

EVB90632

User manual

Dear Melexis Customer,

Thank you for your interest in the MLX90632 infrared temperature sensor.
In this document, the hardware and software for the MLX90632 Evaluation kit is described.

For software and manual please refer to the following address:

www.melexis.com/EVB90632

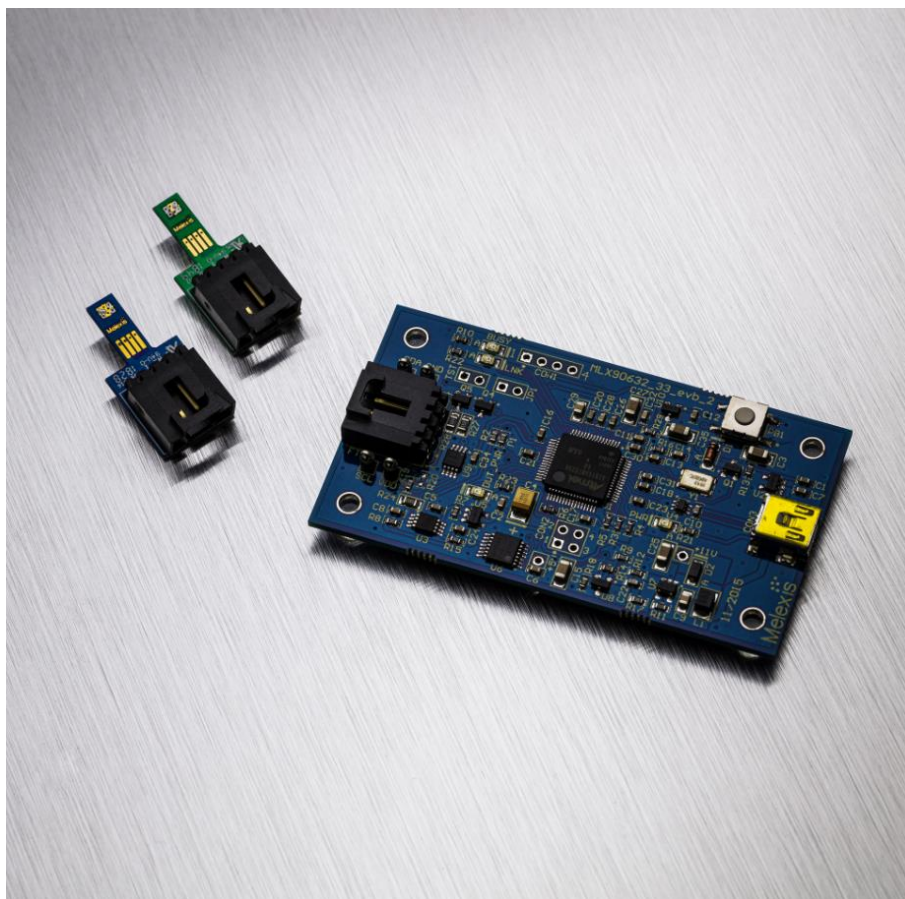
Check our website for more information www.melexis.com or contact your distributor.

1. Introduction

The EVB90632 is an easy interface between the SMD MLX90632 infrared thermometer and a Windows PC.

