ALPHATRONICS
innovators in access technology

INSTALLATION INSTRUCTIONS

LED STRIP - 1-010100-0033-0XX-990-00

v 2025-05-02

ALPHATRONICS nv
Brandstraat 8a ▪ B-9160 Lokeren
T. +32 (0)9 340 54 70
www.alphatronics.be | hello@alphatronics.be

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1. GENERAL INFORMATION

WARNING!
Rotating and/or linear movable components can cause serious injuries
The LED strip is an option for the DBK barrier. Ensure that all individuals working on or with the barrier—such as in installation, maintenance, or cleaning—have fully read and understood the DBK barrier's user manual.

1.1 COPYRIGHTS

2. TRANSPORT AND STORAGE

2.1 INSPECTION OF TRANSPORTS

The shipment must be checked for transport damage immediately upon receipt. In case of damage, note the type and extent on the delivery receipt or refuse acceptance.

Inform Alphatronics immediately in case of damage.

If the above points are not adhered to, claims based on insurance regulations will be rejected.

3. SCOPE OF APPLICATION

The LED strip is used to make the barrier boom visible in a darkened environment. It is designed for use with barriers of type DBK-025 - 050. It can be plugged into the top side of the boom.

3.1 SCOPE OF DELIVERY

Scope of delivery

- 1x LED strip with connecting wire
- 1x Plastic ring
- 1x Flexible tube
- 3x Adhesive saddle
- 3x Cable tie

3.2 CONFORMITY DECLARATION – COMPLETE SYSTEM

After installation, a EU declaration of conformity for the complete system must be issued by the person responsible for the integration, in accordance with the Machinery Directive 2006/42/EC / Supply of Machinery (Safety Regulations) 2008.

4. TECHNICAL DATA

General information	
Material	Silicone
Color	transparent
Length	250 cm (1-010100-0033-025-990-00) 300 cm (1-010100-0033-030-990-00) 350 cm (1-010100-0033-035-990-00) 400 cm (1-010100-0033-040-990-00) 450 cm (1-010100-0033-045-990-00) 500 cm (1-010100-0033-050-990-00)
LED Colors	Red, Green, Blue
Supply Voltage	24V
Current Consumption	200mA/m/color
Power	4,8W/m/color
MTBF	50.000 Hours
Protection Class	IP65
Operating Temperature	-25°C tot +50°C
Type of Connection	Common anode

5. INSTALLATION

ATTENTION!

Risk of injury in case of non-compliant installation

Incorrect installation can lead to serious injuries and material damage.

➢ All installation and adjustment work should only be carried out by qualified personnel or electricians.

➢ Sufficient mounting space must be ensured before and during work. Mounting materials, parts, or tools are obstacles and sources of danger!

➢ The fastening data are minimum requirements and must be adhered to.

ATTENTION!

Risk of injury at the installation site

Unauthorized persons may suffer injuries during installation in the unsecured installation area

➢ All installation and adjustment work must be carried out only by qualified personnel or electricians

➢ Sufficient installation freedom must be ensured before and during work. Mounting materials, parts, or tools pose obstacles and sources of danger!

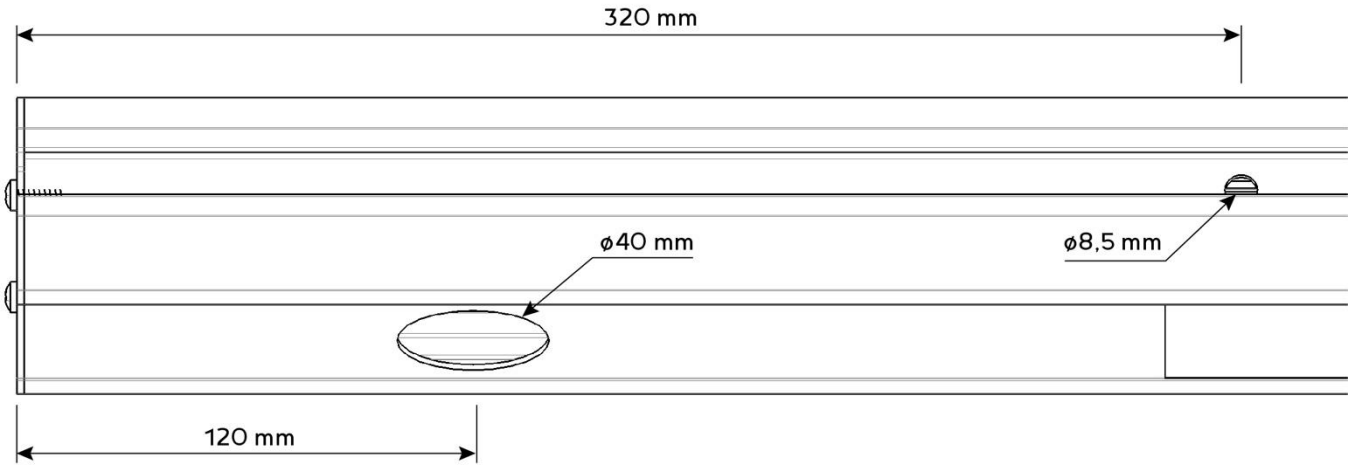
ATTENTION!
Rotating and/or linearly moving parts can cause serious injuries.

