

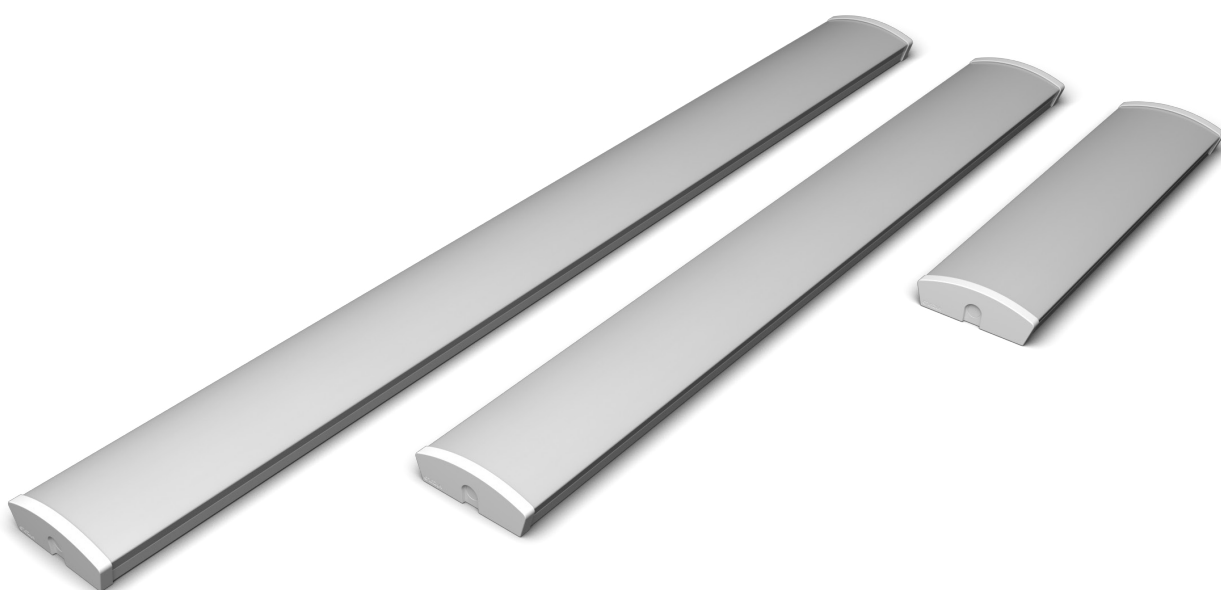


vizulo

FERN

All starts with the basics -

Fern surface



Many Lengths

On your choice 60 cm, 120 cm or 150 cm



If you want to get Fern
closer to your eyes - choose
suspended version
up to 2 m long

