

## EVB Error Recovery and Analysis for the BIM M13X EVB Version 1.3

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## 1 Introduction

The BIM-EVB (Evaluation Board) is based on the BIM circuit. It has nearly the same electrical characteristics as the BIM.

## 2 Error Analysis

This Step by Step guide helps you to test and analyze possible error conditions of the EVB. Possible errors are:

- No reaction if the programming button is pressed
- Unable to load a program by KNX
- Unable to load a program with the OCD

### 2.1 STEP 1: Preparation

Please remove all cables and connections from the EVB. Check that only JP6 is shortened by a jumper. Now connect the KNX line to JP1. Check the polarity of the KNX line with the marking on the board.

### 2.2 STEP 2: Check hardware

Now measure the VDD Voltage. It should be in the range from 17V to 23V (nominal 19V). If there is no VDD voltage check the KNX Line voltage. The KNX Line voltage should be in the range from 21V to 30V. Now check the VCC voltage (4.65V to 5.3V). Go to the next step if both voltages are ok. If not the EVB has a hardware defect.

### 2.3 STEP 3: Check system software

Press now the programming button of the EVB.

- If the LED is on: Everything is o.k.
- If the LED is only on for a short time: Error in user application, go to step 4
- If nothing happens: the system software may be defect, go to step 5 to reload it.

### 2.4 STEP 4: Stop user application

You can remove a malfunction user program with two methods:

- Use the OCD and start a new debugging session
- Connect the board with this sequence:
  - Disconnect the KNX line
  - Press and hold the programming button
  - Reconnect KNX line, release programming button after the led is on
  - The user application will not be started if the board is connected this way. You can now reload a new application

If everything is o.k. go to step 5.

### 2.5 STEP 5: Connect the OCD

Check if the MiniCube 2 (OCD) is set to mode M2 and the VCC switch is set to mode 5. Connect the NEC78K adapter to the OCD. Remove any oscillator from the adapter. Connect the adapter (CN3) with JP3. Connect the USB Cable to your computer. Attention: There is no galvanic separation between the computer and the EVB!

### 2.6 STEP 6: Reload the system software

If it is necessary reload the system application according to the "BIM M13x Getting Started".