Carl Stahl®
ARCHITEKTUR

TECHNICAL SUMMARY
X-LED LINE

www.x-led.de
v.07.2022

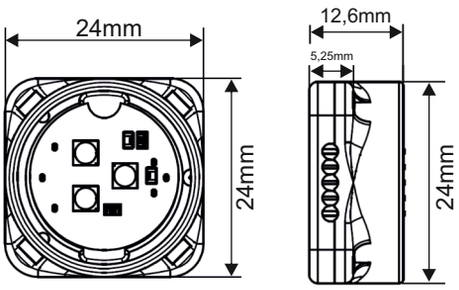
Scope of Supply

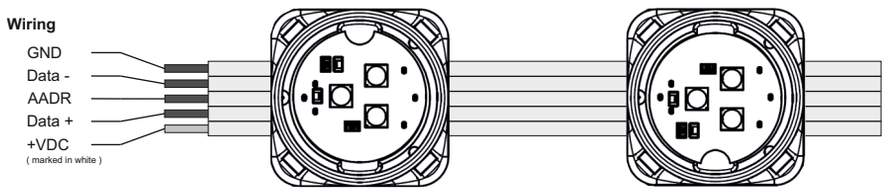
- Feasability study
- Preliminary Design / Engineering
- Planning / Development
- Static analysis
- LED components / Hardware / Software
- Substructure / Mounting
- Assembly / Supervision

USP´s

- Free definition of pixel pitch
- Outdoor rated IP65
- Controlled by DMX512-A
- Number of LED-Dots per Line: 1-56

Specification LED Dot





	RGB		RGB		White - 4000K		White - 4000K		RGBW	
	XLED-DOT-B-RGB	XLED-DOT-T-RGB	XLED-DOT-B-RGB-REF	XLED-DOT-T-RGB-REF	XLED-DOT-B-W	XLED-DOT-T-W	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	42cd	42cd	24cd	24cd	53cd	53cd	16cd	16cd
Max. power consumption per LED-Dot	1,0W	1,0W	1,0W	1,0W	0,8W	0,8W	0,8W	0,8W	1,3W	1,3W
Operating Voltage	17 -20 V	17 -20 V	17 -20 V	17 -20 V	17 -20 V	17 -20 V	17 -20 V	17 -20 V	17 -20 V	17 -20 V
Beam angle	120°	120°	60°	60°	120°	120°	60°	60°	120°	120°
Max. number of LED-Dots per DMX UV	168								128	
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	DMX512-A / ArtNet									

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-RGBW XLED-DOT-T-RGBW

4.1 Technical Specification

color resolution	8 BIT
color range	R, G, B, (W 4000K)
control protocol	DMX512-A (DIN-Norm: DIN 56930 | USITT-Standard)
programming	Standard DMX-Adr.: 1, 169, 337
operating voltage	17 - 20 VDC
power consumption	ca. 1,0 W / Pixel (RGB) ca. 1,3 W / Pixel (RGBW)
beam angle	120° (all directions) / 60° (all directions)
light output	11 cd/Pixel - 42 cd/Pixel

