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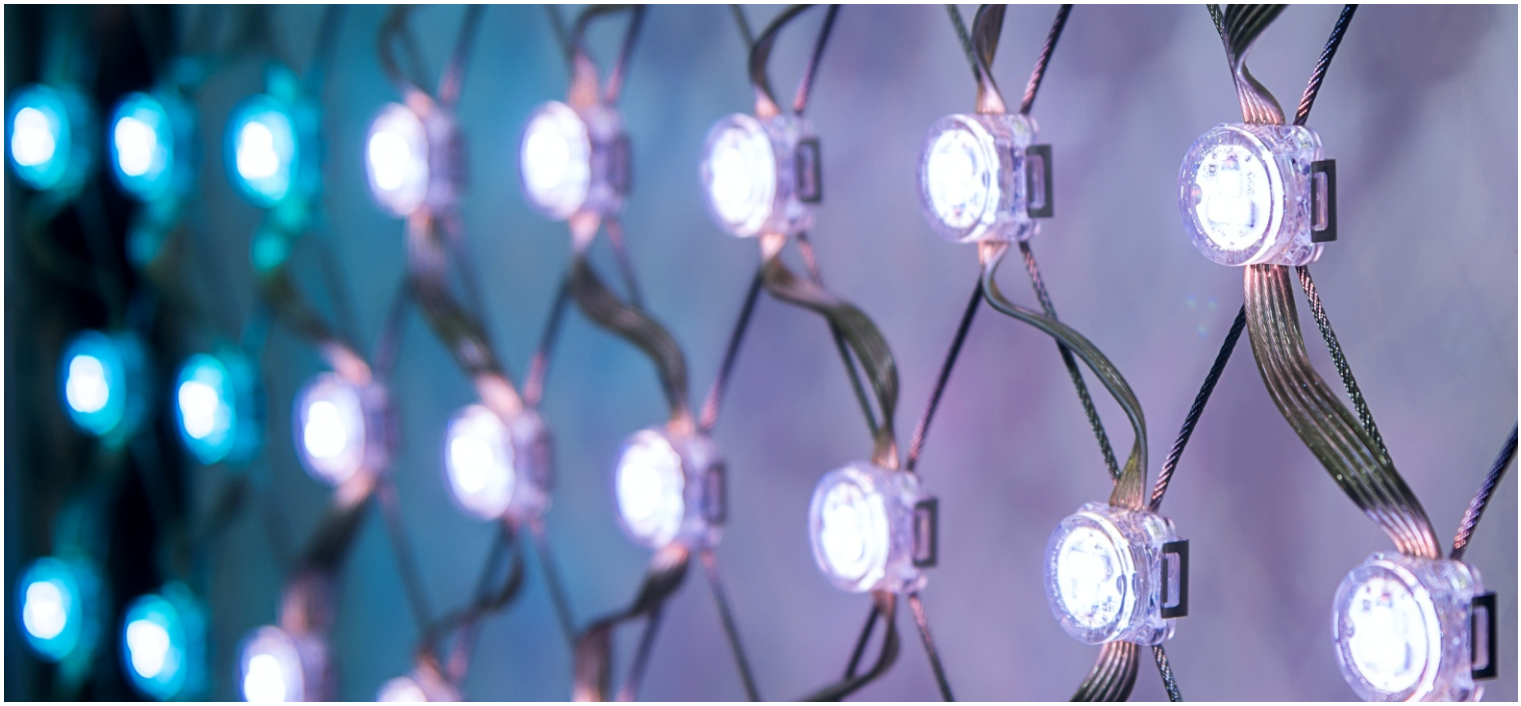
X-LED MESH

Scope of supply:

- Feasability study
- Preliminary Design / Engineering
- Planning / Development
- Static analysis
- LED components / Hardware / Software
- Substructure / Mounting
- Assembly / Supervision

USP‘s:

- low self-weight
- high transparency
- 3D-modeling
- no limit in size
- video compatible
- free definition of pixel size between 50 and 300mm
- high tensile strength of stainless steel wire mesh
- huge span width without intermediate connections
- easy material handling and installation



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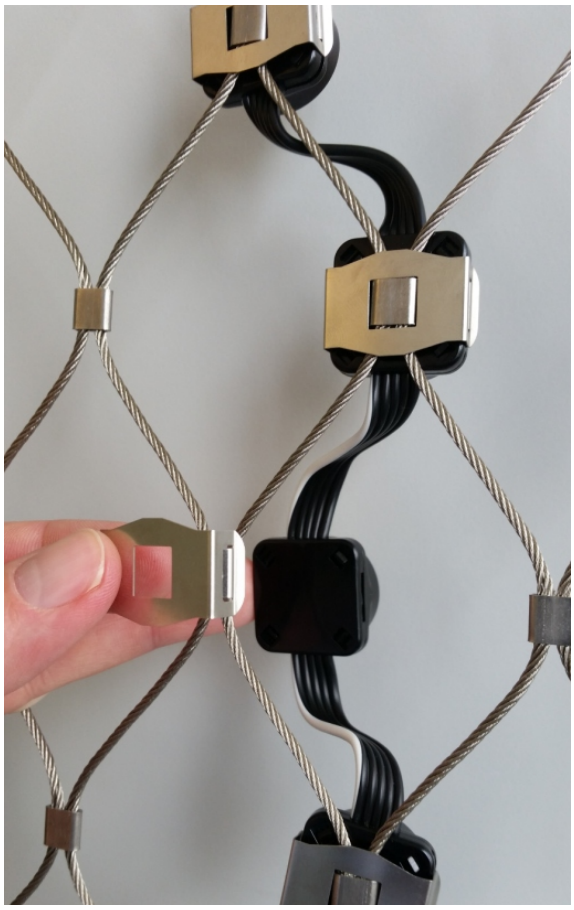
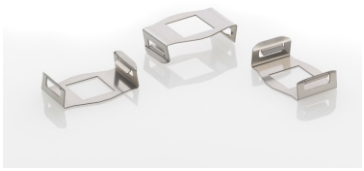
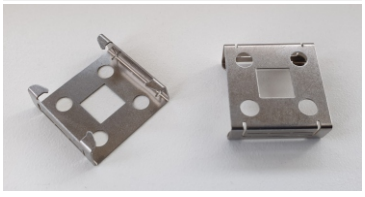
Assembly of LED-Dots on mesh



