



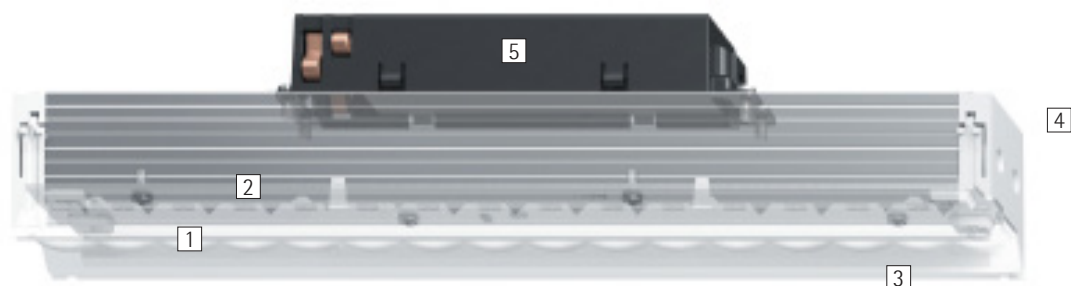
Invia 48V Light Structure – Drawing lines and illuminating spaces

Modular continuous row system with lens technology for all architectural lighting tasks

The Invia 48V continuous row lighting system draws lines that give rooms and spaces a sense of dynamism and emphasize their dimensions. Invia simultaneously offers fully-fledged architectural lighting with efficient and precise light distributions for room heights up to 26ft (8m): from linear wallwashers and downlights to spotlights on the Minirail 48V track insert and for projects ranging from public buildings and offices to museums. The system is suitable for

recessing, surface mounting and pendant mounting. Four conductors for 48V and the DALI control line are integrated in the basic profile. The luminaire inserts snap into place without tools to create uninterrupted light lines – even in corners and with wallwashers. Digital connectivity, upright inserts and tunable white make Invia ideal for Human Centric Lighting.

Invia 48V Light Structure



Structure and characteristics

The features described here are typical of products in this range. Special versions may offer additional or varying features. A comprehensive description of the features of individual products can be found on our website.

1 ERCO lens system (downlight)

- Made of optical polymer
- Light distributions: wide flood, extra wide flood or diffuse

or

Reflector (wallwasher)

- Aluminum, silver anodized, highly specular

or

Diffuser (uplight)

- Luminaire consists of 3 permanently connected units
- Polymer

2 ERCO LED module

- Mid-power LEDs: warm white (2700K or 3000K), neutral white (3500K or 4000K) or tunable white (2700-6000K)

3 Anti-glare cover

- Polymer
- Downlight: white (RAL9016) or black
- Wallwasher: white (RAL9002) or black

4 Housing

- Aluminum profile/polymer

5 Control gear

- Switchable or DALI dimmable
- Control with Casambi Bluetooth via accessories: please order Casambi DALI Gateway separately

6 Profile

- Aluminum profile, can be shortened on site
- Shapes: linear or corner
- 2 insulated copper conductors, 4.5mm². 1 circuit, max. 10A
- 2 insulated copper conductors, 4.5mm², for connection to DALI control line
- Underside: for accommodating luminaires
- Surface-mounted profile/pendant profile: white (RAL9002), black or silver powder-coated. Upper side for mounting to ceiling or for accommodating pendant accessories, uplights or connection cable
- Covered recessed profile: white (RAL9002) or black powder-coated, flanges for ceiling panels
- Flush recessed profile: mounting in drywall ceilings. Adjustable for ceiling thicknesses 12.5-25mm

Variants on request

- Profile: 10,000 further colors
- Please contact your ERCO consultant.



Design and application:
www.erco.com/invia-48V

Invia 48V Light Structure



Linear wallwashing
Linear Invia 48V wallwashers illuminate vertical surfaces extremely efficiently and with excellent uniformity, even around corners.



Various luminaire inserts
You can insert Invia 48V luminaires into the profile without tools. Downlights for various applications, an uplight and wallwashers with tunable white enable qualitative lighting concepts.



Tunable white technology
Just as the color temperature outdoors changes continuously during the day, the color temperature of the lighting can be adjusted indoors to e.g. support lighting concepts for Human Centric Lighting.