Do not place your hands in moving parts or handle moving components during operation.

➢ Turn off the device before performing maintenance, repairs, or other work, and secure it against unintended restarting.

5.1 MECHANICAL INSTALLATION

5.1.1 Preparation of the barrier boom



- Provide two round cutouts in the barrier boom
  1.) Cutout with a diameter of 8,5 mm
    - On the top side of the barrier boom in the groove
    - At 320 mm from the beginning of the boom
  2.) Cutout with a diameter of 40 mm
    - On the side that connects to the DBK
    - At 120 mm from the beginning of the boom

ATTENTION!
Rotating and/or linearly moving parts can cause serious injury.
Follow the disassembly instructions in the DBK installation manual to remove the boom if the LED strip is being installed on an already mounted boom.

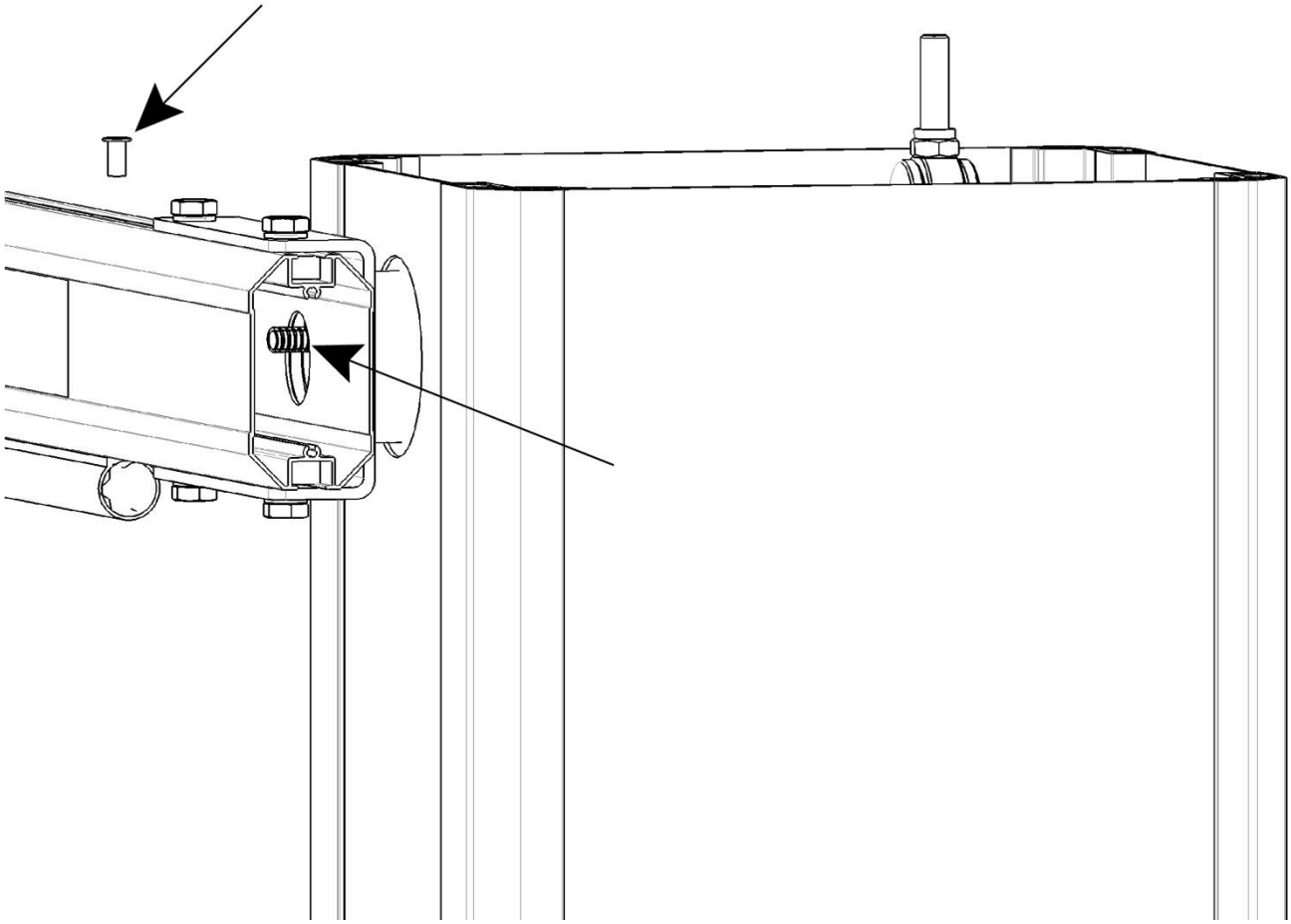
5.1.2 Installation

Install the boom according to the instructions provided in the DBK installation manual.

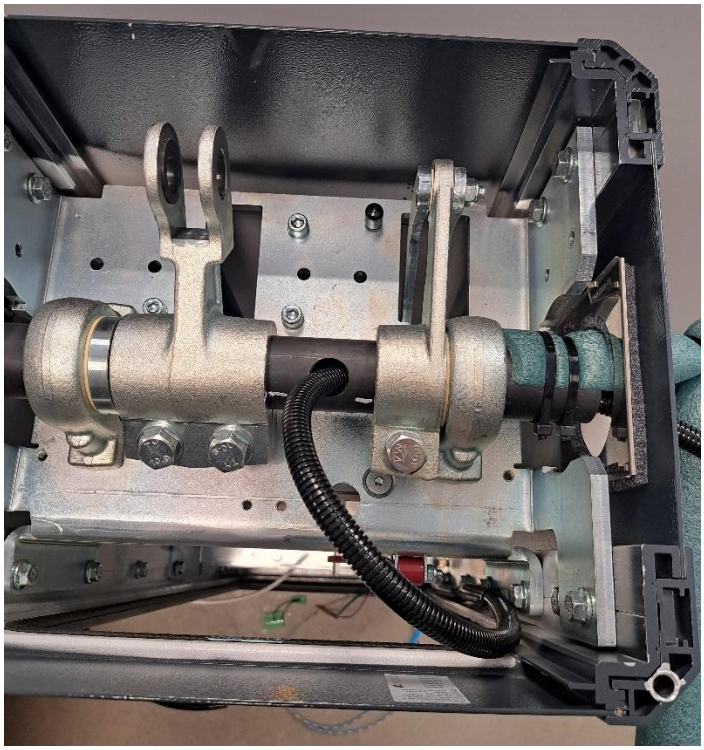
ATTENTION!
Rotating and/or linearly moving parts can cause serious injury.

Follow the installation instructions in the DBK installation manual for mounting the boom.

5.1.3 Mounting the LED Strip on the barrier boom



- Place the cable duct in the 8.5mm cutout. Note that it is still loose at this stage. It will remain securely in place only after the LED strip is installed.
- Insert the tube into the barrier boom, through the shaft, downwards



