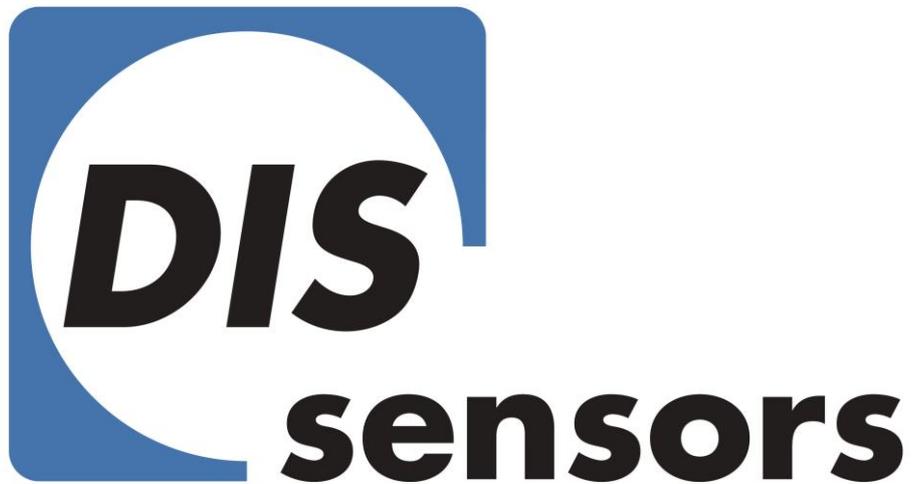


QG40N Configurator tool User Manual

English

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Introduction

This introduction helps you to get started with the “QG40N Configurator”.

When encountering problems during use, or you get warning/error messages, please refer to *chapter 8: “Error and warning messages”*.

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1 The QG40N configurator

The “QG40N configurator” consists of a

- PC application: “QG40N configurator.exe”, and the
- *QG40N Configurator USB interface*.

The interface is used to connect a QG40N sensor to the PC via an USB connection. Thereafter QG40N sensors can be (re-)configured with the PC application.

2 First time start-up

Before starting the PC-application, connect the QG40N Configurator to your PC with the supplied USB-cable. Windows will automatically install the *QG40N-configurator*. When Windows has finished installing: start the application "*QG40N configurator.exe*". Wait with connecting a QG40N sensor.

When starting the software for the first time, you may be prompted with a setup window, which guides you through a setup process. This is necessary to get the "*QG40N Configurator interface*" fully operational on your PC. Step through the installation, follow the instructions given by the setup window.

NOTE: you may need administrator privileges to install the hardware.

3 Main window

Start the “QG40N Configurator” application on your PC. The Main Window will show up:

