

Schneider Kreuznach UltraLED

LED there be
a new light.





Schneider Kreuznach UltraLED. LED Industrial Lighting

shine !

Optics and light. Lenses and lighting. Two sides of the same coin. So it is only to be expected that after almost a century of successful optics design and lens and filter production for customers demanding quality and sophisticated applications, Schneider-Kreuznach is now also, quite logically, offering the lighting systems to go with them.

In this specific respect, the whole is greater than the sum of its individual parts. With object lighting individually tailored to the specific applications of our customers and with exactly the same emphasis on quality as applies for our optics, it is quite legitimate to speak of a holistic solution:

Optics and lighting from a single source.

Competent optical, mechanical, thermal and electronic design makes it possible to provide individually tailored lighting for quality control, production inspection tasks or other industrial applications. The optimal combination of lighting and lens from Schneider-Kreuznach takes us right to the physical limits of what modern digital camera technology is capable of capturing.

Depending on what you are looking for in terms of appropriately adapted lighting from high-power LEDs, any of the following can come into play: free-form lenses, mixing rods, lens fields, micro-optics or reflective optics.



Our

Philosophy :

to question /
to listen /
to understand /
to think /
to develop /
to design /
to test /
to manufacture /
to deliver /
to support.

Customer-specific solutions

In the future it will be possible to provide application-optimized lighting on the basis of competent optical, mechanical, thermal and electronic design. The benefits provided for the customer by individually adapted lighting in the field of quality control, for production inspection tasks or other industrial applications are extremely high. Only with an optimally matched combination of lighting and lens can a camera pick up all details of the optically recordable information available.

Technical competence

Schneider-Kreuznach's customized and serial products are both the result of expertise in every crucial area:

- technology
- the investigation of new production technologies, materials, resources, etc.
- optical design
- design study, model and prototype production
- mechanical design
- 3D construction with Unigraphics – NX and I-DEAS, prototype production, testing the service life of products and components
- thermal design
- interpretation and calculation of cooling concepts
- electrical/electronic design
- circuit design, board design
- interface
- software
- drivers, firmware

Schneider-Kreuznach is able to develop and produce the following components for customer-specific projects – optimized for a lighting solution operated with high-power LEDs:

- free-form lenses
- mixing rods
- lens array
- micro-optics
- refractive optics

In this respect we place particular emphasis on:

- homogeneity
- free formability
- true color reproduction
- reliability
- economy
- forward-looking technology
- energy conservation/sustainability

UltraLED Linea. Linear light of a high level of homogeneity for light-intensive linear camera applications. LED's be in line with precision.

Schneider-Kreuznach's particularly bright, homogenous and accurately focusing linear light with its optimized diffuser has been specially developed for applications using line scan cameras.

The sophisticated LED light source has been designed for extended use, combining maximized service life and high long-term stability. To achieve this, particular attention was placed on optimal cooling combined with a compact construction size and excellent lighting yield from the LED.

There is a choice of three different output levels available for the individual linear lighting application. To cater for the specific applications in industrial areas there is also a range of additional accessories available for adaptation to the existing conditions of use.

Primary areas of application

- surface inspection
- flaw detection
- biomedicine
- bonding technology

USPs

- high levels of light intensity and homogeneity
- removable special diffuser for optimal homogeneity and minimum lighting loss
- 3 levels of thermal intensity (preconfigured in factory)
- high-power LED in white (or red on request)
- slim retrofit design to facilitate economical upgrading to modern LED lighting technology
- focusing lens optionally available
- LED service life > 50,000 hours
- low energy consumption

Technical specifications

Optical properties

- LED light transmission: white 6500 K (red 625nm on request)
- LED service life: > 50,000 hours*
*light intensity drops to 50%

Electrical properties

- operating voltage: 24 V DC, 1500mA
- trigger input: out 0 V-0.9 V, in 1.5-5.0 V (VIn) or open connection D-SUB mixed 7W2

Mechanical properties

- housing protection class: IP40 (version without fan)

Environmental conditions

- ambient operating temperature: 0°C ... +40°C
- atmospheric humidity: 5% to max. 95%, relative, non-condensing

Accessories

on request



UltraLED Circula.

