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ProTight

Overzicht document-wijzigingen

Versie	Auteur	Datum	Omschrijving wijzigingen
001	Benny Verhamme	08/05/2009	V1.0.0.1
002	Benny Verhamme	15/06/2009	V1.0.0.2
003	Jeroen De Cuyper	15/06/2011	V1.0.0.3
004	Dries Neyrinck	15/08/2011	V1.0.0.4
005	Jeroen De Cuyper	15/02/2013	V1.0.0.5

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1. INTRODUCTION

ProTight is used for **“CONTROLLED TIGHTENING IN A ASSEMBLY PROCESS”**.

ProTight guides the operator on what needs to be completed on the part/machine or sub-assembly on the production-line. As the operator proceeds in the requested task, ProTight registers all tightening results that are applied on the part/piece.

Using an electric/pneumatic tightening tool or even a manual click wrench, the force during tightening and if possible the angle of the tightening are being registered.

All data for each screw connection is stored locally and then fed to a central server at production control room level via the Ethernet network (LAN). Here, the frequency and type of problems is analyzed, and statistical quality control is carried out. In case of a network disruption, ProTight will send all results after the connection is restored. In this way your production can continue even when disconnected from the network.

ProTight supports all kinds of brands of tighteners (Atlas Copco, Desoutter, Makita, Stanley, Georges Renault, ...). It's even possible to use a mix of different brands on one single station!

In combination with a barcodescanner and a badgereader identification of the operator and the product is easily done.

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2. OVERVIEW OF PROTIGHT

2.1. OVERVIEW MAIN SCREEN

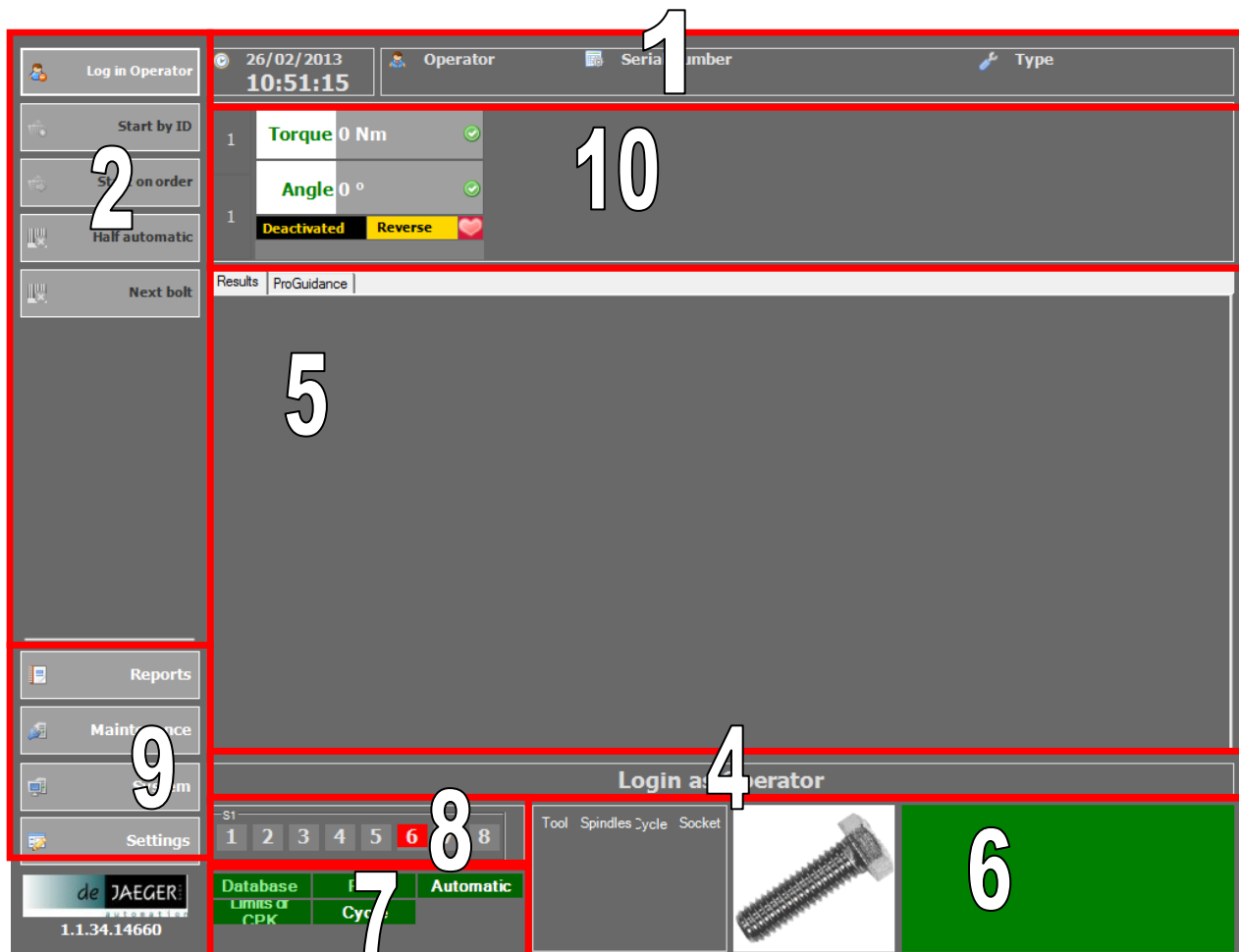


Figure 2-1 Overview Main screen

The main screen exists of several parts:

- 1 – Clock, operator info, production part info
- 2 – Menu area
- 3 – Password protected area (maintenance, options, ...)
- 4 – Information for the operator
- 5 – Rundown results area + ProGuidance tab
- 6 – Rundown overview area
- 7 – Environment status (database, PLC, running mode, ...)
- 8 – The socket selector area
- 9 – The main menu
- 10—the nutrunners

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2.2. GETTING STARTED

Running a complete cycle in 3 steps!

2.2.1. Operator logs in

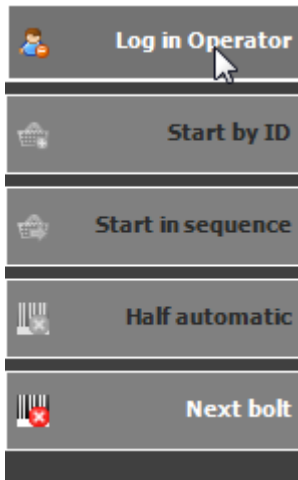


Figure 2-2 Main menu

The operator needs to log in before he can start working. This is done by means of a barcode scanner, a badgereader or simply by entering his ID with a keyboard.

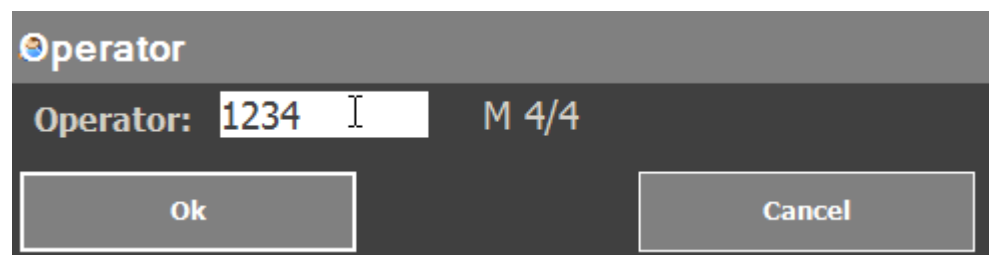


Figure 2-3 Operator Form

2.2.2. Job definition

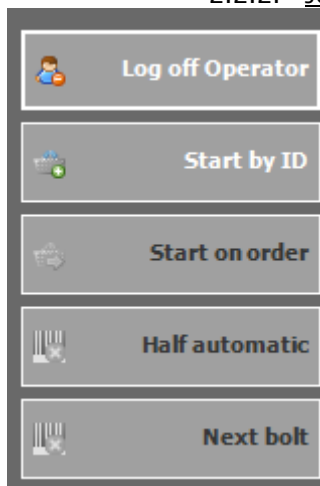


Figure 2-4 Main menu

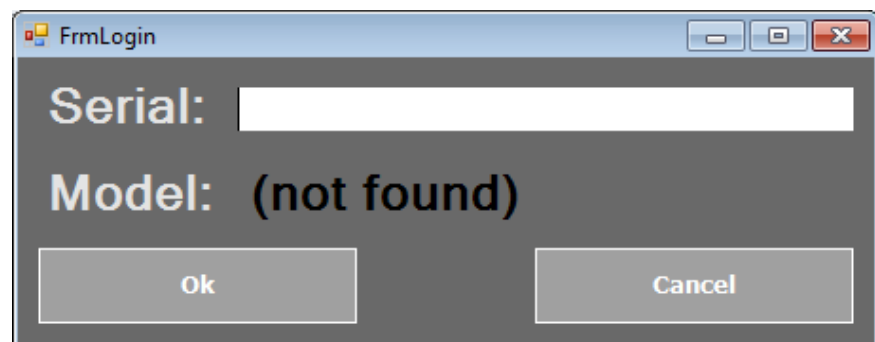


Figure 2-5 Order form

ProTight can work on its own type configuration and use barcode scanning to identify the job. ProTight can also be steered from a higher system with XML order files. Here we use the higher identification (by means of a barcode scanner). This will load the orders from ProSuite. The orders from the higher system are always uploaded to the system when they need to be available.

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2.2.3. Executing the job

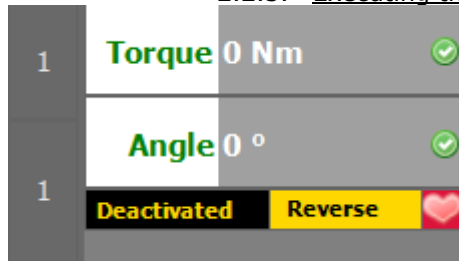


Figure 2-6 connected nutrunners

The connected nutrunners are steered, info has been given to the operator.

5 x Demo connection 1: Spindle 1, Cycle 4, Socket 0

Figure 2-7 Description Text

When a rundown is made, the results are shown on the screen and the global result is shown

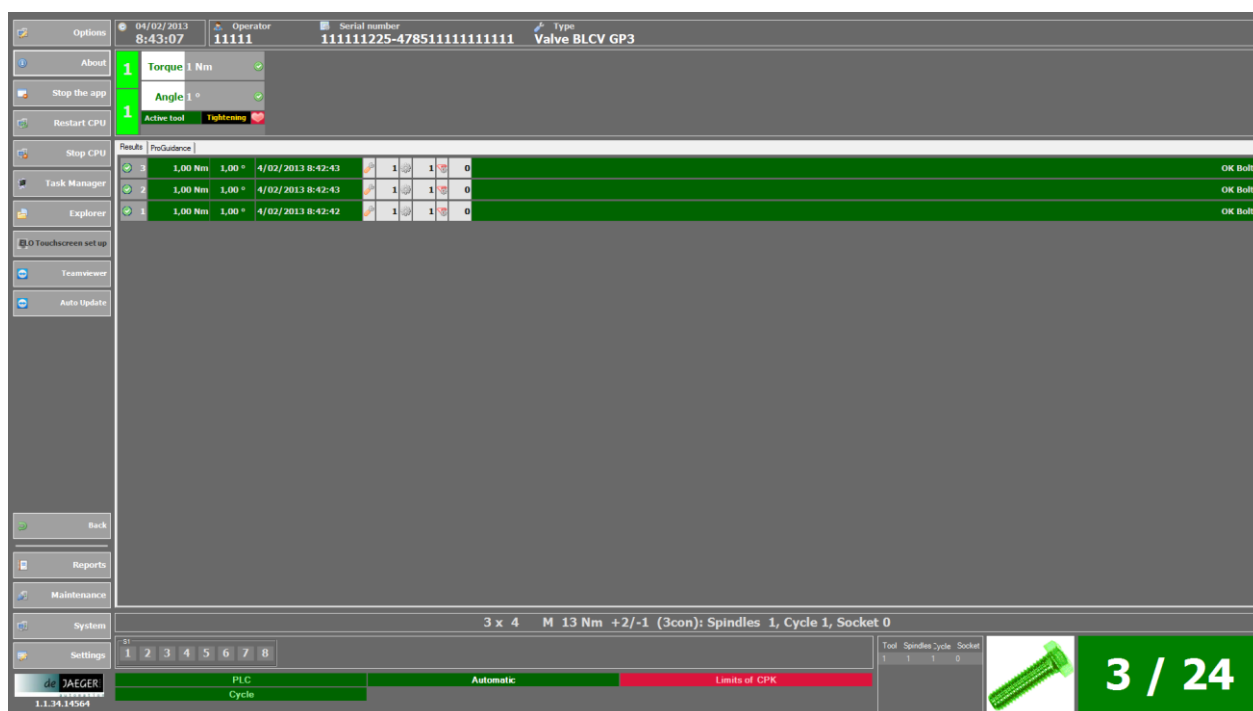


Figure 2-8 Main screen with results

The operator gets a list of the rundowns that have been done.

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3. MENUS OF PROTIGHT

3.1. MAIN MENU

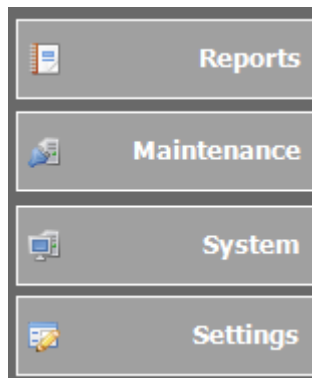


Figure 3-1Main menu

Reports: This opens the menu reports. This is a menu not password protected.

Maintenance: This opens the menu for maintenance tools. This is a password protected menu.

System: This opens the menu for installation specific actions. This is a password protected menu.

Settings: This opens the menu for the configuration of the installation. This is a password protected menu.

3.2. OPERATOR MENU

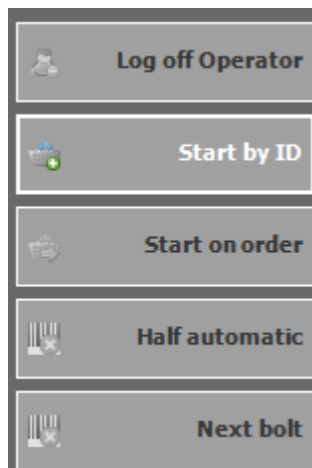


Figure 3-2 Operator Menu

Log off/in Operator: This open the operator window.

Start by ID: This opens the window to start a job.

Start on order: This opens the window for the order to be started.

Half automatic: This is disabled by default.

Next bolt: This button skips a bolt when it is enabled.

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3.3. REPORTS MENU

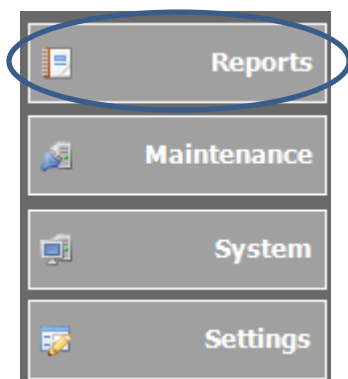


Figure 3-3 Main menu

To open the reports menu, click on the reports tab in the main menu.

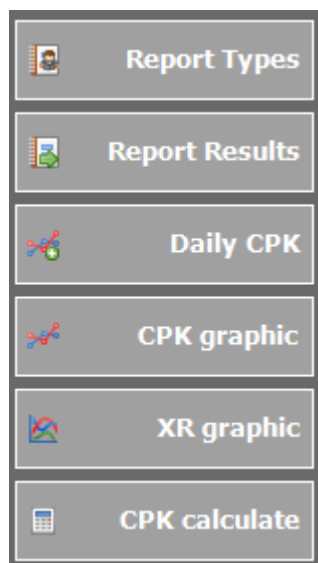


Figure 3-4 Report menu

Report Types: This gives a representation of the types in a nice report

Report Results: This give a representations of results of jobs in a nice report.

Daily CPK: This is the report from Cpk calculated from daily jobs.

CPK graphic: This is the chart from the daily cpks.

XR graphic: This is the XR graphic to show the XR on a timeline.

CPK calculate: This calculates and shows a CPK report for a certain period.

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3.4. MAINTENANCE MENU

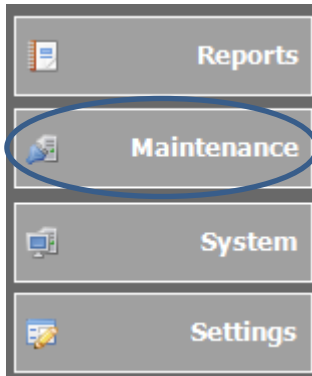


Figure 3-5 Main menu

To open the maintenance menu, click on the maintenance tab in the main menu.

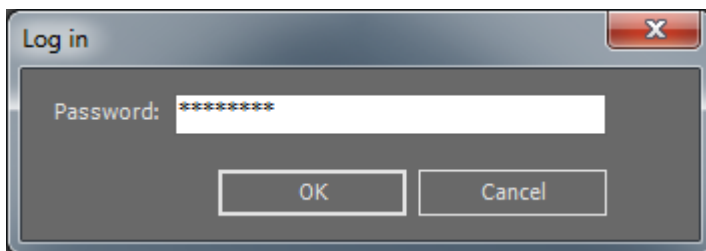
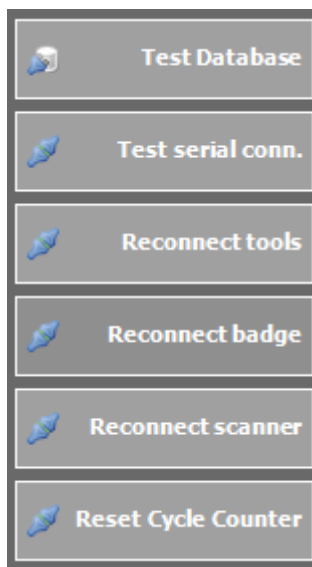


Figure 3-6 Give password



Test Database: This opens the window to test the database connection.
Test serial conn.: This opens the window to test scanners, badgereaders and tools.
Reconnect tools: This reconnects the tools.
Reconnect badge: This reconnects the badgereader.
Reconnect scanner: This reconnect the scanner.
Reset Cycle Counter: This opens the window to control the cycles.

Figure 3-7 Maintenance menu

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3.5. SYSTEM MENU

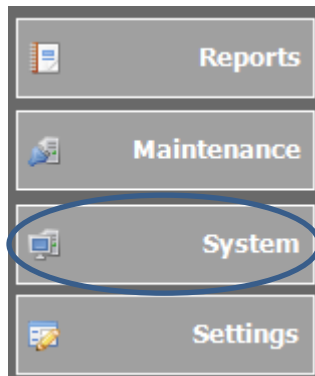


Figure 3-8 System menu

To open the system menu, click on the system tab in the main menu.

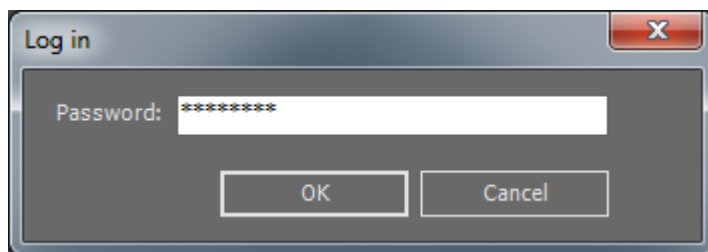
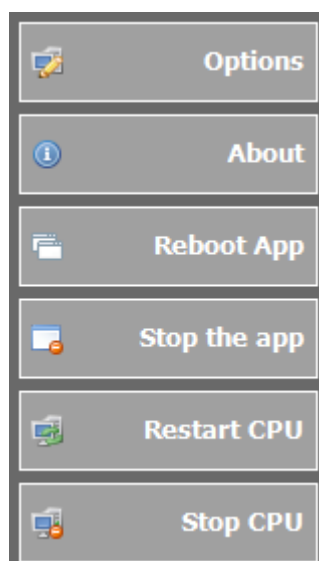


Figure 3-9 Give password



This is the first part of the system menu.
Options: This contains the window to adjust the options of ProTight
About: This shows the window with about and licensing.
Reboot the App: This reboots ProTight.
Stop the app: This stops ProTight.
Restart CPU: This restarts the installation.
Stop CPU: This stops the installation.

Figure 3-10 System menu part 1

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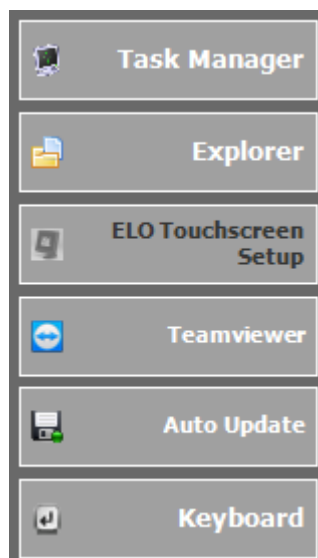


Figure 3-11 System menu part 2

Task Manager: This opens a task manager.

Explorer: This opens an explorer.

ELO Touchscreen: This is disabled by default.

Teamviewer: This opens a teamviewer window.

Auto Update: This updates ProTight on this installation based on a manifest.

Keyboard: This opens a virtual keyboard.

To switch between the two menus in system.



Figure 3-12 how to switch between menus

These buttons switch the menus.

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3.6. SETTINGS MENU

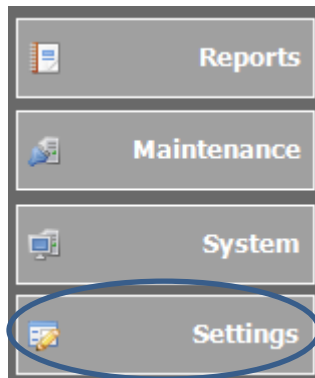


Figure 3-13 Settings menu

To open the settings menu, click on the settings tab in the main menu.

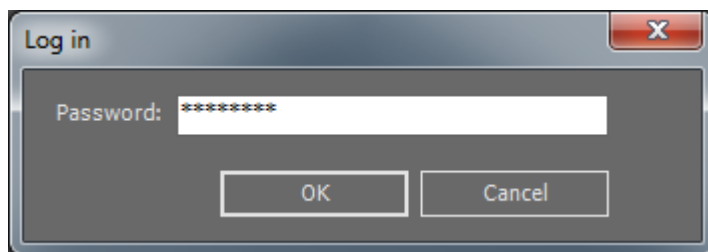


Figure 3-14 Give password

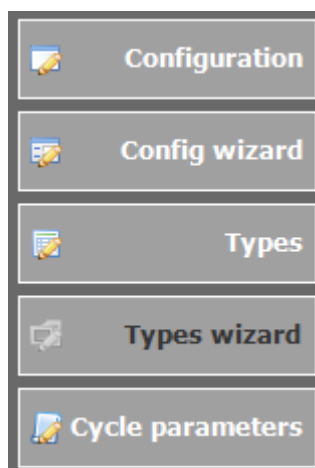


Figure 3-15 settings menu

Configuration: This opens the treeview of the configuration.

