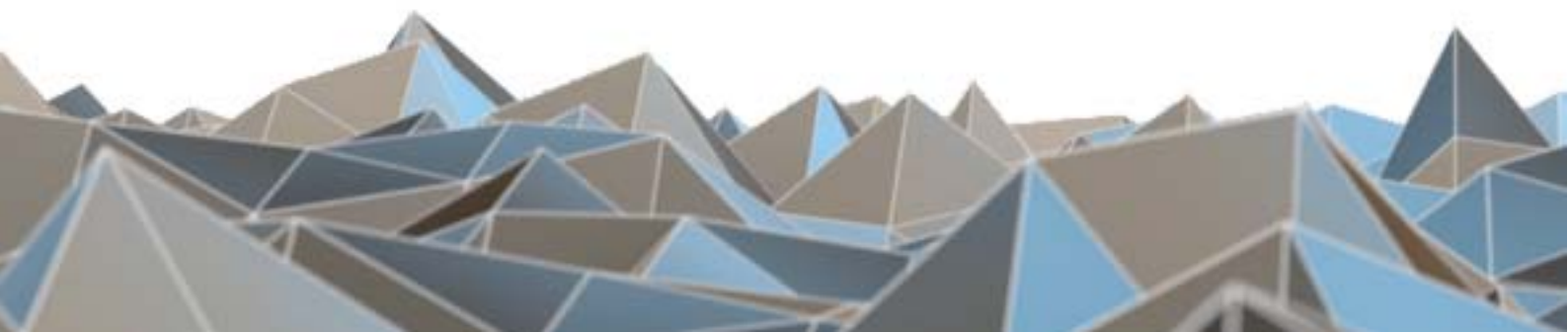


BLUETECHNIX
Embedding Ideas

Sentis-ToF – P510

Quick Start Guide

Version 1





Bluetechnix

Waidhausenstraße 3/19
A-1140 Vienna
AUSTRIA

office@bluetechnix.com
www.bluetechnix.com

Sentis-ToF-P510-Quick Start Guide

Document No.: 900-308 / A

Publication date: February 23, 2015

Subject to change without notice. Errors excepted.

This document is protected by copyright. All rights reserved. No part of this document may be reproduced or transmitted for any purpose in any form or by any means, electronically or mechanically, without expressly written permission by Bluetechnix GmbH.

Windows is a registered trademark of Microsoft.



Table of Contents

1	Unboxing	5
1.1	In the box	5
1.2	Connecting your Sentis-ToF-P510 Eval-Kit.....	5
1.3	Connector Overview	6
1.4	Power Connector (a)	7
1.5	GBit Ethernet Connector (b).....	7
1.6	Extension Connector (c).....	8
1.7	Overview of the Test Set-up	9
2	Downloading the Evaluation Software	10
2.1	Support website	10
2.2	Start-up screen	11
2.3	Prepare your Network Interface Card (NIC).....	11
3	Start using your Sentis-ToF-P510 with 'BitToFSuite'	12
4	System Requirements & Support.....	15
4.1	Bluetechnix ToF Suite	15
4.2	Support	15
5	Product History	16
5.1	Version Information	16
5.1.1	Sentis-ToF-P510.....	16
5.2	Anomalies.....	16
5.3	Document Revision History	16

© Bluetechnix 2015

All Rights Reserved.

The information herein is given to describe certain components and shall not be considered as a guarantee of characteristics.

Terms of delivery and rights of technical change reserved.

We hereby disclaim any warranties, including but not limited to warranties of non-infringement, regarding circuits, descriptions and charts stated herein.

Bluetechnix makes and you receive no warranties or conditions, express, implied, statutory or in any communication with you. Bluetechnix specifically disclaims any implied warranty of merchantability or fitness for a particular purpose.

Bluetechnix takes no liability for any damages and errors causing of the usage of this board. The user of this board is responsible by himself for the functionality of his application. He is allowed to use the board only if he has the qualification. More information is found in the General Terms and Conditions (AGB).