High-brightness ring light
for homogenous lighting of
complex object fields.

LED's create a wide circle of
possibilities

Schneider-Kreuznach's ring light can be provided in bright-field, dark-field and easy-to-focus versions. Its advantages lie in the lighting of the objects to be evaluated being controllable, homogenous, evenly spread and shadow-free.

The ring light's simplicity of use and its stable and robust mechanism go hand-in-hand with long-term use in the tough industrial environment. This applies both for automated processes and for three-dimensional objects alike. Depending on the individual system, the corresponding selection of lighting will allow structures to be clearly highlighted or largely suppressed.

With its intelligent cooling concept, the ring light is designed to return a high LED service life, and weighing in at only 250 grams, it is also suitable for universal use.

We are also, of course, happy to oblige with customized ring light solutions with domes, other output levels or other lighting spectrums.

Main areas of use

- surface and item inspections
- inspection of completed boards
- quality assurance
- detection of dirt, scratches or ridges in molded components
- detection of welding flaws
- detection of the finest deviations in reflectance in measuring and testing tasks

USPs

- extremely homogenous lighting of object field
- universality of use (e.g. quality monitoring, measuring tasks, etc.)
- dark-field lighting possible with the use of a reflector ring
- edge-controlled trigger input
- temperature compensation
- energy-saving
- LED service life: > 50,000 hours
- Protection Class IP65

Variants and accessories

on request

Technical specifications

Optical properties

- lighting source: 36 red LEDs
- wavelength: 615nm \pm 15 nm
- surface illuminated at working distance 60mm: approx. 80mm
- service life: > 50,000 hours*
- laser class: Class 1 (as per EN 60825-1)
*at worst-case duty cycle 1/5 (on/off) per trigger cycle

Electrical properties

- supply voltage: 24 V DC \pm 20% as per IEC 364-4-41
- power input: max. 15 W
- trigger input in: > 8 V DC, out: < 4 V DC, max. 30V
- electrical connection: 4-pole M8 plug
- protection class: Class 3 (as per IEC 1010-1)
- EMC testing: as per EN 61000-4-6

Mechanical properties

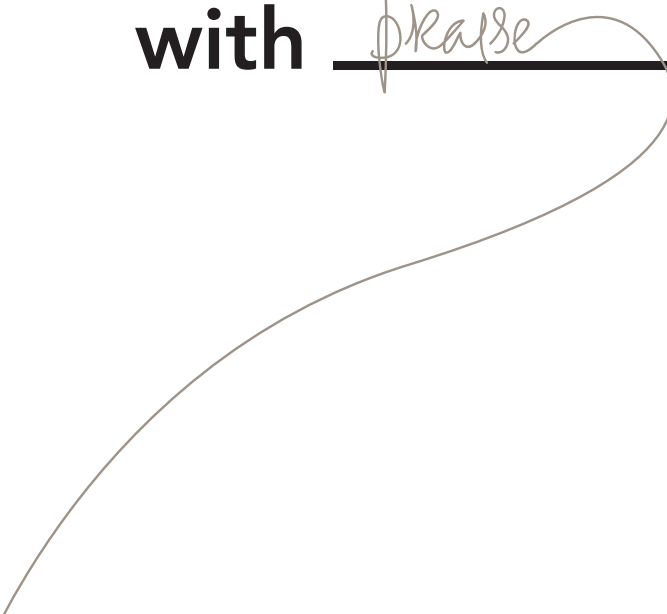
- external diameter of ring light: 99mm
- internal diameter of ring light: 54mm
- housing: metal, black, IP65
- weight: approx. 250g
- mounting: 4 x M3 threaded holes

Environmental conditions

- ambient operating temperature: 0°C to +50°C
- storage: -20°C to +70°C
- relative atmospheric humidity: < 95%, non-condensing



UltraLED Diffusa.
Maximum consistency
surface lighting for
homogenous, diffused
background lighting.
LED's shower your clients
with praise.