Unexpected application

Wire mount kit for Fern

Yet great results



No obstacles at any plane

Wall mount kit for Fern

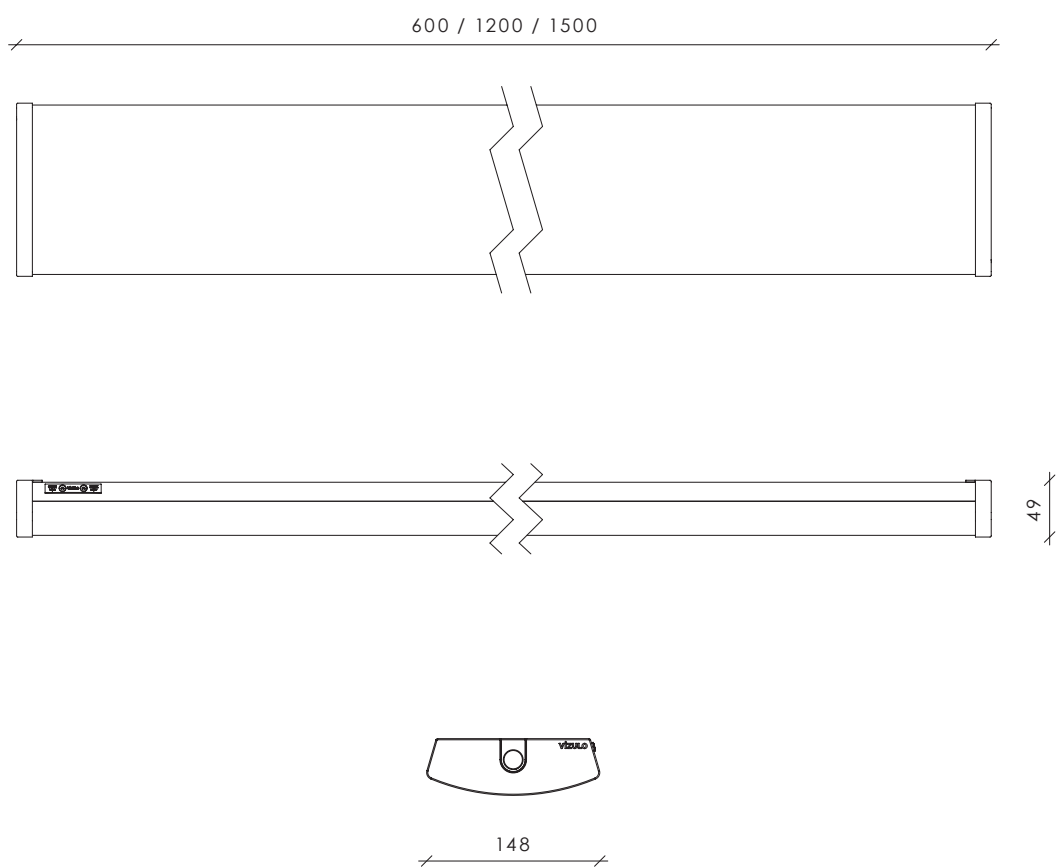


Fern



RAL9016

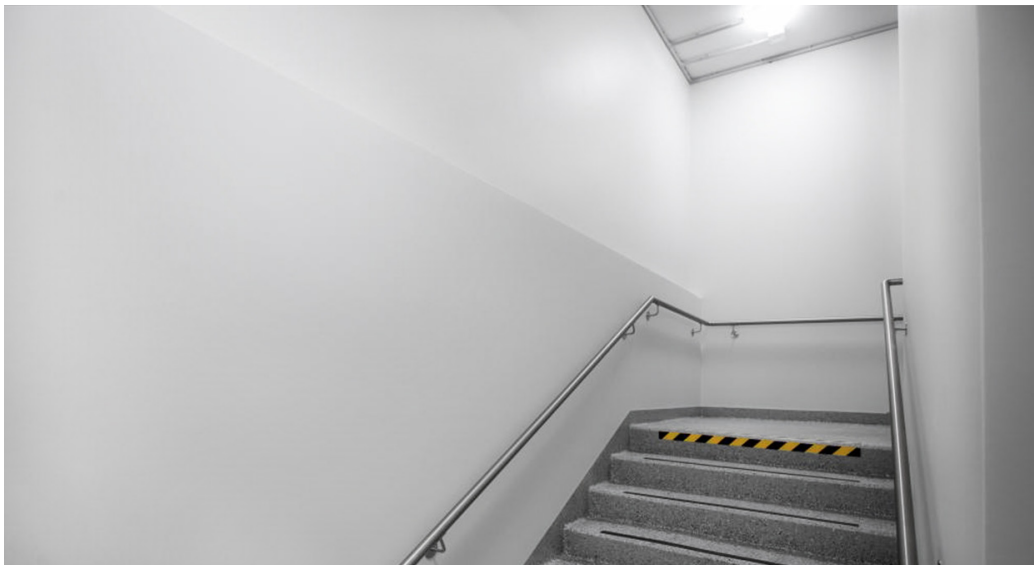
Other colors
available on request



Applications



▾ Corridors



▾ Basements



▾ Utility rooms



V	220 - 240
Hz	50 - 60
W	12 - 75
lm	Up to 9700 ⁽¹⁾
lm/W	Up to 140
K	3000 / 4000 / TW 2700 - 6500 K ⁽²⁾
°C	+10 to +40
CRI	>80 / >90 / >95 ⁽³⁾ >90 / >95 ⁽⁴⁾

Body:	Alu - zinc
Dimming:	DALI / Bluetooth / Non dimmable
Sensor:	Microwave / PIR / PIR + Daylight
Initial chromaticity:	MacAdam 3
Lifetime:	100 000 h (L80B10) at Ta = 25 °C* 50 000 h (L90B10) at Ta = 25 °C*
Warranty:	5 years 2 years (emergency configuration)
Downlight:	Opal / Microprismatic
Mounting:	Surface / Wire / Pendant / Wall
Cover:	Prismatic PMMA
Human Centric Lighting:	Available

