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Symbols, safety



Warning! Failure to observe this safety instruction is likely to result in material damage, serious injury or death



Danger! Failure to observe this safety instruction can result in material damage, serious injury or death



Caution! Failure to observe this safety instruction can result in material damage or injury



Important information



CE conformity marking



Device corresponds to protection class III
(operates on safety extra low voltage, SELV)



Functional earth



Observe directions for disposal



Observe directions for disposal



Note! Failure to observe this safety instruction can result in material damage

General safety information

The details and information in this user guide are provided for the purposes of describing the product and its assembly only. This information does not discharge users from the obligation to conduct their own assessments and checks. It is also important to bear in mind that our products are subject to a natural process of wear and ageing.

This guide contains important information that will enable you to use the product safely and appropriately. If this product is sold, rented out or otherwise passed on to another party, the user guide must be handed over with it. You must therefore read and follow the safety instructions set out below.

- All work on and with the LED strip must be performed with “safety first” in mind.
- Observe the regulations pertaining to accident prevention and environmental protection that apply in the country and workplace where the product is being used.
- Use only item products that are in perfect working order.
- Failure to use original spare parts will invalidate the product warranty!
- Check the product for obvious defects.
- Use the product only within the performance range described in the technical data.
- Pay attention to the permissible voltage and the correct cabling of the electrical connection.

The LED strips described here correspond to the state of the art and take into account the general principles of safety applicable at the time this user guide was published. Nevertheless, failure to observe the safety instructions and warning notices in this user guide may result in personal injury and damage to property. We will assume no liability for any resulting damage or injury. We reserve the right to make changes that represent technical advances. Keep this guide in a place where it can be accessed by all users at any time. The general safety information applies to the entire lifecycle of the LED strip.

Correct use

The LED strip must only be used in indoor areas in accordance with the technical data and safety requirements set out in this document. The LED strip complies with the Low Voltage Directive and the EMC Directive; the declaration is stored in the Online Shop entry for the product. Internal company requirements and the regulations that apply in the country where the product is being used must be observed. You must not make any design modifications to the LED strip yourself. We will assume no liability for any resulting damage or injury. You may only install, operate and maintain the LED strip if:

- The LED strip has been integrated into its surroundings in a proper and safe manner.
- You have carefully read and understood the guide.
- You are appropriately qualified.
- You are authorised to do so by your company.
- You are using only original equipment from the manufacturer.

The LED strip is exclusively suitable for use with a 24V DC connection (only use a class 2 power pack).

The LED strip is designed for indoor use.

The LED strip is not suitable for use in environmental chambers. (For non-condensing use)

