Manual

Dynaforce Demo Kit – Quick Start Guide

This quick start guide describes the installation of the *Dynaforce* environment and how to use the *DesignStudio* together with the demo board. For further details please refer to *Demo Kit – Reference Manual*.

Version: 2023-04-18
Company: Algra tec AG
Author: Niederberger Thomas

History

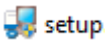
Change Date	Author	Description
2019-02-21	NiT	Initial version
2019-03-07	NiT	Minor changes
2019-10-04	NiT	Additional comments for installation - Dynamic key added
2020-04-20	NiT	Additional item for installation - Virtual COM Port…
2020-11-19	NiT	Additional comments for installation
2021-01-25	NiT	Improvements in Chapter 1 (installation procedure)
2023-04-18	NiT	Several changes regarding DesignStudio V3

Content

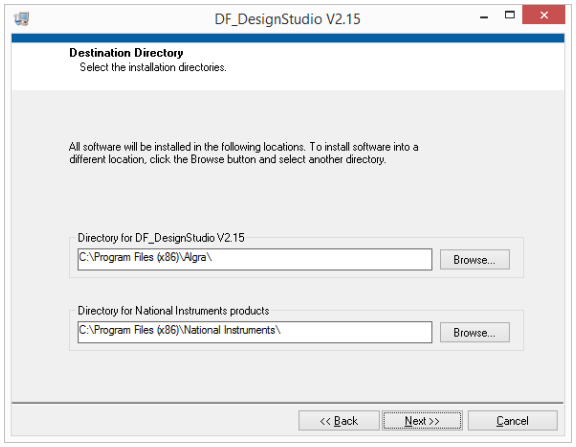
1. Installation

The *Dynaforce DesignStudio* is based on LabVIEW. This chapter describes how to set up the environment.

1.1 Installing DesignStudio



1. Start *DesignStudio\setup.exe* from the supplied USB stick
2. Follow the instructions.
3. The installation will take some minutes to complete…



After the installation you will be prompted to restart windows.

1.2 Updating DesignStudio

If there is a need for updating, you find the latest version of *DesignStudio* in the Dynaforce section of www.algragroup.ch/downloads.

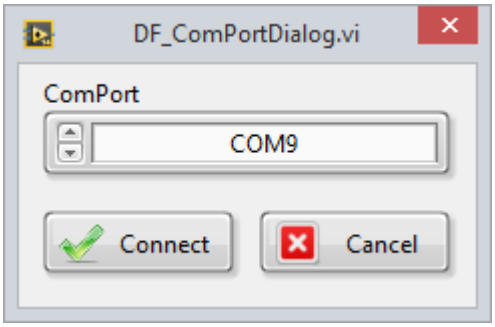
Download the zip-File and follow the instructions as descripted in the previous chapter.

2. Dynaforce – DesignStudio

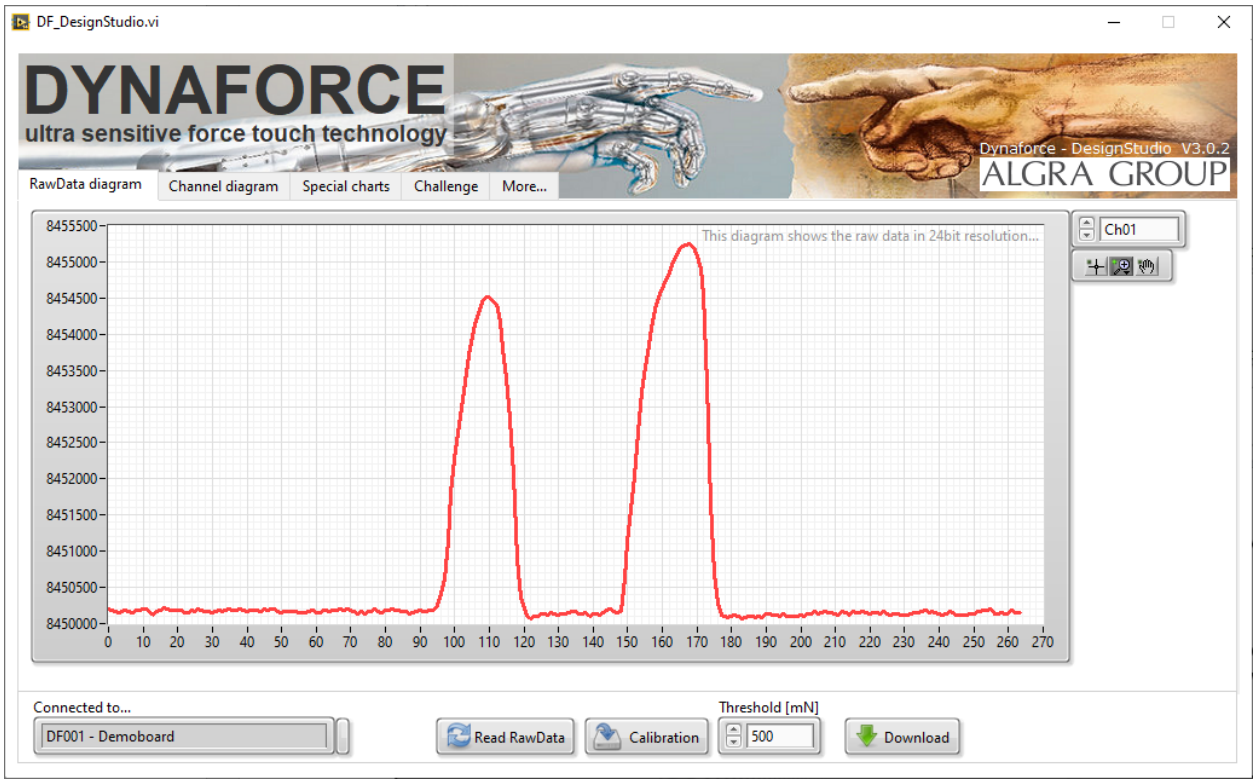
With *Dynaforce – DesignStudio* you can access a *Dynaforce* board, upload and visualize raw data, establish the calibration and download parameters to the board. This chapter will introduce the basic functionality of the *DF001 – Demoboard*. For further details please refer to *Demo Kit – Reference Manual*.