¹⁾ Lumen output indicated at CRI > 70

²⁾ 1800 / 2200 / 2700 / 3500 / 5000 / 5700 / 6500 K available on request along with other not listed CRI and CCT

³⁾ Standard LED CRI

⁴⁾ Sun-Mimic LED CRI

⁵⁾ Check SundaHus web page for product assessment results

*This value is only informative and may change according to selected article. LED Lifetime is strongly depending from LEDs current and junction temperature – increase in LED current and luminaire power lead to increase of junction temperature and as consequence lifetime decrease. Thus, luminaire models with lower power, lower current (and lower junction temperature) will have higher lifetime than standard models. And high power and high current luminaire models may have negative lifetime deviation comparing to standard models. To receive precise value please contact VIZULO export representatives.

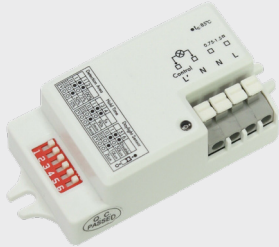
Technical parameters for final product can differ from typical data by 7% due to special conditions of LED manufacturing processes.

FERN Length - Power table

Length	600 mm	1200 mm	1500 mm
Power	12 - 31 W	19 - 61 W	23 - 75 W
Sensor	MW	MW	-
Emergency	-	1 h	-

Sensors

Microwave sensor



Power Source:	220 – 240 VAC (50/60 Hz)
Rated load:	400 W
Stand-by power:	<0.5 W
Sensitivity:	10% / 50% / 75% / 100%
Hold-time:	5 s / 90 s / 5 min / 15 min *
Daylight sensor:	2 lux / 10 lux / 50 lux, disable *
Microwave frequency:	5.8 GHz +/- 75 MHz
Detection range (diameter):	10 m *
Installing Height (Max):	6 m *
Detection angle:	30° ~ 150° *
Working temperature:	-20 °C ~ 60 °C
IP rating:	IP20
Certificates:	Semko, CB, CE, RCM, RoHS, RED

RF sensor



Power Source:	DALI
Mounting height (Max):	5 m
Detection angle for PIR detection:	84°
Detection angle for light measurement:	30° - 60°
Light measurement range:	0.5 - 2000 lux
Type of protection:	IP20
Working temperature:	-20 ~ +50 °C
Min temperature difference between ambient temperature and detected object:	±4 °C

* Other values available on demand, contact us for more information!

Emergency lighting

Fern has an option to have Emergency lighting (from 1200 mm)

Features

- Self contained emergency lighting
- 1 or 3 h rated duration
- Dimmable and non-dimmable versions available
- Constant power output
- Deepdischarge protection

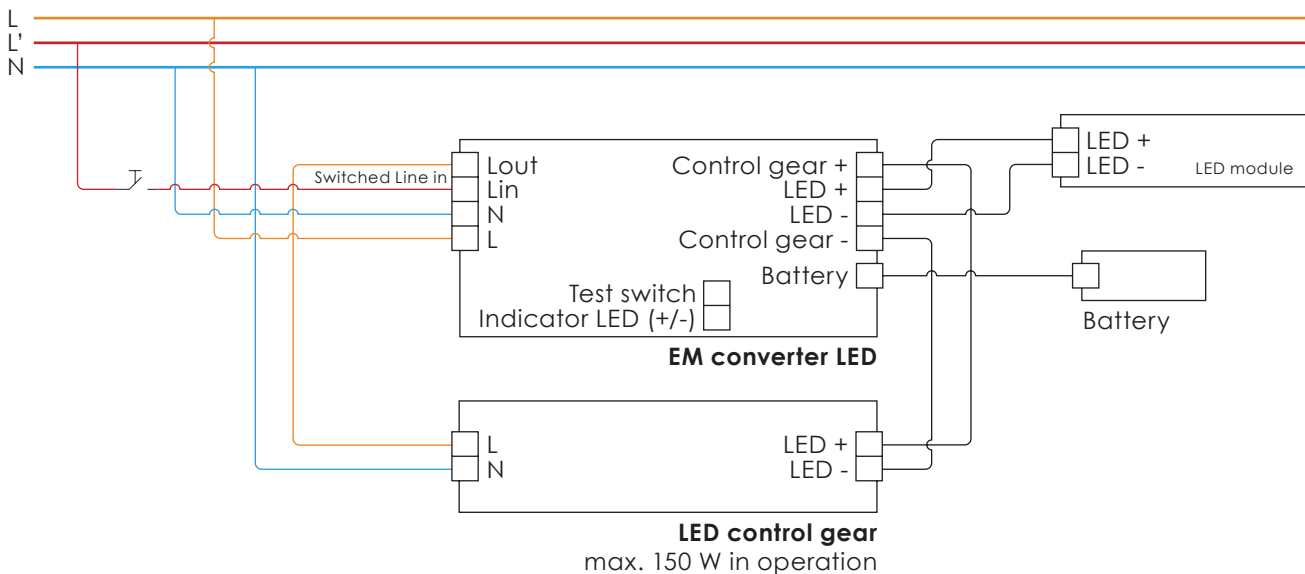
While Mains voltage is present Emergency controller is also charging the connected battery
Rated emergency duration can be chosen (based on battery capacity) and can be 1 h or 3 h