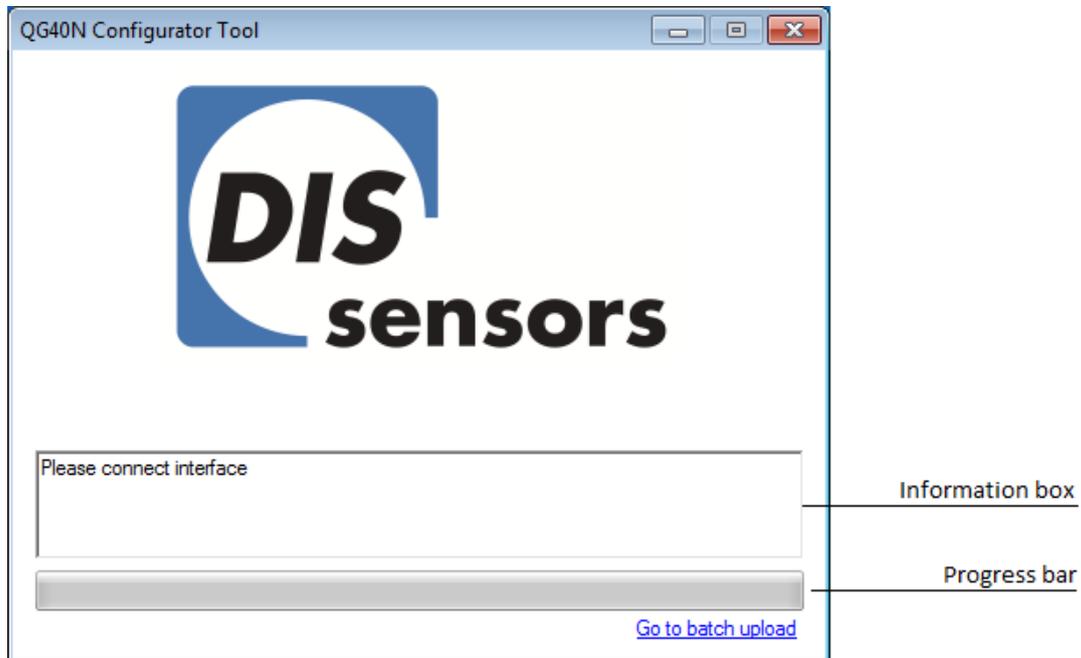


Figure 1: Main Window

When there is a need to configure multiple QG40N-sensors, we advise to use the “batch upload” function: click the “Go to batch upload” hyperlink in the right corner. For a detailed description of this function, see *section 6: “Configure a batch of QG40N-sensors with the “batch upload” window”*. Otherwise, or when using this application for the first time, follow the instructions below.

The “information box” in the main window (Figure 1), tells which actions to take.

The following messages could show up:

Message	Explanation
“Please connect interface”	Connect the <i>QG40N Configurator tool</i> with the supplied USB cable with the PC.
“Please connect sensor”	The interface has connected successfully, but no sensor is connected. Connect sensor properly.

Table 1: Main Window - messages

Connect the *QG40N configurator* to the PC; and connect the sensor to the *QG40N Configurator*. The application will automatically load the configuration from the connected QG40N sensor. In the “information box” the following messages will appear:

- “Found sensor, please wait”, a sensor has been found
- “Analysing”, the configuration is loaded from sensor

Also, the progress bar is starting to run. Reading a sensor configuration will take a few seconds.

When nothing happens, re-check your connections using *Table 1*. Refer to the QG40N documentation for the sensor connections.

4 Summary window

When loading the QG40N configuration has completed, the main window closes and the “summary window” will show up. This window gives global information about the actual sensor configuration. See Figure 2.

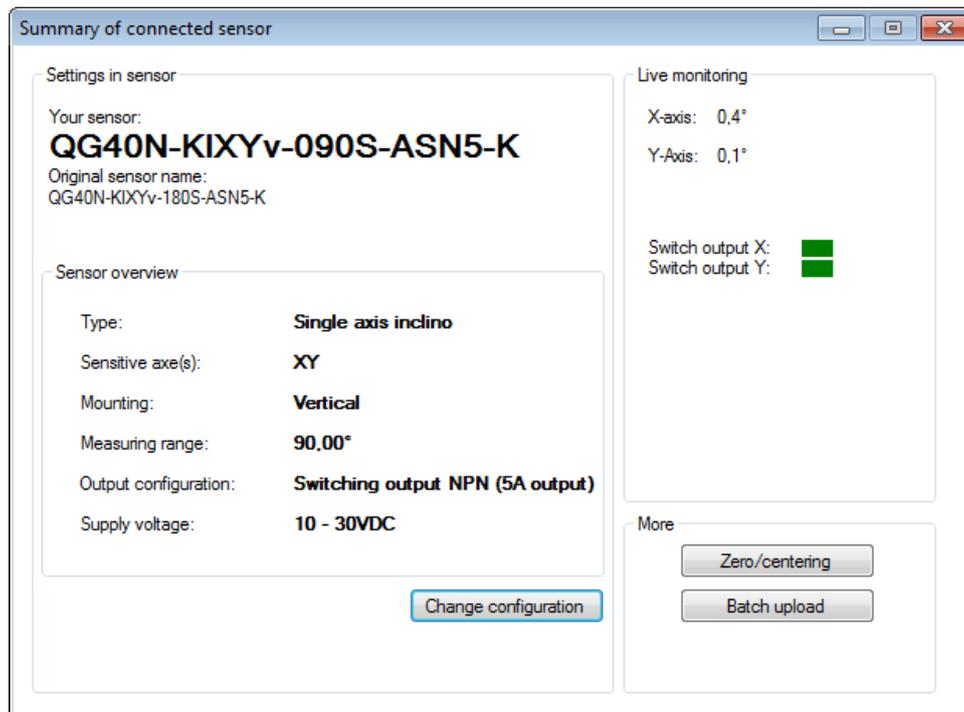


Figure 2: Summary Window

Information is presented in several boxes, including this boxes:

- “Settings in sensor”,
- “Live monitoring”,

These “boxes” and the controls will be explained in the next sections

4.1 “Settings in sensor”

This “box” provides actual information about the configuration settings in the sensor. Note that two product names are shown, these are:

- “Your sensor”: this is the real product name of your sensor (corresponding to the configuration file in sensor)
- “Original name”: this is the original name which the sensor has when it left the factory

The original name is shown, because an inclination sensor *cannot* be configured at wider range as it had originally. E.g.: when a sensor was originally configured at 90 degrees, it is *not possible* to expand the range up to 180 degrees (for example). Because the sensor is not calibrated at this range. The range shown in “Original sensor name” (Figure 2) is the max. possible range of this sensor.

