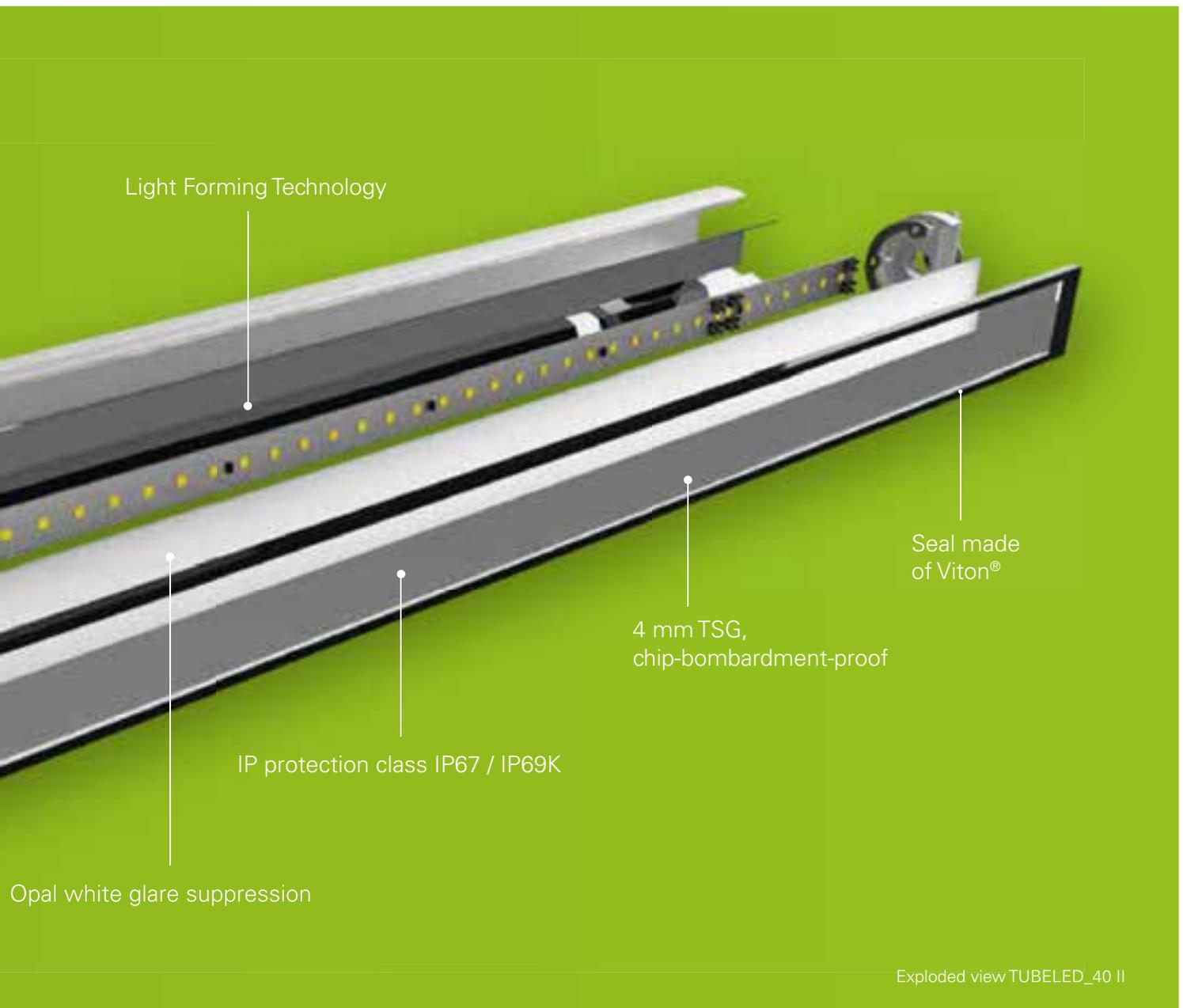
Aluminium housing for optimum thermal management

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; $R_a \geq 80 / \geq 85$)



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 TSG is bonded solidly to the aluminium housing. The supplied FKM seal (Viton®) ensures tightness between the luminaire and the machine enclosure. Indestructibility in perfection.

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

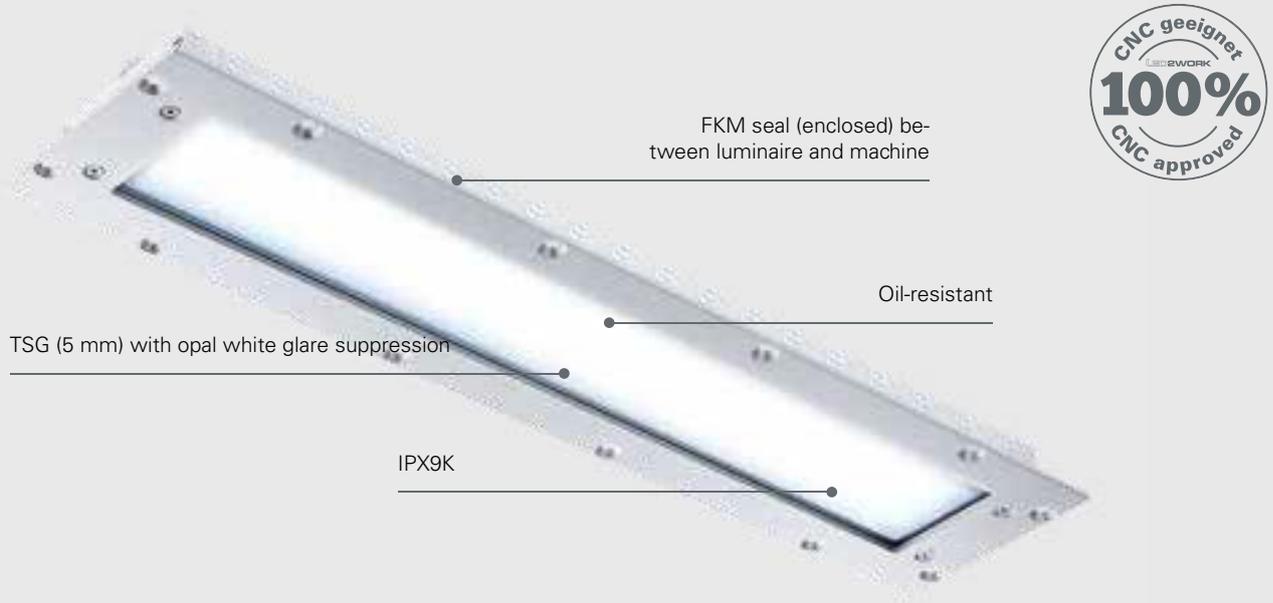
- Light emission across the entire area of the light
- Wide-angle, homogeneous illumination, flicker-free without UV and IR component
- No accumulation of chips on and at the luminaire
- Permanent luminous efficacy as no oil or coolant burns into the glass

Areas of application

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

Designs

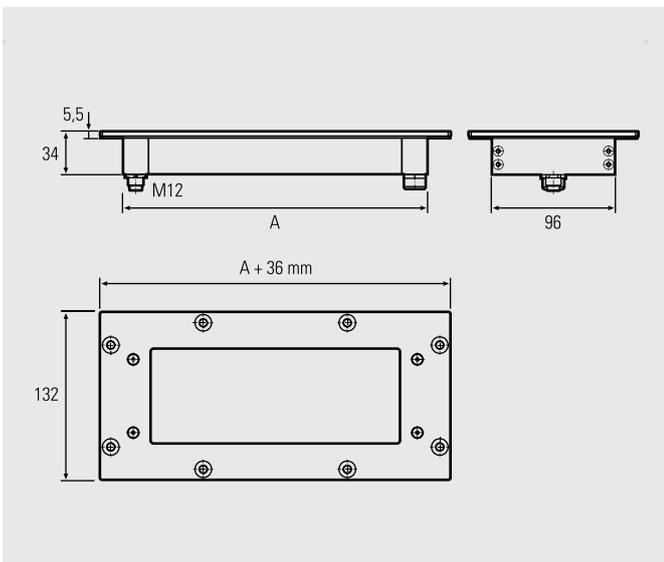
- 4 lengths available (300 mm, 560 mm, 810 mm, 1060 mm)
- Mounting using M6 countersunk screws



FIELDLED recessed luminaire, 5200–5700K	Product no.	Length (A)	Optics	$E_{average}^*$	E_{max}^*	Luminous flux	Output	Connection
FIELDLED II Integrated version	113010-11	300 mm	120°	699 lx	1004 lx	approx. 1800 lm	20 W	24V DC
FIELDLED II Integrated version	113110-11	560 mm	120°	1196 lx	1673 lx	approx. 3240 lm	36 W	24V DC
FIELDLED II Integrated version	113210-11	810 mm	120°	1687 lx	2247 lx	approx. 5040 lm	56 W	24V DC
FIELDLED II Integrated version	113310-11	1060 mm	120°	2091 lx	2679 lx	approx. 6480 lm	72 W	24V DC

Power supply, dimmboxes and connection materials, see Accessories

* Average and 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

- 4 mm TSG 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 V4A stainless steel version in OEM program

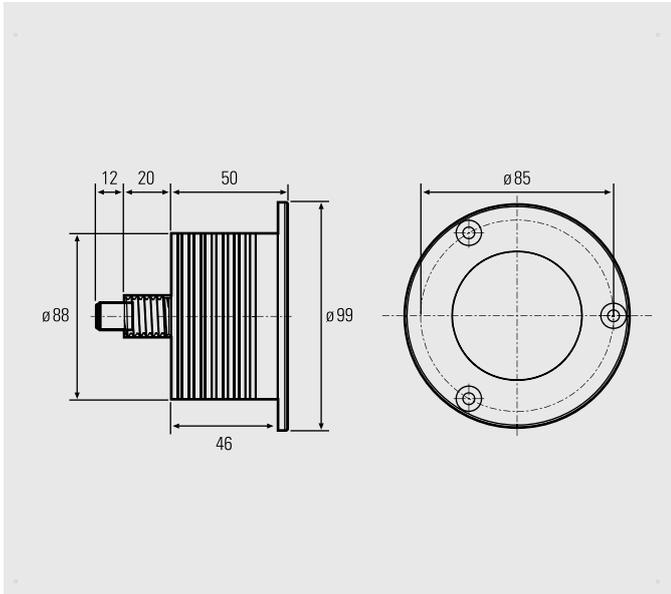


24V DC III 16° 25° 40° IP67 100% CNC ≥80 5200K-5700K 50,000 h (L70/B10) M12 +40/-10 OPTION 36 months Germany

SPOTLED II recessed luminaire, 5200-5700K	Product no.	Optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
SPOTLED II Integrated version Spot	111111-12	16°	688 lx	5382 lx	approx. 765 lm	8.5 W	24V DC
SPOTLED II Integrated version Medium	111112-12	25°	557 lx	2349 lx	approx. 689 lm	8.5 W	24V DC
SPOTLED II Integrated version Wide	111113-12	40°	508 lx	1498 lx	approx. 680 lm	8.5 W	24V DC

Power supply, dimmboxes and connection materials, see Accessories

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





The recessed installation version of the VARILED is used for the initial equipment or retrofitting of machines and plants. The LED luminaire is very compact, flat and robust. The LED luminaire is resistant to coolant as well as chip-bombardment, it is oil-resistant and has a high degree of protection IP67. Its absolute strength is the homogeneous and low-glare illumination of a working area, for example in a processing machine.

The Technology

- Robust aluminium base body with frosted 3 mm TSG cover
- Rear heat dissipation – no burn-in of coolant
- Seamless sealing on the installation surface by FKM seal (Viton®) inserted in the slot
- Connection via M12 plug connector on rear side

Your benefits

- Flat and space-saving installation
- Minimal interfering edges – no contact surface for chip nests

Areas of application

- Machines or working environments with very little space
- Lathes, drilling, milling and grinding machines
- Injection moulding machines, extruders and blow moulding machines

Designs

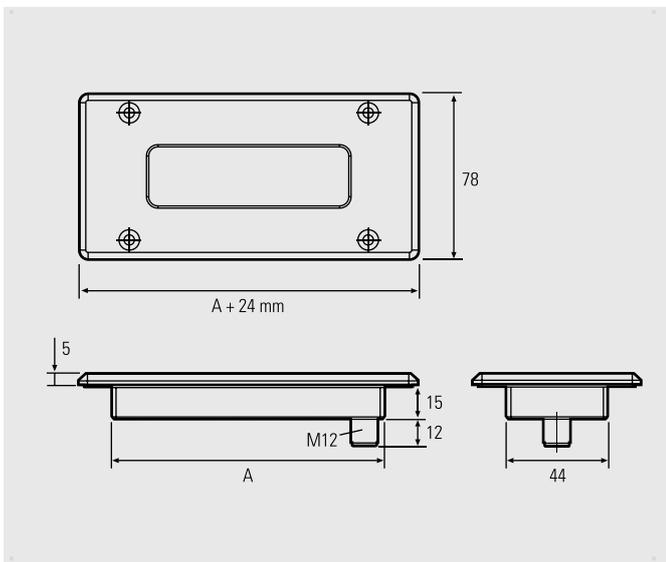
- 2 length sizes: 100 mm, 165 mm (more lengths upon request)
- External dimming possible
- Also available in V4A stainless steel version in the OEM program



