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ams OSRAM TMF8X0X 1D Time of Flight Sensor User Guide

**OSRAM TMF8X0X 1D Time of Flight Sensor
User Guide**

Contents

Log File Format

This document describes the log file format of the TMF8X0X EVM GUI. The user shall be able to log all data, which the TMF8X0X EVM GUI displays, into a single log file.

1.1 Overview
The TMF8X0X EVM GUI uses CSV as output format for the log file.
The first two lines are always (to allow usage independent of the Excel regional settings): sep=; VersionGUI "<version of the used GUI>"
After that, the TMF8X0X EVM GUI adds a header line for each tag with the description of fields. This is the same format as in the data lines but instead of actual data there is a field description.
All but the very first two lines always start with a hash mark "#" and the content as described in the next sections.

Tags

2.1 #OBJ Object Detection Result

Figure 1:
#OBJ Field Numbers and Description

Field #	Description
1	#OBJ – line tag
2	Timestamp in milliseconds since 1st January 1970.
3	Number of detected objects – for TMF8701 always '1', for TMF880x see datasheet.
	The following fields are only filled if the number of detected objects is > 0.
4	Confidence level of object: (0-63, 63 best, 0-no object detected), where 10 and 20 is used also by the proximity algorithm.
5	Distance of detected object (center) in [mm].
6	Reference photon count.
7	Object photon count.

2.2 #PT0 … #PT4 Short Distance Histogram Data Figure 2:

#PTX Field Numbers and Description

Field #	Description
1	#PT0 … #PT4 – line tag
2 – 257	Target data histogram with 256 entries, each entry 5 characters wide with decimal encoding, valid values are 00000 to 65535.

2.3 #TG0 … #TG4 Distance Measurement Histogram Data

Field #	Description
1	#TG0 … #TG4 – line tag

2.4 #SUM Target Measurement Histogram Data Sum

Figure 4:
#SUM Field Numbers and Description

Field #	Description
1	#SUM – line tag
2 – 257	Sum of selected channels from TG1 … TG4 data histogram with 256 entries, each entry 5 characters wide with decimal encoding, valid values are 00000 to 65535.

2.5 #CI0 … #CI4 Internal Electrical Calibration Histogram Data

Figure 5:
#CIX Field Numbers and Description

Field #	Description
1	#CI0 … #CI4 – line tag
2 – 257	Calibration histogram data with 256 entries, each entry 5 characters wide with decimal encoding, valid values are 00000 to 65535.

2.6 #CO0 Optical Calibration Histogram Data
Figure 6:
#CO0 Field Numbers and Description

Field #	Description
1	#CO0 – line tag
2 – 257	Calibration histogram data with 256 entries, each entry 5 characters wide with decimal encoding, valid values are 00000 to 65535.

2.7 #CAL Calibration Data
The result of a calibration operation. Basically an unstructured blob of data.
Figure 7:
#CAL Field Numbers and Description

Field #	Description
1	#CAL – line tag
2	Calibration operation: 00 … new calibration, 01 … clear calibration, 02 … get current calibration.
3 …	Calibration data blob, 2 character hex values.

2.8 #VER Version
Figure 8:
#VER Field Numbers and Description

Field #	Description
1	#VER – line tag
2	Serial number of the ToF sensor.
3	Version of the application firmware running on the ToF sensor.
4	GUI version.
5	Host driver version.

2.9 #TMP ToF Sensor Temperature
Figure 9:
#TMP Field Numbers and Description

Field #	Description
1	#TMP – line tag
2	Temperature of the ToF sensor in degrees Celsius

2.10 #ITT Iterations and Object Detection Threshold
Figure 10:
#ITT Field Numbers and Description

Field #	Description
1	#ITT – line tag
2	Iterations
3	Object detection threshold

Revision Information

Changes from previous version to current revision v1-00
Initial version

- Page and figure numbers for the previous version may differ from page and figure numbers in the current revision.
- Correction of typographical errors is not explicitly mentioned.

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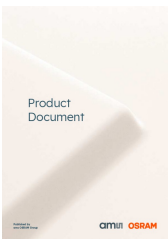
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Product Document	**ams OSRAM TMF8X0X 1D Time of Flight Sensor** [pdf] User Guide TMF8X0X 1D Time of Flight Sensor, TMF8X0X, 1D Time of Flight Sensor, Flight Sensor

References

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