Carl Stahl
ARCHITEKTUR

INSTRUCTION MANUAL
EL-LINE CONNECTOR, screwless

www.x-led.de
v.11.2025

XLED-AC173-RBU (FEMALE)

IMPORTANT: Always use this on PSU side!!

ELECTRIC DATA:

Number of poles:	5
Contact marking:	1 - 2 - 3 - 4 - 5
Terminations:	Screwless
Current rating (AC/DC):	17.5A AC/DC
Current rating (AC/DC) - UL:	10A
Voltage rating (AC/DC):	500V AC
Voltage rating (AC/DC) - UL:	600V AC/DC
Impulse withstand voltage:	4kV

CONNECTION DATA:

Multi-stranded conductor cross-section min. mm²:	0.25 mm²
Multi-stranded conductor cross-section max. mm²:	1.50 mm²
Tightening torque of nut-cable gland:	2.5 Nm

ENVIRONMENT CONDITIONS:

IP rating:	IP66/IP68/IP69 (*IP68 5m/1h)
Salt mist:	Salt mist test: EN60068-2-11:2000
Ambient temperature min./max. (According to EN61984/EN60998):	-40°C/+100°C
Operating temperature max.:	+60°C
Proof Tracking Index (PTI):	PTI 175

MATERIALS:

Connetor:	PA66 GF UL94 V0
Cable gland:	Pa66 Ul94 V2
Impulse withstand category:	II
Overall dimensions (mm):	Ø23.0 x 70.0

IP66 IP68 SF Silicon Free HF Halogen Free RoHS 2015/65/EU

CABLE REDUCTION FOR FLAT CABLE 5.5 x 11.0mm

IMPORTANT: Only use this for the flat cable!!

GENERAL DESCRIPTION:

Type of installation:	Single-hole grommet (oval)
Color:	Cyan
Overall dimensions (mm):	Ø 16.3 x 9.8
Hole dimensions (mm):	5.5 x 11.0

ENVIRONMENT CONDITIONS:

Corrosion resistance:	Salt mist test, EN60068-2-11:2000
Ambient temperature min./max. (According to EN61984/EN60998):	-40°C / +100°C

MATERIALS:

Exterior body:	TPE
Material property:	Halogen Free - Silicone Free
Overall dimensions (mm):	Ø16.3 x 9.8

IP66 IP68

LEAD ASSIGNMENT & CONNECTIONS

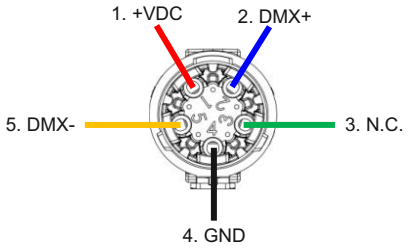
Version

PIN	Description	Color
1	Power +	RED
2	DMX +	BLUE
3	N.C.	GREEN
4	Power - (GND)	BLACK
5	DATA -	YELLOW

The wiring schematic shown above applies when connecting the LED Lines to the **XLED-PS8** power supply.

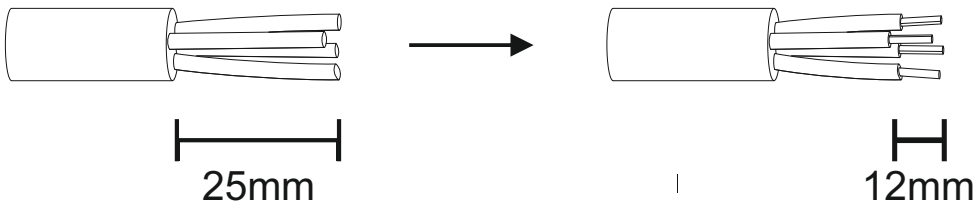
DMX addressing is carried out either via RDM or using the XLED Node Mapper (see relevant manual).

For all **XLED-LINE-EL-**xxx, it is not necessary to connect the green wire to Pin 3 of the socket, as all green wires are not connected (N.C.).

