

"...ich hasse Notleuchten..."

din-Sicherheitstechnik Competence center for emergency and safety lighting

With inventive spirit, lateral thinking and courage for innovation, but also due to the uncompromising focus on our core competence "emergency lighting" we revolutionised the emergency lighting market in the last decades. In order to be able to continue keeping pace with the times, we've pooled the know-how of our own research and development department and our over 25 years of concentrated experience in the field of emergency lighting in a performance center for emergency and safety lighting.

In our headquarters in Linz / Upper Austria we operate on more than 5000 m² one of the most modern private research institutions for emergency and safety lighting in Europe. In our own laboratories we realize new developments, loading tests, protection class tests, EMV-tests and certified lighting level detections. There are also escape routes available to research panic behavior with and without smoke.



din-Sicherheitstechnik Innovation leader in the field of LED-emergency lighting

The white high performance-LED, that was used in 2002 as the first company worldwide for our emergency lighting solutions, is still playing a central role today in the development of new products. LED technology opened a wide field of new possibilities in dealing with materials, technologies and shapes.

The light range **STRING ARC** was developed thanks to direct and intensive confrontation with architecture. The experience of more than 10 years LED technology and far over 10.000 realised LED projects, from venues, airports and train stations to office buildings and company headquarters was the inspiration for a great product.

The new light range STRING ARC convinces thanks to an extremely reserved design and creative integration capacity.

Frameless RZ-panel



Unique connector system



Frameless mounting





TABLE OF CONTENTS

PAGE 08 **ESCAPE SIGN**-panels

PAGE 30 **DETAILS**

PAGE 36 **REGULATIONS**

PAGE 40 ENERGY SAVING THROUGH ADDED BENEFIT

PAGE 42 **EMERGENCY LIGHTING**

Recessed wall mounted – frameless STRING ARC Emergency sign-panel



New solutions in the field of emergency lighting arise through the innovative interaction of design, light technology and conformity with the standards. The STRING ARC escape sign-panel can be mounted level and frameless into the wall and convinces thanks to it's reserved and even design – a true master for discreet integration into architecture.

The standard integrated dimming function reduces the luminous flux of the escape sign-panel for particularly sensitive areas like theatres or cinemas. In case of emergency lighting 100% pictogram illumination is available.

The standard integrated dimming function reduces the luminous flux of the Emergency sign-panel for particularly sensitive areas like theatres or cinemas. In case of emergency lighting 100% pictogram illumination is available.

The accurate precision of the system components guarantee a clean and perfect appearance.



Architect DI Karl F. Usually I'm confronted wi



Recessed wall mounted – frameless STRING ARC Emergency sign-panel

Flush recessed wall mounting, frameless



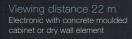


Viewing distance 12 m Electronic with concrete moulded













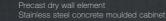
Electronic with concrete moulded cabinet or dry wall element

Installation accessory













Wall surface mounting, distanceless STRING ARC Emergency sign-panel



Puristic and focused on the essentials – the **STRING ARC** escape route-panel for distance-less recessed wall mounting. Innovative, totally new and worldwide unique - this type of escape route signs sets standards for the future. No visible electronic casing, no visible light elements, only an evenly illuminated pictogram that integrates itself considerately into the architecture.

Similar to the other luminaire of the STRING ARC Series this type also has a dimming function that allows an adaption of the panel's brightness to the room illumination. In case of emergency light 100% of the lighting level is available.

Besides the version "distance-less recessed wall installation" the mounting kit for a flushmount box allows a mounting of the escape route sign fronted 4 mm off the wall.