2.1 Connecting the demo board

Use the supplied USB cable to connect the *DF001 – Demoboard* to your computer. After starting the *DesignStudio* you will be prompted to choose the appropriate COM port.



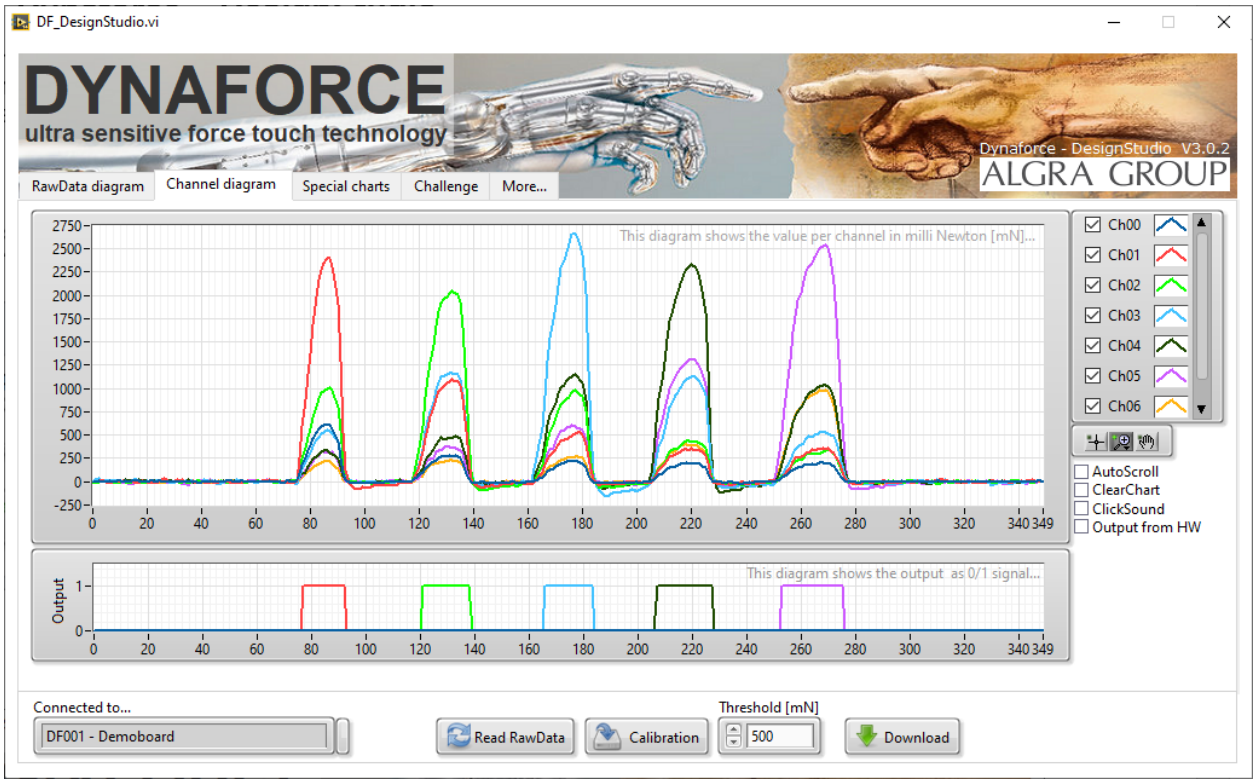
2.2 RawData diagram



The *RawData diagram* shows the raw data of every key (channel). Each key is displayed in its own chart in auto scaling mode. You can choose the channel by using the list box (Ch00…) in the upper right corner.

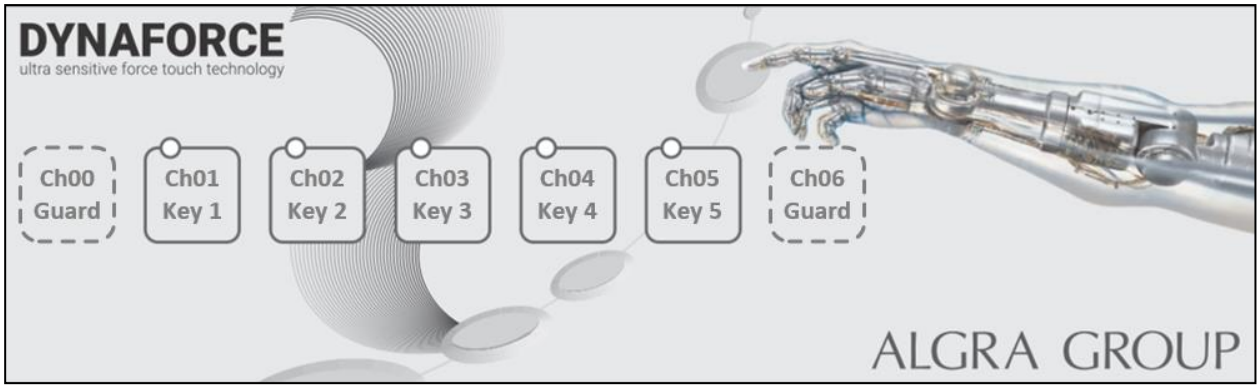
With the button *Read RawData* you start acquiring the raw data. After stopping the data acquisition by releasing the *Read RawData button* you can use the zoom tool to have a close look at the data.

