Linear solutions for all architectural lighting:

the Invia 48V modular light structure from ERCO

Lüdenscheid, January 2023. Light lines are an effective method of adding dynamism to spaces and emphasising their dimensions. For such applications the [Invia 48V](https://www.erco.com/press/7439/en) light structure not only includes diffuse light lines – it is a fully-fledged system for all architectural lighting tasks ranging from general illumination to accenting, and also offers technical lighting innovations, for example continuous wallwashing right into corners.

In architecture, lines such as alignments, edges and axes of view are central elements of design. Many lighting concepts use continuous line lighting systems to trace such lines: this gives rooms dynamism and emphasises their dimensions. But what if a light structure could take on all architectural lighting tasks – including wallwashing in museums and galleries, general lighting in public buildings and standard-compliant task lighting in offices? The ERCO development team asked itself this question and has come up with the new [Invia 48V](https://www.erco.com/press/7654/en) modular light structure, offering full architectural lighting from the linear profile, diverse mounting options and maximum flexibility with planning and installation. State of the art digital connectivity and tunable white as an option also make Invia 48V a versatile tool for HCL lighting concepts.

Profiles for ceiling recessing, ceiling surface-mounting and suspending

[Invia 48V](https://www.erco.com/press/7654/en) is a modular low voltage light structure with profiles for different mounting methods, with its own linear downlights, wallwashers and optional uplight. Invia 48V is also compatible with the ERCO Minirail 48V track and therefore with all ERCO 48V spotlights, thus also allowing flexible accent lighting to be realised from within the system. The basic profile is available in three variants: The covered recessed profile for installation in suspended ceilings can also be used as a support for acoustic panels. The flush recessed profile can be adapted to different ceiling thicknesses, plus the surface-mounted/pendant profile with a cross-section of 43 x 94mm. The profiles are 1800mm long and can be shortened on site. Right-angled corners with a leg length of 300mm as well as mounting accessories such as couplers with live end, end caps and suspensions complete the modular kit. This means that lighting designers can use [Invia 48V](https://www.erco.com/press/7654/en) to respond in a nuanced way to structural conditions, for example in existing projects. There is also a wide scope for design, ranging from ceiling-integrated concepts with elegant, trimless flush-fitting details, to additional structures suspended in the room that develop a striking presence. For the configuring and specifying of such lighting solutions, ERCO provides support with planning aids and interactive tools.

To match the profiles, [Invia](https://www.erco.com/press/7654/en) luminaires are available in 300 or 1800mm lengths. Thus several luminaires with different light distributions can be combined on one profile length or shortened profiles can be fitted to suit. The luminaires snap into place without tools and connect to the four conductors integrated in the profile for power supply and control line requirements. ERCO offers a wide selection of light distributions for the new system – the majority of these with the typical lens technology developed and produced by ERCO in-house. The miniaturised lens systems with a width of only 25mm project light precisely and highly efficiently onto the target surface to create 90° or 70° downlight distributions. The narrow distribution version is also available as a high-output downlight for rooms with heights up to 8 metres or as a standard-compliant, glare-free task light with UGR<19. Added to this is a diffuse light distribution. All optics seamlessly merge together and are also available as corners with a leg length of 300mm. This creates a visually seamless continuous line for an aesthetic ceiling appearance.

Invia 48V also scores in terms of sustainability thanks to modular components and efficient lighting technology. 48V low voltage systems are more efficient than 220-240V systems with a power supply utilisation of 30%, because the conversion from mains voltage to 48V takes place centrally and not at each luminaire. With up to 160lm/W for downlights, the Invia 48V light structure is particularly efficient.

Seamless wallwashing – right into the corners

One of the outstanding features of [Invia 48V](https://www.erco.com/press/7654/en) is undoubtedly the particularly high-quality, uniform wallwashing, implemented with appropriate luminaire inserts. Invia wallwashers are designed so that there is virtually no direct view into the luminaire from the room side for particularly high visual comfort. The light starts directly below the ceiling and falls uniformly over the entire height of the wall. The advantage: intelligently designed 90° corner wallwashers ensure seamlessly uniform illumination even around corners. The newly developed wallwasher optics are also extremely efficient with up to 107lm/W.

On a 3m high wall, Invia 48V sets the effectiveness benchmark for linear wallwashing with 1.6W/m2 per 100lx and requires 40% less energy than comparable systems – for sustainable lighting according to the ERCO Greenology concept.

