

LED-Strip D25

Product Sheet



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Version November 2018: All technical data and the weight and dimension information were carefully created – errors reserved. Any colour deviations are printing-related.

We reserve the right to make changes that serve further improvement.

Quick Info

Features	LED-Strip D25-250
Length	250mm
Number of LEDs	10 RGB LEDs 10 white LEDs
Current (I_{max})	0,25A
Colour	RGBW
Luminous flux ¹	136lm
Luminous intensity ¹	95cd
Channels	40

Overview of control options

		LED-Strip D25-250	Details on page
System Power Supply 4E/ DPB Pixel-Router Pro	with DPB	96 LED-Strips per controller	13/15
	with DMX	48 LED-Strips per controller	
DPB Pixel-Router	with DPB	48 LED-Strips per controller	14
Sys One	Output XLR-4pin	12 LED-Strips per controller	16
	Output System connector red	24 LED-Strips per controller	
70W power supply with DMX		12 LED-Streifen pro Netzteil	18

1) The values are measured with a LED strip D25-250 in the colour temperature 6500K (further values can be found on page 8).

Introduction

FEATURES

- RGBW
 - Generation 3 compatible
 - Automatic Addressing System (Smart Link) – no addressing at the board
 - Compatible with other series from Schnick-Schnack-Systems
 - Free patch, color change and scroll text control software
 - Made in Germany
-
- Premium quality LEDs
 - Outstanding colour rendering features even when video controlled
 - Individual color calibration of fitted LEDs
 - Subsequent calibration possible
 - White value adaptable to the application
 - Colour adaptation selectable between colour metric sRGB and maximum colour space
 - Easy RGB- or RGBW controlling
 - Controllable in 8Bit and 16Bit per colour (DPB)
 - Wider 115° beam angle
 - camera friendly (46kHz refresh rate, non multiplex)
 - Equal brightness despite different supply-line lengths due to integrated switching regulator
 - Enough "headroom" for longer durability
-
- Direct control with DMX 512-A
-
- Higher contrast due to black lacquered board
 - Versatile mounting options

Use

The D Series LED strips combine high-quality, efficient RGB LEDs and warm white 2000K LEDs with a high colour rendering index.

The combination of the two LEDs enables a lighting quality in white light that would not be possible with white light mixed from RGB LEDs ($R_a < 40$). In addition, the additional white complements the spectrum of RGB LEDs considerably. For skin tones, the spectrum is essentially complete and very close to the incandescent spectrum. The strips are therefore the ideal LED light source for all applications where surfaces need to be illuminated or backlit with excellent lighting quality or people are illuminated.

Technology

The LED strip D50 is available in a length of 250mm in a grid of 25mm.

The RGB LEDs together with the white LED are individually colour-calibrated and subsequent calibration is possible at any time. An internal colour processing takes care of the pixel-perfect conversion from RGB to RGBW. It takes into account the spectrometrically measured colour and brightness data of each individual LED for perfect lighting and backlighting results. The white LED is thus automatically included in the colour rendering, but can also be controlled separately via a fourth channel.

The D25 LED strips belong to Generation 3 and in addition to DMX, can also read the Dynamic-Pixel-Bus protocol (DPB). By using the DPB, more LED strips per output of a system power supply are available – up to 3,072 channels. A variable transmission rate enables the best, customized balance of channel count, frame and error rate. When video signals are used, a system-wide synchronization (System Wide Sync) prevents image distortion. The system speed can therefore easily reach the 60fps update rate and switching between DMX and DPB is possible at all times. And, thanks to our Smart Link Technology elaborate addressing of the strips is eliminated.

The strip firmware can be updated from a central point via the network with the System Power Supply 4E or with a Windows program, which also means that future standards or developments can be supported. Each strip sends status information such as temperature, data error rate, input voltage or LED defects back to the control system and therefore enabling a problem-free remote diagnosis.

When using diffusers, the distance needed to create a homogeneous surface depends on the material. There should be at least 6cm from the topside of the LED to the diffuser. The LED strips are mounted with board holders.

Control

Power supply and control takes place via the System Power Supply 4E, the DPB Pixel-Router, the DPB Pixel-Router Pro or the Sys One. Pixel-accurate control of the D Series LED strips can be achieved with lighting boards, media servers or with our Pixel-Gate video converter via the Ethernet interface of the controllers.

Mechanical data

Features	LED-Strip D25-250
Length	250mm
LED-Pitch	25mm
Number of LEDs (for standard length)	10 RGB LEDs 10 white LEDs
Pin connection and -colour	System connector red
Safety class	IP00
Weight	21g

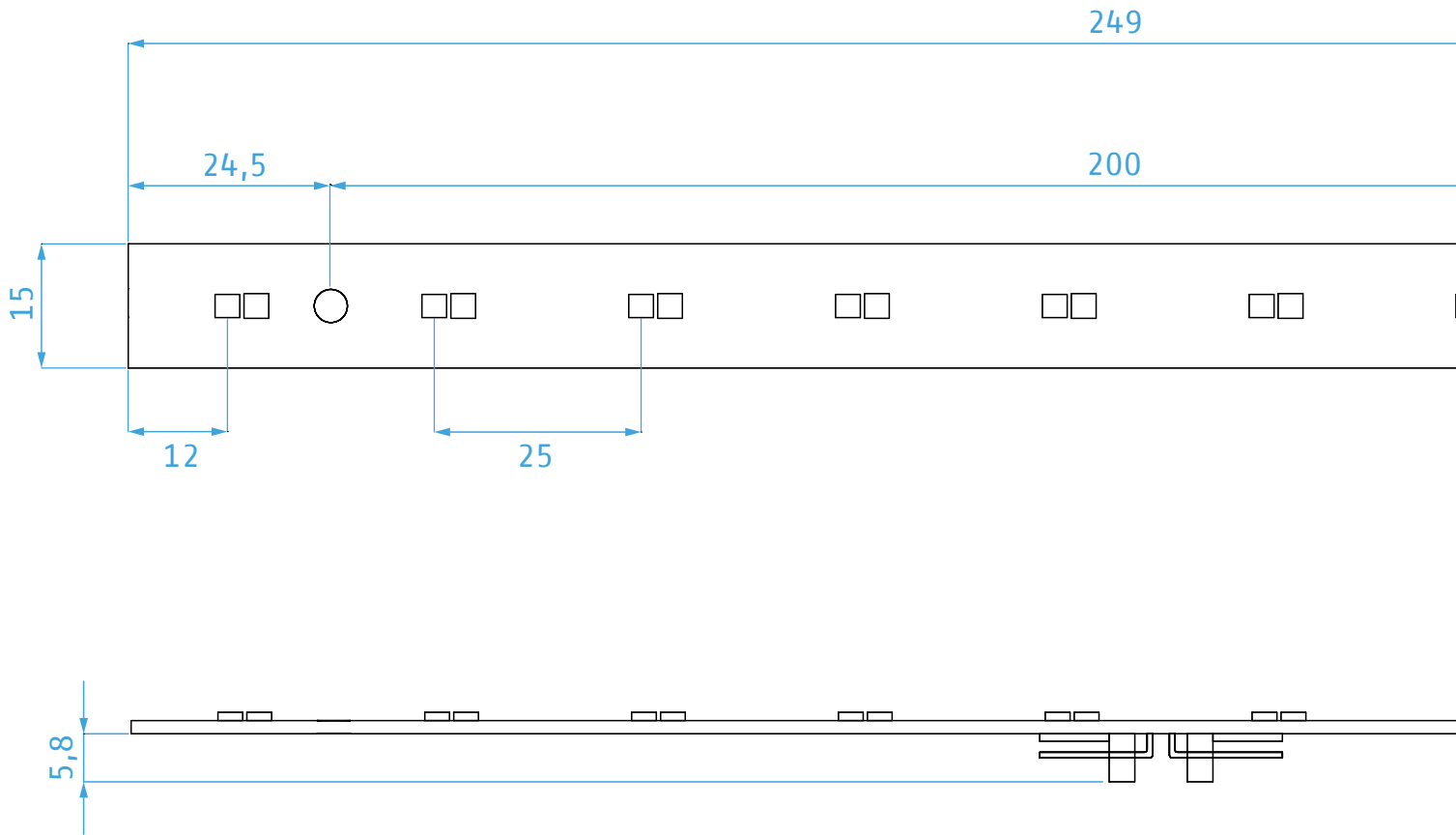


LED-Strip D25-250 (front view)