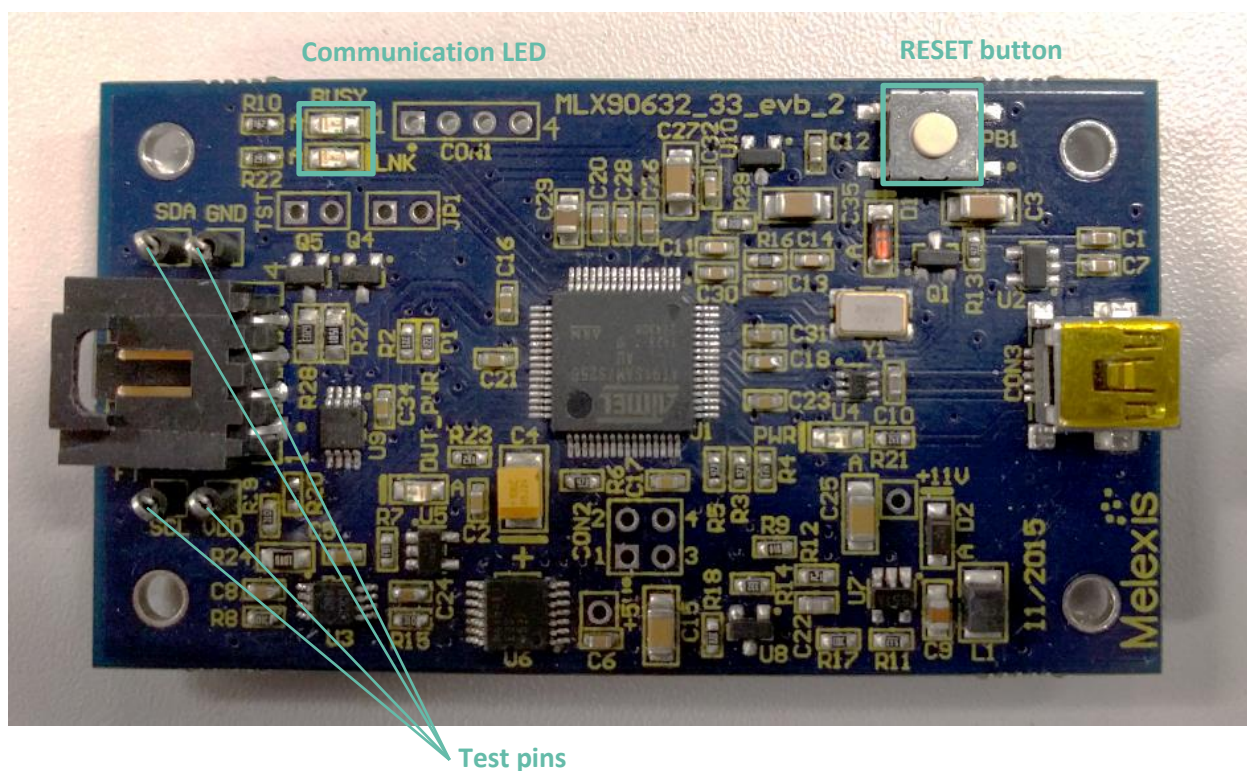
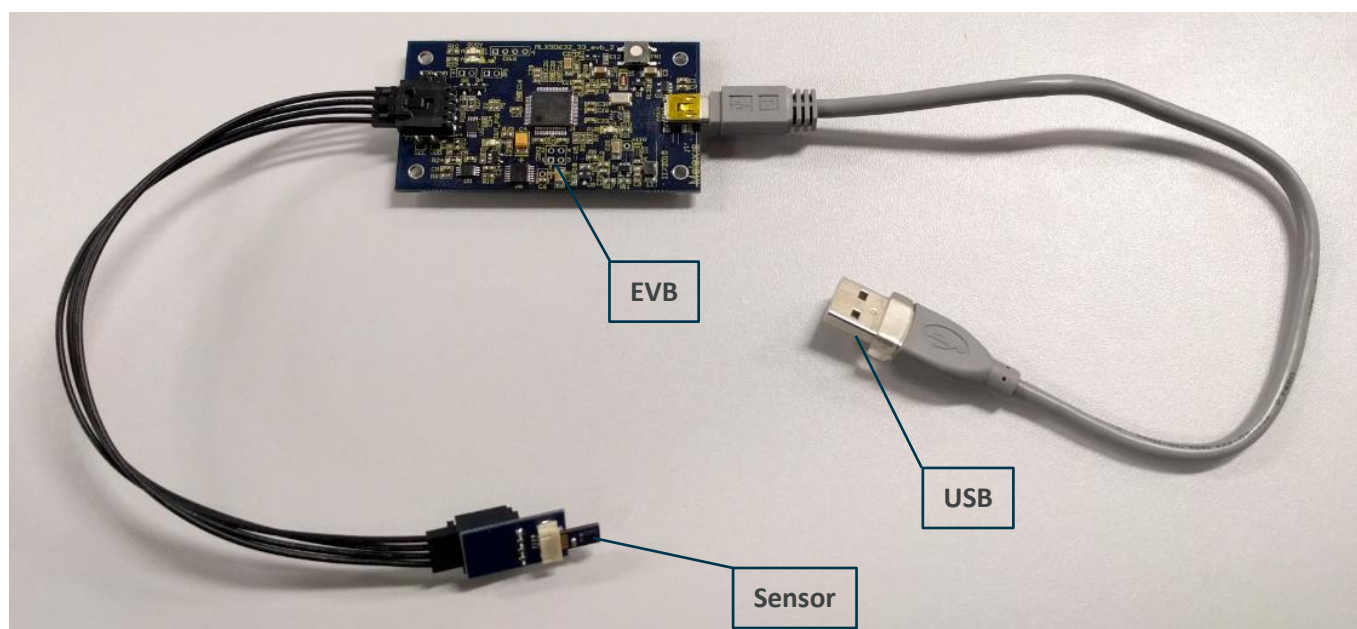
With this evaluation board one can quickly and easily perform a first test with the [MLX90632](#).