Schneider-Kreuznach's surface lighting has been designed as a backlight for background lighting or indirect lighting systems. The LED lighting field is integrated within a flat, rigid aluminum housing and is distinguished by its particularly even and homogenous light-emission properties.

The high degree of homogeneity of object lighting is achieved through the use of a diffuser. This spreads the red light from the LED point light source forward in an even and random manner, thus guaranteeing shadow-free and high-contrast lighting of objects from the background.

Without this diffuser, the backlight can also be used in uplighting applications.

Main areas of use

- optical inspections of dimensions and outlines of electronic and mechanical construction elements
- optical checking of dimensional accuracy and positioning of products

USPs

- extremely even lighting
- compact aluminum housing
- usable for uplighting without diffuser
- available in red and white light colors (other colors available on request)
- low energy consumption
- LED service life: > 50,000 hours

Technical specifications

Optical properties

- light source LED red: 630nm \pm 7nm (LED white: 7500 K on request)
- homogeneity: < +/- 5%
- LED service life*: red > 50,000 hours (white > 30,000 hours)
- LED Radiation Class: 1
 - * light intensity drops to 50%

Electrical properties

- operating voltage: 24 V DC \pm 10%
- connection: M12 4-pole pin plug

Mechanical properties

- housing: IP 20
- 5" (other dimensions on request)

Environmental conditions

- operating temperature: 0°C to +40°C
- storage: 0°C to +50°C
- atmospheric humidity: max. 90%, relative, non-condensing

Accessories

on request



UltraLED Coaxia.

Coaxial lighting for shadow-free illumination of highly reflective surfaces.

LED's focus on new

qualities

Schneider-Kreuznach's coaxial lighting generates a homogenous light which can be fed in from the side and under the lens into the optical axis. The aluminum housing is of universal construction type and suitable for industrial use, and can be used in combination with almost any lens on the market – and of course with Schneider-Kreuznach's own high-quality optics.

The coated, semi-silvered mirror directs the diffused light exactly on to the lighting surface under the lens. This makes it possible to obtain completely shadow-free object lighting.

Flash operation is also possible.

Main areas of use

- wafer and micro-board inspection systems
- mounting applications
- auxiliary lighting for component positioning

USPs

- available with red LEDs
(infrared and white LEDs on request)
- compact aluminum housing suitable for industrial use
- shadow-free lighting from coaxial light application through coated separating mirror
- flash operation also possible
- highly-tempered mirror protection glass

Technical specifications

Optical properties

- light source: LED red 630 nm
(IR 875 nm, white 7800 K on request)
- illuminated surface: 50 x 50 mm
(25 x 25 mm, 75 x 75 mm, 100 x 100 mm,
150 x 150 mm on request)
- LED service life: red > 70,000 hours
(IR > 70,000 hours, white > 30,000 hours)
* light intensity drops to 50%

Electrical properties

- operating voltage: 24 V DC
- connection: M12 4-pole pin plug

Mechanical properties

- housing: aluminum, black anodized (IP20)
- mirror protection glass: camera side

