

Application Note

AN2004

D-Series

EXCEL Example

V 1.03

Please check www.dimetix.com
for the latest version

Abstract

This document explains how the Dimetix laser distance sensors can be controlled from a Visual Basic Program embedded in an Excel sheet. The sensors measurement results will be displayed in the Excel sheet.

This Application Note is provided as is without any warranty for any problems this sample may cause.



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1 Introduction

The Dimetix Laser distance sensors can easily be connected to a PC over the RS-232 or USB interface. To control the sensor a software is required. This document illustrates how the Dimetix sensor can be controlled by a Visual Basic program embedded in an Excel sheet.

This Excel sheet is available as free download from the Dimetix home page www.dimetix.com.

1.1 Requirements

The Visual Basic program runs on a PC with a RS-232 or USB interface, Windows XP or later and Excel 97 or later.

1.2 Wiring

Supply the sensor with 12 to 30 VDC and connect it to your PC as shown in the illustrations below.

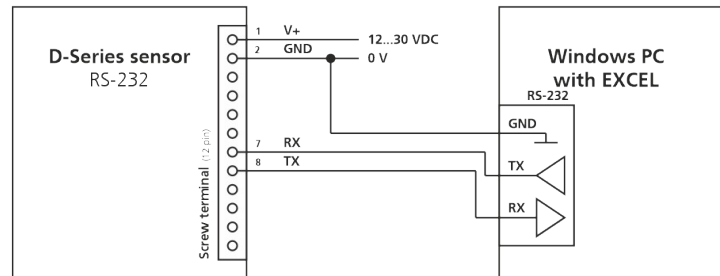


Figure 1: RS232 sensor connection to a PC

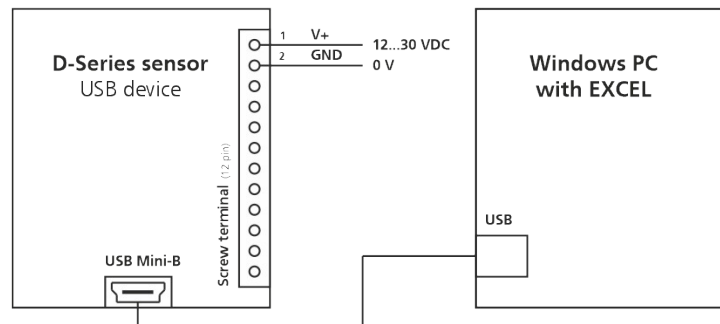


Figure 2: USB sensor connection to a PC

1.3 Communication settings

Before using the Visual Basic program make sure that the Dimetix sensors communication settings are set to default. For this the Dimetix Laser Sensor Utility software can be used. It can be downloaded from the Dimetix website www.dimetix.com.

The default communication setting is number 7: 19200 Baud, 7 Data bits, Parity Even



2 Using the Excel sheet

Open the Excel sheet Dimetix_Sample_in_VBA.xls. A warning message may appear which informs you that this Excel sheet contains active content (the Visual Basic program). In this case, choose "Enable Content" and continue.

The figure below shows a screen shot of the Excel worksheet. The visual basic program is invoked by clicking the buttons in the Excel sheet. RS232 as well as USB connections are accessed over there COM-Port numbers. In the field "COM port number" enter the COM Port number of the interface which you connected the Dimetix sensor to. If necessary update the "Device ID" (the default setting for the device ID is 0).

| | A | B | C | D |
|----|--|---------------------|--------------------|------------|
| 1 | Dimetix distance sensor command sample with | | | |
| 2 | Visual Basic for applications | | | |
| 3 | | | | V.3.0.0 |
| 4 | | Individual settings | | |
| 5 | COM port number | | 1 | |
| 6 | Device ID (default=0) | | 0 | |
| 7 | Laser on | | | |
| 8 | Laser off | | | |
| 9 | | | | |
| 10 | | | | |
| 11 | | | Single Measurement | Error code |
| 12 | Get distance | | 477.6 mm | - |
| 13 | | | | |
| 14 | | | | |
| 15 | | | | |
| 16 | Start tracking with buffering | | | |
| 17 | Tracking with buffering | | 477.1 mm | Error code |
| 18 | Get single value | | - | - |
| 19 | | | | |
| 20 | Repeated read out | | Stop read out | |
| 21 | | | | |
| 22 | Stop tracking with buffering | | | |
| 23 | | | | |
| 24 | | | | |
| 25 | © DIMETIX AG, Switzerland | | | |

Figure 3: Work sheet with embedded visual basic program

- To switch the laser on or off, click on the buttons "Laser on" or "Laser off".
- A single distance measurement is triggered with a click on "Get distance" and the result is displayed in the field B13.
- A click on "Start tracking with buffering" starts the tracking with buffering of the Dimetix sensor. By a click on "Get single value" the program reads the result from the sensor and displays it in field B18. With a click on "Repeated read out" the results are read out and displayed repeatedly.
- By pressing "Stop read out", the repeated read out function is stopped.
- The button "Stop tracking with buffering" stops a possible repeated read out and also stops the tracking with buffering measurement.
- If the sensor returns errors, their numbers are filled into the Error code field D13 or D18 while the distance field B13 or B18 is marked with a dash ("-"). After a valid measurement the Error code field is cleared.



3 Program code

To open the Visual Basic development environment from Excel press ALT/F11 or follow the steps below.

3.1 Excel 97-2003

Press the button "Design mode" in the Visual Basic tool bar.

If this toolbar is not available, left click somewhere in the menu bar area and check "Visual Basic".

Right-click the command button which you would like to know the program code of and choose "Show code". Your desired code fragment appears.

3.2 Excel 2010

Press the button "Design mode" under the menu "Developer".

If the "Developer" menu is not available, activate it by selecting Menu File/Options/Customize Ribbon/check Developer

Double-click the command button which you would like to know the program code of. Your desired code fragment appears.