Operation

Fern luminaire which is equipped with Emergency lighting will work in 2 modes based on electrical conditions:

- 1) If Mains voltage is present, luminaire will work with its programmed power (just like in case without Emergency lighting)
- 2) If there is outage of Mains voltage, luminaire will work in Emergency mode with little power (about 2.5 W) while feeding from the battery

Simple wiring diagram



Additional Test switch

For connection to the emergency
For checking the device function

Status indication LED

Two-colour status display LED (bi-color)
Green: system OK, Red: fault



Exploring Fern

Dust foam ring to ensure IP44 class



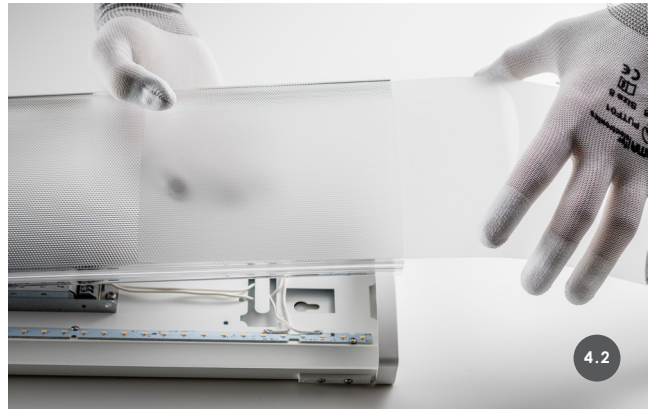
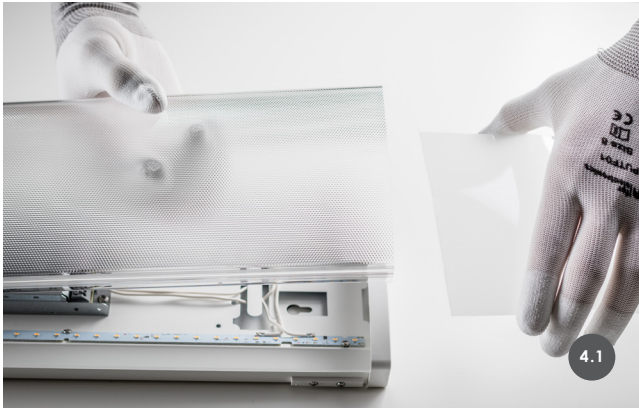
Rubber grommets for end caps | Usable for cables up to Ø13 mm



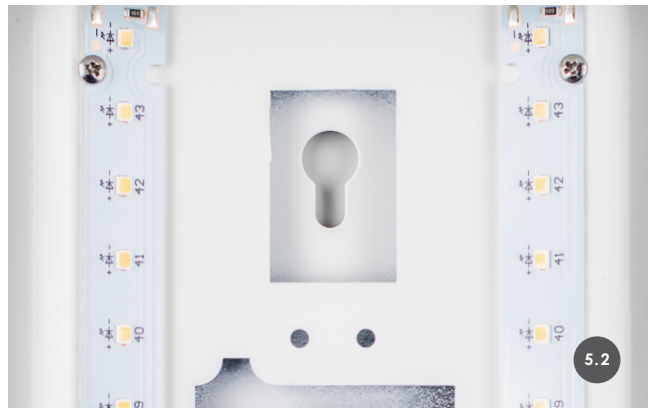
Easy tool-less opening | Shift fixation switch towards end cup