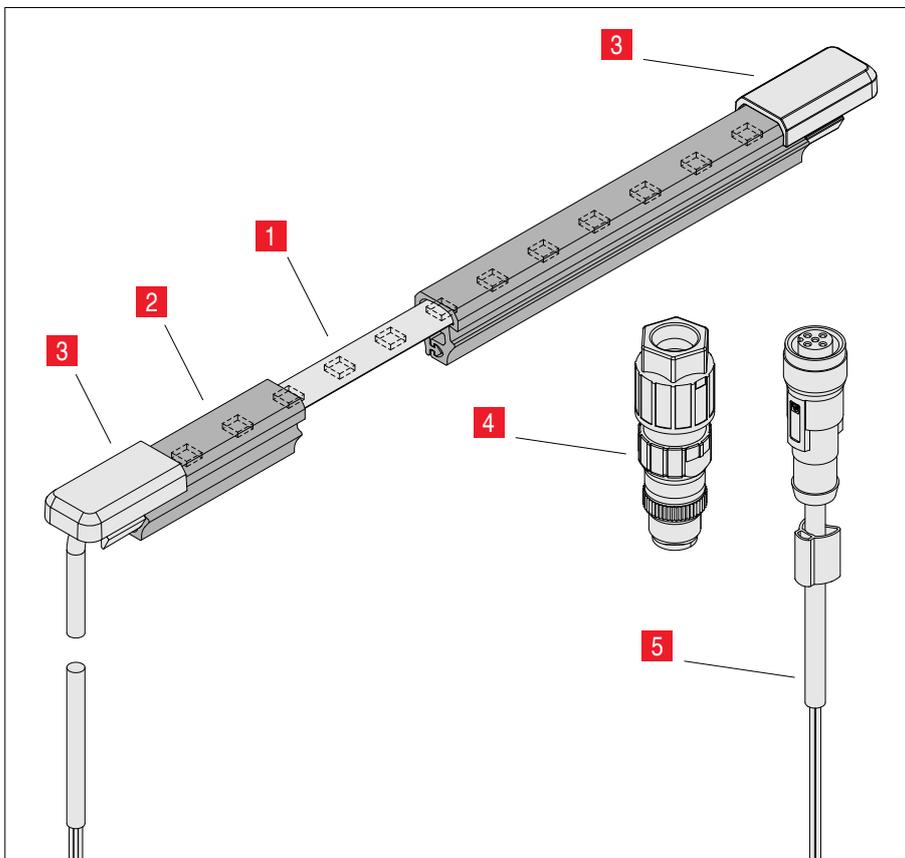
Improper use

Improper use is defined as any use of the product for purposes other than those authorised in the user guide and under the definition of correct use. We will assume no liability for any resulting damage or injury.

Reasonably foreseeable types of misuse could be:

- Use without Caps – contact between the end of the LED strip and a metal surface can cause a short circuit.
- Installing the LED strip in the groove using a heavy object will destroy the LED strip.
- Hard impacts, high forces and strong vibrations e.g. from fork lifts, transport vehicles, factory equipment or presses should be avoided.
- Excessive bending beyond the permitted extent will destroy the LED strip.
- Temperatures outside those specified in the technical data will reduce the service life of the LED strip.
- Sharp corners and edges in the cable conduits will destroy the cable.
- Ensure there is sufficient strain relief.
- Do not separate the LED strip outside the separation markings.
- The LED strip cannot be walked on.

Technical data



LED Strip RGB 24V configuration and accessories			
No.	Article number	Product name	Comments
1	0.0.715.45 0.0.718.16 0.0.724.13 0.0.724.18	LED Strip RGB 24V, 1 m LED Strip RGB 24V, 2 m LED Strip RGB 24V PNP, 1 m LED Strip RGB 24V PNP, 2 m	Can be shortened
2	0.0.715.74 0.0.718.15	LED Casing Profile 8 14x5 LED Casing Profile 8 14x5 (cut-off)	-
3	0.0.719.68	LED Casing Profile 8 14x5, Cap, grey similar to RAL 7042	-
4	0.0.718.00	Connector M12 4P Male, A-coded, black	Accessories
5	0.0.714.52	Sensor/Actuator Connection Cable 5 m M12 4P, Female Connector, A-coded, black	Accessories

- LED Strip RGB 24V
- Intuitive signalling in profile constructions
- The four-pole connection cable can be used to control the basic colours individually or collectively.
- Translucent LED Casing Profile
- Casing protects the LEDs from dirt
- Simply secure in a Line 8 groove
- The flexible LED strip is just 3 mm high and 1000 mm or 2000 mm long
- Can be shortened at 100 mm intervals
- RGB strip satisfies protection category IP53.
- 24-Volt technology
- Connector M12, A-coded as an accessory

IP class	IP53
Voltage	24 VDC Common Anode (CA)
LED performance	14.4 W/m
Connection	open cable end
Wiring	NPN, PNP
Average service life	50,000 hrs at L80/W10
Ambient temperature	-10° C to +45° C
Width x height	10 x 3 mm
Min. bend radius	20 mm
Separable	every 6 LEDs (10 cm)
Colour	RGB
Number of LEDs	60 per metre
Lighting angle	180° (light intensity decreases at the edges)
LED type	SMD RGB 3-in-1 LEDs
Luminous flux	red 140 lumens per m green 380 lumens per m blue 90 lumens per m R+G+B (white) 610 lumens per m
Wave length	red 620 nm green 525 nm blue 470 nm



DANGER! The casing profile is designed exclusively for the performance range and heat generation of the item LED strip. If item components are combined with a higher-performance LED strip, the customer is responsible for ensuring safe usage. Particular attention should be paid to sufficient heat dissipation in this case.

