

### FEATURES

- 4 configurable outputs: shutter channels (up to 2), individual outputs (up to 4) and 2-pipe fan coil control (up to 1)
- Outputs suitable for capacitive loads, maximum 140 µF
- Manual output operation with push button and LED status indicator
- 10 logic functions
- Output timing
- Total data saving on KNX bus failure
- Integrated KNX BCU (TP1-256)
- Dimensions 67 x 90 x 36 mm (2 DIN units)
- DIN rail mounting according to IEC 60715 TH35, with fixing clamp
- Possibility of connecting different phases in adjacent outputs
- Conformity with the CE, UKCA, RCM directives (marks on the right side)

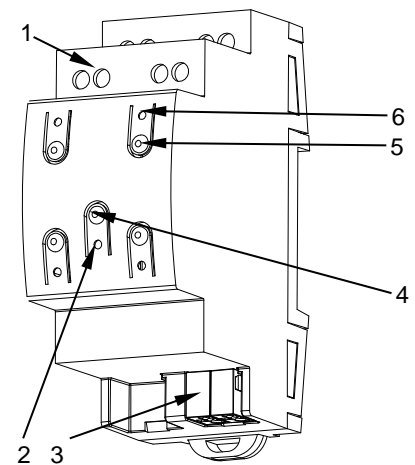


Figure 1: MINiBOX 40 v2

|                            |                          |                                |
|----------------------------|--------------------------|--------------------------------|
| 1. Upper outputs           | 2. Programming/test LED  | 3. KNX Connector               |
| 4. Programming/test button | 5. Output control button | 6. Output status LED indicator |

Programming/Test button: short press to set programming mode. If this button is held while plugging the device into the KNX bus, it enters the safe mode. If this button is held for more than 3 seconds, the device enters the test mode.

Programming/Test LED: programming mode indicator (red). When the device enters the safe mode, it blinks (red) every half second. The manual mode is indicated by the green color. During the start-up (reset or after KNX bus failure) and if the device is not in safe mode, it starts a blue blinking sequence.

| GENERAL SPECIFICATIONS                            |                     |  |             |     |
|---|---------------------|--|-------------|-----|
| CONCEPT   |                     | DESCRIPTION  |             |     |
| Type of device                                    |                     | Electric operation control device  |             |     |
| KNX supply  | Voltage (typical)   |  | 29 VDC SELV |     |
|   | Voltage range       |  | 21-31 VDC   |     |
|   | Maximum consumption | Voltage  | mA          | mW  |
|   |                     | 29 VDC (typical)   | 4           | 116 |
| 24 VDC <sup>1</sup>                               | 10                  | 240  |             |     |
| Connection type                                   |                     | Typical TP1 bus connector for 0.8 mm Ø rigid cable   |             |     |
| External power supply                             |                     | Not required   |             |     |
| Operation temperature                             |                     | 0 .. +55 °C  |             |     |
| Storage temperature                               |                     | -20 .. +55 °C  |             |     |
| Operation humidity                                |                     | 5 .. 95%   |             |     |
| Storage humidity                                  |                     | 5 .. 95%   |             |     |
| Complementary characteristics                     |                     | Class B  |             |     |
| Protection class / Overvoltage category           |                     | II / III (4000 V)  |             |     |
| Operation type                                    |                     | Continuous operation   |             |     |
| Device action type                                |                     | Type 1   |             |     |
| Electrical stress period                          |                     | Long   |             |     |
| Degree of protection / Pollution degree           |                     | IP20 / 2 (clean environment)   |             |     |
| Installation                                      |                     | Independent device to be mounted inside electrical panels with DIN rail (IEC 60715)                              |             |     |
| Minimum clearances                                |                     | Not required   |             |     |
| Response on KNX bus failure                       |                     | Data saving according to parameterization  |             |     |
| Response on KNX bus restart                       |                     | Data recovery according to parameterization  |             |     |
| Operation indicator                               |                     | The programming LED indicates programming mode (red) and test mode (green). Each output LED indicates its status |             |     |
| Weight  |                     | 91 g   |             |     |
| PCB CTI index                                     |                     | 175 V  |             |     |
| Housing material / Ball pressure test temperature |                     | PC FR V0 halogen free / 75 °C (housing) - 125 °C (connectors)  |             |     |

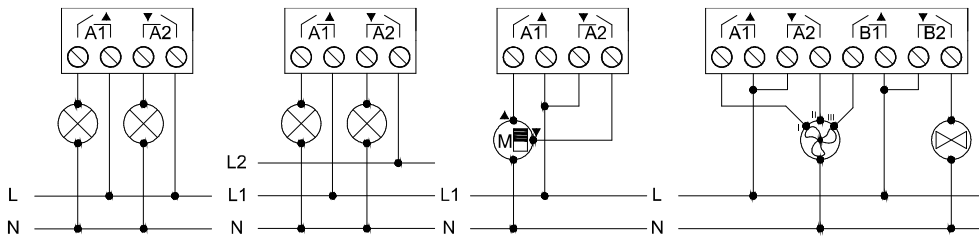
<sup>1</sup> Maximum consumption in the worst-case scenario (KNX Fan-In model).

