

# ENGLISH

## Instruction manual

### **CHROMOFLEX® Pro** KNX DIN-Rail ECO

Item no. 66000384 CV – 4-channel

**Please read this manual carefully and keep it in a safe place!**

#### **1. Introduction:**

The **CHROMOFLEX® Pro** KNX has been developed to control voltage controlled LEDs for up to 4 output channels via KNX. The number of output channels, the type of dimming curve and many other settings can be easily set using ETS-software.

#### **2. Usage:**

The modules were designed for indoor use in dry places. The LEDs might also be used in wet environments or outdoors, if suited for that purpose. For outdoor use, be sure to use the right protection methods (IP67).

The modules must be operated with a power supply that is matched to the used LEDs! Non-LED loads (especially inductive loads like motors, transformers, coils, etc.) might damage or destroy the module.

If any of the before mentioned points is not observed short circuit or electric shock might occur.

The **CHROMOFLEX® Pro** KNX was developed according to KNX Guidelines. KNX is a standardized digital communications interface in the field of building automation.

#### **3. Technical Data version CV (excerpt):**

Operating voltage: 10V to 48V DC

Protection class: III

Output current 4 channels: max. 2.2A / channel

Dimensions (L/W/H): 91 / 71,5 / 62 mm

Ambient temperature: 0°C - max. +50°C

(in dry conditions only with sufficient air circulation for heat dissipation, non-condensing)

IP Protection: IP20

Manufacturer: Josef Barthelme GmbH & Co. KG

#### **4. Safety Instructions**

The modules might produce some heat. Care must be taken to provide unrestricted air ventilation. The device should not be warmer than 80°C in standard operation at max. load.

The unit is equipped with a limited protection against reverse polarity. Connecting the power in reverse polarity can destroy the module, even if connected for a short time only.

When not used as directed, reversed polarity, modification of the device, for property damage or personal injury caused by improper use or failure to observe the safety instructions, we assume no liability and the warranty becomes void completely.

If the LEDs are provided in wet areas (e.g. swimming pools, sauna, ...) pay particular attention to the rules regarding the power supply. The installation of the product must be performed by a qualified electrician who is familiar with the applicable regulations (e.g. DIN, VDE, EN).

This product is not a toy, keep away from children! LEDs can get quite hot. We strongly recommend ensuring maximum operating temperature is not exceeded, because this might reduce the expected life time of the LEDs significantly.

**WARNING 1:** LED light may have very high intensity even when dimmed. Particularly in connection with optics also weak LEDs may be very dangerous. Staring into LEDs may cause irreparable damage to the eye's retina. Use diffusers to spread the intensity!

**WARNING 2:** Please be aware that LED light may cause side effects. This light changes intensity very fast! Changing light may affect the perception and is also known to trigger epileptic seizures in persons who are photosensitive.

#### **5. Installation**

**The electrical connection must only be carried out by a qualified electrician who is familiar with the applicable regulations!**

**Caution: Turn off the power supply or the connection lead before doing any works**

## Installation

This product is designed for an installation on a DIN rail. At first you have to press the black peg down (1). Second, place the backside of the device in the upper corner behind the upper hook (2). Now press the device over the whole DIN rail (3, 4). At last, push the peg back into the upper position (5).

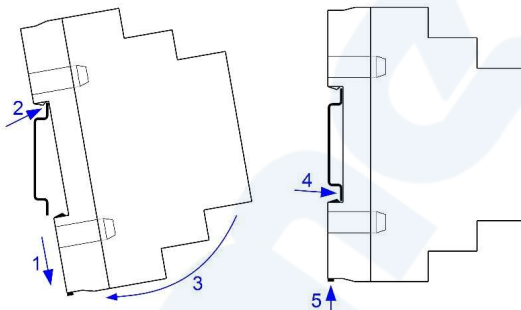


Fig.1

Dimensions:

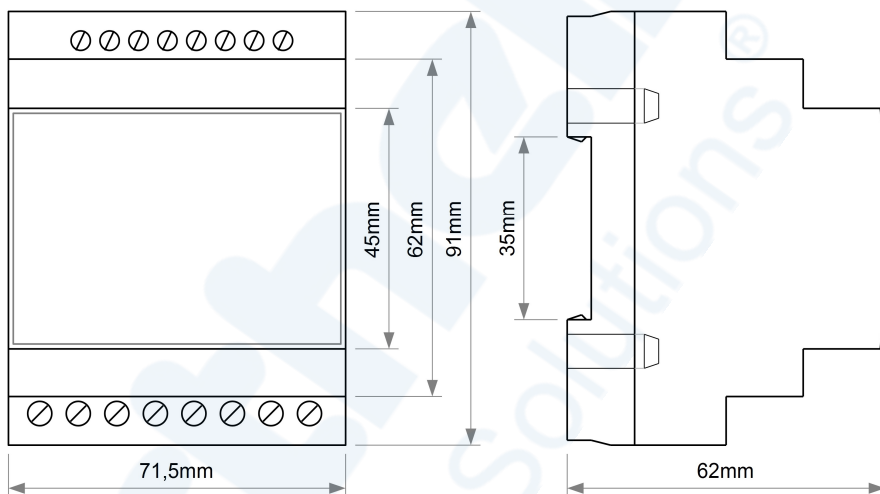


Fig. 2

## 6. Connection

Please note, that the LEDs have to be connected in a de-energised state of the dimmer!

Notes on the selection of the power supply:

Important: The power supply must have appropriate pulse load. Unstabilized or too weak power supplies may lead to unwanted flickering effects in the color changes.

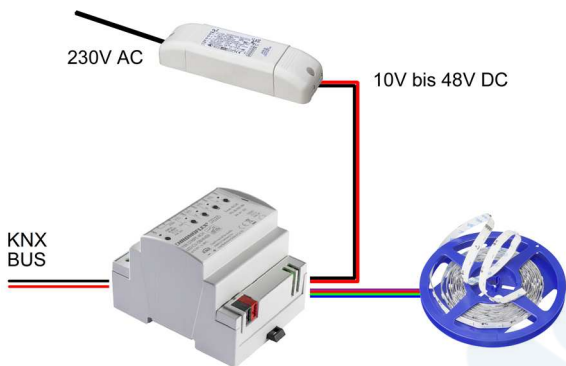
Important: The module must be operated with a power supply, that is suitable for the used LEDs! Improper power supplies may lead to malfunctions, unwanted flickering effects, destruction of LEDs, destruction of electronics or in worst case to overheating. We strongly recommend using high-quality (stabilized) switching power supplies!

We strongly advise against the use of unstabilized cheap power supplies! Also special "LED" power supplies are usually unsuitable as they may already contain control electronics for constant current, which may not be compatible with control devices as the **CHROMOFLEX® Pro**.

We always recommend switching power supplies in power supply technology! Suitable power supplies are available from us.

One power supply can be used for several units in parallel, if the maximum output power of the supply is observed. For wiring cables with a cross section of max. 2.5mm<sup>2</sup> can be used.

The modules should be provided with min. 10 Volts; the maximum voltage of the **CHROMOFLEX® Pro** KNX is 48 Volts.



#### Notes / additions

- At the output channels please
- avoid reverse polarity
  - note correct voltage
  - ensure that the power per output channel is not exceeded
  - never connect current-controlled LEDs (CC)

Fig. 3

### 6.1 CHROMOFLEX® Pro KNX DIN-Rail ECO CV

„CV“ is an abbreviation for constant voltage.

This model does not have any internal current regulator. Supply voltage is passed through and the voltage of the power supply must match the voltage of the LED stripe. So if the LED strip requires 12 volts, this must also be the output voltage of the power supply.

**Note:** LED stripes of 10 Volts, 12 Volts and 24 Volts are offered on the market. Depending on the cable length the used LEDs might need very high currents.

**Note:** We deliver flexible stripes on reels in length of max. 6 metres, with a power consumption of about 1 Amperes at 24 Volts per color.

### 6.2 Connection options:

During the installation, make sure that the maximum values are not exceeded and the right type of wiring is chosen.

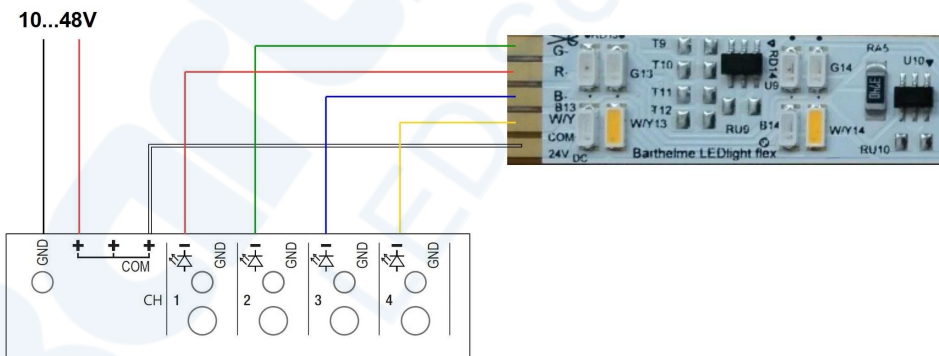


Fig. 4 (Connection up to 2,2 Ampere per channel)