Config wizard: This open the wizard of the config wizard.

Types: This opens a treeview of the types, that are specified locally.

Types wizard: This opens a wizard of the types.

Cycle Parameters: This opens a window to edit the types based on the different cycles.

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4. INSTALLING PROTIGHT

To install ProTight and all its dependencies, you'll need administrative rights. The setup will install all dependencies and ProTight.

4.1. NECESSARY FILES

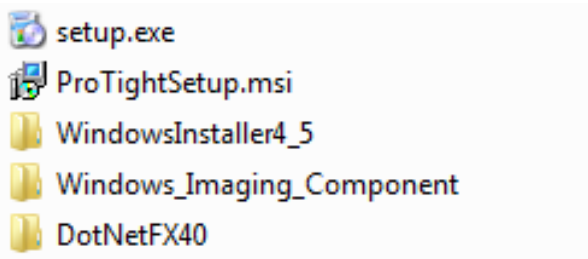


Figure 4-1 Necessary files

4.2. MINIMUM REQUIREMENTS PC

CPU: 1,6GHz
Memory: 1GB
Disk space: minimum 5GB of free space
Screen resolution: 1024:768
OS: Windows XP, Windows 7 are supported

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4.3. INSTALLING DEPENDENCIES

To start installing the dependencies, it will be necessary to execute setup.exe. The setup will check if you have the necessary files and install them when necessary. So it is possible that all dependencies are already installed and then it will skip this step and start automatically with the installation of ProTight.

There are 3 dependencies:

- Windows Imaging Component
- Windows Installer 4.5
- .NET Framework 4.0

All three dependencies are contained within the setup.

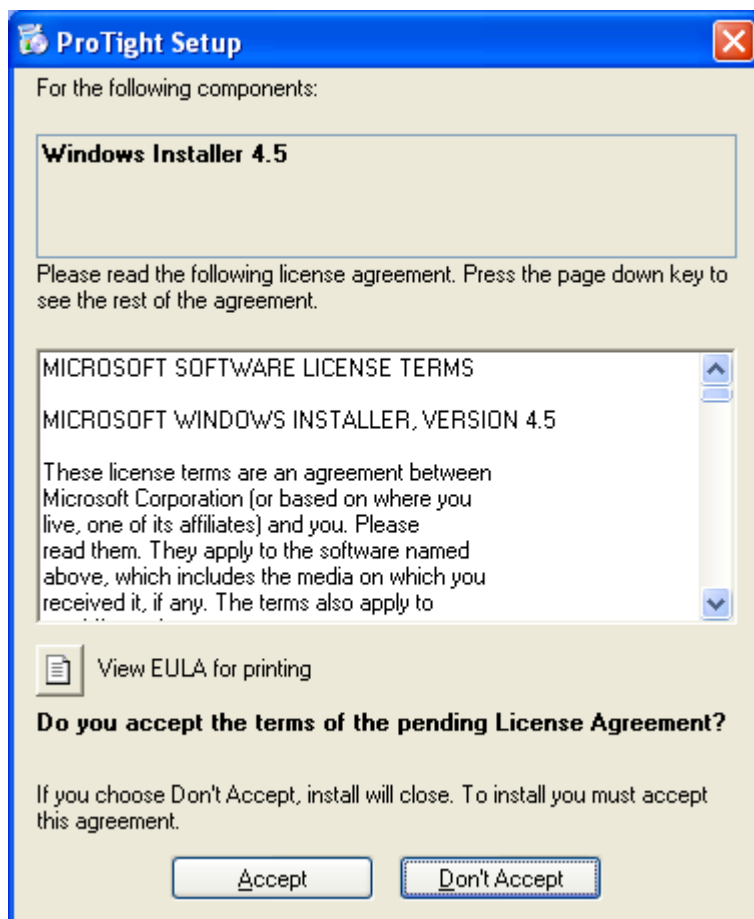


Figure 4-2 Windows Installer 4.5 licensing

Click accept to install Windows Installer 4.5.

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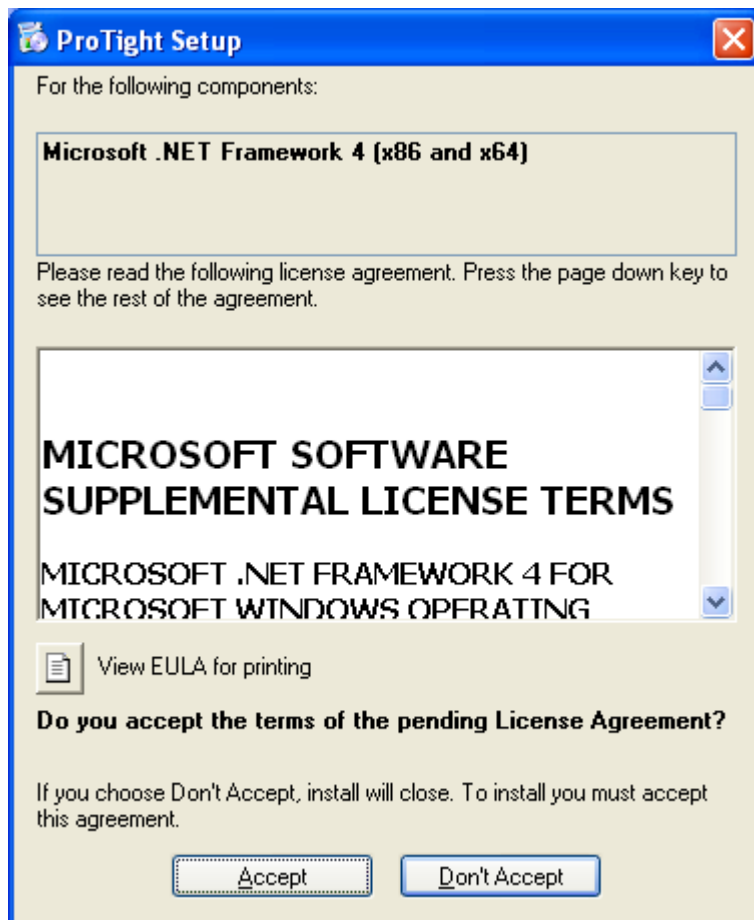


Figure 4-3 .NET Framework 4 licensing

Click accept to install .NET Framework 4.

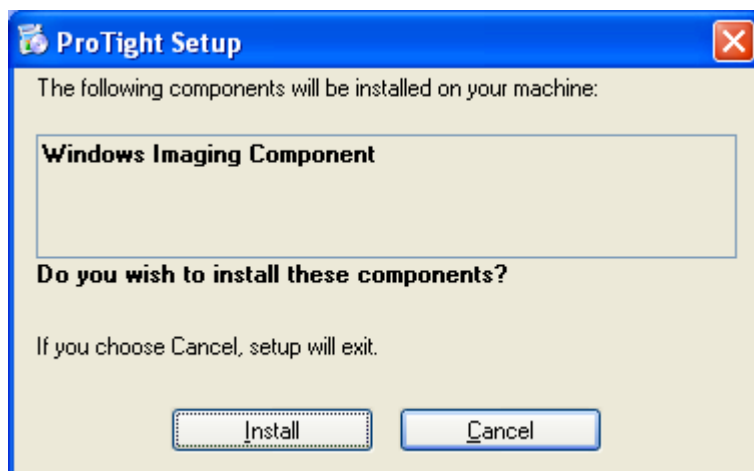


Figure 4-4 Windows Imaging Component acceptance

Click install to install Windows Imaging Component.

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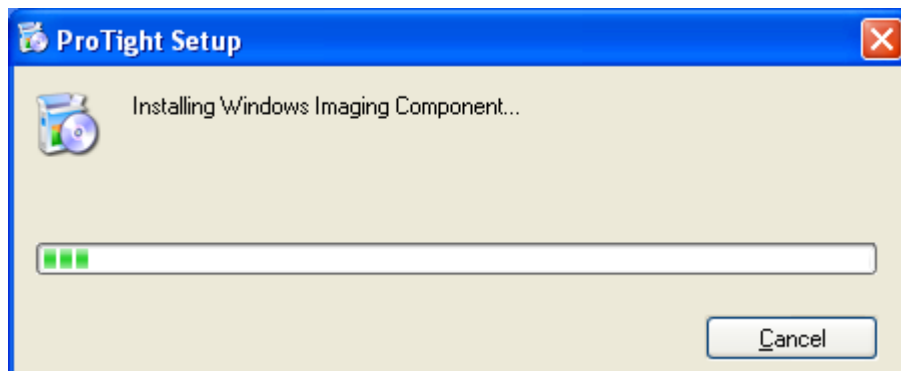


Figure 4-5 installing Windows Imaging Component

It will first install the Windows Imaging Component.

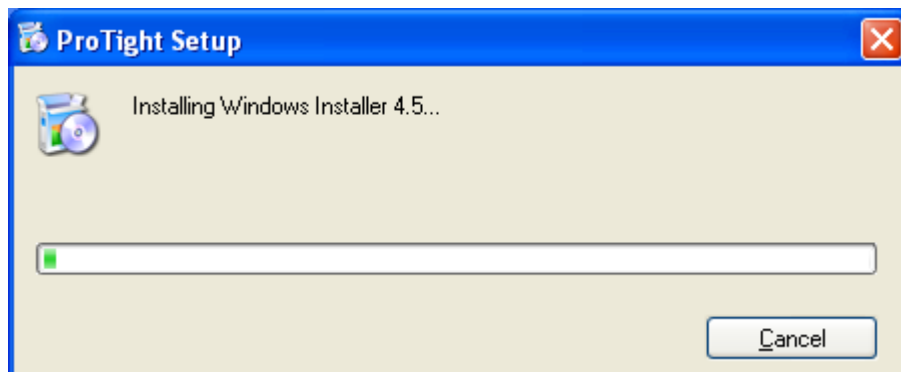


Figure 4-6 Installing Windows Installer 4.5

It will first install the Windows installer 4.5.

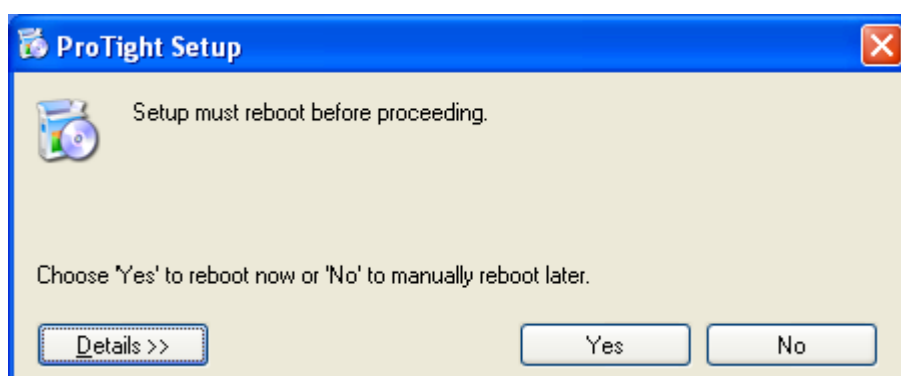


Figure 4-7 reboot after Windows Installer 4.5 installation

To finish the installation of Windows Installer 4.5, it is necessary to reboot the PC. So click 'Yes' to continue the installation. After the reboot of the PC, The setup continues. If the setup doesn't continue, Start the setup and the setup will continue where it left off.

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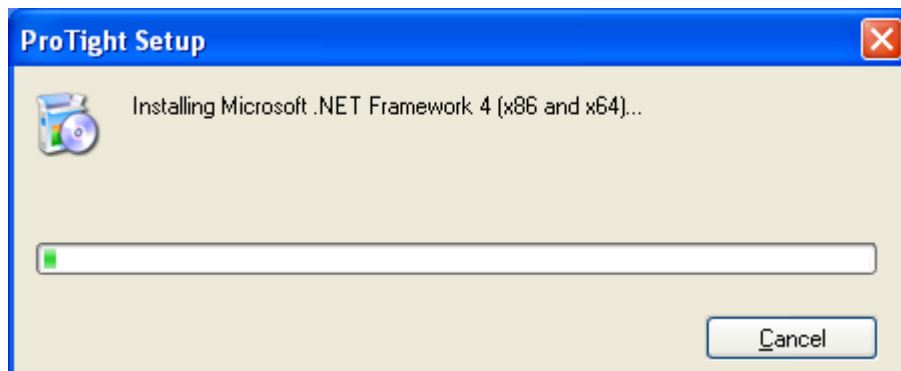


Figure 4-8 .NET Framework 4 installation

It will install .NET Framework 4. This can take a few minutes.

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4.4. INSTALLING PROTIGHT

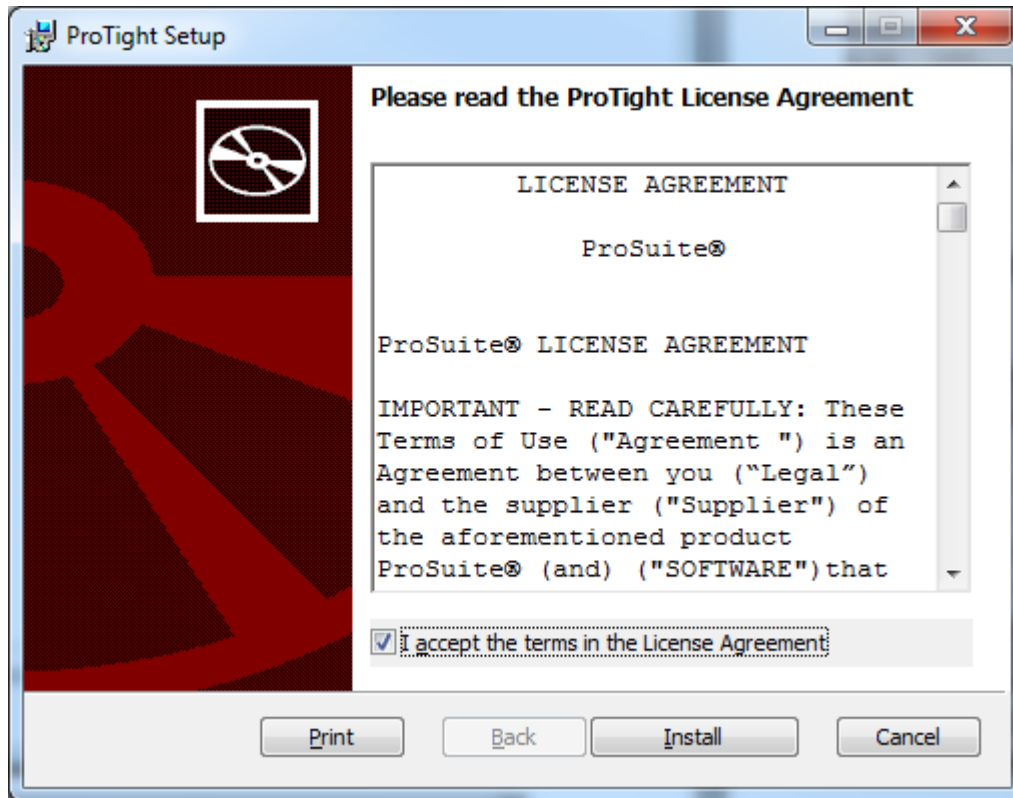


Figure 4-9 Installing ProTight

Start the installer and accept the terms and click install. This will install ProTight on the PC.

- x86: <C:\Program Files\De Jaeger Automation bvba\ProTight>
- x64: [C:\Program Files \(x86\)\De Jaeger Automation bvba\ProTight](C:\Program Files (x86)\De Jaeger Automation bvba\ProTight)

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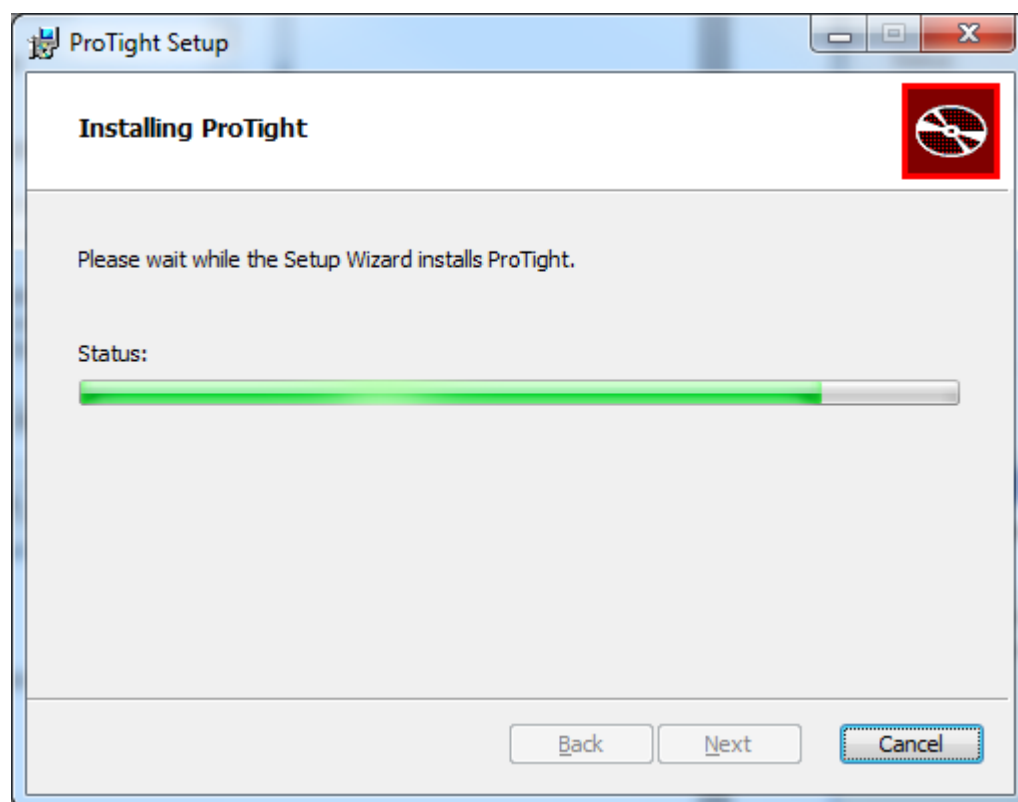


Figure 4-10 installation in progress

ProTight is being installed

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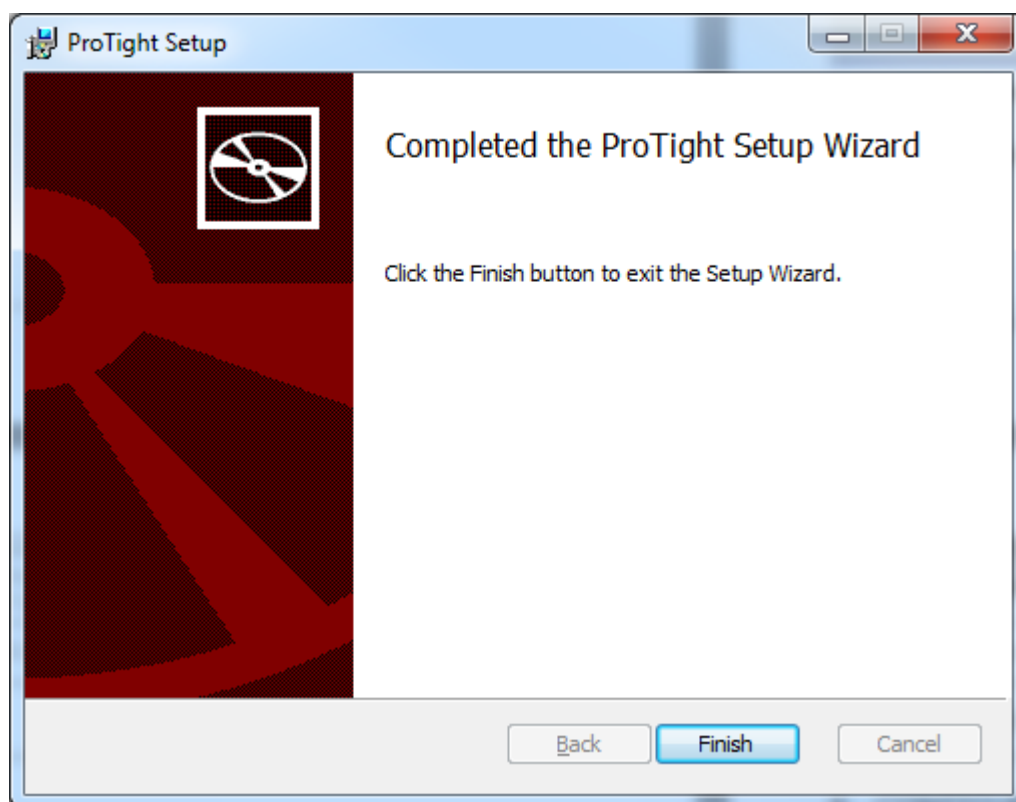


Figure 4-11 Installing ProTight

Finish the installation

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5. LICENSING

5.1. FIRST STARTUP

After installation, when ProTight first startups, It can take a minute to initialize the PC. It will make sure the PC gets a license and configure the system to have a 60 day demo license.

5.2. LICENSEMANAGER AT STARTUP

The license manager at startup will show when there are only 10 days left for the demo license. The license will expire after that. Which means that ProTight will be unable to continue. The license manager also checks if there is any tampering with the license file.

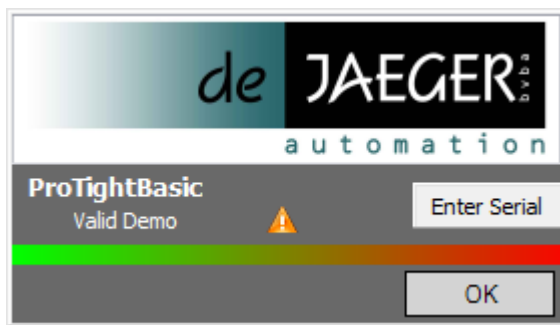


Figure 5-1 License manager at startup

To validate the license, enter serial. To continue with the demo license, without validating the license, click OK.