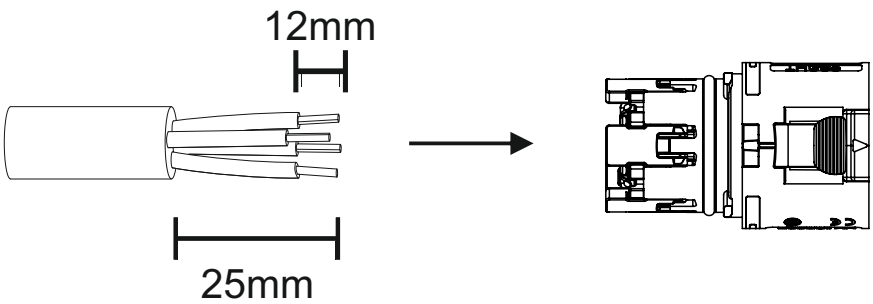


INSTALLATION ILLUSTRATION

DISMANTLING

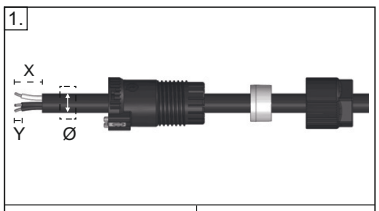


INSTALLATION



INSTALLATION ILLUSTRATION

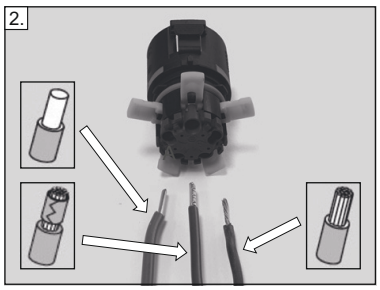
1.



Insulation displacement	25 mm (X)
Conductor stripping	12 mm (Y)

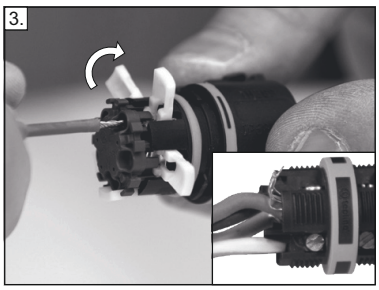
- Remove the outer jacket from the cable and the insulation from the wires.
- Insert the cable through the nut, the grommet and the cable gland.
- Check the size of the cable to be wired and make sure it is the right grommet inside the cable gland.

2.



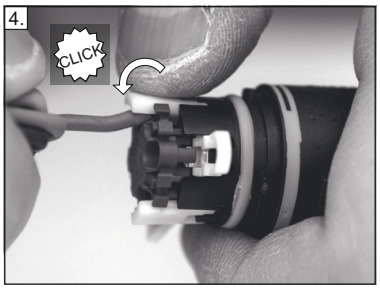
- The screwless version of TH389 is suitable for solid, stranded and with ferrule conductors size from 0.25mm² to 1.5 mm².

3.



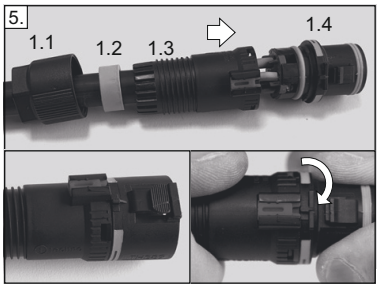
- Pull the lever up until reaching the limit stop (like shown by the arrow).
- Insert each wire one by one into the terminals of the connector. Make sure the wires/copper cores are properly inserted into the terminals, so they are in contact.

4.



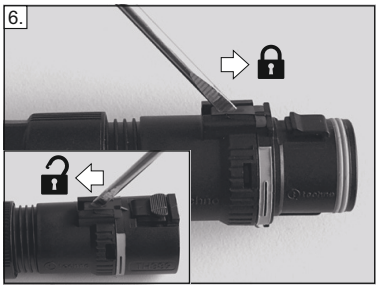
- Insert the conductor and push the lever back down until reaching the limit stop.
- The correct closing of the lever is audible with a “Click”.

5.



- Join the cable gland (1.3) and the connector (1.4).
- Then turn the cable gland clockwise until the safe lock slider of the cable gland is in the position shown.

6.

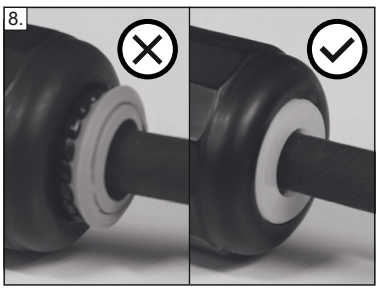


- Using the tip of the screwdriver, push the safe lock slider in the direction of the arrow until reaching the limit stop.
  This operation guarantees the safe locking of the cable gland in order to avoid the risk of accidental removal or unscrewing.
- To unlock the cable gland, gently push the safe lock slider out as indicated untill it is in the unlock position. A tool is required to push the safe lock slider.