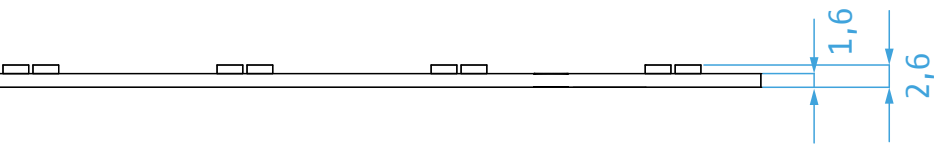
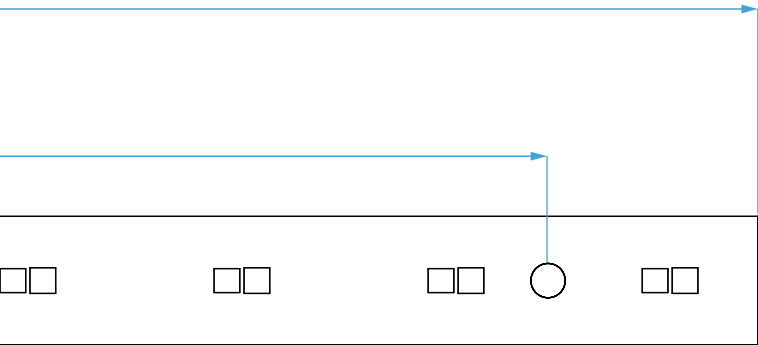


LED-Strip D25-250 (rear view)

CAD drawing*



* without scale / all units in mm



Optical data

	Emission angle	Colour	Luminous flux ²	Efficiency (at 20V)	Colour Rendering Index R _a	Luminous intensity ³
LED-Strip D25-250	115°	Red LED	29lm			19cd
		Green LED	51lm			36cd
		Blue LED	11lm			8cd
		White LED	74lm	45,9lm/W	84,4	51cd

	Emission angle	Colour ¹	Luminous flux ²	Efficiency (at 20V)	Colour Rendering Index R _a	Luminous intensity ³
LED-Strip D25-250	115°	2000K	130lm	42,1lm/W	87,6	89cd
		2200K	151lm	51,4lm/W	91,5	93cd
		2500K	165lm	50,7lm/W	96,1	115cd
		2700K	166lm	50,2lm/W	96	115cd
		3000K	157lm	48,7lm/W	94,9	109cd
		3200K	157lm	48,2lm/W	93,8	109cd
		3500K	165lm	50,0lm/W	92,3	109cd
		4000K	152lm	45,9lm/W	90,1	106cd
		4500K	143lm	44,4lm/W	88,6	100cd
		5000K	143lm	43,9lm/W	87,3	100cd
		5600K	143lm	43,2lm/W	85,8	100cd
		6500K	136lm	42,1lm/W	83,8	95cd

Distance/Lux table⁴

Distance	LED-Strip D25-250
0,5m	380lx
1m	95lx
2m	24lx

CRI values

Colour	R _a	R ₁	R ₂	R ₃	R ₄	R ₅	R ₆	R ₇	R ₈	R ₉	R ₁₀	R ₁₁	R ₁₂	R ₁₃	R ₁₄
2000	87,6	84,6	93,6	92,6	76,6	84,6	93,6	92,6	76,6	89,4	88,8	61,2	78,5	85,1	92,8
2200	91,5	91,5	96,1	98,8	92,6	91,5	96,1	98,8	92,6	47,4	91	96,6	86,5	92,9	99,1
2500	96,1	98,8	99	99	98,6	98,8	99	99	98,6	67,3	96,8	92,4	85,7	99,7	97,9
2700	96	97,2	99,4	98,1	95,1	97,1	99,4	98,1	95,1	78,3	98,9	88,3	83,9	96,9	97,2
3000	94,9	93,2	97,8	97,1	91,7	93,2	97,8	97,1	91,7	91,8	96,9	84,7	80,9	93,3	96,5
3200	93,8	91,1	96,8	96,7	90,2	91,1	96,8	96,7	90,2	97,5	95	83,4	79	91,4	96,2
3500	92,3	88,7	95,5	96,4	88,8	88,7	95,5	96,4	88,8	89,8	92,6	82,4	76,4	89,1	95,9
4000	90,1	85,8	93,5	96,4	87,5	85,8	93,5	96,4	87,5	76,4	88,9	82,1	72,6	86,2	95,7
4500	88,6	83,7	91,8	96,7	86,8	83,7	91,8	96,7	86,8	66	85,6	82,7	69,6	84	95,7
5000	87,3	82	90,2	86,9	86	82	90,2	96,9	86	57	82,3	83,5	67,2	82,1	95,8
5600	85,8	79,3	88,2	96,9	84,9	79,3	88,2	96,9	84,9	47,1	78,5	81,8	70	79,6	95,7
6500	83,8	77,0	86,0	96,2	83,4	77,0	86,0	96,2	83,4	34,3	74,0	82,3	67,0	77,1	95,4

1) Colour temperature of the set white value. Delivered in 6500K as standard. Further colour temperatures can be ordered optionally.

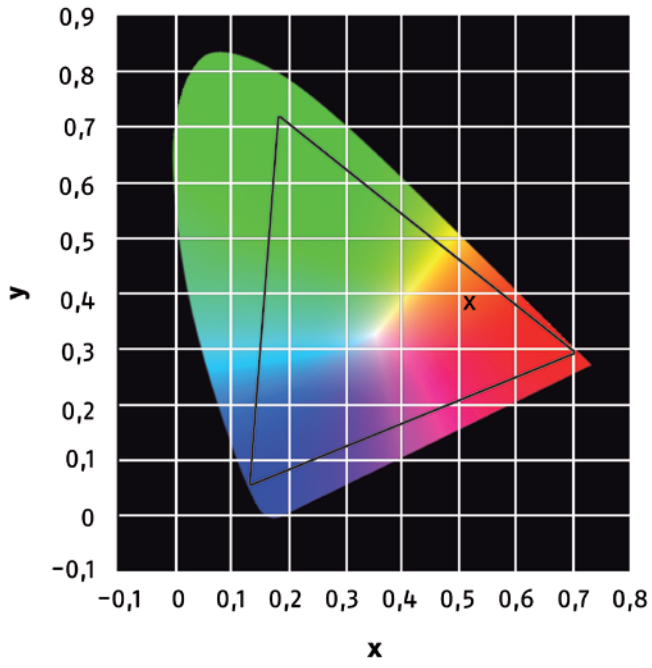
2) Luminous flux is measured after at least 60 seconds of power-on time. Measuring is according according to DIN 5032-1 (1999) „Light measurement Photometric methods“ 9.5.4 „[luminous flux] determination with a sphere photometer according to Ulbricht“. Sphere diameter is 1000mm. Comparison lamp is a halogen lamp. The system has been calibrated in a laboratory accredited to DIN17025.