2.3 Channel diagram



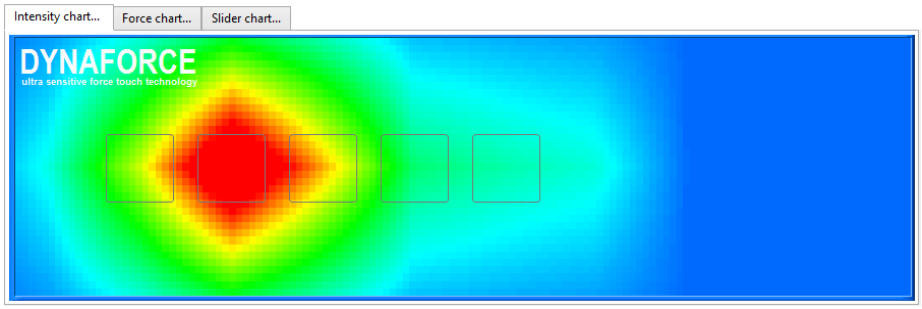
In the *Channel diagram* all channels are displayed in the same graph. The lower diagram shows the output as a binary signal for every channel. In the box on the upper right corner you can select/deselect each channel. With the button *Read RawData* you start/stop the acquisition.

Adjustment of sensitivity – setting the threshold level – download to target
With *Threshold [mN]* you can set the level for detecting a pressed button. The recommended range is 500…3000mN. After setting the threshold just click on *Download* to send the new parameters to the board.