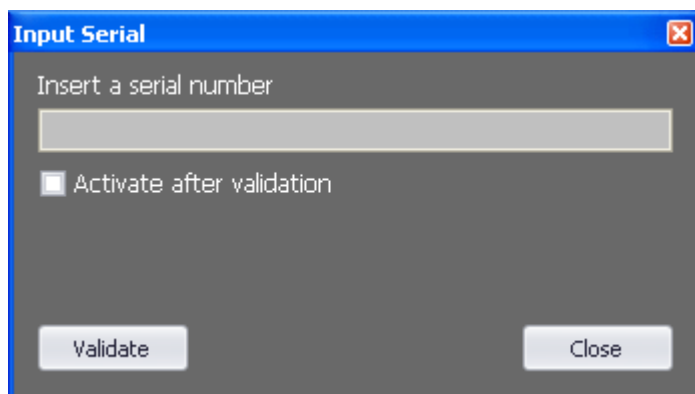
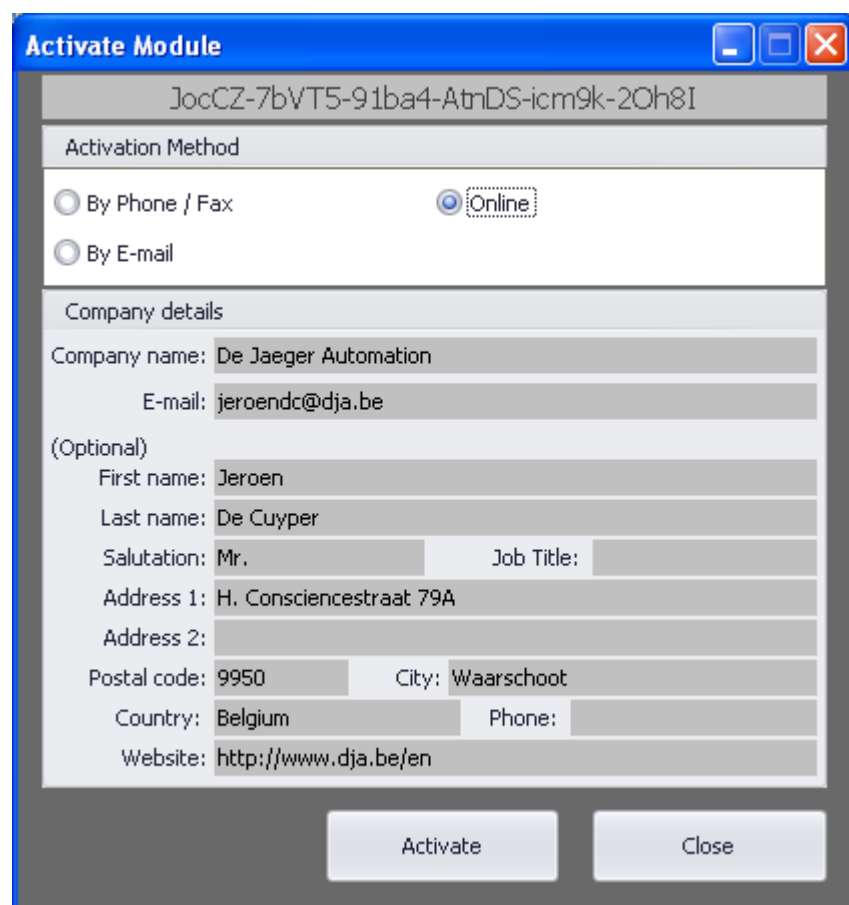


Figure 5-2 Input serial number

Enter the serial and check Activate after validation to validate the license. Click validate.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 23(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			



Activate Module

JocCZ-7bVT5-91ba4-AtnDS-icm9k-20h8I

Activation Method

☐ By Phone / Fax ☒ Online ☐ By E-mail

Company details

Company name: De Jaeger Automation

E-mail: jeroendc@dja.be

(Optional)

First name: Jeroen

Last name: De Cuyper

Salutation: Mr. Job Title:

Address 1: H. Consciencestraat 79A

Address 2:

Postal code: 9950 City: Waarschoot

Country: Belgium Phone:

Website: http://www.dja.be/en

Activate Close

Figure 5-3 Activate module

Fill in the form and check the activation method. There are 3 different methods to activation:
If the PC is connected to the internet, choose online. This will automatically activate the license.
If the PC isn't able to save files and isn't connected to the internet, choose phone/fax.
Else take E-mail.

The inputs should be correctly filled in as this makes requests easier. The Email address used should be a correct one as that one is used when Email activation is used.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 24(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

5.2.1. Online Activation

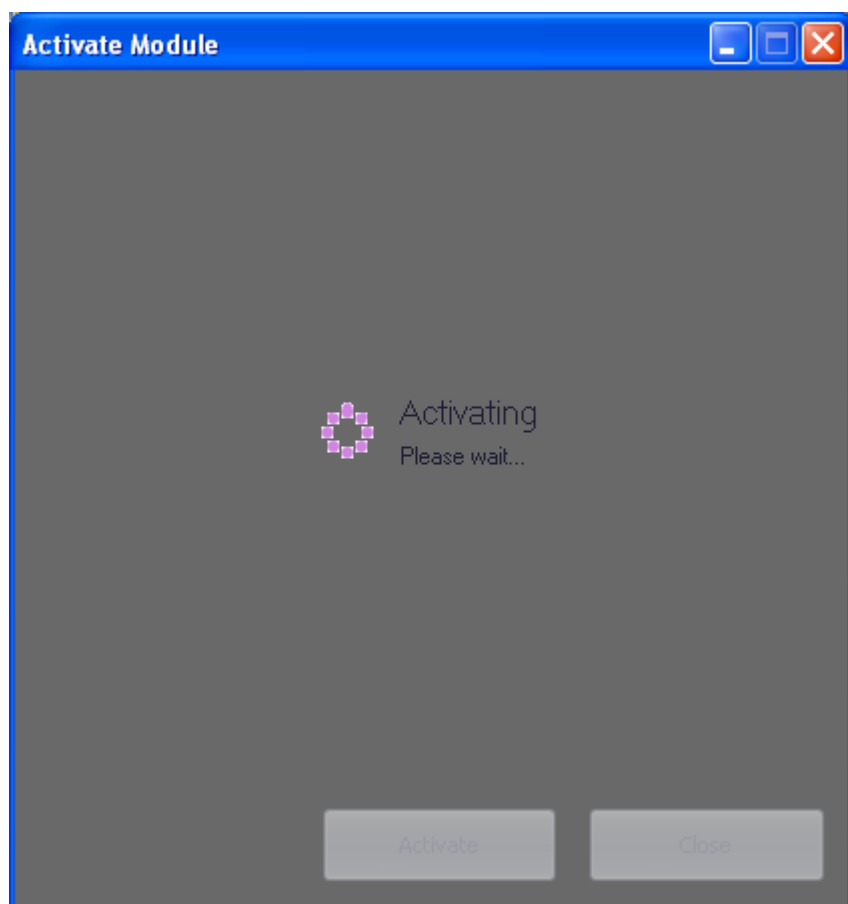


Figure 5-4 Online Activation update

This can take a few minutes to activate.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 25(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

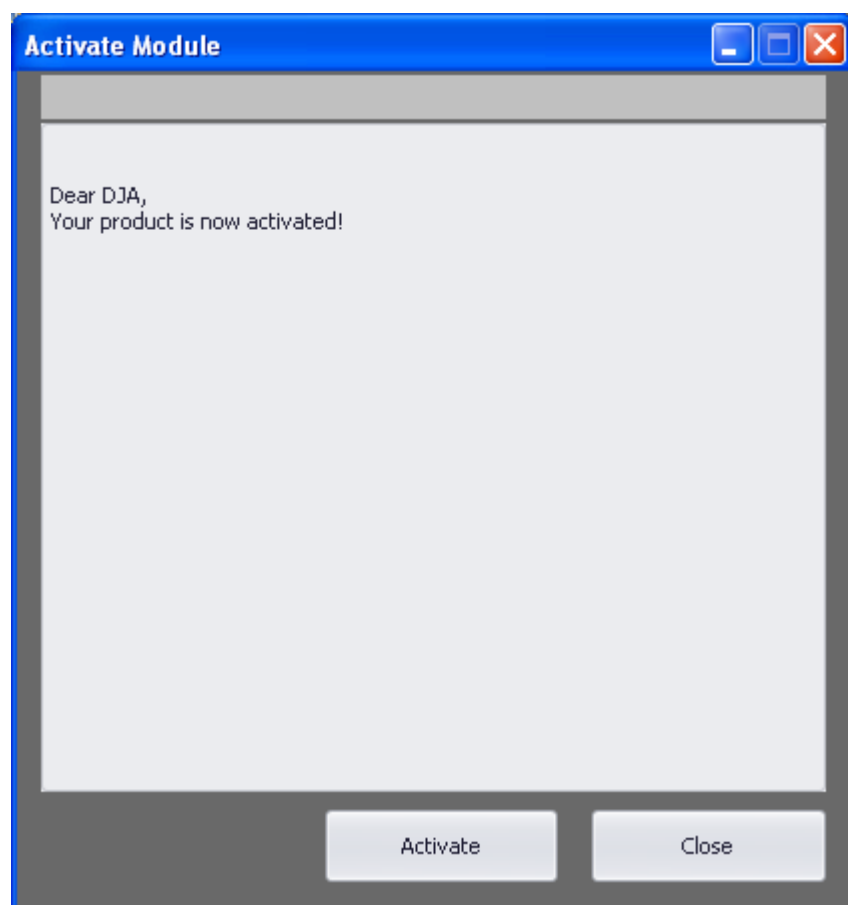


Figure 5-5 Activated successfully

When successful, ProTight will be successfully activated.

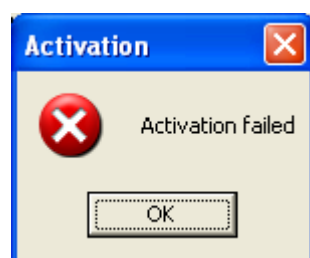


Figure 5-6 Activated failed

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 26(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

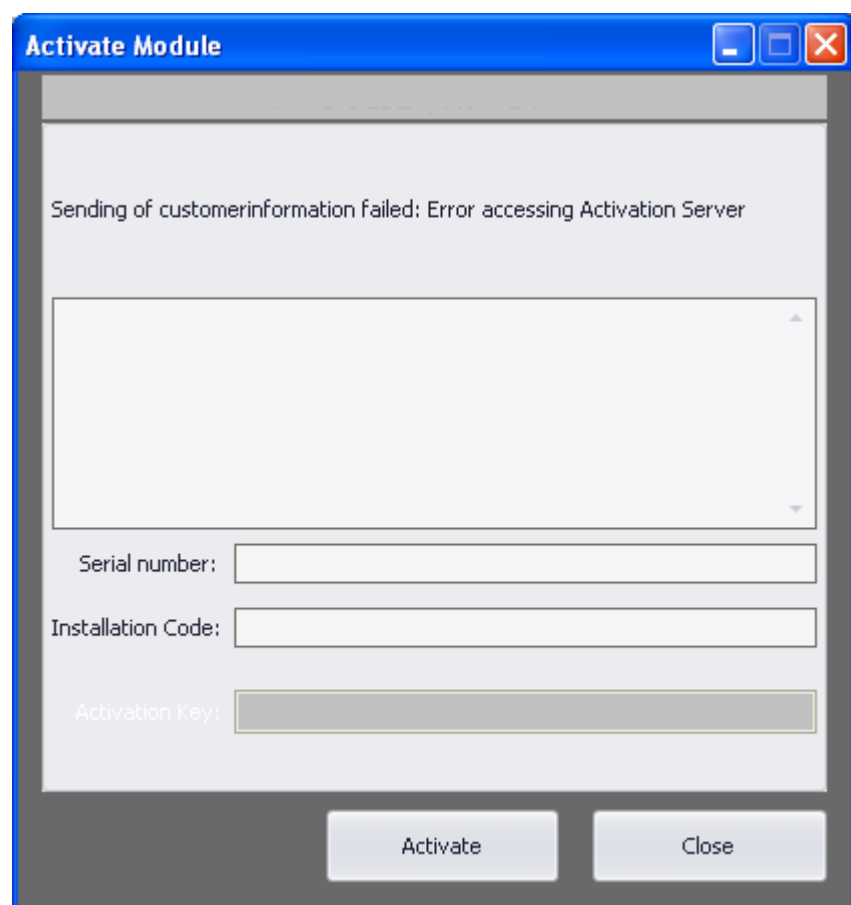


Figure 5-7 activation failed

When it fails to activate, retry activating with email.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 27(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

5.2.2. E-mail activation

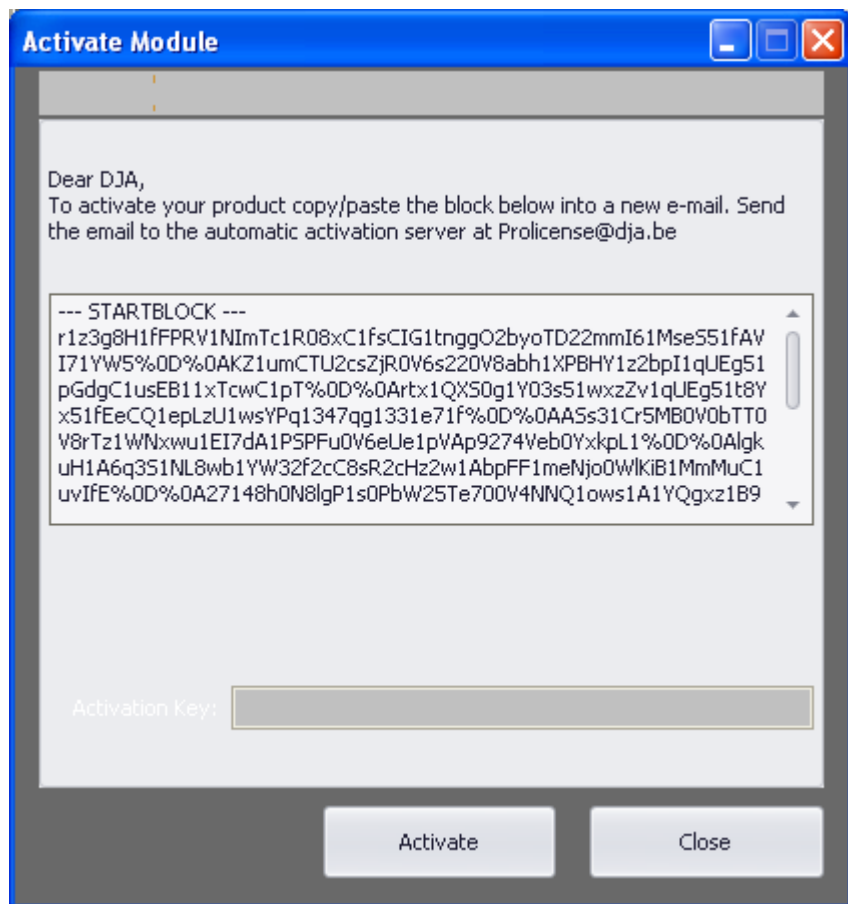


Figure 5-8 Activation Block

By copying the complete block, and emailing the complete block (with STARTBLOCK and ENDBLOCK included) to ProLicense@dja.be. It will send an email back to email supplied in the form. This can take half an hour.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 28(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

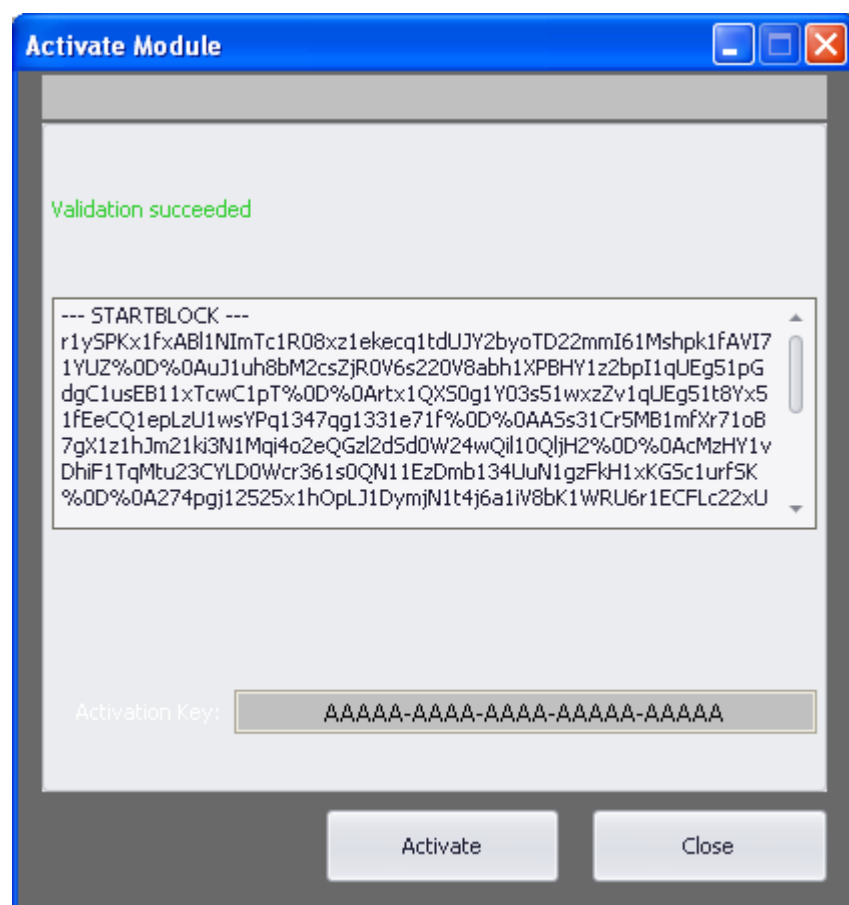


Figure 5-9 Validation succeeded

And now the validation is complete.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 29(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

5.3. LICENSEMANAGER AT RUNTIME

It is also possible to update the license at runtime. This is especially important to activate submodules in the license.

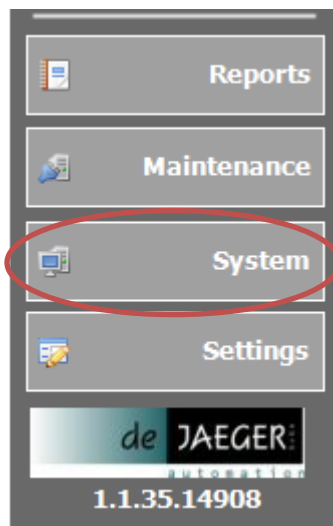


Figure 5-10 Start system

Start the system and give in the password (default: ProTight)

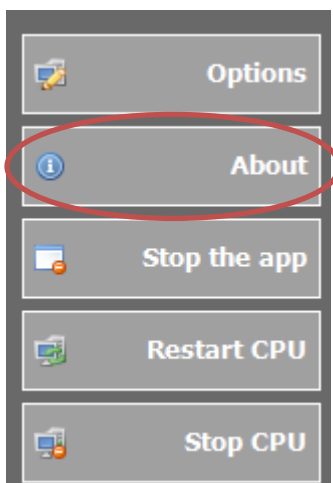


Figure 5-11 start About

Start up the About screen.

		H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 30(284)
Bewerker (Naam, telefoon) Christophe De Mey		+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual				



Figure 5-12 The About screen

To open the license manager, go to the License button. It can take up to 30 seconds before it opens the manager.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 31(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

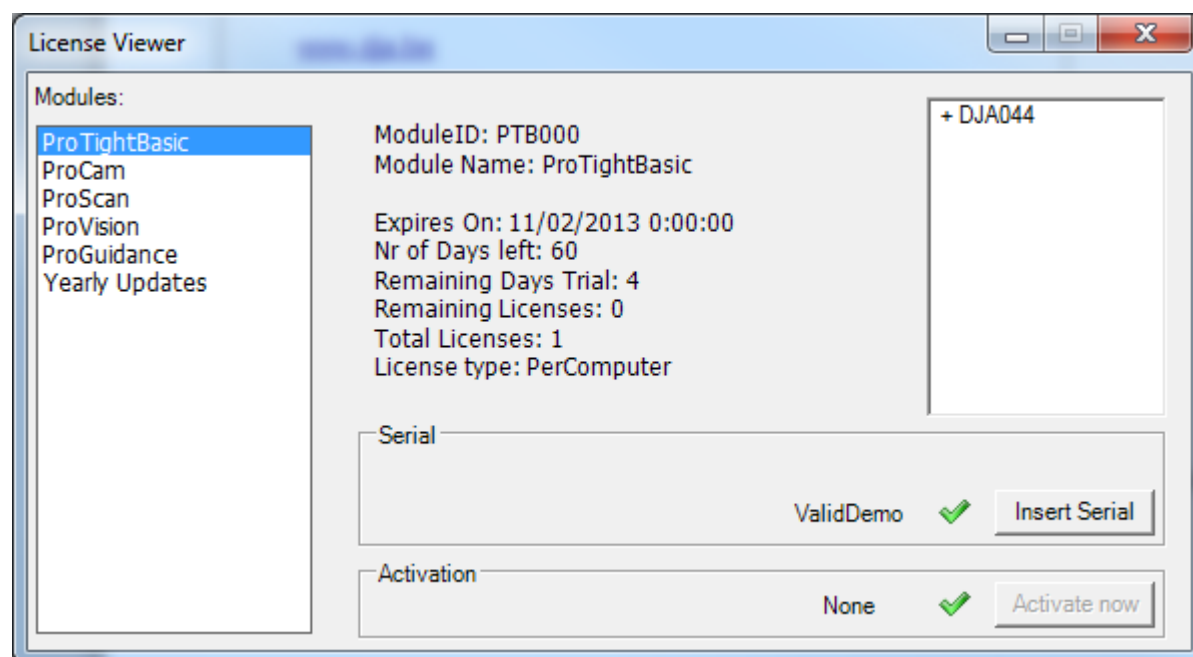


Figure 5-13 License manager with ValidDemo License

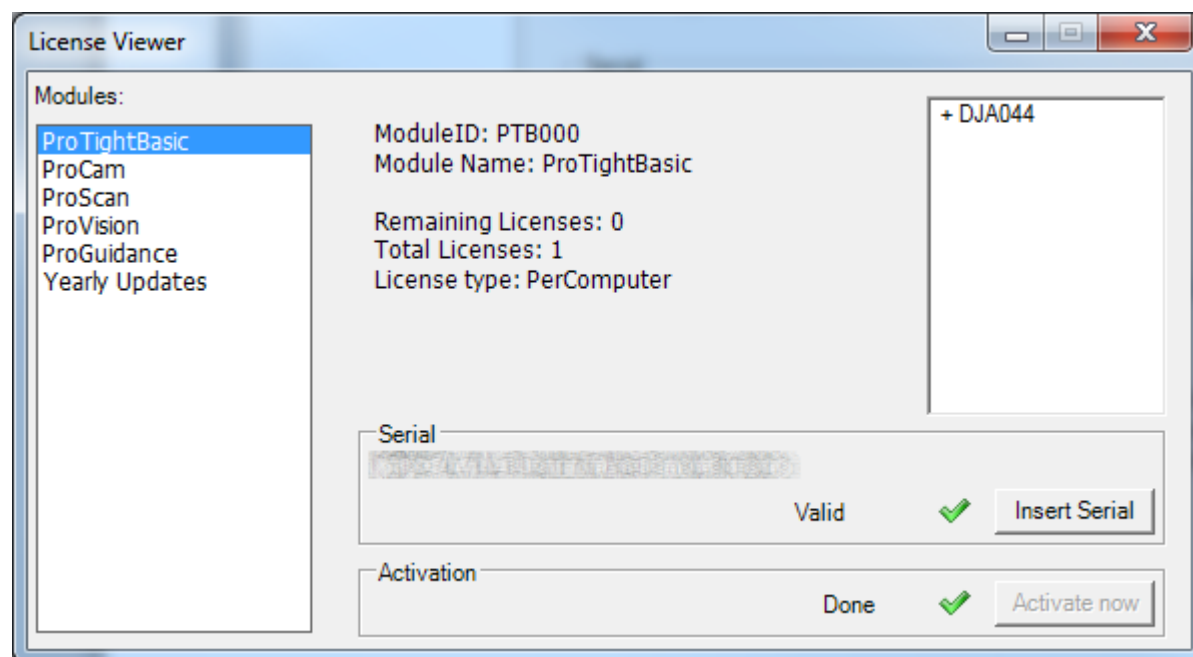


Figure 5-14 License Manager with Valid license

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 32(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

The license manager shows a few things:

- The different modules in the license. For each module, It is necessary to have a key.
- The moduleID. This is an internal codename for the module that is selected
- The module name. The name of the module that is selected on the left side.
- Expires On. This is the date when the license will expire. It will only be visible in ValidDemo mode.
- Nr of Days left. This gives a clear indication of how days you can still run with this license before the validDemo license is expired.
- Remaining Days Trial: This is the amount of days left before the trial version of this application is expired.
- Remaining Licenses: How many licenses are unused.
- Total Licenses: Total amount of licenses for this installation.
- License Type. This is the type of the license. This will always be perComputer or Yes/No.
- On the Right side, There is the name of the computer for which the license is used.