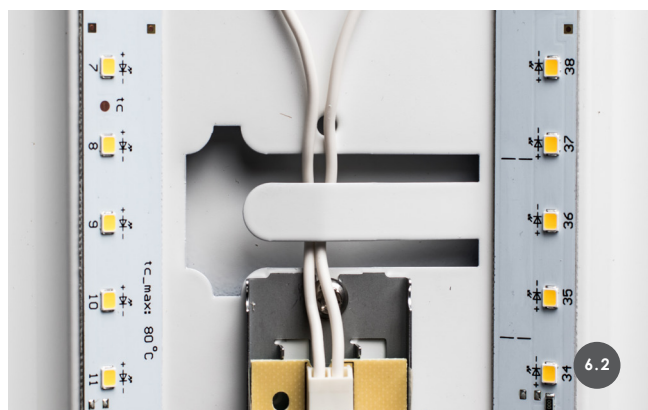
Opal diffusing sheet



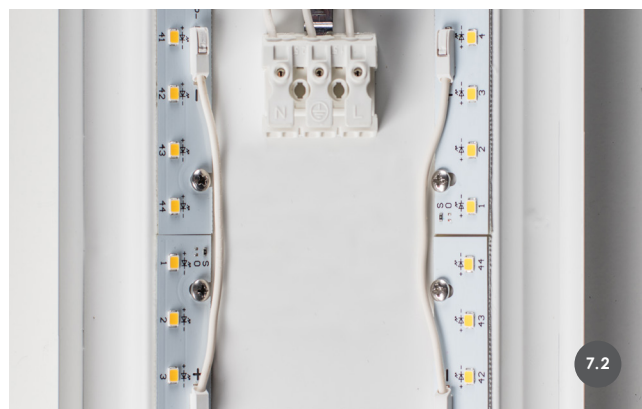
Functional screw hole slots



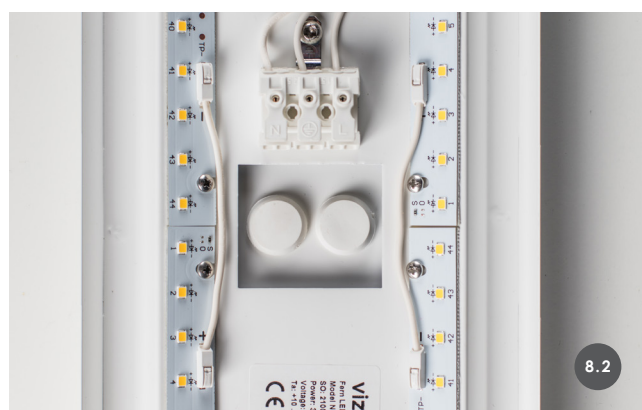
Solid wire fixation mechanism



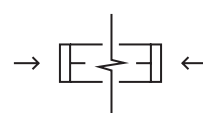
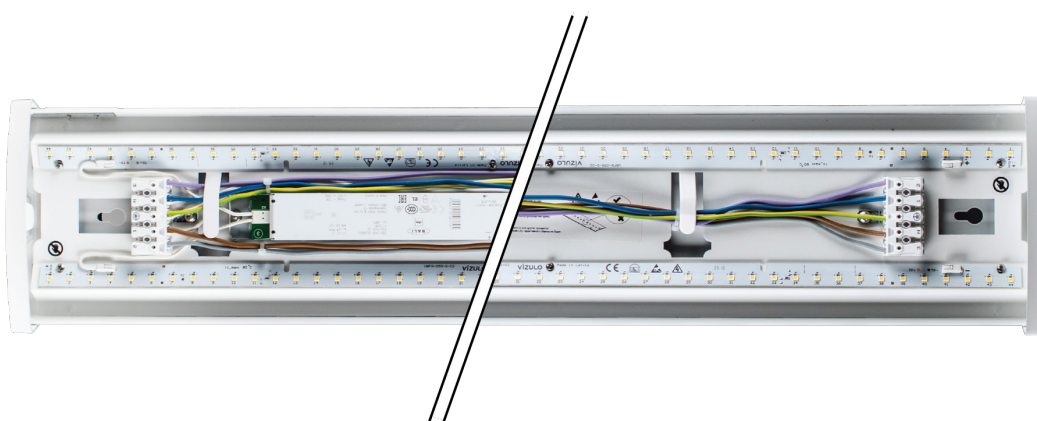
LED modules positioned on both sides of the internal body