7.

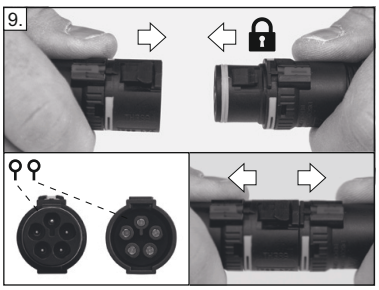
- Insert the grommet (1.2) into the cable gland (1.3) make sure the grommet is properly installed.
- In case of grommet made of two pieces, make sure to insert the grommet into the cable gland according to the correct orientation: the indicated ring must be visible.
- Join the nut (1.1) and the cable gland (1.3). Tighten the nut clockwise using the spanner (cod.6000337BC – max 2.5Nm): The spanner will slip over when you have reached the optimal torque.
- Nut tightening is also possible with a common tool (24mm – max. 2.5Nm).

8.



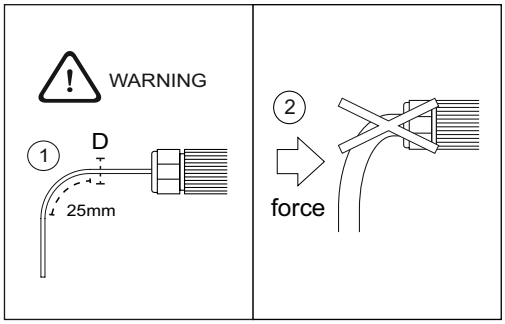
- Make sure the grommet is in the correct position after tightening the nut.
- For cables with a smaller diameter, use the appropriate accessories.

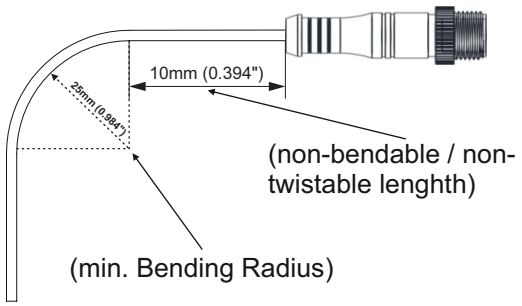
9.



- Make sure the correct orientation of the Plug and Socket connector as indicated.
- Insert the Socket into the Plug connector until you notice a firm resistance to progress.
- Gently pull the two connectors in opposite direction (disconnection) without acting on the release button: A strong resistance to disconnection indicates a correct installation of the product.

CABLE BENDING & NON-BENDING LENGTH



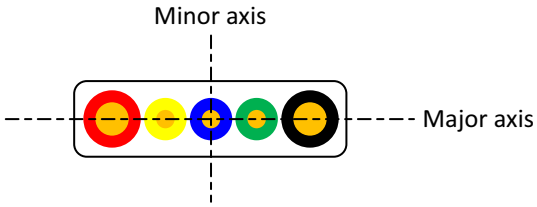


NOTE: Water ingress incurred due to excess cable bending/twisting will not be under warranty by Carl Stahl ARC. If the product is installed in tight spaces where it is necessary to bend the cable, pay attention to the minimum bending radius (1) that must be ≥ 25mm. Make sure that the cable is not subject to external forces (2) that tend to flex it. This phenomenon can affect the correct functioning of the product.

INSTALLATION & HANDLING

IMPORTANT – The flat cable used in this product is plastic-based and therefore flexible, but also sensitive to mechanical stress. To prevent damage to the cables and the product, please follow these rules:

- Keep cables away from sharp objects.
- **DO NOT** use aggressive chemicals or solvents during installation.
- **DO NOT** pull on the cables during strip installation.
- Always leave a small amount of slack between each dot before fixing them in place, the cable must not be under tension.
- **DO NOT** twist, knot, crush, or step on the flat cables.
- **DO NOT** bend the cable over its minor axis (see image below).



If bending is necessary, only bend along the flat cable's major axis of symmetry. Please follow the minimum clearances as indicated on page 7 (cable bending & non-bending lengths).