There is one main module and several submodules. The main module is ProTight and this will determine is the application can start or is expired. The other modules are also dependent on this model.

The other modules make certain features available, like for instance the ProGuidance tab for visual production guidance.

To activate such a submodule, you should select the wanted submodule on the left side.

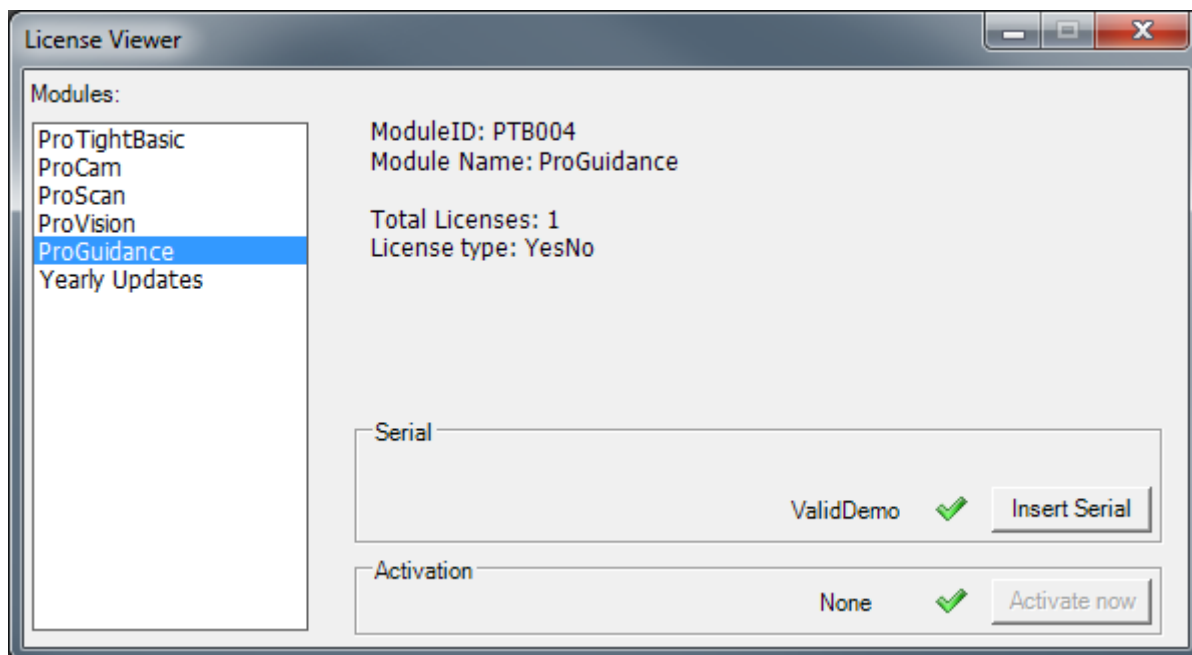


Figure 5-15 Submodules

As you can see, the submodule still needs to be activated. To activate a sub module is the same as the main module, ProTightBasic.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 33(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

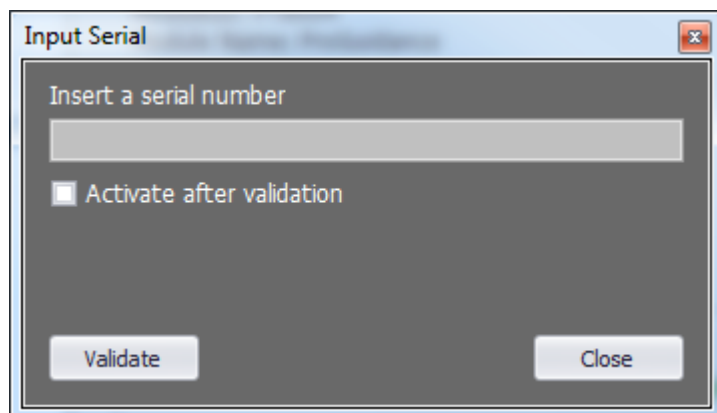


Figure 5-16 The Serial for the submodule

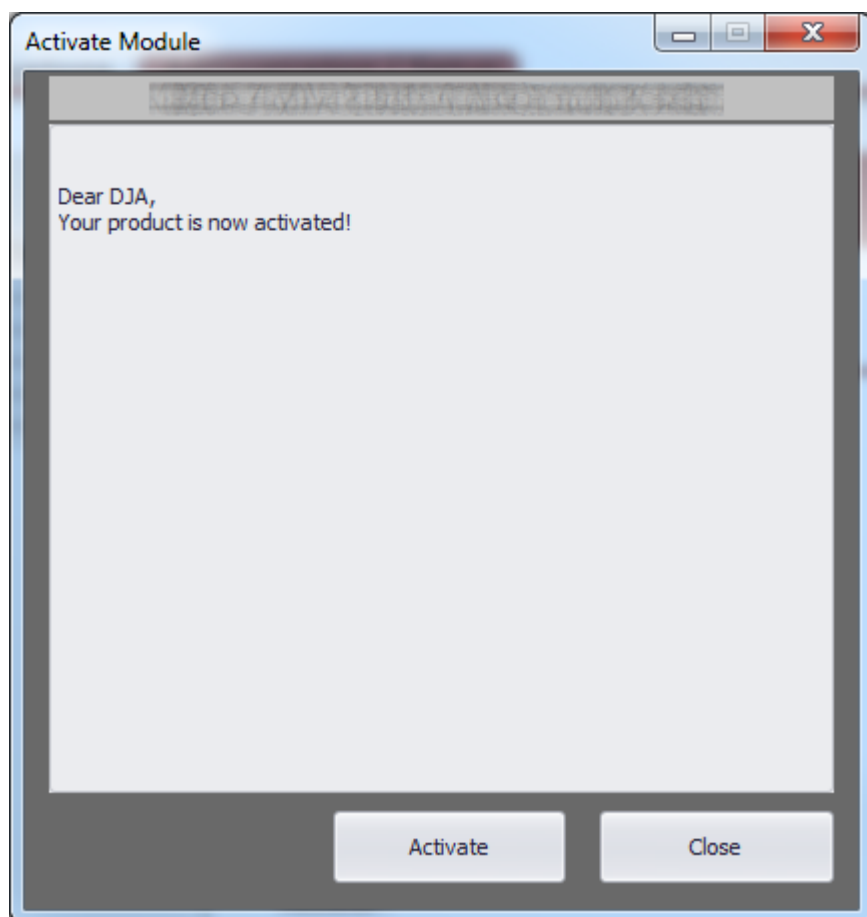


Figure 5-17 Submodule is activated

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 34(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

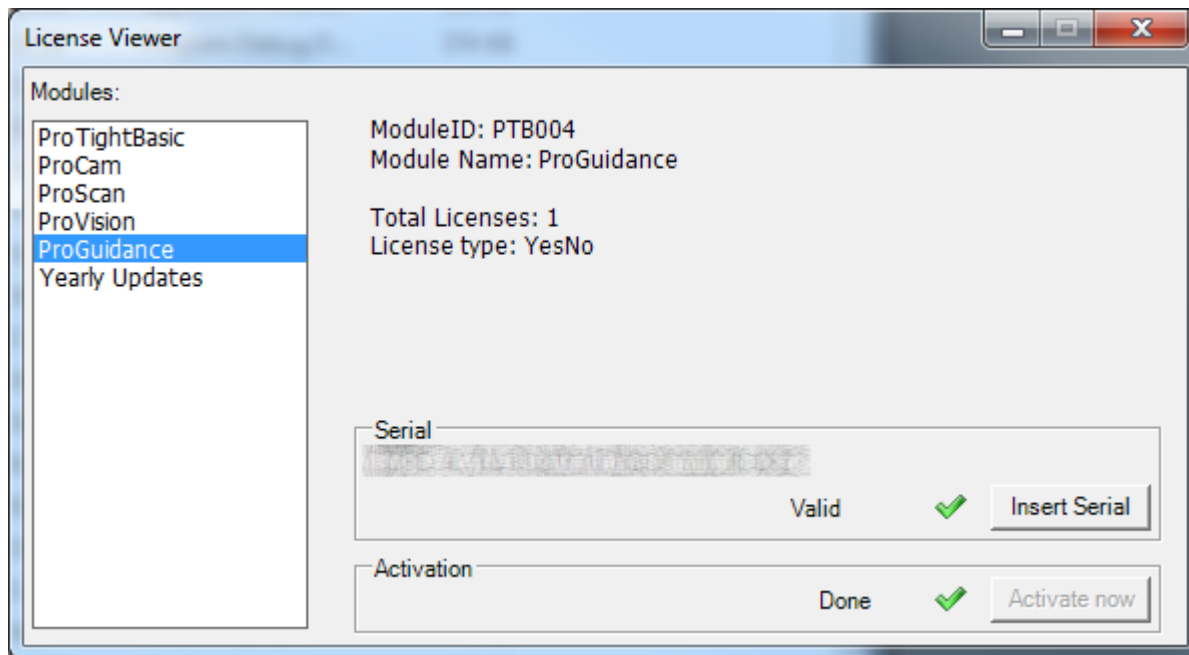


Figure 5-18 ProGuidance confirmation

5.4. TAMPERING

Tampering a license file means that the license file isn't valid anymore. This is in place to prevent invalid uses of ProTight. Tampering happens on machines which have their date changed. This can be solved again by setting the date back to the correct date. The tampering can also happen because of the license file was edited outside of the program. When a license file is tampered, contact service@dja.be.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 35(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

6. STARTING PROTIGHT

6.1. STARTING A NEW INSTALLATION

During the first run, ProTight will add several setting and configuration keys to its configuration which haven't been made yet. The first time you start up ProTight it can take quite a few seconds. It will ask for licensing 50 days after the initial startup.



Figure 6-1 Configuration from Database

This allows for a configuration chosen from the database. The database has such information over previous installed installations. This allows for easy adaption of the same machine.

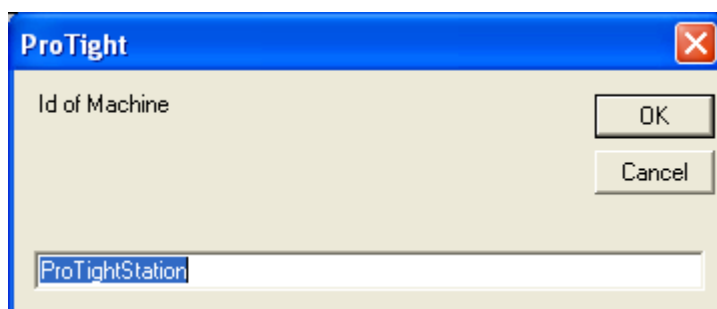


Figure 6-2 Choose station name

When the configuration wasn't chosen from the database, this screen ask for the name of the station.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 36(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

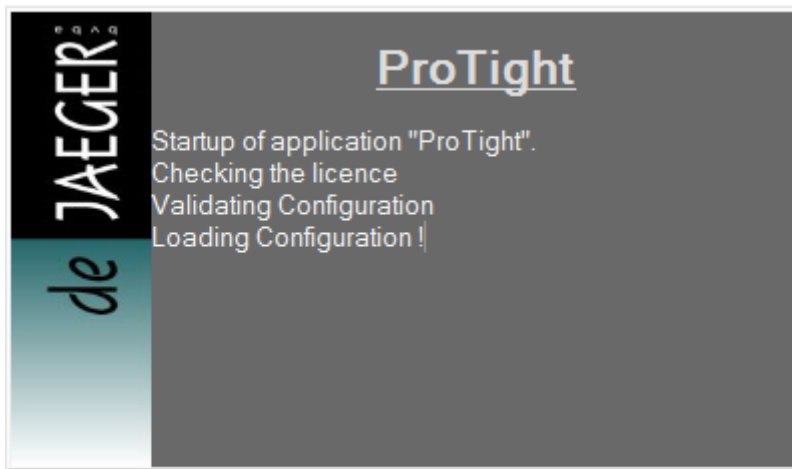


Figure 6-3 Splash screen

Then the startup proceeds like normal. It will show all steps of the startup

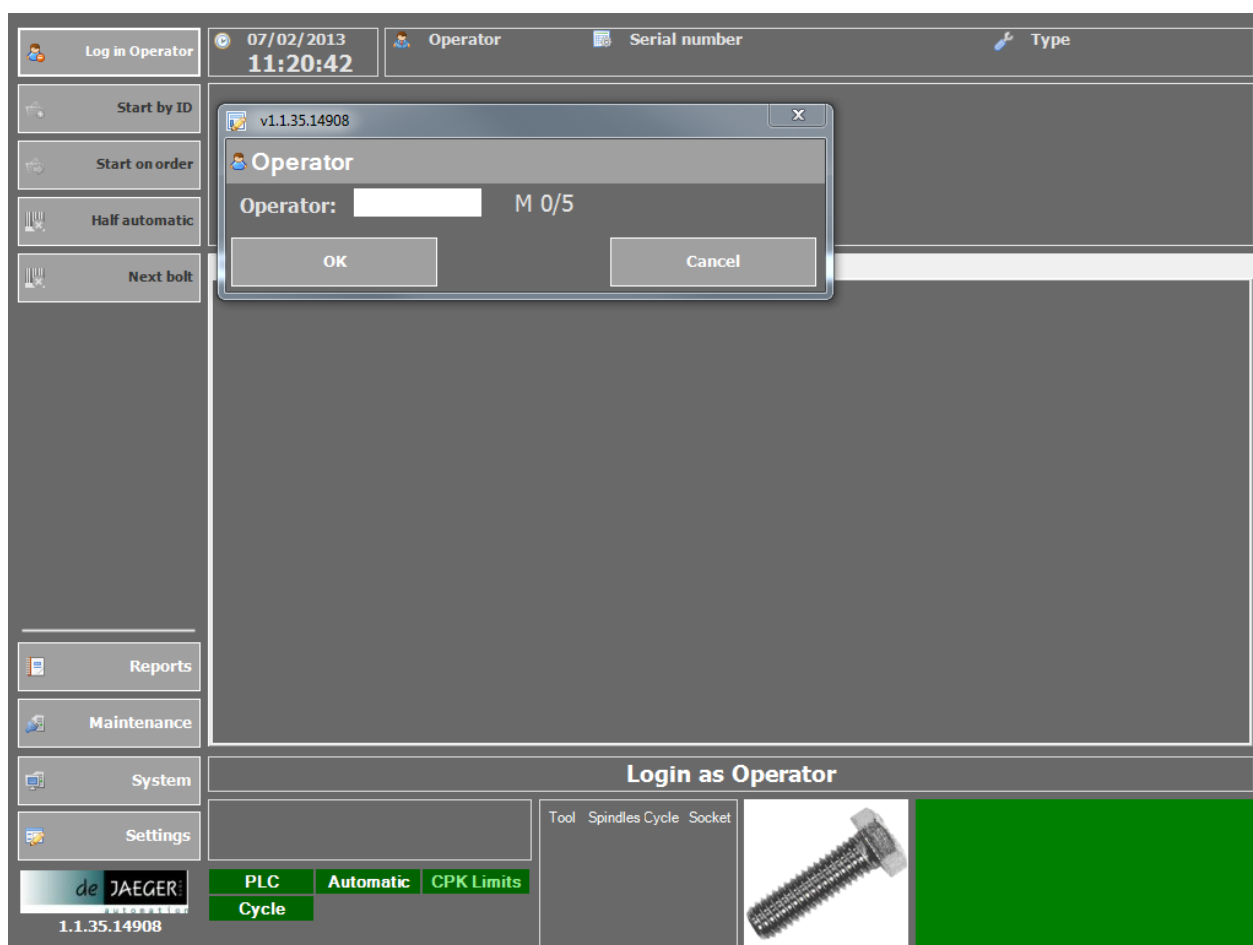


Figure 6-4 Initial startup main screen

As there are no tools configured, the next step would be to configure the installation.

7. CONFIGURATION OF PROTIGHT

ProTight can be configured for all kind of setups and can be configured in two ways:

- By using a wizard
- By using a treeview

The configuration can be consulted under Options (bottom left in the main screen)

After typing in the password (default: ProTight) the user is shown the different configuration entries:

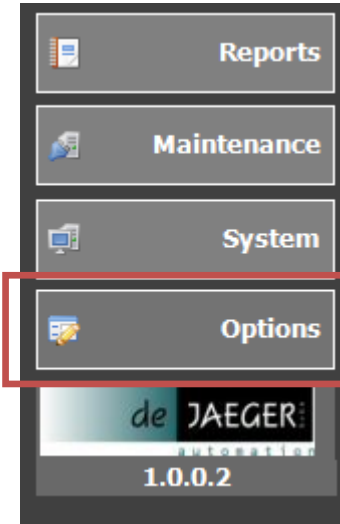


Figure 7-2 main menu

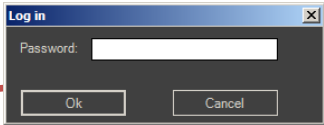


Figure 7-3 password screen

 Configuration	Calls the configuration tree
 Config wizard	Calls the configuration wizard
 Types	Calls the model/types tree
 Types wizard	Calls the model/types wizard
 Cycle parameters	Calls the cycle parameters shortcut
 Back	Back to the main menu

Figure 7-1 Options menu

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 38(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

7.1. TREEVIEW

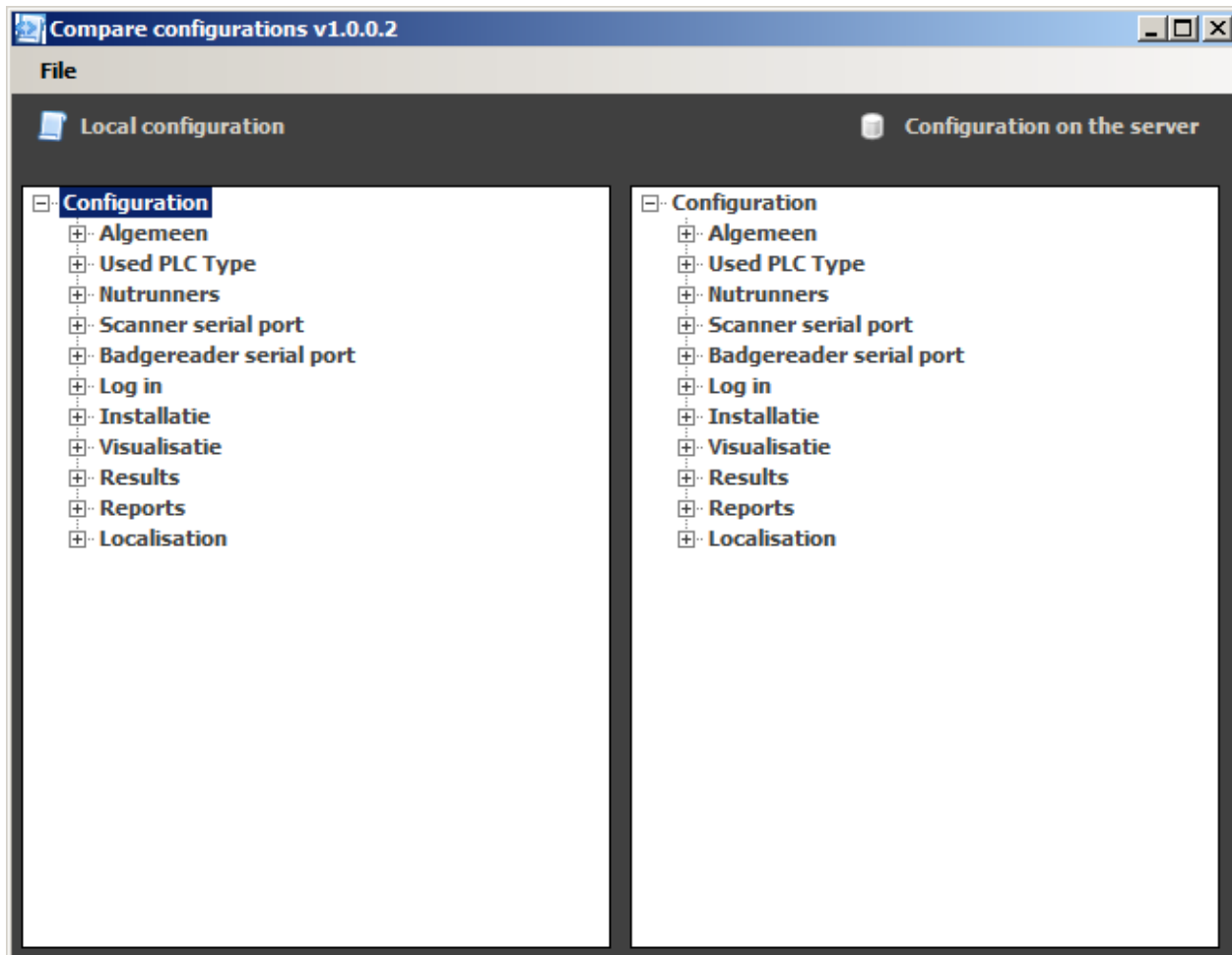


Figure 7-4 Configuration treeview

The treeview shows 11 different sections. Those are also reflected in the wizard and each of them will be discussed in detail in the following chapters.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 39(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