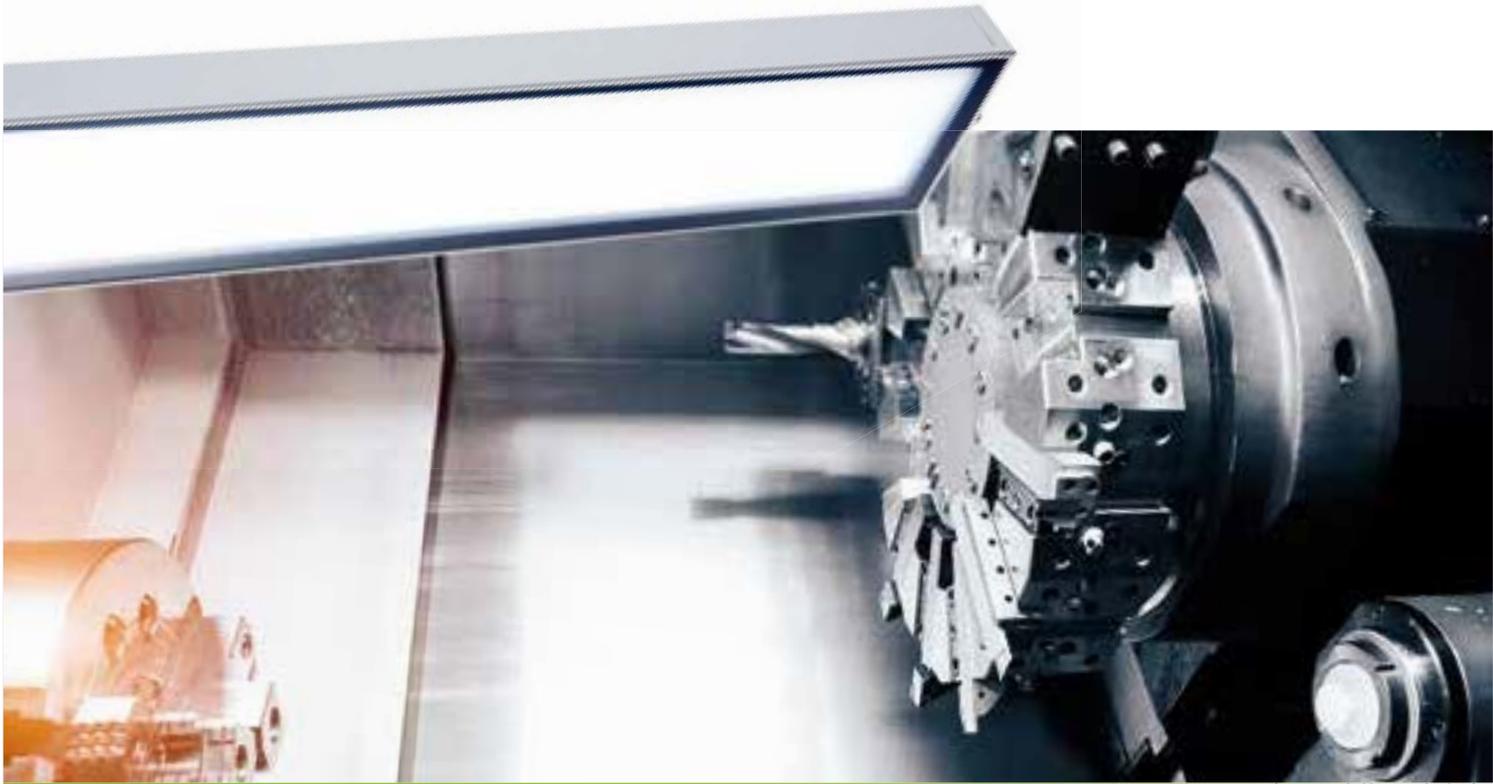
VARILED recessed luminaire, 5200–5700K	Product no.	A	Optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
VARILED Integrated version	112010-11	100 mm	120°	70 lx	96 lx	approx. 280 lm	4 W	24V DC
VARILED Integrated version	112110-11	165 mm	120°	142 lx	197 lx	approx. 560 lm	8 W	24V DC

Delivery incl. FKM seal
 Power supply units, dimmboxes and connection material see Accessories

* Average and maximum lighting intensities, measuring area 100 cm x 100 cm at a distance of 100 cm



Surface-mounted luminaires | FIELDLED II



FIELDLED II

Bright, indestructible, unobtrusive

The FIELDLED II is designed for harsh production environments. Oil, water, chips and coolant cannot harm the LED luminaire. The frosted safety glass firmly glued to the aluminium housing provides the necessary IP degree of protection. Indestructibility in perfection.

The Technology

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

Your benefits

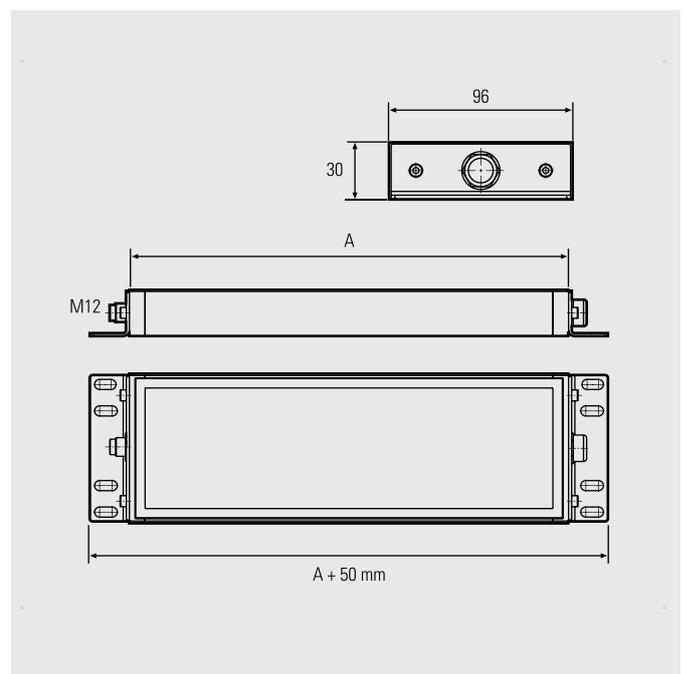
- Light emission across the entire area of the light
- Wide-angle, homogeneous illumination, flicker-free without UV and IR component
- Oil-resistant and chip bombardment-proof
- Permanent luminous efficacy as no oil or coolant burns into the glass

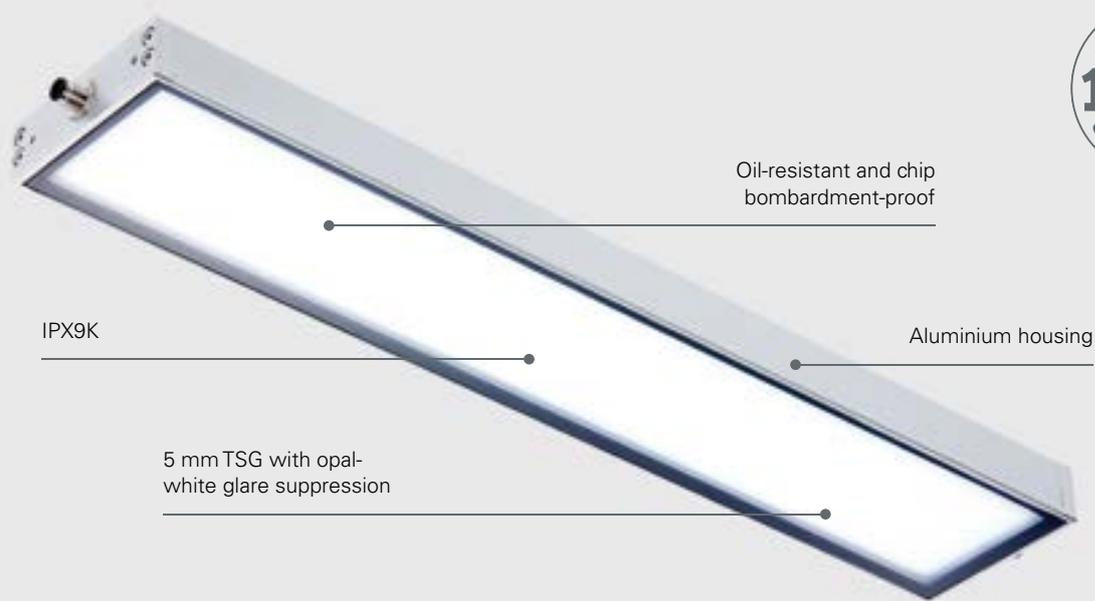
Areas of application

- 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 Mounting version, 5200–5700K	Product no.	Length (A)	Optics	$E_{average}^*$	E_{max}^*	Luminous flux	Output	Connection
FIELDLED II Mounting version	113010-01	280 mm	120°	699 lx	1004 lx	approx. 1800 lm	20 W	24V DC
FIELDLED II Mounting version	113110-01	540 mm	120°	1196 lx	1673 lx	approx. 3240 lm	36 W	24V DC
FIELDLED II Mounting version	113210-01	790 mm	120°	1687 lx	2247 lx	approx. 5040 lm	56 W	24V DC
FIELDLED II Mounting version	113310-01	1040 mm	120°	2091 lx	2679 lx	approx. 6480 lm	72 W	24V DC

Delivery incl. V2A luminaire holder, 1 pair, power supply, dimmer switch and connection materials, see Accessories

/>* Average and 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





LEANLED

Slender, very bright, can be interlinked electrically

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

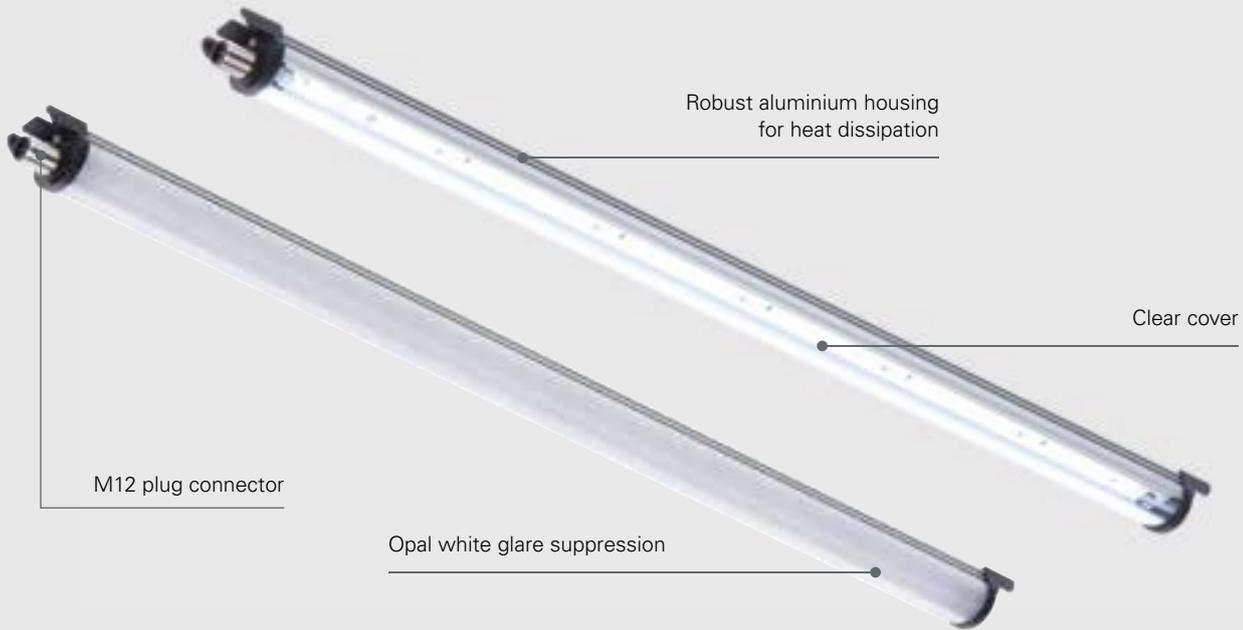
- Uniform, flicker-free illumination
- Very bright LED luminaire
- Homogeneous illumination with opal white glare suppression
- Cascadable, i.e. electrically interlinkable versions – thus simple power supply of several luminaires with one supply cable.

Areas of application

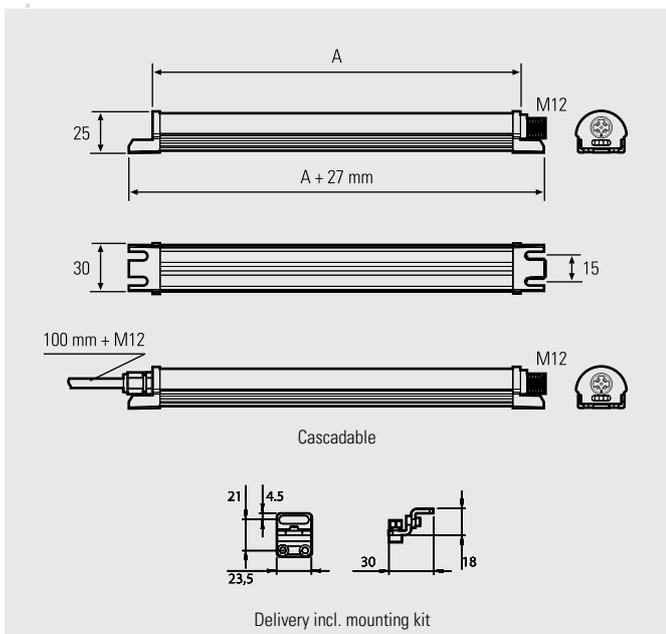
- For machines and plants with very little space
- Automatic machines, bending machines, punching machines, conveyor belts
- Logistics and many other applications

Designs

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



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Surface-mounted luminaires | LEANLED

LEANLED, 5200–5700K	Product no.	Length (A)	Optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
LEANLED, clear cover	110814-01	260 mm	120°	192 lx	252 lx	approx. 800 lm	7 W	24V DC
LEANLED, clear cover	110814-02	520 mm	120°	378 lx	493 lx	approx. 1500 lm	13 W	24V DC
LEANLED, clear cover	110814-05	1020 mm	120°	704 lx	884 lx	approx. 3000 lm	26 W	24V DC
LEANLED, clear cover	110814-06	1520 mm	120°	953 lx	1151 lx	approx. 4500 lm	39 W	24V DC
LEANLED, opal-white glare suppression	110814-11	260 mm	120°	113 lx	149 lx	approx. 680 lm	7 W	24V DC
LEANLED, opal-white glare suppression	110814-12	520 mm	120°	223 lx	291 lx	approx. 1260 lm	13 W	24V DC
LEANLED, opal-white glare suppression	110814-15	1020 mm	120°	414 lx	519 lx	approx. 2520 lm	26 W	24V DC
LEANLED, opal-white glare suppression	110814-16	1520 mm	120°	559 lx	673 lx	approx. 3780 lm	39 W	24V DC

Delivery incl. mounting kit V4A (1 pair V2A bracket for pivotable mounting)
Power supply units and connection material see Accessories

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

LEANLED, cascadable, 5200–5700K	Product no.	Length (A)	Optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
LEANLED, clear cover	110814-21	260 mm	120°	192 lx	252 lx	approx. 800 lm	7 W	24V DC
LEANLED, clear cover	110814-22	520 mm	120°	378 lx	493 lx	approx. 1500 lm	13 W	24V DC
LEANLED, clear cover	110814-25	1020 mm	120°	704 lx	884 lx	approx. 3000 lm	26 W	24V DC
LEANLED, clear cover	110814-26	1520 mm	120°	953 lx	1151 lx	approx. 4500 lm	39 W	24V DC
LEANLED, opal-white glare suppression	110814-31	260 mm	120°	113 lx	149 lx	approx. 680 lm	7 W	24V DC
LEANLED, opal-white glare suppression	110814-32	520 mm	120°	223 lx	291 lx	approx. 1260 lm	13 W	24V DC
LEANLED, opal-white glare suppression	110814-35	1020 mm	120°	414 lx	519 lx	approx. 2520 lm	26 W	24V DC
LEANLED, opal-white glare suppression	110814-36	1520 mm	120°	559 lx	673 lx	approx. 3780 lm	39 W	24V DC

Delivery incl. mounting kit V4A (1 pair V2A bracket for pivotable mounting)
Power supply units, dimmboxes and connection material see Accessories

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

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

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 TSG 4 mm
- 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