3) Spectrum and intensity are measured after a minimum of 60 seconds of power-on time. Measuring is according to CIE127 (2007) “Measure of LEDs” 4.3 “averaged LED intensity – condition B” by means of a cooled high-end “Back Illuminated” CCD spectrometer with a fibre optic probe based on an Ulbricht sphere with 25mm inner diameter and 1cm² measurement port. The system has been calibrated in a DIN17025-accredited laboratory.

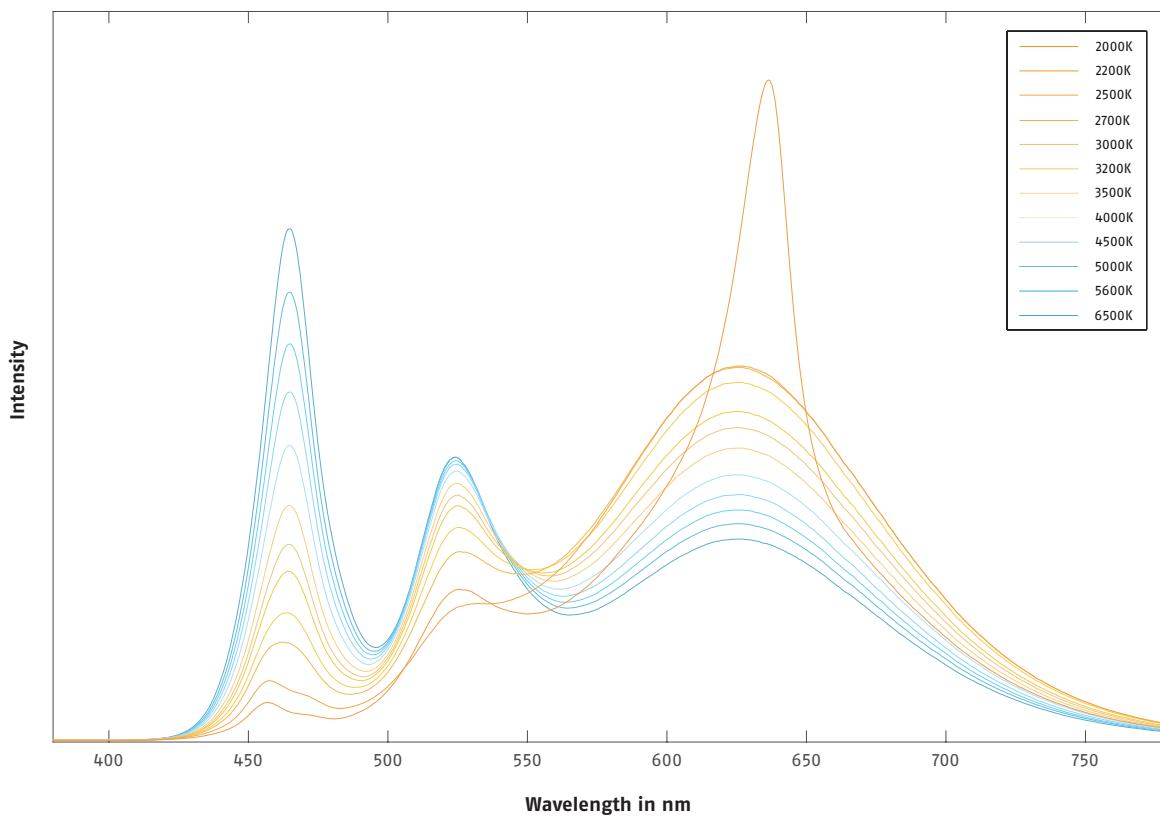
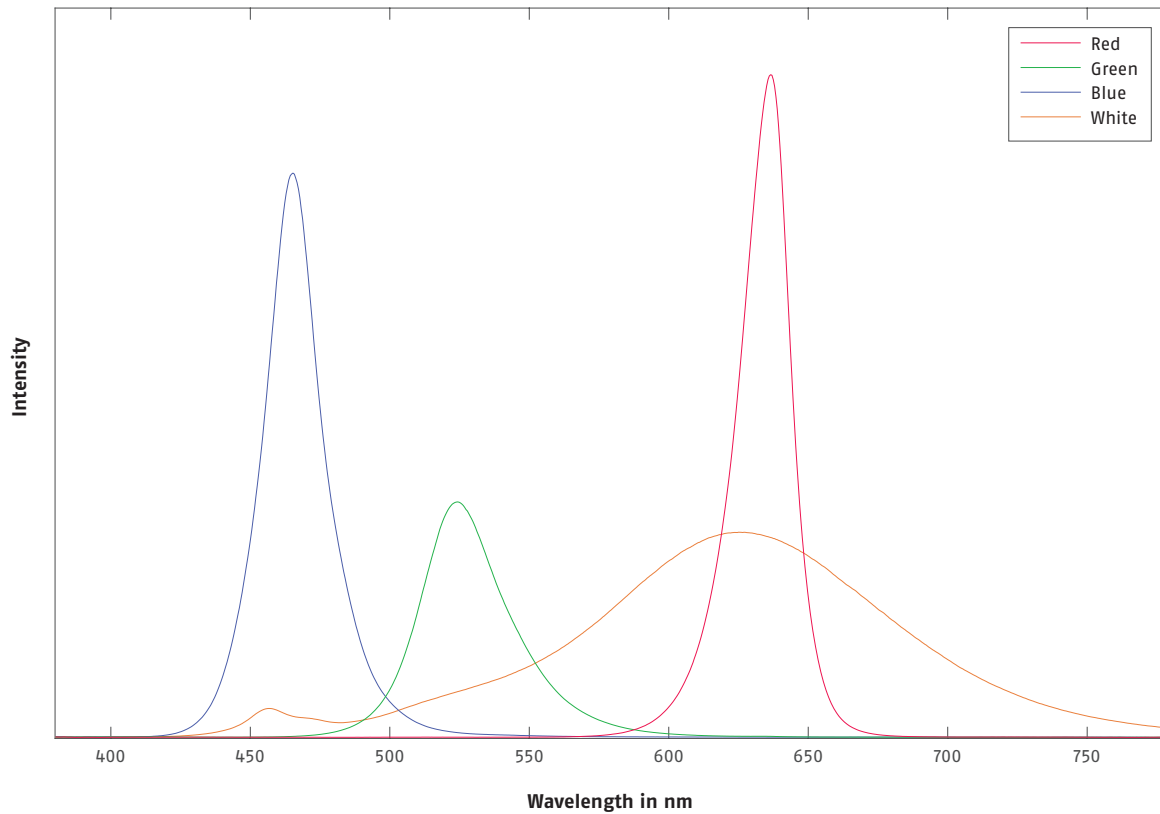
4) The values are measured with a LED-Strip D25 in the colour temperature 6500K (others on request).

Regarding the measurements, it's a matter of actual measurements. Due to the typical LED manufacturing tolerance deviations may occur. Each individual product may vary from this data. We reserve the right of error and technical modifications.

