

CBBEXP MTN649315

CBBEXP MTN649315 Universal Dimming Actuator Instruction Manual

1. INTRODUCTION

This instruction manual provides essential information for the safe and efficient installation, operation, and maintenance of the CBBEXP MTN649315 Universal Dimming Actuator. Please read this manual thoroughly before installation and operation to ensure proper functionality and to prevent potential hazards.

The MTN649315 is a universal dimming actuator designed for integration into KNX building automation systems. It allows for the control of various dimmable loads, providing flexible lighting solutions.

2. SAFETY INFORMATION

WARNING: Electrical shock hazard. Installation and maintenance must only be performed by a qualified electrician in accordance with national and local electrical codes and regulations.

- Always disconnect power before installing, servicing, or removing the device.
- Ensure proper grounding.
- Do not operate the device if it is damaged.
- Protect the device from moisture, dirt, and extreme temperatures.
- Observe the specified technical data and connection diagrams.

3. PRODUCT OVERVIEW

The CBBEXP MTN649315 is a DIN rail mounted universal dimming actuator. It features multiple channels for dimming control and indicators for operational status.



Figure 1: Front view of the CBBEXP MTN649315 Universal Dimming Actuator. The image displays the device with its model number MTN649315 on the left side, "Universal dimming actuator" text, and the KNX logo on the right. It shows four output channels labeled 1 through 4, each with associated status LEDs (ON, RUN, ERROR) and programming buttons. The top section includes the 'address', 'BUS LED', and 'Prog.' indicators, along with symbols for TP1, S, RLC load types, and a programming button. The bottom section reveals the terminal connections for Line (L), Neutral (N), and four dimming outputs (1x, 2x, 3x, 4x).

3.1. Components and Indicators

- **Model Number (MTN649315):** Located on the left side of the device.
- **KNX Logo:** Indicates compatibility with the KNX bus system.
- **Programming Button (Prog.):** Used for addressing and configuration within the KNX system.
- **BUS LED:** Indicates the status of the KNX bus communication.
- **Channel Status LEDs (ON, RUN, ERROR):**
 - **ON:** Indicates the channel is active.
 - **RUN:** Indicates normal operation.
 - **ERROR:** Indicates a fault condition for the respective channel.
- **Output Terminals (1x, 2x, 3x, 4x):** Connections for dimmable loads.
- **Power Supply Terminals (L, N):** Connections for the main power supply (AC 220-230V).

4. SETUP AND INSTALLATION

4.1. Mounting

The MTN649315 is designed for DIN rail mounting in an electrical distribution board. Ensure sufficient space for ventilation and access to terminals.

1. Switch off the main power supply to the installation.
2. Snap the device onto a standard 35mm DIN rail.
3. Ensure the device is securely fastened.

4.2. Wiring

Connect the device according to the wiring diagram below and local electrical regulations. Use appropriate cable cross-sections.

- **Power Supply:** Connect the Line (L) and Neutral (N) conductors to the corresponding terminals at the bottom left of the device. The device operates on AC 220-230V, 50/60 Hz.
- **Load Connections:** Connect the dimmable loads to the output terminals labeled 1x, 2x, 3x, 4x. Each output supports loads from 50VA to 150VA. Ensure the total load does not exceed the device's specifications.
- **KNX Bus Connection:** Connect the KNX bus cable (typically red/black or green/white twisted pair) to the KNX bus terminals (TP1 S) located on the top section of the device. Observe polarity.

After all connections are made, double-check the wiring for correctness and security before restoring power.

5. OPERATING INSTRUCTIONS

5.1. Initial Power-Up

Once power is restored, the device will perform a self-test. Observe the status LEDs:

- The **BUS LED** should illuminate, indicating successful KNX bus communication.
- The **RUN LEDs** for each channel should illuminate, indicating normal operation.
- If an **ERROR LED** illuminates, refer to the Troubleshooting section.

5.2. KNX Programming

The MTN649315 requires configuration using the KNX Engineering Tool Software (ETS). This involves assigning a physical address and configuring the dimming parameters for each channel.

1. Press the **Programming button (Prog.)** on the device. The BUS LED will typically flash or change color to indicate programming mode.
2. Use the ETS software to download the application program and assign the physical address to the device.
3. Configure the dimming curves, minimum/maximum dimming values, and other specific functions for each output channel as required by your lighting setup.

5.3. Dimming Control

Once programmed, the dimming actuator will respond to commands sent over the KNX bus from other KNX devices (e.g., push-buttons, sensors, touch panels). These commands will control the brightness of the connected loads.

6. MAINTENANCE

The CBBEXP MTN649315 Universal Dimming Actuator is designed for maintenance-free operation. However, periodic checks are recommended:

- Ensure the device is free from dust and debris. Clean with a dry, soft cloth if necessary.
- Periodically check terminal connections for tightness, especially in environments with vibrations.
- Verify that all status LEDs indicate normal operation.

Do not attempt to open or repair the device. Refer all servicing to qualified personnel.

7. TROUBLESHOOTING

This section provides solutions to common issues. For problems not listed here, contact technical support.

Problem	Possible Cause	Solution
BUS LED is off or flashing irregularly.	No KNX bus voltage or faulty bus connection.	Check KNX bus power supply and bus cable connections. Ensure correct polarity.
ERROR LED is illuminated for a channel.	Overload, short circuit, or incompatible load connected to the channel.	Disconnect the load and check for short circuits. Verify the load type and power consumption are within specifications. Reset power to the device.
Connected light does not dim or respond.	Incorrect wiring, no power to the load, or incorrect KNX programming.	Check load wiring and power supply. Verify KNX programming in ETS, including physical address and group addresses. Ensure the load is dimmable.
Device does not respond to programming.	Programming button not pressed, or KNX bus communication issue.	Ensure the programming button is pressed before attempting to download. Check BUS LED status and KNX bus connection.

8. SPECIFICATIONS

Model Number	MTN649315
Type	Universal Dimming Actuator
Brand	CBBEXP
Channels	4
Load per Channel	50-150VA
Total Load	4x50-150VA (REG-K/4x230/150W)
Operating Voltage	AC 220-230V, 50/60 Hz
Bus System	KNX
Mounting	DIN Rail

9. WARRANTY INFORMATION

The CBBEXP MTN649315 Universal Dimming Actuator comes with a **One-Year Warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use. It does not cover damage resulting from improper installation, misuse, unauthorized modification, or external causes such as accidents or power surges.

Please retain your proof of purchase for warranty claims.

10. SUPPORT

For technical assistance, troubleshooting beyond this manual, or warranty inquiries, please contact your supplier or the manufacturer's customer support. Provide the model number (MTN649315) and a detailed description of the issue when seeking support.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question