Loop through via two grommets

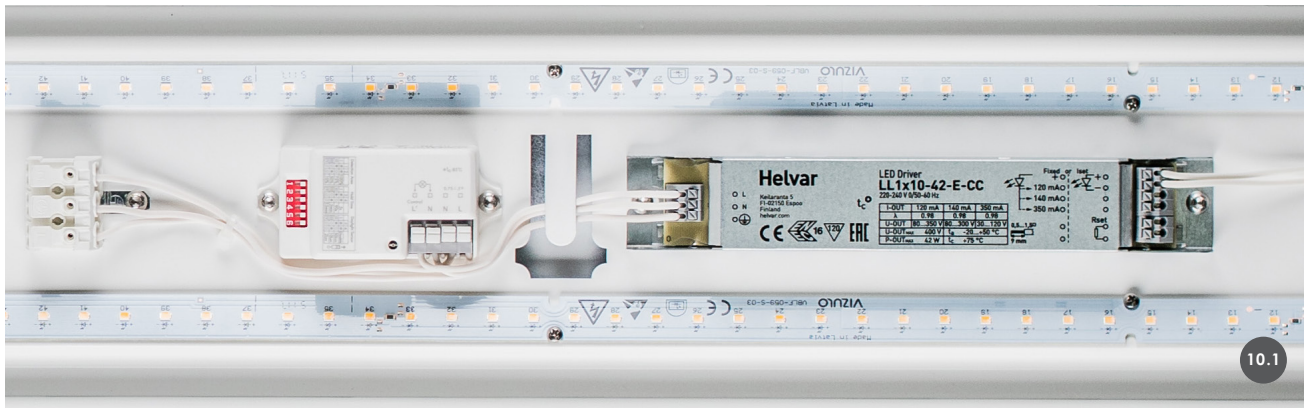


Through wiring with five pole terminal blocks | 1,5 mm diameter cables



9.1

Fern with microwave sensor | Non dimmable driver to ensure on/off switching by motion



Non dimmable Fern



| Fern with sensors

Microwave sensor + Non dimmable driver = on/off switching by motion

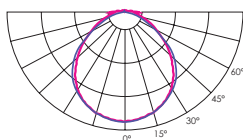
Microwave sensor + DALI = Corridor function dimming by motion

Model name principles

		FR								
Power [W]	012 ... 075									
Color rendering index	≥80 - 8 ≥90 - 9									
Color temperature [K] Standard values:	1800 ... 6500 3000 K - 30 4000 K - 40									
Diffuser	prismatic - P									
Length [mm]	600 mm - 06 1200 mm - 12 1500 mm - 15									
Color	RAL9016 - TT <i>other colors available on request</i>									
Through wiring	no - N 1.5 mm ² - V									
Dimming	non dimmable - N DALI - D									
Insulation	class I - I									
Sensor	no sensor - NS microwave (mw) - MW mw, master - MM mw, corridor function - MC mw, corridor function, master - MK RF reciever - RR mw, RF transceiver - TR									
Emergency	no emergency - 0 1 hour - 1 <i>refer to length table below</i>									

Optics

Prismatic



Accessories

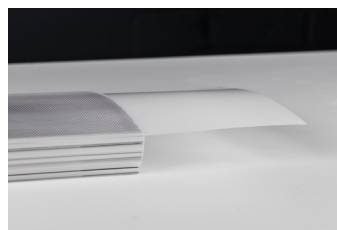
Clear spare cover Fern 600 mm
Clear spare cover Fern 1200 mm
Clear spare cover Fern 1500 mm

Art. 70066002
Art. 70066003
Art. 70066004



Clear spare cover with inserted diffusion sheet Fern 600 mm
Clear spare cover with inserted diffusion sheet Fern 1200 mm
Clear spare cover with inserted diffusion sheet Fern 1500 mm

Art. 70066005
Art. 70066006
Art. 70066007



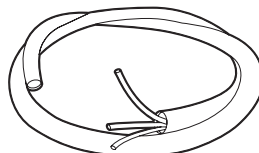
Connection cable 5x1.5 mm² (x2.5 m) with open end
Connection cable 5x2.5 mm² (x2.5 m) with open end