Installation and start-up

Coordinated components can be used to create strong, highly visible signalling solutions in a very short time. The controllable LED strips can be simply and safely integrated into profile frames with a Line 8 groove.



CAUTION! Always unplug the LED strip from the power supply before carrying out installation, cleaning or maintenance work on it.

CAUTION! Risk associated with inadequate fixing: Installation must be carried out by trained personnel. The device must be installed only on a suitable, level surface. Check the reliability of any fastenings that have not been recommended by the manufacturer. The LED strip may fall from its mounting if it is not installed properly.

CAUTION! Damage caused by using incorrect voltage: The product must be connected to the power supply in accordance with the applicable installation regulations of the country where it is being used. Before activating the device, check whether the voltage of the system power supply corresponds with the specified rated voltage of the consumer. The LED strip could be damaged or destroyed if the rated voltage is incorrect.



NOTE! When laying live cables along aluminium profiles, low-level, non-hazardous voltages can occur as a result of inductive coupling. To avoid this, it is advisable to connect the construction to the protective earth. An ideal solution is to use Multi-Socket Power Strip, 5 outlet, with system plug (0.0.627.44) or Distribution Strip (0.0.631.56) combined with Connecting Cable, Socket / Earthed Plug with earthing lead (0.0.677.54).

Preparation, assuming Caps are used on both ends:

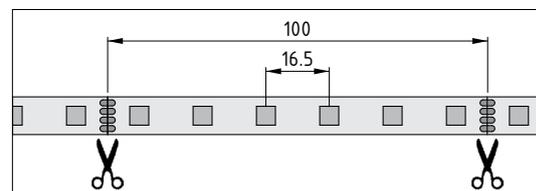
- Lengths of aluminium profile L_p :
- Length of casing profile L_M :
- Length of the unshortened LED strip L :

$$L_p = L + 60 \text{ mm}$$

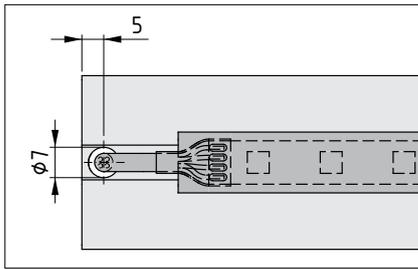
$$L_M = L + 10 \text{ mm}$$

1000 mm or 2000 mm

The LED strip can be shortened at intervals of 100 mm



CAUTION! If the LED strip is shortened, it loses its IP 53 status. The cut end must be sealed to restore the IP 53 status.



If the LED strip is to be installed concealed in a profile, e.g. in a cross profile, we recommend feeding the cable through a through hole in the profile. The hole must be cleanly deburred, and there must be no sharp edges.

Alternatively, the cable can be fed along the groove and protected with a Cover Profile.



The casing profile can be shortened using Multi-Purpose Pliers.



Place the LED strip inside the casing profile with the covered adhesive strip facing upwards. The protective film on the adhesive strip need not be removed.



The white protective covering of the cut-to-size LED strip should protrude from both ends of the casing profile by approx. 5 mm.

Then press and click together the two edges of the casing profile.



TIP! If you remove the protective film from the adhesive tape after inserting the LED strip and before clipping the casing profile together, this will have an additional stabilising effect on the ultimate complete unit of LED strip and casing profile. However, this does make it more difficult to dismantle.



Feed the cable through the hole in the profile.



Before pressing in the casing profile with the LED strip, dampen the Line 8 groove with a little soapy water.



Now press the Cap with its clamping bars over the white protective cover of the protruding cable and push it over the casing profile until the clamping bars rest on the profile.