Integration of 48V spotlights
From accentuation with a 5° narrow spot to zoom optics and precise framing with tunable white and RGBW. By integrating Mini-rail 48V, you can use all ERCO 48V spotlights.

| Special characteristics | |
|-------------------------|-------------------------------|
| | Outstanding uniformity |
| | Different light distributions |
| | Tunable white |
| | Integration of 48V spotlights |

| | |
|--|------------------------|
| | ERCO mid-power LEDs |
| | Different light colors |

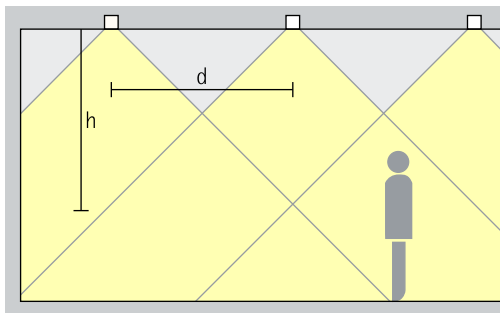
| | |
|--|---|
| | Excellent thermal management |
| | EMC-optimized |
| | Various housing colors |
| | Various construction sizes |
| | Easy installation |
| | Continuous line arrangements are possible |

| | |
|--|-------------------|
| | Switchable |
| | DALI controllable |
| | Casambi Bluetooth |

Invia 48V Light Structure – Luminaire arrangement

Downlights

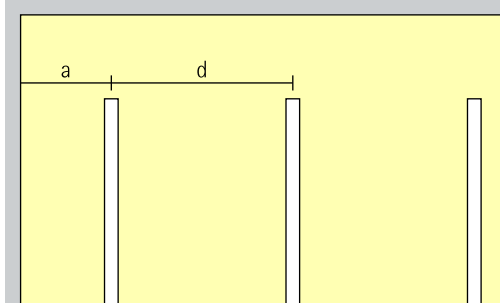
Wide flood, Extra wide flood, Diffuse



General lighting

For uniform general lighting with high visual comfort, the luminaire spacing (d) between two linear Invia 48V downlights may be up to 1.5 times the height (h) of the luminaire above the working plane (rough guide).

Arrangement: $d \leq 1.5 \times h$

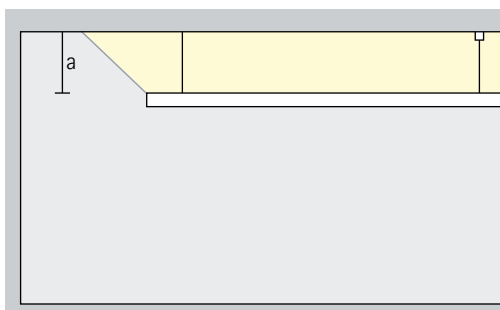


The wall offset should be half the luminaire spacing.

Arrangement: $a = d / 2$

Uplights

Diffuse



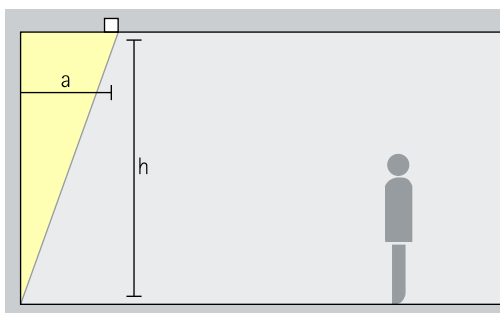
General lighting

Indirect lighting on bright ceilings increases the visual comfort due to diffusely reflected light. The room also appears to be higher. The profile should be suspended from a height of at least 0.5m.