Information

For further information on technology, delivery terms and conditions and prices please contact Bluetechnix (<http://www.bluetechnix.com>).

Warning

Due to technical requirements components may contain dangerous substances.



1 Unboxing

1.1 In the box

- Sentis-ToF-P510 Evaluation-Board
- CAT5/7 Ethernet Cable
- Quick Start Guide
- Customer Software Package CD
- Power Supply *
- Netzkabel (Kaltgeräte-kable)



*** Note**

The power supply's operating temperature is specified from 0 to +40°C. This represents not the effective working temperature of the Sentis-ToF-P510 sensor!

1.2 Connecting your Sentis-ToF-P510 Eval-Kit



Figure 1-2: Sentis-ToF-P510 connector compartment screw positions

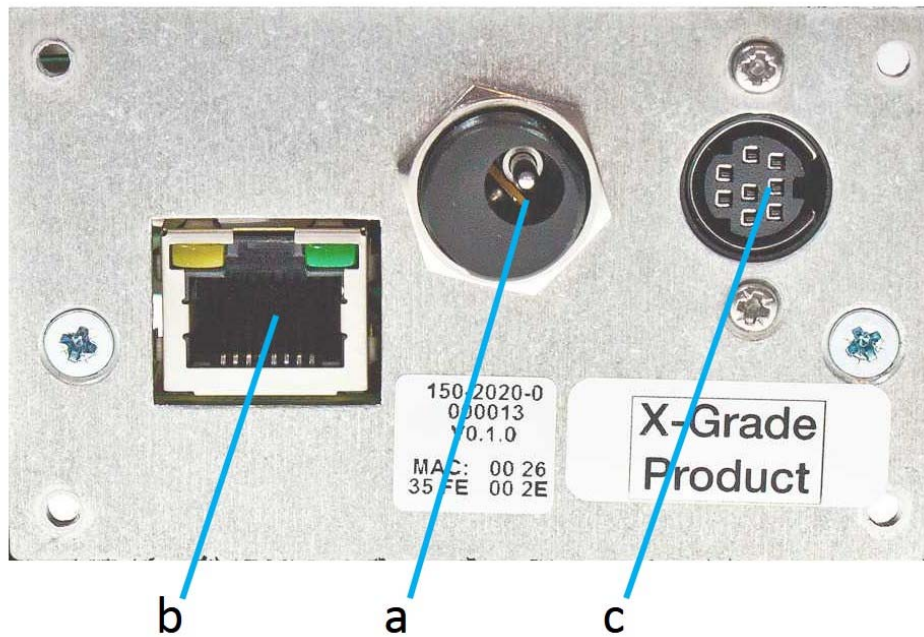


Figure 1-3: Front panel view

1.3 Connector Overview

- a. Power Supply
- b. GBit Ethernet (RJ45) 10/100/1000 Base-T
- c. Extension Connector

Figure 1-1: Sentis-ToF-P510 connectors and interfaces



Note

Please follow the next steps in the right order to get your 'Sentis-ToF-P510' up and running correctly.

1.4 Power Connector (a)

Pin assignment on the power connector:

Connector Type: 2.1mm ID / 5.5mm OD

Voltage: 18-30V



Note

Use inherently limited power sources only!

The power supply connector is protected against wrong polarity but the 'Sentis-ToF-P510' will not work in case you don't use the correct polarity! If the Sentis-ToF-P510 doesn't work please check the power supply polarity first!

To ensure, that your Sentis-ToF-P510 works correctly, connect the 'Sentis-ToF-P510' to a **12-30V DC** power supply using connector **(a)** and wait for approximately 20 seconds until the camera boots up.

1.5 GBit Ethernet Connector (b)

This standard RJ45 connector provides a 10/100/1000 Base-T interface to the Sentis ToF - P510.

Plug in the Ethernet cable **(b)** and connect your Sentis-ToF-P510 to your PC.