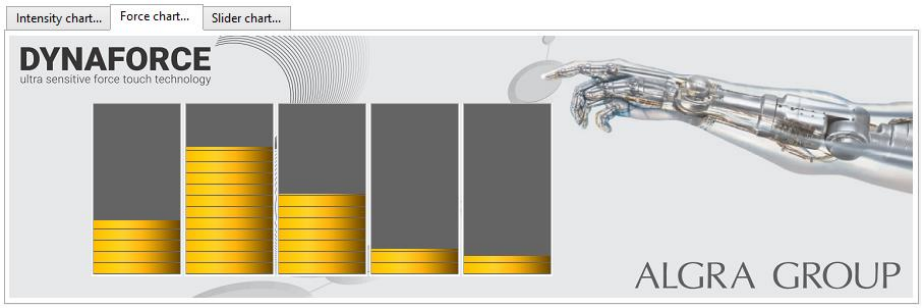


2.4 Special charts

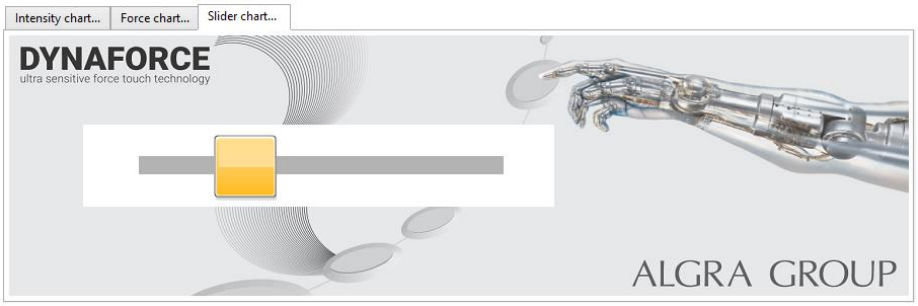
Intensity chart:
The *intensity chart* shows the force distribution across the surface as a color map.



Force chart:
The *force chart* shows the force at each sensor in a pillar diagram.



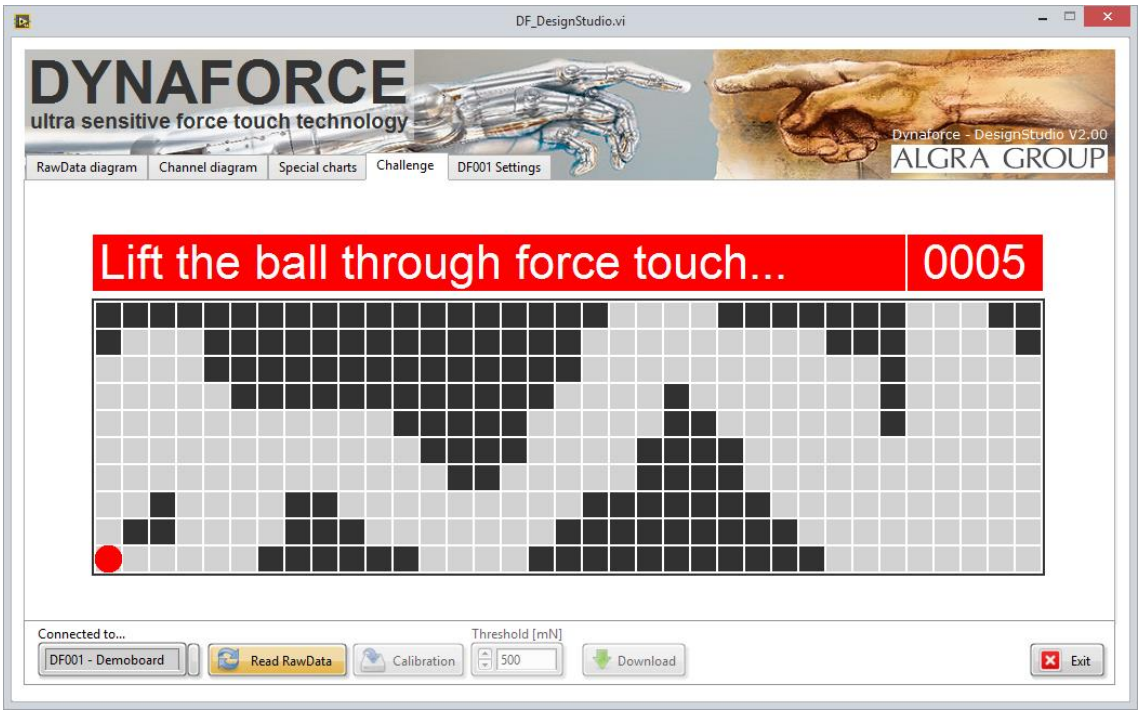
Slider chart:
In the *slider chart* the sensor signals are used to display a slider.



Dynamic key:
With *Dynamic key* you can preset a value. The value changes faster, if you press with more force...

2.5 Challenge – the playful side of force touch…

This game shows the use of force touch in a playful way. You lift the red ball by pressing on one of the keys. Just follow the instruction and don't forget to pump up the volume…



2.6 More

In the *More* section you find some possibilities to configure the board. For example, the LED or the haptic feedback can be activated/deactivated. Just try it out…