1. Place the cut-out on the backside of the clip over the mesh ferrule
2. Snap on the clip into the grooves at the side of the LED-Dot





LED-Dots fixed by clamps on a stainless steel wire mesh.
Assembly process:
- Installation of mesh framing structure (edge ropes / tube frames) on existing primary structure
- Assembly of mesh on framing structure
- Assembly of LED-Dots on installed mesh by fixing clamps
- wiring of LED-Lines to power supply units

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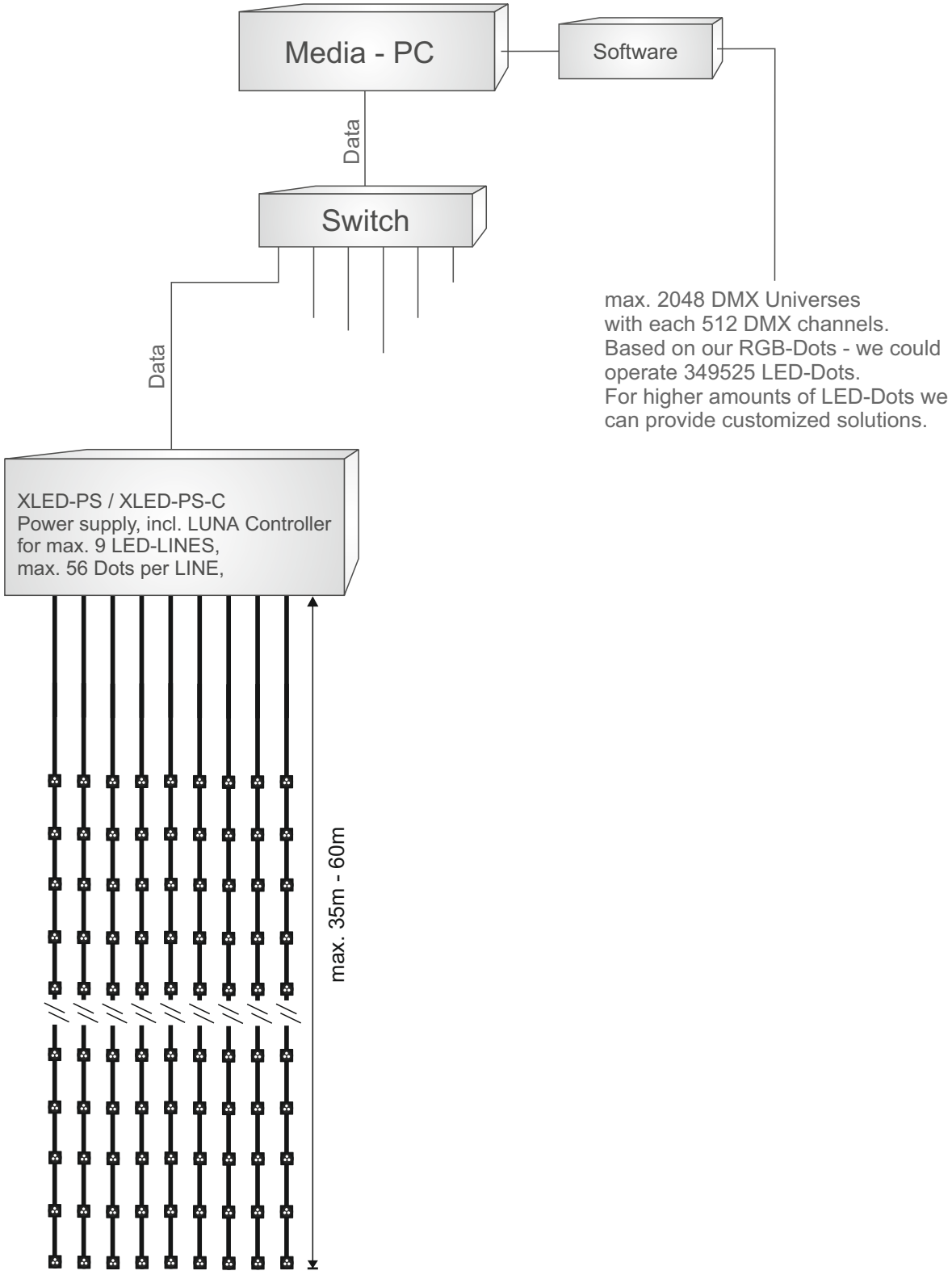
System configuration