Gamut diagram



Spectral distribution



Electrical data

Features	LED-Strip D25-250
Voltage range	24V
Current (I_{max})	0,25A

Pin Connection

System connector red

1	■	GND
2	■	DMX -
3	■	DMX +
4	■	24 V

Control options for LED-Strip D25

System Power Supply 4E



DMX 512*

maximum 48 LED-Strips per controller
 maximum 12 LED-Strips per XLR output
 maximum 12 LED-Strips per System connector red

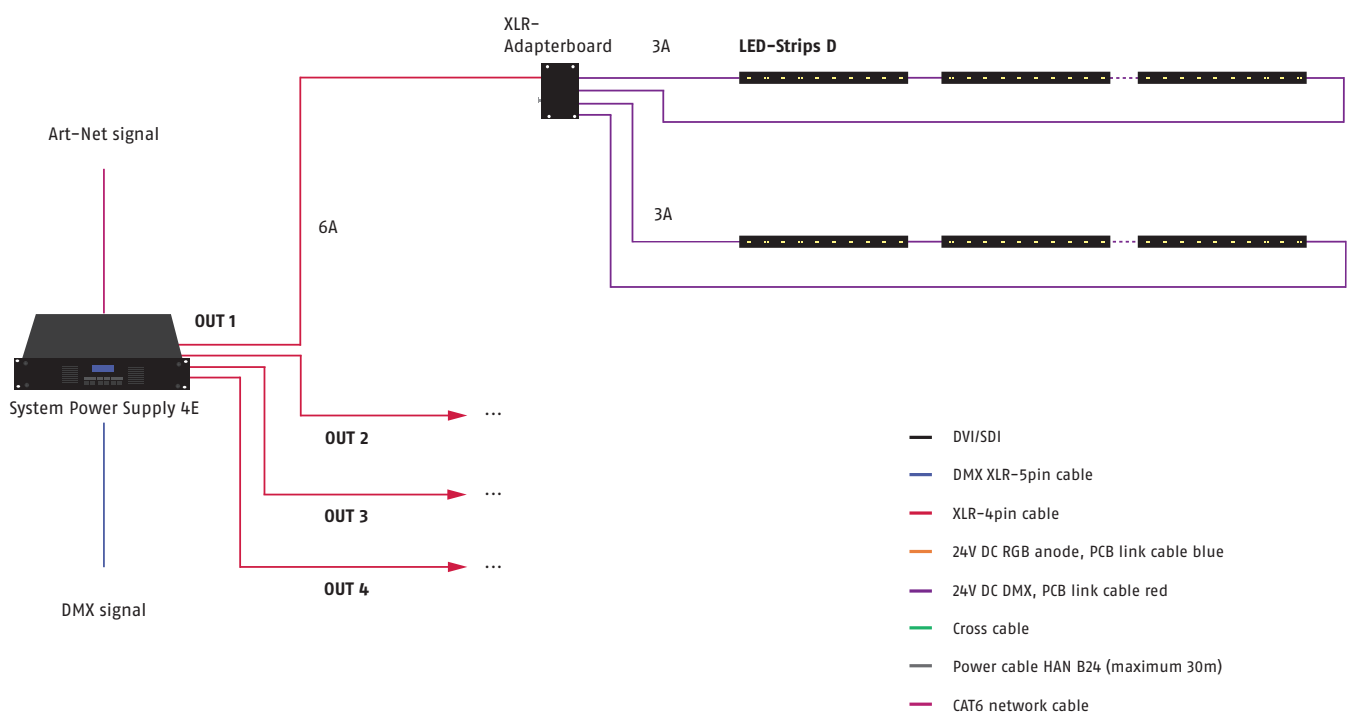
DPB**

maximum 96 LED-Strips per controller
 maximum 24 LED-Strips per XLR output
 maximum 12 LED-Strips per System connector red