For suspended Invia 48V profiles, in addition to the luminaires inserted from below, uplight modules are also available that brighten ceiling surfaces and provide a pleasant indirect light component in the room. All Invia luminaires are available with six different white light spectra from 2700K to 4000K and CRI 82 to CRI 92. An additional option is tunable white, i.e. variable colour temperature from 2700K to 6000K.

For holistic HCL concepts

Digital connectivity, uplight inserts and tunable white make [Invia 48V](https://www.erco.com/press/7654/en) the ideal tool for Human Centric Lighting, which takes into account both visual perception and the biological effect of light on people. In an office for example, the various Invia components can illuminate workstations and circulation zones according to their specific perceptual requirements. They provide a high level of visual comfort for different activities and always create the right atmosphere in line with the circadian cycle.

[Invia](https://www.erco.com/press/7654/en) has state of the art connectivity for lighting control systems: the luminaire inserts can be controlled either with DALI, or via Casambi Bluetooth with a gateway as an accessory. Casambi is also the system of choice for controlling suitably equipped ERCO 48V spotlights in the Minirail 48V track. With long-life, efficient LEDs and a modular design without glued joints for single-type recycling, Invia 48V is not only a highly flexible, but also a thoroughly sustainable lighting system.

For more information and aspects of sustainable lighting, visit [www.erco.com/greenology](https://www.erco.com/press/7364/en)  
  
[More information on Invia](https://www.erco.com/press/7654/en)

[Link to the Invia film](https://www.youtube.com/watch?v=-70p-ah1iu4)

**Technical features**

ERCO lens system:

Downlights: ERCO lens system made of optical polymer

Wallwashers: reflector, silver anodised aluminium,

highly specular

Distributions: wide flood,   
extra wide flood,   
diffuse,   
wallwash

ERCO LED module: Mid-power LEDs

Light colours: 2700K CRI 92, 3000K CRI 82, 3000K CRI 92, 3500K CRI 92, 4000K CRI 82, 4000K CRI 92 and tunable white (2700-6000K CRI 92)

Housing: aluminium profile

Installation: flush and covered ceiling recessing,

ceiling surface-mounting and suspended

Control gear: switchable, DALI, Casambi Bluetooth

(with gateway as accessory)

Images



Invia 48V is a modular low voltage light structure with profiles for different mounting methods, with its own linear downlights, wallwashers and optional uplight. Invia 48V is also compatible with Minirail 48V track and thus all ERCO 48V spotlights.

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**Invia 48V – flexible in museums and galleries**

Invia 48V scores with outstanding wallwashing, even across corners – perfect for uniformly illuminating high-quality art. Art can also be displayed with high contrast thanks to use of 48V spotlights.

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Visualisation: Electric Gobo



**Invia 48V – modular in offices**

Human Centric Lighting put into linear form: Invia 48V brings everything needed for perception-oriented lighting. Standard-compliant general lighting with UGR<19 and uplight component, tunable white and effective accent lighting via 48V spotlights.

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Visualisation: Electric Gobo



**Invia 48V – integrated in public buildings**

Luminaires and architecture become one: even rooms up to 8m high such as atriums and foyers can be illuminated efficiently and with very good visual comfort with Invia downlights. The 70° wide flood distribution is available in a high-output version with extra high luminous flux for this purpose.

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Visualisation: Electric Gobo



Invia 48V as linear wallwashers, ideal for museums and galleries.

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**About ERCO**

ERCO is an international specialist for high-quality and digital architectural lighting. The family-owned company, founded in 1934, operates globally in 55 countries with independent

sales organisations and partners.

ERCO understands light as the fourth dimension of architecture – and thus as an integral part of sustainable building. Light is the contribution to making society and architecture better and, at the same time, preserving our environment. ERCO Greenology® – the corporate strategy for sustainable lighting – combines ecological responsibility with technological expertise.

At the light factory in Lüdenscheid, Germany, ERCO develops, designs and manufactures luminaires with a focus on photometric optics, electronics and sustainable design. The lighting tools are developed in close collaboration with architects, lighting designers and electrical designers. They are used primarily in the following applications: Work and Culture, Community and Public/Outdoor, Contemplation, Living, Shop and Hospitality. ERCO lighting experts support designers worldwide in transforming their projects into reality with highly precise, efficient and sustainable lighting solutions.

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