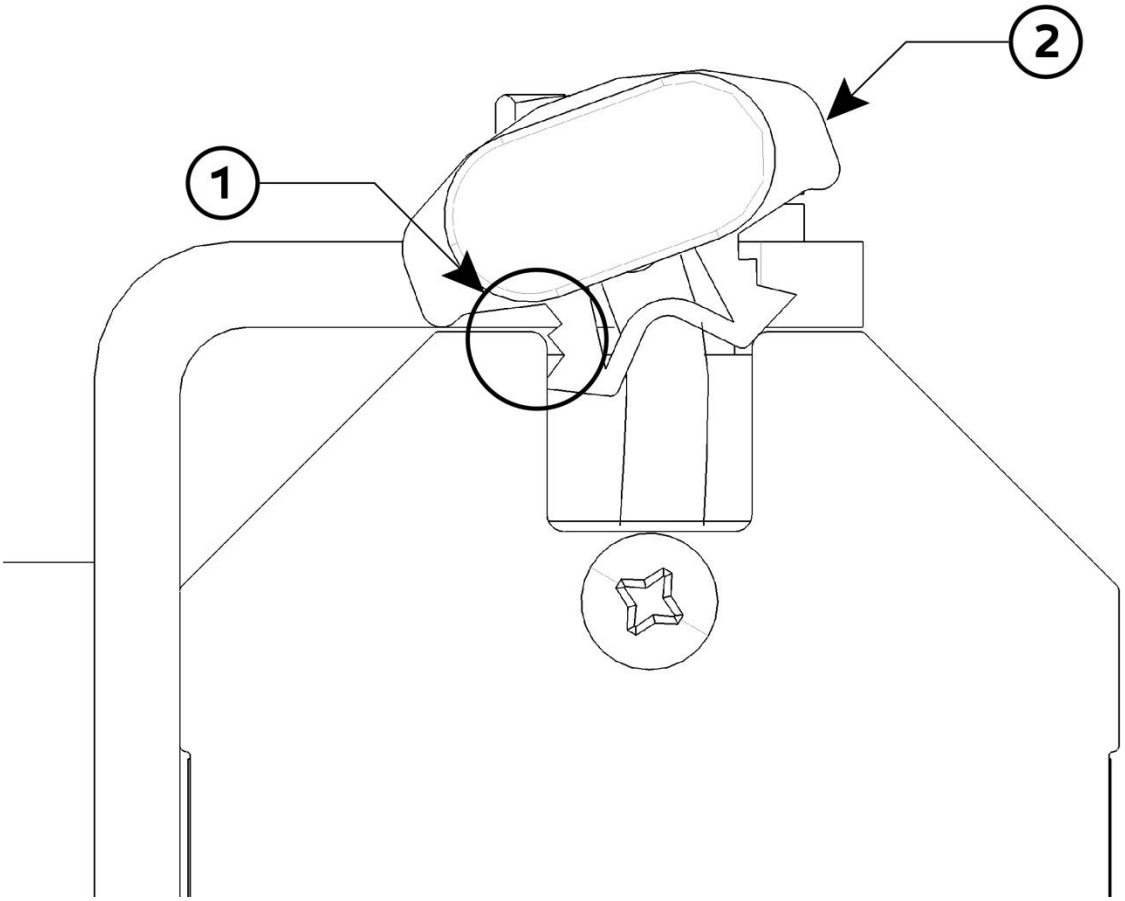
- Ensure there is sufficient space for the tube. The shaft will move, and the tube will move as well.

ATTENTION!

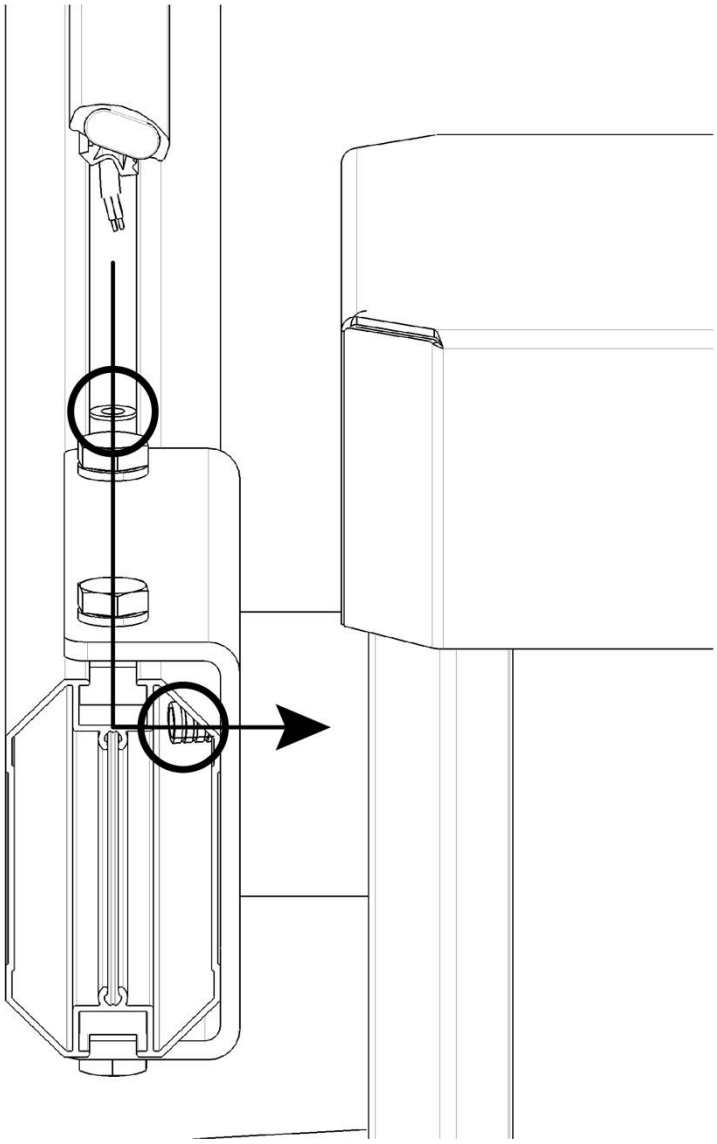
Damage to electrical conductors due to burrs or moving parts.