1.6 Extension Connector (c)

The Mini-DIN 8 connector provides several interfaces to connect the Sentis ToF - P510 to external devices.

No.	Signal	Type	Description
1	GND	Power	Ground
2	nRESET	Input (100k pu)	Reset input (active low)
3	TRIGGER_IN	Input (100 pd)	Trigger input, 10-30V
4	OWIRE	Output	External OWIRE interface
5	MOD_P	Output	External Light modulation signal, differential, positive
6	MOD_N	Output	External Light modulation signal, differential, negative
7	GPIO	In-/Output	General purpose I/O (galvanic isolated)
8	Reserved	-	-

Table 1-1: Power connector pin-out



Note:

To use the output functionality of the GPIO pin an external pull-up resistor is necessary. This pull-up must be designed for a minimum current of 13mA. (e.g 1k5 pull-up to 20V)

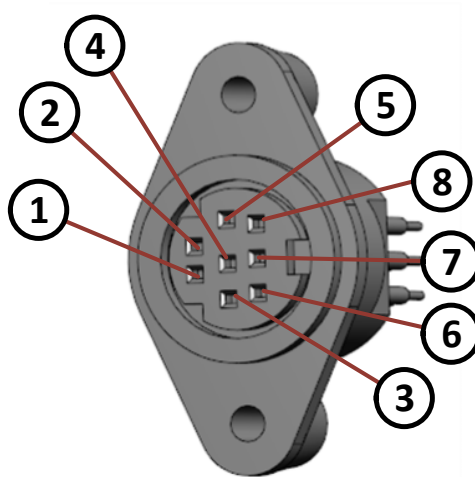


Figure 1-2 Extension Connector (Mini-DIN8) pin out

Description	Manufacturer	Part Number
Mini-DIN8 plug, male	CUI Inc	MD-80

Table 1-2: Mating connector



1.7 Overview of the Test Set-up

Test Set-up

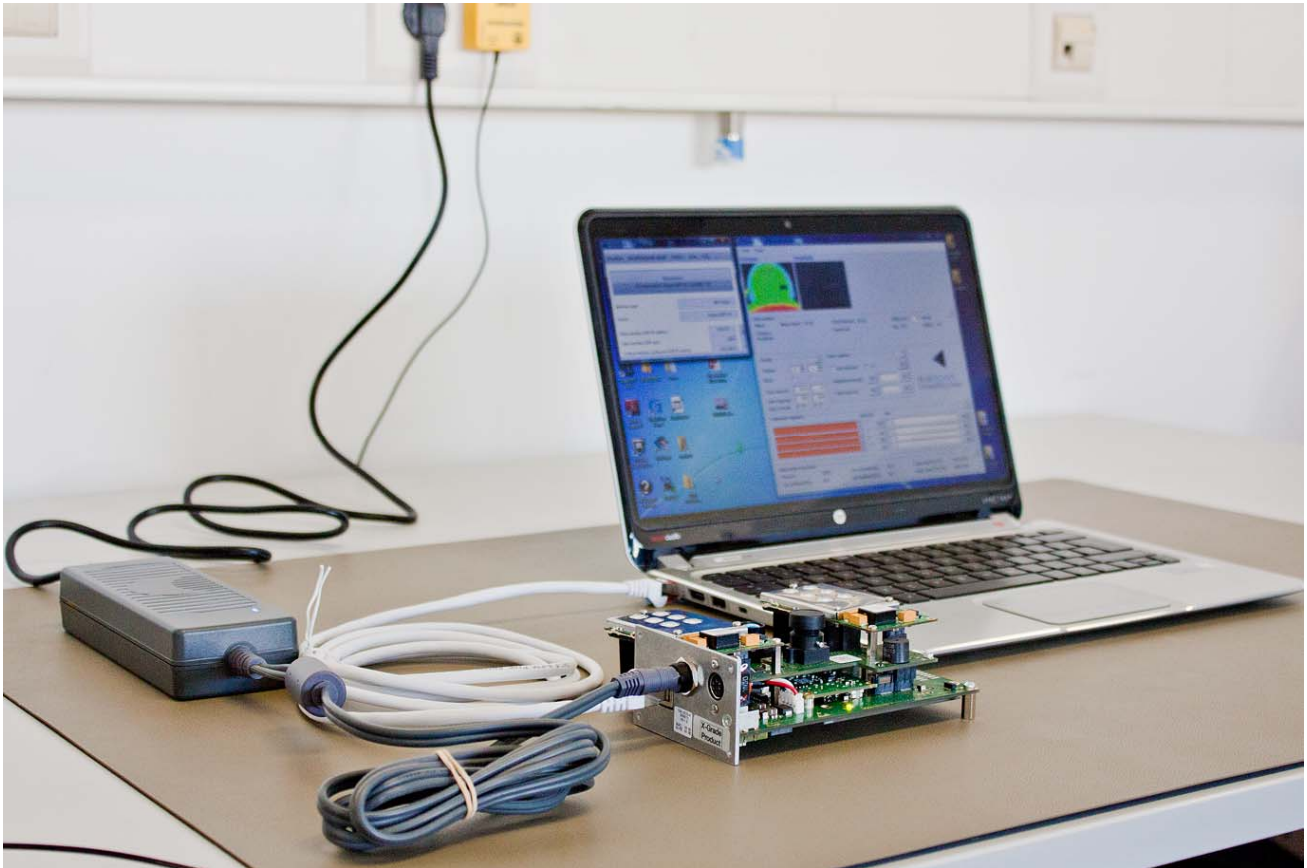


Figure 1-3: Sentis-ToF-P510 with connected power supply and Ethernet cable



2 Downloading the Evaluation Software

Please log in to our support website at <https://support.bluetechnix.com/> and download the Sentis-ToF-P510 customer software package CD. This package also includes the Bluetechnix ToF-Suite V3.3