7.2. WIZARD

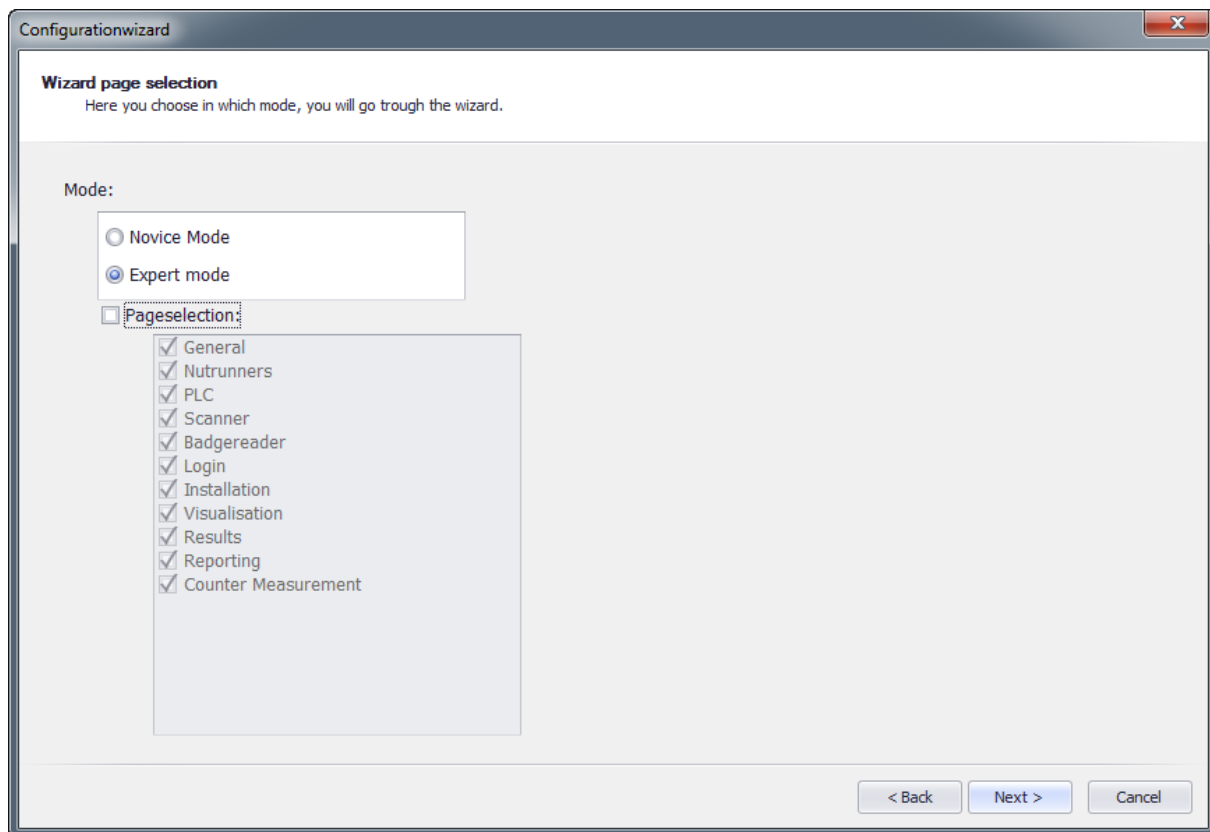


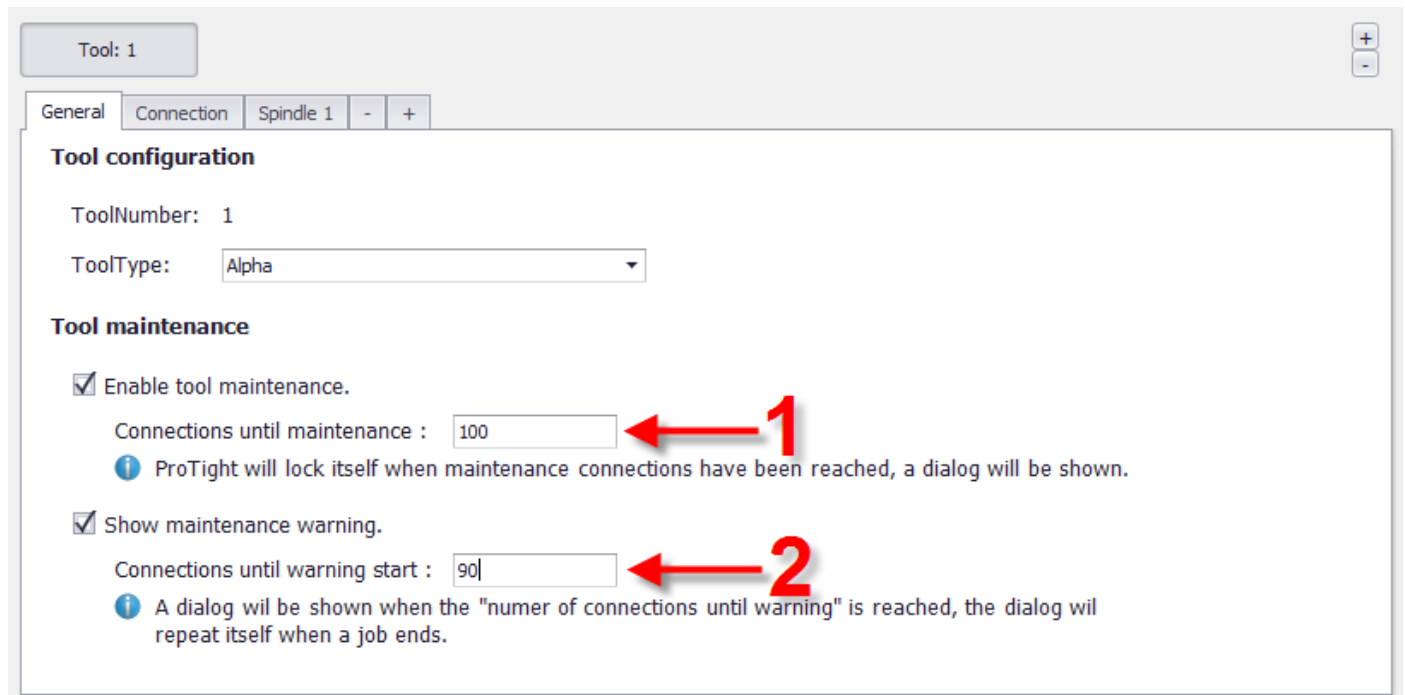
Figure 7-5 Wizard start page

By using the wizard, one has several options to use this wizard.

- In novice mode only the General, Nutrunners and PLC sections will be handled
- In Expert mode all the sections are available. It's also possible to select specific sections by checking PageSelection and the needed sections.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 40(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

7.2.1. Setting up maintenance



Tool: 1

General Connection Spindle 1 - +

Tool configuration

ToolNumber: 1

ToolType: Alpha

Tool maintenance

☒ Enable tool maintenance.

Connections until maintenance : 100

1

2

☒ Show maintenance warning.

Connections until warning start : 90

2

1. Connections until maintenance.
ProTight will lock itself when maintenance connections have been reached, a dialog will be shown.
2. Connections until warning start.
A dialog will be shown when the "number of connections until warning" is reached, the dialog will repeat itself when a job ends.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 41(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

7.2.2. Setting up additional scanning

To enable additional scanning you must first select the checkbox with text “Enable additional scanning”.
To learn more about how you can validate additional barcodes click on “Help” this will provide you with an example of an additional scanning.

Proceed by filling out the fields Startposition, Length from startposition and Result, then select the Type you want to match, you can re-add the same barcode for another type if required.

Click on the button with text “Add scanning”.

Additional scanning
Add one additional scanning to the login procedure.

Additional scanning
☒ Enable additional scanning
Startposition :
Length from startposition :
Result :
Type to match :
[Help](#)

[Add scanning](#) [Remove scanning](#) TT [Fieldname](#)

GPH

123|ABC1XC512
startposition

123|ABC 1XC512
length

Assuming this is the barcode we want to scan, we start by identifying the start position from where we want to start reading.

Once we have identified the startposition we can now set the length, in this case the length is 3 and startposition is 3.

These are the settings for the above example.

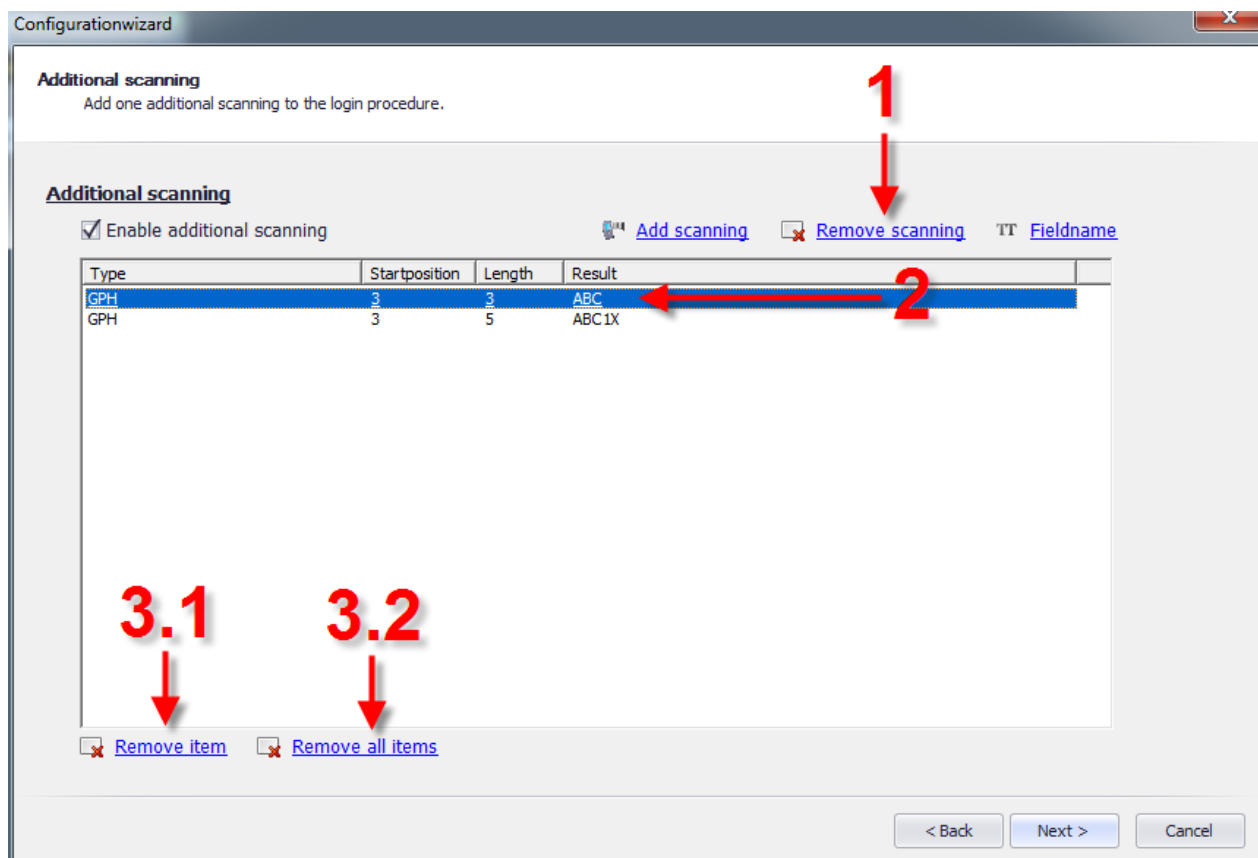
Startposition : 3
Length from startposition : 3
Result : ABC
Type to match : GPH-110

		H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66		Documentnaam Manual ProTight Template: FM44A		Pagina 42(284)	
Bewerker (Naam, telefoon) Christophe De Mey +32(0)9/378.49.89		Bijlagen Ja/Neen		Datum 10-Sep-13			
Onderwerp : ProTight manual							

7.2.2.1. View/Remove an additional scanning.

Click on the link with text “Remove Scanning” to list all additional scanings.
 Select a scanning by clicking or hovering over the item you want to select.

Click on the “Remove item” link to remove the selected item.
 Click on the Remove all items” link to remove ALL additional scanings.



Configurationwizard

Additional scanning
 Add one additional scanning to the login procedure.

Additional scanning

☒ Enable additional scanning

 [Add scanning](#)  [Remove scanning](#) TT [Fieldname](#)

Type	Startposition	Length	Result
GPH	3	3	ABC
GPH	3	5	ABC1X

[Remove item](#) [Remove all items](#)

< Back Next > Cancel

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 43(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

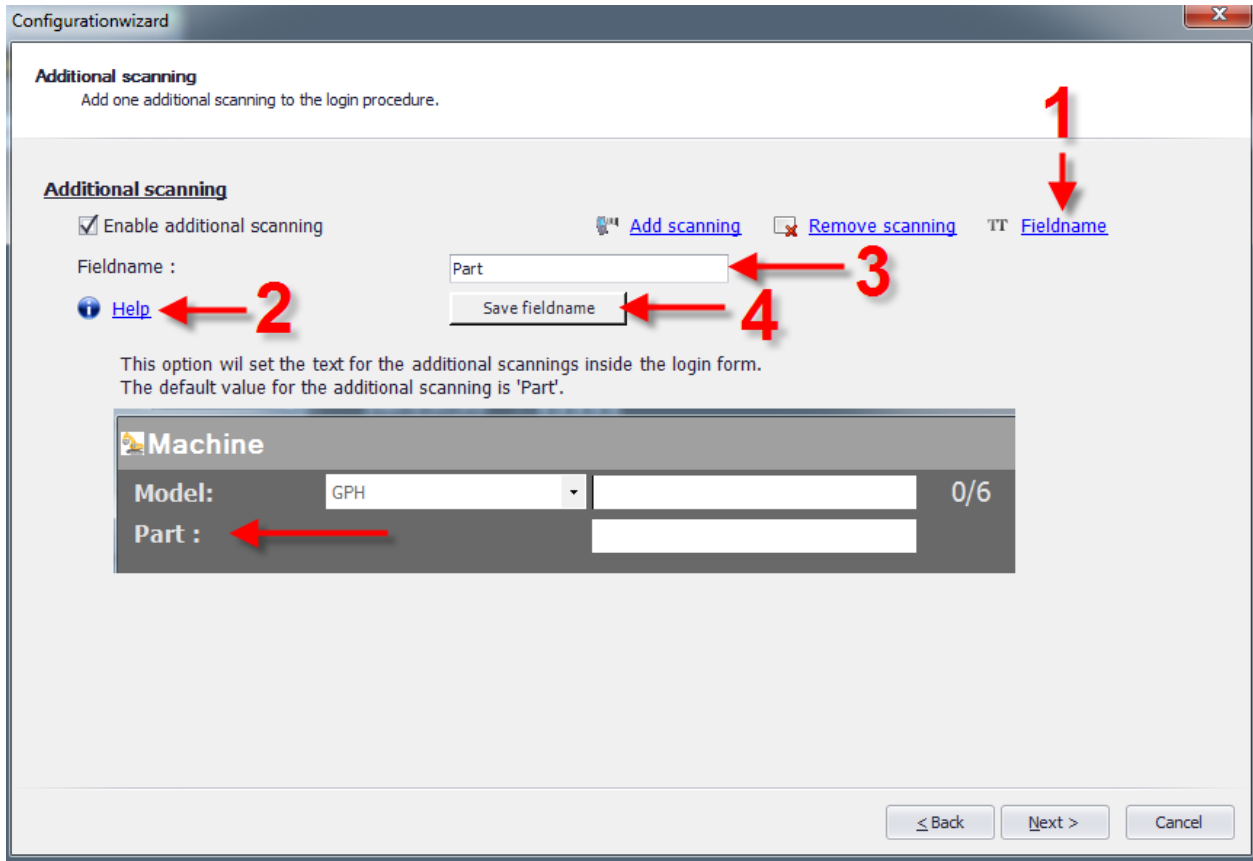
7.2.2.2. Changing the login screen fieldname.

Click on the link with text “Fieldname”.

Click on the link with text “Help” to view the effects of this option.

Fill in the textbox with label “Fieldname” to the desired value.

Finish by clicking the button with text “Save fieldname”.



The screenshot shows the 'Configurationwizard' window, specifically the 'Additional scanning' section. The window title is 'Configurationwizard'. The section title is 'Additional scanning' with the subtitle 'Add one additional scanning to the login procedure.'.

Under 'Additional scanning', there is a checkbox 'Enable additional scanning' which is checked. To the right of this checkbox are three links: 'Add scanning' (with a plus icon), 'Remove scanning' (with a minus icon), and 'Fieldname' (with a text icon). A red arrow labeled '1' points down to the 'Fieldname' link.

Below the checkbox, there is a label 'Fieldname :'. To the left of this label is a blue circular icon with an 'i' and the word 'Help'. A red arrow labeled '2' points to the 'Help' link. To the right of the 'Fieldname :' label is a text input field containing the word 'Part'. A red arrow labeled '3' points to this input field.

Below the input field is a button labeled 'Save fieldname'. A red arrow labeled '4' points to this button.

Below the 'Fieldname' section, there is a paragraph: 'This option wil set the text for the additional scanings inside the login form. The default value for the additional scanning is 'Part'.'

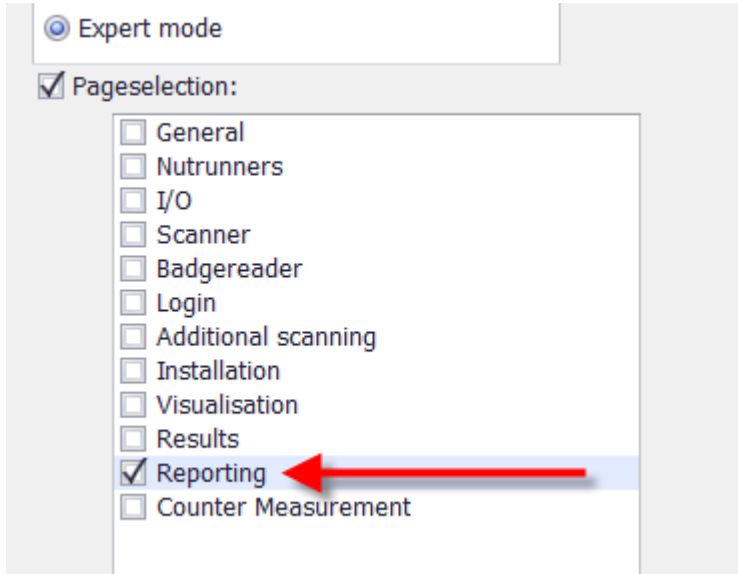
At the bottom of the window, there is a 'Machine' section with a 'Model:' dropdown menu set to 'GPH' and a 'Part :' label next to an empty input field. A red arrow points to the 'Part :' label.

At the bottom right of the window, there are three buttons: '≤ Back', 'Next >', and 'Cancel'.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 44(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

7.2.3. Exporting reports to remote.

Select Reporting in the wizard and click Next.

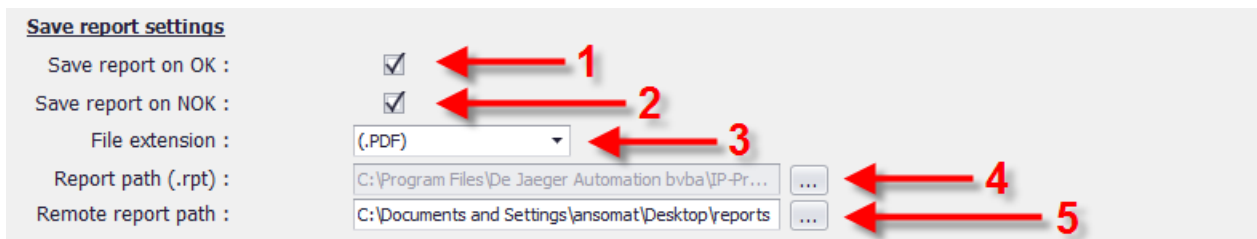


Expert mode

☒ Pageselection:

- ☐ General
- ☐ Nutrunners
- ☐ I/O
- ☐ Scanner
- ☐ Badgereader
- ☐ Login
- ☐ Additional scanning
- ☐ Installation
- ☐ Visualisation
- ☐ Results
- ☒ Reporting
- ☐ Counter Measurement

1. Save report on OK.
2. Save report on NOK.
3. Report file extension.
4. Report path, this is the .repx file you want to use, when file is not found or empty default report will be used.
5. Remote report path, this can be a network share or local filesystem path.