Wall surface mounting, distanceless STRING ARC Emergency sign-panel

Flush-wall surface mounting, distanceless













Wall mounting parallel, semi-recessed for flush-mounted box





Electronic with flush-mounted box Ø 68 mm, d = 60 mm







Wall surface mounting, parallel









Wall surface mounting parallel,

with additional safety luminaire















"An escape sign luminaire, reduced to the essentials" - these were the specifications for our designers and developers. Through the puristic design of the escape sign panels without visible housing components a great product was created. The escape sign panels can be integrated in different carrier materials thanks to a totally new connector system and therefore adapt perfectly and discreetly to the existing architecture. As standard for ceiling mounting of escape sign panels there are a series of 4 different mounting types available: besides the usual built-in casing respectively surface mounting housing the escape sign-panels can also be plugged in a frameless ceiling recessed housing or through the ceiling construction.

Mounting boxes for exposed concrete made of stainless steel respectively prefabricated dry construction elements guarantee a clean look in case of mounting in concrete, bricks, wood, plasterboard or sheet metal.

Ceiling mounted – frameless



Architect DI Anton N.

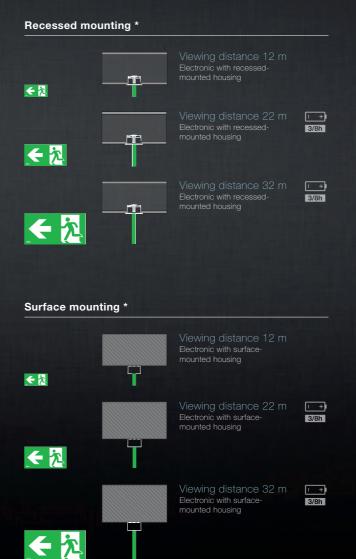
Escape sign luminaires should be brilliant and high-quality but be built as reduced as pos-sible. This guarantees on the one hand that they discree



Ceiling mounted — frameless STRING ARC Emergency sign-panel

Viewing distance 12 m Electronic detached Viewing distance 22 m Electronic detached Viewing distance 22 m Electronic detached Viewing distance 32 m Electronic detached Viewing distance 32 m Electronic detached





*Go to page 34/35 for the explanation about push trough mounting or frameless mounting.

*Go to page 34/35 for the explanation about recessed mounting or surface mounting.

8

The pendulum or wire suspension version of the STRING ARC Emergency sign-panels perfects what often impresses. The construction is reduced to the most technically possible limit and required the development of totally new technologies. Particularly close attention was paid to minimalism, the perfect elaboration of details and materials. The necessary technology is integrated invisibly in the ceiling respectively in the carrier material. By dematerialising, the escape sign-panels appear graceful and free floating.

Beside a pendulum or rope suspension version we can also offer a customised special version.

Energy supply occurs through the pendulum or the rope - there are no additional supply lines necessary. The supply electronics can be optionally mounted invisibly in the ceiling, in the frameless flush-mounted housing, in recessed-installation housing or in surface-mounted housing.





Floating with pendulum or rope suspension STRING ARC Emergency sign-panel

The pendulum or rope suspension can be combined with all types of mounting and all **STRING ARC** Emergency sign-panels displayed on page 18/19.

STRING ARC pendulum suspension

STRING ARC pendulum suspension set 0,5 m, high-gloss chromium plated STRING ARC pendulum suspension set 1,0 m, high-gloss chromium plated

STRING ARC rope suspension

STRING ARC rope suspension set 1,5 m, variable adjustable *
STRING ARC rope suspension set 4,0 m, variable adjustable *

Vall mounting 90° TRING ARC Emergency sign-pane

Wall mounting 90° TRING ARC Emergency sign-panel



Architect DI Philip 0.
Emergency lighting is a necessary evil, but of high importance from the safety-relevant point of view. I'm thrilled about the minimalism of the STRING ARC escape sign panel, as little as possible – as much as necessary.





STRING ARC – the all-rounder for every use. Especially in the 90 degree application the all-round talent of the STRING ARC escape sign-panel can be seen. Uncompromisingly focused on the essentials the pictogram realizes its' full effect. Disturbing wall brackets or electronic housings are history.

Thanks to the revolutionary connector system this application also comes with 4 different mounting versions.