It also gives access to the internal settings of the sensor to adjust the sensor to a specific application by changing optical window compensation constants, the refresh rate or the I²C address of the sensor.



2. Hardware

- Comes with two MLX90632 soldered on separate PCB's
 - ❑ Standard version on **blue** PCB
 - ❑ Medical version on **green** PCB
- Cable for connecting EVB with sensor
- HID USB interface, Mini-b connector
- Test pins to sniff the I²C bus



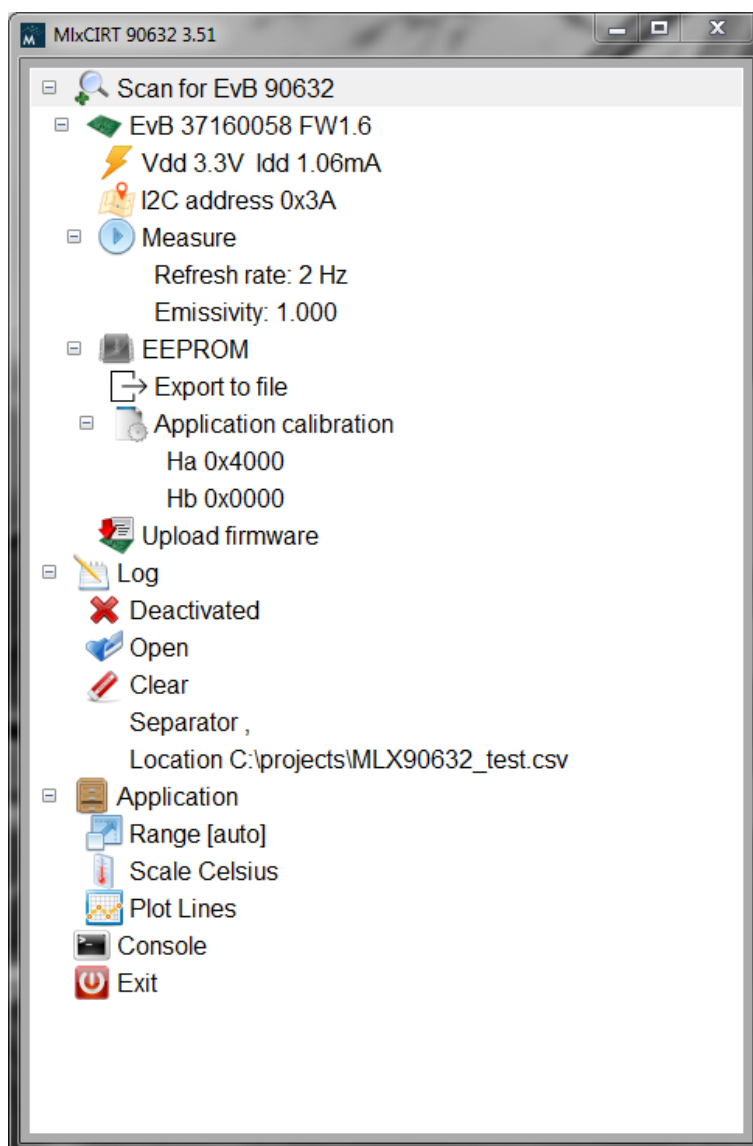
3. Software

3.1. Installation

- Download and install the latest [EVB90632](#) software
- After installation connect the EVB90632 to the PC
- Wait until the board is recognized in Windows
- Open “MlxCIRT 90632”

3.2. Application settings

When the application is started, the software will automatically search for connected Evaluation boards. The following status is shown when an EVB90632 is detected.



3.2.1. Scan for EVB 90632

- *EvB xxxxxxxx FW1.6*

Hardware ID and firmware version

- ❑ *Vdd 3.3V Idd 1.06mA*

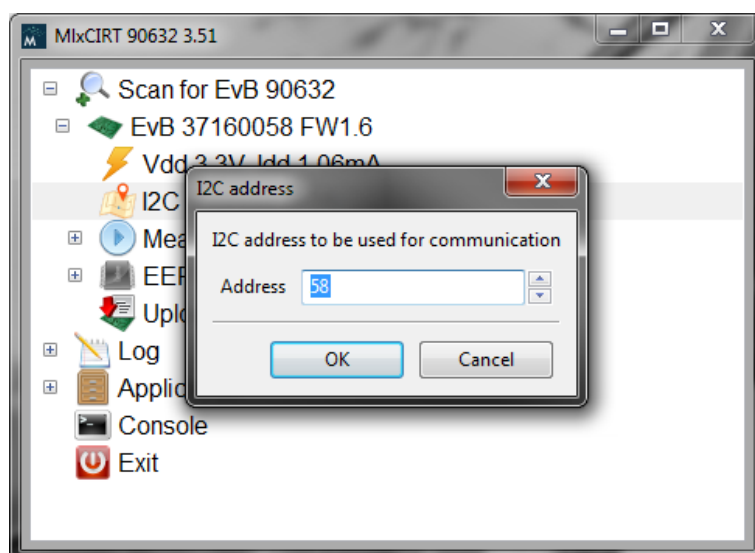
Voltage and current consumption

- ❑ *I2C address 0x3A*

Master I²C address (does not change the I²C address of the sensor itself)

