FOX

FOX203 | FOX LED

Instruction manual

Version 1.0 | 2016

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1 | Terms of use

We would like to thank you for choosing equipment from Nexwell Engineering.

The author made a great effort that the contained information in this document are accurate and reliable, but cannot be held responsible for the improper use of this manual, including the destruction or damage of the equipment.

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Due to the product development, the manufacturer reserves the right to do changes.

For any questions or concerns regarding the operation of Nexwell devices, please contact: biuro.techniczne@nexwell.eu

Nexwell Engineering does not accept any liability deriving from the usage of the devices. Installations need to be carried out in accordance with all applicable standards for electrical safety conditions.

All connection work shall be done without any power supply.

You can find the current version of the instruction manual on the producer's website www.nexwell.eu

Important!

RESPONSIBILITY

Nexwell products are not intended for the use in: medical purposes as a direct threat and sustaining life and human health; industrial purposes, referring to controlling of critical for safety reasons, of technological processes and their safety systems, and in other applications, whose failure could danger human lives or cause environmental disasters.

INSTALLATION PLACE

Nexwell products shall be installed where the access is possible without any special equipment (e. g. ladders), and in that way the assembly or disassembly does not result in any material losses (e. g. do not immure it).

PACKAGING AND UTILIZATION

The products are packaged in biodegradable, environmentally-friendly, separable cardboard materials, and protecting ESD foil.

Disposal of waste of used electrical and electronic equipment (for the European Union and other European countries with separate collection systems) the European Directive 2002/96/EC on Waste Electrical & Electronic Equipment (WEEE) enunciates a ban on disposing used electrical and electronic equipment together with other waste as municipal waste – you could get fined. According to the law, used devices must be collected separately and sorted. The thwarted "trash" symbol on the product reminds you of your obligation of special sorting. Consumers should contact their local authority or retailer for information concerning the proceeding with used electrical and electronic equipment.



2 | Overview

<u>Usage</u>

The module Fox LED is available as basic and Fox LED POWER version. Both version are different in their output power. The basic version has an output power of about 0.6 W, this power shall be controlled by an amplifier. Therefore, the POWER version has an output power of 140 W at 12 V, or 280 W at 24 V, also this module can be connected to an amplifier.

Both versions are devices of the Fox system, having eight PWM outputs, type OC, cooperating with regular bulbs and LED strips, white and RGB multi-colour lights.



Definitions

System inputs – transistor power outputs in the OC circuit, working as PWM output

Fox BUS inputs – the Fox BUS inputs possess two data lines as well as +/- 24 VDC power supply.

Power supply input for LED strips (for the module Fox LED Power) – input for external power supply, whose task it is to power LED strips.

Physical characteristics

- Outputs
 - Type: transistor
 - Number of outputs: 8
 - Load of a single Fox LED output: 7 mA
 - Total group load of one RGBW channel output Fox LED POWER: 6 A
 Maximum operating voltage Fox LED/Fox LED POWER outputs: 36 V
 - Maximum operating vo
 State LEDs: No
 - State LEDS: N
 - Manual control: No Power supply: 24 VDC
- PWM operating voltage: 195 Hz (± 10 Hz)
- Power consumption: 80 mA
- Communication: Fox BUS
- Addressing module: DIP switches
- Installation: switchboard DIN rail [TH-35]
- Width on the DIN rail: U/3

The module Fox LED in the Fox system

The module Fox LED needs to be connected with other system components through the Fox BUS rail. After the successful connection, the module shall be configured through the application FoxMaker.

Description of the device



- 1. Output connectors
- 2. Fox BUS connector (for the module Fox LED Power)
- 3. Module addressing switches
- 4. External power supply connector

Meaning of the address module switches

- 1-5 address
- 6 F1 inactive
- **7** F2 inactive
- 8 LED switch enables turning on and off the LED display

Functionality of the module housing

The module is designed for connection to the Fox BUS rail. A bus connector is built-in in a suitable spot of the housing, which guarantees an easy and correct connection to the other Fox system components.

3 | Installation and connection

Installation

The module Fox OUT is a device of the Fox BUS. It is designed for usage in switchboards on a DIN rail. **Module width on the rail - U/3 (52 mm).** Please follow the general installation instructions for the installation of the bus. **The installation work should done without any power supply.**

Connection

 Before powering the device, an address needs to be set. The addressing is done by changing the state of the switches located on the housing of the device – switch addressing [1-5] (see figure). In the project documentation you should note the device's address and its location in the building.



Then connect the Fox BUS communication and module power supply. You shall use the Fox BUS rails, there are right and left ones available (see figure).





Left and right Fox BUS rail

The Fox BUS rails are designed to connect up to four modules with the width U/6 each. We suggest to place module with a smaller width at the end of the left rail, and to place smaller ones at the beginning of the right rail.

3. Afterwards you need to connect the PE cable (see figure).



WARNING

Please tighten the screws 24 hours, after installing the connectors to the rail, to fix the electrical contact.

WARNING

Cables, that are longer than 15 metres, need to be shielded. Do not wire cables of local inputs close to electrical wires. The local inputs ignore electrical disturbances less than 20 ms.

- The next step is to connect the module outputs in a suitable manner to the circuits (see figure).
 - a) Connect LEDs to the module Fox LED



- 5. Connect the wires to the receivers, and also connect power supply cables.
- 6. After completing the installation, you can power the bus.

WARNING

The Fox BUS connection via power supply and communication cables is resistant to short-circuits up to -/+ 30 VDC.

7. Afterwards you can go on with the module configuration in the FoxMaker.

WARNING

Please note that you need, for the correct configuration of the Fox LED, the module Fox NET. The minimum needed for configuring the Fox system with Fox LED consists of Fox LED and Fox NET.

4 | Configuration

The device Fox LED needs to be configured through a computer and the application FoxMaker. It is a licensed freeware, and can be found on the producer's website www.nexwell.eu

1. The first step is to add a new device, in this case Fox LED, assign an unique name, and set the identical address, which was set during the connection process.



Screenshot FoxMaker – editor configuration Fox LED

WARNING

The module Fox LED can configure maximum eight LED or two RGB outputs. Any not configured inputs/outputs are marked in yellow colour – after their configuration/usage the colour disappears.

 Configuration of the RGB and LED outputs. To configure the output, you need to give it an unique name, and select the time from the *slope (Rampa)* list.

Slope, Rampa – is the length of the lightening time.



Screenshot FoxMaker - configuration of the outputs

3. The complete project can be added to the Fox system.

WARNING

For further details on creating and uploading a project to the Fox system, have a look on the documents of the FoxMaker. The current version can be downloaded from the producer's website: www.nexwell.eu