

HÄFELE

# LOX5

The LED lighting system  
for furniture and rooms.





**Easy.  
Logical.  
Linear.**

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# LOOX5



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We have invested many hours working with LED lights, we have developed and researched, we have had many valuable discussions with partners in trade and industry – and we have learned a great deal. The market is demanding digital answers.

The result after four generations of Loox LED lights is therefore not simply further development, but a new level. Our development has accelerated. Because the world is accelerating, and the demands of our customers are growing at an equally rapid rate.



# The essence of four generations.

We are driven by the same questions  
time and time again.

How can it be made easier?  
How can it be made better?  
How can it be made more intelligent?

# 5



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The essence of our experience  
therefore has a new face.

Welcome to Loox5.

Loox5

Color codes.

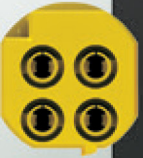


Yellow-in-yellow  
The Loox5 system with  
**12 volts**

Monochrome

RGB

Multi-white

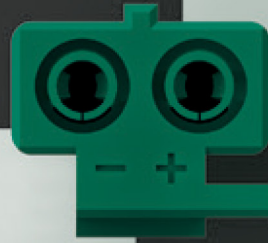


Intu  
con.

# 24

Green-in-green  
The Loox5 system with

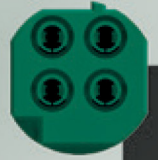
24 volts



Monochrome



RGB



Multi-white

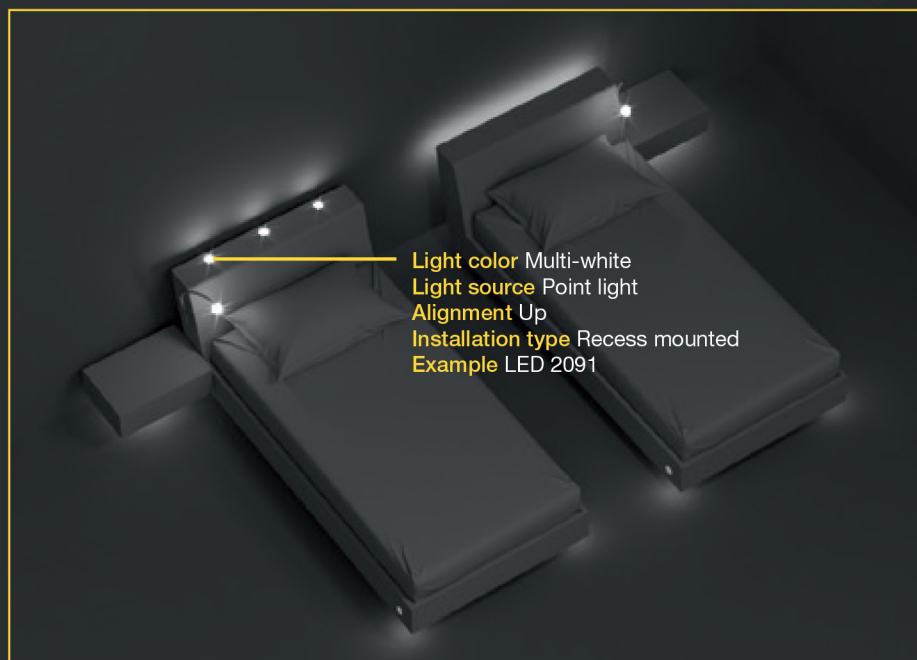
itive  
\_nec\_ tions.

# Light is easy.

Few criteria.

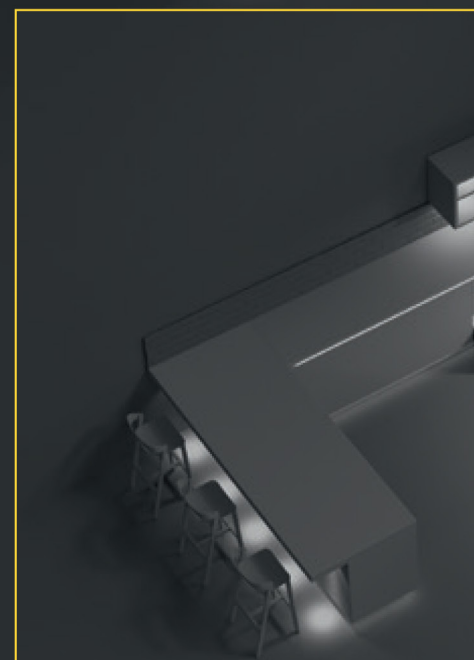
Many solutions.

<b>Light color</b>	Monochrome   Multi-white   RGB
<b>Light intensity</b>	Task light   Ambient light   Accent light
<b>Light source</b>	Linear light   Point light
<b>Alignment</b>	Directly or indirectly   Up or down   Forward or backward   To the side
<b>Position on the cabinet</b>	Outside   Inside
<b>Installation type</b>	Recess mounted   Surface mounted



## Light in the sleeping area.

Atmosphere full of ambience for rest areas.



## Light in the kitchen.

Functionality for every action.

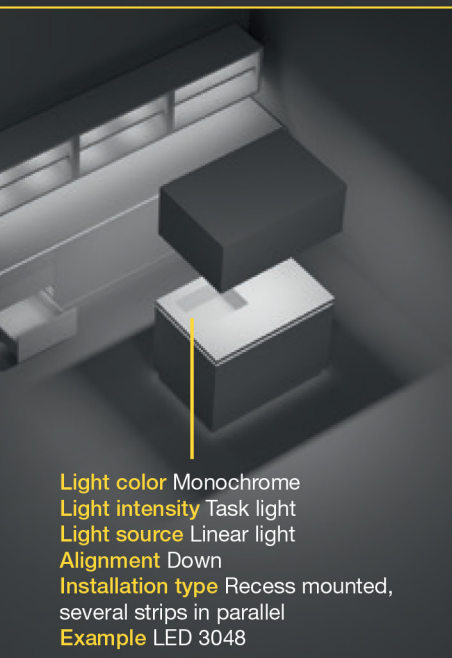


**Light color** Monochrome  
**Light intensity** Ambient light  
**Light source** Linear light  
**Alignment** To the side  
**Installation type** Attached at the side to the circular mounting plate behind the mirror  
**Example** LED 3040, just 5 mm wide for slim design applications

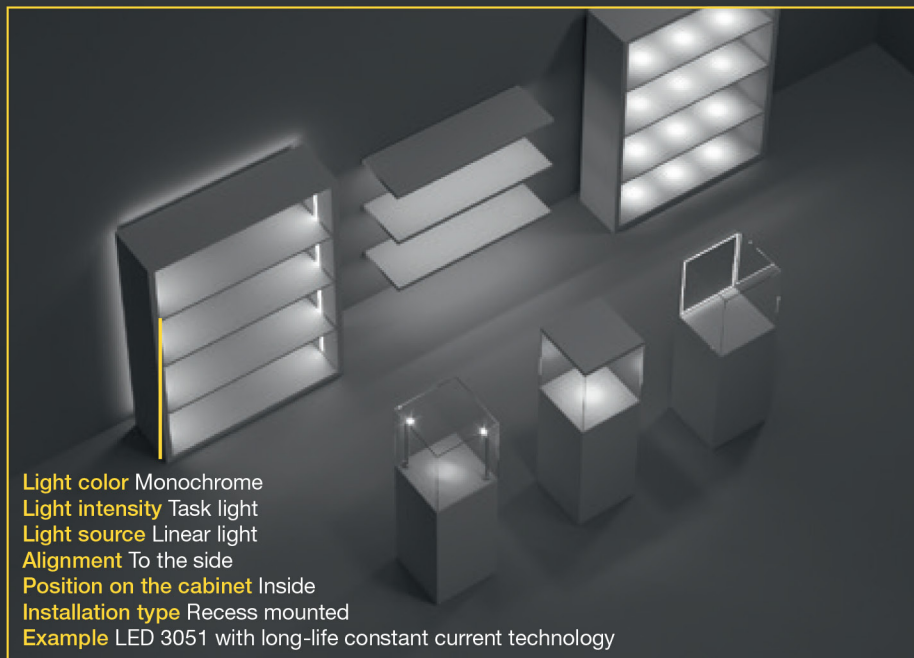
## Light in the storage space.

Orientation for perfect organization.

**Light color** Monochrome  
**Light intensity** Accent light  
**Light source** Linear light  
**Alignment** Down  
**Installation type** Recess mounted  
**Example** LED 2062



**Light color** Monochrome  
**Light intensity** Task light  
**Light source** Linear light  
**Alignment** Down  
**Installation type** Recess mounted, several strips in parallel  
**Example** LED 3048



**Light color** Monochrome  
**Light intensity** Task light  
**Light source** Linear light  
**Alignment** To the side  
**Position on the cabinet** Inside  
**Installation type** Recess mounted  
**Example** LED 3051 with long-life constant current technology

## Light in store fixtures.

Value for the presentation of goods.



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# Light is plannable.

The need to observe only a few planning steps structures and simplifies the planning of lighting in furniture.



## Illuminating.

At the start of the development process, determine the lighting purposes of the furniture (multiple choices possible)

- > **Task light for pleasant and safe working**
- > **Ambient light for highlighting or staging**
- > **Accent light for storage spaces or paths**

Also take into account the overall brightness of the room and the finishes to be illuminated: Sufficiently bright ceiling lighting or sunlight makes the orientation light unnecessary during the day, but at night it may be very pleasant if the ceiling lighting does not need to be used and a few furniture pieces provide some orientation light.

For confidence in the planning process, test lighting and finishes or use bright lighting with dimmers to achieve a balance of incident light and reflection.

The form factor of a light (linear, point) and the number used affects the planarity of the illumination. Light color, installation type, position on the cabinet, and alignment are further criteria to select the perfect light.



## Extending.

Häfele Loox5 drivers supply not only lights, but also charging stations (inductive and USB), audio systems, as well as electrically operated flap fittings, sliding doors, or TV lifts. Take advantage of the potential of Häfele Loox5. Create furniture that can do more than simply look good.

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The chapter structure of the Loox brochure simplifies the ordering process by using this simple planning process.

Take advantage of the potential of Häfele Loox5 and create furniture that can do more than simply look good.



## Switching.

Plan switch requirements and switch positions. Simple mechanical switches or convenient sensors and dimmers can be grouped together by means of multi-driver or multi-switch boxes to conveniently operate lights from a single location or from different locations.

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## Networking.

The Häfele Connect Mesh 6-way distributor is the central element for controlling monochrome lights, multi-white lights, or RGB lights individually or jointly. 6-way distributors can be networked. They can be controlled by remote control, wall-mounted push button, or app.

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## Distributing.

Plan the concealed cable routing and provide holes, grooves, or panels. An extensive range of extension leads and distributors facilitates suitable cabling of your project.

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## Supplying.

Add up the wattage of all lights and other devices.

If necessary, take into account possible later expansions and select a driver of the appropriate performance class. Lights of the same voltage type or current may be connected to a common driver. Converters are also available and are necessary if lights with different voltage types and currents will share a driver.

Choose a distributor for your current needs (with or without switching function or with Häfele Connect Mesh). The distributor can be easily replaced at a later time. Therefore, make sure the drivers are accessible in the furniture.