4.2 “Live monitoring”

The “live monitoring box” gives actual measured values of the sensor. When a NPN or PNP device is connected: it’s output state(s) is/are shown too. The “live monitoring” provides the opportunity to view measured angle/acceleration *and* switch states (for NPN/PNP devices), at real-time.

NOTE: only information about supported axes/outputs is shown.

4.3 Controls in “summary window”

There are three buttons present (one button in the “Settings in sensor” box and two buttons in the “More” box), these are:

- “Change configuration”: this takes you to a window, where the sensor configuration can be modified, or stored on your PC, explained in *chapter 5: “Modify a QG40N configuration”*.
- “Batch upload”, this takes you to the “batch upload” window. Here you can configure successively multiple QG40N sensors, explained in *chapter 6: “Configure a batch of QG40N-sensors with the “batch upload” window”*.
- “Zero/centering”: perform a zero calibration, explained in *section 4.4, “Zero/centering”*.

4.4 Zero/centering

With the zero/centering button, a zero calibration can be performed. Before clicking, make sure the sensor is in its neutral position (i.e. how it will be mounted when in use), this position will become the reference point of your sensor. A zero calibration takes a few seconds. When the message “Zero calibration done successfully!” appears, zero calibration has done correctly, but when the following dialog appears:

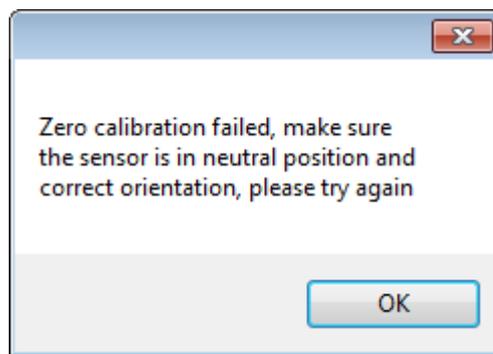


Figure 3: Zero calibration failed

The zero calibration has failed. The most common reasons why a zero calibration fails, are:

- Wrong orientation: you have mounted a “vertical” sensor horizontally, or mounted a “horizontal” sensor vertically.
- The sensor is mounted too much off from its original position: big changes (over *one degrees*) in zero calibration are not allowed.

Recheck your sensor position and try again. Make use of the “live monitor” to monitor to analyse the sensor position:

- If the values alter too much, check the orientation of the QG40N sensor
- If the values are over one degrees, check the sensor position

5 Modify a QG40N configuration

5.1 Overview

This chapter describes how to modify configurations from an QG40N sensor, how to store an actual QG40N configuration to your PC, etc. using the “Edit window”.

The “Edit window” is launched from the “Summary window” (*chapter 4*) - after the connected QG40N sensor has been loaded. There are two types of edit windows:

- One for QG40N sensors with analog outputs;
- One for QG40N sensors with switched outputs (NPN/PNP types).

Although both windows differs in configuration options, the controls are equal. See Figure 4 for the controls (buttons).

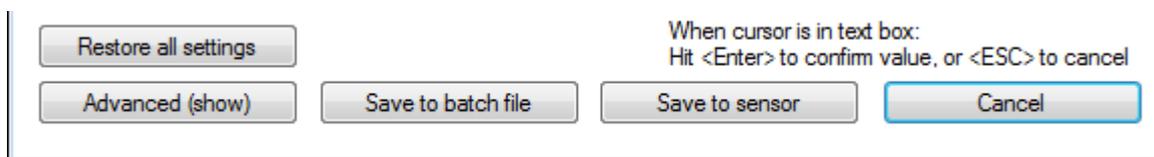


Figure 4 “Edit window controls, located at the bottom of the window”

When a “edit window” has opened, all fields are automatically loaded with the actual values of the connected QG40N sensor. To change a value, just overwrite the value in the corresponding text box and confirm with enter.

NOTE: when a text box is yellow, the value has not been confirmed yet. Put your cursor in the text box, press the ENTER key to confirm the value or press the ESCAPE key to undo the change.