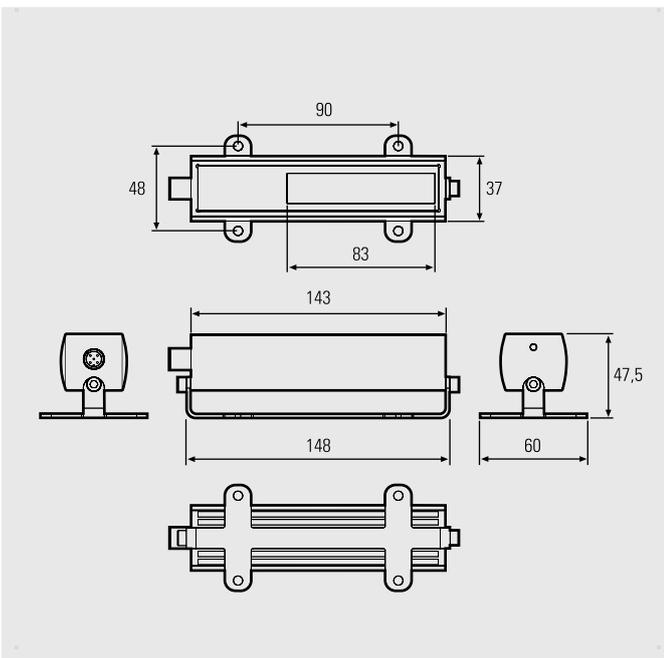
- Very compact LED luminaire for fixture using the mounting bracket made of stainless steel, adjustable at an angle of $\pm 30^\circ$



MIDILED, 5200–5700K	Product no.	Optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
MIDILED	110614-01	120°	181 lx	248 lx	approx. 609 lm	7 W	24V DC

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

* Average and 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 TSG 4 mm
- 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



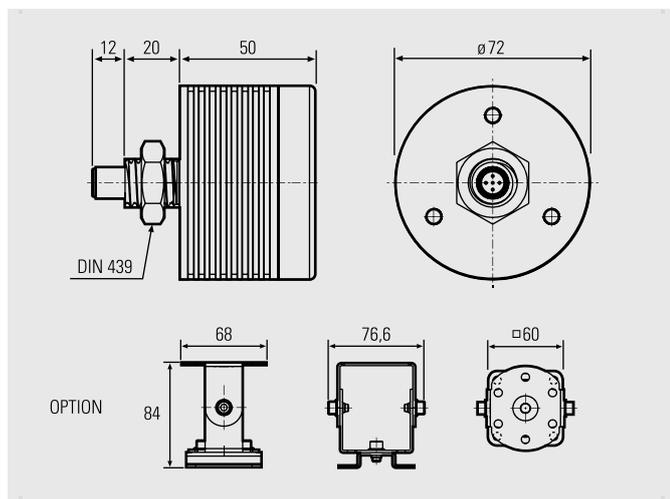
24V DC		16°	25°	40°	IP67	100 % CNC	≥80	5200K 5700K	50,000 h (L70/B10)	M12	+40 -10	OPTION		36 months	
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SPOTLED II Mounting version, 5200–5700K	Product no.	Optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
SPOTLED II Mounting version Spot	111111-11	16°	688 lx	5382 lx	approx. 765 lm	8.5 W	24V DC
SPOTLED II Mounting version Medium	111112-11	25°	557 lx	2349 lx	approx. 689 lm	8.5 W	24V DC
SPOTLED II Mounting version Wide	111113-11	40°	508 lx	1498 lx	approx. 680 lm	8.5 W	24V DC

Power supply, dimmboxes and connection materials, see Accessories

* Average and 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 luminaires	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

- 4 mm TSG: 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

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

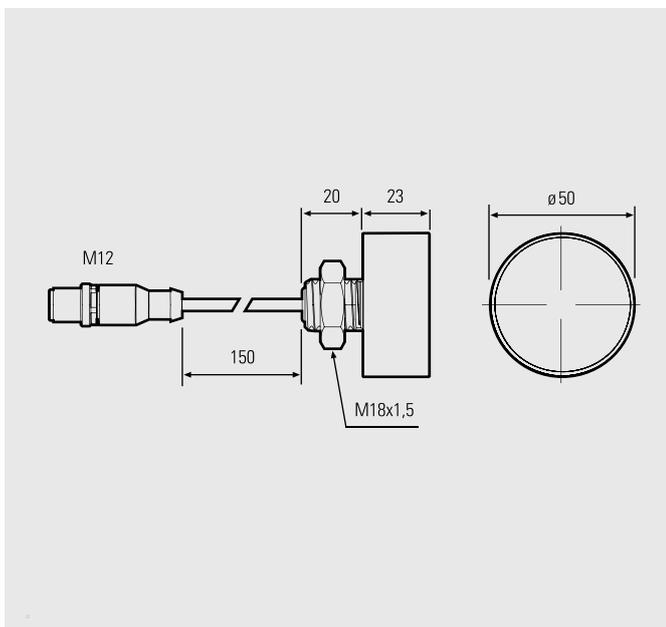


TOPLED Mounted version, 5200-5700K	Product no.	Diameter	Optics	E _{max} *	Luminous flux	Output	Connection
TOPLED Mounting version	111913-01	50 mm	40°	800 lx	approx. 680 lm	8.5 W	24V DC

Power supply, dimmboxes and connection materials, see Accessories

* Average and 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.





TUBELED_40 II

Strikingly inconspicuous, varied

Narrow installation space with simultaneously rough production conditions and temperatures up to + 60° C – the TUBELED_40 II can do this like no other. With a luminaire diameter of only 40 mm and 7 available lengths, the slender LED luminaire is truly an all-rounder.

The Technology

- Heat dissipation using aluminium extruded profile to the rear – no burn-in of coolant
- Crack-proof, 4 mm thick TSG
- 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)
- 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
- Power versions with optimised luminous flux and ECO versions with optimised performance
- Variants for electrical interlinking (cascadable)
- Mounting via separately available mounting accessories

Space-saving geometry

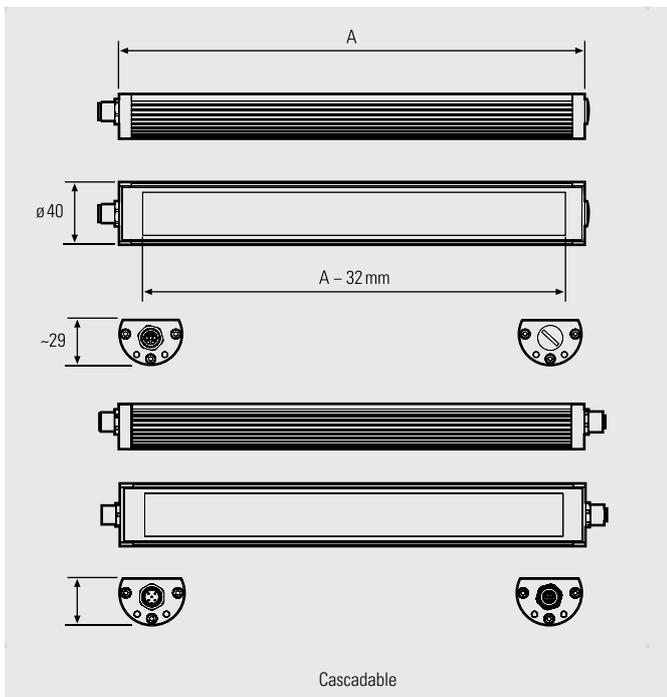
Robust aluminium housing

4 mm TSG with opal-white glare suppression

Liquid-tight and temperature-resistant

CNC geeignet
LED2WORK
100%
CNC approved

24V DC	III	IP67/ IP69K	100 % CNC	≥85	5200K - 5700K	60,000 h (L70/B10)	M12	POWER version +40 -30	ECO- version +60 -30	OPTION			36 months	
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Surface-mounted luminaires | TUBELED_40 II

TUBELED_40 II	Product no.	Length (A)	Optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
TUBELED_40 II Power	118010-01	190 mm	100°	291 lx	415 lx	approx. 861 lm	8 W	24V DC
TUBELED_40 II Power	118110-01	280 mm	100°	435 lx	617 lx	approx. 1291 lm	12 W	24V DC
TUBELED_40 II Power	118210-01	365 mm	100°	576 lx	815 lx	approx. 1722 lm	16 W	24V DC
TUBELED_40 II Power	118310-01	540 mm	100°	850 lx	1184 lx	approx. 2582 lm	24 W	24V DC
TUBELED_40 II Power	118410-01	715 mm	100°	1107 lx	1514 lx	approx. 3443 lm	32 W	24V DC
TUBELED_40 II Power	118510-01	1040 mm	100°	1560 lx	2049 lx	approx. 5165 lm	48 W	24V DC
TUBELED_40 II Power	118610-01	1540 mm	100°	2058 lx	2553 lx	approx. 7747 lm	72 W	24V DC
TUBELED_40 II ECO	118010-02	190 mm	100°	175 lx	250 lx	approx. 459 lm	4 W	24V DC
TUBELED_40 II ECO	118110-02	280 mm	100°	261 lx	371 lx	approx. 688 lm	6 W	24V DC
TUBELED_40 II ECO	118210-02	365 mm	100°	346 lx	489 lx	approx. 975 lm	8.5 W	24V DC
TUBELED_40 II ECO	118310-02	540 mm	100°	511 lx	711 lx	approx. 1491 lm	13 W	24V DC
TUBELED_40 II ECO	118410-02	715 mm	100°	665 lx	909 lx	approx. 1950 lm	17 W	24V DC
TUBELED_40 II ECO	118510-02	1040 mm	100°	938 lx	1233 lx	approx. 2753 lm	24 W	24V DC
TUBELED_40 II ECO	118610-02	1540 mm	100°	1238 lx	1539 lx	approx. 4359 lm	38 W	24V DC

Fastening accessories, power supply and connection materials, see Accessories

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

TUBELED_40 II, cascadable	Product no.	Length (A)	Optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
TUBELED_40 II Power	118010-11	190 mm	100°	291 lx	415 lx	approx. 861 lm	8 W	24V DC
TUBELED_40 II Power	118110-11	280 mm	100°	435 lx	617 lx	approx. 1291 lm	12 W	24V DC
TUBELED_40 II Power	118210-11	365 mm	100°	576 lx	815 lx	approx. 1722 lm	16 W	24V DC
TUBELED_40 II Power	118310-11	540 mm	100°	850 lx	1184 lx	approx. 2582 lm	24 W	24V DC
TUBELED_40 II Power	118410-11	715 mm	100°	1107 lx	1514 lx	approx. 3443 lm	32 W	24V DC
TUBELED_40 II Power	118510-11	1040 mm	100°	1560 lx	2049 lx	approx. 5165 lm	48 W	24V DC
TUBELED_40 II Power	118610-11	1540 mm	100°	2058 lx	2553 lx	approx. 7747 lm	72 W	24V DC
TUBELED_40 II ECO	118010-12	190 mm	100°	175 lx	250 lx	approx. 459 lm	4 W	24V DC
TUBELED_40 II ECO	118110-12	280 mm	100°	261 lx	371 lx	approx. 688 lm	6 W	24V DC
TUBELED_40 II ECO	118210-12	365 mm	100°	346 lx	489 lx	approx. 975 lm	8.5 W	24V DC
TUBELED_40 II ECO	118310-12	540 mm	100°	511 lx	711 lx	approx. 1491 lm	13 W	24V DC
TUBELED_40 II ECO	118410-12	715 mm	100°	665 lx	909 lx	approx. 1950 lm	17 W	24V DC
TUBELED_40 II ECO	118510-12	1040 mm	100°	938 lx	1233 lx	approx. 2753 lm	24 W	24V DC
TUBELED_40 II ECO	118610-12	1540 mm	100°	1238 lx	1539 lx	approx. 4359 lm	38 W	24V DC

Fastening accessories, power supply and connection materials, see Accessories

* Average and 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





TUBELED_40 II M40x1.5 for mounting inside the machine housing

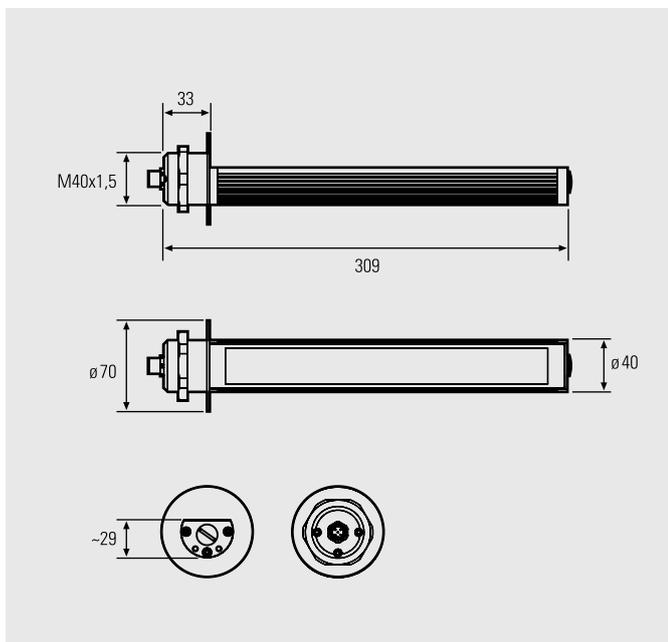


24V DC	III	IP67/ IP69K	100 % CNC	≥85	5200K - 5700K	60,000 h (L70/B10)	M12	POWER version +40 -30	ECO- version +60 -30	OPTION			36 months	
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TUBELED_40 II M40x1.5	Product no.	Length	Optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
TUBELED_40 II M40x1.5 Power	118110-03	309 mm	100°	435 lx	617 lx	approx. 1291 lm	12 W	24V DC
TUBELED_40 II M40x1.5 ECO	118110-04	309 mm	100°	261 lx	371 lx	approx. 688 lm	6 W	24V DC

Power supply, dimmboxes and connection materials, see Accessories

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





TUBELED_70

Temperature-resistant, proven, versatile

The TUBELED_70 is the LED machine luminaire par excellence. The LED luminaire fits exactly into the holders of conventional tube luminaires on older machine tools, which allows a very fast 1:1 exchange against the previous $\varnothing 70$ mm luminaire. Even use in upper temperature ranges (+ 55 °C at 24 V and + 50 °C at 230 V) does not affect the service life of the TUBELED_70.