4.2 Technical Specification

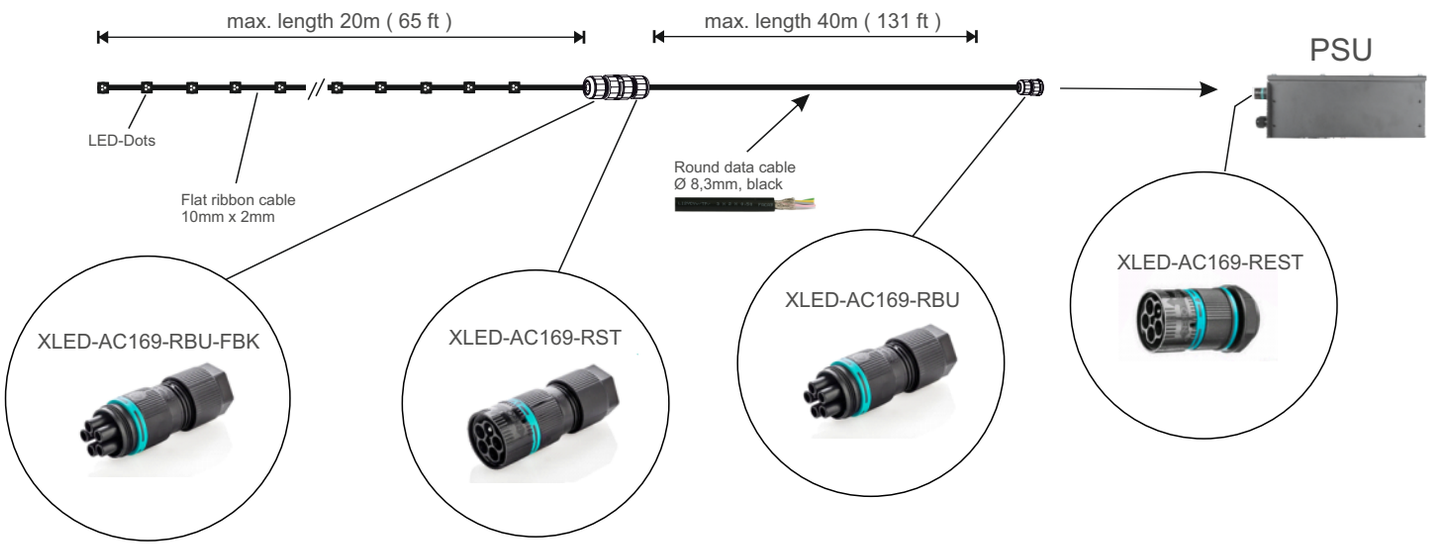
color temperature	4000K
color range	white
control protocol	DMX512-A (DIN-Norm: DIN 56930 | USITT-Standard)
programming	Standard DMX-Adr.: 1, 169, 337
operating voltage	17 - 20 VDC
power consumption	ca. 1,0 W / Pixel (RGB) ca. 1,3 W / Pixel (RGBW)
beam angle	120° (all directions) / 60° (all directions)
light output	24 cd/Pixel - 53 cd/Pixel

4.3 Technical Specification (General)

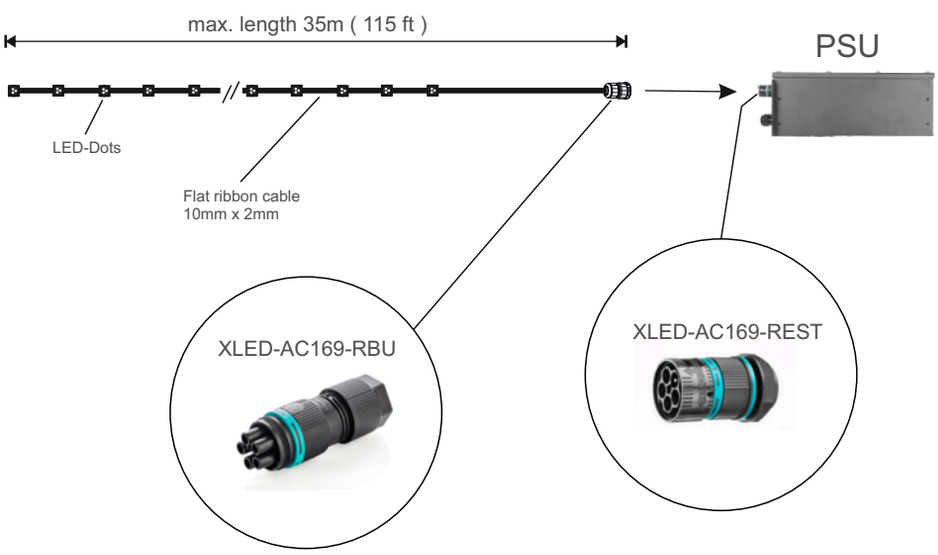
number of LED-DOTs per DMX UV	max. 168 DOTs (RGB / W) / max. 128 DOTs (RGBW)
LED-Dot dimensions	24 mm x 24 mm x 16 mm (B x L x H)
LED-Dot wight	ca. 8 g
LED-Dot housing color	black, translucent
cable length	max. 35 m (without supply line) max. 60 m (with supply line)
cable configuration	variable LED-Dot distribution, min. spacing 40 mm
cable dimensions	9,25 x 1,85 mm (B x H)
cable weight	ca. 45 g/lfm
cable color	black, translucent
protection level	IP65
environment temperature	operation: -30 °C / +50 °C | storage: -20 °C / +90 °C
certification	CE / FCC / ROHS compliant
fire protection	UL 94 HB
Frame refresh rate	> 2000 Hz
protection category	III