- Proper placement of the cable duct prevents damage to electrical conductors due to sharp edges.
- Proper placement of the tube prevents cables from being pinched by moving parts.

- Insert the LED strip by pressing it into the groove from the end of the boom and finishing at the beginning of the boom with the wires.
- Hook one side of the LED strip into the groove **(1)**.
- Press the other side into the groove **(2)**.



- Pull the LED strip wires through the cable duct into the boom
- Pull the LED strip wires from the boom through the tube down to the bottom of the controller



NOTE!
By adding the LED strip, the weight of the barrier boom has increased. The number and type of springs may need to be adjusted. The springs must be recalibrated. Please refer to the installation manual of the barrier.

- Secure the tube by fastening it with cable ties to the cable saddles that are adhered to the right side wall of the DBK.

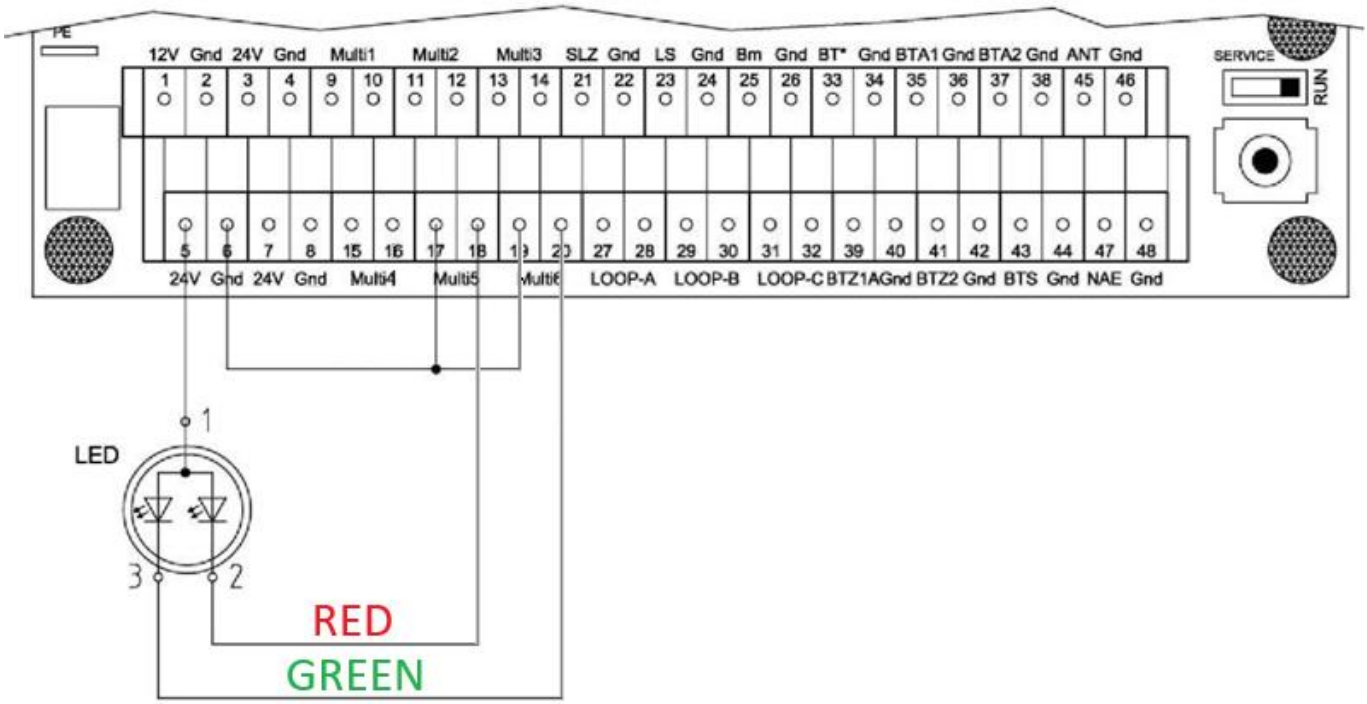
ATTENTION!