The Technology

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

■

Your benefits

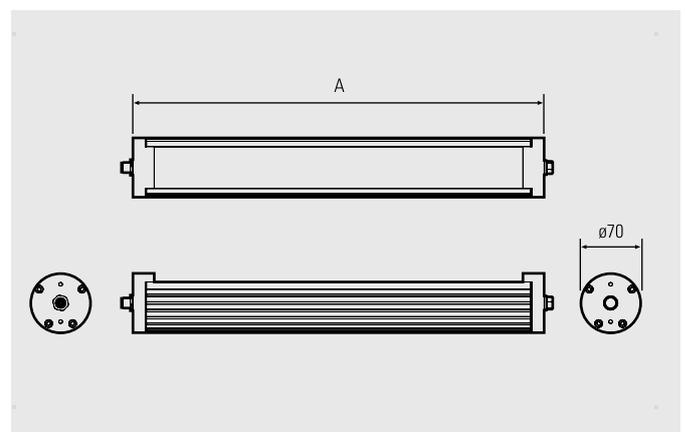
- Concentrated light (60° variant) or wide spread light (100° variant) – individual optics possible on request
- Flicker-free without UV and IR components
- Quick and easy upgrading or retrofitting

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	Product no.	Length (A)	Optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
TUBELED_70	110310-01	300 mm	100°	365 lx	522 lx	approx. 1000 lm	15 W	24V DC
TUBELED_70	110314-01	300 mm	60°	750 lx	1455 lx	approx. 1216 lm	14 W	24V DC
TUBELED_70	110410-02	560 mm	100°	709 lx	1005 lx	approx. 2000 lm	27 W	24V DC
TUBELED_70	110414-02	560 mm	60°	1460 lx	2720 lx	approx. 2432 lm	27 W	24V DC
TUBELED_70	110510-02	1100 mm	100°	1266 lx	1695 lx	approx. 4000 lm	54 W	24V DC
TUBELED_70	110514-02	1100 mm	60°	2578 lx	4173 lx	approx. 4864 lm	54 W	24V DC
TUBELED_70	110710-02	1580 mm	100°	1643 lx	2047 lx	approx. 6000 lm	80 W	24V DC
TUBELED_70	110714-02	1580 mm	60°	3253 lx	4762 lx	approx. 7296 lm	81 W	24V DC

Power supply, 110-240V exclusive, fastening parts, power supply, dimmboxes and connection materials, see Accessories

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

TUBELED_70 – 220-240V AC	Product no.	Length (A)	Optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
TUBELED_70	110310-11	300 mm	100°	365 lx	522 lx	approx. 1000 lm	17 W	220-240V AC
TUBELED_70	110314-11	300 mm	60°	750 lx	1455 lx	approx. 1216 lm	17 W	220-240V AC
TUBELED_70	110410-12	560 mm	100°	709 lx	1005 lx	approx. 2000 lm	31 W	220-240V AC
TUBELED_70	110414-12	560 mm	60°	1460 lx	2720 lx	approx. 2432 lm	31 W	220-240V AC
TUBELED_70	110510-12	1100 mm	100°	1266 lx	1695 lx	approx. 4000 lm	62 W	220-240V AC
TUBELED_70	110514-12	1100 mm	60°	2578 lx	4173 lx	approx. 4864 lm	62 W	220-240V AC
TUBELED_70	110710-12	1580 mm	100°	1643 lx	2047 lx	approx. 6000 lm	93 W	220-240V AC
TUBELED_70	110714-12	1580 mm	60°	3253 lx	4762 lx	approx. 7296 lm	93 W	220-240V AC

Fastening accessories and connection materials, see Accessories

* Average and 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



VARILED
Flat, robust, IP68

The VARILED in the surface-mounted version is for the initial equipping or retrofitting of the lighting of machines and plants. The LED luminaire is very compact, flat and robust. The high protection class IP68 certifies its resistance to many media. Its advantage is a homogeneous and glare-free illumination, in a strength not to be expected from such a compact luminaire.

The Technology

- Milled aluminium base body, black anodised
- Glare-free PUR coating and heat dissipation to the rear
- 3 m connecting cable with M12 plug connector

Your benefits

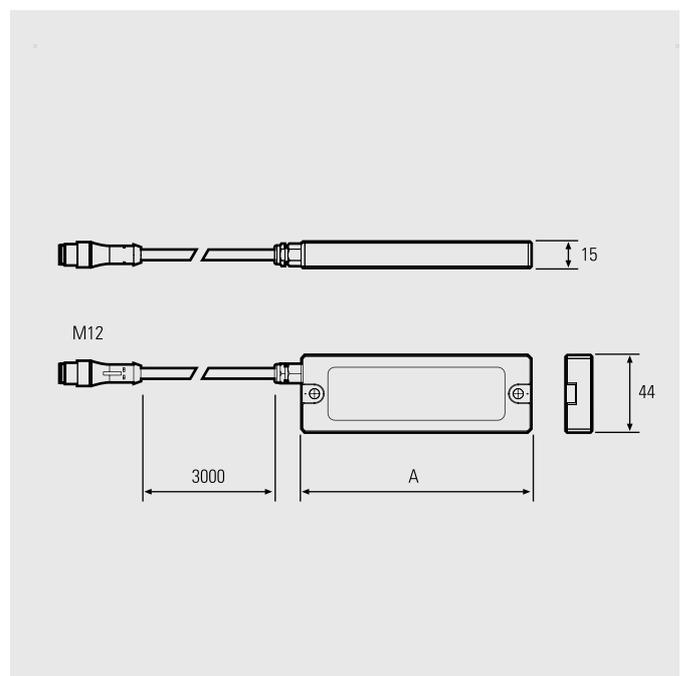
- Homogeneous, glare-free illumination
- Very flat and space-saving structure

Areas of application

- For workplaces with limited space
- Injection moulding machines, extruders and blow moulding machines

Designs/installation

- 3 lengths: 100 mm, 167 mm, 233 mm (more lengths upon request)
- Direct fastening with screws M5 on the housing or using optional holders
- Also available in V4A stainless steel version in OEM program





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VARILED Mounting version, 5200K-5700K	Product no.	Length (A)	Optics	$E_{average}^*$	E_{max}^*	Luminous flux	Output	Connection
VARILED Mounting version	112010-01	100 mm	120°	57 lx	76 lx	approx. 280 lm	4 W	24V DC
VARILED Mounting version	112110-01	167 mm	120°	117 lx	157 lx	approx. 560 lm	8 W	24V DC
VARILED Mounting version	112210-01	233 mm	120°	171 lx	227 lx	approx. 840 lm	12 W	24V DC

Power supply, dimmboxes and connection materials, see Accessories

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

CAUTION: Permanent exposure to aggressive oils and coolant can damage the PUR coating.

Accessories	Product no.
VARILED Magnetic holder, 1 pair	210200-05

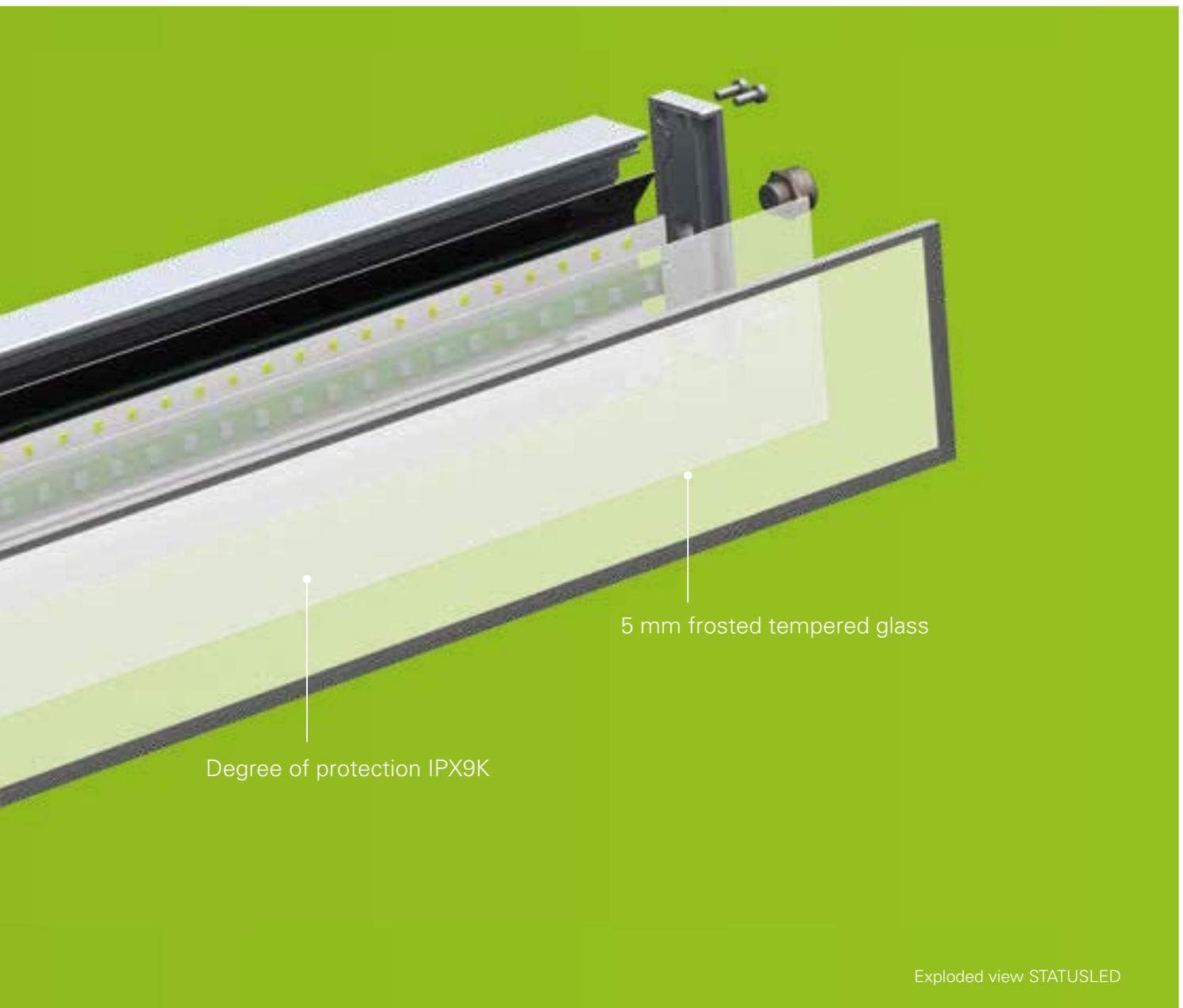


210200-05

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.



Exploded view STATUSLED

Key data of our signal luminaires

- High visibility thanks to bright LED technology and large-surface display
- Completely maintenance-free
- Circuit-independent service life approx. 60,000 operating hours L70/B10
- Protection class III
- 36 months warranty
- Space-saving design due to thin LED chip panels.
This allows easy installation even in confined spaces



SIGNALED RGB

One luminaire, all colours, clear information

The SIGNALED RGB signals a coloured light uniformly over its entire surface. This creates a clear and visible attention and security that is visible from afar. Depending on the control and desired signal effect, all colour tones of the RGB colour spectrum can be generated. The LED signal luminaire has the IP54 degree of protection and can be used in almost any machine room without chip bombardment or coolant. A polycarbonate cover protects the LED chips from dust and splash water.

The Technology

- Colour changes can signal different states of machines and systems
- Control of the LED chips by the PLC control of the machine or plant
- Red, green, blue: Mixed colours are generated by simultaneous activation of PINs on M12 plug connection
- Opal white cover, breakage and splinter-free, Protection against moisture and dust

Your benefits

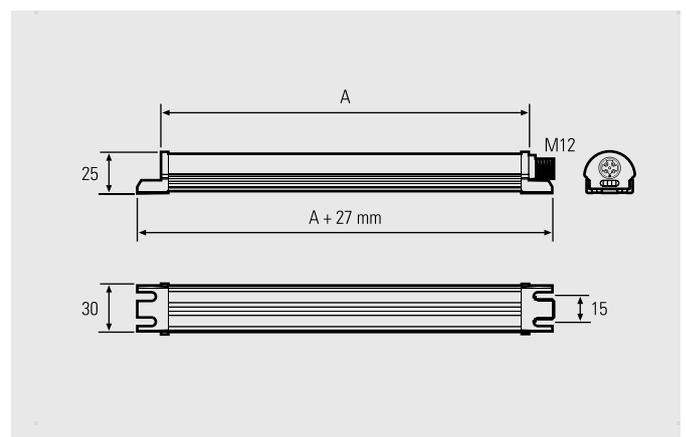
- Colours from the RGB colour spectrum can be selected for signalling
- Very bright and flicker-free

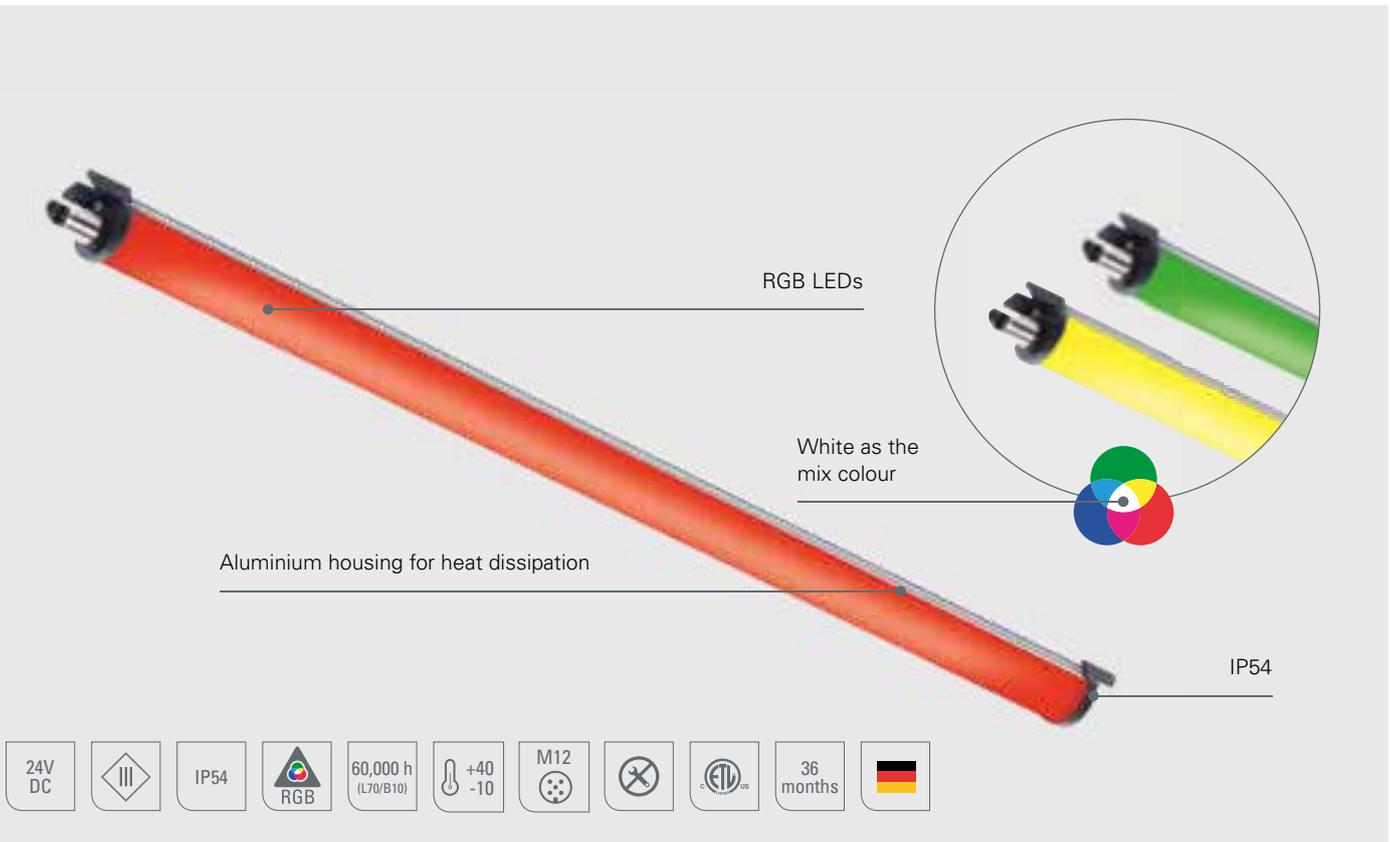
Areas of application

- As signal function for machines and plants without chip bombardment or coolant and with very limited space
- Bending machines, automatic punching machines, conveyors or belts, logistics workstations and automation