2.1 Support website

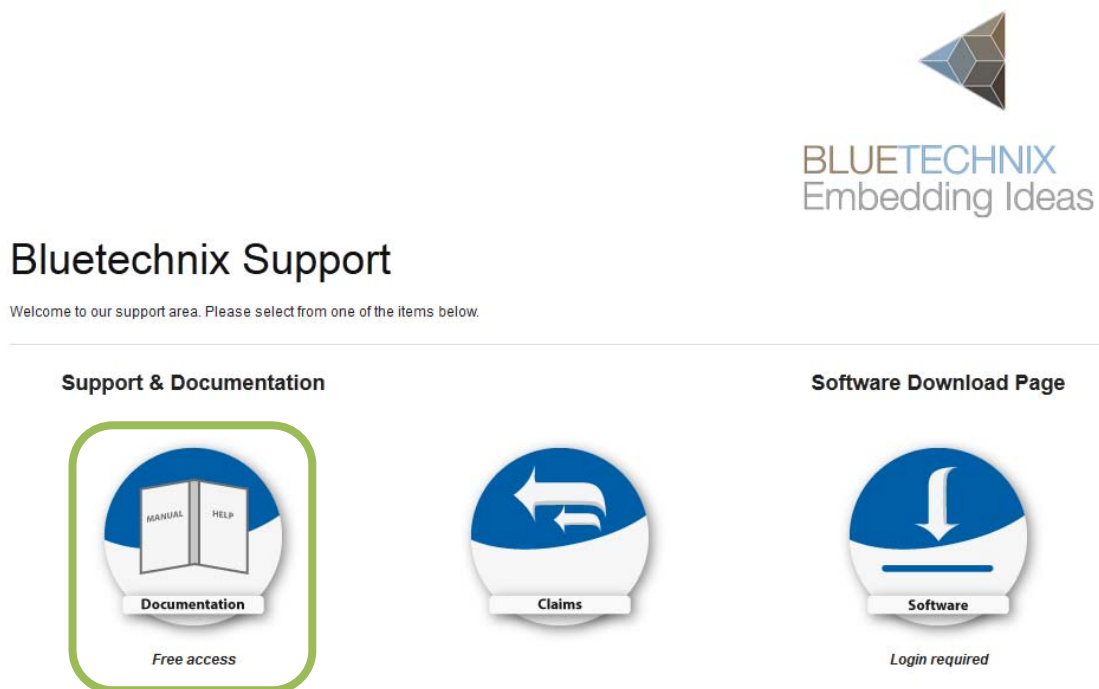


Figure 2-1: Download Evaluation Package

Please follow the instructions on the WEB-Site



2.2 Start-up screen

Main Page

Welcome to the Bluetechnix Support Wiki!
Please click on a product name to get detailed information.

1 Depth Sensing

Products

Argos

- [Argos 3D - P100](#)
- [Argos 3D - P310](#)

Sentis

- [Tiny ToF - epc610](#)
- [Sentis ToF - M100](#)
- [Sentis ToF - P100](#)
- [Sentis ToF - P510](#)

Flash

- [ToF-Flash](#)

Modules

- [ToF Modules \(TIM\)](#)
- [TIM-UP-19k-S3-Spartan6](#)

2 Tiny Boards

Blackfin SoM

navigation

- [Main Page](#)
- [Depth Sensing](#)
- [Tiny Boards](#)
- [Software](#)
- [BLACKSheep](#)
- [Software Download](#)
- [Support](#)

search

[Go](#) [Search](#)

toolbox

- [What links here](#)
- [Special pages](#)
- [Permanent link](#)

print/export

- [Create a book](#)
- [Download as PDF](#)
- [Printable version](#)

Please select your product: e.g. **Sentis ToF – P510**

Figure 2-2: Start-up screen

2.3 Prepare your Network Interface Card (NIC)

Once you have connected your Sentis-ToF-P510 to a Network Interface Card (NIC) of your PC give this NIC the IP-Address 192.168.0.1 with a subnet mask of 255.255.255.0.

No driver must be installed on your PC!

The Sentis-ToF-P510 uses IP-Address 192.168.0.10 with subnet mask 255.255.255.0.

3 Start using your Sentis-ToF-P510 with 'BltTofSuite'

Browse to the directory where you previously saved the BltTofSuite software zip file. Unzip the software.

Using this software you can simply display the depth image and the amplitude image of the Sentis-ToF-P510. For a detailed introduction to the software, please read the 'Bluetechnix ToF Suite - Quick Start Guide'

Place the Sentis-ToF-P510 on your desk approximately 50 cm in front of you.