Environmental conditions

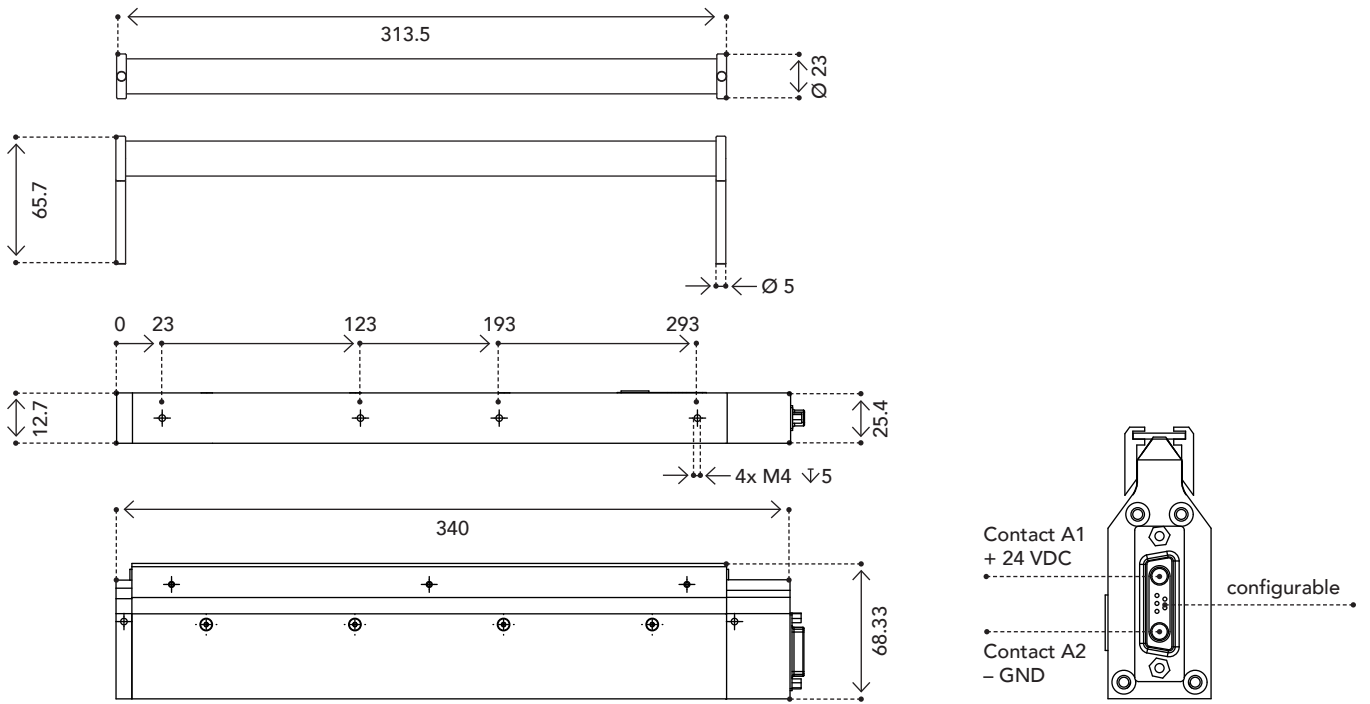
- operating temperature range: 0°C to +40°C,
storage: 0°C to +50°C
- relative humidity: < 95%