LED Line Configuration

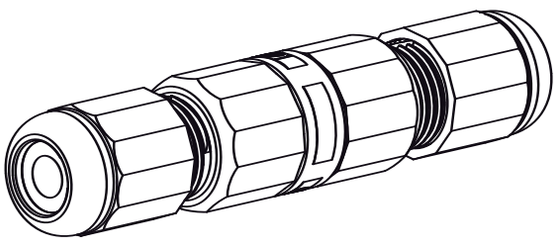
Option 1



Option 2



Connectors / Plugs



ELECTRICAL CHARACTERISTICS:

Number of poles:	5
Contact marking:	1 - 2 - 3 - 4(E) - 5
Type of connection screw:	(M2 - max. 0.2 Nm)
Operating current max.:	17.5A (EN61984) - max. 10A (UL2238/C22.2 No. 182.3)
Operating voltage max.:	450V (EN61984) - max. 400V (UL2238/C22.2 No. 182.3)
Impulse withstand voltage:	4KV

MECHANICAL CHARACTERISTICS:

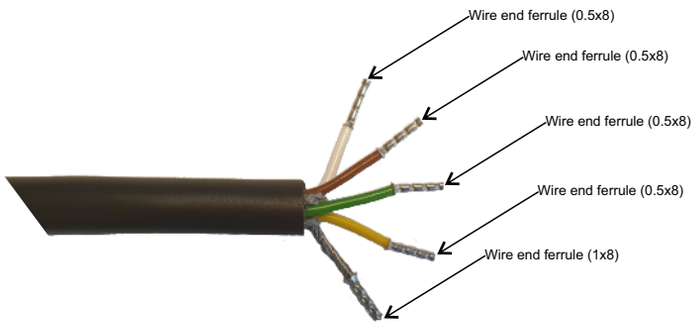
Protection against solid/water (IP):	IP66/IP68 (30m,3h)
Corrosion resistance:	Salt mist, 1.000 h, 5% salt solutions, 35°C EN60068-2-11:2000, Test Ka (168h)
Outer dimension:	Φ 23 mm x 113 mm (when plug-socket matched)

CABLE CHARACTERISTICS:

Wire cross-section min. - max. (Stranded cable):	0.25 mm2 - 1.5 mm2
Wire cross-section min. - max. (Solid cable):	0.25 mm2 - 1.5 mm2
Cable diameter min. - max.:	6.7 mm - 13.5 mm

IP66 IP68 SF Silicon Free HF Halogen Free Pb lead-free RoHS 2015/65/EU c UL us

Supply Line



Application: Low-capacitance cable for signal transmission in the mA-range under harsh environmental conditions, outdoors and for direct burial. The cable is suitable for Maxi-Termi-Point contacting.