Designs/installation

- 4 lengths: 280 mm, 520 mm, 1020 mm, 1520 mm
- Mounting options: Mounting bracket or optionally via M 5 + sliding stones in T-slot, spring clamp or spring clamp with magnet





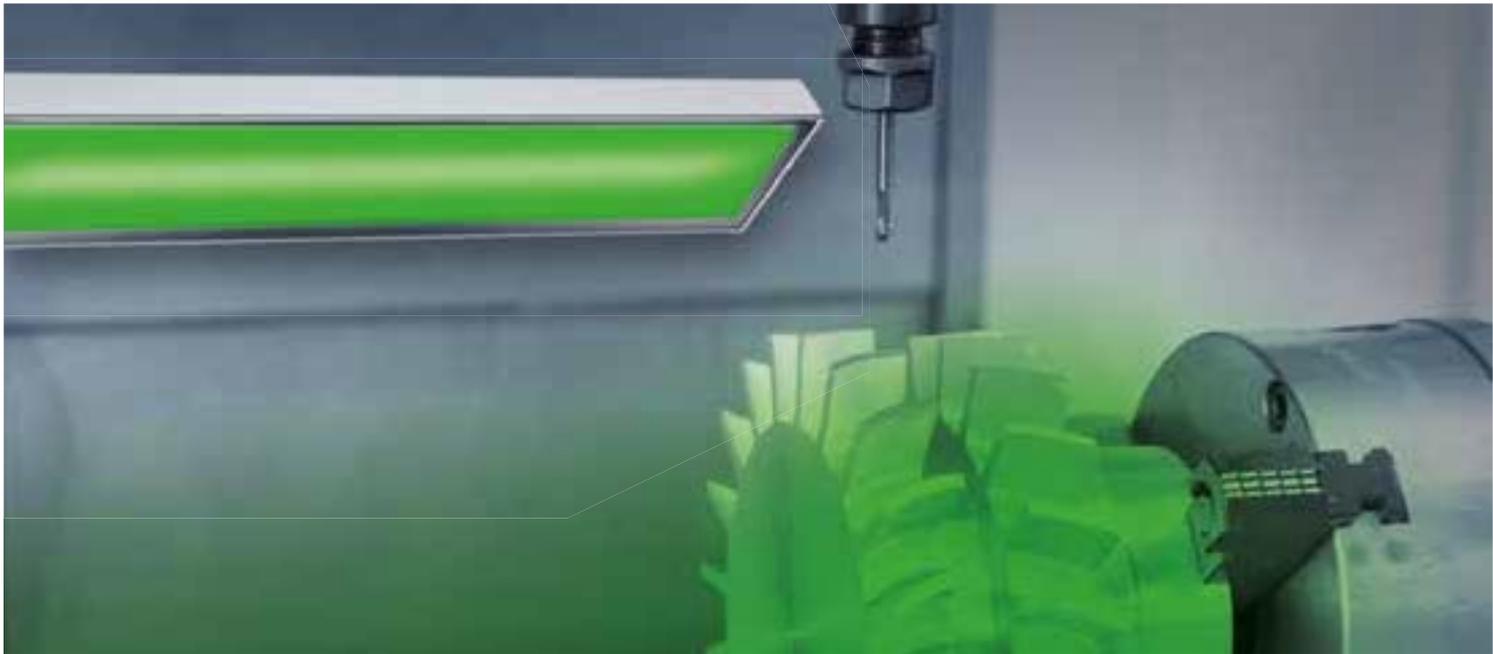
SIGNALLED RGB	Product no.	Length (A)	Optics	Luminous flux [R]	Luminous flux [G]	Luminous flux [B]	Output per colour	Connection
SIGNALLED RGB	110890-11	260 mm	120°	80 lm	117 lm	37 lm	2.64 W	24V DC
SIGNALLED RGB	110890-12	520 mm	120°	160 lm	234 lm	74 lm	5.28 W	24V DC
SIGNALLED RGB	110890-13	1020 mm	120°	320 lm	468 lm	148 lm	10.56 W	24V DC
SIGNALLED RGB	110890-14	1520 mm	120°	480 lm	702 lm	222 lm	15.84 W	24V DC

Delivery incl. mounting kit, V4A, 1 pair

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

Power supply and connection material, see accessories





STATUSLED RGB-W

Bright, multi-coloured and wear-resistant

STATUSLED RGB-W – Lighting and signal luminaire for harsh operating conditions combined in one luminaire. The LED luminaire has a signal effect, informs and brings light directly to the work process. Aluminium housing and cover made of 5 mm frosted TSG – The STATUSLED RGB-W is resistant to oil, water, chips and coolant. The light emission across the entire width of the luminaire enables it to perform signal functions as well as perfect wide-angle illumination of manufacturing processes.

The Technology

- White and RGB LED chips in one luminaire
- The RGB LED chips can signal machines and plant states through colour changes
- Control of the LED chips by the PLC control
- Light Forming Technology

Your benefits

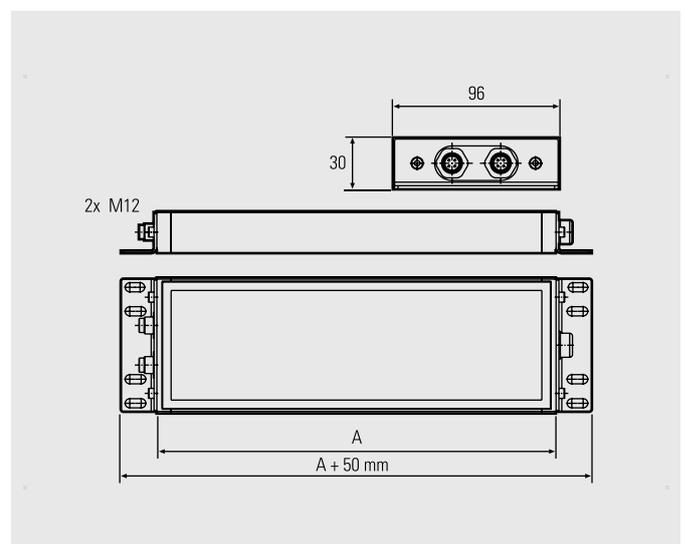
- Two in one: Flicker-free daylight white lighting without UV and IR components as well as signalling via different colours of the RGB colour space
- Light emission across the entire width of the luminaire
- High resistance to cold and heat
- High degree of protection: IPX9K
- The illuminant is only 30 mm high
- Oil and coolant-resistant, chip bombardment-proof

Areas of application

- Large volume machines and plants
- CNC machines, machine tools, milling machines, etc.

Designs/installation

- 4 lengths: 280 mm, 540 mm, 790 mm, 1040 mm
- Optimal angle for pivotable mounting





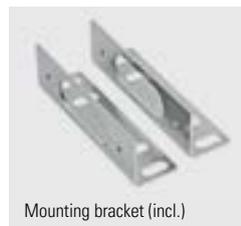
STATUSLED RGB-W	Product no.	Length (A)	Optics	$E_{average}^*$ [W]	E_{max}^* [W]	Luminous flux [W]	Output [RGB per colour]+[W]	Connection
STATUSLED RGB-W	113090-11	280 mm	120°	364 lx	527 lx	approx. 1160 lm	2.64 W / 14 W	24V DC
STATUSLED RGB-W	113190-11	540 mm	120°	708 lx	1000 lx	approx. 2000 lm	5.28 W / 24 W	24V DC
STATUSLED RGB-W	113290-11	790 mm	120°	1017 lx	1381 lx	approx. 3160 lm	7.92 W / 38 W	24V DC
STATUSLED RGB-W	113390-11	1040 mm	120°	1281 lx	1680 lx	approx. 4000 lm	10.56 W / 48 W	24V DC

Delivery incl. VZA bracket, 1 pair

Power supply units (PSU), dimmboxes and connection material see Accessories

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

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





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

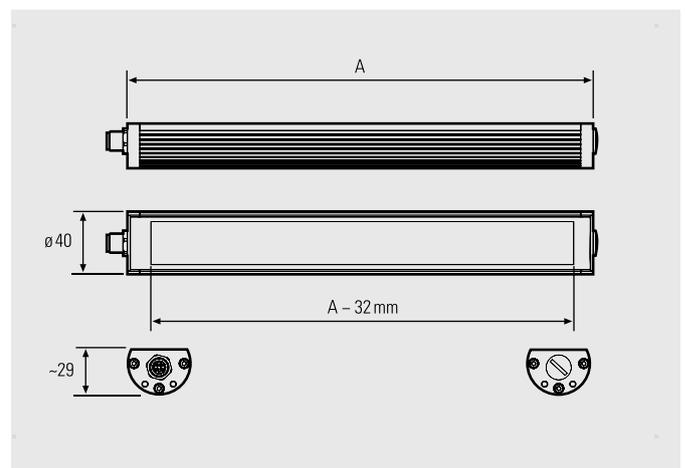
- Flicker-free, homogeneous lighting without UV and IR components as well as a signal function via freely definable colours or flashing intervals
- Simple upgrading or retrofitting in tool machines
- Optimum lighting through 100° surface light
- Oil and coolant-resistant, chip bombardment-proof

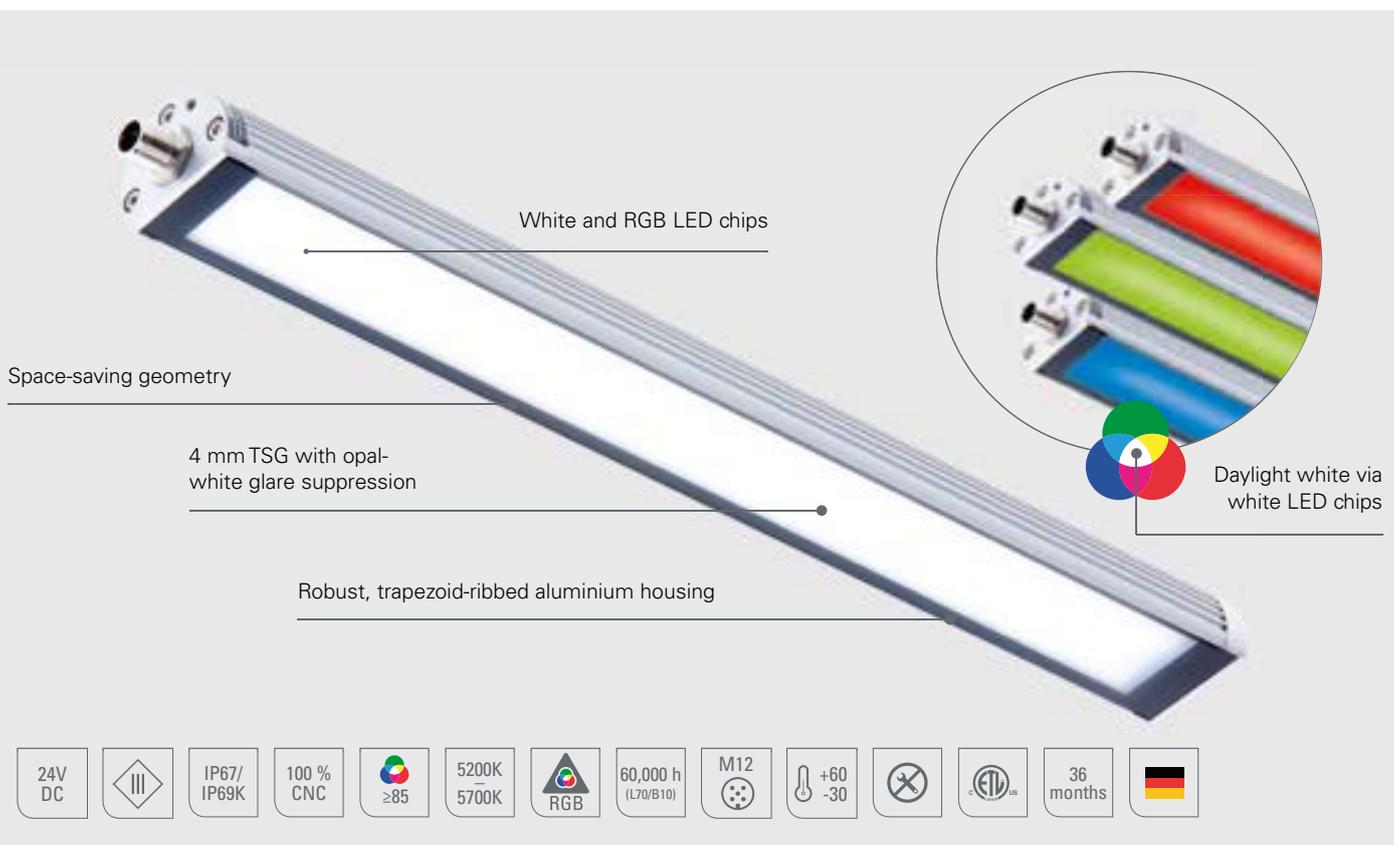
Areas of application

- Machine tools and CNC machines
- Injection moulding machines, 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





- 24V DC
- III
- IP67/ IP69K
- 100 % CNC
- ≥85
- 5200K - 5700K
- RGB
- 60,000 h (L70/B10)
- M12
- +60 -30
- ⊗
- ETL
- 36 months
- Germany