# BLACK FOREST EXPERIENCE POP-UP STORE

• Stuttgart

• Hornisgrinde  
Schlossberg Nagold  
• Schliffkopf  
• Kniebis

• Kandel

• Hochfirst

• Feldberg

• Belchen





HÄFELE

Illuminating.

LOOX5

LOOX5

12V Ribbon



## LED 2062

LED2062 12V/4.8W/m 27K/CRI90/5m  
Cat. No. 833.74.336

LED2062 12V/4.8W/m 30K/CRI90/5m  
Cat. No. 833.74.337

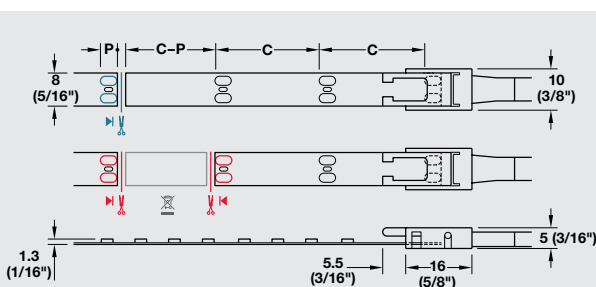
LED2062 12V/4.8W/m 40K/CRI90/5m  
Cat. No. 833.74.338

LED2062 12V/4.8W/m 50K/CRI90/5m  
Cat. No. 833.74.339

IDR 618.588

## Equipped with high-quality Samsung® LEDs

- > Dimmable: Yes
- > Material: Plastic
- > Color: White
- > Width: 8 mm (5/16")
- > Height: 1.3 mm (1/16")
- > Life time L80/B10: >50,000 h (2062, 2065, 2068);
- > Degree of protection: IP20
- > Mounting: Self-adhesive
- > Supplied with: 1 roll



- Cut LED strip light to length  
(one contact side remains on the remainder piece; reusable)
- Connect LED strip lights  
(two contact sides required)

C = section length  
P = length of contact surface



## LED 2065 / 2068

LED2065 12V/4.8W/m 27K/CRI90/5m  
Cat. No. 833.74.354

LED2065 12V/4.8W/m 30K/CRI90/5m  
Cat. No. 833.74.355

LED2065 12V/4.8W/m 40K/CRI90/5m  
Cat. No. 833.74.356

LED2065 12V/4.8W/m 50K/CRI90/5m  
Cat. No. 833.74.357

LED2068 12V/9.6W/m 27K/CRI90/5m  
Cat. No. 833.74.362

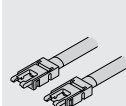
LED2068 12V/9.6W/m 30K/CRI90/5m  
Cat. No. 833.74.363

LED2068 12V/9.6W/m 40K/CRI90/5m  
Cat. No. 833.74.364

LED2068 12V/9.6W/m 50K/CRI90/5m  
Cat. No. 833.74.365

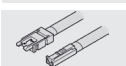
IDR 1.111.730

- ! Maximum strip length is dependant on driver wattage capacity  
Maximum recommended strip light length for optimum visual light output: 12.0 m



- > 5 A/18 AWG interconnecting lead  
for 8 mm LED strip light

Length mm	Cat. No.
50	833.89.191
500	833.89.192



Length mm	Cat. No.
2000	833.95.700



- > 5 A clip connector  
for 8 mm LED strip light

	Cat. No.
Clip connector	833.89.206



- > Corner connector, 90° rigid, 5 A  
for left or right for 8 mm LED strip light

	Cat. No.
Corner connector rigid	833.89.187



Voltage	Quantity	Colour temperature	Wattage	Luminous flux	Luminous efficacy	Colour rendering index CRI		Section length C	Length of contact surface P	Max. strip length (visual)	Available length
V	LEDs/m	K	W/m	lm/m	lm/W	R <sub>a</sub>	R <sub>9</sub>	mm	mm	m	5 m
5 12V	<b>Häfele Loox5 LED 2062</b>										
	60	2700	4,8	440	92	>90	>50	50	4	6,0	<b>833.74.336</b>
		3000	4,8	465	97	>90	>50	50	4	6,0	<b>833.74.337</b>
		4000	4,8	490	102	>90	>50	50	4	6,0	<b>833.74.338</b>
		5000	4,8	495	103	>90	>50	50	4	6,0	<b>833.74.339</b>
	<b>Häfele Loox5 LED 2065</b>										
	120	2700	4,8	440	92	>90	>50	25	4	6,0	<b>833.74.354</b>
		3000	4,8	465	97	>90	>50	25	4	6,0	<b>833.74.355</b>
		4000	4,8	490	102	>90	>50	25	4	6,0	<b>833.74.356</b>
		5000	4,8	495	103	>90	>50	25	4	6,0	<b>833.74.357</b>
	<b>Häfele Loox5 LED 2068</b>										
	120	2700	9,6	920	96	>90	>50	25	4	4,0	<b>833.74.362</b>
		3000	9,6	970	101	>90	>50	25	4	4,0	<b>833.74.363</b>
		4000	9,6	1000	104	>90	>50	25	4	4,0	<b>833.74.364</b>
		5000	9,6	1040	108	>90	>50	25	4	4,0	<b>833.74.365</b>

Illuminance value in lx applies to 1 m (39 3/8") strip length:

2700 K	3000 K	4000 K	5000 K	120°		
1050 lx	1090 lx	1120 lx	1130 lx		250 mm	(9 13/16")
435 lx	455 lx	460 lx	470 lx		500 mm	(19 11/16")
240 lx	245 lx	260 lx	260 lx		750 mm	(29 1/2")
145 lx	150 lx	155 lx	160 lx		1000 mm	(39 3/8")

### LED 2062

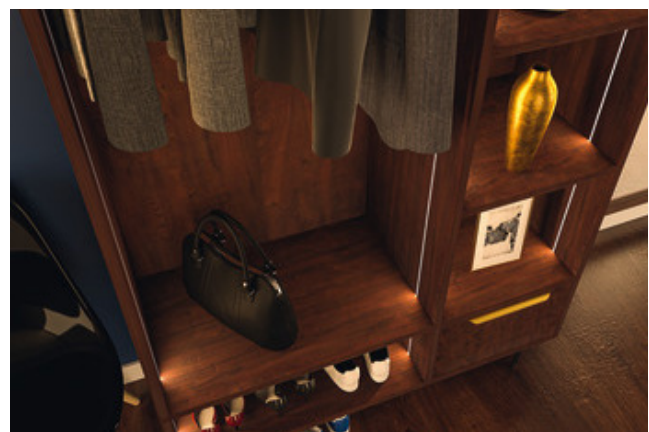
Designed for use within closet storage spaces when utilized with profile and lens:

2700 K	3000 K	4000 K	5000 K	120°		
1050 lx	1090 lx	1120 lx	1130 lx		250 mm	(9 13/16")
435 lx	455 lx	460 lx	470 lx		500 mm	(19 11/16")
240 lx	245 lx	260 lx	260 lx		750 mm	(29 1/2")
145 lx	150 lx	155 lx	160 lx		1000 mm	(39 3/8")

### LED 2065

2700 K	3000 K	4000 K	5000 K	120°		
2145 lx	2250 lx	2300 lx	2300 lx		250 mm	(9 13/16")
900 lx	940 lx	950 lx	955 lx		500 mm	(19 11/16")
480 lx	505 lx	510 lx	515 lx		750 mm	(29 1/2")
300 lx	310 lx	320 lx	320 lx		1000 mm	(39 3/8")

### LED 2068



LOOX5

## 12V Silicone Ribbon



## LED 2099

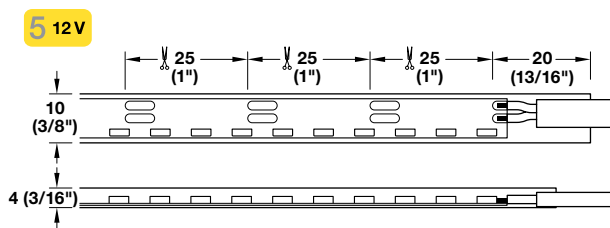
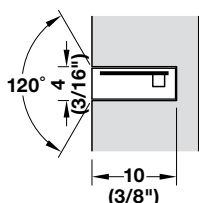
LED2099 12V/9.6W/m 27K/CRI90/3m  
Cat. No. 833.74.260

LED2099 12V/9.6W/m 30K/CRI90/3m  
Cat. No. 833.74.261

LED2099 12V/9.6W/m 40K/CRI90/3m  
Cat. No. 833.74.262

LED2099 12V/9.6W/m 50K/CRI90/3m  
Cat. No. 833.74.263

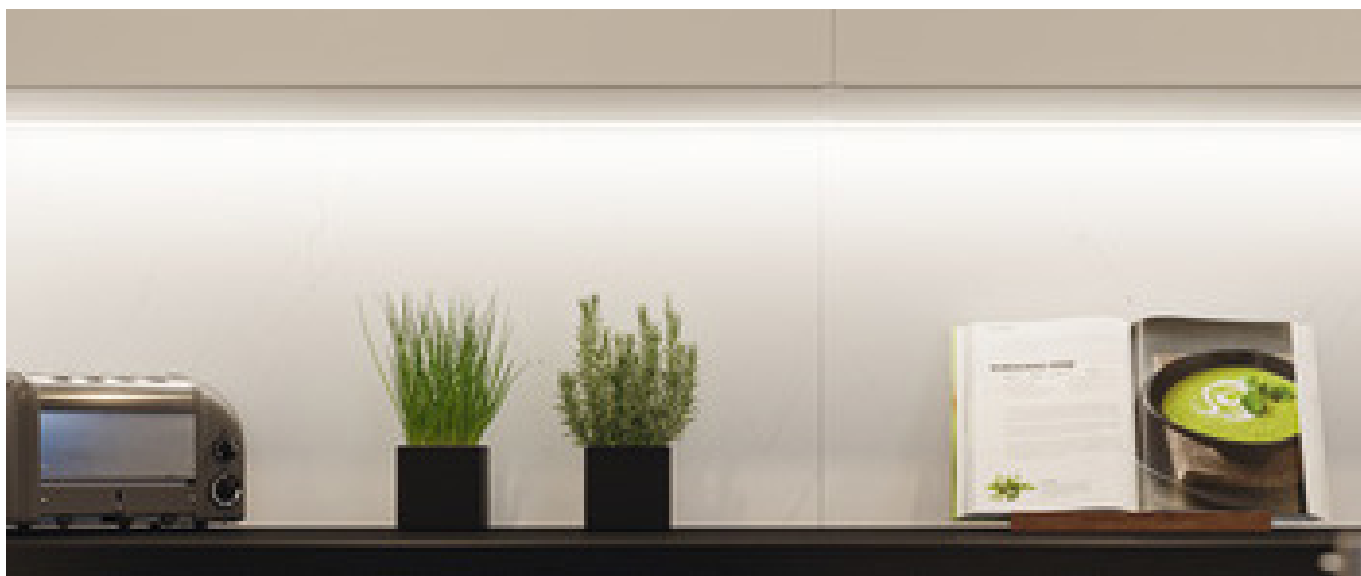
IDR 1.017.652



- > The light emits from the edge of the ribbon, no LED dots visible
- > Designed for recessed installation in a 4 mm wide groove
- > Mounts flush with the panel
- > Flexible silicone allows for curved applications (radius min. 30 mm (1 3/16"))

- > Dimmable: Yes
- > Material: Silicone
- > Finish: Matt white
- > Width: Strip: 8 mm (5/16")  
Silicone sleeve 10 mm (3/8")  
Silicone sleeve 4 mm (5/32")
- > Height: 10 mm (3/8")
- > Routing depth: 4 mm (5/32")
- > Routing width: 30 mm (1 3/16")
- > Radius min.: >50,000 h
- > Life time L80/B10: >50
- > Color rendering index R9: >90
- > Color rendering index Ra: >90
- > Weighted energy consumption: 10.56 kWh / 1000 h
- > Degree of protection: IP44
- > Max. strip length (visual): 3.0 m (118 1/8")
- > Mounting: For embedding in routed channel
- > Supplied with: 1 LED strip with 200 mm (8") leads soldered on each end. Strip can be divided into two sections.