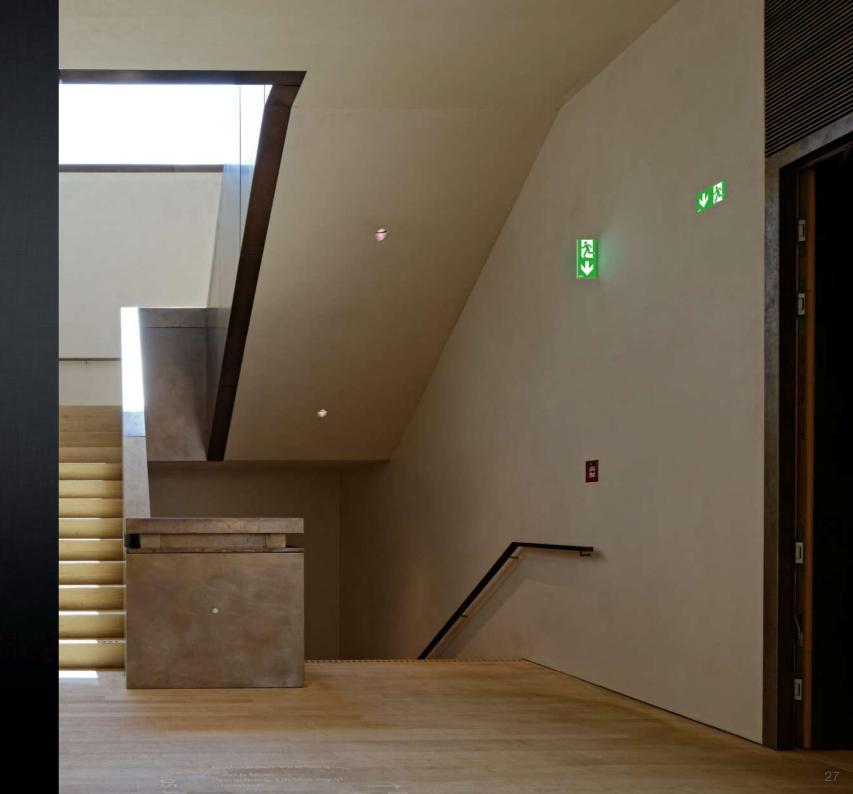
Beside the usual recessed installation housing respectively surface-mounted housing the escape sign-panels can be attached to a frameless housing for wall installation or plugged through the wall construction.

Mounting boxes for exposed concrete made of stainless steel respectively prefabricated dry construction elements guarantee a clean look in case of mounting in concrete, bricks, wood, plasterboard or sheet metal.

Wall mounting 90° STRING ARC Emergency sign-panel

The STRING ARC Emergency sign-panels wall mounted 90° can be mounted just like the ceiling mounting version.

Push-trough mounting * Recessed mounting * 1 + 3/8h 1 + 3/8h 1 + 3/8h Electronic with recessed-mounted housing 1 + 3/8h 1 + 3/8h Electronic with recessed-mounted housing Frameless mounting * Surface mounting * Viewing distance 12 m Electronic with surface-mounted housing 1 + 3/8h 1 + 3/8h Electronic with surface-mounted housing Viewing distance 32 m Electronic with surface-mounted housing 1 + 3/8h 3/8h



^{*}Go to page 34/35 for the explanation of all mounting types.

Design freedom and yet conform to the standard The STRING ARC Emergency sign-panels are provided in 3 sizes

Due to higher requirements for fire protection regulations in the last years the fire compartments have been more and more reduced in size. But small fire compartments also involve a continuous decrease in the length of escape routes and therefore also the pictogram size of RZ lamps.

Here the **STRING ARC** Emergency sign-panel of size 1 with a recognition distance of 12 m represents a real and interesting alternative. Corridors and escape routes paved with extensive RZ-panels are therefore history.