*channel-restricted

**current limited

Cabling example System Power Supply 4E with LED-Strip D25



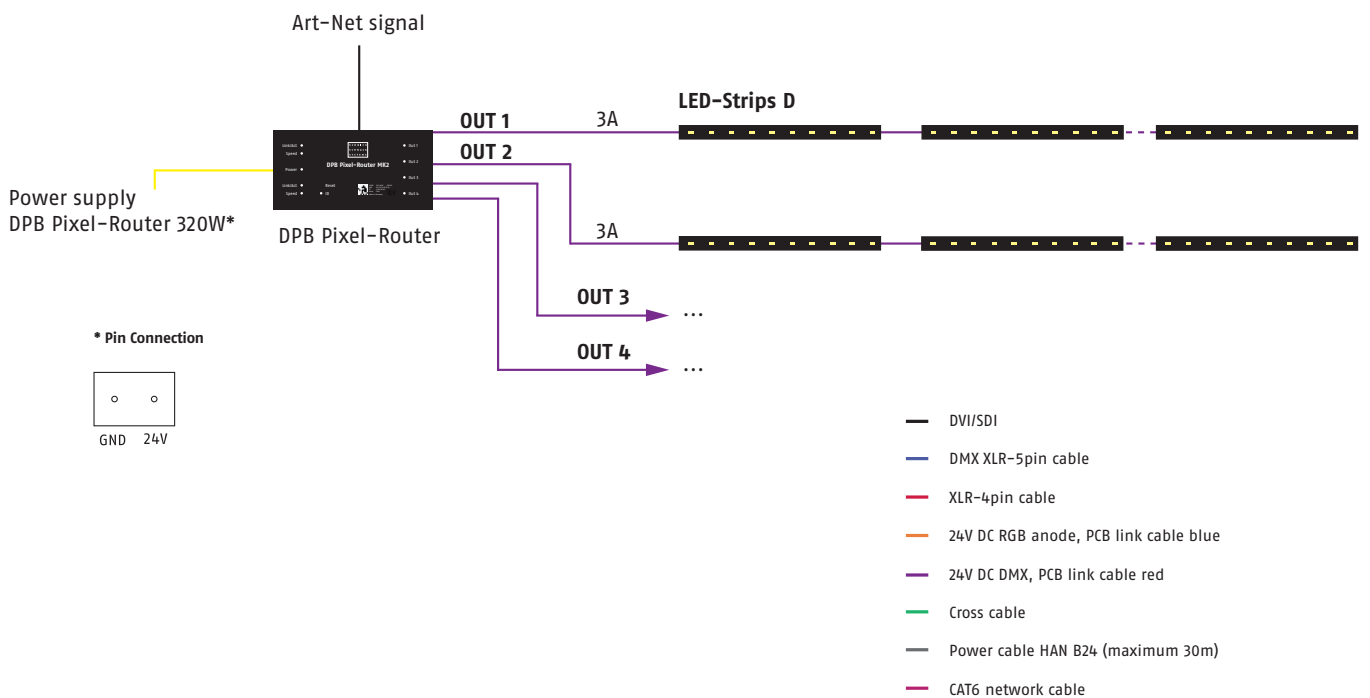
DPB Pixel-Router



DPB

maximum 48 LED-Strips per controller
 maximum 12 LED-Strips per output

Cabling example DPB Pixel-Router with LED-Strip D25



DPB Pixel-Router Pro

Specific feature: fanless operation at normal load



DMX 512*

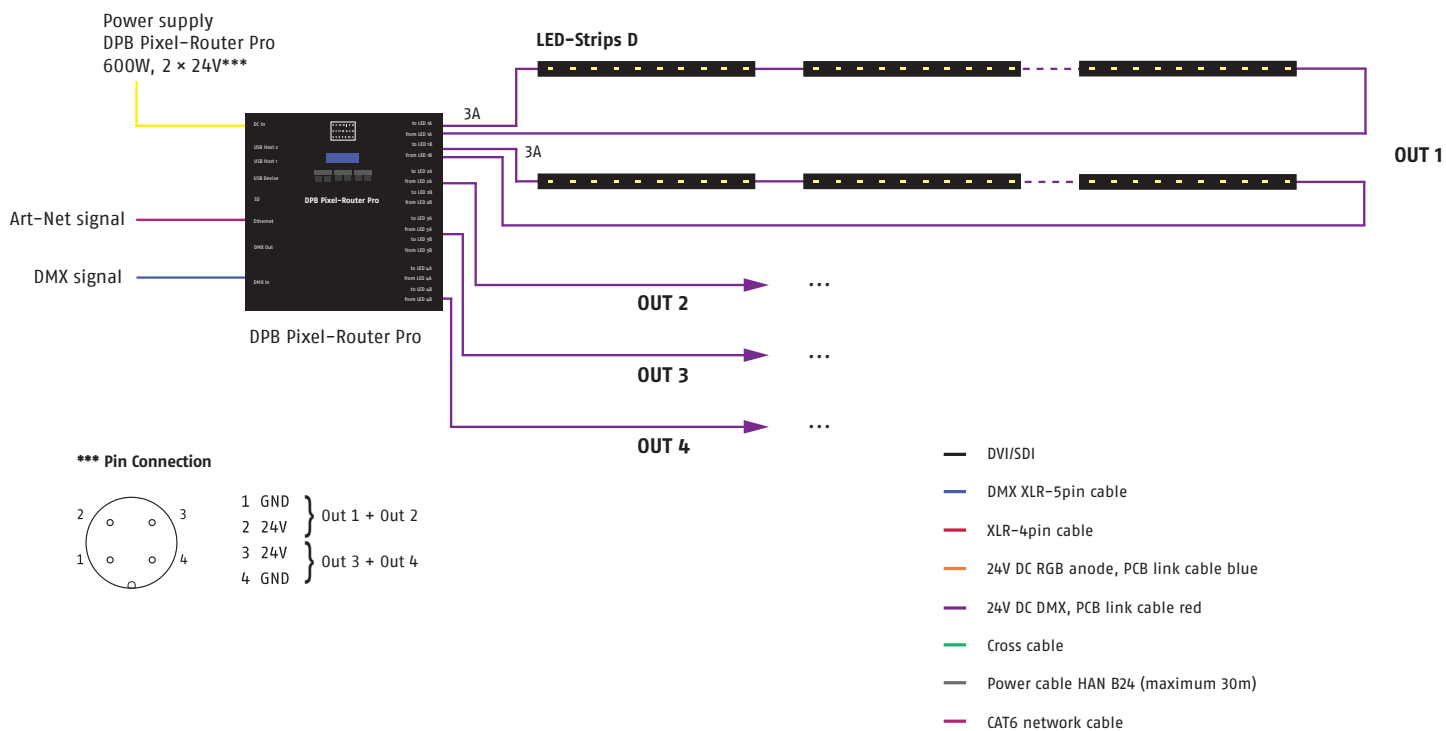
maximum 48 LED-Strips per controller
 maximum 12 LED-Strips per output
 maximum 12 LED-Strips per System connector red

DPB**

maximum 96 LED-Strips per controller
 maximum 24 LED-Strips per output
 maximum 12 LED-Strips per System connector red

*channel-restricted
 **current limited

Cabling example DPB Pixel-Router Pro with LED-Strip D25



Sys One

Specific feature: fanless operating



Power Data Out

Output XLR-4pin

Output System connector red (2 universes)