2700 K	3000 K	4000 K	5000 K	120°	
820 lx	840 lx	845 lx	860 lx		250 mm (9 13/16")
190 lx	195 lx	205 lx	215 lx		500 mm (19 11/16")
85 lx	90 lx	100 lx	100 lx		750 mm (29 1/2")
50 lx	50 lx	55 lx	55 lx		1000 mm (39 3/8")



# HÄFELE

## 12V Ribbon

Voltage	Number of	Color temperature	Wattage	Luminous flux	Luminous efficacy	Section length C	Delivery length
V	LEDs/m	K	W/m	lm/m	lm/W		3 m (118 1/8")
5 12V	<b>LED 2099</b>						
	120	2700	9.6	500	52	25 (1")	<b>833.74.260</b>
		3000	9.6	520	54	25 (1")	<b>833.74.261</b>
		4000	9.6	540	56	25 (1")	<b>833.74.262</b>
		5000	9.6	540	56	25 (1")	<b>833.74.263</b>



### Note

A 200 (8") mm lead cable (3.5A / 20 AWG) is soldered on each end of the roll.



Maximum visual strip length applies for an imperceptible drop in luminous flux of max. 30%.  
Please note: A strip section with a new power supply that follows immediately is noticeably brighter.



LOOX5

## 12V Ribbon Industry



## LED 2071

LED2071 12V/4.8W/m 27K/CRI90/5m  
Cat. No. 833.74.300

LED2071 12V/4.8W/m 30K/CRI90/5m  
Cat. No. 833.74.301

LED2071 12V/4.8W/m 40K/CRI90/5m  
Cat. No. 833.74.302

LED2071 12V/4.8W/m 50K/CRI90/5m  
Cat. No. 833.74.303

IDR 340.171



## LED 2074

LED2074 12V/9.6W/m 27K/CRI90/5m  
Cat. No. 833.74.308

LED2074 12V/9.6W/m 30K/CRI90/5m  
Cat. No. 833.74.309

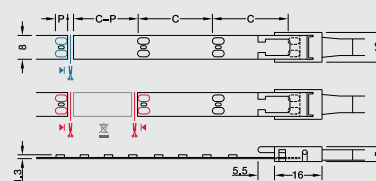
LED2074 12V/9.6W/m 40K/CRI90/5m  
Cat. No. 833.74.310

LED2074 12V/9.6W/m 50K/CRI90/5m  
Cat. No. 833.74.311

IDR 477.367

## Equipped with high-quality Samsung LEDs

- > Dimmable: Yes
- > Material: Plastic
- > Finish/colour: White
- > Width: 8 mm
- > Height: 1.3 mm
- > Life time L80/B10: >30,000 h
- > Degree of protection: IP20
- > Mounting: Self-adhesive
- > Supplied with: 1 roll



- Cut LED strip light to length (one contact side remains on the remainder piece; reusable)
- Connect LED strip lights (two contact sides required)

C = section length  
P = length of contact surface

## Illuminance value in lx applies to 1 m strip length:

2700 K	3000 K	4000 K	5000 K	120°	
1050 lx	1090 lx	1120 lx	1130 lx		250 mm
435 lx	455 lx	460 lx	470 lx		500 mm
240 lx	245 lx	260 lx	260 lx		750 mm
145 lx	150 lx	155 lx	160 lx		1000 mm

2700 K	3000 K	4000 K	5000 K	120°	
2145 lx	2250 lx	2300 lx	2300 lx		250 mm
900 lx	940 lx	950 lx	955 lx		500 mm
480 lx	505 lx	510 lx	515 lx		750 mm
300 lx	310 lx	320 lx	320 lx		1000 mm

## LED 2071

## LED 2074

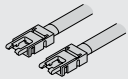
- ! Maximum visual strip length applies for an imperceptible drop in luminous flux of max. 30%.



## 12V Ribbon Industry



Volta-ge	Quantity	Colour tempera-ture	Wattage	Luminous flux	Luminous efficacy	Colour rend-ering index CRI		Weight. energy consumpt. per m in kWh/1000 h	Section length C	Length of contact surface P	Max. strip length (visual)	Available length
V	LEDs/m	K	W/m	lm/m	lm/W	R <sub>a</sub>	R <sub>9</sub>		mm	mm	m	5 m
5 12V	<b>Häfele Loox5 LED 2071</b>											
	60	2700	4.8	440	92	90	>50	5.28	50	4	6.0	<b>833.74.300</b>
		3000	4.8	465	97	90	>50	5.28	50	4	6.0	<b>833.74.301</b>
		4000	4.8	490	102	90	>50	5.28	50	4	6.0	<b>833.74.302</b>
		5000	4.8	495	103	90	>50	5.28	50	4	6.0	<b>833.74.303</b>
	<b>Häfele Loox5 LED 2074</b>											
	120	2700	9.6	920	96	90	>50	10.56	25	4	3.5	<b>833.74.308</b>
		3000	9.6	970	101	90	>50	10.56	25	4	3.5	<b>833.74.309</b>
		4000	9.6	1000	104	90	>50	10.56	25	4	3.5	<b>833.74.310</b>
		5000	9.6	1040	108	90	>50	10.56	25	4	3.5	<b>833.74.311</b>



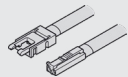
> 5 A/18 AWG interconnecting lead for 8 mm LED strip light

Length mm	Cat. No.
50	<b>833.89.191</b>
500	<b>833.89.192</b>



> 5 A clip connector for 8 mm LED strip light

Clip connector	Cat. No.
	<b>833.89.206</b>



Length mm	Cat. No.
2000	<b>833.95.700</b>



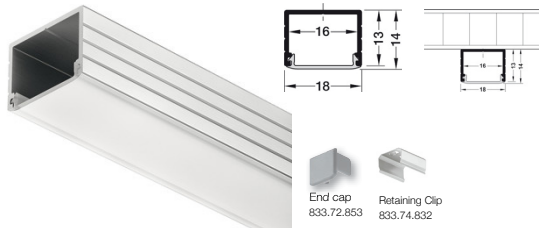
> Corner connector, 90° rigid, 5 A for left or right for 8 mm LED strip light

Corner connector rigid	Cat. No.
	<b>833.89.187</b>





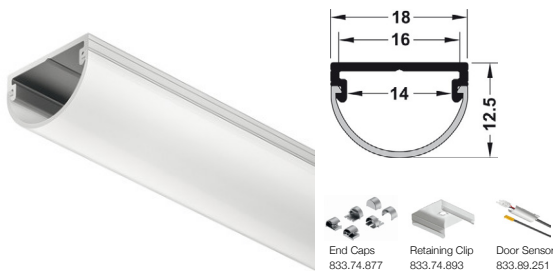
# LOOX5 PROFILE



PROFILE 2191 alu.silver.mlk./2.5m  
Cat. No. 833.72.841

- > Material: Aluminium
- > Finish/colour: Silver coloured anodised
- > Length x width x height: 2500 x 18 mm x 14 mm
- > Supplied with: 1 profile, 1 diffuser

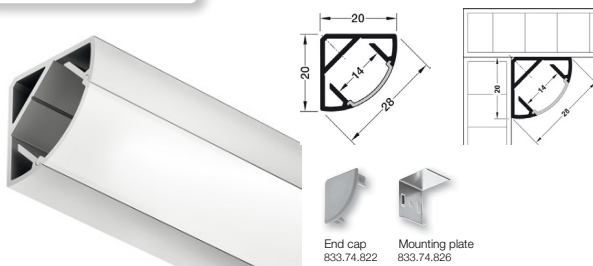
IDR 213.723



PROFILE 2194 alu.silver.mlk./2.5m  
Cat. No. 833.74.835

- > Material: Aluminium
- > Finish/colour: Profile: Silver coloured anodised  
Diffuser: Milky
- > Length x width: 2500 x 18 mm
- > Height: 12.5 mm
- > Supplied with: 1 aluminium profile  
1 diffuser milky

IDR 267.294



PROFILE 2195 alu.silver.mlk./2.5m  
Cat. No. 833.74.812

- > Material: Aluminum
- > Finish/Color: Profile: Silver colored anodized  
Diffuser: Milk
- > Cover: Milk
- > L x W: 2500 x 28 mm (98 7/16" x 1 1/8")
- > Height: 20.5 mm (25/32")
- > Supplied with: 1 profile  
1 diffuser

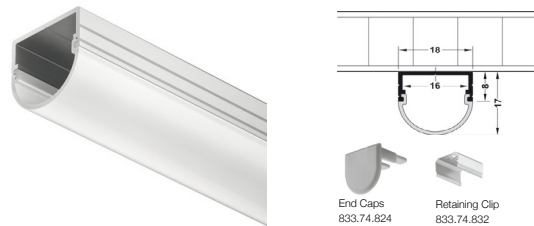
IDR 250.341



PROFILE 2192 alu.silver.mlk.sq/2.5m  
Cat. No. 833.74.813

- > Material: Profile: Aluminium  
Diffuser housing: Plastic
- > Finish/colour: Profile: Silver coloured anodised  
Diffuser housing: Milky
- > Length x width: 2500 x 18 mm
- > Height: 18 mm
- > Supplied with: 1 aluminium profile  
1 diffuser housing milky

IDR 217.353



PROFILE 2192 alu.silver.mlk.rd/2.5m  
Cat. No. 833.74.814

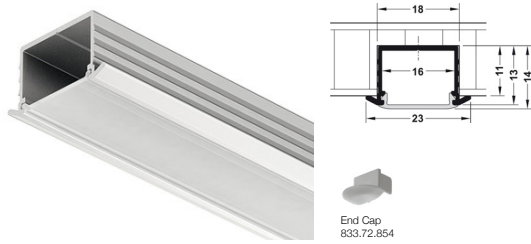
- > Material: Profile: Aluminium  
Diffuser housing: Plastic
- > Finish/colour: Profile: Silver coloured anodised  
Diffuser housing: Milky
- > Length x width: 2500 x 18 mm
- > Height: 18 mm
- > Supplied with: 1 aluminium profile  
1 diffuser housing milky

IDR 207.331



# HÄFELE

## PROFILE



PROFILE 1191 alu.silver.mlk./2.5m  
Cat. No. 833.72.846

- > Material: Aluminium
- > Finish/colour: Silver coloured anodised
- > Length x width: 2500 x 18 mm
- > Height: 13 mm
- > Supplied with: 1 profile, 1 diffuser

➔ Sensor switches, suitable for use with aluminium profile with 16 mm internal width