When all configurations are made, you can either:

- Save the configuration to the hard disk of your PC;
- Re-configure the sensor with the new configuration.

The next sections describes the “edit window” functionalities and controls.

5.2 Save a configuration

NOTE: before saving, check if there aren’t any yellow text boxes left (if so, see *section 5.1*).

Press the “Save to batch file” button to save the configuration on your PC (for future use). A “save as” dialog will appear, you can give the configuration file a name. By default, the *QG40N product name* and *actual date* are used as file name. The file extension “.dis” is assigned to the file.

5.3 Save configuration to sensor

NOTE: before re-configuring, check if there aren’t any yellow text boxes left (if so, see *section 5.1*).

To re-configure the connected sensor with the new settings, press the “save to sensor” button. Re-configuring can take a few seconds (the window may appear “frozen” during configuring).

NOTE: when closing the “Edit window” after re-configuring, the QG40N sensor must be reloaded to keep the “Summary window” content up-to-date.

5.4 Restore all settings

When pressing the “Restore all settings” button, all changes are undone. All fields are restored to their initial values (how it was when the sensor was loaded in the “Main window”).

NOTE: this action will not affect the configuration in the actual connected QG40N sensor.

5.5 Modify advanced settings

By default, the most commonly configurations are shown, but when there is a need to change advanced settings (e.g. filter parameters), press the “Advanced” button. The “edit window” will unfold and advanced settings become visible. Only recommend for more experienced users.

6 Configure a *batch of QG40N-sensors* with the “batch upload” window

The “Batch upload” function is specially made for configuring multiple sensors in an efficient way. This window can be launched from the “Summary window” (as described in *section 4.3*), or directly from the “Main window” (as described in *chapter 3*).

See Figure 5 for the “Batch upload” window.

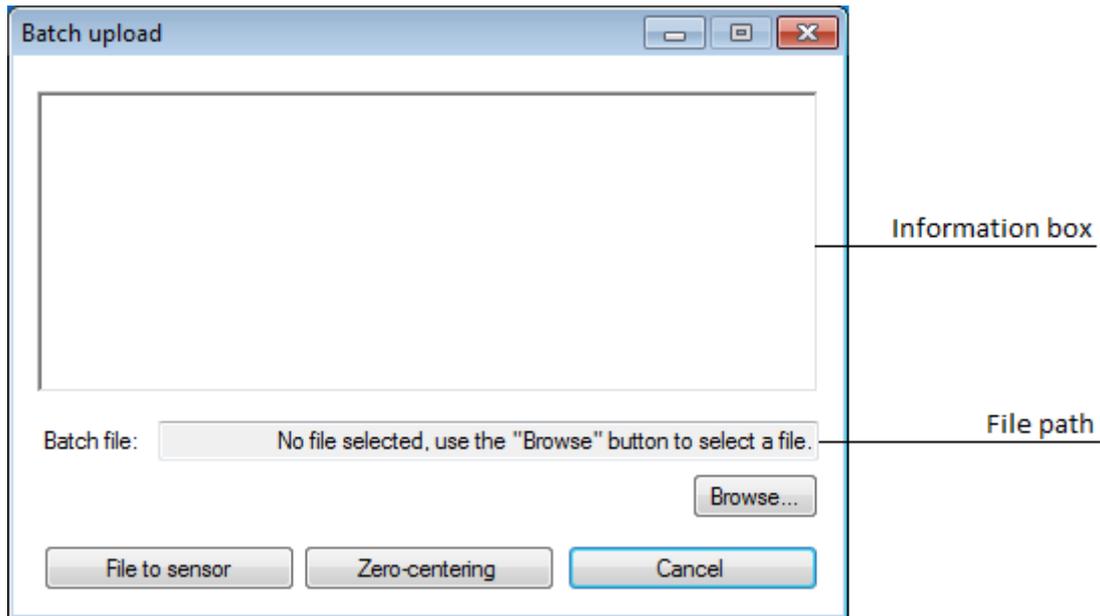


Figure 5 “Batch upload window”

Use the “Browse” button to select a file batch file. This file could either be:

- A file with a “.dis” extension (a batch file)
- A file with a “.txt” extension (a text file)

Only a *DIS batch file* (with the “.dis” extension) is recommend. The “File path” *text box* displays the name of the selected file (see “File path” in *Figure 5*). To write this file to the connected QG40N sensor, press the “File to sensor” button. Before configuring, the software automatically checks if the actual connected QG40N sensor supports the file. The “Information box” provides all information about this process, for example: if it was a success, or it has failed. When configuring is done, disconnect the QG40N sensor and connect the next sensor. Press the “File to sensor” button to configure the sensor with the same file.