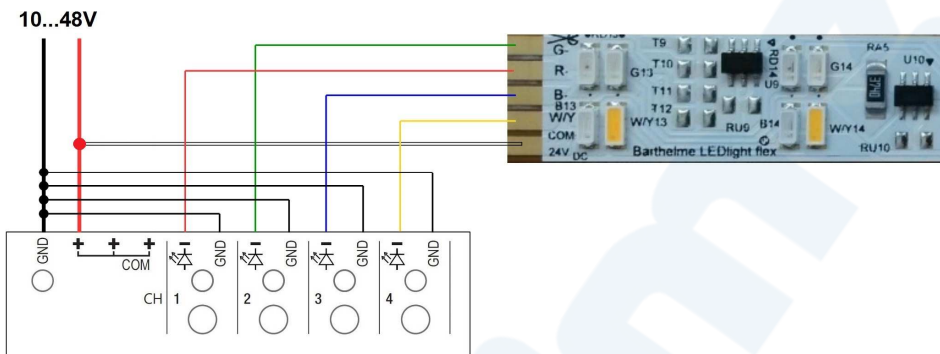


Fig. 5 (Connection from 2,2 up to 4,4 Ampere per channel)

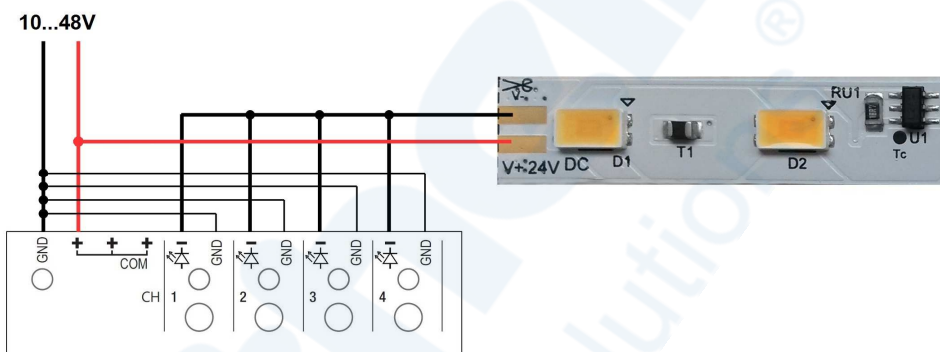


Fig. 6 (Connection for 1 channel with channel bridge)

**More connection options and more detailed explanations, see the file**  
**CHROMOFLEX® Pro KNX**  
**software and manual on our website**  
<http://www.barthelme.de/de/software.aspx>



## 7. Operation

Please operate this unit only, when it is working properly. In case of an error, switch off the unit immediately. Do not operate the unit, until the unit was verified electronically by a qualified electrician.

A case of error is:

- visible signs of damage on the unit
- the unit is not working properly
- fume rising or crackling sounds from the unit
- visible signs of overheating

Maintenance and service which require access to live components inside the unit must be carried out by an authorized electrician.

**Warning: Danger of life! Risk of electric shock!**

**How to avoid malfunctions or fire risk:**

- Do not affect air circulation by covering the unit.
- Do not attach anything to the unit e.g. decoration items etc.

Do not let your children play unattended with electrical equipment. Children cannot always perceive possible dangers correctly.

## 7.1 Start-up

Connect LEDs and power supply as shown in the connection options. Make sure that LED-strips and correct power supply are connected to **CHROMOFLEX® Pro** KNX CV.

**For programming you need the newest version of ETS software. Needed files for the ETS software can also be found at the above link. Additionally, check the "Software and Manuals" file for explanations of all parameters and communication objects.**

## 8. Contents and accessories

Every **CHROMOFLEX® Pro** KNX unit is shipped with this manual. The instructions are an integral part of the equipment to which they relate and must be handed to the user.

Important note: Complete manuals for any **CHROMOFLEX®** can be downloaded at [www.barthelme.eu](http://www.barthelme.eu) . Please look for updates before installation.

## 9. Contact

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Subject to technical changes and errors