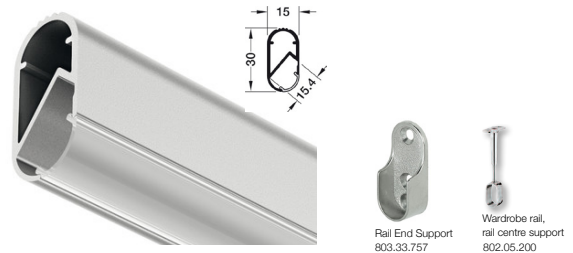
IDR 223.740



PROFILE 1192 alu.silver.mlk./2.5m  
Cat. No. 833.72.850

- > Material: Aluminium
- > Finish/colour: Silver coloured anodised
- > Length x width: 2500 x 24.4 mm
- > Height: 19 mm
- > Supplied with: 1 profile, 1 diffuser

IDR 271.848

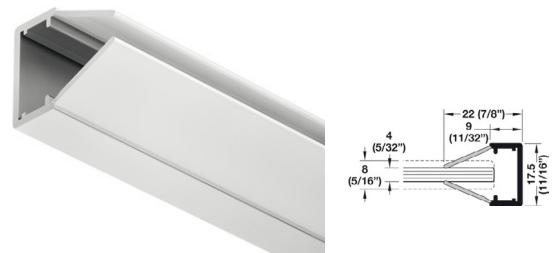


PROFILE 5105 alu.silver.mlk./2.5m  
Cat. No. 833.72.790

- > Material: Aluminium
- > Finish/colour: Profile: Silver coloured anodised  
Diffuser: Milky
- > Length x width: 2500 x 15 mm
- > Height: 30 mm
- > Supplied with: 1 aluminium profile  
1 diffuser milky

! Suitable for max. 10 mm clip connector width  
Not suitable for RGB strip lights

IDR 376.503



PROFILE 5108 pl.silver.mlk./2m  
Cat. No. 833.74.733

- > Material: Plastic
- > Finish/colour: Profile: Silver coloured  
Diffusers: Milky
- > Length x width: 2000 x 17.5 mm
- > Height: 22 mm
- > Application: For screw fixing
- > Supplied with: 1 aluminium profile  
2 diffusers milky

! For manufacturing customized glass edge lighting for glass thicknesses of 4–8 mm (3/16"–5/16").  
Without load bearing function.  
Only for LED strip lights with max. 9.6 W/m.  
Note the dimensions of the clip connector.

#### Effect of the glass edge on the light

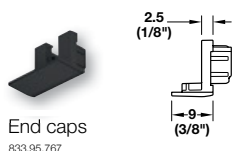
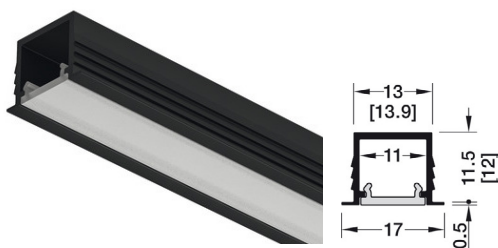
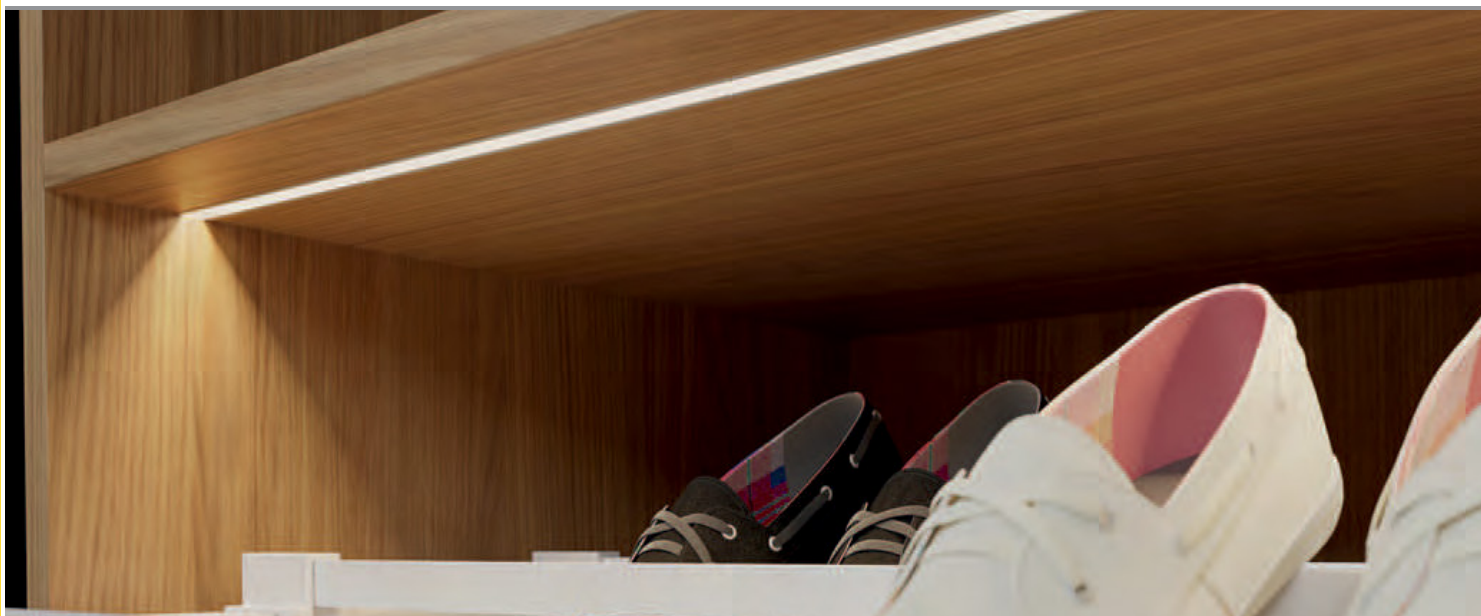
- > Glass edge with satin finish = even light line
- > Clear glass edge = point light

IDR 193.338



LOOX5

Profile

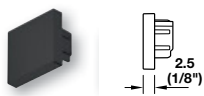
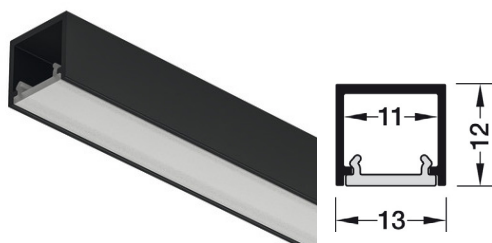
End caps  
833.95.767

PROFILE 1103 alu.black.opal/3.0m

Cat. No. 833.95.723

IDR 500.769

- > Material: Profile: Aluminum  
Diffuser: Plastic
- > Finish/Color: Profile: Anodized; Diffuser: White opal, transmittance 70–80%
- > Length: 3000 mm
- > Diffuser width: Profile 1103: 11 mm (7/16")
- > Supplied with: 1 profile  
1 diffuser

End caps  
833.95.778

PROFILE 2102 alu.black.opal/3.0m

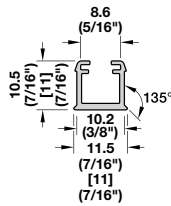
Cat. No. 833.95.735

IDR 500.769

- > Material: Profile: Aluminum  
Diffuser: Plastic
- > Finish/Color: Profile: Anodized; Diffuser: White opal, transmittance 70–80%
- > Length: 3000 mm
- > Diffuser width: Profile 2102: 11 mm (7/16")
- > Supplied with: 1 profile  
1 diffuser

**Diffusers**

The diffuser creates a uniform light.  
The LED points are invisible from 120 LEDs/m.



PROFILE 1101 pl.white.opal/3.0m

Cat. No. 833.72.898

- > Material: Plastic
- > Length: 3000 mm
- > Supplied with: 1 profile



### Note

Profile 1101 are usable for LED strip lights up to max 9.6 W/m. Profile 1101 is usable only for LED strip lights with a width of precisely 8 mm (5/16"). The diffuser creates a uniform light. The LED points in the white version are invisible from 120 LEDs/m. Routing dimensions are for reference only. Furniture construction may affect dimensions.

IDR 127.336



Difusser push fit pl.fro./2.5m

Cat. No. 833.74.780

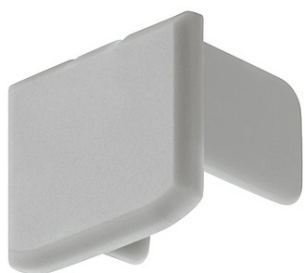
- > Material: Plastic
- > Length: 2500 mm (98 7/16")

IDR 81.403





## PROFILE ACCESSORIES



Endcap for PROFILE 2191 pl.silver  
Cat. No. 833.72.853

**End cap for profile 2191**

- > Material/Finish: Plastic, silver colored
- > Supplied with: 2 pcs.

IDR 9.108



Endcap for PROFILE 2195 pl.silver  
Cat. No. 833.74.822

- > Material/Finish: End cap and holder:  
Plastic, silver colored  
Mounting plate: Stainless Steel
- > Supplied with: 2 pcs.

IDR 9.108



Endcap for PROFILE 1191 pl.silver  
Cat. No. 833.72.854

**End cap with cable outlet for profile 1191**

- > Material/Finish: Plastic, silver colored
- > Supplied with: 2 pcs.

IDR 9.798



Mounting clip for PROFILE 2195  
Cat. No. 833.74.826

- > Material/Finish: End cap and holder:  
Plastic, silver colored  
Mounting plate: Stainless Steel
- > Supplied with: 2 pcs.

IDR 10.338



Mounting clip for PROFILE 2194  
Cat. No. 833.74.893

**Retaining clip**

- > Material/Finish: Stainless Steel, silver colored
- > Supplied with: 2 pcs.

IDR 13.340



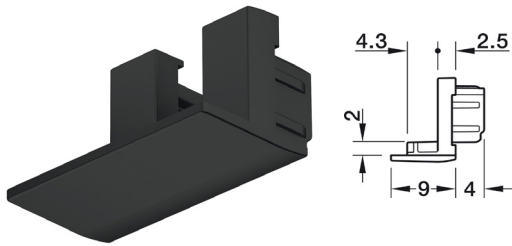
Mount. clip 90° f. 2190/2191/2192 st.st.st.st.  
Cat. No. 833.74.832

**Mounting clip, optional**

- > Material/Finish: Stainless Steel, silver colored
- > Supplied with: 2 pcs.

IDR 13.501



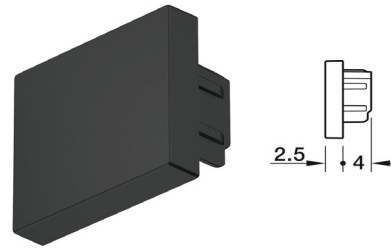


Endcap for PROFILE 1103 pl.black  
Cat. No. 833.95.767

**End caps for Häfele Loox5 profile 1104/1103**

- > Material: Plastic
- > Version: With cable outlet
- > Supplied with: 10 pcs.

IDR 54.573



Endcap for PROFILE 2102 pl.black  
Cat. No. 833.95.778

**End caps for Häfele Loox5 profile 2101 /2102**

- > Material: Plastic
- > Version: With drill mark for cable outlet
- > Supplied with: 10 pcs.

IDR 54.573



Endcap for PROFILE 1192 pl.silver  
Cat. No. 833.72.857

- > Supplied with: 2 pcs.