Damage to electrical conductors due to moving parts.

- Ensure that the tube comes out of the boom shaft in a large arc at the top before tightening the cable ties.



5.2 ELECTRICAL CONNECTIONS VIA INTERNAL DBK POWER SUPPLY



The following instructions explain the connection of the LED strip. The LED strip can be controlled by one of the six multifunctional relays (MULTI1 – MULTI6).

As an example, multifunctional relay 5 (MULTI5) and multifunctional relay 6 (MULTI6) are used for switching the MO-24 power supply.

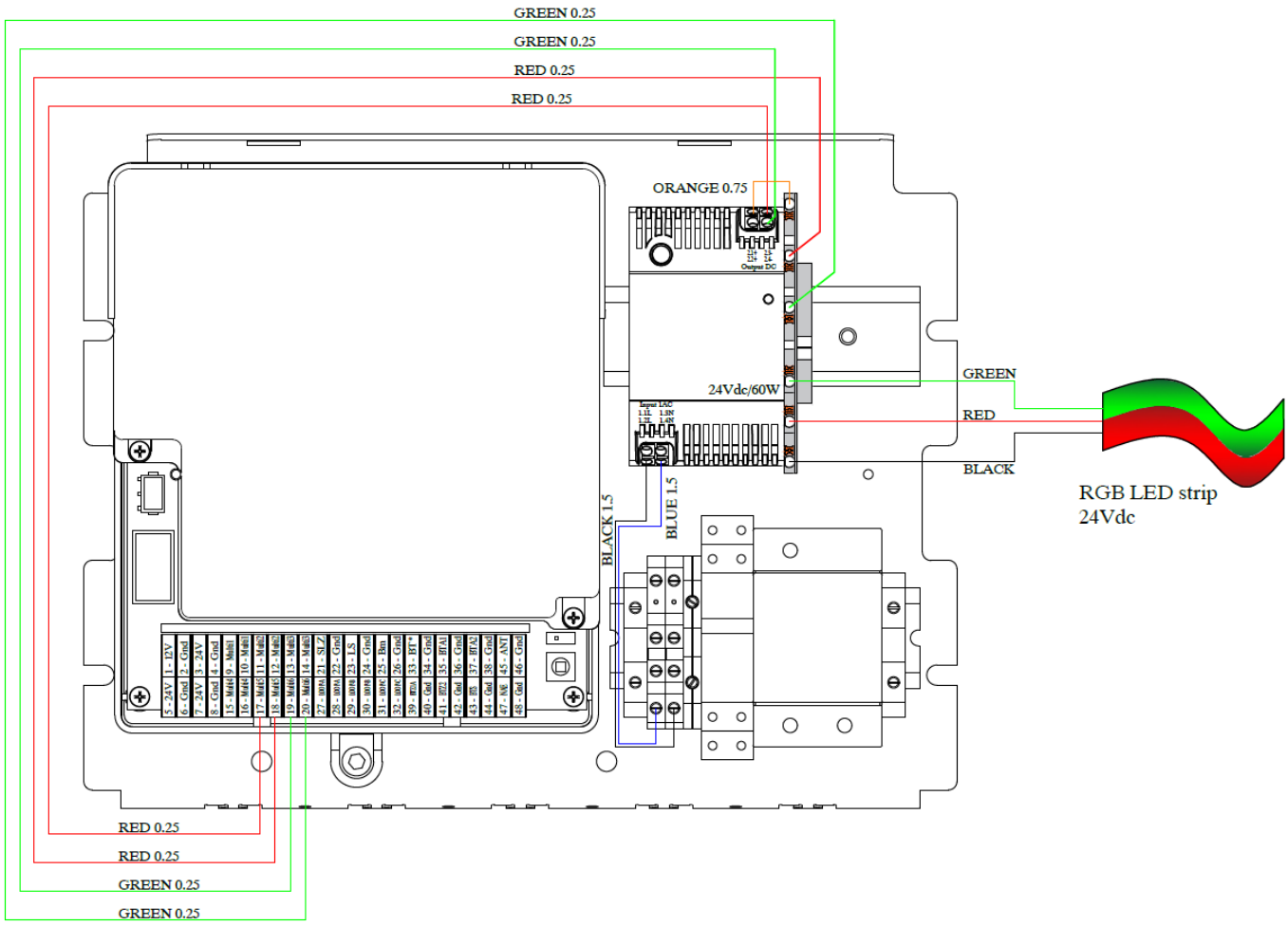
In this example, a common anode RGB LED is used; by switching the relays to 24V instead of ground, it is also possible to control a common cathode RGB LED.