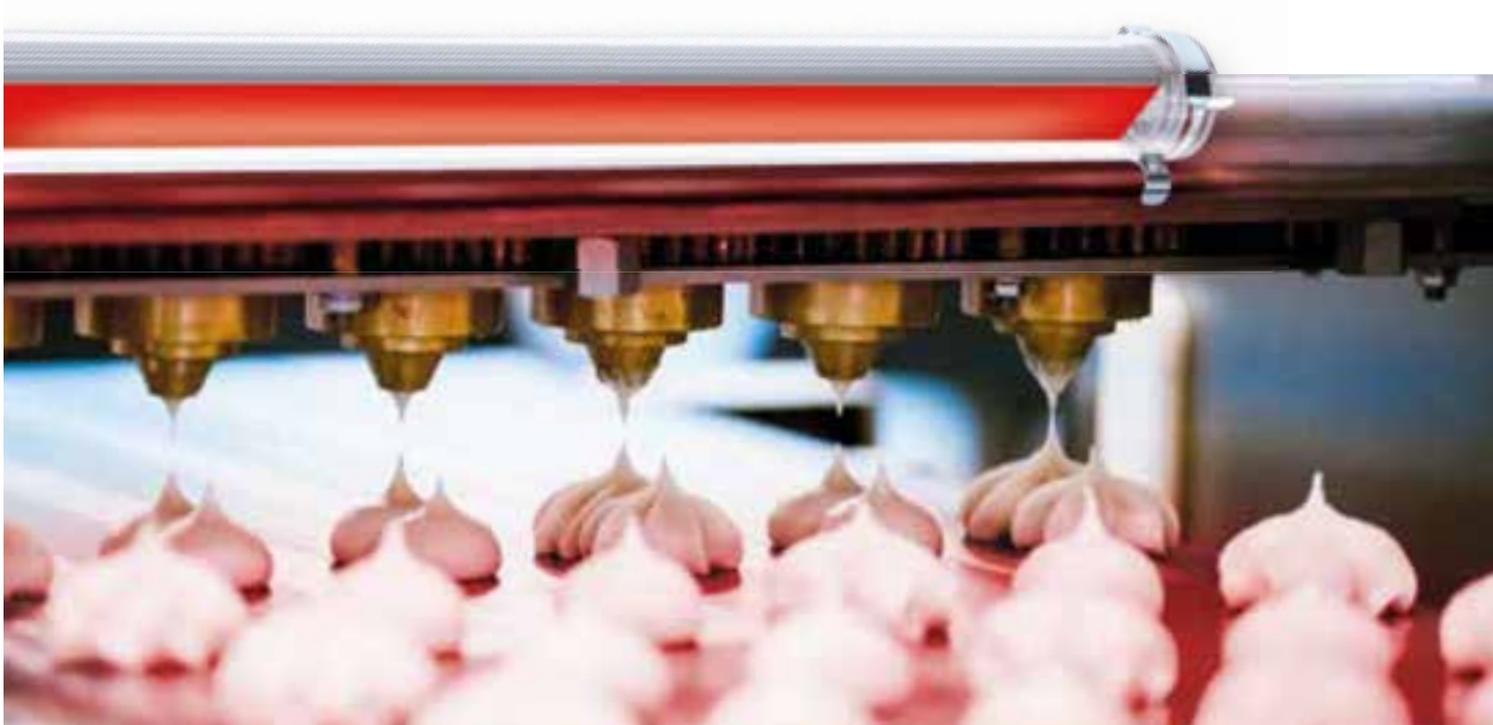
TUBELED_40 II RGB-W	Product no.	Length (A)	Optics	E _{average} * [W]	E _{max} * [W]	Luminous flux [W]	Output [RGB per colour]+[W]	Connection
TUBELED_40 II_RGB-W	118190-02	280 mm	100°	261 lx	371 lx	approx. 688 lm	2.64 W / 8 W	24V DC
TUBELED_40 II_RGB-W	118390-02	540 mm	100°	511 lx	711 lx	approx. 1491 lm	5.28 W / 16 W	24V DC
TUBELED_40 II_RGB-W	118590-02	1040 mm	100°	938 lx	1233 lx	approx. 2753 lm	10.56 W / 32 W	24V DC
TUBELED_40 II_RGB-W	118690-02	1540 mm	100°	1238 lx	1539 lx	approx. 4359 lm	15.84 W / 48 W	24V DC

Power supply and connection material see Accessories

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

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





INROLED_50 RGB-W

Diameter 50 mm, shatter-proof, interfering edge-free

The INROLED_50 RGB-W is the tubular luminaire for industry par excellence: strong, homogeneous illumination, a high degree of protection and a signal function via colour change – all in one LED luminaire. A crystal-clear, shatter-proof polycarbonate housing completely insulates the illuminant from the outside and makes the INROLED_50 RGB-W ideal for illuminating hygiene-sensitive areas such as those found in the food, pharmaceutical, packaging and logistics industries.

The Technology

- White and RGB LED chips
- 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
- M12 plug connector, stainless steel (F&B compatible)
- Luminaire fully complies with the requirements of IFS 6
- High degree of protection IP67/IP69K

Your benefits

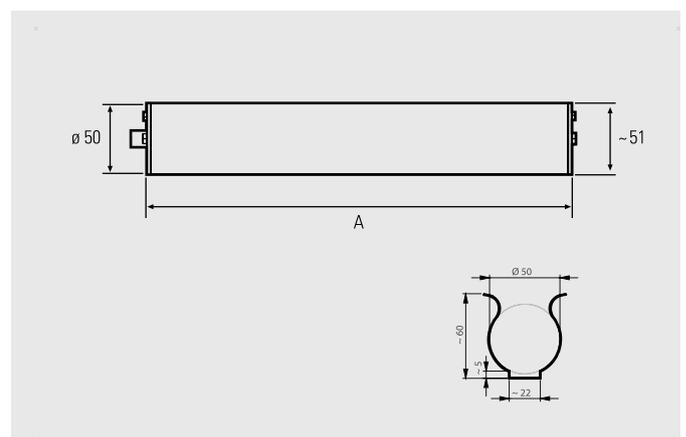
- Flicker-free, homogeneous illumination without UV or IR component as well as a signal function via different colours – the polycarbonate housing is then fully illuminated
- Resistant to hydrogen peroxide (H₂O₂, max. 35%), acids and alkaline solutions*

Areas of application

- Packaging industry, food and beverages, pharmaceuticals
- Logistics workstations and assembly lines

Designs/installation

- 50 mm diameter and 4 lengths: 305 mm, 565 mm, 1065 mm, 1565 mm
- Simple mounting and changing via spring clamps
- Optional: F&B-suitable luminaire holders or cable ties





INROLED_50 RGB-W	Product no.	Length (A)	Optics	$E_{average}^*$ [W]	E_{max}^* [W]	Luminous flux [W]	Output [RGB per colour]+[W]	Connection
INROLED_50_RGB-W	116090-02	305 mm	100°	261 lx	371 lx	approx. 688 lm	2.64 W / 8 W	24V DC
INROLED_50_RGB-W	116190-02	565 mm	100°	511 lx	711 lx	approx. 1491 lm	5.28 W / 16 W	24V DC
INROLED_50_RGB-W	116290-02	1065 mm	100°	938 lx	1233 lx	approx. 2753 lm	10.56 W / 32 W	24V DC
INROLED_50_RGB-W	116390-02	1565 mm	100°	1238 lx	1539 lx	approx. 4359 lm	15.84 W / 48 W	24V DC

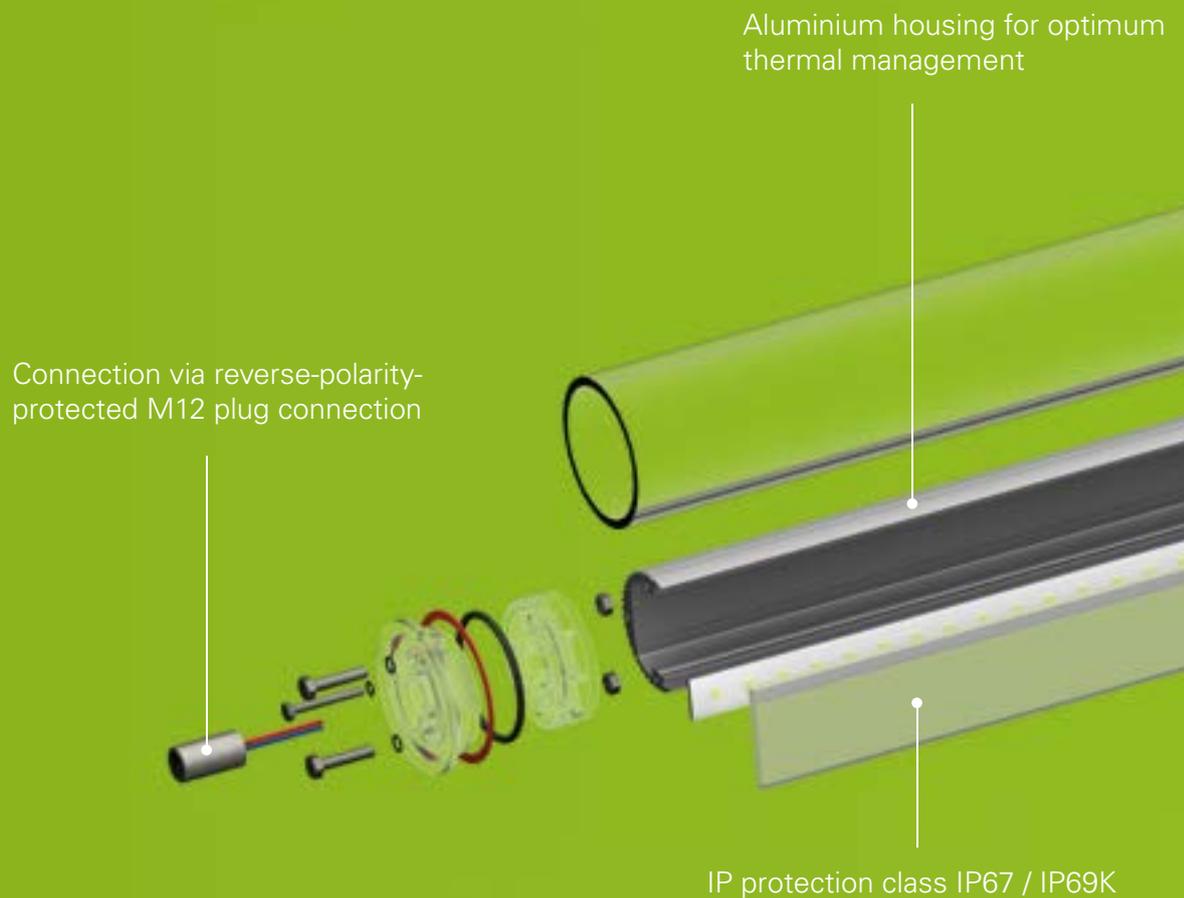
Delivery incl. luminaire holders (spring clamps) for pivotable mounting
 Power supply units, dimmboxes and connection material see Accessories

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

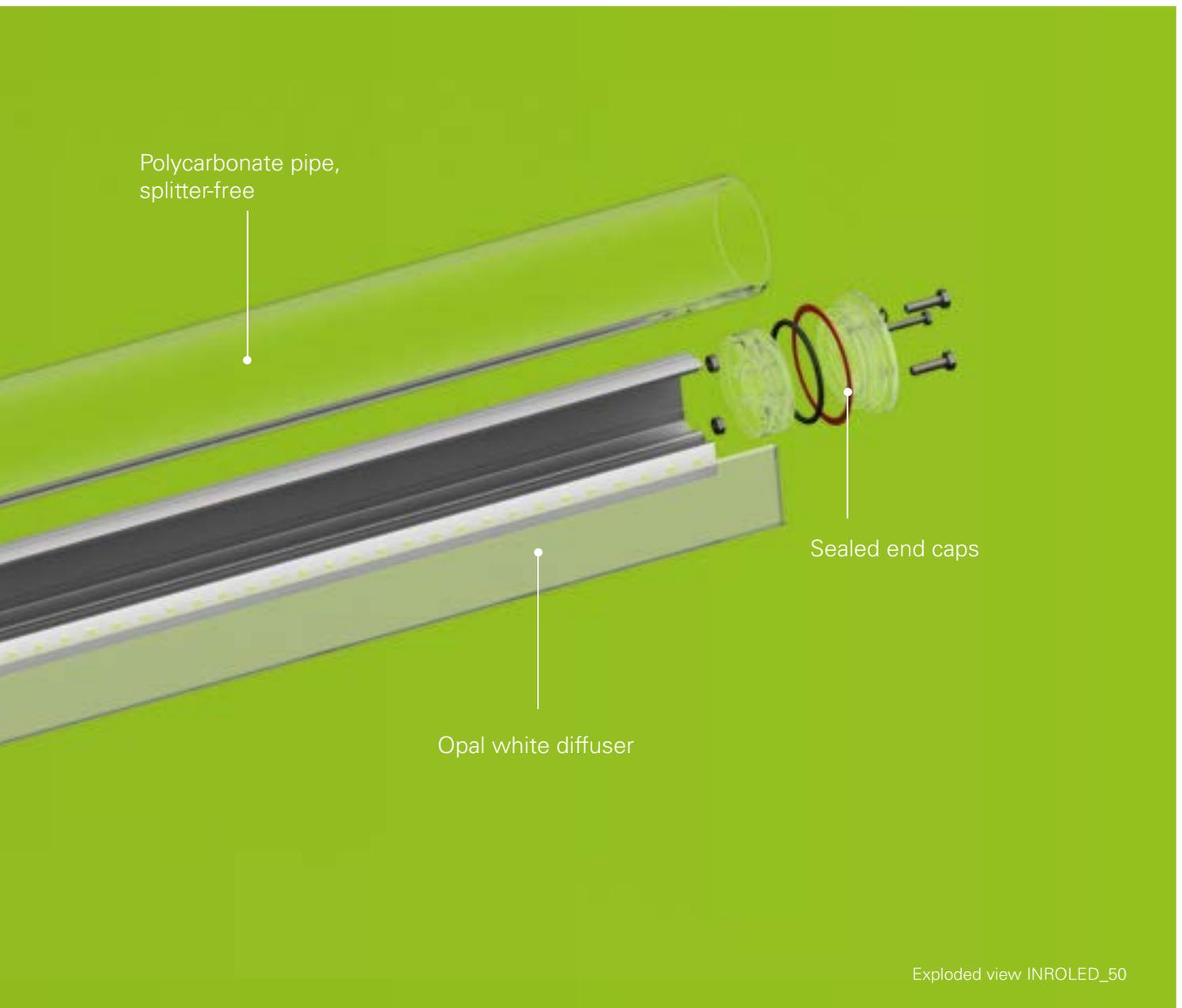
Accessories	Product no.
INROLED_50 luminaire holder, V4A stainless steel, F&B-suitable, 1 pair	210200-09
INROLED_50 luminaire holder 1 pair cable tie + base, metal detectable PP	210200-13



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

Opal white diffuser

Sealed end caps

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 L70/B10 (approx. 15 – 30 years)
- 36 months warranty
- Optimised lighting (daylight white 5,200K–5,700K; R_a 80/85)

Surface-mounted TECLED



TECLED

Solid, can be pivoted or with a wire rope suspension

The TECLED with IP54 degree of protection is recommended for all conceivable applications involving technical plants, machines and assembly lines. The LED luminaire is simple, robust and insensitive to everyday influences. Easy to install and reliable in illumination, it can be used almost universally.