Size 2 | 220,5 x 110 mm (LxW) 22 meters viewing distance

din

ain

Size 3 | 320 x 160 mm (LxW) 32 meters viewing distance

Size 1 | 123 x 61,5 mm (LxW)

Viewing distances of the STRING ARC range

The correct positioning of the **STRING ARC** Emergency sign-panels is a result of their viewing distance. Three sizes are available:







Viewing distance 12 n Panel thickness: 16 mm

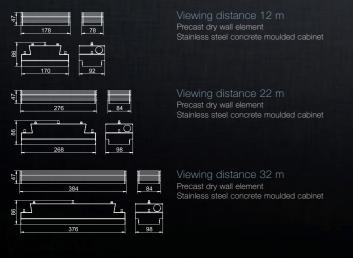
Viewing distance 22 n Panel thickness: 16 mm

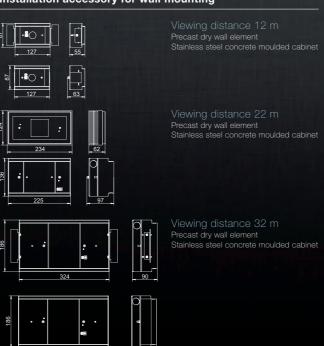


Installation accessory for ceiling mounting

Viewing distance 32
Panel thickness: 16 mm

Installation accessory for wall mounting





Luminaire implementation of the STRING ARC range



Self contained luminaires

Lumiaires marked like that are available in the self contained portfolio.



Luminaires for emergency ighting system Electronic with extension

to be placed by a maximum distance of ≤ 4 m to the luminaire



Luminaires for emergency lighting system Electronic without extension

to be placed by a maximum distance of ≤ 0,75 m to the luminaire to be placed by a maximum distance of ≤ 1,5 m to the luminaire

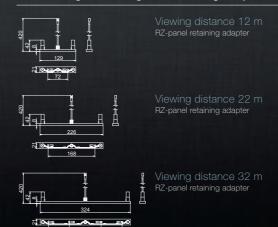
VKF version Size 3, VKF appropriate

According to the requirements of the Association of Canton Fire Insurance VKF escape signs in Switzerland need a minimum viewing distance.

Therefore in Switzerland from the product range of String ARC only escape sign panels with an indicated viewing distance of at least 30m (size 3) are allowed.



Push through mounting with retaining adapter



0 31

Arrow direction according to EN 1838 Type description

Type 10 V: Arrow down R: Arrow down

Type 13 V: Arrow right R: Arrow left

















Type 10 V: Arrow down R: Arrow down

Type 13 V: Arrow left R: Arrow right

Possible mounting variants of the STRING ARC range

During the development of the STRING ARC escape sign-panels particular attention was paid to minimalism, purism and discreet design. In order to be able to integrate those specifications optimally into the architecture, it was necessary to find totally new mounting variants that are as invisible as possible.

The new connector system for escape route-panels developed by din-Sicherheitstechnik provides the condition in which there are almost no limits for installation.



Push-through installation special solution

All **STRING ARC** escape sign-panels are connected with the power supply through a newly developed connector system so that only the escape-sign panel is visible. The supply electronic disappears invisibly behind the carrier material.

Contacting pins of different lengths allow the mounting of the escape-sign panel onto a thin mm sheet of metal ceiling up to a plasterboard or wood ceiling. This type of mounting requires the accessibility of the ceiling's upper surface through inspection openings.



Push-trough mounted installation set

With the push-trough mounted installation set for suspended ceilings the **STRING ARC** escape sign-panels can be positioned also in case of limited accessibility of the ceiling's upper surface.



Ceiling mounting frameless

Another alternative for frameless mounting are special recessed installation housings, which can be integrated evenly and without visible elevation in concrete or plasterboard ceilings. The high fitting accuracy of the system components guarantees a clean and perfect appearance.

In case of concrete ceilings the housing is mounted in a mounting box for exposed concrete made of stainless steel. The cover of the housing is level with the ceiling and isn't bulky. The escape sign-panel is put onto the frameless housing.