Art. 70042016
Art. 70042017



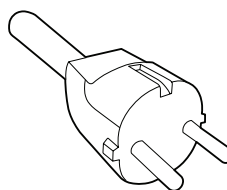
Connection cable 3x1.5 mm² (x2.5 m) with open end
Connection cable 3x2.5 mm² (x2.5 m) with open end

Art. 70042018
Art. 70042019



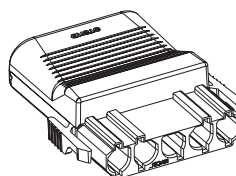
Connection cable 3x1.5 mm² (x2.5 m) with plug

Art. 70042022



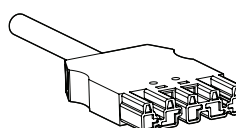
Connection cable 5x1.5 mm² (x2.5 m) with
Ensto(NAC51S.W) 5-way plug
Connection cable 5x2.5 mm² (x2.5 m) with
Ensto(NAC51S.W) 5-way plug

Art. 70042009
Art. 70042014



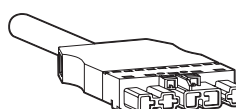
Connection cable 5x1.5 mm² (x2.5 m) with Wago
Winsta(770-115) 5-way plug
Connection cable 5x2.5 mm² (x2.5 m) with Wago
Winsta(770-115) 5-way plug

Art. 70042007
Art. 70042012



Connection cable with DALI 5x1.5 mm² (x2.5 m) with
Wago Winsta(770-1115) 5-way plug

Art. 70042030



Certification



CE – conformity with European Union's health, safety and environmental protection standards

The CE mark is placed on products to state conformity with the relevant EU health, safety and environmental protection standards. In case of electronic products, the standards are, for example, the Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS) directive, Waste Electrical and Electronic Equipment (WEEE) directive, the Electromagnetic Compatibility (EMC) directive etc. The mark ensures that the product can be sold anywhere in the European Economic Area (EEA).

RoHS

RoHS – compliance with European Union's RoHS directive

The RoHS (Restriction of Hazardous Substances in Electrical and Electronic Equipment) directive restricts (with exceptions) the use of ten hazardous materials in the manufacture of various types of electronic and electrical equipment. The aim of the directive is to prevent the risks posed to human health and the environment related to the management of electronic and electrical waste.



Bygghälsöindex – product chemical content and life cycle assessment

Bygghälsöindex is a non-profit organization owned by large constructors and property owners in Sweden. The organization conducts assessments of various construction products based on chemical content and sustainability criteria. The constituent substances and product life cycle are evaluated and the product is assigned one of three levels:



Recommended
(green)



Accepted
(yellow)



To be avoided
(red)

Note: the Recommended level assessment is unavailable for electronic products since it is assumed that all electronic products contain brominated flame retardants.

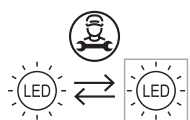


International EPD System – Environmental Product Declaration available

An Environmental Product Declaration (EPD) is a declaration of the materials, energy, transportation and other resources involved in the production, use and end-of life of a specific product. It is based on a Life Cycle Assessment (LCA) study that complies with standards EN ISO 14040 and EN ISO 14044. A product's EPD can help evaluate its impact on the environment and make sustainable choices.

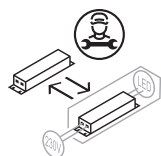
SundaHus i Linköping AB (publ) is a consulting company for the improvement of indoor environmental quality. The company conducts health and environmental assessments of building materials and assigns each product a letter evaluation:

- A** products that provide minimal health risks
- B** products that do not qualify for A, but do not match the criteria for C+, C- or D
- C+** products that risk exposure to substances of very high concern
- C-** products that risk exposure to toxic or volatile substances, as well as negatively impact the environment
- D** products that cannot be assessed due to insufficient data



LED module replaceable by a professional

This pictogram shows that the LED modules included in the luminaire are only replaceable by a professional. This labeling is a requirement following the introduction of European Union's Regulation on energy labelling for light sources (EU) 2019/2015.



LED driver replaceable by a professional

This pictogram shows that the LED driver included in the luminaire is only replaceable by a professional. This labeling is a requirement following the introduction of European Union's Regulation on energy labelling for light sources (EU) 2019/2015.

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