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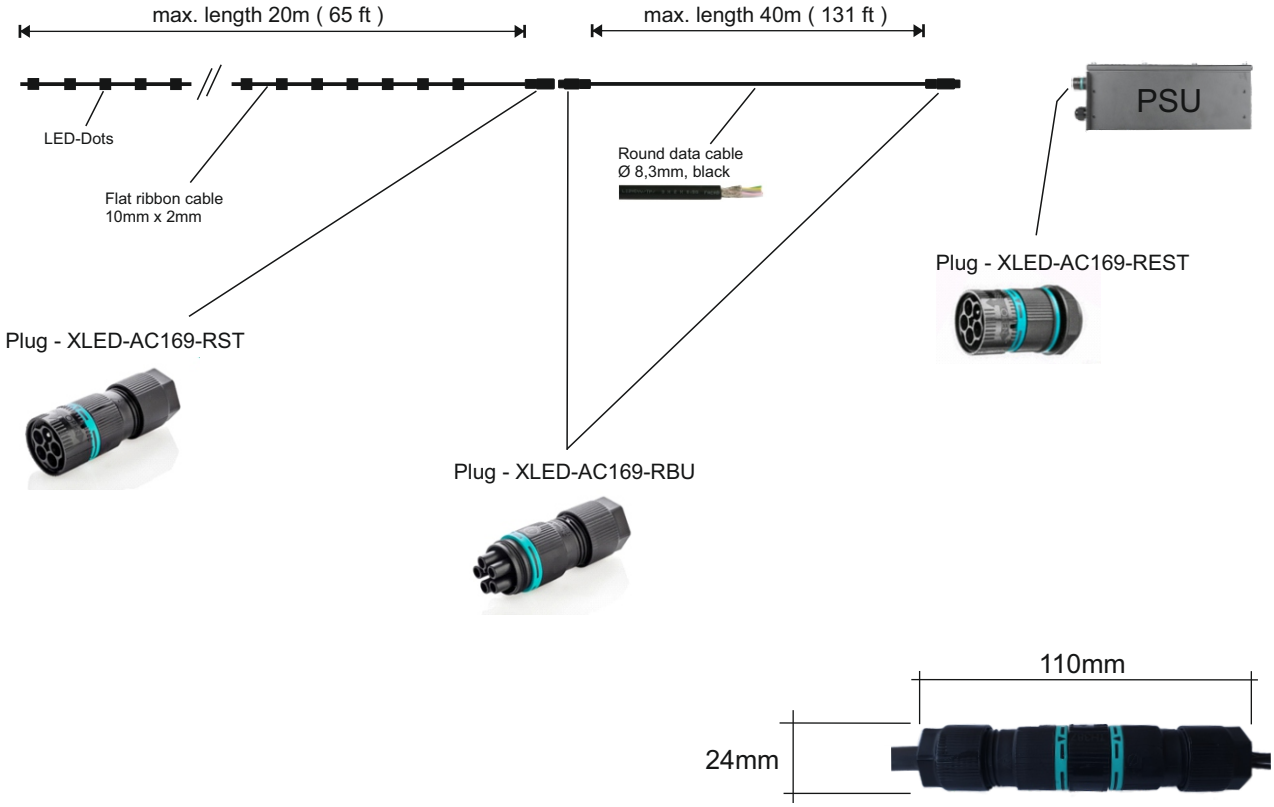
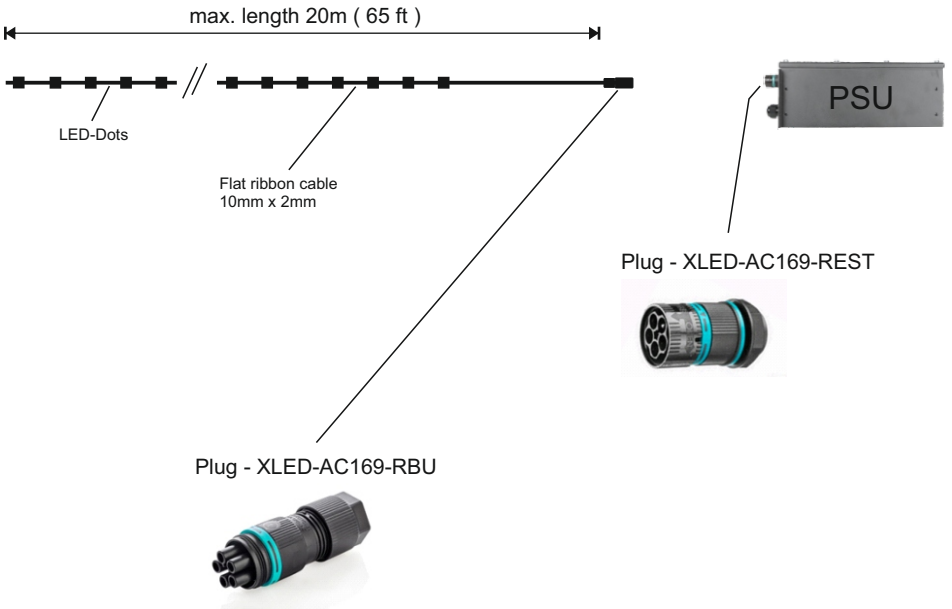
Option 1