Save report settings

Save report on OK : ☒ ← 1

Save report on NOK : ☒ ← 2

File extension : (.PDF) ← 3

Report path (.rpt) : C:\Program Files\De Jaeger Automation bvba\IP-Pr... ← 4

Remote report path : C:\Documents and Settings\ansomat\Desktop\reports ← 5

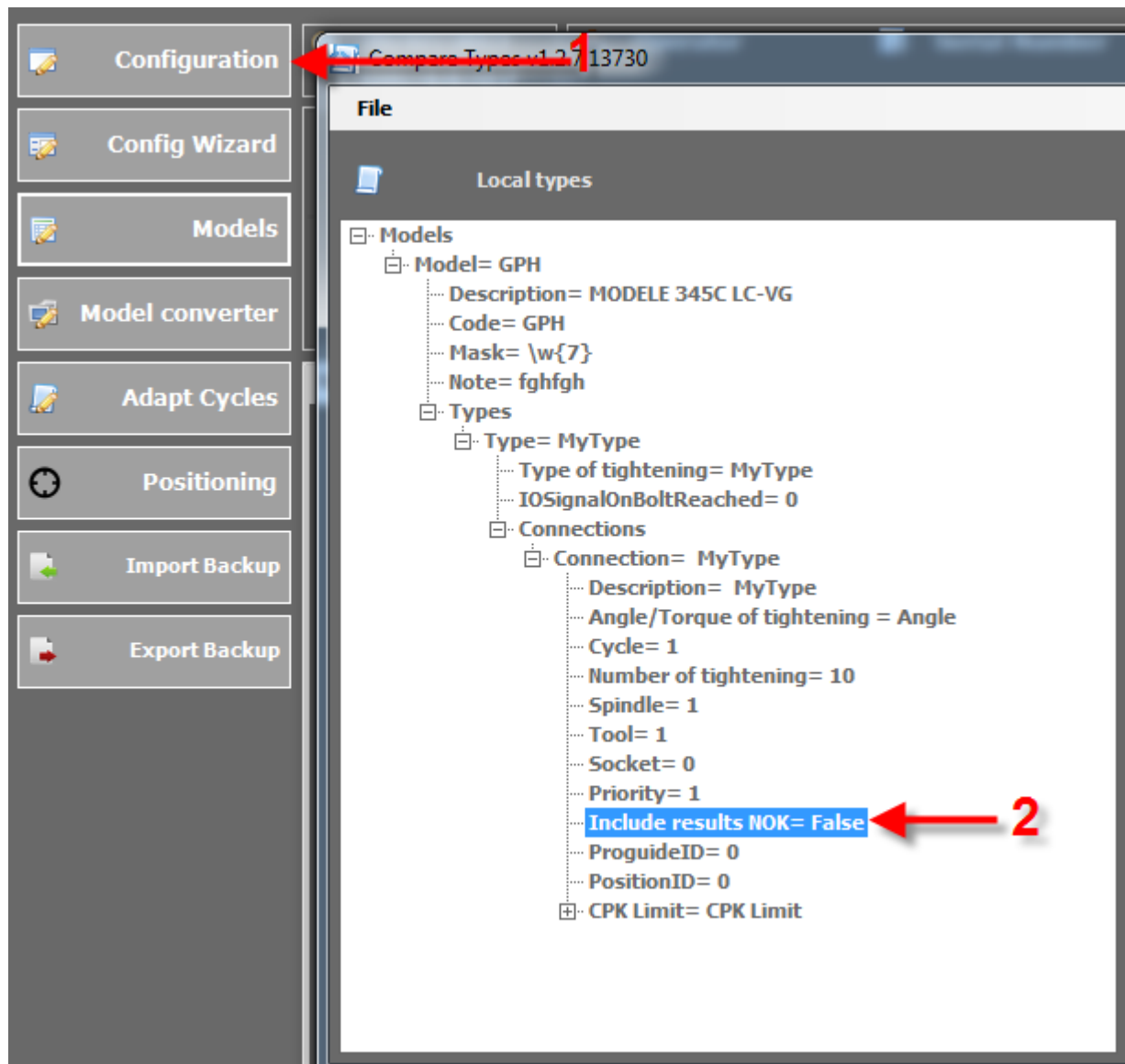
The files will automatically be copied over to the Remote report path”.

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7.2.4. Making the tool reverse after NOK Result.

There are 3 conditions that will be validated.

1. You must have "Include results NOK" set to False.



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- The option Reverse must be enabled and a reverse PSet must be set in the wizard.
Go to the configuration wizard and select the "Installation" page.

ProTight Configuration Wizard

WizardModeselector
Here you choose in which mode, you will go trough the wizard.

Mode:

☐ Novice Mode
☒ Expert Mode

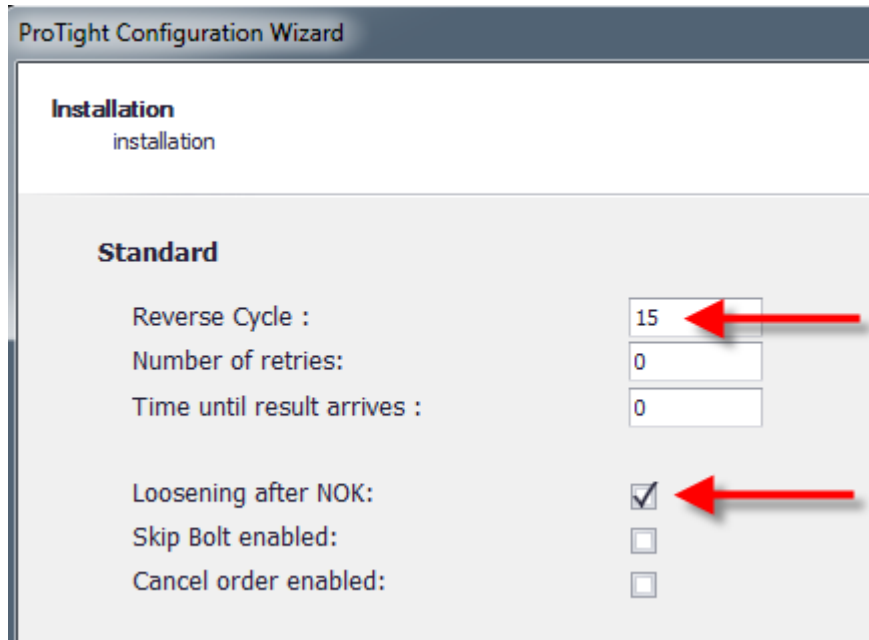
☒ Pageselection:

- ☐ General
- ☐ Nutrunners
- ☐ I/O
- ☐ Scanner
- ☐ Badgereader
- ☐ Login
- ☐ Additional scanning
- ☒ **Installation**
- ☐ Visualisation
- ☐ Results
- ☐ Reporting
- ☐ Counter Measurement



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Enable the reverse functionality “Loosening after NOK” and select a reverse PSet “Reverse Cycle”.



ProTight Configuration Wizard

Installation
installation

Standard

Reverse Cycle : ←

Number of retries:

Time until result arrives :

Loosening after NOK: ☒ ←

Skip Bolt enabled: ☐

Cancel order enabled: ☐

3. Skipped bolts will not trigger the reverse functionality.

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7.2.5. User Management

Select User Management in the wizard and click Next.

WizardModeselector

Here you choose in which mode, you will go through the wizard.

Mode:

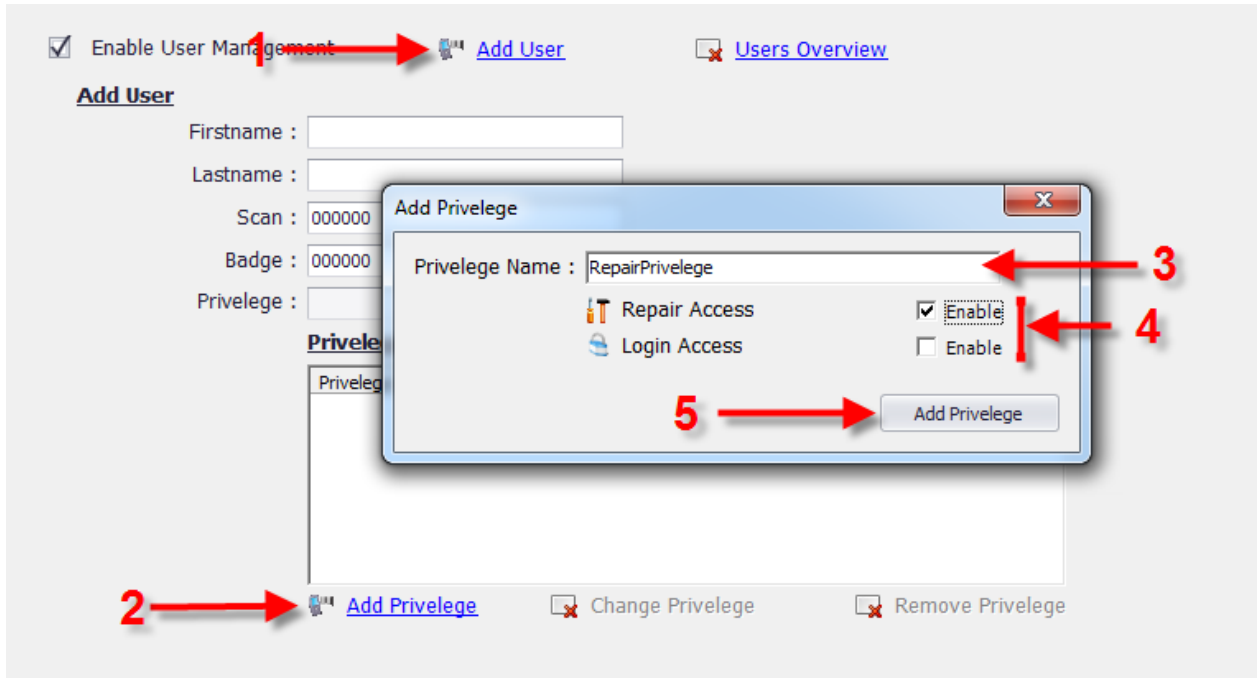
☐ Novice Mode
☒ Expert Mode

☒ Pageselection:

☐ General
☐ Nutrunners
☐ I/O
☐ Scanner
☐ Badgereader
☒ User Management
☐ Login
☐ Additional scanning
☐ Installation
☐ Visualisation
☐ Results
☐ Reporting
☐ Counter Measurement

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Onderwerp : ProTight manual			

7.2.5.1. Adding a Privelege.

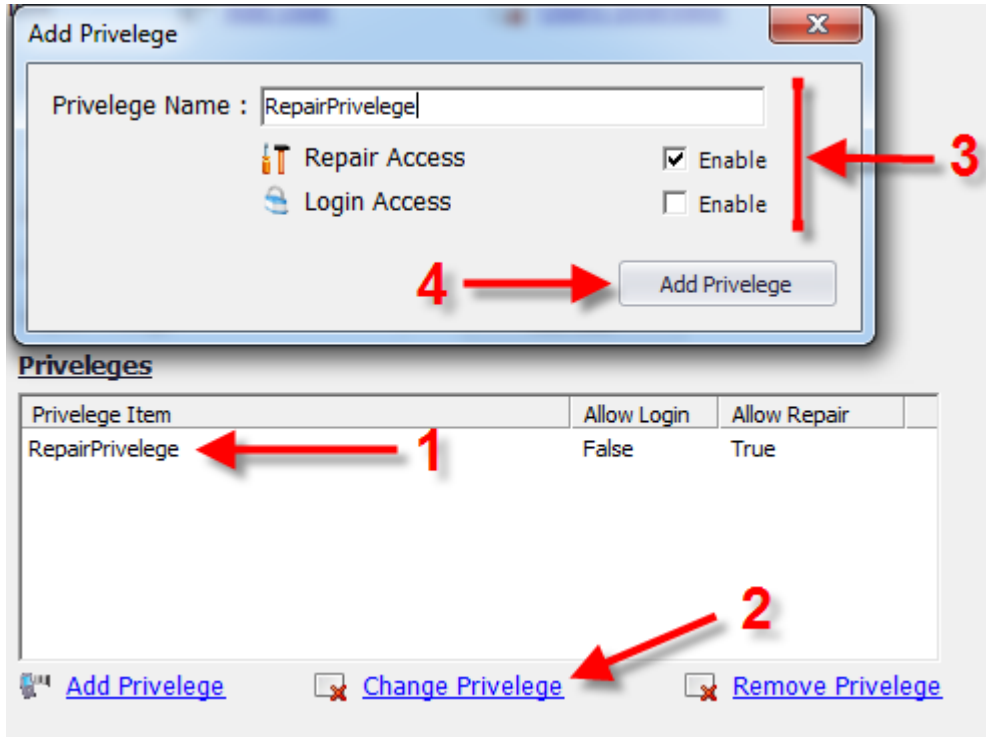


The screenshot shows the ProTight user management interface. At the top, there is a navigation bar with 'Enable User Management' (checked), 'Add User', and 'Users Overview'. Below this is the 'Add User' form with fields for 'Firstname', 'Lastname', 'Scan', 'Badge', and 'Privelege'. A modal window titled 'Add Privelege' is open in the foreground. It contains a 'Privelege Name' field with the value 'RepairPrivelege', two checkboxes for 'Repair Access' (checked) and 'Login Access' (unchecked), and an 'Add Privelege' button. Red arrows with numbers 1 through 5 indicate the sequence of steps: 1 points to 'Add User', 2 points to 'Add Privelege', 3 points to the 'Privelege Name' field, 4 points to the 'Enable' checkboxes, and 5 points to the 'Add Privelege' button.

1. Click on "Add User".
2. Click on "Add Privelege".
3. Provide a name for the new Privelege.
4. Select the functions that are allowed for this Privelege.
5. Click on "Add Privelege".

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Onderwerp : ProTight manual							

7.2.5.2. Updating a Privelege.



The screenshot shows the 'Add Privelege' dialog box and the 'Priveleges' table. Red arrows and numbers 1-4 indicate the steps for updating a privilege:

- 1: Select a Privelege item from the list of Priveleges.
- 2: Click on "Change Privelege".
- 3: Update the values for the Privelege.
- 4: Click on "Add Privelege".

The 'Add Privelege' dialog box shows the 'Privelege Name' as 'RepairPrivelege'. The 'Repair Access' checkbox is checked, and the 'Login Access' checkbox is unchecked. The 'Add Privelege' button is highlighted with a red arrow and the number 4.

The 'Priveleges' table shows the following data:

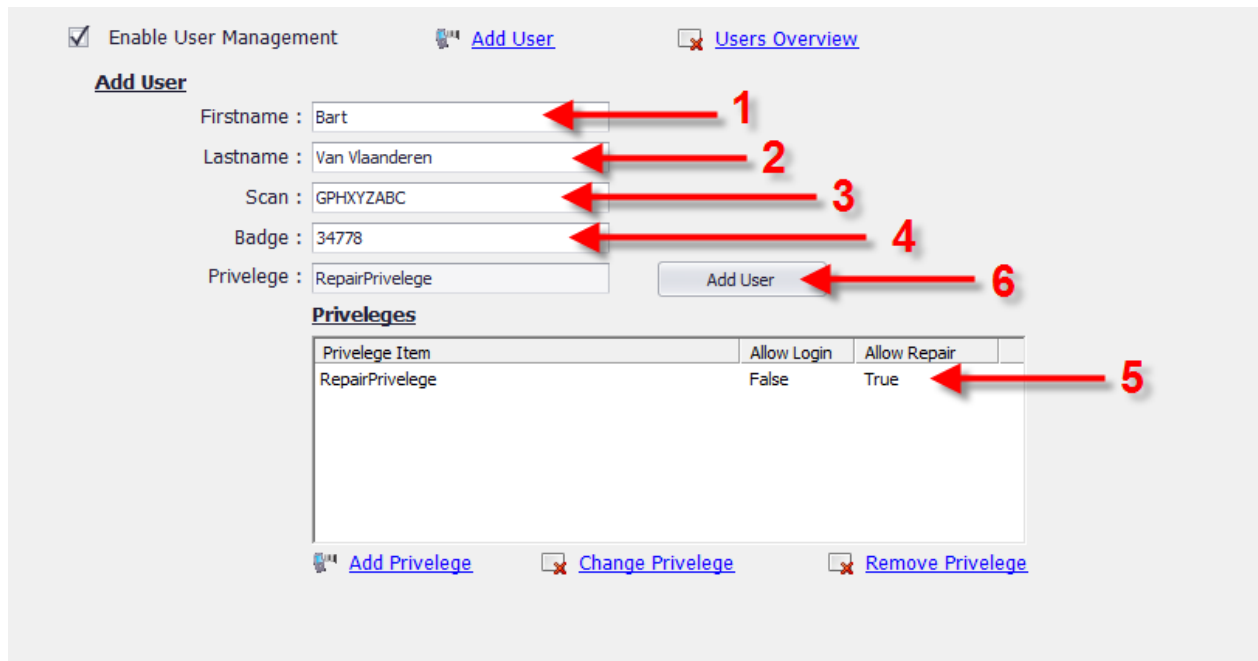
Privelege Item	Allow Login	Allow Repair
RepairPrivelege	False	True

The 'Change Privelege' link is highlighted with a red arrow and the number 2. The 'Add Privelege' link is highlighted with a red arrow and the number 4. The 'Remove Privelege' link is also visible.

- 1 Select a Privelege item from the list of Priveleges.
- 2 Click on "Change Privelege".
- 3 Update the values for the Privelege.
- 4 Click on "Add Privelege".

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Onderwerp : ProTight manual			

7.2.5.3. Adding a User.



The screenshot shows the 'Add User' web interface. At the top, there is a checkbox for 'Enable User Management' and two links: 'Add User' and 'Users Overview'. Below this, the 'Add User' section contains five input fields: 'Firstname' (filled with 'Bart'), 'Lastname' (filled with 'Van Vlaanderen'), 'Scan' (filled with 'GPHXYZABC'), 'Badge' (filled with '34778'), and 'Privilege' (filled with 'RepairPrivilege'). To the right of these fields is an 'Add User' button. Below the input fields is a 'Privileges' section with a table. The table has three columns: 'Privilege Item', 'Allow Login', and 'Allow Repair'. The first row shows 'RepairPrivilege' with 'Allow Login' set to 'False' and 'Allow Repair' set to 'True'. At the bottom of the interface, there are three links: 'Add Privilege', 'Change Privilege', and 'Remove Privilege'. Red arrows with numbers 1 through 6 point to the following elements: 1 points to the 'Firstname' field, 2 points to the 'Lastname' field, 3 points to the 'Scan' field, 4 points to the 'Badge' field, 5 points to the 'Allow Repair' cell in the 'Privileges' table, and 6 points to the 'Add User' button.

- 1 Provide a Firstname for the user.
- 2 Provide a Lastname for the user.
- 3 Provide a scanning value for the user (*).
- 4 Provide a badge value for the user (*).
- 5 Select the Privilege for the user.
- 6 Click on "Add User".

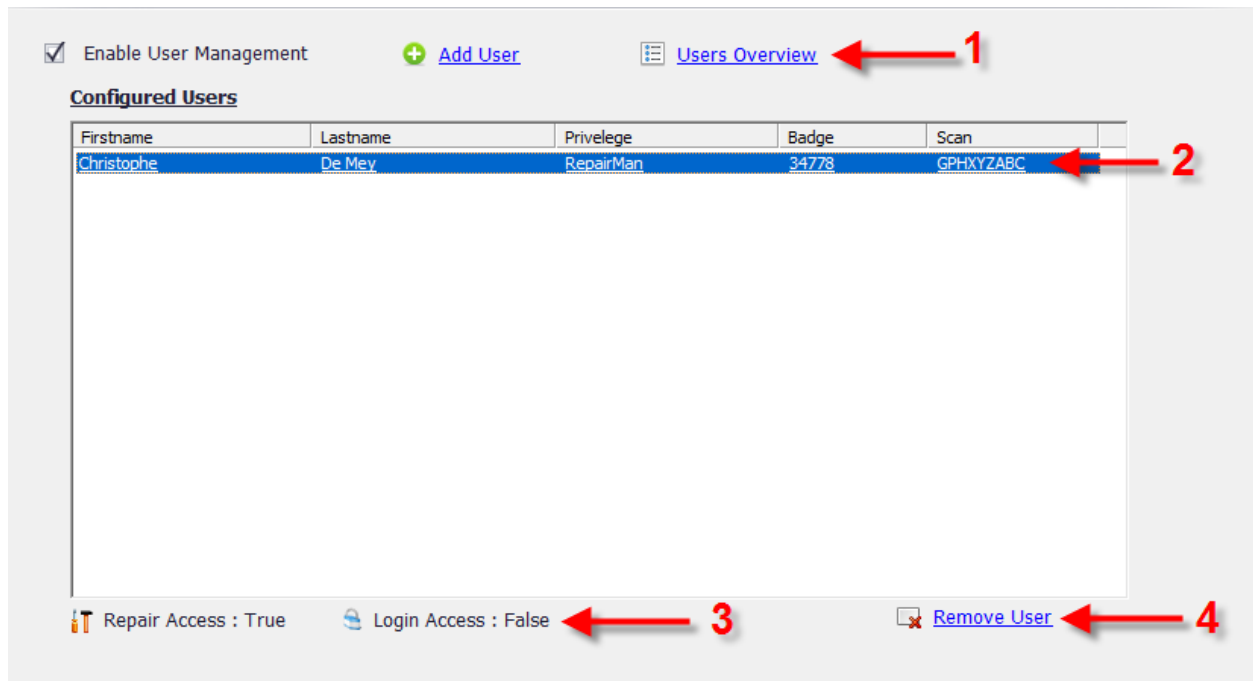
(*) = Both values have to be filled in, even if you are not using the device (scanner or badge).

Note : You can also use the devices to fill in the fields Scan/Badge.

Just Scan or Badge the data and the fields will be filled in automatically.