Arrangement: $a \geq 0.5\text{m}$

Wallwasher

Wallwash



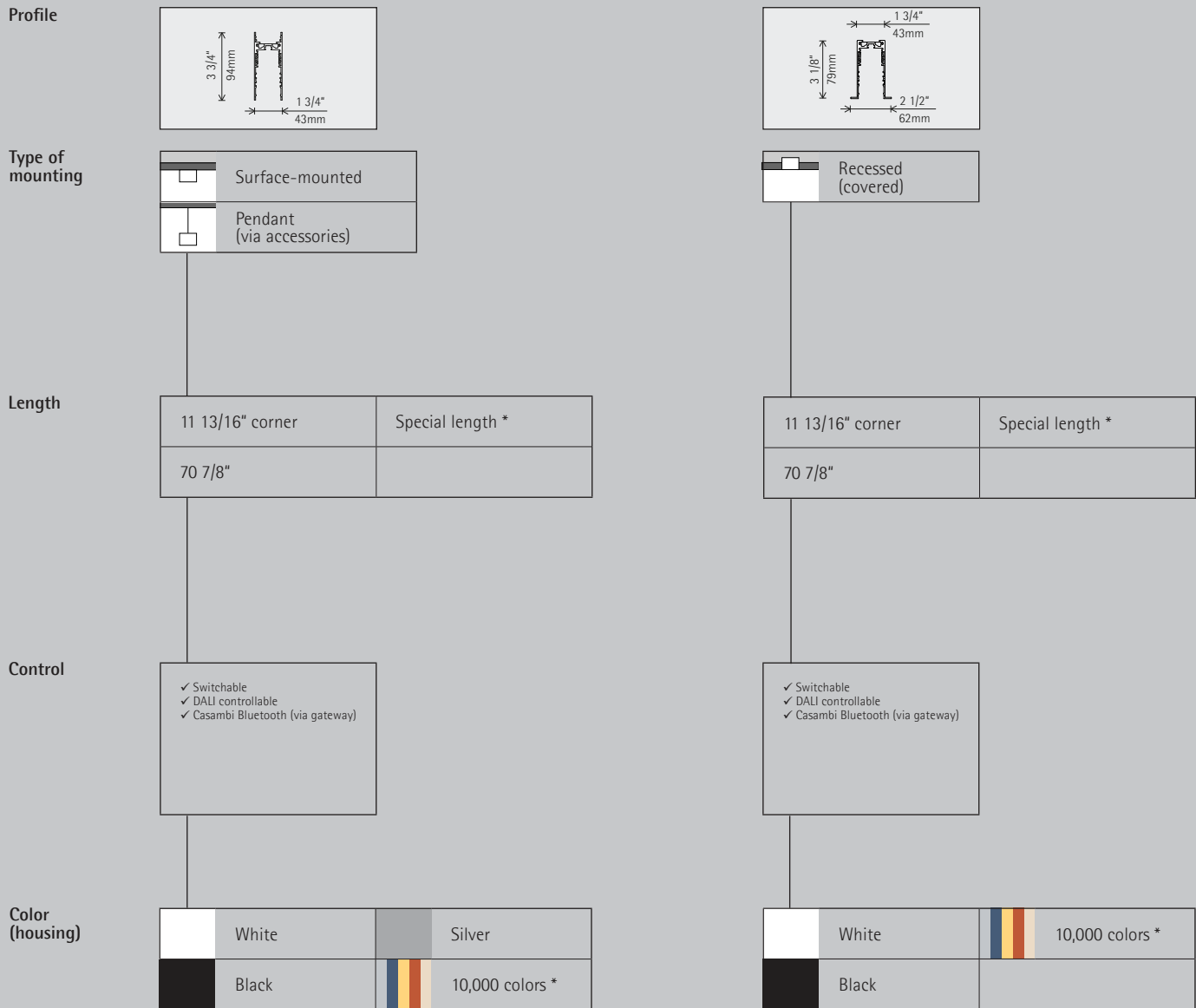
Wallwashing

For uniform vertical lighting, the distance to the wall (a) of linear Invia 48V wallwashers should be at least one third of the room height (h).







Arrangement: $a = 0,4 \times h$

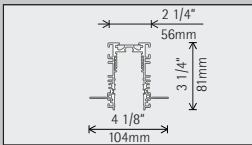
Optimal wall distances for individual products are specified in the wallwasher tables.


Invia 48V light structure



Accessories

| | | | | | |
|---|---------------------------|---|------------------|---|----------------------|
|  | Mounting kit for Minirail |  | Suspensions |  | Power supply units |
|  | Electrical connectors |  | Mounting devices |  | Casambi DALI gateway |




 Recessed
(flush)

| | |
|------------------|------------------|
| 11 13/16" corner | Special length * |
| 70 7/8" | |

- ✓ Switchable
- ✓ DALI controllable
- ✓ Casambi Bluetooth (via gateway)

* available on request

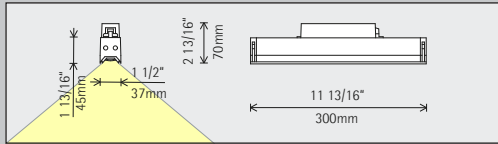
Article numbers and planning data:
www.erco.com/022544-us