LED-Strip D25-250

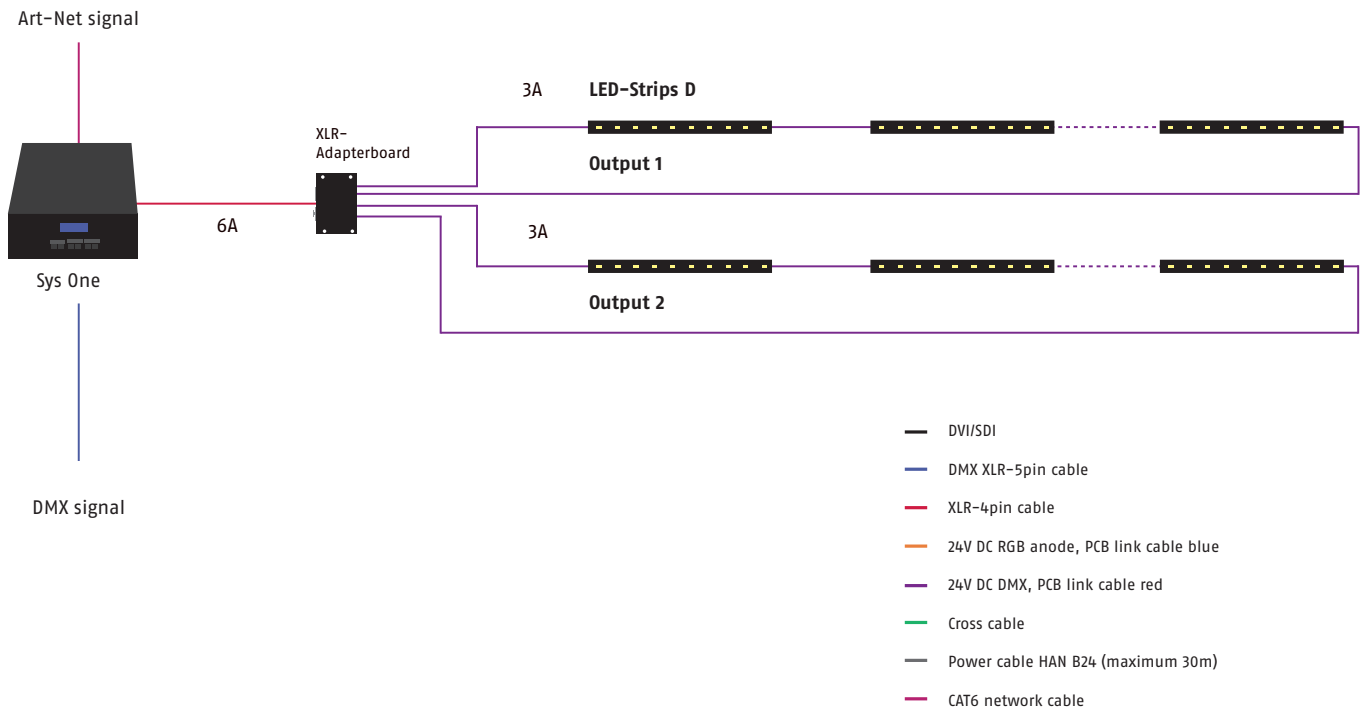
maximum 12 LED-Strips per controller

maximum 24 LED-Strips per controller

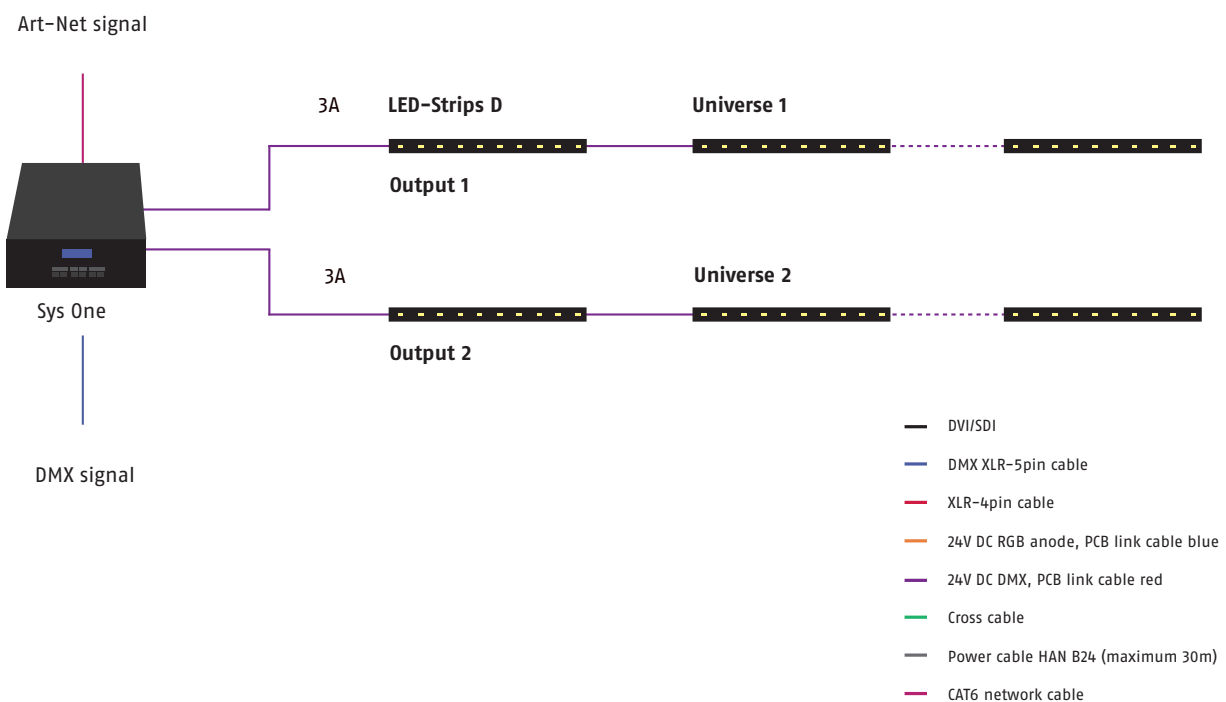
maximum 12 LED-Strips per system connector red

Please note: connect only one output variable (XLR-4pin or System connector red)!

Cabling example Sys One (XLR-4pin connector) with LED-Strip D25



Cabling example Sys One (System connector red) with LED-Strip D25



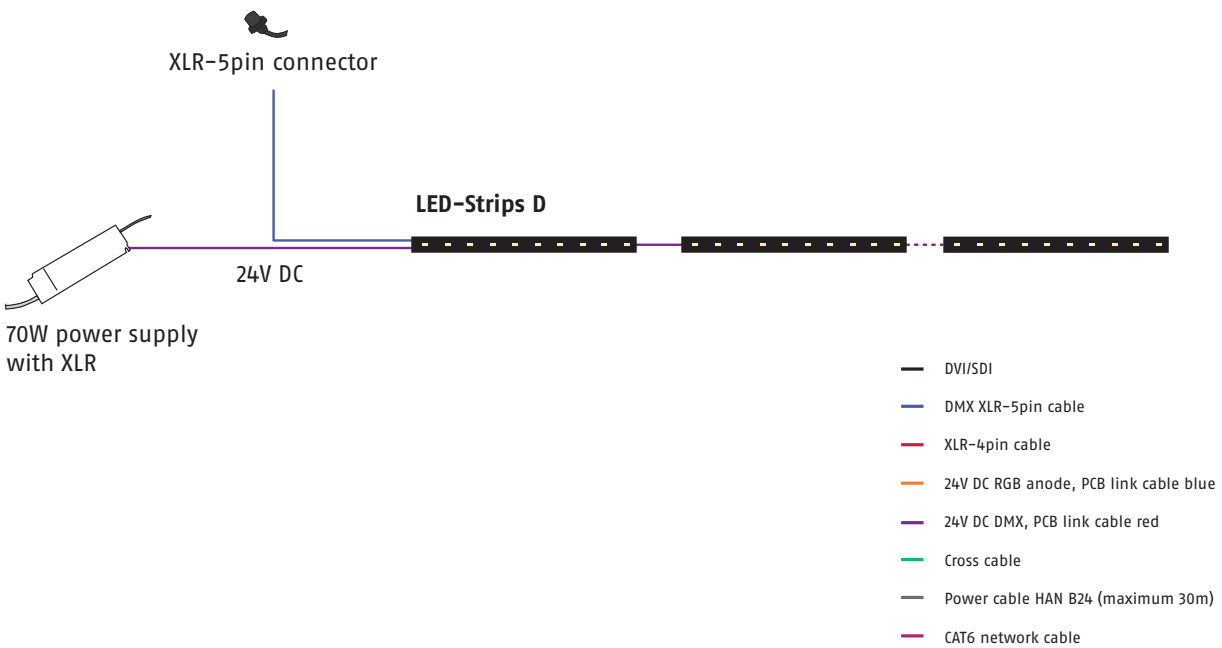
70W power supply with DMX



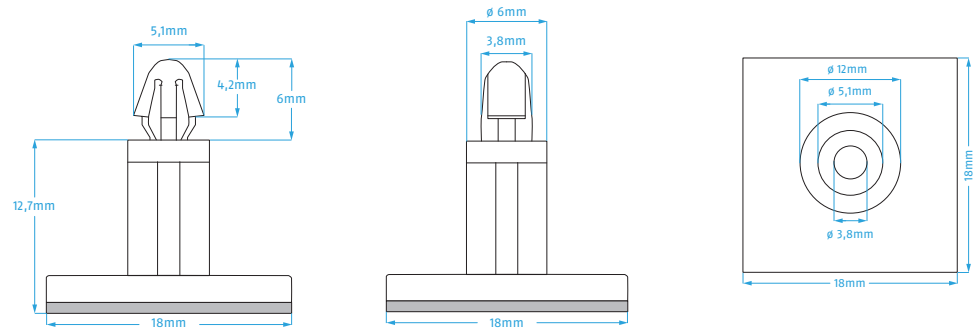
LED-Strip D25-250

maximum 12 LED-Strips per power supply

Cabling example 70W power supply with DMX



Mounting

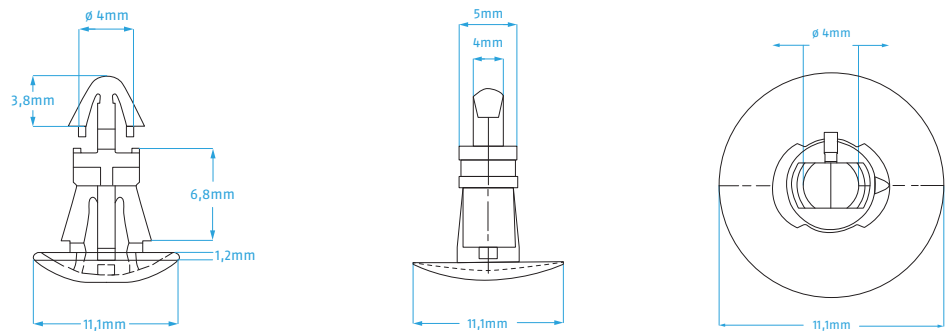


Description

PCB holder 12mm, self-adhesive version

Item number

802.0002



Description

PCB holder 6mm, plug-in version (for plates)

Item number

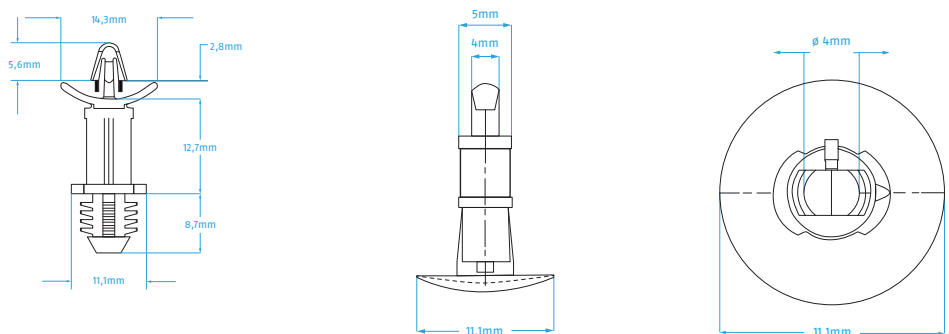
802.0003

Drill hole

5,4mm

Material thickness

1,5-1,6mm



Description

PCB holder 12mm, plug-in version (for plates)