Option 2



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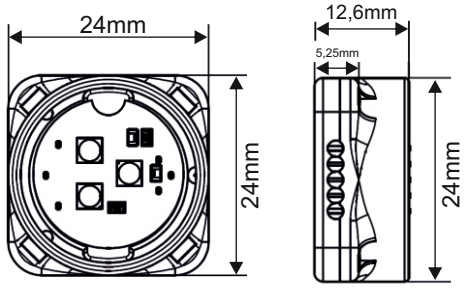
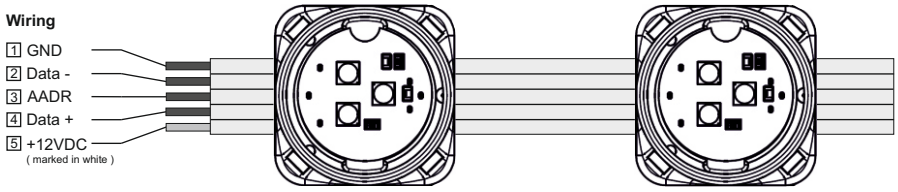
LED-Dot specification





	RGB		White - 4000K		RGB		White - 4000K		RGBW	
	XLED-DOT-B-RGB	XLED-DOT-T-RGB	XLED-DOT-B-W	XLED-DOT-T-W	XLED-DOT-B-RGB-REF	XLED-DOT-T-RGB-REF	XLED-DOT-B-W-REF	XLED-DOT-T-W-REF	XLED-DOT-B-RGBW	XLED-DOT-T-RGBW
Color of housing and ribbon cable	black	transparent	black	transparent	black	transparent	black	transparent	black	transparent
Light output per LED-Dot	11cd	11cd	24cd	24cd	42cd	42cd	53cd	53cd	16cd	16cd
Max. power consumption per LED-Dot	1,0W	1,0W	0,8W	0,8W	1,0W	1,0W	0,8W	0,8W	1,3W	1,3W
Operating Voltage	12 -20 V	12 -20 V	12 -20 V	12 -20 V	12 -20 V	12 -20 V	12 -20 V	12 -20 V	12 -20 V	12 -20 V
Beam angle	120°	120°	120°	120°	60°	60°	60°	60°	120°	120°
Max. number of LED-Dots per line	56								42	
Max. length of LED-LINE	20 - 60m									
Protection level	IP65									
Operation temperature	-30°C / +50°C									
Storage temperature	-20°C / +90°C									
Fire protection	UL 94 HB									
Control protocol	DMX / ArtNet									

XLED-DOT-B-RGB XLED-DOT-T-RGB XLED-DOT-B-W XLED-DOT-T-W XLED-DOT-T-RGB-REF XLED-DOT-B-RGBW XLED-DOT-T-RGBW

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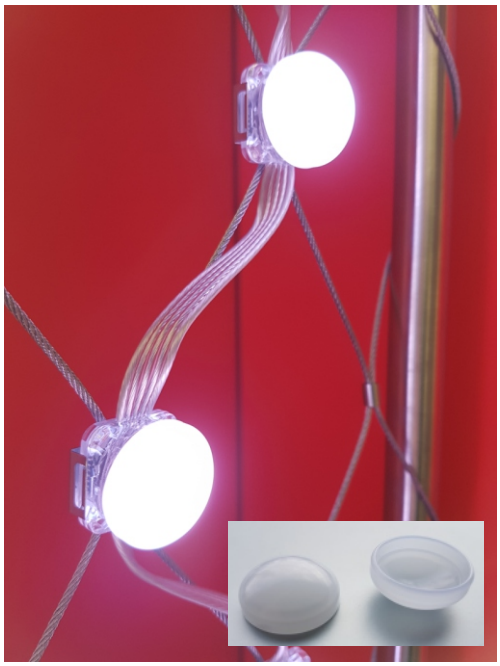
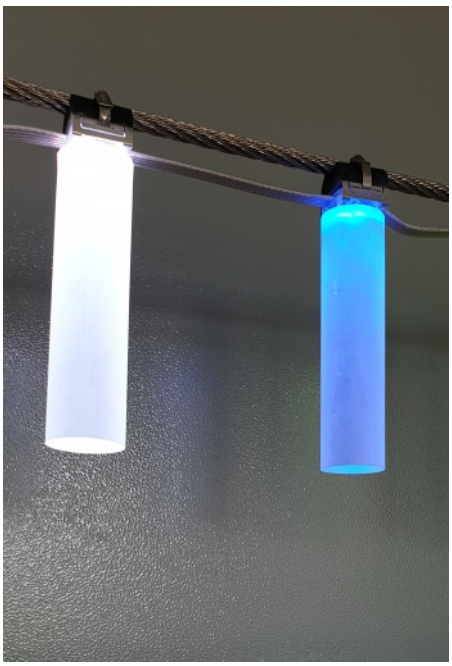
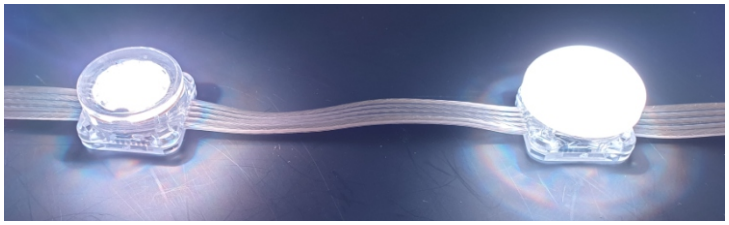
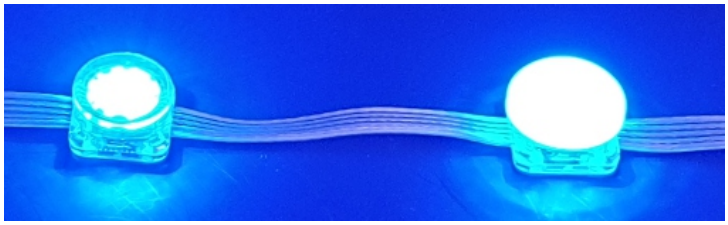
LED-Dot diffusor