DO NOT create sharp bends or exceed the defined non-bending zones

CONNECTOR HANDLING & INSTALLATION SAFETY REQUIREMENTS

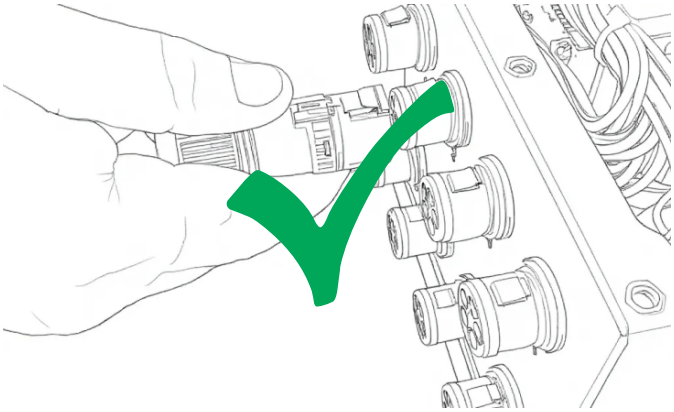
Correct handling of the connectors is essential to ensure long-term mechanical integrity and sealing performance. Installers must follow the installation and operating procedures exactly as described. Failure to comply can result in damage to the connector assembly and loss of sealing capability.

Mandatory Handling Instructions:

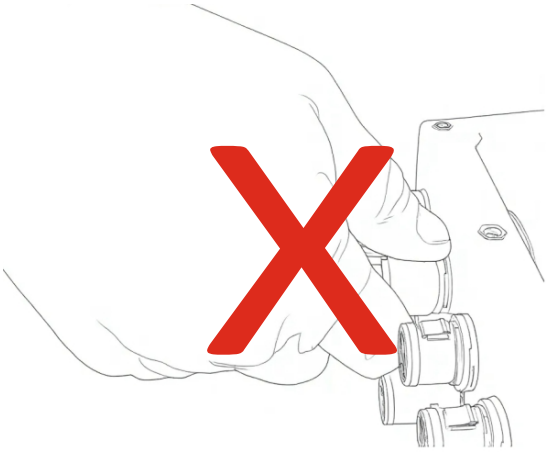
- All plug connections must be inserted and removed **strictly along their main (longitudinal) axis**.
- **Do not bend, twist, or lever** the connectors during removal. Any extraction force applied perpendicularly to the connector's axis is strictly prohibited.
- If a connector appears difficult to disconnect, apply:
  · A **firmer actuation** of the release/clicking mechanism.
  · A **higher axial pull-out force**, without any lateral movement.

Bending a connector during disconnection can stress the internal threaded components, potentially loosening the nut or damaging the plastic threads. This leads to compromised sealing and mechanical reliability.

These requirements must be understood and strictly followed by all installation personnel.



All plug connections must be inserted and removed **strictly along their main (longitudinal) axis**.



Do not bend, twist, or lever the connectors during removal.

INSTALLATION & SAFETY INSTRUCTIONS

Devices must be installed by qualified personnel in compliance with all pertaining regulations.

- Before installation, please visit the product page at www.x-led.de to download the latest version of the installation instructions.
- Only authorized and trained personnel should operate the device. For technical assistance or service-related inquiries, please contact **Carl Stahl ARC GmbH** directly.
- Always refer to the technical parameters in the datasheet. All items are subject to technical modifications.
- The LED modules and all their components must not be mechanically stressed. (Avoid excessive force, e.g. from screws or excessive bending.)
- Follow all safety instructions included in this manual to ensure correct powering of the device. Refer to the User Manual for proper usage guidelines.
- Consult the circuit diagram to ensure correct wiring.
- Important! Before performing any work, ensure the device is completely disconnected from the main power supply.
- Do not solder cable strands. Use cable strand sleeves instead.
- Make sure protection against line voltage shock is provided during installation. We recommend securing the installation by RCD circuit breakers.
- Flawless electrical connectivity must be ensured at all times.
- Do not install or remove LED-Dots / LED-Lines while the device is powered. Connecting LED-Dots / LED-Lines to a powered device may cause damage and will void the product warranty.
- Mind the operating temperatures and ambient temperatures of the device according to the technical data sheet.
- Do not install the device on flammable surfaces. Maintain a minimum safety distance of 0.1m (3.937") from flammable materials. Adjacent components must be temperature-resistant up to 90°C (194°F).
- Do not place heat insulation materials on the device.
- Ensure the input/output voltage matches the specified range. Over-voltage or under-voltage may damage the LED-Line.
- Do not attempt installation in wet or extreme weather conditions.
- Do not leave or expose the LED Line to wet, rainy, or snowy environments when it is not connected or when an end cap is not in use.
- Do not operate the device in an electric circuit shared with inductive consumers, such as: Fluorescent lamps, Gas discharge lamps, Ventilators. Activating inductive consumers in the same circuit may cause damage to the operating device.
- Do not modify the device in any way. No liability will be assumed for damage caused by alterations, improper use, or faulty installation.
- Ensure that the LED-Line is not accessible to unauthorized persons, especially in public or commercial spaces.
- During operation, it is possible for the product to generate heat. To ensure safety and guarantee its longevity, it is imperative that touching or conducting maintenance work on the product is strictly prohibited while it is in an active or heated state.
- The LED modules, both in operation and in storage, must not come into contact with aggressive chemical substances.
- Pay attention to standard ESD precautions when installing the modules.
- The device must NOT be installed in confined spaces without a constantly ciculating air flow.
- Do NOT use the LED Dots / LED Lines if the housing, cable or sealing are damaged.