Item number

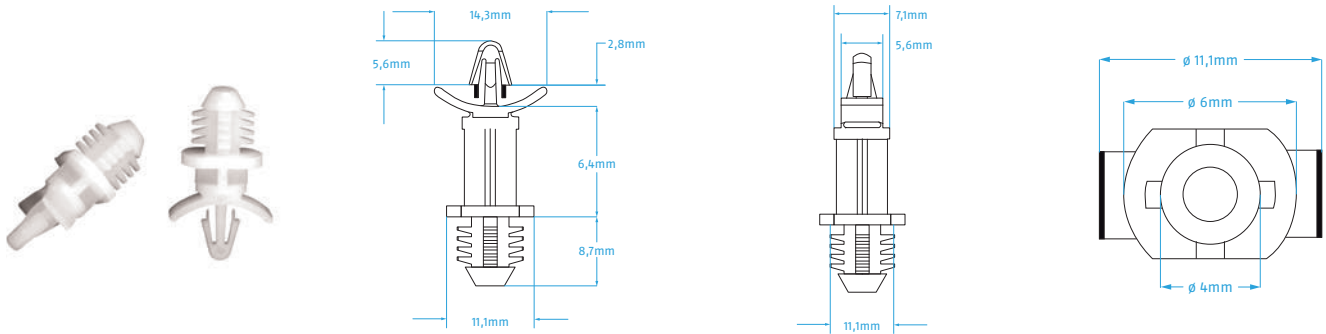
802.0004

Drill hole

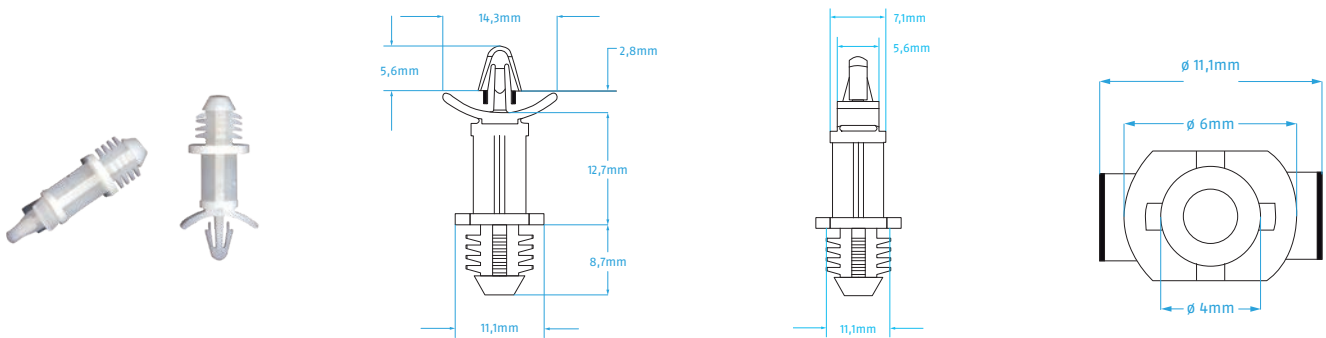
5,4mm

Material thickness

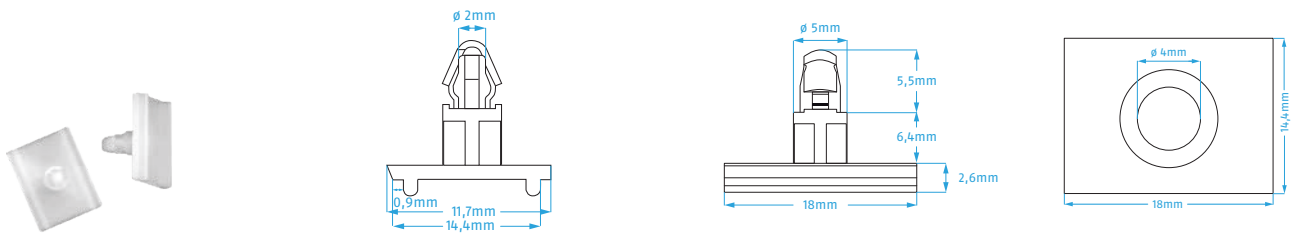
1,5-1,6mm



Description	Item number	Drill hole	Material thickness
PCB holder 6mm, drill version (for wood or plastic)	802.0006	7,9mm	minimum 6,4mm



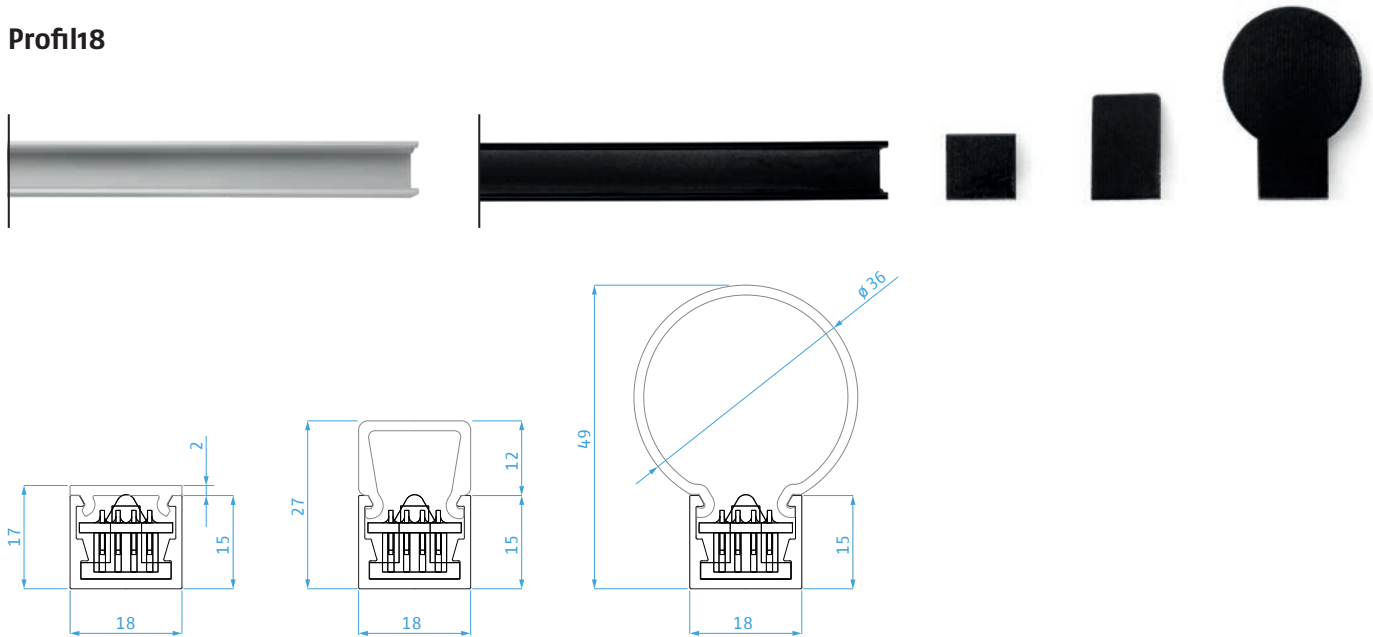
Description	Item number	Drill hole	Material thickness
PCB holder 12mm, drill version (for wood or plastic)	802.0007	7,9mm	minimum 6,4mm