- Connect the power line (24V, black wire) of the LED tree lighting to terminal strip X1, as shown in the diagram.
- Connect multifunctional relay 5 to the red LED on one side and to ground on the other side.
- Connect multifunctional relay 6 to the green LED on one side and to ground on the other side.

ATTENTION!
Damage due to overload!
Connecting additional loads to the controller can lead to overcurrent.

- ➢ The multifunctional relays switch a maximum of 24V, 3A
- ➢ The outgoing 24V power supply (terminals 3, 5, and 7 together) from the controller provides a maximum of 1.5A
- ➢ The LED strip consumes 0.2A/m/color
- ➢ Provide suitable transfer relays if necessary
- ➢ Provide a suitable external power supply if necessary

5.3 ELECTRICAL CONNECTIONS VIA EXTERNAL POWER SUPPLY



The connection principle remains unchanged; the power is supplied by the optional power supply.

5.4 CONFIGURATION

The relay outputs can assume different functions. Settings P501-P506 configure the multifunctional relay outputs MULTI1 to MULTI6, respectively.

Refer to the DOI of the DBK for a detailed description of the configuration.

- Activate multifunctional relay 5 under sequence point P505 in the learning sequence of the controller. Select operating mode "5" (red traffic light). The timing for when the traffic light should turn red can be set with settings P510-P516.
- Activeer Activate multifunctional relay 6 under sequence point P504 in the learning sequence of the controller. Select operating mode "6" (green traffic light). The timing for when the traffic light should turn green can be set with settings P520-P526.
- For the configuration of the green traffic light (P520-P526), we will use the factory settings:

Setting	Function	Display	Operating Mode	Factory Setting
P520	Green traffic light in final position CLOSED	0 1 2	On Off Blinking	Off
P521	Green traffic light during warning before opening	0 1 2	On Off Blinking	Off
P522	Green traffic light during warning before closing	0 1 2	On Off Blinking	Off
P523	Green traffic light during opening	0 1 2	On Off Blinking	Off
P524	Green traffic light during closing	0 1 2	On Off Blinking	Off
P525	Green traffic light during intermediate stop	0 1 2	On Off Blinking	Off
P526	Green traffic light in final position OPEN	0 1 2	On Off Blinking	On

- For the configuration of the red traffic light (P510-P516), we will use the factory settings:

Setting	Function	Display	Operating Mode	Factory Setting
P510	Red traffic light in final position CLOSED	0 1 2	On Off Blinking	On

P511	Red traffic light with warning BEFORE opening	0 1 2	On Off Blinking	Blinking
P512	Red traffic light with warning BEFORE closing	0 1 2	On Off Blinking	Blinking
P513	Red traffic light during opening	0 1 2	On Off Blinking	On
P514	Red traffic light during closing	0 1 2	On Off Blinking	On
P515	Red traffic light during stop	0 1 2	On Off Blinking	On
P516	Red traffic light in end position OPEN	0 1 2	On Off Blinking	Off

ATTENTION!
Damage due to overload!
Due to incorrect configuration, the current may exceed safe levels, potentially causing damage to the power supply or switching equipment.

- ➢ Provide suitable takeover relays if necessary
- ➢ Provide a suitable external power supply if necessary

6. RELEASE NOTES

Date	Version	Name	Description	Chapter
17/10/24	241017		Initial release	