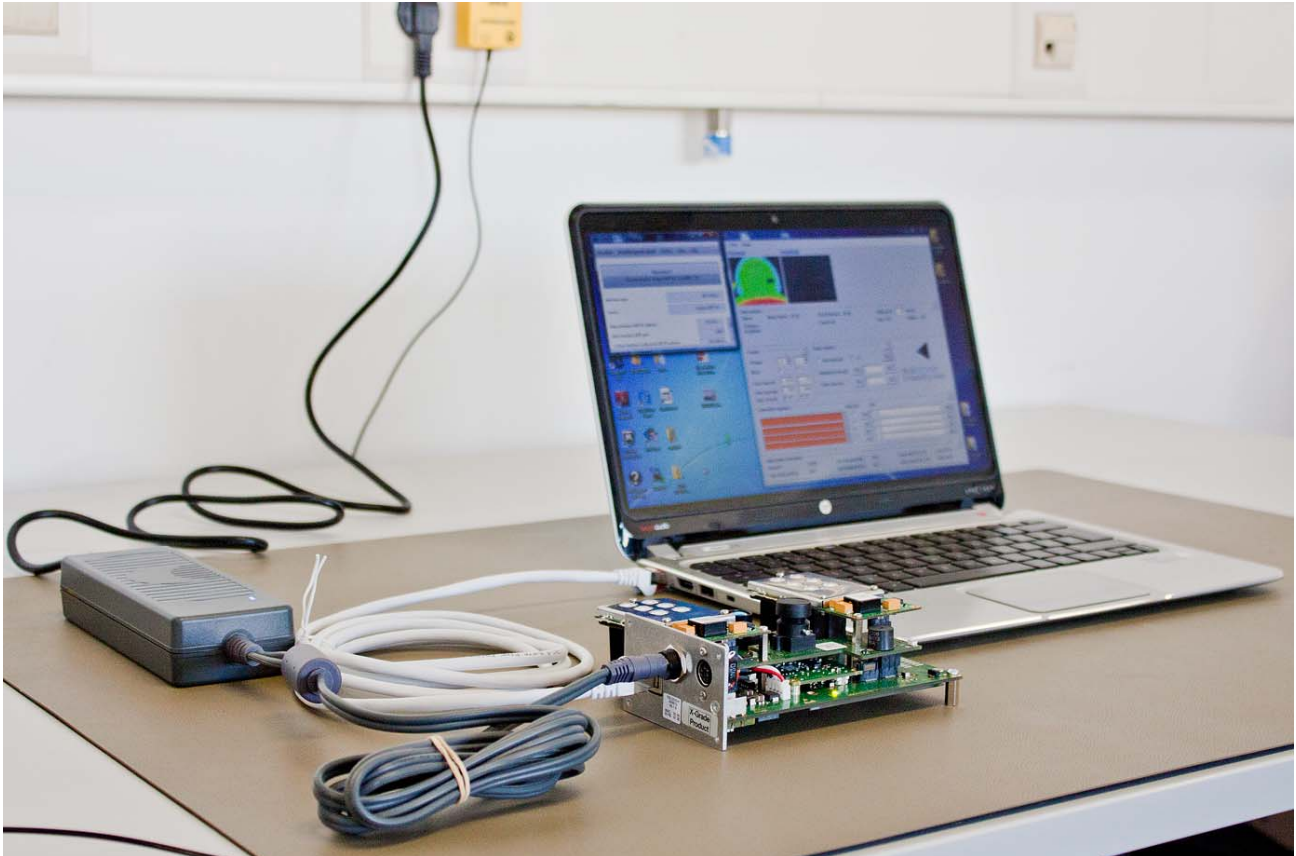
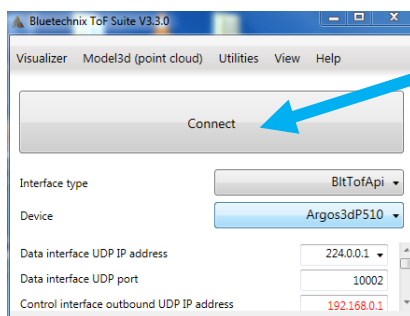