IDR 10.593



Endcap set 5x f. PROFILE 2194  
Cat. No. 833.74.877

**End cap set**

- > Material/Finish: ABS Plastic, silver colored
- > Supplied with: 5 sets of end caps, fixing screws

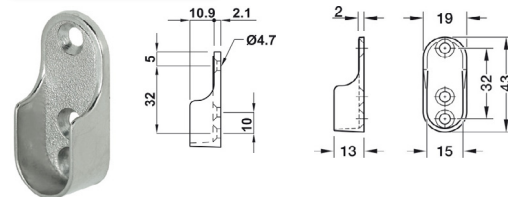
IDR 129.537



Endcap for PROFILE 2192 pl.silver  
Cat. No. 833.74.824

- > Supplied with: 2 pcs.

IDR 9.798



Rail side panel supp.zi.np. For 833.72.790  
Cat. No. 803.33.757

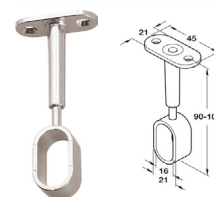
IDR 7.600



Endcap for PROFILE 2192 pl.silver  
Cat. No. 833.74.823

- > Supplied with: 2 pcs.

IDR 9.108

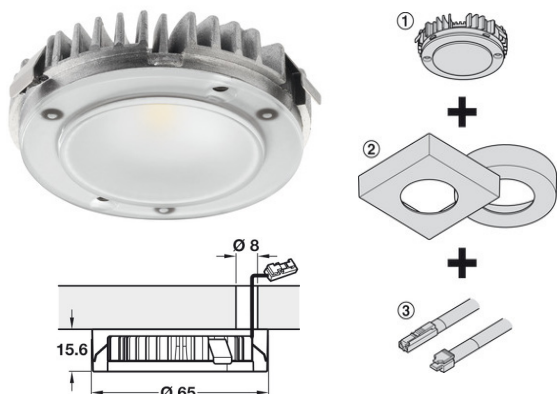


Endcap for PROFILE 2192 pl.silver  
Cat. No. 802.07.200

IDR 102.580

LOOX5

## 12V Puck Light

IP44      12V 

LED2025 12V/3.8W 27K/CRI90/aluminum  
Cat. No. 833.72.350

LED2025 12V/3.8W 30K/CRI90/aluminum  
Cat. No. 833.72.351

LED2025 12V/3.8W 40K/CRI90/aluminum  
Cat. No. 833.72.352

IDR 249.037

LED2025 12V/3.8W 50K/CRI83/aluminum  
Cat. No. 833.72.323





IDR 250.735

### LED 2092 and LED 3092, equipped with high-quality Samsung® LEDs

- > Dimmable: Yes
- > Material: Aluminum
- > Degree of protection: IP44 as recess mounted light  
IP20 as surface mounted light
- > Mounting: For mounting in drilled hole,  
for clamp or screw fixing
- > Drill hole Ø: 58 mm (2 5/16")
- > Supplied with: 1 light module

**Note**

The IP44 degree of protection is reduced to IP20 when surface mounting or recess mounting with through hole.

2700 K	3000 K	4000 K	5000 K		80°
2600 lx	2650 lx	2700 lx	2800 lx		250 mm
730 lx	750 lx	780 lx	800 lx		500 mm
320 lx	340 lx	345 lx	350 lx		750 mm
180 lx	185 lx	185 lx	190 lx		1000 mm

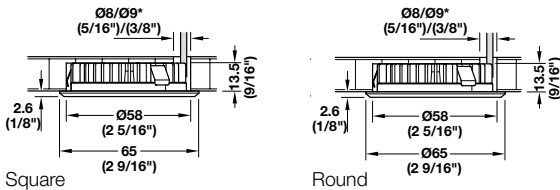
## 12V Puck Light



Voltage V	Quantity LEDs	Color temperature K	Wattage W	Luminous flux lm	Luminous efficacy lm/W	Color rendering index CRI		Weighted energy consumpt. kWh/1000 h	Item No.	
						R <sub>a</sub>	R <sub>9</sub>			
5 12V	LED 2025 (compatible with Loox5 lead with snap-in connector)									
	1	2700	3.8	270	71	>90	-	4.18	<b>833.72.350</b>	
		3000	3.8	300	78	>90	-	4.18	<b>833.72.351</b>	
		4000	3.8	306	80	>90	-	4.18	<b>833.72.352</b>	
5000		3.8	345	90	>83	-	4.18	<b>833.72.323</b>		



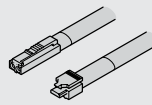
Recess mount housing



Square

Round

Housings are suitable for monochrome lights and for multi-white lights.  
\* valid for multi-white plugs.



> Lead, 1.5 A/24 AWG, with snap-in connector

Voltage	Length	Item No.
5 12V	2000 (78 3/4")	<b>833.95.788</b>



> Housing, recess mounted, Plastic

Color	Round	Square
Black	<b>833.72.168</b>	<b>833.72.172</b>
Silver colored	<b>833.72.126</b>	<b>833.72.127</b>

Recess mt. housing rd./pl.black/d=65  
Cat. No. 833.72.168

IDR 15.780

Recess mt. housing sq./pl.black/65x65  
Cat. No. 833.72.172

IDR 16.232

Recess mt. housing rd./pl.silvc./d=65  
Cat. No. 833.72.126

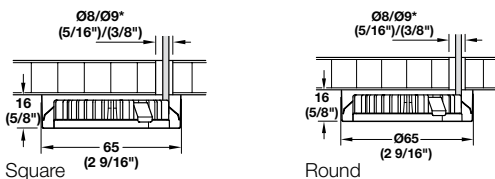
IDR 16.195

Recess mt. housing sq./pl.silvc./65x65  
Cat. No. 833.72.127

IDR 16.632



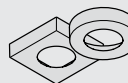
Surface mount housing



Square

Round

Housings are suitable for monochrome lights and for multi-white lights.  
\* valid for multi-white plugs.



> Housing, surface mounted, Plastic

Color	Round	Square
Black	<b>833.72.160</b>	<b>833.72.164</b>
Silver colored	<b>833.72.124</b>	<b>833.72.125</b>

Surf. mt. housing rd./pl.black/d=65  
Cat. No. 833.72.160

IDR 16.684

Surf. mt. housing sq./pl.black/65x65  
Cat. No. 833.72.164

IDR 17.135

Surf. mt. housing rd./pl.silvc./d=65  
Cat. No. 833.72.124

IDR 15.318

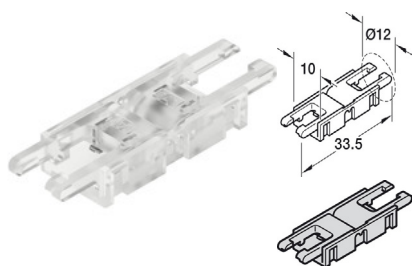
Surf. mt. housing sq./pl.silvc./65x65  
Cat. No. 833.72.125

IDR 15.754

LOOX5

DC / CABLES

12V



Loox5 Clip conn. ribbon 8mm/12-24V

Cat. No. 833.89.206

> 5 A Clip connector  
for 8 mm (5/16") LED strip light

> Supplied with: 10 pcs.

IDR 210.452



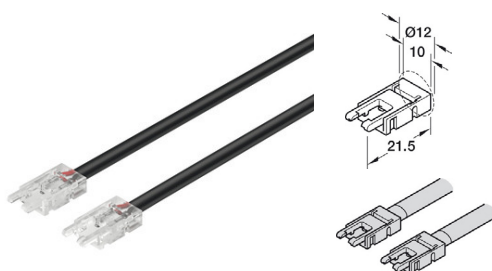
Loox5 Crn.conn. ribbon 8mm/12-24V

Cat. No. 833.89.187

> 5 A Corner connector, 90° rigid,  
left or right, for 8 mm (5/16") LED strip light

> Supplied with: 10 pcs.

IDR 273.126

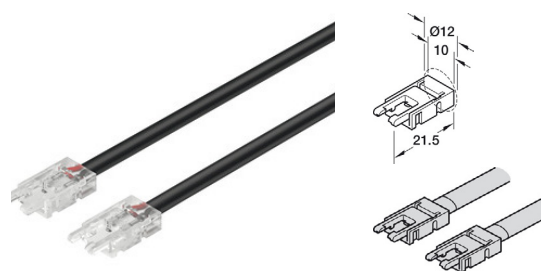


Loox5 C-lead ribbon 8mm/12-24V/50mm

Cat. No. 833.89.191 **5 12V**

> 5 A/18 AWG interconnecting lead  
for 8 mm (5/16") LED strip light

IDR 46.556



Loox5 C-lead ribbon 8mm/12-24V/0.5m

Cat. No. 833.89.192 **5 12V**

> 5 A/18 AWG interconnecting lead  
for 8 mm (5/16") LED strip light

IDR 53.768

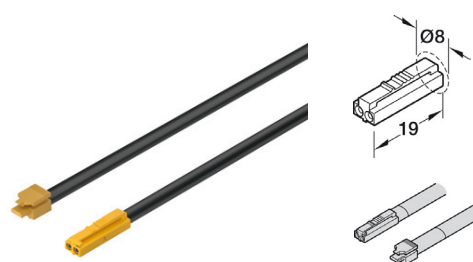


Loox5 lead ribbon 8mm/12V/2.0m

Cat. No. 833.95.700 **5 12V**

> 5 A/18 AWG lead  
for 8 mm (5/16") LED strip light

IDR 66.646



Loox5 lead f. light mod./12V/AWG24/2.0m

Cat. No. 833.95.788 **5 12V**

> Lead, 1.5 A/24 AWG, with snap-in connector

IDR 39.676

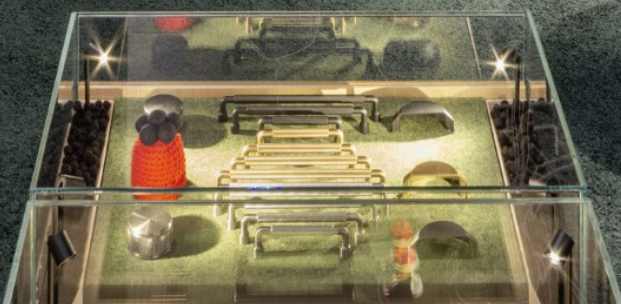
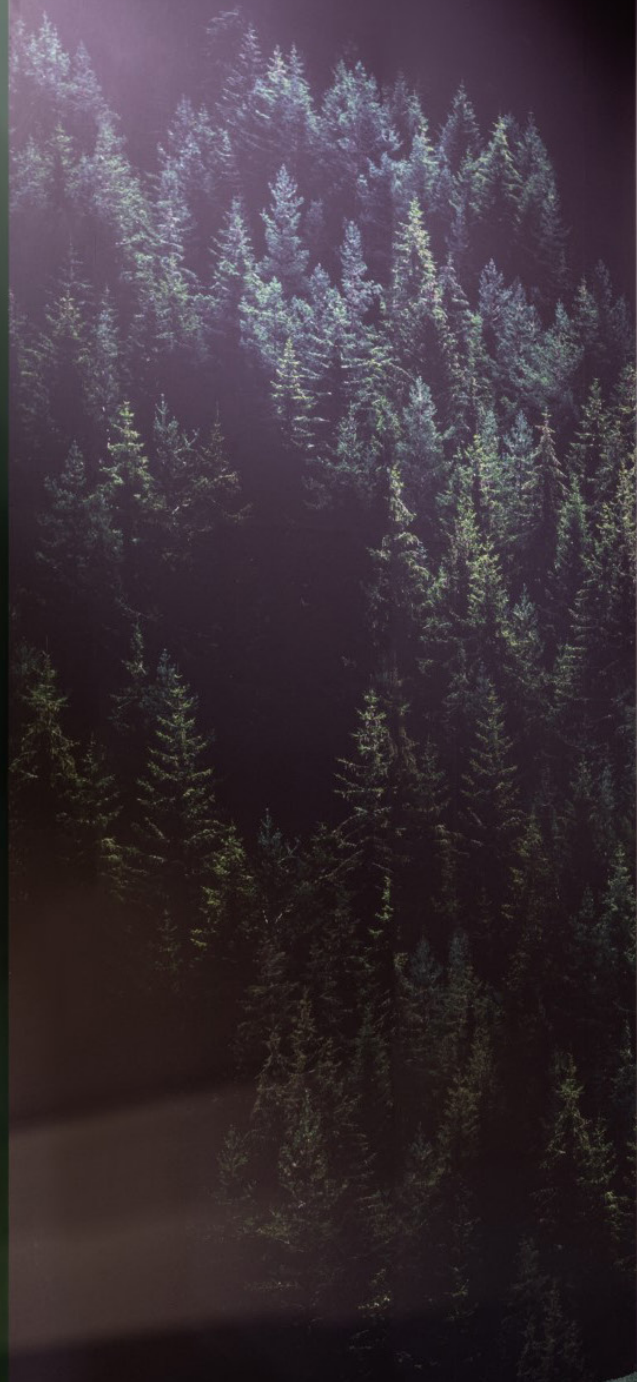






RE

HÄFELE







Switching.