Accessories

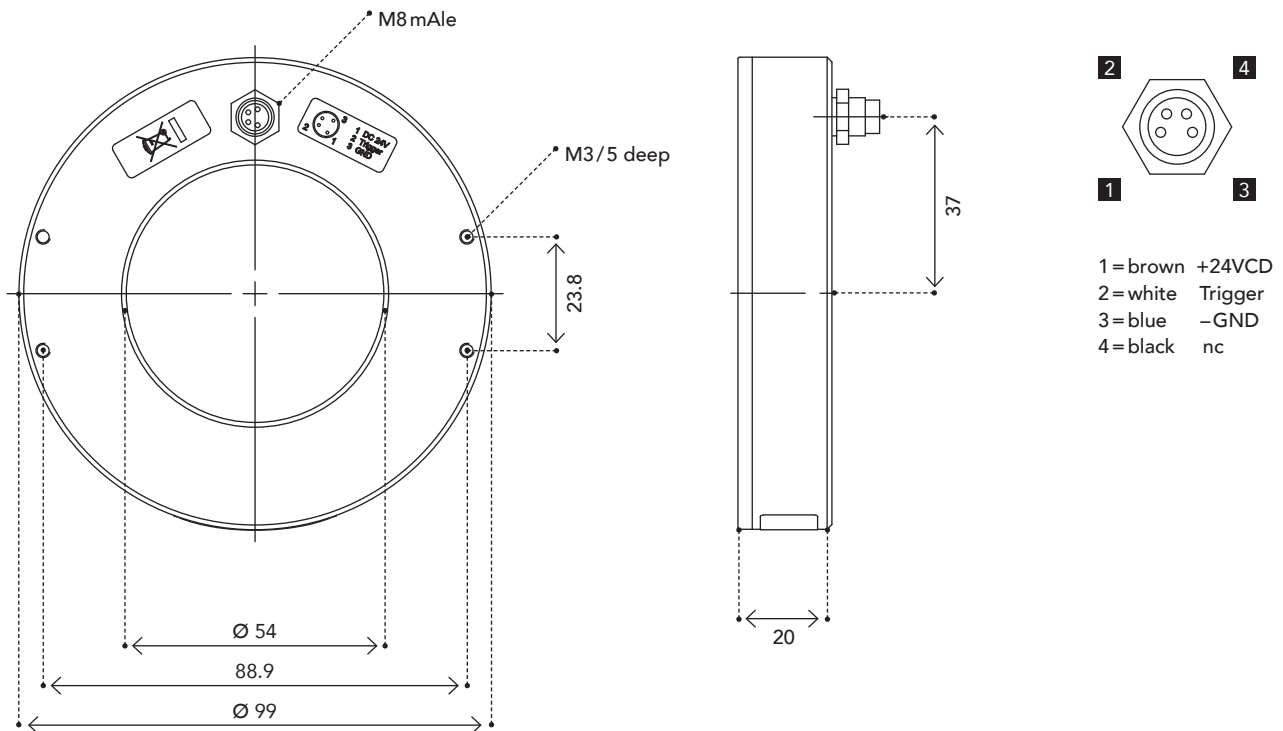
on request



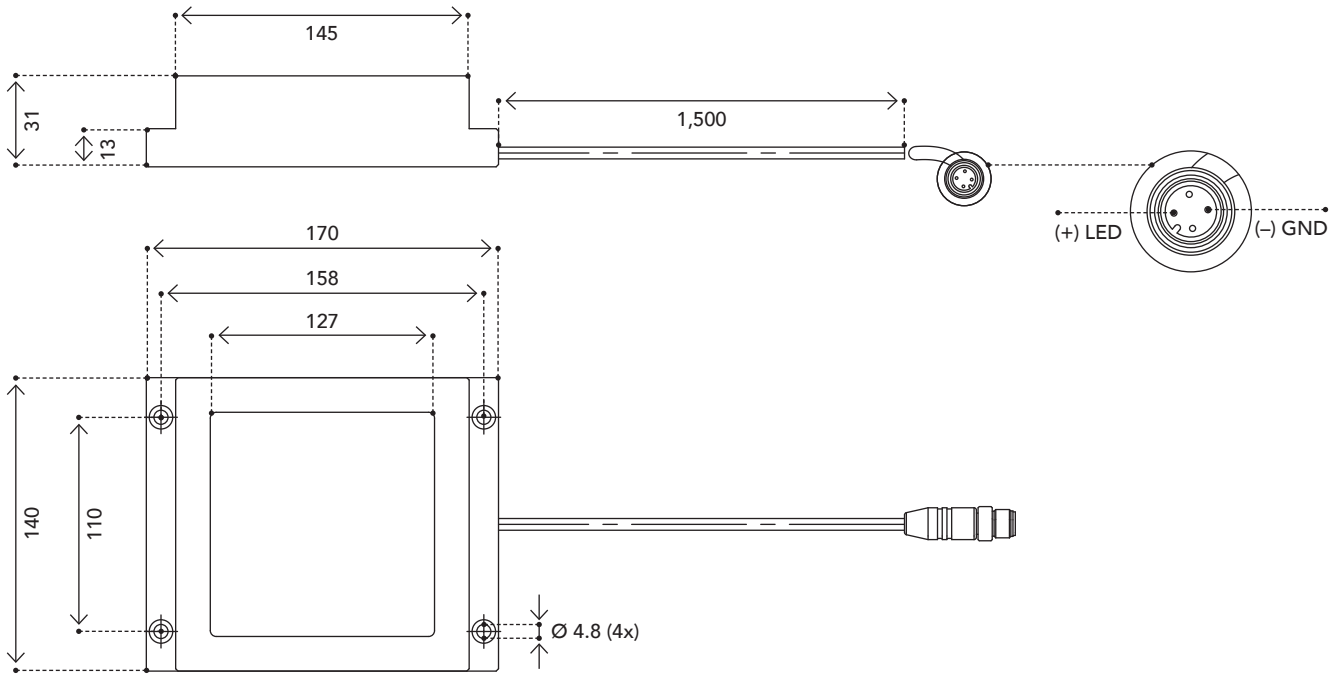
Technical specifications UltraLED Linea



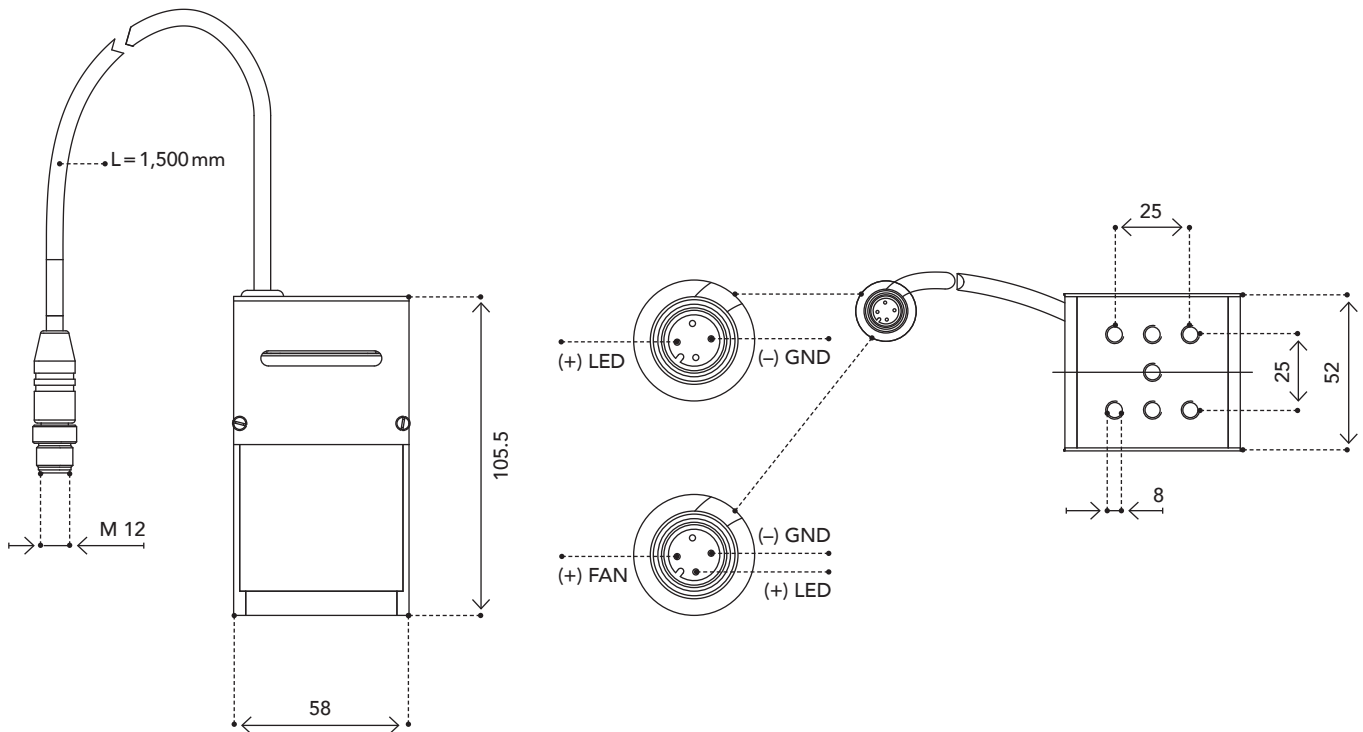
Technical specifications UltraLED Circula



Technical specifications UltraLED Diffusa



Technical specifications UltraLED Coaxia



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