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Onderwerp : ProTight manual			

7.2.5.4. Users overview and removing Users.

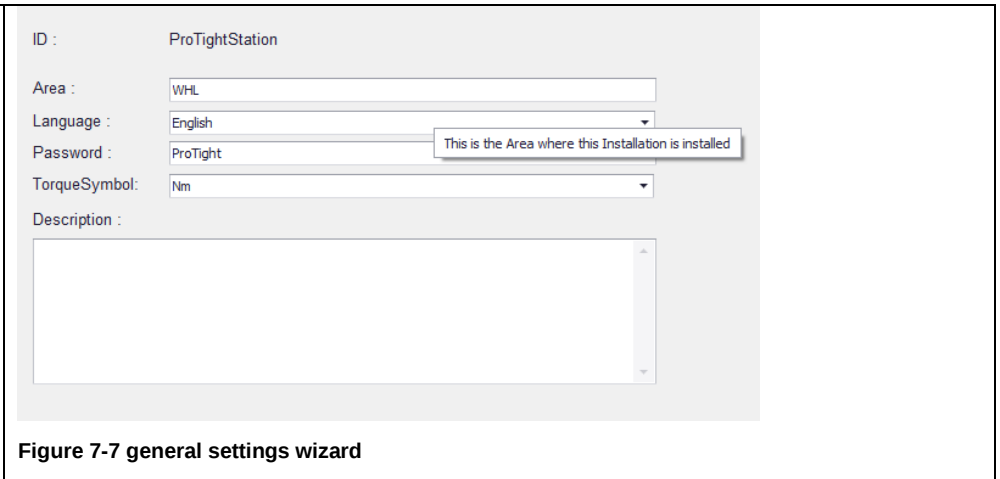
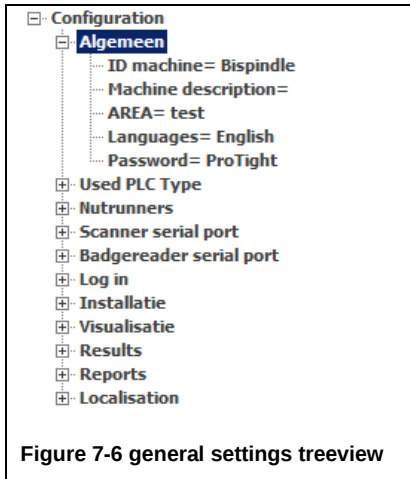


The screenshot shows the 'Users Overview' section of the ProTight software. At the top, there is a checkbox for 'Enable User Management' and a '+ Add User' button. Below this is a 'Configured Users' table. The table has five columns: Firstname, Lastname, Privelege, Badge, and Scan. One user, 'Christophe De Mey', is listed with the privilege 'RepairMan', badge '34778', and scan 'GPHXYZABC'. Below the table, there are two status indicators: 'Repair Access : True' and 'Login Access : False'. At the bottom right, there is a 'Remove User' button. Red arrows and numbers 1 through 4 point to specific elements: 1 points to the 'Users Overview' link, 2 points to the 'Scan' column header, 3 points to the 'Login Access : False' status, and 4 points to the 'Remove User' button.

- 1 Click on "Users Overview".
- 2 Information about the user and his Badge/Scan identification.
- 3 When a user is selected the Privelege information will appear below.
- 4 Click on "Remove User" if you want to remove this user from User Management.

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Onderwerp : ProTight manual				

7.3. GENERAL SETTINGS



This section is used to configure:

- Machine ID: this setting cannot be edited and is installation specific. This gets specified when ProTight first runs.
- Description: a description can be added for this installation
- Area: specifies to which area this installation belongs. E.g. repair, front assembly, wedding, ...
- Language: English, French, Dutch and German are possible languages.
- Password: the password to be used to enter the maintenance and settings area.
- TorqueSymbol: This sets the torque symbol for the complete installation. This doesn't set the tools to change the torquesymbol for them.

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Onderwerp : ProTight manual			

7.4. NUTRUNNERS

7.4.1. Overview

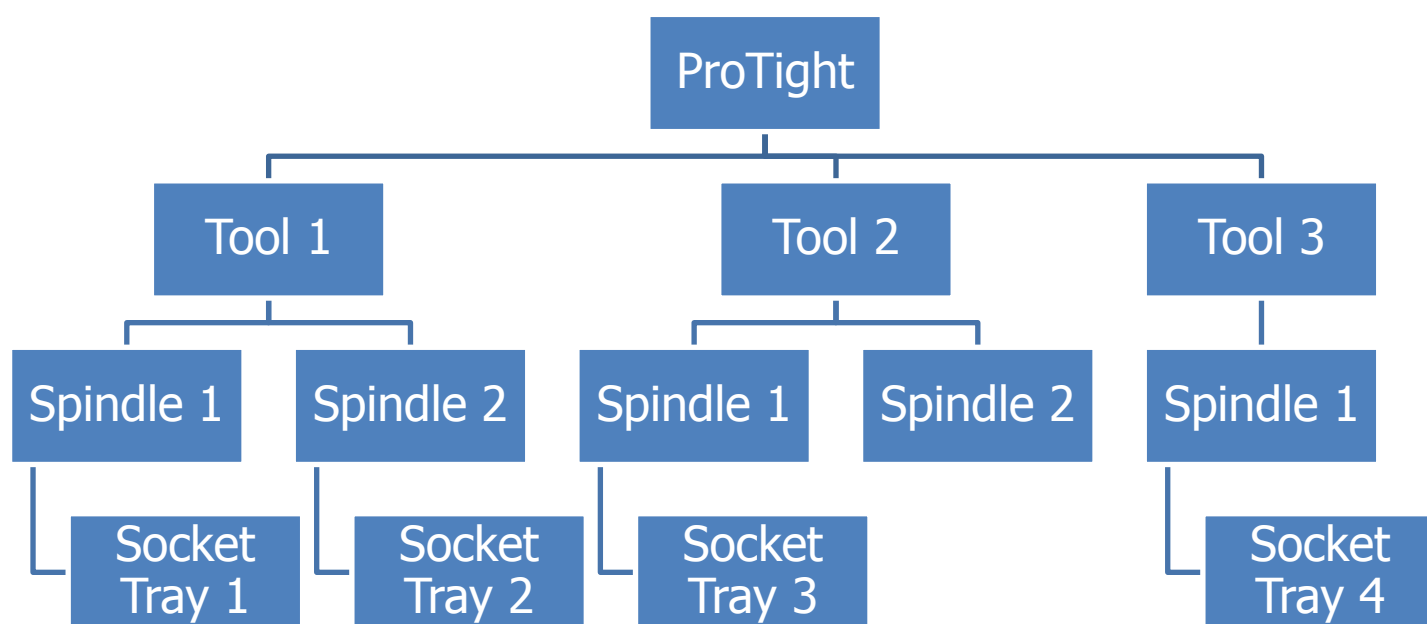


Figure 7-8 schematic view of nutrunners

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A nutrunner mostly consists of a steering device and a spindle.

A tool is a device which is connected to ProTight (and sends the rundown result).

A spindle is the device connected to the tool performing the actual work

A socket tray is always connected to a spindle because a socket tray holds sockets which are to be used on spindles.

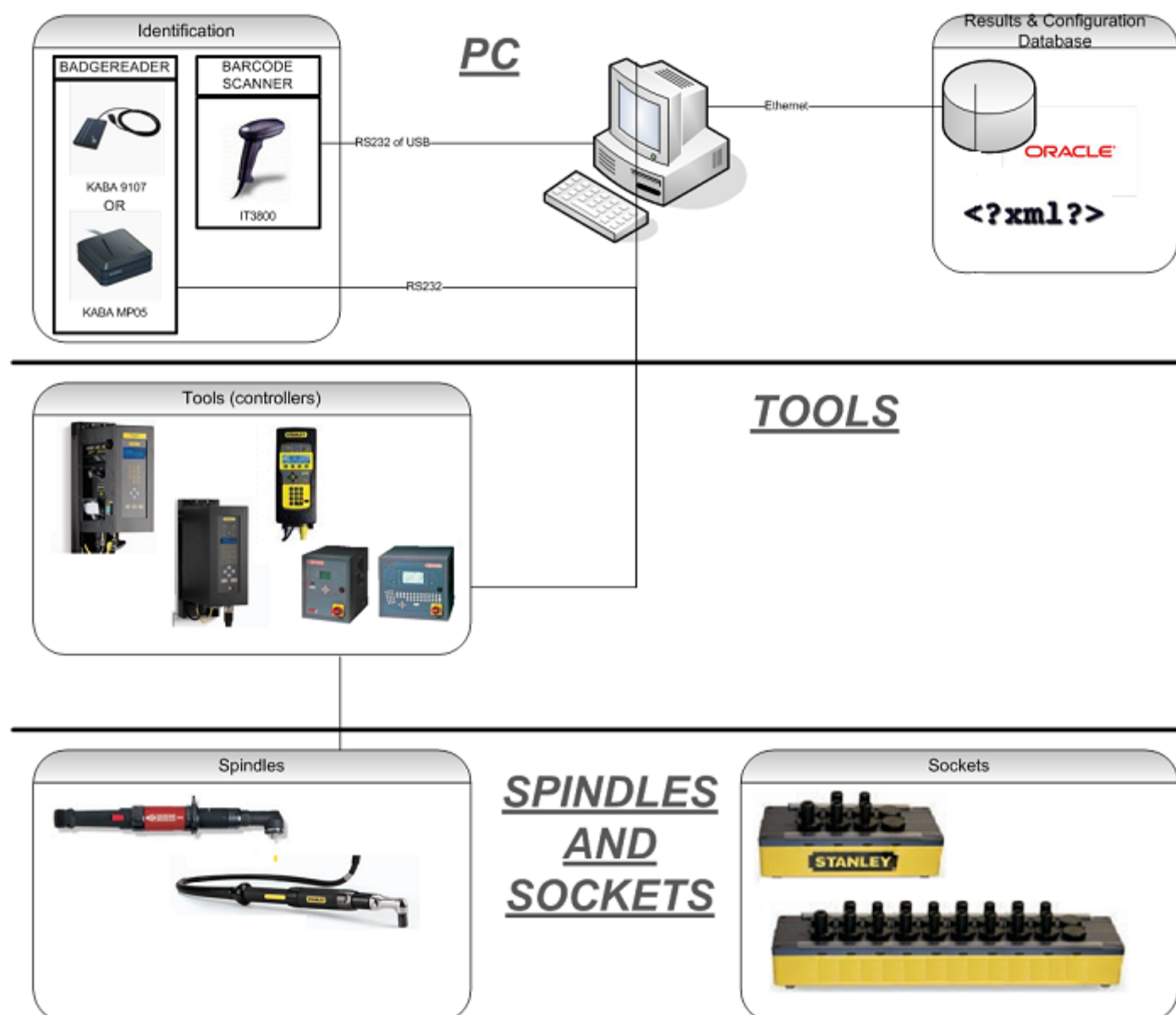


Figure 7-9 hardware overview

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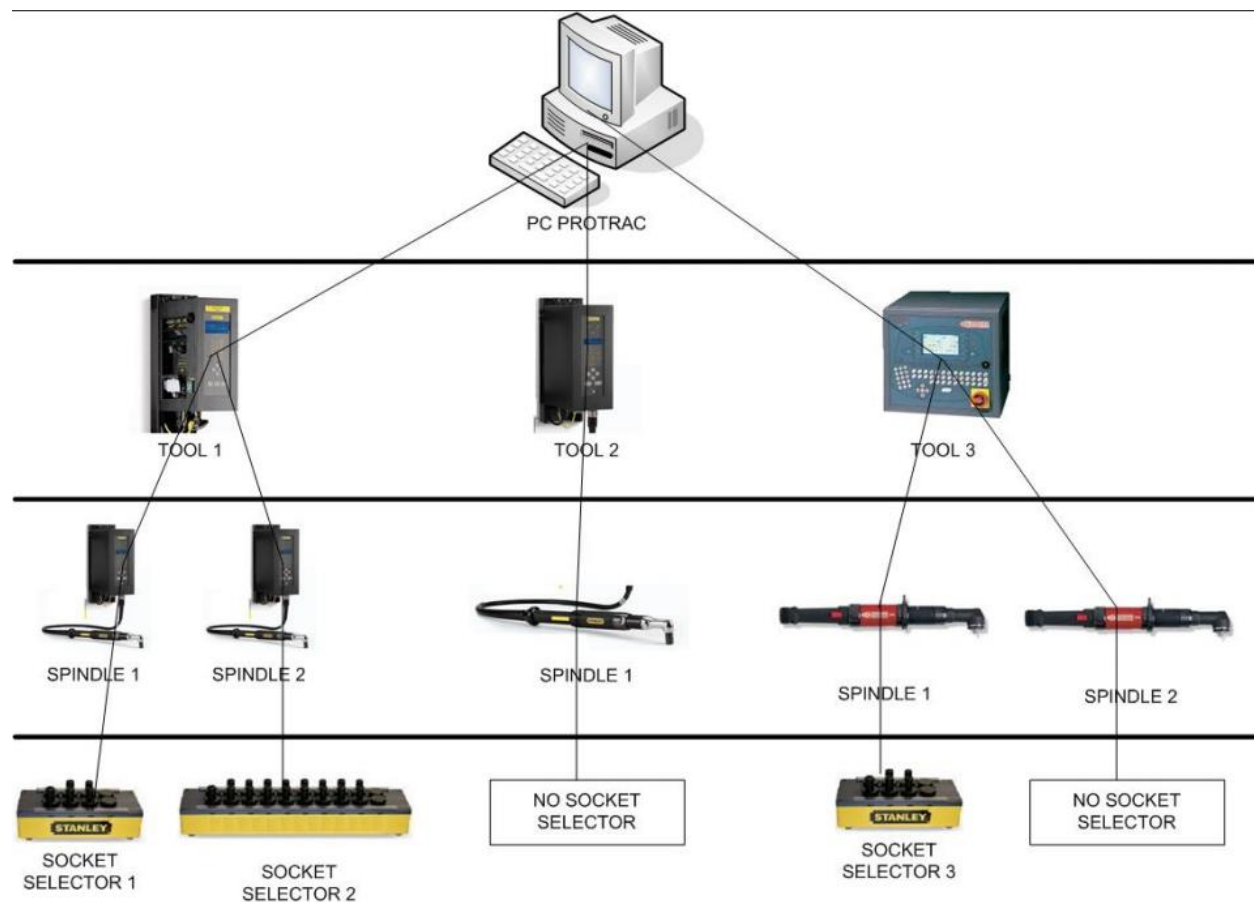


Figure 7-10 overview nutrunners

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7.4.1. Configuration

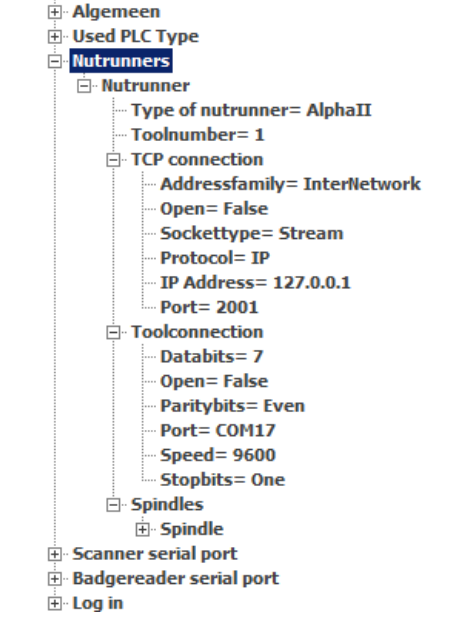


Figure 7-11 nutrunner settings treeview

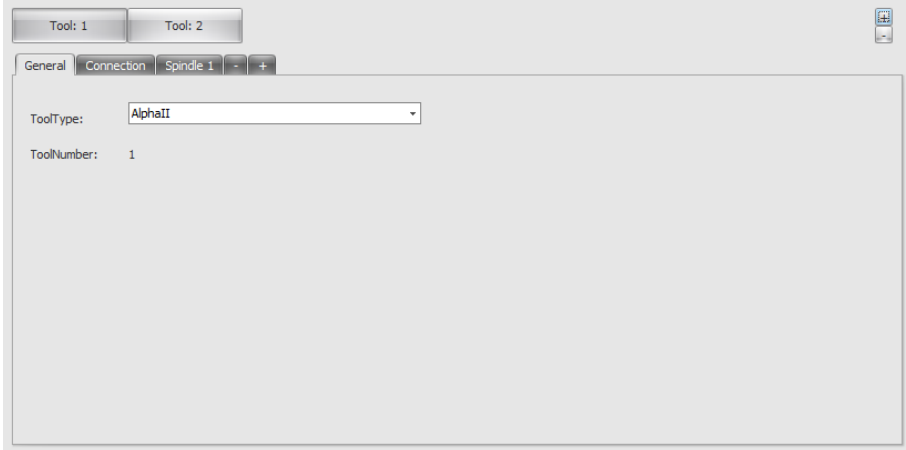


Figure 7-12 nutrunner settings wizard

7.4.2. Add or delete a nutrunner in the treeview

A nutrunner can be added by right clicking and selecting 'Add nutrunner'

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Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
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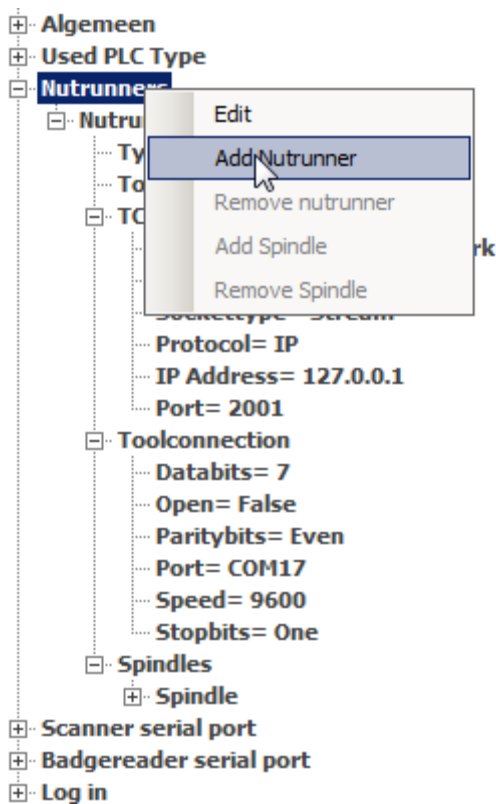
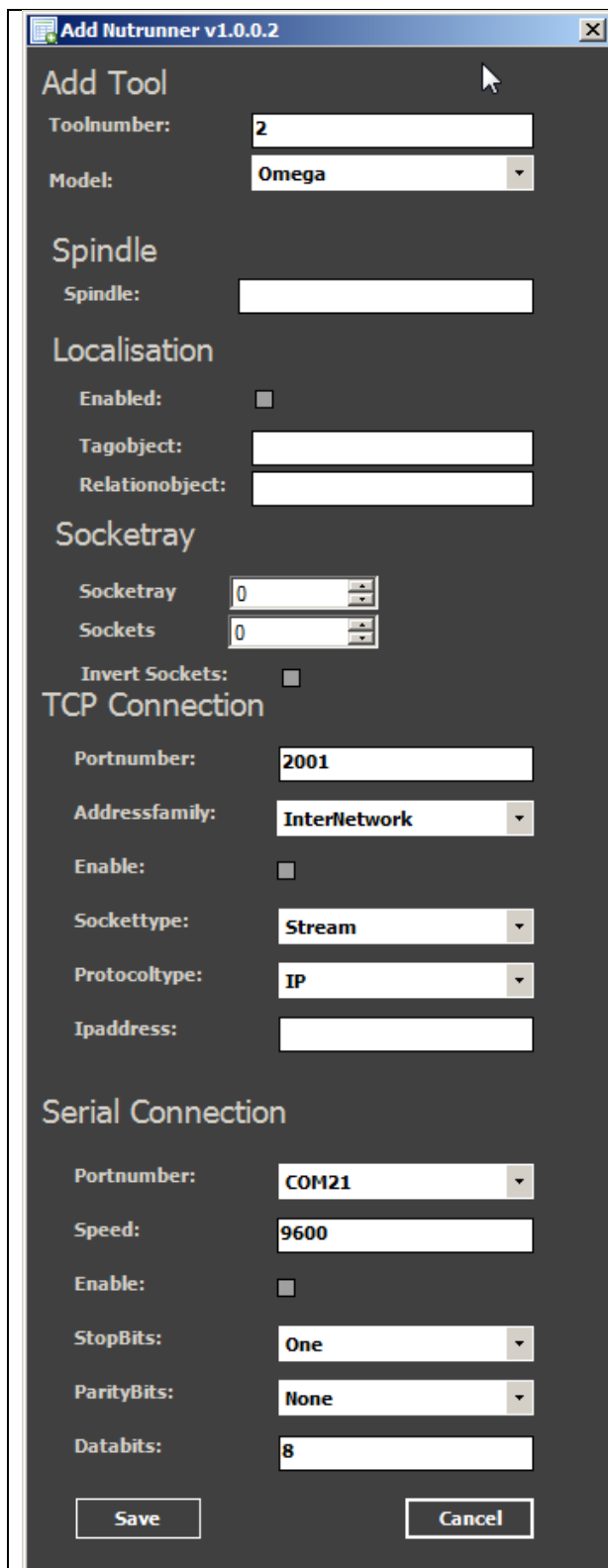


Figure 7-13 add nutrunner preview

A configuration popup will be shown to define the nutrunners most important parameters.
In this popup we define in one window all the tool settings and the settings of the first spindle added to this tool.

If more spindles needs to be added to this tool, this can be done in a likewise way.

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- **Toolnumber:** defines the Tool ID. This tool ID will be used further in the job configuration (types and models). Each tool needs to have a different ID!
- **Model:** several brands of tools are supported by ProTight: Stanley, Georges Renault, Atlas Copco, Cleco, ...

- **SpindleNumber:** defines the Spindle ID. This spindle ID will be used further in the job configuration (types and models). Each spindle within the same tool needs to have a different ID!

- **Localisation:** if a RTLS system is connected to ProTight, the tag definitions have to be made here

- **SocketTray:** the socket tray ID. This is a unique ID. Each socket tray needs to have a different ID (crossing the tool boundaries, differently from the spindle ID)
- **Sockets:** the number of sockets in this tray
- **Invert sockets:** if a socket detection is a NC contact this option needs to be checked

If the tool is connected by Ethernet, the definitions needs to be made here.

- **Portnumber:** Used port for ethernet communication
- **IPAddress:** Used IP address for ethernet communication
- **Enable:** enable this connection

Addressfamily, SocketType and ProtocolType don't need alternation! Leave them on the default settings.

If the tool is connected by serial connection, the definitions needs to be made here.