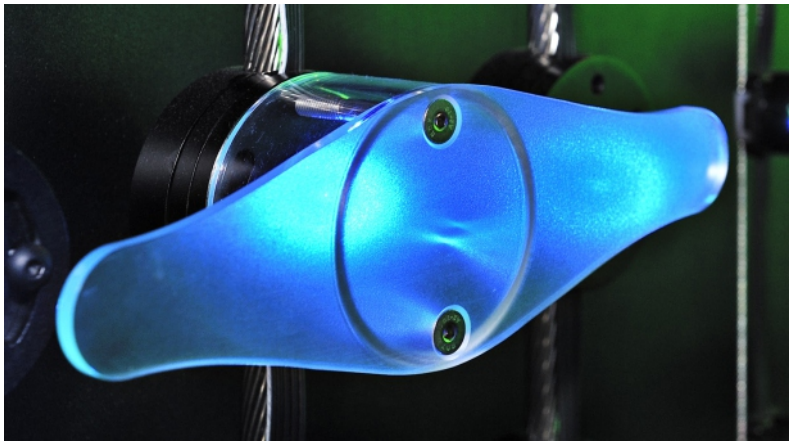
The single LED-Dots can be combined with various diffuser elements











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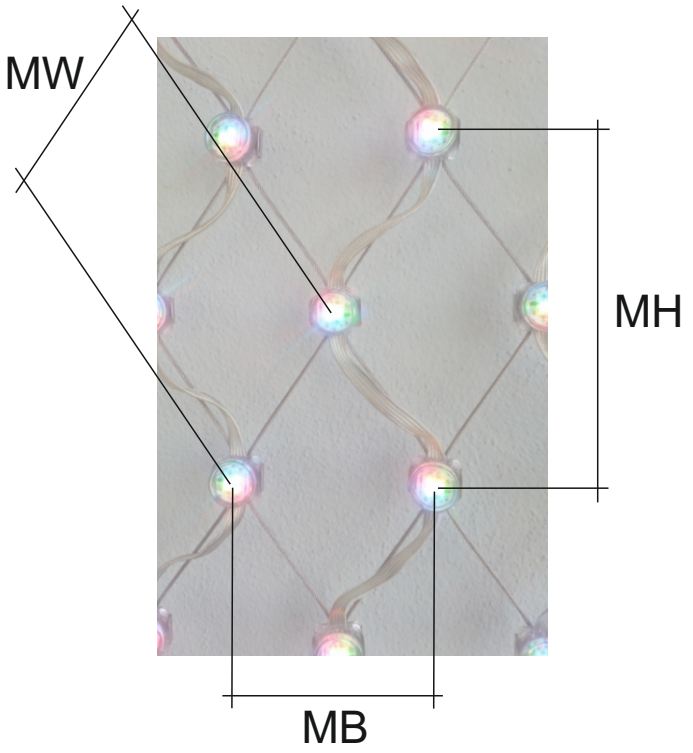
LED-MESH specification

MW / Pitch	No. of Dots	Light intensity cd / m²				Weight	Transparency	mesh size	
	pc./m²	RGB 120°	RGB 60°	White 120°	RGBW 120°	kg/m²		MW / MB	MH
50	448	4928	18816	10752	6720	5,23	65%	50	87
60	313	3443	13146	7512	4695	3,84	71%	60	104
70	224	2464	9408	5376	3360	2,89	76%	70	121
80	168	1848	7056	4032	2520	2,28	81%	80	139
90	143	1573	6006	3432	2145	2,00	84%	90	155
100	120	1320	5040	2880	1800	1,74	86%	100	173
120	80	880	3360	1920	1200	1,26	88%	120	208
140	56	616	2352	1344	840	0,96	90%	140	242
160	48	528	2016	1152	720	0,86	92%	160	277
180	36	396	1512	864	540	0,70	93%	180	312
200	30	330	1260	720	450	0,61	94%	200	346
220	27	297	1134	648	405	0,57	94%	220	381
240	22	242	924	528	330	0,49	95%	240	416
260	17	187	714	408	255	0,41	95%	260	450
280	15	165	630	360	225	0,38	96%	280	485
300	14	154	588	336	210	0,36	96%	300	520