For gypsum ceilings we deliver prefabricated dry construction elements, in which the frameless housing parts are already glued into the factor. This allows a quick and clean installation.



Recessed mounting

For the normal recessed ceiling installation there are recessed installation housings for all sizes of the escape sign-panels available.

The mounting depth is only 50 mm.



Surface mounting

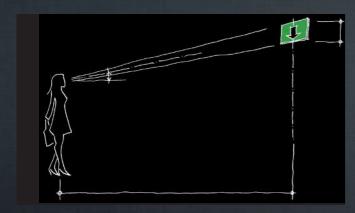
Styled in a clean way and well proportioned the surface-mounted housings provide a real alternative to the recessed installation variants. As well as the colour white all housing variants are also offered in the colour ALU-Design.

Go to page 30/31 for the explanation of all mounting types.

34

Normative guidelines Lighting technology according to EN 1838

EN 1838 is a norm valid in all European countries defining the basic requirements for a safety lighting.





Recognition distance according to EN 1838

Calculation formula: $I = z \times h$

I = recognition distance

z = constant

h = height of pictogram

z = 100 for illuminated signs (plates)

z = 200 for backlit signs (escape sign luminaires)

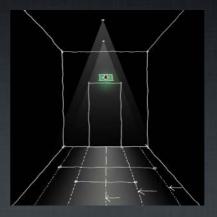
Empirical formula: with same recognition distance plates need to be double the size of escape sign luminaires.

How and where is illumination needed

- » at least 2 m above the ground
- » near¹⁾ every exit door to be used in case of emergency
- » near¹⁾ stairs and near every other change of level
- » each time there is a change in direction ²
- » at each crossing of corridors/ hallways 2)
- » near¹⁾ every last exit and outside the building until a safe area is reached
- » near¹⁾ every first-aid-post and near every fire fighting facility and signalling unit (vertical illuminance of 5 Lux)
- » near¹⁾ escape equipment for persons with disabilities
- » near¹¹ protection zones for persons with disabilities and near call systems

1) "near" means < 2 m measured in horizontal.

²⁾ means that the safety luminaires illuminate both directions of a direction change or crossing.

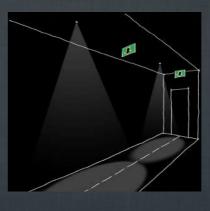


Illumination level of escape routes according to EN 1838

In the case of escape routes of a width up to 2 m the horizontal illuminances on the ground along the center line of the escape route must be at least 1 lx.

The central zone, which corresponds to not less than the half of the width of the path must be illuminated with at least 50 % of this value.

Larger escape routes can be considered as several 2 m large stripes or equipped with anti-panic lighting.



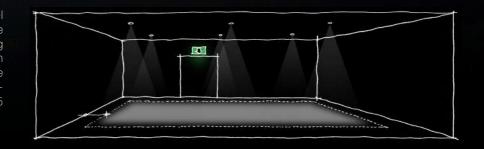
Unevenness U_d of the illuminance

The proportion of the smallest to the biggest illuminance corresponding to EN 12665 must not fall below 1:40 along the centre line of the escape route. The amount of reflecting light from the boundary surface of a room can be neglected.

Anti-panic lighting

The part of security lighting that serves to avoid panic and allows people to reach a spot from where an escape route can be explicitly recognised as such is called anti-panic lighting.

The horizontal illumination level must not fall below 0,5 lx on the free floor area, not considering peripheral zones with a width of 0,5 m. The proportion of the smallest to the biggest illumination level according to EN 12665 may not fall below 1:40.



36

Invisible safety lighting Does safety lighting have to be visible?

Unlike emergency sign-panels, that indicate the course of the escape route through direction arrows, safety lights have the function to illuminate in conformity with the standards the emergency escape route in case of power failure

Until now only big and bulky safety lamps were available for this purpose, which only rarely integrated easily into the architecture. For many years din-Sicherheitstechnik has been pursuing the target of integrating safety lights as invisibly and discreetly as possible in the architectural pattern of light.

