

# Melexis EVK75027

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## Application Note 1: Hidden Functions

Version 1

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**Melexis EVK75027** – Application Note 1: Hidden Functions

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# 1 General Information

This guide applies to the Melexis EVK75027 from BECOM Systems and the MLX75027 ToF sensor.

It contains a short description of firmware functionality that is not communicated to customers in the Software User Manual because of its confidentiality.

**The document applies to product V0.11.x**

## 1.1 Symbols Used

This guide makes use of a few symbols and conventions:



### Warning

Indicates a situation which, if not avoided, could result in minor or moderate injury and/or property damage or damage to the device.



### Caution

Indicates a situation which, if not avoided, may result in minor damage to the device, in malfunction of the device or in data loss.



### Note

Notes provide information on special issues related to the device or provide information that will make operation of the device easier.



### Procedures

**A procedure always starts with a headline**



1. The number indicates the step number of a certain procedure you are expected to follow.

Steps are numbered sequentially.

This sign ➤ indicates an expected result of your action.



### References

This symbol ➡ indicates a cross reference to a different chapter of this manual or to an external document.

## 2 Feature Description

### 2.1 Saving registers as Factory Default

In order to save the register map as factory default please execute the following steps:

- 1) Register **CmdEnablePasswd** 0x0022: Write value 0x9C65
- 2) Register **CmdExec** 0x0033: Write value 0x19D6

### 2.2 Direct access to MLX75027 registers

The control interface allows direct access to the MLX75027's registers. Register addresses are shifted by 0x8000 to be addressable alongside the control interface registers:

Register name	MLX75027 Register Address	Control Interface Register Address
REG_MLX75027_0000	0x0000	0x8000
REG_MLX75027_0001	0x0001	0x8001
...	...	...
REG_MLX75027_532F	0x532F	0xD32F

Table 1: Register mapping from MLX75027 to Control Interface

Sensor registers can not be saved alongside the camera registers. See chapter 6 for information on how to change sensor register settings permanently.

### 2.3 MLX75027 initialization register map

At startup, the MLX75027 sensor is initialized with a sequence of register writes read from the camera's nonvolatile memory.

A default initialization file named `init_027_v001.csv` (the number value in v001 refers to the file version and might increase in the future) is located at `/mnt/settings/`.

An override file named `override_027.csv` can be placed at `/mnt/user/` to change values from the default initialization file or to add additional values.

Both files must follow the following file structure and must use Unix/Linux style line endings.

Line Number	Example Value	Description
0	0x1234	Type identifier: 0x1234 for an initialization file, 0x4321 for an override file
1	0x1	File header version
2	0x1	File version (ignored)
3	This is an example	Custom string for file description
4	---	Mandatory separator
5 (...)	0x1006; 0x08	Register: (sensor) address; value

Table 2: Initialization file structure



**Caution**

Please consult the MLX75027 sensor datasheet prior to changing any sensor registers. Improper use of this feature may result in incorrect data or even permanent damage to the Melexis EVK75027.

### 3 Document Revision History

Version	Date	Document Revision
1	2019 03 13	Initial version of the document

Table 3: Document revision history



## A List of Figures and Table

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