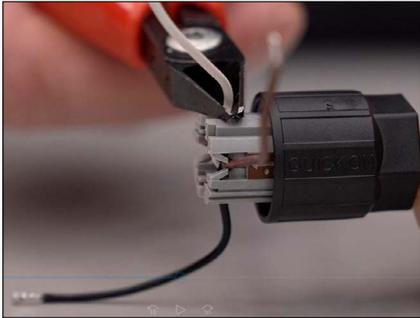
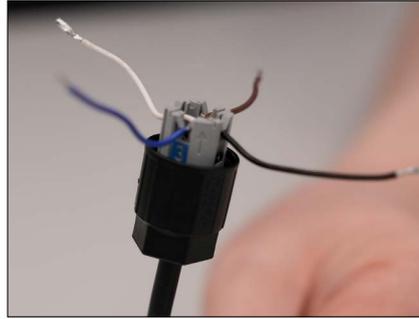
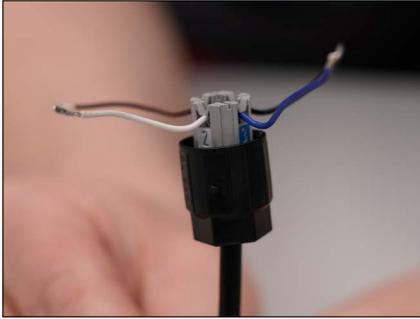


Carefully press the casing profile containing the LED strip manually into the groove of Profiles 8 along with the Cap. In doing so, the Cap should be aligned with the cut edge of the profile.

Be careful to ensure the LED strip is only exposed to low forces during the installation process, since otherwise the soldered joints could quickly break.



Feed the cable through the connector until the outer insulation disappears into the connector and you hit a limit stop.



Now insert the strands according to their colour into the colour-coded, numbered clamps in the connector, press them down and fix them in place. Use a side cutter to separate the wires directly at the outer edge.



Manually screw the second part of the connector onto the lower part of the plug, aligning the arrows on each half of the connector.



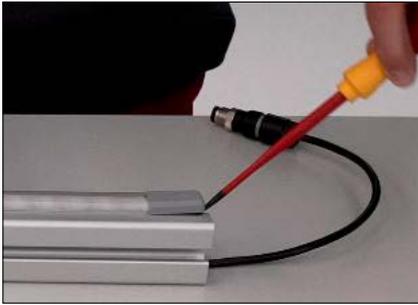
CAUTION! The connector can only be screwed together in one alignment – when the arrows on the two halves match up.

Disassembly



CAUTION! The LED strip is not suitable for multiple mounting/dismounting. This is contrary to the intended use.

If corrections still need to be made, please proceed as follows:



Lever out the Cap on the cable with a screwdriver.



Slide the free end of the Cap outwards and remove it from the Profile. Release the LED Casing Profile from the clamp in the aluminium Profile.



Carefully pull the Casing Profile with the LED strip towards the Connecting Cable out of the groove. Repositioning or rewiring is then possible.

Control table					
+ 24V (bn)	R (wh)	G (bu)	B (bk)	LED-Strip Color	
24V	X	X	X	Off	
24V	X	X	GND	Blue	
24V	X	GND	X	Green	
24V	X	GND	GND	Cyan	
24V	GND	X	X	Red	
24V	GND	X	GND	Violet	
24V	GND	GND	X	Yellow	
24V	GND	GND	GND	White	