The Technology

- Opal white, splinter-free polycarbonate cover
- Safe cable connection outside, WAGO terminal inside for 24V DC or 230V AC
- Mounting bracket made of PA6 for pivotable mounting by a total of 105° in steps of 18° each
- Heat dissipation via rear aluminium body

Your benefits

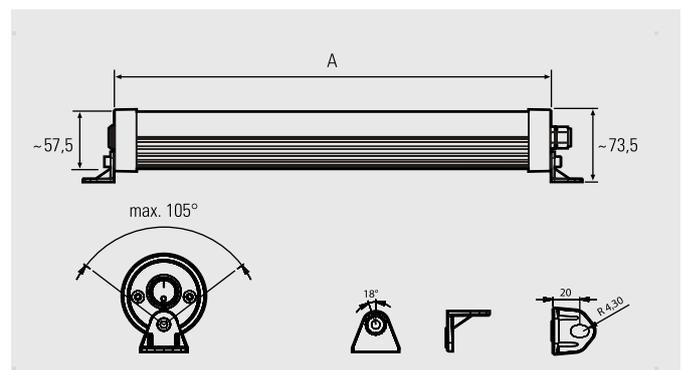
- Particularly energy-efficient
- Basic LED industrial luminaire with the best price/performance ratio
- High uniform light yield over a wide area

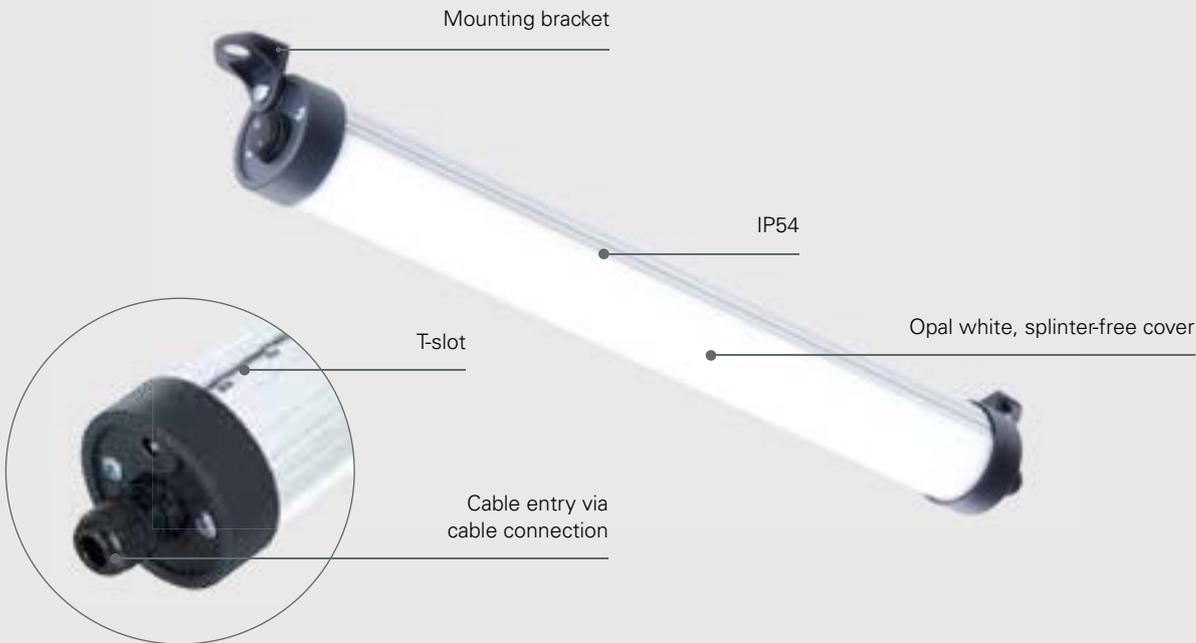
Areas of application

- For applications in all aspects of machines, technical plants and assembly lines – permanently installed
- Logistics areas and parking spaces

Designs/installation

- 24V DC for power supply provided by customer or 230V AC with power supply unit
- 5 lengths: 342 mm, 500 mm, 638 mm, 910 mm, 1202 mm
- Possible mounting via T-slot on top of luminaire
- With mounting bracket for pivotable mounting
- Mounting via optional wire rope suspension possible





24V DC version					220-240V version						
IP54	≥85	5200K 5700K	60,000 h (L70/B10)	36 months	24V DC	III	+50 -10	OPTION	220 V 240 V AC	III	+40 -10

TECLED 24V DC, 5200–5700K	Product no.	Length (A)	Optics	$E_{average}^*$	E_{max}^*	Luminous flux	Output	Connection
TECLED	114010-01	342 mm	125°	169 lx	224 lx	approx. 776 lm	8 W	24V DC
TECLED	114110-01	501 mm	125°	251 lx	330 lx	approx. 1164 lm	12 W	24V DC
TECLED	114210-01	638 mm	125°	269 lx	352 lx	approx. 1261 lm	13 W	24V DC
TECLED	114310-01	909 mm	125°	396 lx	505 lx	approx. 1940 lm	20 W	24V DC
TECLED	114410-01	1202 mm	125°	451 lx	559 lx	approx. 2328 lm	24 W	24V DC

Including mounting bracket for pivotable mounting; power supply, dimmboxes and connection material see accessories

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

TECLED 220–240V, 5200–5700K	Product no.	Length (A)	Optics	$E_{average}^*$	E_{max}^*	Luminous flux	Output	Connection
TECLED	114010-02	342 mm	125°	169 lx	224 lx	approx. 776 lm	10 W	220-240V AC
TECLED	114110-02	501 mm	125°	251 lx	330 lx	approx. 1164 lm	14 W	220-240V AC
TECLED	114210-02	638 mm	125°	269 lx	352 lx	approx. 1261 lm	15 W	220-240V AC
TECLED	114310-02	909 mm	125°	396 lx	505 lx	approx. 1940 lm	23 W	220-240V AC
TECLED	114410-02	1202 mm	125°	451 lx	559 lx	approx. 2328 lm	28 W	220-240V AC

Including mounting bracket for pivotable mounting; power connection via connection line 201200-01 which can be ordered separately

* Average and 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
Cord suspension VA, wire rope length 300 cm, 1 pair	213300-02

Surface-mounted luminaires | INROLED_25



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 LED luminaire fully complies with the requirements of the Food Safety Standard IFS 6. The INROLED_25 has a diameter of only 25 mm and can be installed easily and quickly.

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

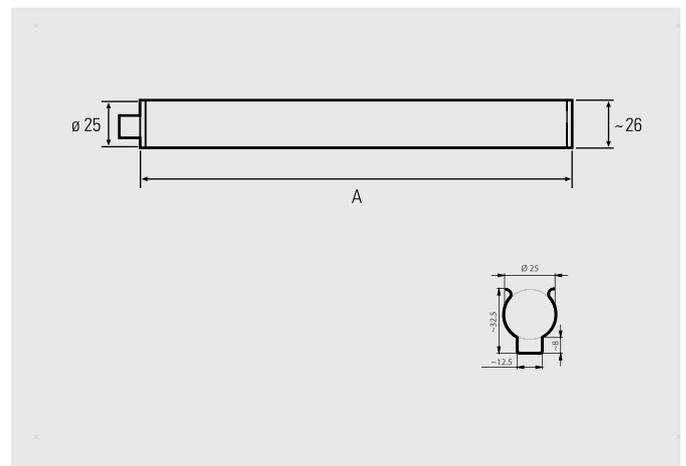
- Flicker-free light without UV and IR components
- Wide spread and homogeneous light
- Very slender construction and extremely lightweight
- Luminaire can be freely positioned within the pivot range
- Resistant to hydrogen peroxide (H₂O₂, max. 35%), acids as well as alkaline solutions*

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
- Optional: Luminaire bracket made of F&B-safe V4A (stainless steel)





INROLED_25, 5200K-5700K	Product no.	Length (A)	Optics	$E_{average}^*$	E_{max}^*	Luminous flux	Output	Connection
INROLED_25	117010-01	348 mm	100°	81 lx	108 lx	approx. 300 lm	4.5 W	24V DC
INROLED_25	117110-01	552 mm	100°	133 lx	176 lx	approx. 500 lm	7.5 W	24V DC
INROLED_25	117210-01	952 mm	100°	218 lx	281 lx	approx. 875 lm	13 W	24V DC

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

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

Accessories	Product no.
INROLED_25 luminaire holder, F&B-suitable, 1 pair	210200-10
INROLED_25 luminaire holder 1 pair cable ties + base, metal detectable PP	210200-13

Power supply, dimmboxes and connection material, see Accessories





INROLED_50

Highly resistant, bright, robust

50 mm diameter and enclosed in a polycarbonate housing: the INROLED_50 is the power lighting not only for the F&B area. Completely sealed, the LED luminaire is particularly suitable for hygiene-sensitive areas, such as in the food and beverage industry, the pharmaceutical industry or in packaging production. Thanks to its fully luminous body, the luminaire also finds its popularity in building services and domestic engineering as well as in architecture.

The Technology

- Housing: Protective tube made of 4 mm thick, splinter-free polycarbonate with sealed end caps
- 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

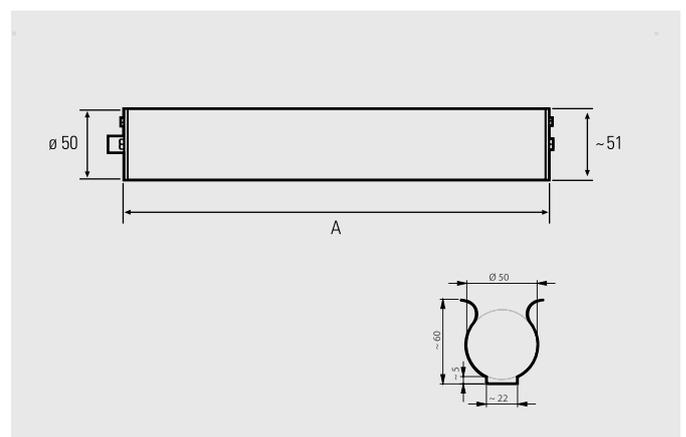
- Very high degree of protection (IP67/IP69K)
- Flicker-free light without UV and IR components
- Polycarbonate housing fully illuminated
- Luminaire can be freely positioned within the pivot range
- Resistant to hydrogen peroxide (H_2O_2 , max. 35%), acids as well as alkaline solutions*

Areas of application

- Plants in the packaging industry, food and beverages, pharmaceuticals
- Machines, conveyor belts, architecture and buildings

Designs/installation

- 2 variants: Power: 12 – 72 Watt; ECO: 6 – 38 watts
- 4 lengths: 305 mm, 565 mm, 1065 mm, 1565 mm
- Spring clamps for mounting and quick change
- Optional: Luminaire bracket made of F&B-safe V4A (stainless steel)





24V DC, III, IP67/IP69K, 100% F&B, ≥85%, 5200K-5700K, 60,000 h (L70/B10), M12, Power-version: +30/-30, ECO-version: +50/-30, OPTION, 36 months, Germany flag.

INROLED_50, 5200K-5700K	Product no.	Length (A)	Optics	E _{average} *	E _{max} *	Luminous flux	Output	Connection
INROLED_50 Power	116010-01	305 mm	100°	338 lx	453 lx	approx. 1116 lm	12 W	24V DC
INROLED_50 Power	116110-01	565 mm	100°	665 lx	883 lx	approx. 2232 lm	24 W	24V DC
INROLED_50 Power	116210-01	1065 mm	100°	1264 lx	1627 lx	approx. 4464 lm	48 W	24V DC
INROLED_50 Power	116310-01	1565 mm	100°	1738 lx	2156 lx	approx. 6696 lm	72 W	24V DC
INROLED_50 ECO	116010-02	305 mm	100°	196 lx	263 lx	approx. 658 lm	7 W	24V DC
INROLED_50 ECO	116110-02	565 mm	100°	332 lx	441 lx	approx. 1128 lm	13 W	24V DC
INROLED_50 ECO	116210-02	1065 mm	100°	627 lx	807 lx	approx. 2256 lm	24 W	24V DC
INROLED_50 ECO	116310-02	1565 mm	100°	863 lx	1070 lx	approx. 3384 lm	38 W	24V DC

Delivery incl. luminaire holders for pivotable mounting. Power supply units (PSU), dimmboxes and connection material see Accessories. * Average and maximum lighting intensities, measuring area 100 cm x 100 cm at 100 cm distance

Accessories	Product no.
INROLED_50 luminaire holder, F&B-suitable, 1 pair	210200-09
INROLED_50 luminaire holder 1 pair cable tie + base, metal detectable PP	210200-13



Surface-mounted luminaires | INROLED_70



INROLED_70

Interlinkable, universal, cost-optimised

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. This means that it can be used in buildings or building technology in addition to classic areas of application such as machines and plants. Due to its electrical interlinkability, homogeneous and economical illumination of large areas is possible.