SAFETY INSTRUCTIONS & POWER SUPPLY REQUIREMENTS

To ensure the safe and reliable operation of both the LED Dots and our power supply, it is crucial to install surge protection devices to safeguard both the branch circuit and the connected equipment. Always adhere to local electrical codes. (For further information, please refer to our surge protection guideline!)

Ensure that protective measures are in place to address:

1. Short Circuiting
2. Electrical Overloading
3. Over-Heating due to excessive operating voltage

CLEANING & MAINTENANCE

Regular cleaning of the product is required to maintain its performance and longevity. The process is straightforward but must be done regulary to prevent the buildup of dirt and dust, which can lead to an increase in temperature and a decrease in light output.
Use solvent-free cleaning agents only and do not employ agressive chemicals or high pressure cleaner. Ensure that the LED dot is turned off and has cooled down completely. Operate device only after complete drying.

WARRANTY

We provide a 5-year warranty for our **XLED-LINEs**, **XLED-DOTs** and **power supplies (XLED-PS-...)**. Any other system-related products (e.g., products from other manufacturers) are covered by their standard warranty terms.

For interior installations, a failure rate of up to 3% and for exterior installations, a failure rate of up to 5% may occur.
Please note that these failure rates do not constitute a warranty claim.

Failures, damage, or consequential damage to the LED-DOTs or LED-LINEs caused by improper installation, mounting, or handling are not covered under the warranty. Visual changes due to UV exposure, salt, or other environmental factors that do not affect the functional behavior of the product are not covered by the warranty. Damage resulting from exceeding the specified operating temperature limits is not covered. It is the responsibility of the client to ensure that the operating temperature stays within the recommended range.

We advise ordering a sufficient quantity of spare parts for future needs. For professional replacement and installation, we offer training by our specialists. Compliance with our installation and maintenance guidelines is a requirement for this warranty to be valid.

Issues arising due to site and application conditions that are not specifically addressed, will not be covered by the warranty unless the client has informed us of these conditions in advance. Installation must be performed by trained and qualified personnel to ensure the warranty is valid.

For all other conditions and claims, our General Sales and Planning Terms apply. These terms are available for download on our website.

SERVICE CONDITIONS

Service and repair requests must be accompanied by proof of purchase and a detailed description of the issue. Service is only available if the prodcut (e.g. LED-Line, power supply) has been installed, operated, and maintained in accordance with our guidelines. Any modification or unauthorized repair of the product will void the warranty.

SERVICE AND SUPPORT

If any issues arise with one of our products, customers can contact our service department for support. Our team will assist with troubleshooting and, if necessary, arrange for repairs or replacements in line with the warranty terms. We provide technical support via phone, email, or online chat. For more complex service needs, our trained technicians are available for on-site support, subject to additional charges. Service requests can be submitted through our website or directly to our customer support team.

CONTACT

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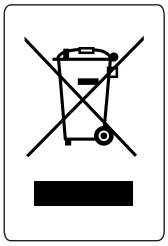
In the interest of continuous product improvement, we reserve the right to change specifications, setup and maintenance instructions, or product functionality at any time and without prior notice.

ENVIRONMENTAL SAFETY AND WASTE DISPOSAL



This device must be disposed of at a suitable, legally regulated disposal center that allows for the recycling of electrical and electronic equipment, components, and materials once it reaches its end of life (EOL). Proper disposal in accordance with environmental safety regulations and modern waste management procedures significantly reduces the negative impact of these materials on the environment and public health while ensuring the correct recycling, reuse, and redistribution of key components.

Unlawful disposal of this device and its materials is strictly prohibited. Any inadequate or illegal disposal practices may result in administrative sanctions or penalties, as per the applicable laws and regulations in your country.

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