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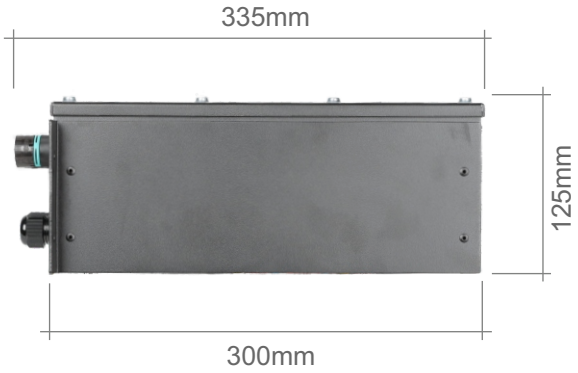
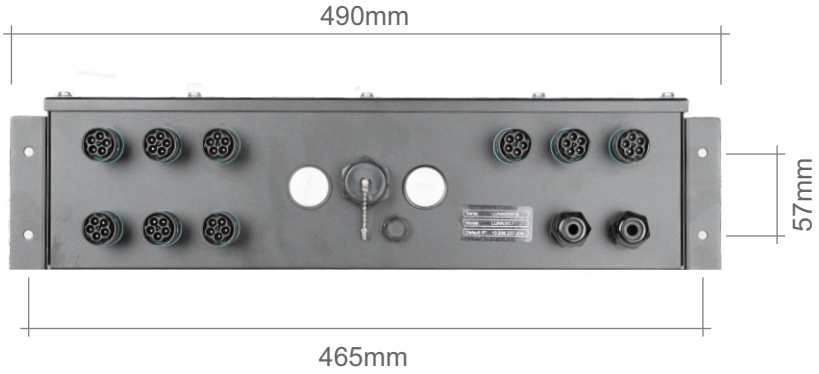
Power supply unit XLED-PS-C-ES





Connector groups	3 x 3 groups
Connector secondary	max. 56 Dots per group
Group fuses	3 fuses per group
Main power	110-264 VAC (L/N/PE max. 4mm²)
Power input	max. 792 Watt
Frequency	50-60 Hz
PF	> 0,94
Output voltage	12 - 24 V
Inrush	max. 210A
Operating temperature	-20°C to +50°C
Protection level	IP65 - outdoor
Size	490x300x128mm
Weight	7,8 kg
Control	3 x DMX512A
Housing	Aluminum, RAL9005 powder coated

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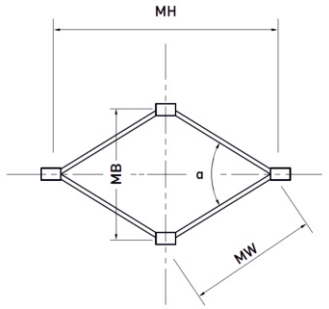
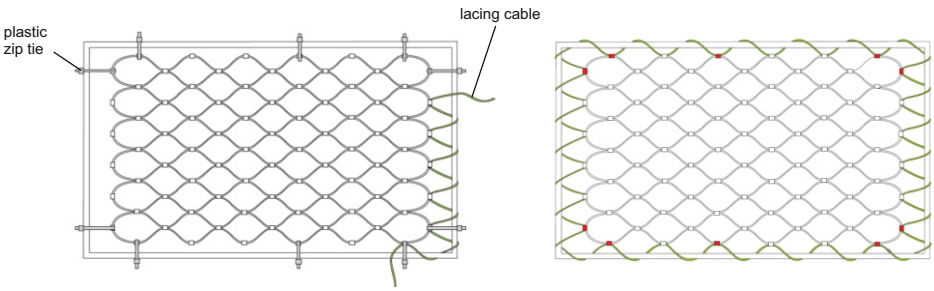
Substructure - X-TEND mesh CXE

X-TEND CXE steel wire mesh

Rope-Ø:
2,0mm
Mesh width:
50mm - 300mm
Material:
Stainless steel 1.4401 / AISI316
Surface:
stainless steel finish or colored in black
Corrosion characteristics:
For X-TEND mesh, corrosion examinations were conducted on trial devices according to DIN 50021:1988-06 and DIN 50021-SS. The cable mesh is being classified to corrosion resistance class II, according to the general construction approval no. Z-30.3-6
Maintenance:
Regular cleaning, as well as a control of status of installation (mechanical damages, etc.) to be defined in function of the purpose of application and of environmental influences. Further maintenance information is available from the relevant organizations, e.g. in Germany „Informationsstelle Edelstahl Rostfrei“, especially data sheet no. 965 - Cleaning and Care of stainless steel in construction, no. 829 - Stainless steel in contact with other material, as well as general construction approval no. Z-30.3-6 (for download, pls refer to: www.edelstahl-rostfrei.de)
European platform (in many languages): www.euro-inox.org
Tolerances:
according to DIN ISO 2768-1, tolerance class „v“.
Fire Protection Classification:
A1, according to EN 13501-1:2007
Installation:
The fixation of the mesh is done by mounting and tensioning onto a surrounding frame structure (border cables, tubular frames, or rods) by means of spiral lacing of the installation cable through loose ferrules