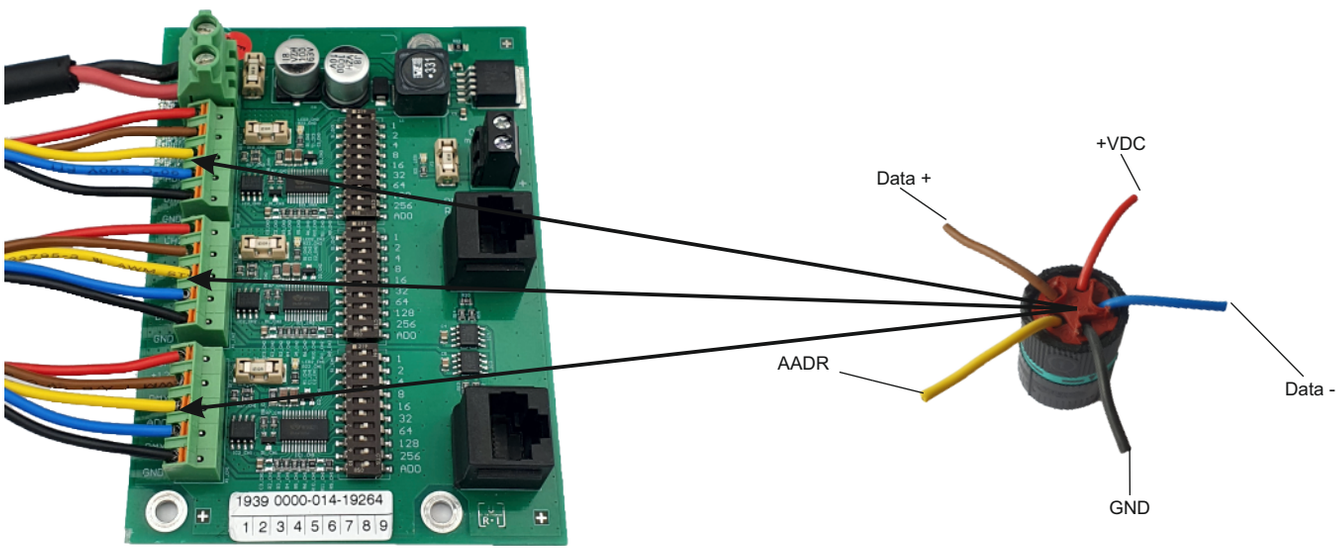
CONSTRUCTION AND TECHNICAL DATA:

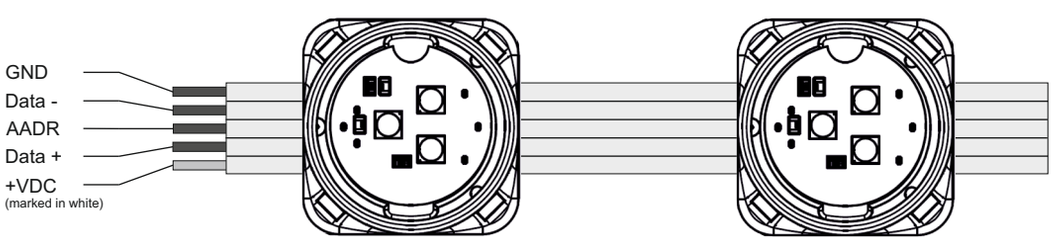
Conductor material:	copper, bare
Insulation:	polyethylene
Screen:	copper braid
Screen coverage:	75 %
Sheathing material:	PVC, enforced
Colour of outer sheath:	black
UV-resistant:	yes
For outdoor use:	yes
Permitted outer cable temperature, fixed, °C:	-30 - +80 °C
Permitted outer cable temperature, moved, °C:	0 - 60 °C
Bending radius, fixed installation:	15 x Ø
Impedance:	100 Ohm
Specific inductivity:	0.4 mH/km

part name	Ø [mm]	Cu [kg/km]	G [kg/km]
02X2X0,5 SW	8.3	37	81

Maximum operating capacity:	75 nF/km
Test voltage:	2 kV
Core identification:	colours acc. to DIN 47100
peak operating voltage, V:	500 V

Internal PSU Wiring



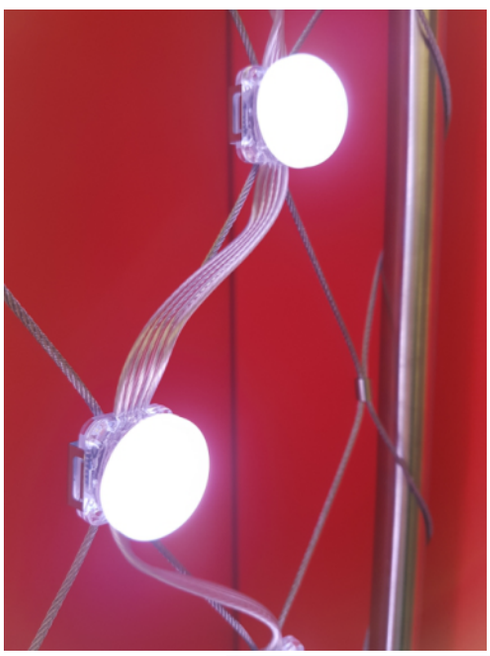
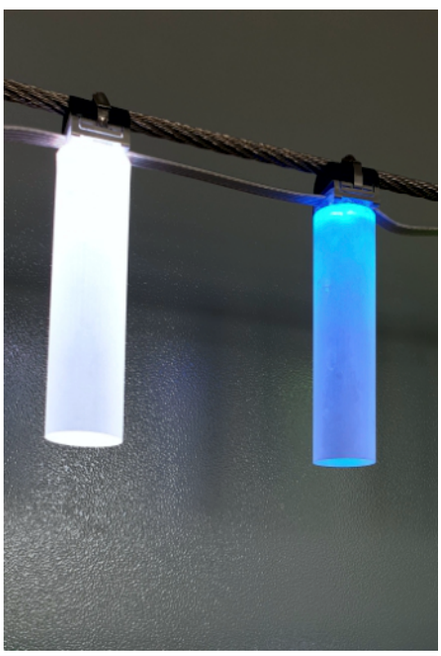