LOOX5



LOOX5

DC / Cables

IP20



Extension Lead f. switch/black/2.0m  
Cat. No. 833.89.067

- > Length: 2000 mm (78 3/4")
- > Supplied with: 1 lead

**!** Drill hole Ø for plug: 12 mm (1/2")  
Can also be used for the multi-switch and multi-driver boxes.  
The maximum lead length of a switch is 6000 mm (236 1/4").  
The drill hole Ø for the male plug and the female socket of the switch leads is 12 mm (1/2").

IDR 52.138



Lead f. switch modular snap/black/2.0m  
Cat. No. 833.89.142

- > Material/Color: Plastic, black
- > Degree of protection: IP20
- > Supplied with: 1 lead

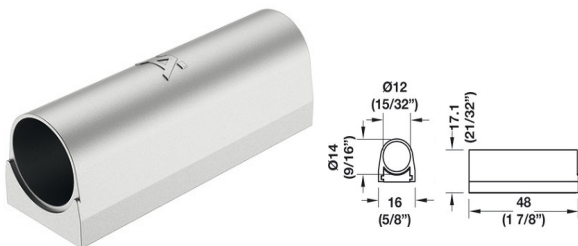
**!** Drill hole Ø for plug: 12 mm (1/2")

IDR 58.057





IP20



Housing switch pl./pl.silvc./48x16x17.1

Cat. No. 833.89.092

- > Material/Color: Plastic, silver colored
- > Supplied with: 1 housing
- > Application: For switch  $\varnothing$  12 mm (1/2")

Suitable for 32 mm (1 1/4") series drilled holes

IDR 13.365



Dimmer touchless mod.rd./pl.silvc./d=12

Cat. No. 833.89.126 Touch-free 0-60 mm (0-2 3/8")

- > Material/color: Plastic, silver colored
- > Degree of protection: IP20
- > Power consumption:  $\leq 0.3$  W
- > Drill hole  $\varnothing$ : 12 mm (1/2")
- > Supplied with: 1 dimmer

Please order lead with snap-in connector for modular switches driver separately. Length 2000 mm (78 3/4")

Dimming value is stored without the need for voltage supply (memory function)

IDR 161.175



Switch motion mod.rd./pl.silvc./d=12

Cat. No. 833.89.129 Touch-free 0-3000 mm (0-118")

- > Material/Color: Plastic, silver colored
- > Degree of protection: IP20
- > Sensor range: 0-3000 mm (0-118")
- > Sensor angle: 120 °
- > Power consumption:  $\leq 0.1$  W
- > Drill hole  $\varnothing$ : 12 mm (1/2")
- > Supplied with: 1 motion detector

Please order lead with snap-in connector for modular switches driver separately. Length 2000 mm (78 3/4"):

IDR 180.465



Switch IR mod.rd./pl.silvc./d=12

Cat. No. 833.89.127 Touch-free 0-80 mm (0-3 1/8")

- > Material/Color: Plastic, silver colored
- > Degree of protection: IP20
- > Sensor range: 0-80 mm (0-3 1/8")
- > Power consumption:  $\leq 0.3$  W
- > Drill hole  $\varnothing$ : 12 mm (1/2")
- > Supplied with: 1 switch

Please order lead with snap-in connector for modular switches driver separately. Length 2000 mm (78 3/4")

On/off state is stored without the need for power supply (memory function).

IDR 161.175



Switch door IR mod.rd./pl.silvc./d=12

Cat. No. 833.89.128 Touch-free 0-100 mm (0-4")

- > Material/Color: Plastic, silver colored
- > Degree of protection: IP20
- > Sensor range: 0-100 mm (0-4")
- > Power consumption:  $\leq 0.3$  W
- > Drill hole  $\varnothing$ : 12 mm (1/2")
- > Supplied with: 1 switch

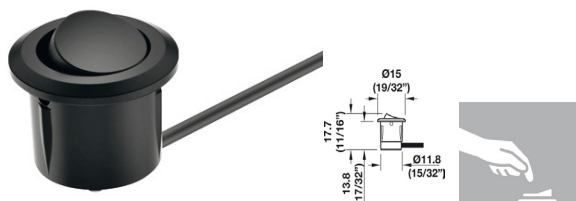
Please order lead with snap-in connector for modular switches driver separately. Length 2000 mm (78 3/4"):

IDR 157.707

# LOOX5

## Switches

IP20

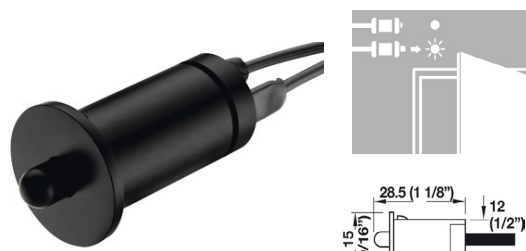


Switch rocker/pl.blk./d=12/2.0m  
Cat. No. 833.89.106

> Material/Color:	Plastic, black
> Diameter:	15 mm (9/16")
> Height:	17.7 mm (11/16")
> Drill hole Ø:	12 mm (1/2")
> Supplied with:	1 switch with 2000 mm (78 3/4") lead

**I** Drill hole Ø for plug: 12 mm (1/2")

IDR 59.319



Switch door contact/pl.blk./d=12/2.0m  
Cat. No. 833.89.059

> Material/Color:	Plastic, black
> Degree of protection:	IP20
> Drill hole Ø:	12 mm (1/2")
> Length:	28 mm (1 1/8")
> Supplied with:	1 switch with 2000 mm (78 3/4") lead

**I** Drill hole Ø for plug: 12 mm (1/2")

IDR 58.088



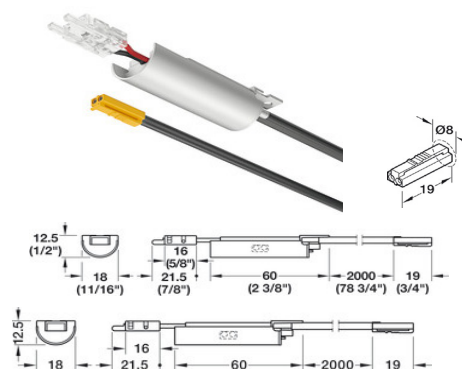
Dimmer capacitive mod.rd./pl.silvc./d=35  
Cat. No. 833.89.133

- > Manual operation (proximity sensor), memory function
- > Concealed installation in wood, glass or stone (not in ferrous metal materials) at a maximum depth of 30 mm (1 3/16")
- > For screw fixing or recess mounting (drill hole Ø 35 mm (1 3/8"))
- > A distance of min. 500 mm (19 11/16") away from electromagnetic fields (power lines, microwave) must be adhered to.

> Material/Color:	Plastic, silver colored
> Diameter:	35 mm (1 3/8")
> Height:	10 mm (3/8")
> Degree of protection:	IP20
> Power consumption:	≤1 W
> Supplied with:	1 switch

**+** Please order lead with snap-in connector for modular switches driver separately. Length 2000 mm (78 3/4")

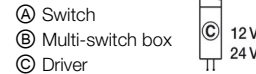
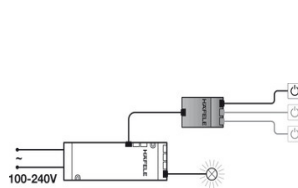
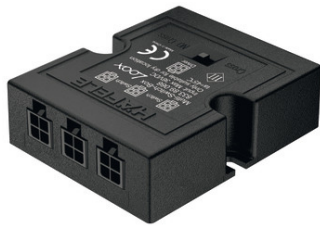
IDR 213.957



Loox5 Switch doorIR f. 833.74.835 12V/2m  
Cat. No. 833.89.251

IDR 229.997

IP20



### Multi switch box w. double function

Cat. No. 833.89.066

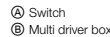
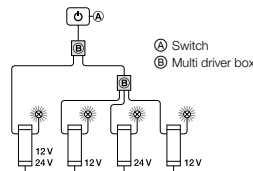
- > Function: 2 operating modes can be selected using an integrated toggle switch.  
**Cross:** On/off switching at different switches  
**No cross:** Switching on with switch 1, 2 or 3. For switching off, all switches that were switched on have to be activated again
- > Material/Color: Plastic, black
- > Standby power consumption W:  $\leq 0.3$
- > L x W x H: 55 x 45 x 16 mm  
(2 3/16" x 1 3/4" x 5/8")
- > Degree of protection: IP20
- > Supplied with: 1 multi-switch box  
With 1000 mm (39 3/8") lead for switch

1 LED driver operated by up to 3 switches. Allows the LED driver or distributor with switching function to be switched on and off from different positions.

! Drill hole  $\varnothing$  for plug: 12 mm (1/2")  
Alternative to the supplied 1000 mm (39 3/8") lead for multi-switch box.  
The drill hole  $\varnothing$  for the male plug and the female socket of the switch leads is 12 mm (1/2").

! Drill hole  $\varnothing$  for plug: 12 mm (1/2")  
Alternative to the supplied three 1000 m (39 3/8") leads for multi-driver box.  
The drill hole  $\varnothing$  for the male plug and the female socket of the switch leads is 12 mm (1/2").

IDR 142.659



### LED Multi Driver Box

Cat. No. 833.89.061

- > Material/Color: Plastic, black
- > Standby power consumption W: 1.5 W
- > L x W H: 50 x 40 x 19 mm (2" x 1 9/16" x 3/4")
- > Supplied with: 1 multi-driver box with 3 x 1000 mm (39 3/8") lead for switch

! Max. 3 x 75 W per multi-driver box.

! Drill hole  $\varnothing$  for plug: 12 mm  
Alternative to the supplied three 1 m leads for multi driver box.  
The drill hole  $\varnothing$  for the male plug and the female socket of the switch leads is 12 mm.