α = The standard mesh opening angle of 60° results in the ideal tension and is the mathematical basis for the quantity determination
MH = Mesh height
MW = Mesh width (distance from centre to centre of ferrule)
MB = Mesh gauge



Please watch the installation video provided under following youtube link
https://www.youtube.com/watch?v=u2zUcEVYQ7A&feature=youtu.be

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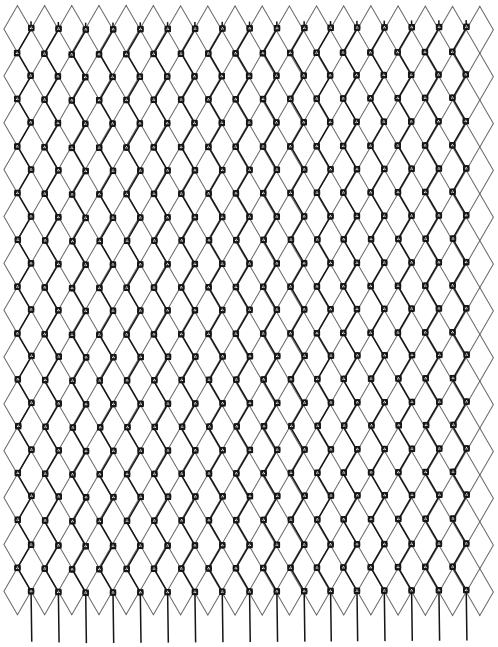
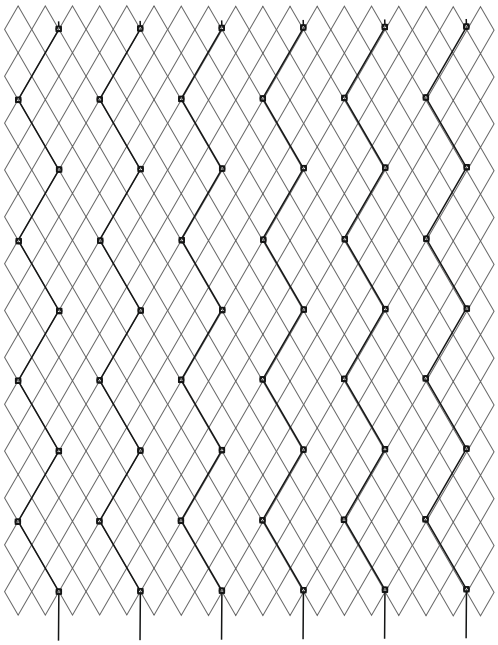
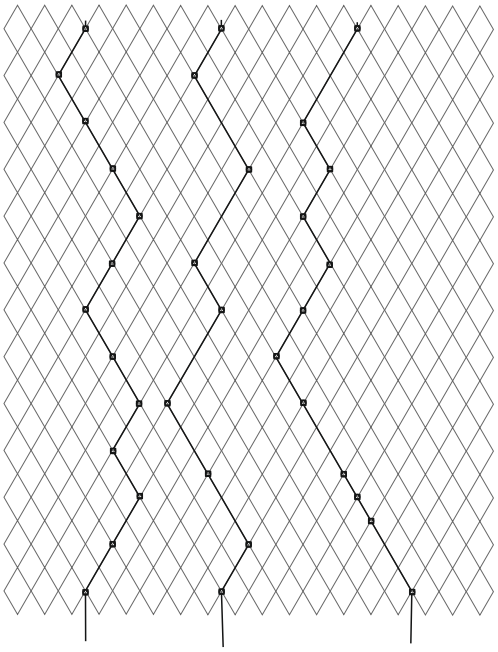
Examples for LED-Dot layout on mesh



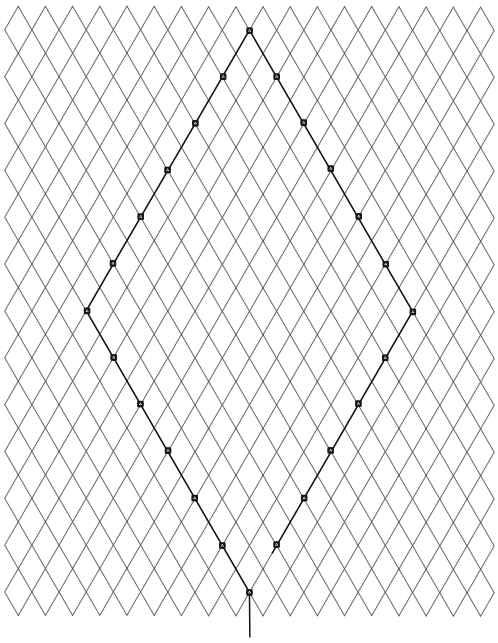
LED-Dots will be fixed on every mesh ferrules