X: Not Connected/Open/24V

Connection to a Siemens Simatic S7-1200 SM 1223

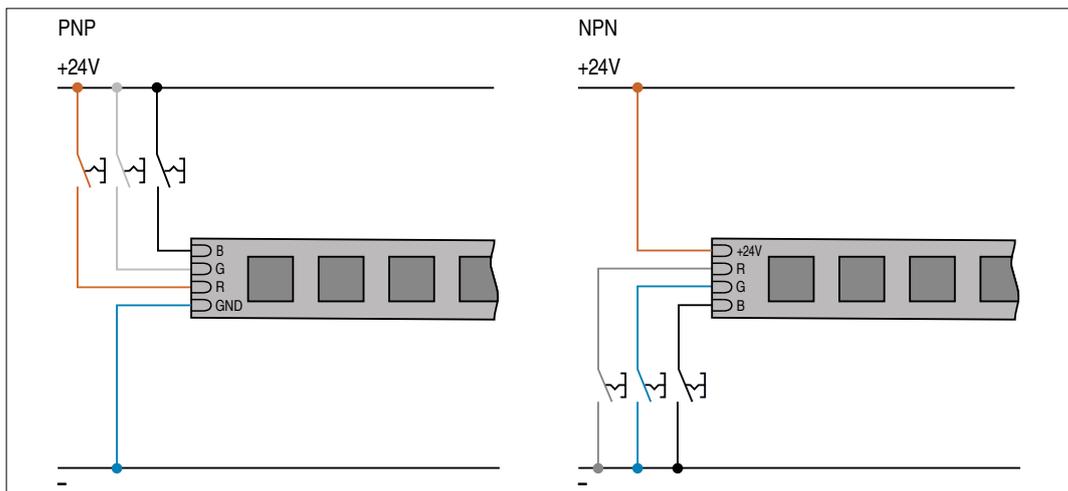
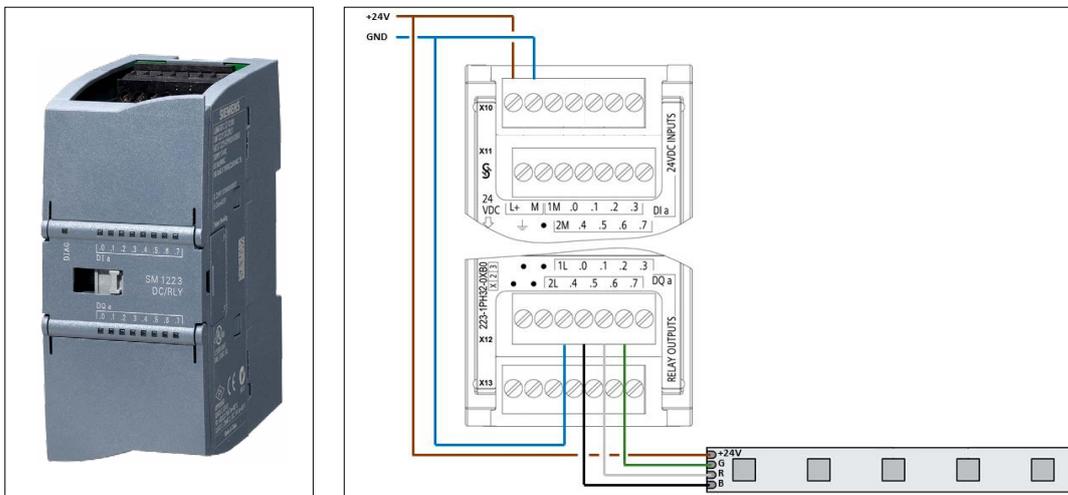


NOTE! Further cabling is dependent on the working environment and further application, and is the responsibility of the customer.



CAUTION!

- Positive switching (PNP):
The LED strip switches positive potential to its inputs.
- Negative switching (NPN):
The LED strip switches negative potential (ground) to its inputs.



Maintenance



Only specialists with appropriate training should carry out repairs and maintenance on electrical devices

Defective lighting element:

The LED strip uses a light-emitting diode (LED). LEDs have a significantly longer service life than other types of lighting element (e.g. filament lamps). As a result, lighting elements do not need to be replaced.

Always disconnect the LED strip from its power source before conducting any maintenance or repair work. Use only parts that have been approved by the manufacturer as spare parts. Inappropriate maintenance and repair work can result in serious injury.

Care and cleaning



CAUTION! Risk of damage caused by incorrect cleaning:

To clean, use only a cloth and a standard domestic cleaning agent. Check that the substances you are using are suitable for use on paints and plastics. Inappropriate cleaning can destroy the device.

Disposal



The product can be recycled or re-used (after any necessary refurbishment and replacement of parts). The use of appropriate materials and easy dismantling ensure the product can be recycled. Improper disposal of the LED strip can pollute the environment. Dispose of the LED strip in accordance with the national regulations that apply in your country.



Environmental hazard:

Once it has reached the end of its service life, dispose of the product using the return and collection systems that are available to you. Inappropriate disposal poses a hazard to the environment.

Transport packaging:

Dispose of the packaging using the return and collection systems that are available to you.

Product development and documentation

A process of continuous product development ensures that products from item Industrietechnik GmbH always exhibit a high standard of innovation.

Consequently, there could be inconsistencies between this guide and the product you have acquired. item Industrietechnik GmbH can also not exclude the possibility of errors. We therefore ask for your understanding that the information, illustrations and descriptions provided here cannot constitute an entitlement to any claims.

You can find the latest version of this user guide at www.item24.com

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