Up to 3 LED drivers with different voltages or distributors with a switching function can be controlled with 1 switch.  
Several lights in the room can be switched on and off with one switch.  
These can also be 3 of the same driver if you require additional power in a 12 V system, for example.

IDR 227.033



# BLACK FOREST EXPERIENCE POP-UP STORE

• Stuttgart

• Schlossberg  
Nagold

• Hornisgrinde

• Schliffkopf  
• Kniebis

• Kandel

• Hochfirst

• Feldberg

• Belchen





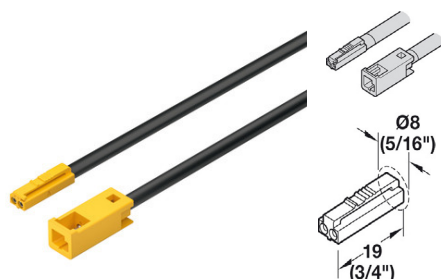


# Distributing.

LOOX5

LOOX5

DC / Cables

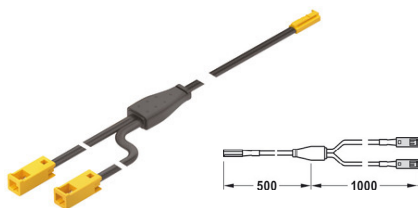


Loox5 extension lead 12V/2.0m

Cat. No. 833.95.714

- > Area of application: For monochrome lights and other 2-wire devices and distributors
- > Material: Plastic
- > Current carrying capacity: Max. 5 A
- > Type of cable: 2-wire 18 AWG
- > Drill hole Ø: Plug 8 mm (5/16\"), socket 13 mm (1/2\")
- > Supplied with: 1 extension lead  
1 plug/1 socket

IDR 58.836



Loox5 Y Distributor 12V/1.5m

Cat. No. 833.93.737

- > Material/Color: Plastic, black
- > Length: 1500 mm (59 1/16\"")
- > Supplied with: 1 lead  
1 plug/2 sockets

IDR 98.003



# HÄFELE

## AC / Cables

ILLUMINATING



EXTENDING



SWITCHING



NETWORKING



DISTRIBUTING



SUPPLYING



Mains Cable w.plug/EU/black/2m  
Cat. No. 833.89.002

IDR 49.474



Mains Cable w.plug/US/black/2m  
Cat. No. 833.89.003

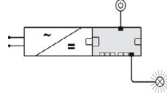
IDR 49.194





LOOX5

## Actuators



1 switch controls all output ports

Loox5 6-way distr. w.switch 12V

Cat. No. 833.95.748 **5 12V**

- > Material/Color: Plastic, black
- > L x W x H: 120 x 50 x 16 mm  
(4 3/4" x 2" x 5/8")
- > Number of connections: 1 x input port with box to box plug  
1 x output port with box to box socket  
1 x input port switch socket  
6 x output ports
- > Supplied with: 1 distributor

IDR 127.886

**Plug connection box to box**

- > The connection of the distributors with the driver can be done via a box to box plug-in connection or via an extension lead.  
Any number of distributors can be connected to the driver. Observe maximum wattage!



Loox5 6-way distr.w.3x switch 12V/60W

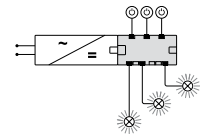
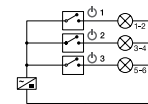
Cat. No. 833.95.828 **5 12V**

- > Area of application: For switching on/off and dimming  
(0–100%)
- > Material/Color: Plastic, black
- > L x W x H: 120 x 50 x 16 mm  
(4 3/4" x 2" x 5/8")
- > Number of connections: 1 x input port with box to box plug  
1 x output port with box to box socket  
3 x input switch sockets  
6 x output ports
- > Supplied with: 1 distributor

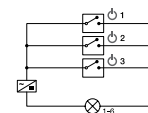
IDR 374.493

**3 modes of operation**

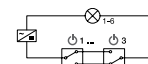
**Parallel (red indicator light)**  
Switch 1 = controls outputs 1 and 2  
Switch 2 = controls outputs 3 and 4  
Switch 3 = controls outputs 5 and 6



**No cross (blue indicator light)**  
Any of the three switches can turn the lights on.  
To turn lights off, all switches must be turned off.



**Cross (green indicator light)**  
Any of the 3 switches can turn on/off the lights.



- > Multi-switching function for up to 3 switches, saving space and cost
- > 3 switching mode options
- > Permanent soft on/off function, regardless of the switch that is used











# Supplying.

LOOX5

LOOX5

12V

EXTRA  
SLIM

Loox5 Driver 100-240V/12V/20W

Cat. No. 833.95.000 **5 12V**

IDR 452.507

> Version:	With overload protection
> Material/Color:	Plastic, black
> Degree of protection:	IP20
> Input voltage:	100–240 V~; 50–60 Hz
> Output voltage:	DC 12 V
> Number of connections:	1x socket Loox5 12 V
> Life time:	>50,000 hours
> Safety:	Class 2
> Supplied with:	1 driver with mounting accessories 1 US power cord

EXTRA  
SLIM

Loox5 Driver 100-240V/12V/40W/PFC

Cat. No. 833.95.002

IDR 796.606

<b>5 12V</b>	<b>Output power</b>	<b>Output current</b>	<b>Standby power consumpt.</b>	<b>L x W x H</b>	<b>Item No.</b>
	<b>W</b>	<b>A</b>	<b>W</b>		
<b>1</b>	20	1.67	≤0.2 W	140 x 50 x 16 (5 1/2" x 2" x 5/8")	<b>833.95.000</b>
<b>2</b>	40	3.33	≤0.3 W	191 x 60 x 16 (7 1/2" x 2 3/8" x 5/8")	<b>833.95.002</b>
<b>3</b>	60	5.00	≤0.3 W	230 x 70 x 16 (9 1/16" x 2 3/4" x 5/8")	<b>833.95.003</b>

**!** Ambient temperature –25 °C to +45 °C (60 W: 40 °C)  
Ensure that there is a sufficient air supply and circulation at the mounting location.

**!** Maximum lead length from the Loox5 driver to the device is 10,000 mm (393 11/16"). Long cable lengths in combination with large loads (strip light lengths) can result in voltage losses in the cable. These lead to visible loss of brightness in the lights. The illuminance listed with the lights has been determined with the rated output voltage of the driver. (12 V or 24 V).

EXTRA  
SLIM

Loox5 Driver 100-240V/12V/60W/PFC

Cat. No. 833.95.003

IDR 908.428

Main Cable EU  
833.89.002Main Cable US  
833.89.003

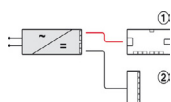
Plug design		
Description	US	EU
Supplied with	1 pc.	1 pc.
<b>Item No.</b>	<b>833.89.003</b>	<b>833.89.002</b>





LOOX5

Drivers

Main Cable US  
833.89.003

**!** For applications that require continuous operation, please use Loox5 power supplies with a service life of 50,000 H. Maximum lead length from the Loox5 driver to the device is 10,000 mm (393 11/16"). Long cable lengths in combination with large loads (strip light lengths) can result in voltage losses in the cable. These lead to visible loss of brightness in the lights. The illuminance listed with the lights has been determined with the rated output voltage of the driver. (12 V or 24 V).

#### Connection to Distributors

- 1) 4-Port Series Drivers cannot connect directly with box-to-box distributors. Please order extension lead separately, see page 110.
- 2) 6-way distributor with integrated lead cable (page 105) can connect directly to one of the 4 output ports.

**!** Ambient temperature  $-25^{\circ}\text{C}$  to  $+45^{\circ}\text{C}$   
(60 W:  $40^{\circ}\text{C}$ )  
Ensure that there is a sufficient air supply and circulation at the mounting location.

Loox5 ECO Driver w.swt. 100-127V/12V/20W  
Cat. No. 833.72.932 **5 12V**

IDR 251.057

Loox5 ECO Driver w.swt. 100-127V/12V/40W  
Cat. No. 833.72.934 **5 12V**

IDR 465.456

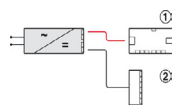
Loox5 ECO Driver w.swt. 100-127V/12V/60W  
Cat. No. 833.72.966 **5 12V**

IDR 518.025

- > Ideal for smaller installations
- > Four Loox5 output ports
- > Switch port

> Version:	4-Port Series
> Material/Color:	Plastic, black
> Degree of protection:	IP20
> Input voltage:	100–240 V-; 50–60 Hz
> Output voltage:	DC 12 V
> Output ports:	4 x Loox5 12 V 2-pin sockets
> Input ports:	1 x socket; Loox switch
> Life time:	30,000 hours
> Safety:	Class 2; with overload protection
> Supplied with:	1 driver with mounting accessories 1 US power cord





- ① Distributors with a box to box connection cannot be engaged directly. An extension lead is required. Please order separately.
- ② 6-way distributor with integrated lead can be connected directly



Main Cable EU  
833.89.002

Loox5 ECO Driver w.swt. 220-240V/12V/20W  
Cat. No. 833.72.933 5 12V

IDR 262.709

Loox5 ECO Driver w.swt. 220-240V/12V/40W  
Cat. No. 833.72.935 5 12V

IDR 444.270

Loox5 ECO Driver w.swt. 220-240V/12V/60W  
Cat. No. 833.72.967 5 12V

IDR 562.992

- > With switching function
- > Extremely flat, 16 mm
- > 12 V drivers with Loox5 generation plug system



- > Version: With overload protection
- > Area of application: For LED lights (not suitable for other devices)
- > Material: Plastic
- > Colour/finish: Black
- > Mains frequency: 50–60 Hz
- > Output voltage: 12 V DC ± 3%
- > Connected output ports: 4 x sockets, Loox5 2-pin 12 V
- > Control input ports: 1 x socket, Loox switch
- > Life time: 30000 h
- > Installation: For screwing, for glue fixing
- > Installation reference: Provide for sufficient air supply and circulation at the mounting location. Provide inspection opening.





**Note**  
Please note the regional mains voltage when selecting the power supply unit!  
**Please use Loox5 drivers with a service life of 50,000 hours for permanent operation.**  
Maximum lead length from the Loox5 power supply unit to the consumer: 10 m.  
Loss of voltage in the cable due to long cable lengths in conjunction with large loads (band lengths). These lead to visible loss of brightness in the lights.  
The illuminance listed with the lights has been determined with the nominal output voltage of the driver (12 V or 24 V).

**Supplied with**  
1 power supply unit with fixing material



# Test Symbols & Symbols



## Product features

-  Dimmable
-  RGB light
-  Multi-white light
-  Bluetooth®: industry standard for data transmission between electronic devices by radio over a short distance. The Bluetooth® word mark and logos are registered trademarks of Bluetooth SIG, Inc., and Häfele uses these marks under licence. Other trademarks and names are the property of their respective owners.