On the following pages you will find examples and solutions of how highly efficient and cost saving the almost invisible LED-safety illumination can be realized.



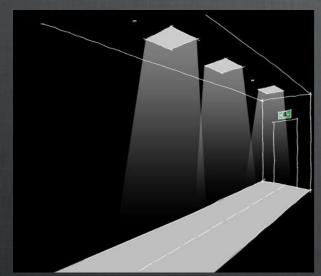
Energy saving thanks to additional benefits Invisible emergency luminaires illuminate corridors and hallways during night hours

For years we have been pursuing the target, to use emergency luminaire, installed for illumination of the escape and emergency routes in case of emergency, also for general lighting. The reduced illumination level is pleasant yet totally sufficient to illuminate hallways, stairwells and other rooms cost-effectively during night hours.

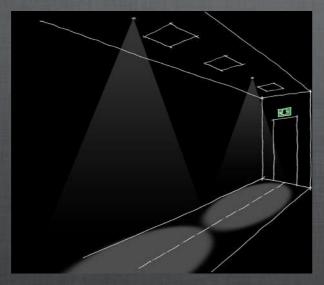
Empirical data prove that in more than 80% of the cases the switch for the main light is not used anymore. This is also a reason why safety lights from din-Sicherheitstechnik are designed for continuous operation through a high-quality thermal management and available in different light colours. Whether escape sign-panels or safety lights, we assume a full guarantee for a flawless operation of 50.000 hours (corresponds to 5,7 years) of all our products.

Corridor lighting with general illumination

100 Lux, 200 Watt



Energy saving illumination = security lighting





STRING stripe ceiling mounting – frameless Safety lighting

glare-free and even illumination.

STRING stripe SL 1





The recessed and surface mounted version is delivered together with the electronic and SL-insert.



The recessed and surface mounted version is delivered together with the electronic and SL-insert.



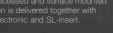
Installation accessory

Installation accessory

STRING stripe SL 2







version is delivered together with the electronic and SL-insert.



*Go to page 34/35 for the explanation about recessed mounting and surface mounting.



Architect Christoph Sch.

Architect Christoph Sch.

STRING ARC escape sign-panels captivat thanks to their minimalism and rectilinearity At the same time I think that the ARC "STRI PES" are excellently suited to act as architectural design element. Thereby stripes meet no only the requirements of a security lighting but contribute significantly to the reduction of energy costs thanks to their "energy saving respectively pright lighting". respectively night lighting".



STRING stripe wall mounting, frameless

The light-diverting fiber optic, that directs the exiting light in an angle of 30° downwards, is the condition for being

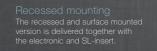
3h

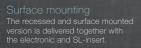
STRING stripe SLW 1



version is delivered together with the electronic and SL-insert.

STRING stripe SLW 2





STRING stripe SLWS 1



STRING stripe SLWS 2



Installation accessory



Installation accessory



Installation accessory



Installation accessory





STRING ARC SL-panel Wall mounting – frameless – the invisible light source Safety luminaire

Thanks to the flush-mounted and the frameless installation the STRING ARC SL-panel is an invisible light source applicable for general and safety lighting. For a clean mounting with exact gap dimensions also for this lamp prefabricated dry construction elements or mounting boxes for exposed concrete made of stainless steel are available.

Flush recessed wall mounted, frameless



Size 2

Electronic with concrete moulde cabinet or dry wall element

Installation accessory



Precast dry wall element
Stainless steel concrete moulded cabine



EyE-90 — The universal genius Safety luminaire

Safety lighting generated from an almost invisible glass cylinder, not bigger than a thimble. Until recently nobody dared to think that this wish of architects and planners could become reality.