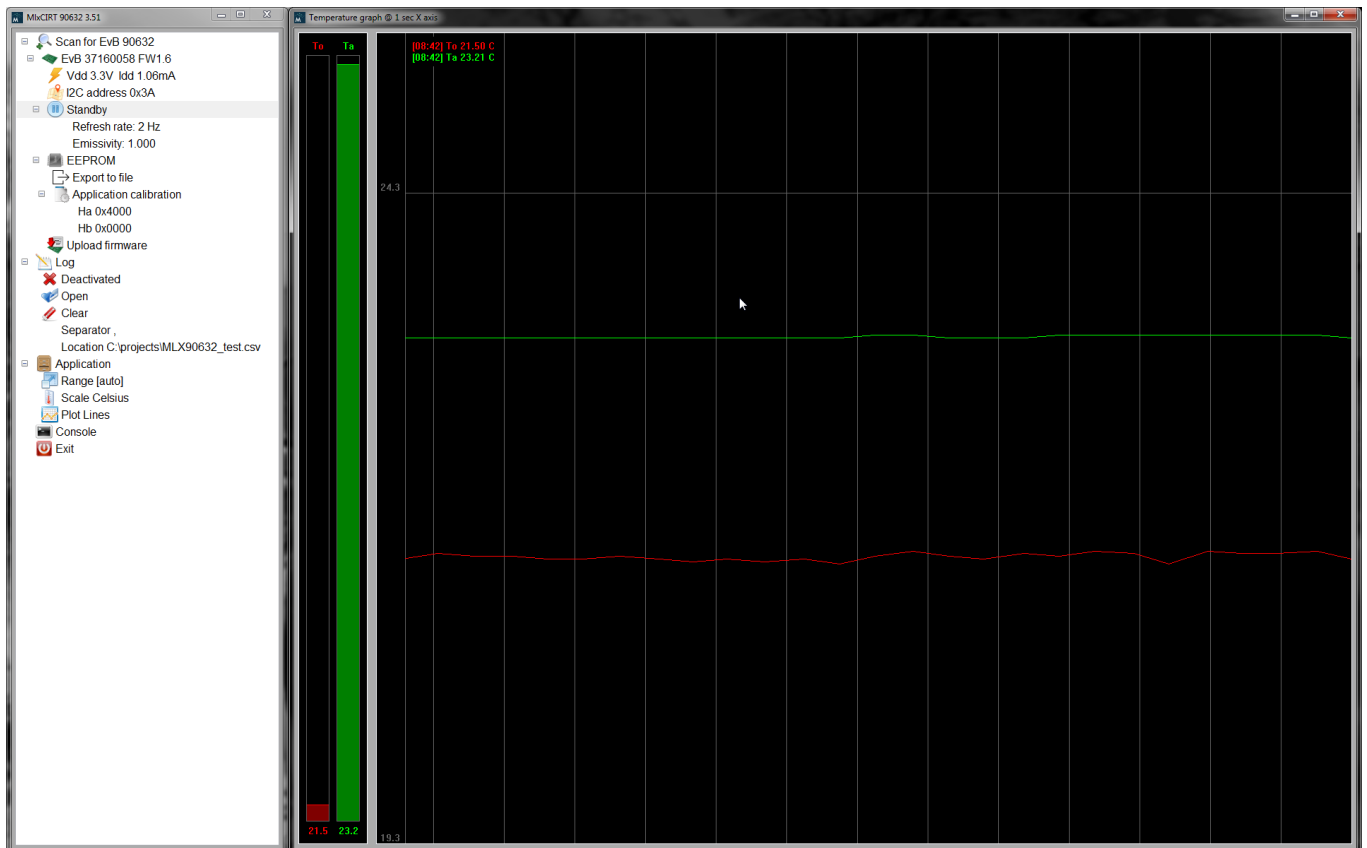
Note:

The input value is in decimal format



Measure

Double click to start measuring

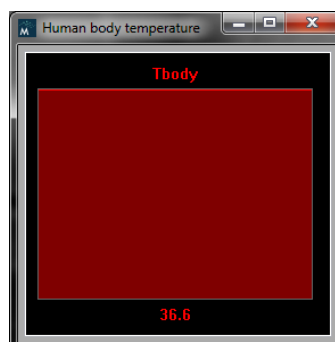


Hover the mouse pointer over the graph to show ambient and object temperature in left top corner

An additional window is shown when the medically calibrated sensor is connected.

The sensor can now be used as forehead thermometer.

The result shows the human body temperature based on the forehead temperature.



- *Refresh rate: 2Hz (default)*

Writes the desired refresh rate to EEPROM measurement settings

Measurement speed will adapt to the selected speed immediately

Other refresh rate can be chosen according to the application needs

Note:

The MLX90632 is factory calibrated at 2Hz.

Changing the refresh rate will affect the noise performance of the device.