LED-Dots will be fixed on every third mesh ferrules



LED-Dots will be fixed on various mesh ferrules



LED-Dots will be fixed according to a specific pattern on mesh ferrules

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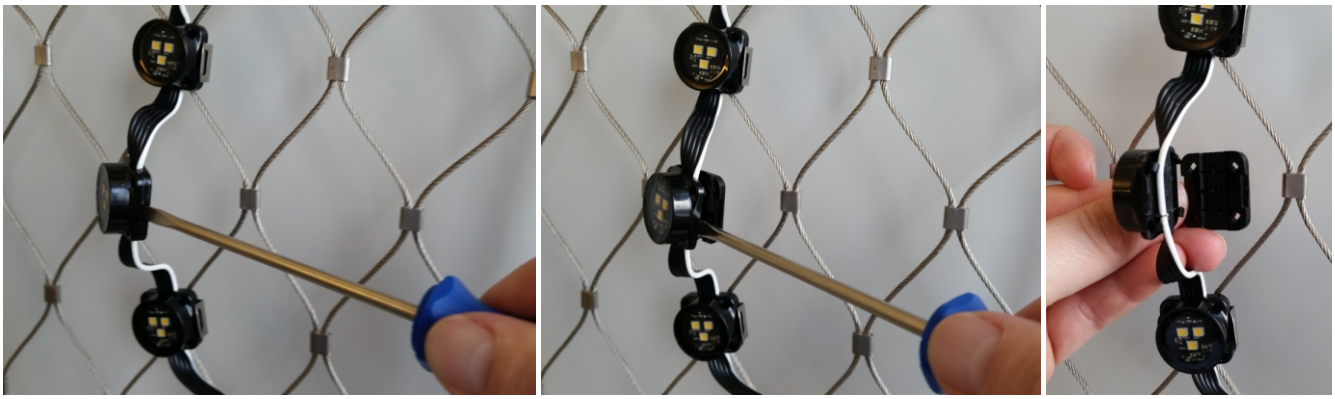
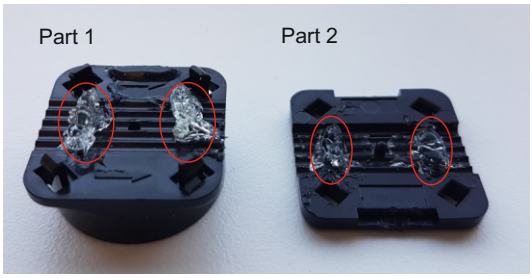
LED-Dot replacement

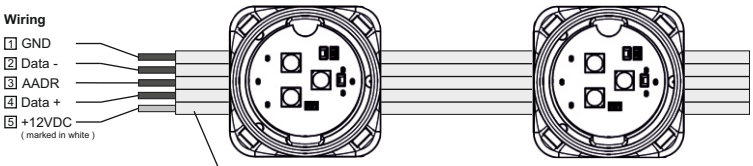


Single LED-Dots can be changed easily, no need to change a complete line in case of a single failure.

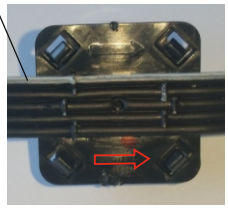
Removing the LED-DOT from LED-Line.
Open the upper part from the lower part by using a srewdriver.
Do a rotary motion with the screwdriver in the slot at the side of the LED housing.



Put the sealing compound on every pin and the area around the pins of part 1. Put the sealing compound on the slots and the area around the slots of part 2. After putting the sealing compound on part 1 and 2, assemble the Dot on the ribbon cable within 3 minutes.



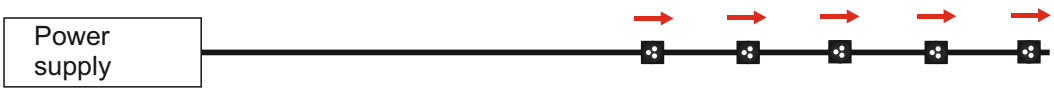
colored white



power supply

end of LED-LINE

assembly direction of the LED-Dot according to the arrow on the back side of the LED-Dot



Reassembly of LED-Dot on ribbon cable by provided Dot-gripper.

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Warranty

Warranty period of 5 years on functionality and designated use for all components delivered by Carl Stahl ARC GmbH. Within the warranty period 1 % of the LED-Dots, power supply units and control units (rounded up in absolute number) could fail. This failure is no claim for warranty. Requirement for warranty are the below mentioned specifications.

XLED-Line

The LED-lines have to be protected against mechanical impact at any time. The permitted operating temperature is -30°C to +50°C. Protection rating of the lines is IP65. Do not guide the ribbon cable over sharp edges. Minimum bending radius of the ribbon cable 40mm. Don‘t knot, buckle or squeeze the ribbon cable. Ribbon cable has to be guided without tension forces (use strain reliefs). Avoid any contact to aggressive substance or solvent.

Power supply unit:

Special attention to the right configuration of the single wires of ribbon cable to power supply according to page 4. Protection against electric shock. No covering of power supply housing by thermal insulation. Spacing / gap between the power supply units min. 15mm. Power supply units have to be protected against mechanical impact at any time. Make sure flawless electrical connectivity is provided. Do not cross primary and secondary lines. Do not interconnect secondary lines to power supply blocks. The device must only be powered up with LED-line connected.

Supervision

In case that Carl Stahl ARC GmbH is not doing the installation, it is necessary that a supervisor from Carl Stahl ARC GmbH is training the skilled workers on site before the installation start.

Cleaning interval

It is advisable to clean the mesh, framing structure and the LED-Lines to keep the original appearance. The cleaning interval depends on the environmental conditions. Further information on request.