Die EyE-90 safety light is adapted for mounting in different materials from 0,5 mm to 25 mm thickness. With 3.000 K and 4.000 K optionally 2 light colours are available.

For special applications (accent lighting) the EyE-90 can also be fitted with coloured LEDs.

EyE-90-PLC24



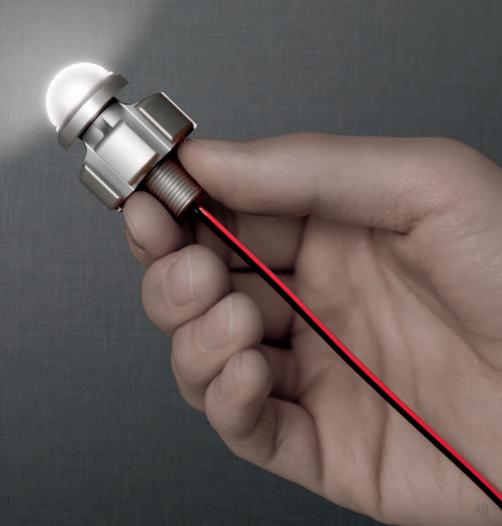
Luminaire incl. Electronic Ceiling drill hole: 13 mm Ceiling thickness: 0,5-25 mm Note: Electronic has to be



Installation accessory

The lamp was conceived for the installation in plasterboard, in dry wall, sheet metal or wooden ceilings. But other individual carrier materials from 0,5 mm till 25 mm can be used as well.

The patented mounting system guarantees the necessary cooling capacity in all mounting types which makes a major contribution to the durability of the product.



Safety lighting/night lighting/energy saving illumination EyE-Pro frameless LED-Spot/individual mounting

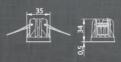
other carriers like sheet metal, aluminium or plastic up to a material strength of maximum 25 mm.

The different types of the EyE-Pro ("R", "RG" and "3") stand for 3 different lighting characteristics.

With optionally 3.000 K or 4.000 K the spotlights integrate themselves excellently into the general lighting and

EyE-Pro R-PLC24





Frameless safety lighting for mounting in wood, paperboard, sheet metal ceilings or other carriers like aluminium or plastic.

Frameless safety lighting for mounting in wood, paperboard, sheet metal ceilings or other carriers like aluminium or plastic.

EyE-Pro RG-PLC24



Mounting depht: >50 mm Ceiling thickness: 1-25 mm



An almost invisible security light thanks to the white bottom view. Particularly adapted for mounting in white carriersor as an integrated security light mounted in general lamps.