## OUTPUTS SPECIFICATIONS AND CONNECTIONS

| CONCEPT  | DESCRIPTION  |         |
|--|--|---------|
| Number of outputs                              | 4  |         |
| Output type / Disconnection type               | Potential-free outputs through bistable relays with tungsten pre-contact / Micro-disconnection   |         |
| Rated current per output                       | AC 16(6) A @ 250 VAC (4000 VA)<br>DC 7 A @ 30 VDC (210 W)  |         |
| Maximum load per output                        | Resistive  | 4000 W  |
|  | Inductive  | 1500 VA |
| Maximum inrush current                         | 800 A/200 $\mu$ s<br>165 A/20 ms   |         |
| Connections in adjacent outputs                | Possibility of connecting different phases. It is not allowed to connect power supplies of different order, SELV with NO SELV, in the same block |         |
| Total maximum current in device                | 40 A   |         |
| Short-circuit protection                       | NO   |         |
| Overload protection                            | NO   |         |
| Connection method                              | Screw terminal block (0.5 Nm max.)   |         |
| Cable cross-section                            | 0.5-4 mm <sup>2</sup> (IEC) / 20-12 AWG (UL)   |         |
| Outputs per common                             | 1  |         |
| Maximum response time                          | 10 ms  |         |
| Mechanical lifetime (min. cycles)              | 3 000 000  |         |
| Electrical lifetime (min. cycles) <sup>1</sup> | 100000 @ 8 A / 25000 @ 16 A (VAC)  |         |

<sup>1</sup> Lifetime values could change depending on the load type.

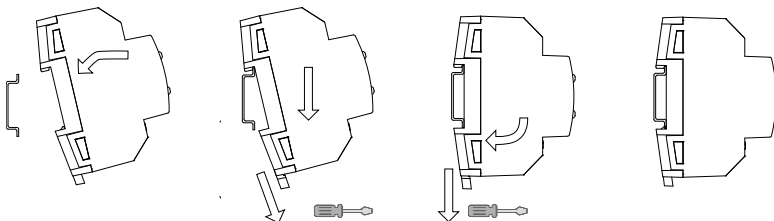
### WIRING DIAGRAMS



⚠ In order to ensure the expected status of the relays, please check that the device is connected to the KNX bus before energizing the power circuit.

Figure 2: Wiring example (from left to right): 2 loads, 2 loads connected to different phases, shutter and fan coil

Attaching MINiBOX 40 v2 to DIN rail:



Removing MINiBOX 40 v2 from DIN rail:

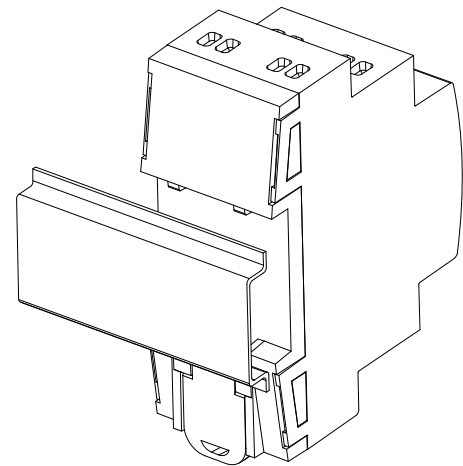
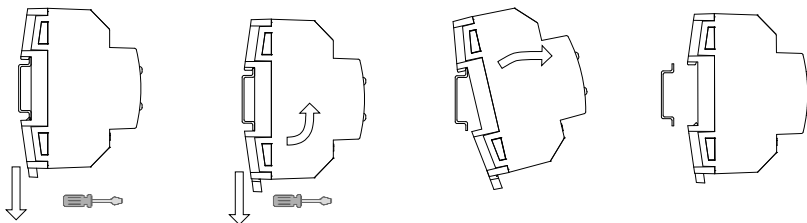


Figure 3: Mounting MINiBOX 40 v2 on DIN rail

### SAFETY INSTRUCTIONS AND ADDITIONAL NOTES

- Installation should only be performed by qualified professionals according to the laws and regulations applicable in each country.
- Do not connect the mains voltage nor any other external voltage to any point of the KNX bus; it would represent a risk for the entire KNX system. The facility must have enough insulation between the mains (or auxiliary) voltage and the KNX bus or the wires of other accessories, in case of being installed.
- Once the device is installed (in the panel or box), it must not be accessible from outside.
- Keep the device away from water (condensation over the device included) and do not cover it with clothes, paper or any other material while in use.
- The WEEE logo means that this device contains electronic parts and it must be properly disposed of by following the instructions at <https://www.zennio.com/en/legal/wEEE-regulation>.
- This device contains software subject to specific licences. For details, please refer to <http://zennio.com/licenses>.