Due to hardware limitations of the EVB, the refresh rates 32Hz and 64Hz are limited to 50ms readout speed.

The sensor itself will update at the selected refresh rate.

- *Emissivity: 1.000*

Emissivity parameter is directly linked to the object temperature calculation as described in the datasheet

❏ *EEPROM*

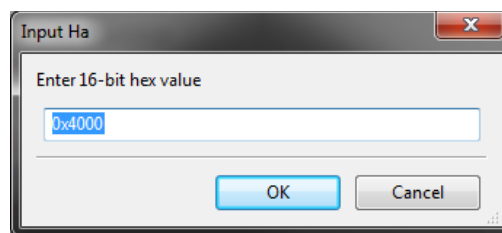
- *Export to file*

Exports the EEPROM data to .bin file

- *Application calibration parameters*

Double click the desired parameter in order to change it

- *Ha 0x4000*
- *Hb 0x0000*



The parameters are used in the object calculation formula for post calibration.

Melexis provides a tool for easy Ha and Hb calculation.

Please contact your distributor for more information on post calibration.

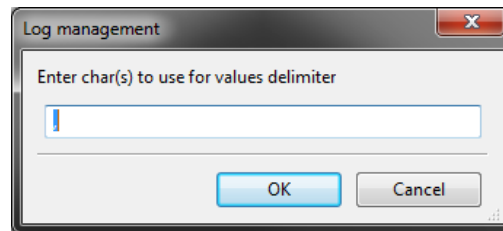
❏ *Upload firmware*

Possibility to upload firmware for Evaluation board

Please do not use this function unless Melexis specifically asks to upload new firmware

3.2.2. Log

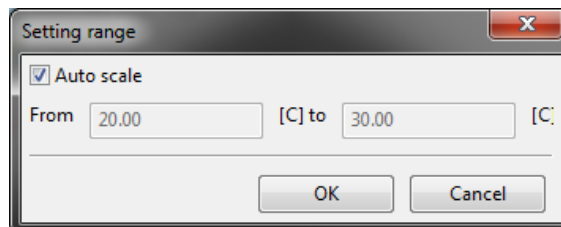
- *Activated/Deactivated*
Double click to activate or deactivate logging
- *Open*
Opens the current log file
- *Clear*
Clears the current log file
- *Separator ,*
Separator to be used for logging
By default the tab separator (|) is used
For Excel processing, the comma separator (,) is advised
The separator can be changed by double clicking



- *Location C:\...\xxxxx.csv*
Location of the log file can be set here

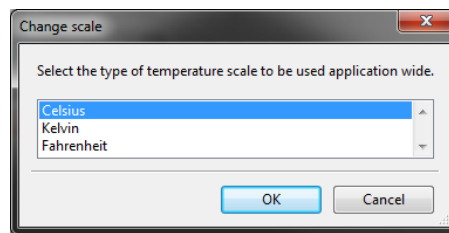
3.2.3. Application

- *Range [auto]*
Temperature scale during measurement can be set to manual or automatic



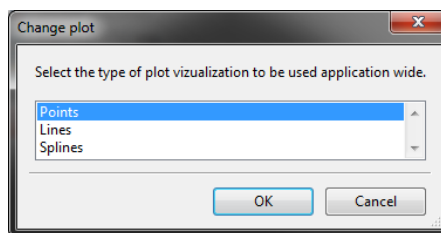
- *Scale Celsius*

Unit for temperature value



- *Plot Lines*

Type of plot for measurement graph



3.2.4. Console

Melexis internal use only.

3.2.5. Exit

Closes the application.

4. Disclaimer

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The information furnished by Melexis is believed to be correct and accurate. However, this User Manual is intended as an aid to enable a user to install engineering parts of the MLX90632 into his own application for evaluation. While Melexis intends for the final production part of the MLX90632 to be comparable to the engineering parts, it is highly probable that changes will still be implemented.

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