Design and application:
www.erco.com/invia-48v/en_us



Invia 48V light structure

Size (luminaire)



11 13/16"

LED module
Maximum value with 4000K CRI 82

| | |
|------------|----------------------|
| 4.1W/749lm | 8.2W/1498lm (corner) |
|------------|----------------------|

| | |
|------------|-----------------------|
| 5.4W/771lm | 10.8W/1542lm (corner) |
|------------|-----------------------|

Light colour

| | | | |
|--|--------------|--|--------------|
| | 2700K CRI 92 | | 3500K CRI 92 |
| | 3000K CRI 82 | | 4000K CRI 82 |
| | 3000K CRI 92 | | 4000K CRI 92 |

| | |
|--|---------------|
| | Tunable white |
|--|---------------|

| Downlights | | Wallwasher | |
|------------|------------------|------------|----------|
| | Wide flood | | Wallwash |
| | Extra wide flood | | |
| | Diffuse | | |

| Downlights | | Wallwasher | |
|------------|------------------|------------|----------|
| | Wide flood | | Wallwash |
| | Extra wide flood | | |
| | Diffuse | | |

Control

| | |
|--|--------------------------------------|
| | Switchable |
| | DALI controllable |
| | Casambi Bluetooth + DALI via Gateway |

| | |
|--|--------------------------------------|
| | DALI controllable |
| | Casambi Bluetooth + DALI via Gateway |

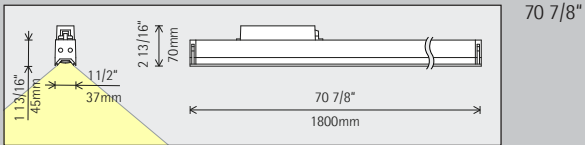
Color (anti-glare cover)

| | |
|--|-------|
| | White |
| | Black |

| | |
|--|-------|
| | White |
| | Black |

Accessories

| | | | | | |
|--|---------------------------|--|------------------|--|----------------------|
| | Mounting kit for Minirail | | Suspensions | | Power supply units |
| | Electrical connectors | | Mounting devices | | Casambi DALI gateway |



70 7/8"

24.4W/4493lm

32.4W/4627lm

| | | | |
|--|--------------|--|--------------|
| | 2700K CRI 92 | | 3500K CRI 92 |
| | 3000K CRI 82 | | 4000K CRI 82 |
| | 3000K CRI 92 | | 4000K CRI 92 |

Tunable white

| Downlights | | Wallwasher | |
|------------|------------------|------------|----------|
| | Wide flood | | Wallwash |
| | Extra wide flood | | Uplight |
| | Diffuse | | Diffuse |

| Downlights | | Wallwasher | |
|------------|------------------|------------|----------|
| | Wide flood | | Wallwash |
| | Extra wide flood | | Uplight |
| | Diffuse | | Diffuse |

| | |
|--|---|
| | Switchable |
| | DALI controllable |
| | Casambi Bluetooth + DALI via Gateway |

| | |
|--|---|
| | DALI controllable |
| | Casambi Bluetooth + DALI via Gateway |

| | |
|--|-------|
| | White |
| | Black |

| | |
|--|-------|
| | White |
| | Black |

Article numbers and planning data:
www.erco.com/022544-us

Design and application:
www.erco.com/invia-48v/en_us





Ernest Wayland Early Volcanism

1923 - 2015

Magma from the mantle or lower crust flows through the crust towards the surface.

On Earth, volcanoes are most often found where tectonic plates are diverging or converging, and most are found under water. For example, a mid-ocean ridge, such as the Mid-Atlantic Ridge, has volcanoes caused by divergent tectonic plates whereas the Pacific Ring of Fire has volcanoes caused by convergent tectonic plates. Volcanoes can also form where there is stretching and thinning of the earth's plates, such as in the East African Rift and the Basin and Range volcanic field and Rio Grande rift in North America. Volcanism away from plate boundaries has been predicted to arise from spreading sheets from the open-ocean boundary 3300 kilometers (2050 miles) in the Earth. This results in hot-spot volcanism, of which the Hawaiian hotspot is an example. Volcanoes are usually not created where two tectonic plates slide past one another. "Take the lid!"