## Test symbol

-  TÜV seal of quality
-  Confirmation from manufacturer that the product complies with the product-specific applicable European norms and standards. Häfele will not use the certification in advertising.
- RoHS** Restriction of Hazardous Substances (EU directive 2011/65/EU). Häfele will not use the certification in advertising.
-  Underwriters Laboratories, correspondence with the national standards in the USA and Canada
-  Energy efficiency standard level VI (USA) meets DOE new standards
-  Product Safety Electrical Appliance and Material Safety Law (for Japan)
-  Regulatory Compliance Mark (for Australia)
-  China Compulsory Certification
- Eurasian Conformity**, for CU countries (Russia, Kazakhstan, Belarus)
-  Korea Certification Mark
-  Bureau of Standards, Metrology & Inspection BSMI (for Taiwan)
-  Thai Industrial Standards Institute TISI
-  European Norms Electrical Certification, with indication of the testing laboratory (one of 18 European national institutes)
- FC** Declaration of Conformity for telecommunication and radio equipment (USA)
-  Telecommunication and Radio Equipment (Japan)







## Protection classes

-  Protection class II
-  Protection class III



## Degrees of protection

- IP20** Only for use in dry locations
  - IP44** Penetration by solid foreign bodies  $q \geq 1$  mm is prevented. Water spray protection (water from all directions)
  - IP65** Dustproof, protection from water spray (jet) from any angle.
-  IP44 after installation  
 IP65 after installation

## Safety symbols

-  Installation permitted on or in furniture, whose ignition properties are unknown.
-  Max. surface temperature in case of fault
-  Lights to be used indoors only. Not to be used outdoors.
-  Do not use components that impede thermal radiation.
-  Waste of Electrical and Electronic Equipment. Do not dispose of in residential waste!
-  Driver, converts alternating current to direct current

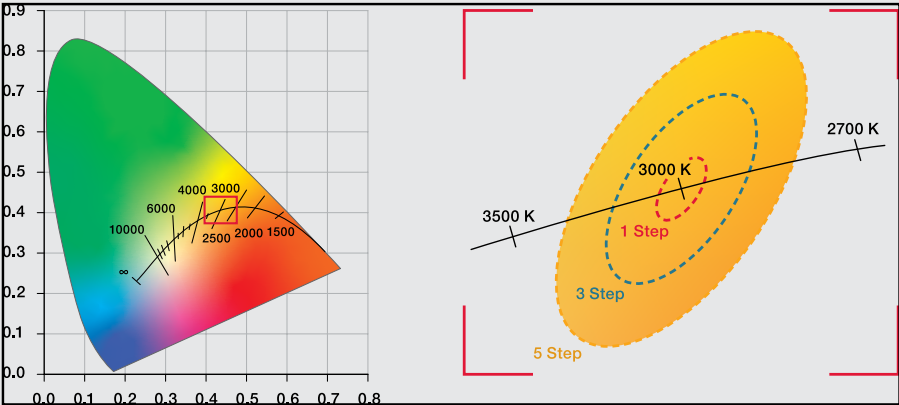
## Voltage supply

- SELV** Safety Extra Low Voltage
-  Independent operating unit for use outside of light without additional cover.
-  Short-circuit proof with safety isolation



# Technical Terms

## Technical terms

<b>Refraction angle</b>	The refraction angle (beam angle) describes the angle between two imagined straight lines in a plane through the visual beam axis, whereby these straight lines go through the center of the front of the lamp and through the points at which the illuminance is 50% of the illuminance on the visual beam axis.														
<b>Illuminance</b>	The illuminance is the <b>luminous flux</b> (lm) in relation to a surface (m <sup>2</sup> ) and it is indicated in Lux (lx). It is used to measure the brightness with which a surface is illuminated.														
<b>Binning</b>	During industrial manufacture, LEDs differ from each other with regard to color, luminous flux (brightness) and forward voltage. In order to achieve consistent light quality with the same brightness level and a uniform light color, they are therefore sorted according to color, luminous flux and forward voltage and separated into bins ("containers") during manufacturing. This sorting process is known as Binning. Häfele exclusively uses bins with a high degree of brightness in order to achieve high efficiency.														
<b>Bluetooth® Mesh</b>	Network technology which was introduced in 2017, based on Bluetooth® Low Energy, in which all components (controls, devices) form a joint network, which is ideal for controlling lights. Häfele Connect Mesh uses this technology.														
<b>Energy efficiency class</b>	The energy efficiency class provides information about the relevant energy consumption. Lamps and lights are categorized in classes E to A++. LED lights achieve the highest classes A to A++.														
<b>Color temperature and light color</b>	The color temperature is a specification of the color appearance of a white light source and is measured in Kelvin (K). The lower the color temperature, the warmer the light color; the higher the color temperature, the cooler the light color. White light sources with a color temperature below 3400 K are considered "warm white" by Häfele, white light sources with a color temperature between 3400 K and 5700 K are considered "cool white". White light sources above 5700 K are referred to as "daylight white".														
<b>Color consistency/ color differences</b>	 <p>Color differences are specified in stages, so called "MacAdams Ellipses" or "SDCM" (Standard Deviation of Color Matching). Häfele uses 3 SDCM binnings for its LED products. This is a good value, because it is statistically unlikely that LEDs with a maximum color difference will be next to each other on the strip light or in the light and that the color difference is visible. In its ErP directive, the EU Commission stipulates that 6 SDCMs may not be exceeded for LED products.</p> <table border="1"> <thead> <tr> <th>SDCM</th> <th>Visibility</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Only people with extremely good vision can see the most minimal color differences.</td> </tr> <tr> <td>2</td> <td>Most minimal color differences are visible.</td> </tr> <tr> <td>3</td> <td>Very small color differences are visible.</td> </tr> <tr> <td>4</td> <td>Color differences are visible.</td> </tr> <tr> <td>5</td> <td>Significant color differences are visible.</td> </tr> <tr> <td>&gt;5</td> <td>Very clear color differences are visible.</td> </tr> </tbody> </table>	SDCM	Visibility	1	Only people with extremely good vision can see the most minimal color differences.	2	Most minimal color differences are visible.	3	Very small color differences are visible.	4	Color differences are visible.	5	Significant color differences are visible.	>5	Very clear color differences are visible.
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>5	Very clear color differences are visible.														
<b>Color rendering index CRI</b>	The color rendering index is a parameter that can be used to compare the color rendering quality of light sources at the same color temperature. The higher the value, the better the color rendering. A value of 100 corresponds to the color rendering of sunlight.														
<b>Weighted energy consumption</b>	The weighted energy consumption is rounded to two decimal places in kilowatt hours in relation to 1,000 hours of use. It applies to operation of the LED with an external driver. The calculation and publication of this value is defined by EU ordinance No. 874/2012.														

# Technical Terms

Technical terms																													
<b>Constant current technology</b>	The same current flows through each LED. That means that the brightness of all LEDs is the same, and a <b>drop in luminous flux</b> is prevented. This increases the maximum visual length of the strip lights.																												
<b>Life time</b>	<p>Specified in operating hours. The life time mainly depends on the warming of the products. The hotter the environment, the shorter the life time. The replacement rate in years is calculated from the total life time and the average operating time per annum. The following table can be used as a planning aid. The specified life time relates to L70/B50.</p> <table border="1"> <thead> <tr> <th>Indoor use</th> <th>Annual operating time (EN 15193) hours</th> <th>Replacement rate Years</th> <th>Life time installation Hours</th> </tr> </thead> <tbody> <tr> <td>Office</td> <td>2,500</td> <td>20</td> <td>50,000</td> </tr> <tr> <td>Education</td> <td>2,000</td> <td>25</td> <td>50,000</td> </tr> <tr> <td>Hospital</td> <td>5,000</td> <td>10</td> <td>50,000</td> </tr> <tr> <td>Hotel</td> <td>5,000</td> <td>10</td> <td>50,000</td> </tr> <tr> <td>Restaurant</td> <td>2,500</td> <td>10</td> <td>25,000</td> </tr> <tr> <td>Shop</td> <td>5,000</td> <td>10</td> <td>50,000</td> </tr> </tbody> </table>	Indoor use	Annual operating time (EN 15193) hours	Replacement rate Years	Life time installation Hours	Office	2,500	20	50,000	Education	2,000	25	50,000	Hospital	5,000	10	50,000	Hotel	5,000	10	50,000	Restaurant	2,500	10	25,000	Shop	5,000	10	50,000
Indoor use	Annual operating time (EN 15193) hours	Replacement rate Years	Life time installation Hours																										
Office	2,500	20	50,000																										
Education	2,000	25	50,000																										
Hospital	5,000	10	50,000																										
Hotel	5,000	10	50,000																										
Restaurant	2,500	10	25,000																										
Shop	5,000	10	50,000																										
<b>Life time L80/B10</b>	L80 is the time after which the LED is still emitting 80% of its original light. B10 means that 10% of the LEDs may have less than 80% of the original light output. Häfele tests all LEDs it uses in accordance with the LM-80 standard. LM-80 is a standardized testing method, which allows products to bear the EPA's (Environmental Protection Agency) Energy Star. The test is a manufacturer-independent comparison of LEDs. During the test the luminous flux (Lumen maintenance) of an LED is tested at three different temperatures for a minimum of 6,000 hours. Then the life time L80 is calculated by means of extrapolation. The extrapolation procedure is described in regulation IES TM-21.																												
<b>LED</b>	A light-emitting diode (LED) is a semi-conductor element that emits light when electricity passes through it. This semi-conductor element consists of a crystal that is attached to a metal base, and both are encapsulated in protective plastic. LEDs are mostly based on inorganic, i.e. non-carbon based materials.																												
<b>Luminous efficacy</b>	The luminous efficacy is the ratio of the luminous flux and the wattage absorbed. It is used to measure the operating efficiency of the light source. It is indicated in Lumens per Watt (lm/W).																												
<b>Luminous flux</b>	It is indicated in Lumen (lm). The luminous flux indicates the light output, i.e. the quantity of light a source emits. The value may be subject to measurement and production-related fluctuations of ±10%.																												
<b>Drop in luminous flux</b>	The brightness of the LEDs on LED strip lights decreases with the length of the strip light due to the increasing resistance of the copper line. A drop in luminous flux from the first to the last LED of up to 30% is imperceptible to the human eye. That's why Häfele specifies a <b>maximum strip light length</b> for this visual value. Generally, it is possible to operate strip lights with longer lengths, but a difference in brightness will be visible. Exception: The LEDs of the strip lights with constant current technology (LED 2077/3050/3051/3052) always have the same brightness.																												
<b>Max. strip light length</b>	<p><b>Visual value</b> Strip light length with an imperceptible <b>drop in luminous flux</b> of max. 30%.</p> <p><b>Wattage-dependent value</b> Strip light length = output power of driver / wattage of the strip light per meter. If the wattage-dependent value is greater than the visual value, a difference in brightness will be perceivable. Exception: The LEDs of the strip lights with <b>constant current technology</b> (LED 2077/3050/3051/3052) always have the same brightness.</p>																												
<b>Multi-white</b>	The light color of shades of white can be changed as required with Häfele Connect Mesh, e.g. from warm white to cool white.																												
<b>RGB</b>	RGB is the abbreviation for red, green and blue. In combination with Häfele Connect Mesh, almost any color combination can be created from these three primary colors.																												
<b>RoHS – Lead in Loox products</b>	Loox Products by Häfele are lead-free and adhere to the RoHS guidelines. RoHS is part of CE conformity. All Loox products are CE compliant. Häfele does not advertise the CE conformity in its catalogs, since only CE compliant products are allowed to be offered. The declaration of conformity is available online at <a href="http://www.hafele.com">www.hafele.com</a>																												
<b>Transmittance</b>	Ratio of transmitted light to incidental light. An ideal transparent body would have a transmittance of 100%.																												

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June 2023

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Printed in Indonesia



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