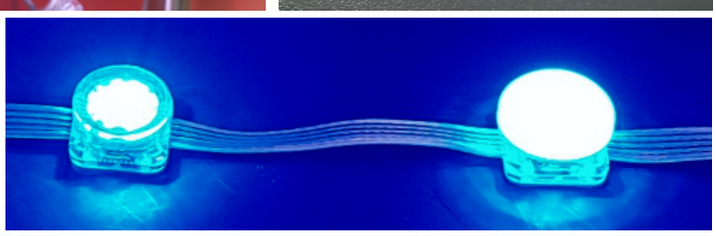
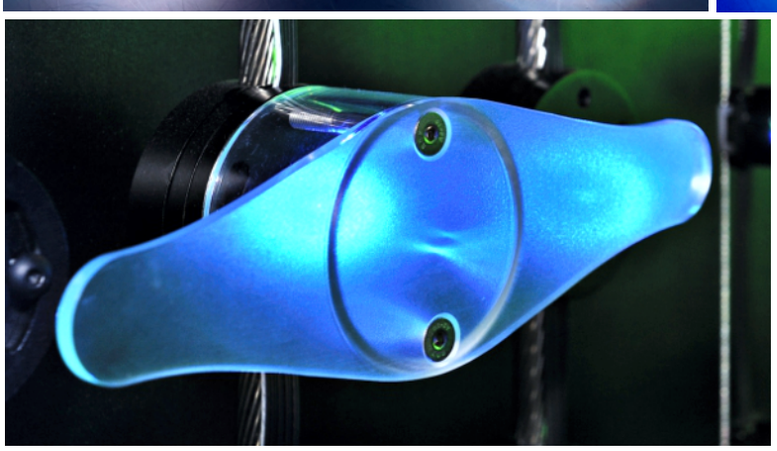
Wiring

GND	Black
Data -	Blue
AADR	Yellow
Data +	Brown
+VDC	Red

Diffuser Elements

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


Servicing and Maintenance

Clean device from dirt and residue regularly. Use solvent-free cleaning agents only and do not employ aggressive chemicals or high pressure, cleaner. Operate device only after complete drying.

Customer Service

Please check all trouble-shooting measures given in this operating manual.
For any further questions please contact our hotline.

Tel: +49 (0) 7162/948 150 300 | Fax: +49 (0) 7162/948 150 305

Conformity

Our devices are certified according to the following European and American Standards



NOTE:

This equipment has been tested and found to comply with the limits for a class a digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of these equipment in a residental area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

„This Class (A) digital apparatus complies with Canadian ICES-003”