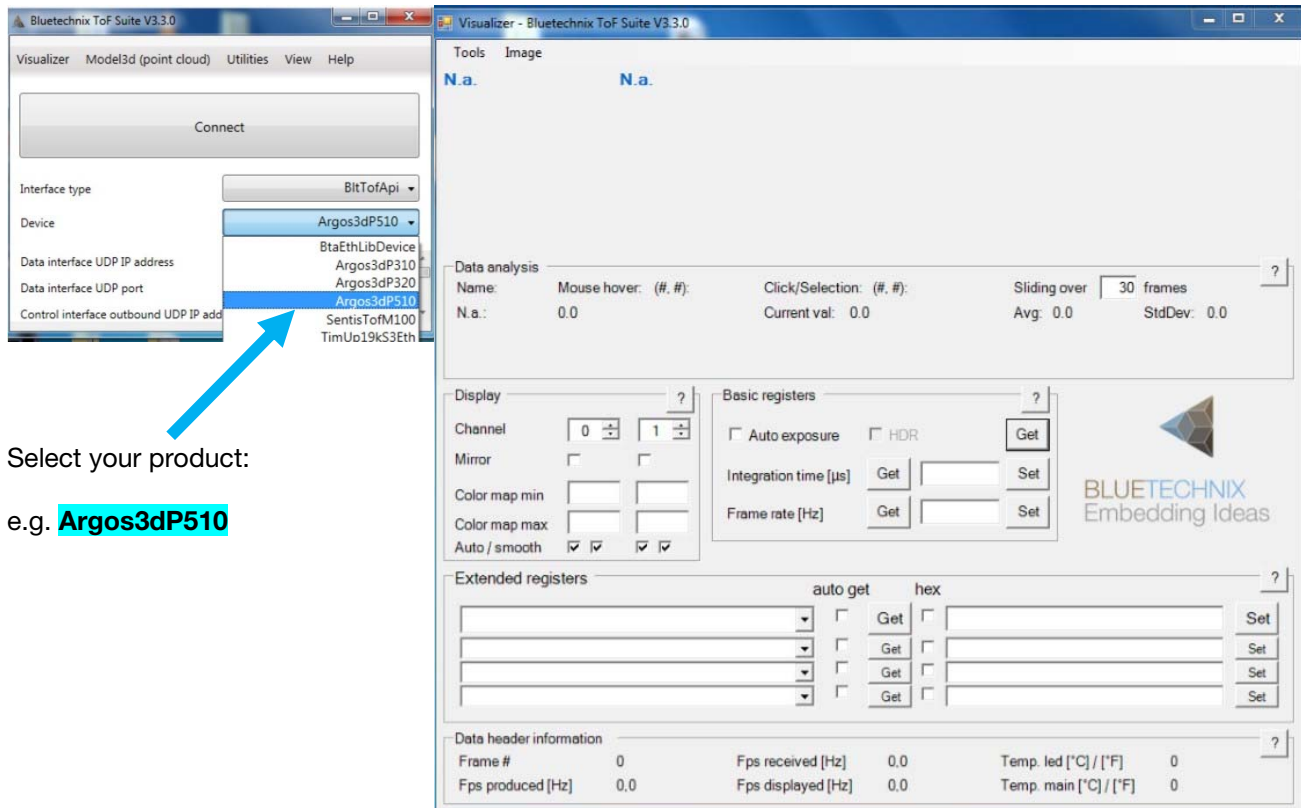