NOTE: when the “Batch upload” window has launched from the “Summary” window, the “Cancel” button will restart the application to keep the “summary” content up-to-date (it does not restart when no actions where done in this window).

Also a zero calibration can also be performed in this window, by pressing the “Zero/centering” button (see *section 4.4 “Zero/centering”* for a detailed description).

7 Common actions with the QG40N Configurator

This section describes how to accomplish most common actions with the QG40N configurator.

Save an actual configuration file from a QG40N sensor to your hard disk

Configuration of a QG40N sensor can be retrieved and saved as follows:

Connect the sensor to the *QG40N Configurator USB interface* and connect the interface to your PC. Launch the QG40N application. Wait while the software is automatically analysing the actual sensor configuration, the summary window will show up, in this window press the “change configuration” button. An “edit window” shows up, already filled with the actual settings of your sensor. Press the “save configuration” button to save this configuration. See *section 5.3: “Save configuration to sensor”* for a more detailed description.

Load a configuration file from your hard disk and save it to a QG40N sensor

Connect the *QG40N configurator USB interface* to the PC. Do not connect a QG40N sensor yet. First, launch the QG40N application. The “Main window” will show up. Press the “Go to batch upload” hyperlink in the right corner of this window. Now, in the “Batch upload” window: browse to the file on your PC, connect the sensor and press the “File to sensor” button. For a more detailed description, see *chapter 6: “Configure a batch of QG40N-sensors with the “batch upload” window”*.

Modify actual configurations in a QG40N sensor

When you want to change settings of a QG40N sensor (for example the range), connect the sensor to the *QG40N Configurator USB interface* and connect the interface to your PC. Launch the QG40N application. Wait while the software is automatically analysing the actual sensor configuration, the summary window will show up, in this window press the “change configuration”. Refer to *chapter 5 “Modify a QG40N configuration”*, for a more detailed description about changing configurations.

Configuring multiple QG40N sensors in an efficient way

See *chapter 6: “Configure a batch of QG40N-sensors with the “batch upload” window”*.

8 Error and warning messages

This chapter describes the most common error and warning messages.

8.1 Common messages

This section describes common messages which can appear.

Message	Explanation	Action to perform
<ul style="list-style-type: none">- Product name is not specified, summary content is not available- Not available	The sensor has no product name defined. A “summary” could not generated.	No actions are needed, all functions will work anyway. To get a defined product name, contact DIS.
Sensor type is unknown, is this a NPN device? (...)	Some older QG40N sensor types have no product name specified in the configuration. To get the “live monitor” (<i>section 4.2</i>) fully working, it must know whether it is a NPN or PNP device.	See the QG40N sensor documentation of the corresponding sensor to determine the type. Press “yes” if it is a NPN device, otherwise, press “no”.
Sensor type is unknown, is this a PNP device? (...)	Some older QG40N sensor types have no product name specified in the configuration.	See the QG40N sensor documentation of the corresponding sensor to determine the type. Press “yes” if it is a inclination device, otherwise, press “no”.

8.2 Batch upload messages

This section describes messages which can show up while in “Batch upload” window. These messages can either show in the “information box” (covered *chapter 6: “Configure a batch of QG40N-sensors with the “batch upload” window”*) or prompted with a dialog.

Message	Explanation	Action to perform
Selected file is not valid for sensor type	The actual connected QG40N sensor does not support this file.	Choose another file, or connect another QG40N sensor of right type.
Error: no data was send. Check configuration file.	The selected configuration file contains no valid configuration data (invalid file).	Choose another file.
Try again later.	The software is still busy with an action. For example: you get this message when you are trying to perform a zero calibration while configuring is in progress.	Try again in a few seconds.
Please connect a QG40N sensor	No communication with sensor.	Connect a QG40N sensor, or check your connections. Refer to the corresponding QG40N documentation of your sensor.

Please connect the interface	No communication with the QG40N configurator USB interface.	Connect <i>the QG40N configurator USB interface</i> , or check USB cable.
This file has no hardware type defined, continue anyway? (...)	The selected file has no QG40N sensor type defined.	Only proceed when you are sure this file is valid. If not sure, choose another file.
Please, select a valid batch file	No batch file was selected.	Select a batch file. The name of this file must be shown in the "Batch file" text box (see "File path" in Figure 5).

Table 2 "Messages while in Batch upload"