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

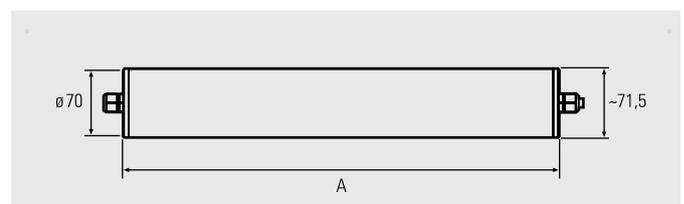
- Optimum glare control and light scattering due to microprismatic cover
- High degree of protection (IP67/IP69K)
- High light output; flicker-free light without UV and IR components; wide spread and homogeneous light
- Simple retrofitting

Areas of application

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

Designs/installation

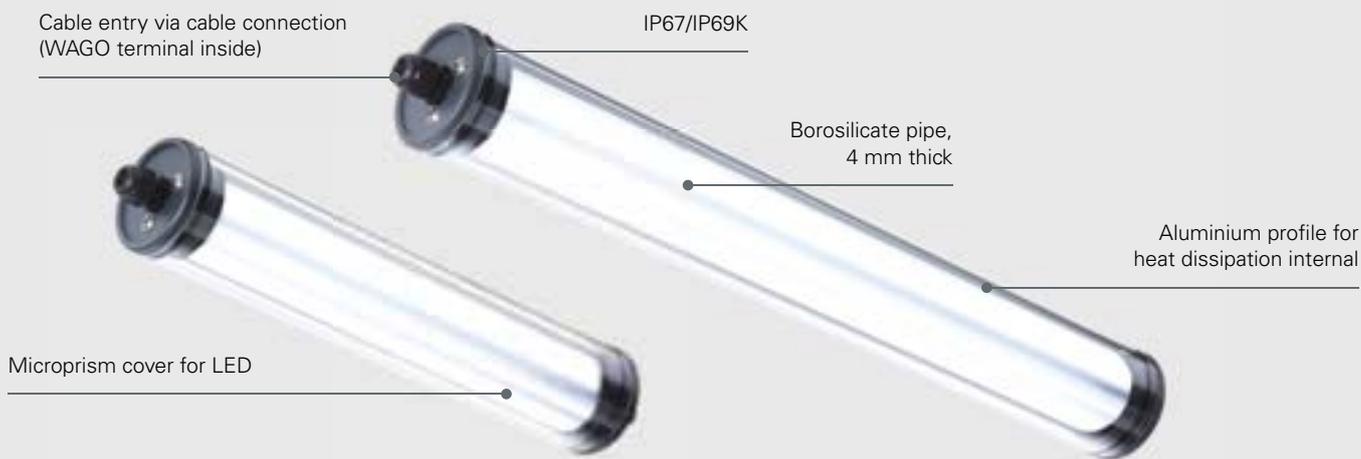
- 24V DC (8 to 24 Watt) (supply by customer) and 230 V AC (10 to 28 watt) with integrated power supply unit
- 5 lengths: 354 mm, 513 mm, 650 mm, 921 mm, 1214 mm
- Mounting using luminaire holder, opt. made of aluminium



201200-01



210200-02



24V DC version					220 V–240 V version								
IP67/ IP69K	≥85	5200K – 5700K	60,000 h (L70/B10)	36 months	Germany	24V DC	III	+40 -10	OPTION	ETL _{us}	220 V – 240 V AC		+30 -10

INROLED_70 24V DC, 5200–5700K, cascable	Product no.	Length (A)	Optics	$E_{average}^*$	E_{max}^*	Luminous flux	Output	Connection
INROLED_70, 24V DC	115010-01	354 mm	125°	245 lx	352 lx	approx. 810 lm	8 W	24V DC
INROLED_70, 24V DC	115110-01	513 mm	125°	364 lx	518 lx	approx. 1220 lm	12 W	24V DC
INROLED_70, 24V DC	115210-01	650 mm	125°	384 lx	535 lx	approx. 1320 lm	13 W	24V DC
INROLED_70, 24V DC	115310-01	921 mm	125°	561 lx	747 lx	approx. 2040 lm	20 W	24V DC
INROLED_70, 24V DC	115410-01	1214 mm	125°	626 lx	791 lx	approx. 2440 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_70 220–240V, 5200–5700K, cascable	Product no.	Length (A)	Optics	$E_{average}^*$	E_{max}^*	Luminous flux	Output	Connection
INROLED_70, 220–240V	115010-02	354 mm	125°	245 lx	352 lx	approx. 810 lm	10 W	220-240V AC
INROLED_70, 220–240V	115110-02	513 mm	125°	364 lx	518 lx	approx. 1220 lm	14 W	220-240V AC
INROLED_70, 220–240V	115210-02	650 mm	125°	384 lx	535 lx	approx. 1320 lm	15 W	220-240V AC
INROLED_70, 220–240V	115310-02	921 mm	125°	561 lx	747 lx	approx. 2040 lm	23 W	220-240V AC
INROLED_70, 220–240V	115410-02	1214 mm	125°	626 lx	791 lx	approx. 2440 lm	28 W	220-240V AC

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

* Average and 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



Power supply units

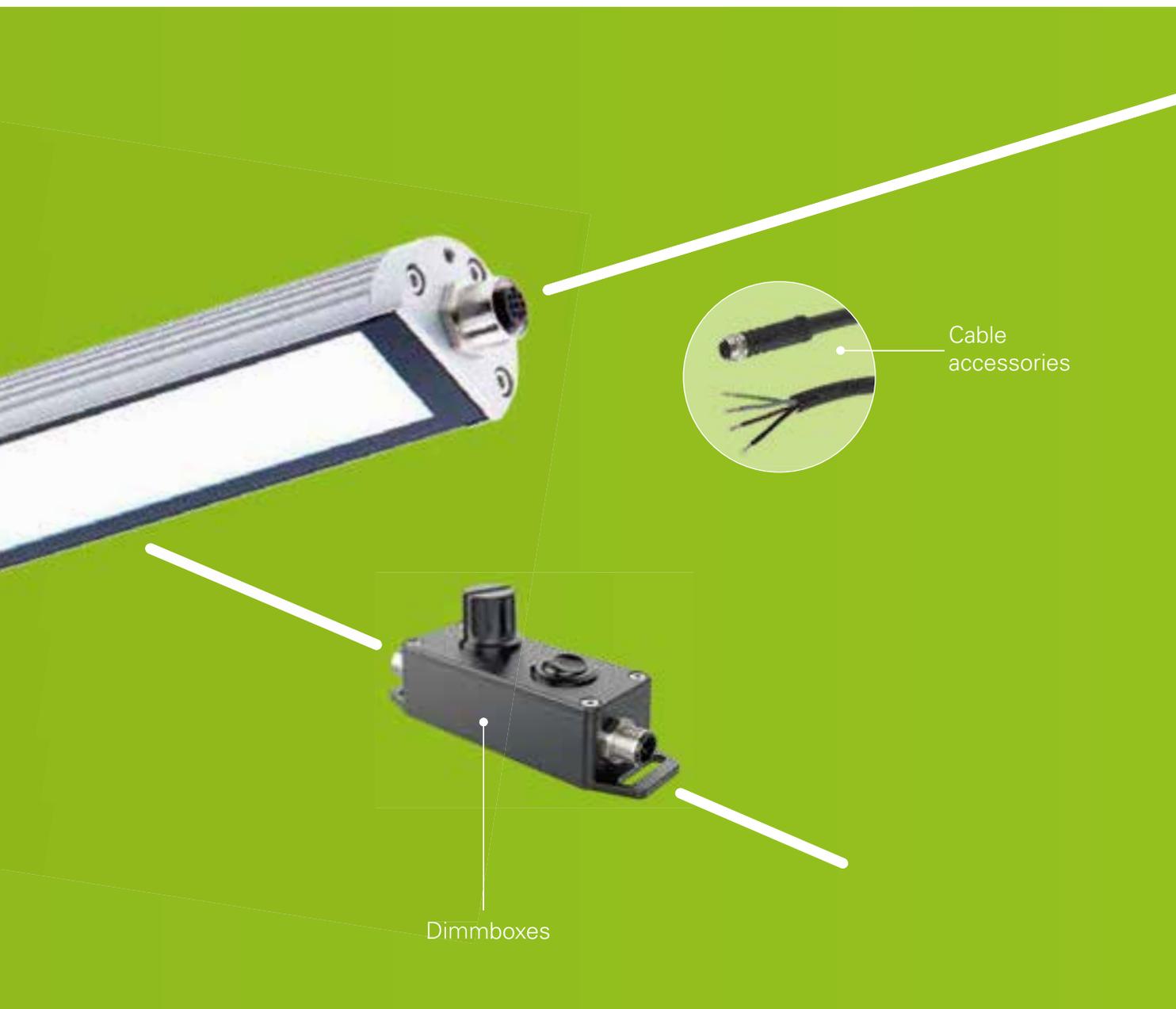


Mounting accessories



Cable accessories

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.



- 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
- The power supply units matched to the luminaires generate a constant voltage and thus guarantee constant brightness
- With the dimmboxes all 24V DC luminaires can be dimmed
- The mounting material allows options for individual mounting and adjustment of the luminaire
- 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	200100-05	2.5 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	200100-14	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
M12 Sensor/actuator box	200300-01	10 m	PUR	BOX, 4 plug-in slots	24V DC



Description	Product no.	Design	Operating voltage
M12 sockets	200200-01	M12 socket straight	24V DC
M12 sockets	200200-11	M12 socket straight	220-240V AC
M12 sockets	200200-02	M12 socket angled	24V DC
M12 T-piece	200200-03	M12 T-piece, A-coded	24V DC
M12 plug	200200-04	M12 plug straight	24V DC



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

Description	Product no.	Line 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



Power supply units (PSU)

Description	Product no.	Power consumption	Input voltage	Output voltage	Design
Plug-in power supply	210100-03	36 W	110-240V AC	24V DC	M12
Table power supply	210100-02	60 W	110-240V AC	24V DC	M12
Table power supply	210100-05	120 W	110-240V AC	24V DC	M12
Power supply, IP67	210100-06	60 W	110-240V AC	24V DC	M12
Power supply, IP67	210100-07	100 W	110-240V AC	24V DC	M12
Power supply, IP67	210100-08	150 W	110-240V AC	24V DC	M12
DIN rail power supply	210100-01	72 W	110-240V AC	24V DC	-
DIN rail power supply	210100-04	480 W	110-240V AC	24V DC	-
DIN rail power supply	210100-09	120 W	110-240V AC	24V DC	-
DIN rail power supply	210100-10	240 W	110-240V AC	24V DC	-



210100-01



210100-02



210100-03



210100-04/-10



210100-05



210100-06/-07/-08



210100-09

Mounting for Flexarm luminaires

Description	Product no.
Base plate for LED luminaire, steel Ø20cm (for magnetic base)	220200-03
Base plate for LED luminaire, steel (for magnetic base)	220300-01
Wall bracket, also for T-slot profile (for screw-on base, 60x60 mm)	220300-02



220300-02



220300-01



220200-03

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

Description	Product no.	Degree of protection	Current intensity	Input voltage	Output
DIMMbox (for control cabinet)	210700-01	IP20	max. 4.0 A	24V DC	96 W
DIMMbox, for T-slot, ready for connection	210700-04	IP40	max. 4.0 A	24V DC	96 W



210700-01



210700-04



From the idea to the series

Spot light, wide spread light or a completely new lighting solution?

In addition to our range of standard luminaires, we also focus on customised luminaires, which are designed and manufactured to meet your specific requirement. We can help you to realise the exact product that you need for your project to meet your technical lighting needs, your time frame and your commercial requirements.

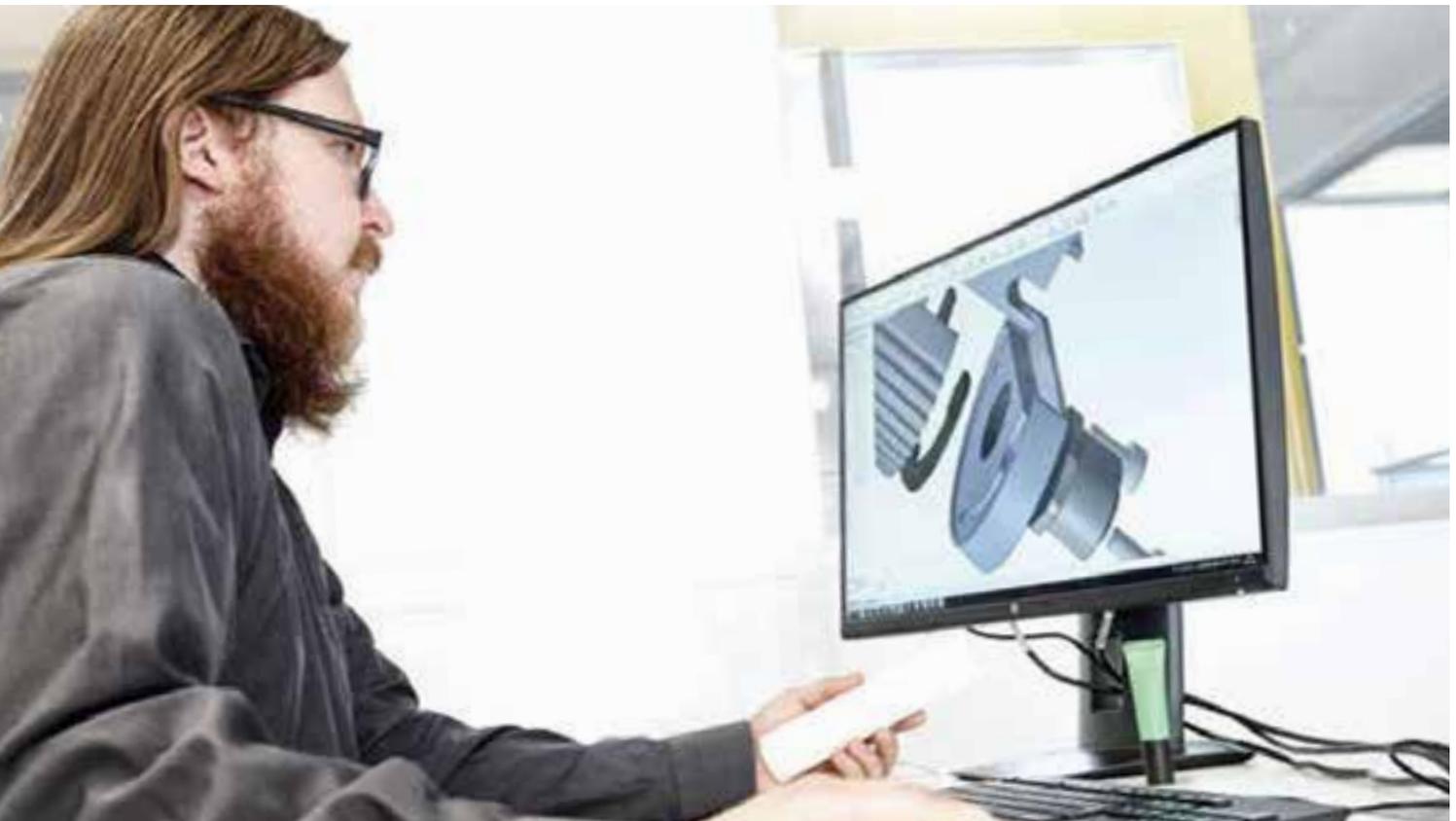
In order to turn new ideas like these into sound products, our company boasts extensive expertise, in-house prototype manufacturing as well as the capacity required for the subsequent expert manufacturing and assembly. The result is an efficient, economical process chain: From the concept phase to prototyping to the delivery of customised series components.



Coating machine for LED coating with PUR



CNC-controlled glue robots



Regardless of whether it is a small series or for several thousands of units – at the end of the day, it is always the intelligent implementation of customer requirements and our high quality demands that make us stand out. It also means that we are a great partner for other manufacturers (OEM) for whom luminaires and lighting form part of their own products or who want to incorporate them in the future.

OEM solution – LED luminaire for Food & Beverage:
120° optics, wide-area illumination with 5200-5700 K daylight white, basic body made of stainless steel V4A with LED cover made of PMMA (food safe), FDA-compliant seals, IP68, protection class III



Special solution: varying light colours for surface and paintwork inspection

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