Figure 3-1: Sample scenario with Sentis-ToF-P510

Go to the directory where you unzipped the software and start the "*BltTofSuite.exe*". Connect to the Sentis-ToF-P510 using the network configuration listed in 2.3.

After the connection is established, you should see something like the screenshot below.



Connect your product:
Press the **Connect** button and wait some seconds.



After successful connection you will see the live-picture as a result on the screen.

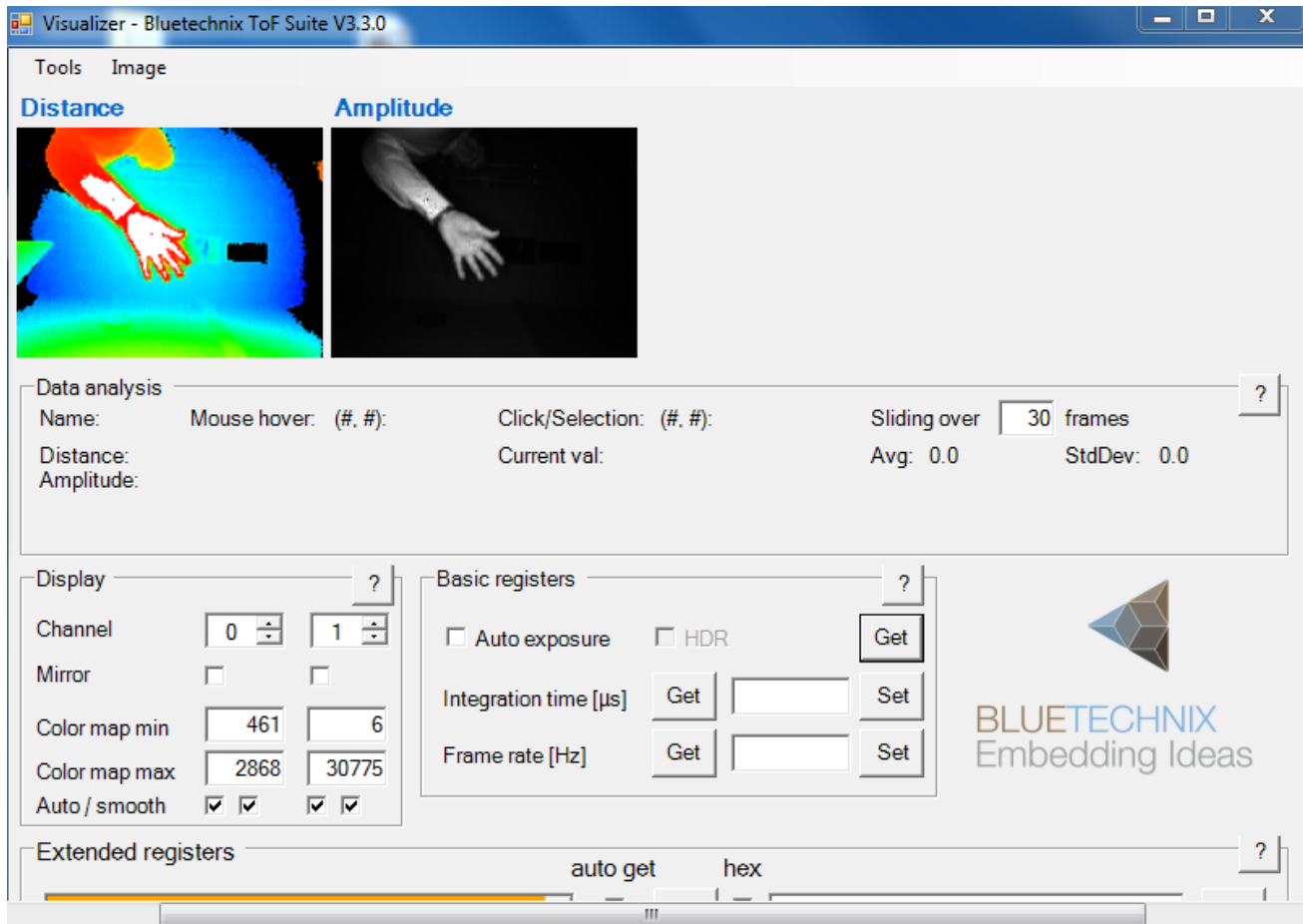


Figure 3-2: BltToF Suite screenshot



4 System Requirements & Support

A Sentis-ToF-P510 enabled application is required in order to use this 'Sentis-ToF-P510' device.

Connect to a system with:

- Operating System: Microsoft Windows XP/7/Vista
- 32 bit (x68) or 64 bit (x64) processor
- Dual-core 2 GHz or faster CPU
- Dedicated Ethernet port
- 2GByte RAM

4.1 Bluetechnix ToF Suite

Visualizer is a .NET application and needs the **.NET framework 4.0** which is available from Microsoft for all actual Windows versions.

4.2 Support

For answers to common questions, troubleshooting steps and further documentation visit our Bluetechnix support website or using the direct link: [https://support.bluetechnix.at/wiki/Sentis ToF-P510](https://support.bluetechnix.at/wiki/Sentis%20ToF-P510)



5 Product History

5.1 Version Information

5.1.1 Sentis-ToF-P510

Version	Release date	Firmware Version
X-Grade	Nov 2014	

Table 5.1: Overview Sentis-ToF-P510 product changes

Additional information can be found at <http://support.bluetechnix.com>

5.2 Anomalies

Version	Date	Description
0.0.0		No anomalies reported yet.

Table 5.2: Product anomalies

Additional information can be found at <http://support.bluetechnix.com>

5.3 Document Revision History

Version	Date	Document Revision
0	20150207	First draft
1	20150219	First released Issue

Table 5.3: Revision history