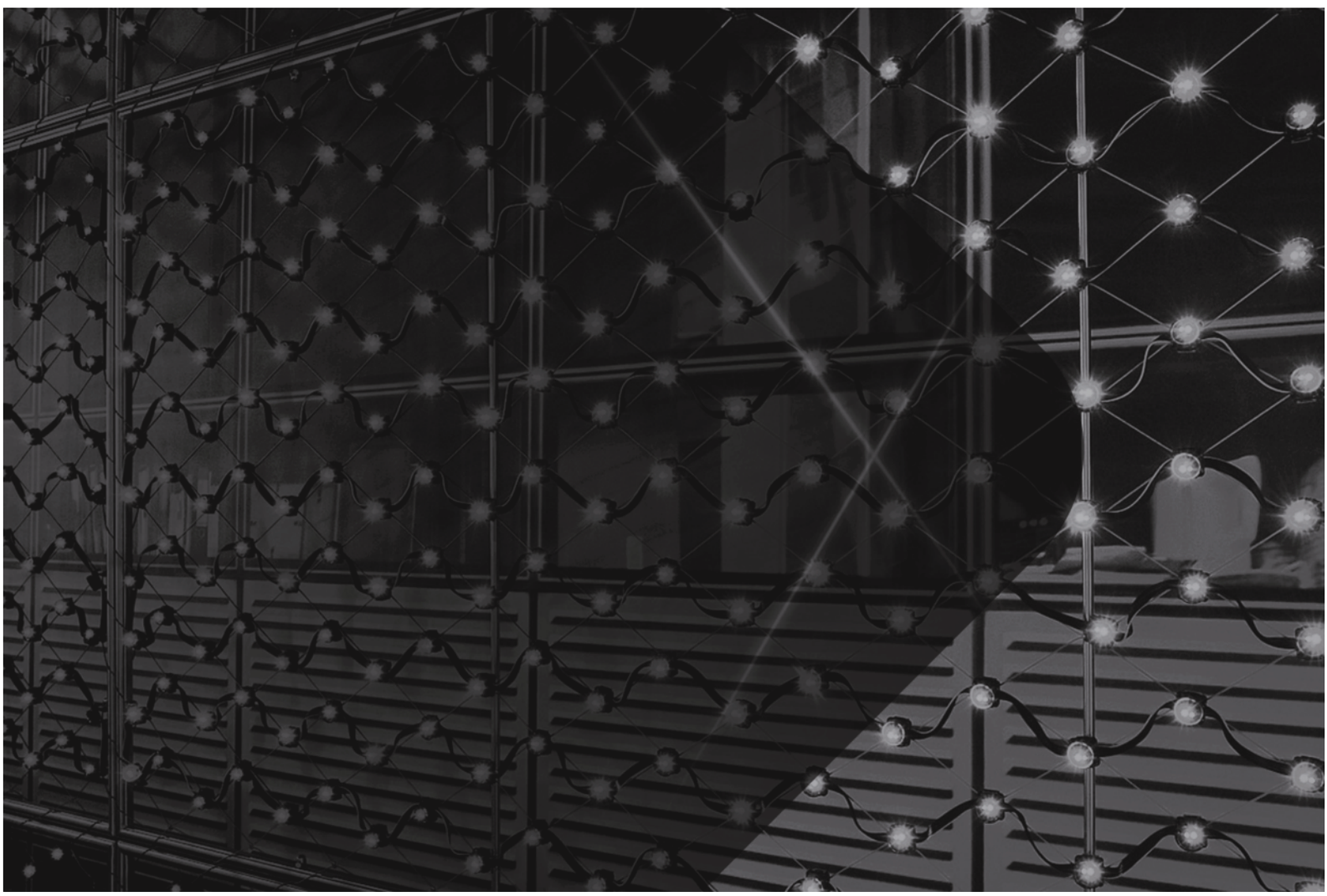
COPYRIGHT:

WARRANTY:

We provide for our LED-Dots (XLED-DOT-...-...), LED-Lines (XLED-LINE-...-...) and power supply units (XLED-PS-...-...) a warranty of 5 years.
Any other system related products (e.g. products from other manufacturers) are covered by their standard warranty.
Within the warranty period a failure rate of 3 % could occur. This failure rate is no claim for warranty.
Any visual changes due tu UV, salt or other enviromantal impacts, which doesn´t effect the functional behavior of the product, aren´t covered in this warranty.

We advise to order a corresponding number of spare parts. For professional replacement we provide a training by our specialists.
Requirement for our warranty is the compliance with our installation and maintenance guidelines.
Due to side and application conditions problems can occur, which are not covered by the warranty, except they were named specifically by the client in advance. The installation has to be made by trained and skilled workers.

For all further conditions and claims our General Sales and Planning Terms are valid. They are available for Download on our website.



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