Description	Item number
PCB holder 6mm, plug-in version (for click-profile)	802.0009

Accessoires

Profil18



Aluminum profile	Article number
LED-Profil 18-15, aluminum black, 2m*	804.3201
LED-Profil 18-15, aluminum anodized, 2m*	804.3203
Low quantity surcharge < 10 pieces	804.9999

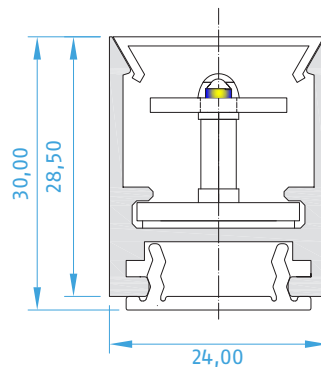
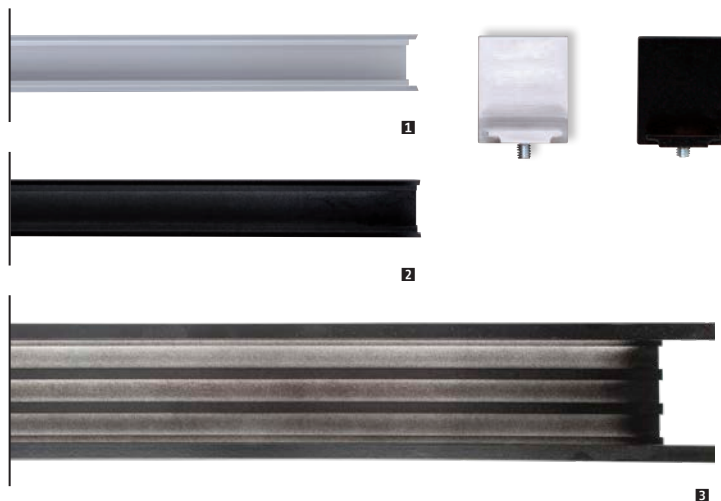
Diffusers	Article number
Diffuser 18-02, satin, 2m, for all Pixel distances*	804.3226
Diffuser 18-12, white, 2m, for 12mm Pixel distance or less*	804.3228
Diffuser 18-12, black, 2m, for all Pixel distances*	804.3230
Diffuser 18-D36, white, 2m, for 25mm Pixel distance or less*	804.3232

Head ends	Article number
Head end 18-02, black, professional 3D print	804.3251
Head end 18-12, black, professional 3D print	804.3261
Head end 18-D36, black, professional 3D print	804.3271

* Special lengths available upon request.

** For a homogeneous surface representation.

Rectangular profiles



	Item number
Rectangular profile, 2m, 24mm × 30mm (W × H), aluminium anodised*	804.2401
Rectangular profile, 2m, 24mm × 30mm (W × H), black*	804.2403
Item number	
Click Profile for rectangular profile, 2m, transparent	802.0040
Klick Profile for rectangular profile, 50mm, with hole ø 3,5mm	810.0001
Item number	
Bracket for rectangular profile, 2m, plastic, black	804.2492
Item number	
Head end aluminium anodised, 6mm, including screws	804.2431
Head end aluminium anodised, 12mm, including screws	804.2441
Head end black, lacquered, 6mm, including screws	804.2433
Head end black, lacquered, 12mm, including screws	804.2443
Item number	
Aluminium profile, 6m, 80 × 80mm (B × H), with 3-rows, black	804.0024
Cover for aluminium profile 80 × 80mm, 3m, slide-in version (Makrolon2150, 3mm, opaque)	815.0008
Cover for aluminium profile 80 × 80mm, 3m, inlay version (Makrolon2150, 3mm, opaque)	815.0007
Head end for aluminium profile 80 × 80mm, black	804.0025
Profile connector for aluminium profile 80 × 80mm	806.0012
Slot nut for aluminium profile 80 × 80mm	806.0013

* Special lengths and colours available upon request. For special colours please provide relevant RAL-information.

Cylindrical profiles



Cylindrical profiles	Item number
Cylindrical profile, 2m, ø 25mm, aluminium anodised*	804.2504
Cylindrical profile, 2m, ø 25mm, black*	804.2506

Bracket	Item number
Bracket for cylindrical profile (transparent)	802.0038
Bracket for cylindrical profile (black)	802.0039

Covering	Item number
Covering for cylindrical profile 2m, transparent	804.2594

Head ends	Item number
Head end aluminium natural, lasered, 2mm thin, including screws	804.2520
Head end aluminium, rotated, anodised, 12mm width, including screws	804.2541
Head end aluminium, rotated, anodised, 12mm width, with cable outlet, including screws	804.2551
Head end black, lasered, 2mm thin, including screws	804.2523
Head end black, rotated, 12mm width, including screws	804.2543
Head end black, rotated, 12mm width, with cable outlet, including screws	804.2553

* Special lengths and colours available upon request. For special colours please provide relevant RAL-information.

Order numbers

	Colour	LED-Pitch	Length	Current (I_{max})	Channels	Connection	Item number
LED-Strip D25-250	RGBW	25mm	250mm	0,25A	40	System connector red	106.0003

	Operating voltage	Power (I_{max})	Channels	Input	Output	Item number
System Power Supply 4E	110-240V AC	4 × 6A*	4 × 3072 channels (DPB) 4 × 512 channels (DMX)	Ethercon RJ 45 XLR-5pol IN/Through	4 × XLR-4pin	203.0003
DPB Pixel-Router MK2.6	24V DC	4 × 3A	4 × 3072 channels	RJ 45	4 × System connector red	203.0021
DPB Pixel-Router POE	24V DC	4 × 3A	4 × 3072 channels	RJ 45	4 × System connector red	203.0022
DPB Pixel-Router Pro	100-240 V AC	4 × 2 × 3A	4 × 3072 channels (DPB) 4 × 512 channels (DMX)	Ethercon RJ 45 XLR-5pin IN/Through	System connector red, maximum 2 × 3A	203.0023
Sys One	110-240V AC	1 × 6A or 2 × 3A or 2 × (3 × 1A)	1 × 512** or 2 × 512**	XLR-5pin IN/Through	1 × XLR-4pin 2 × System connector red 2 × System connector blue	203.0007
70W-Power Supply (24V DC + DMX)	220-240V AC					204.0152

* Note: US version only 4 × 4A at 110V

** depending on the output configuration

ESD warning

Please be aware that electrostatic discharges can destroy LED boards, and our experience shows that this does happen. During assembly, we recommend wearing at least one antistatic wrist strap and avoiding static discharges – such as those that arise when removing protective film or dry cleaning acrylic glass, for example – near LEDs! Antistatic materials should be used when packaging the LED boards. Normal bubble wrap or other plastic bags are not suitable.

For reasons of safety and radio shielding, please only use systems we have approved to provide a power supply for our LED components. All technical information is based on the version at the time of printing.

We reserve the right to make technical specifications in terms of a product improvement without prior notice. Printing – even excerpts – requires the written consent of Schnick-Schnack-Systems GmbH.

Why Schnick Schnack Systems?

As installation times become increasingly shorter the complexity of systems simultaneously increases as do the requirements of customers.

We are a supplier who delivers high-quality reliable systems – under tight deadline constraints that are not only quick to install but also simple to operate and service.

Schnick-Schnack-Systems GmbH

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