for daytime dependent control of

EyE-Pro 3-PLC24



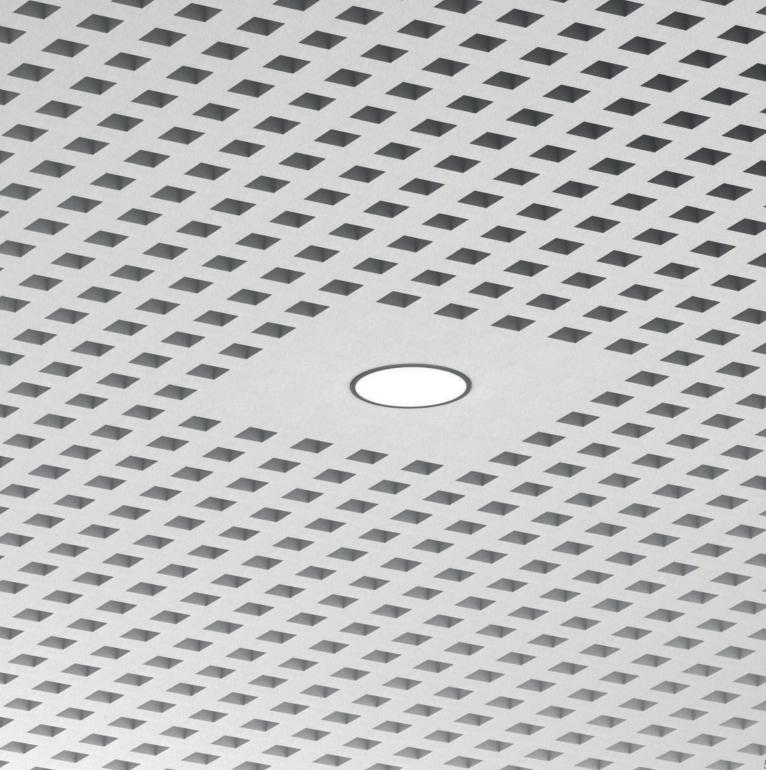


Power pack

Frameless security lighting for ceiling installation and mounting heights up to 10m.



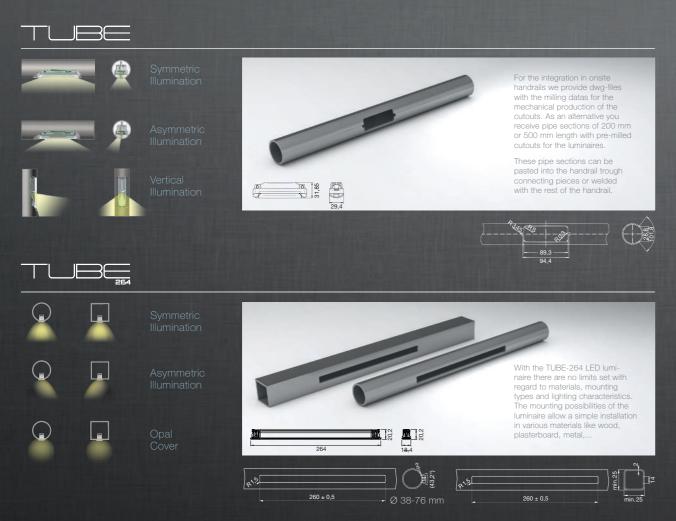
for daytime dependent control of permanent, stand-by, timer and



Tube LED-handrail luminaire Safety luminaire

The Tube LED-handrail light was developed in close collaboration with leading architects and electrical designers and represents a totally new approach not only in the field of emergency and safety lighting.

Safety illumination in conformity with the standards integrated in the hand rail helps to continue the architectural concept without "additional lights for safety illumination" also on the escape route. Different reflectors and the protection class IP65 allow an almost unlimited application of this hand rail light – also outdoors.



The Tube LED-handrails are available in the light colours 3.000 and 4.000 Kelvin.

50.000 h full warranty * Energy efficiency has a high priority for us



Plenty of experience, highest manufacturing quality and specific measures in thermal management make it possible that we assume full guarantee of 50.000 hours for all emergency and safety luminaires.

Of course din-Sicherheitstechnik gives high priority also to other technical quality criteria like maximum energy efficiency, maintainability and durable materials of high quality.

Standard conformity Sustainability instead of reducing costs



We set great value that all of our products correspond to the common standards and regulations. For the necessary inspection din-Sicherheitstechnik collaborates with independent testing and certification authorities.

Besides the ENEC certification, that confirms the conformity with European safety standards, all lamps correspond to the EN 1838 relevant for emergency and safety lighting.

Environment and sustainability One of our biggest goals



We are committed to eco-friendly products and processes. Environmentally friendly manufacturing processes are taken into account already in the development phase.

In doing so, sustainability is more important to din-Sicherheitstechnik than pure reduction of costs. About 90% of the environmental impacts of our emergency and safety lights result from their application. This is where the guaranteed durability of our LEDs scores as well as our energy-efficient control gears.

Our products are produced exclusively in Austria and therefore guarantees flexible, contemporary and high quality production.

*In case of self contained luminaires (sc AT – self containted Automatic Test) the 50.000 h guarantee applies exclusively to the LED-installations. The single-batterie-electronics, the single-battery-accumulator are definitely excluded from the 50.000 h guarantee.



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