- **Portnumber:** this can be a virtual COM port or a genuine RS-232 port
- **Speed:** baudrate. 9600, 19200 and 38400 are the most common used baudrates. Check the manual of your nutrunner for more information.
- **Enable:** enable this connection
- **Stopbits:** number of stopbits
- **Paritybits:** number of paritybits
- **Databits:** number of databits

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Bewerker (Naam, telefoon) Christophe De Mey +32(0)9/378.49.89	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

Deleting a nutrunner can be done by selecting it and clicking 'Remove nutrunner'

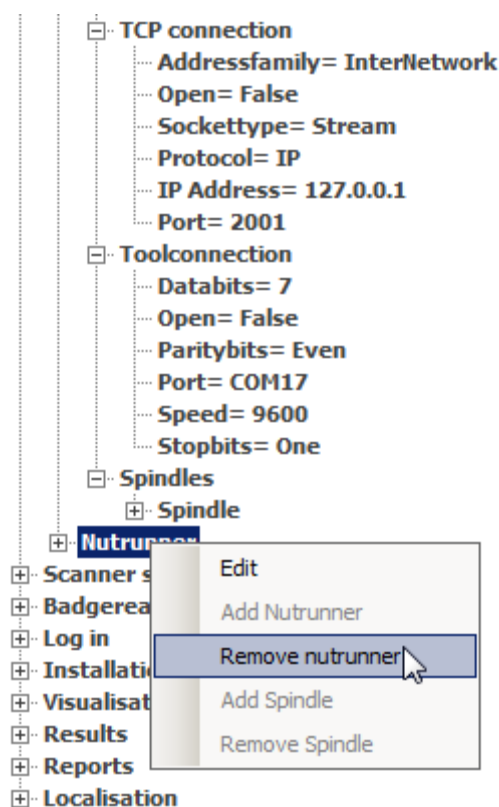
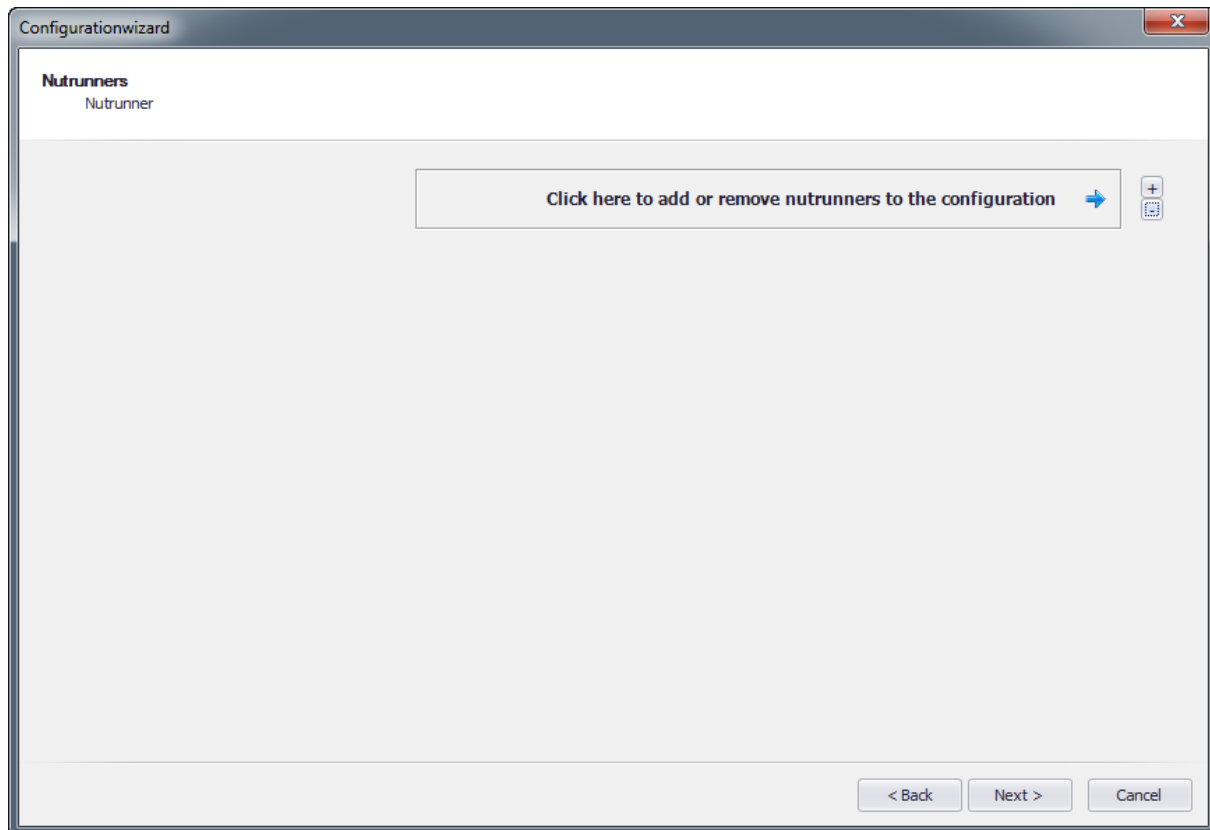


Figure 7-14 removing a nutrunner in treeview

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Onderwerp : ProTight manual			

7.4.3. Add or delete a nutrunner in the wizard



When there are no nutrunners configured, the above is visible.

In the wizard we click the '+' sign on the far right.



Figure 7-15 Add a nutrunner in the wizard

A new tool is added with some tabs: General, Connection

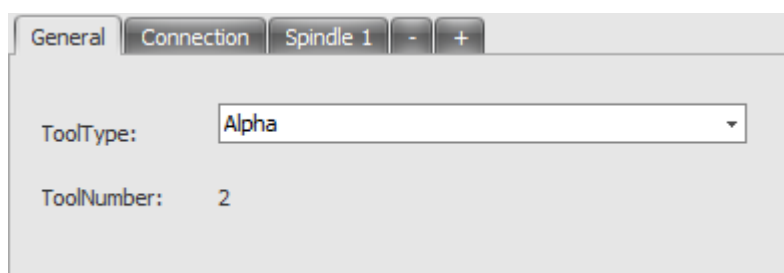
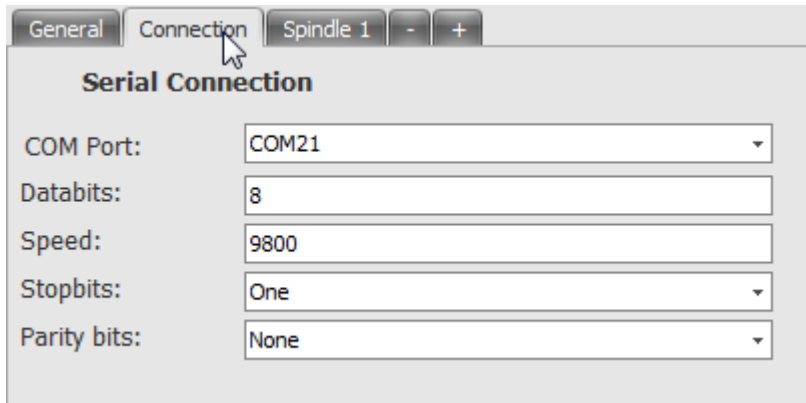


Figure 7-16 nutrunner general tab

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Onderwerp : ProTight manual			

We can select the model (under ToolType). The toolnumber is updated automatically.

The connection type tab shows us the needed connection parameters. If a serial tool is selected only the serial parameters will be shown. If a network tool is added, only the appropriate network settings will be shown.



General Connection Spindle 1 - +

Serial Connection

COM Port: COM21

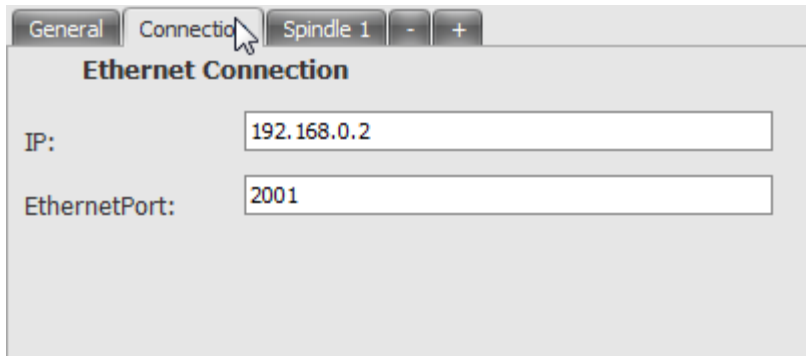
Databits: 8

Speed: 9800

Stopbits: One

Parity bits: None

Figure 7-17 nutrunner serial tab



General Connection Spindle 1 - +

Ethernet Connection

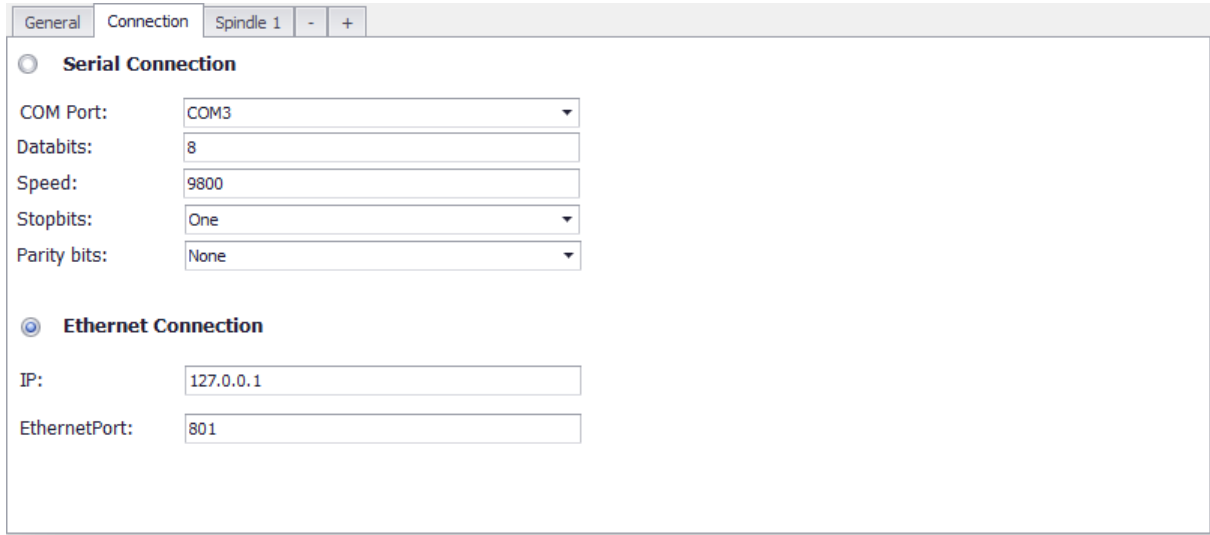
IP: 192.168.0.2

EthernetPort: 2001

Figure 7-18 nutrunner ethernet tab

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For some tooltypes (like Open protocol), it is possible to have either serial or ethernet communication. The communication bus used for communication is the one selected with the radiobutton.



The screenshot shows the 'Connection' tab in the ProTight software. It has two sub-tabs: 'Serial Connection' and 'Ethernet Connection'. The 'Ethernet Connection' is selected with a radio button. Below it, the 'IP' is set to '127.0.0.1' and the 'EthernetPort' is set to '801'. The 'Serial Connection' section is unselected and shows settings for COM Port (COM3), Databits (8), Speed (9800), Stopbits (One), and Parity bits (None).

A selected tool can also be deleted by clicking the '-' on the far right



Figure 7-19 remove a nutrunner in the wiazrd

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7.4.4. Add or delete a spindle in the treeview

Right click on 'Spindles' and select 'Add spindle'

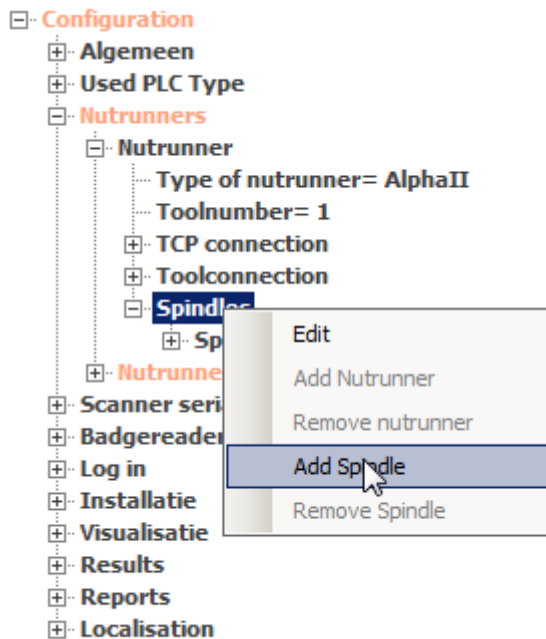


Figure 7-20 Add spindle in treeview

A small popup is shown to define the spindles parameter. All the needed parameters are already explained in the pop-up screen as in chapter 7.4.2: [Add or delete a nutrunner in the treeview](#)

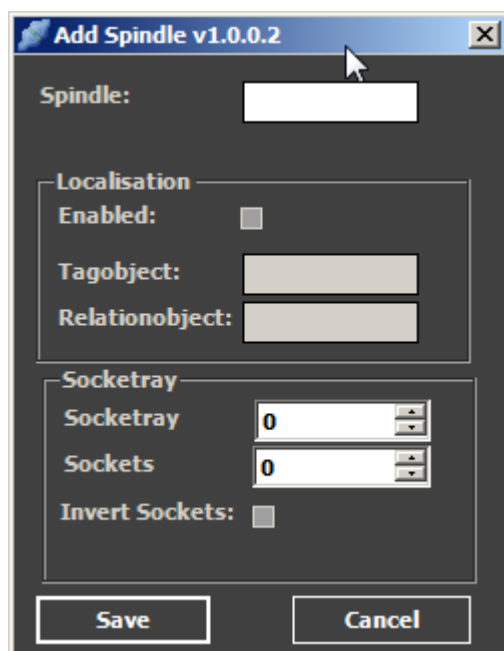


Figure 7-21 Add a spindle

		H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66		Documentnaam Manual ProTight Template: FM44A		Pagina 65(284)	
Bewerker (Naam, telefoon) Christophe De Mey +32(0)9/378.49.89				Bijlagen Ja/Neen		Datum 10-Sep-13	
Onderwerp : ProTight manual							

7.4.5. Add or delete a spindle in the wizard

In the nutrunners tab, select '+' to add a spindle.

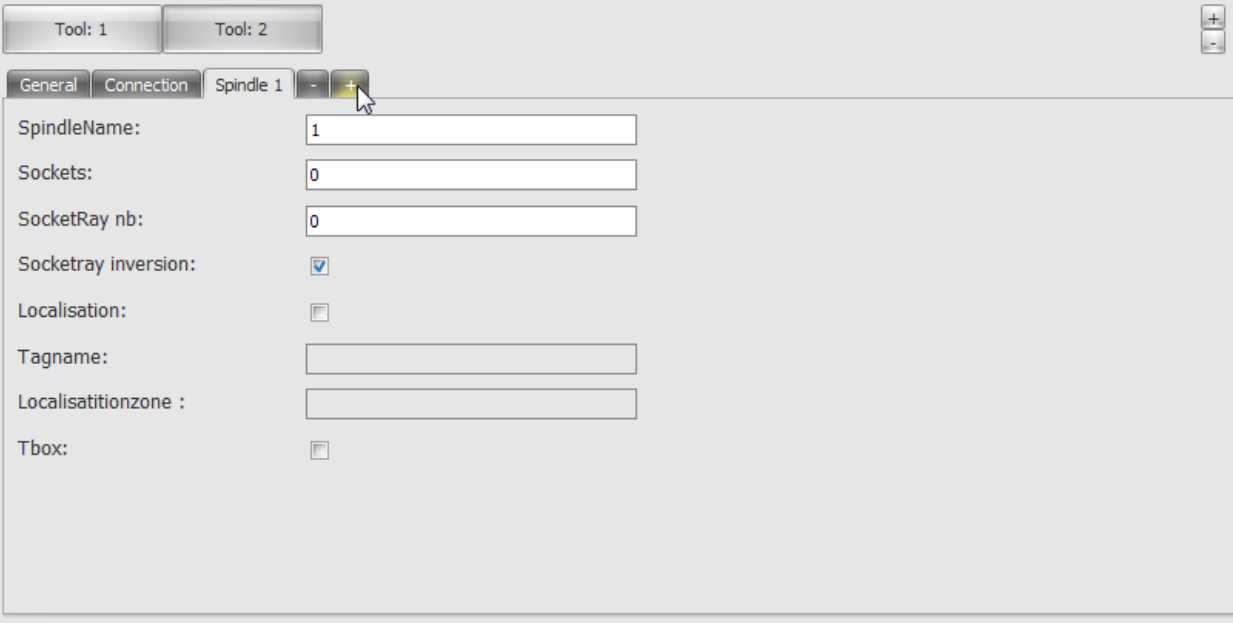


Figure 7-22 Add spindle in wizard

The spindle parameters can directly be entered in the overview.

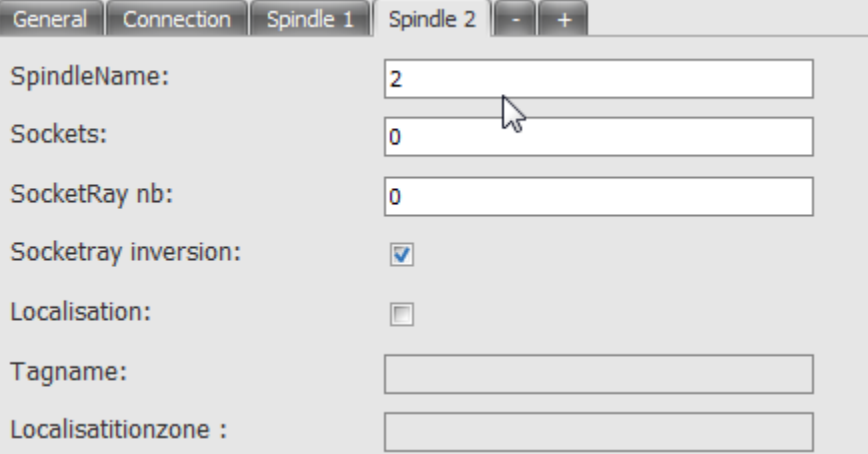


Figure 7-23 Spindle configuration in wizard

- Spindlename: The name of the spindle
- Sockets: The number of sockets connected to the spindle.
- SocketRay nb: the number of the Sockettray which is connected to this spindle.
- SocketTray inversion: This is to invert the logic of the sockets.
- Localisation: Check this to track the spindle with ubisense. See [Use localization](#)
- Tagname: This is the name of the tag that is used for the localization.
- Localization zone: This is the name of the zone, where the operator is allowed to work. This is used for the localization.

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Bewerker (Naam, telefoon) Christophe De Mey +32(0)9/378.49.89				Bijlagen Ja/Neen		Datum 10-Sep-13	
Onderwerp : ProTight manual							

7.4.6. Use localization

By using a localization engine (e.g. a UbiSense RTLS system), one can define that a spindle is only to be used in a specified zone.

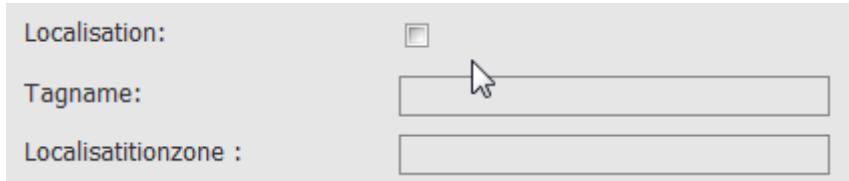


Figure 7-24 localization configuration

- Use localization: This is to turn on the localization tool.
- Tagname: This is the name of the tag that is used for the localization.
- Localization zone: This is the name of the zone, where the operator is allowed to work. This is used for the localization.

If localization is needed for your solution a custom training and setup is foreseen. Further explanation is out of the scope of this manual.

7.5. SETTINGS FOR THE DIFFERENT SUPPORTED TOOLS

Here we'll describe the normal settings to add a tool to ProTight

7.5.1. Stanley Alpha



Figure 7-26 Stanley Alpha

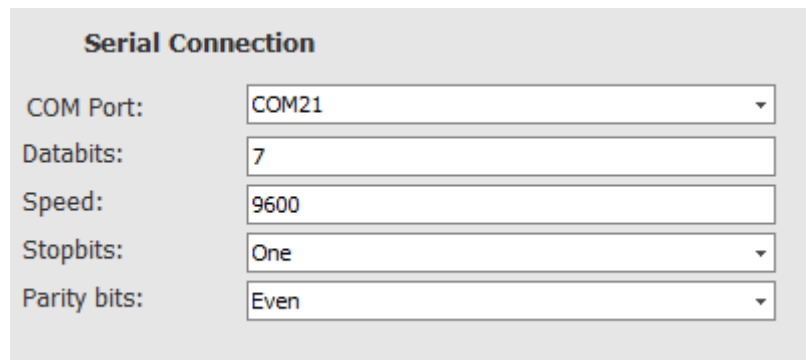


Figure 7-25 Stanley Alpha Configuration

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Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

7.5.2. Stanley Sigma/Omega/Gamma

The sigma and omega controllers are tools from ProTight's perspective. Stanley Alpha's are connected to the Sigma or Omega using DeviceNet. In this setup, the alpha's are spindles, not tools!
A Gamma controller is a Sigma and an Alpha in one housing.



Figure 7-28 Stanley Gamma

Ethernet Connection	
IP:	127.0.0.1
EthernetPort:	2001

Figure 7-27 Stanley Gamma Connection

If there is also an Alpha placed on the Gamma over DeviceNet, you just need to add a new Spindle with the spindlenumber 2, the Gamma will be Spindle 1

To set the Ethernet addresses for the system, select 6 (Ethernet) from the *System* menu on the Gamma/Sigma display.

The *System: Ethernet* screen sets the Ethernet addresses for the interface.

The first choice is the *Network Type*. The choices are IP, BootP, RARP, or DHCP.

If the *Network Type* is IP, then the *Subnet Mask*, *Gateway*, and *DNS Server* addresses must be completed. For all other

network types, the controller queries the network for the appropriate addresses each time it is powered up.

The Up- and Down-cursors scroll through the addresses and sub-elements of the addresses.

SYSTEM	ETHERNET
IP	11.11.124.190
sub	255.255.255.0
gway	11.1.124.1
dns	11.0.75.21
svr	11.0.80.19

7.5.3. Stanley EasyTorque



Figure 7-30 Stanley EasyTorque

Serial Connection	
COM Port:	COM21
Databits:	7
Speed:	9600
Stopbits:	One
Parity bits:	Even

Figure 7-29 Stanley EasyTorque Communications

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Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

For a EasyTorque configuration: the spindlenumber is the name of the spindle. In the model/type configuration however we need to use an numeric ID. The spindle number depends on the order the easytorque spindles are placed in the row.

E.g.

Tool 1 (EasyTorque receiver)
T0034 will be Spindle 1
T0033 will be Spindle 2

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Bewerker (Naam, telefoon) Christophe De Mey +32(0)9/378.49.89			Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual				

7.5.4. Stanley AlphaII/Theta



Figure 7-32 Stanley Alpha II

Serial Connection	
COM Port:	COM21
Databits:	7
Speed:	9600
Stopbits:	One
Parity bits:	Even

Figure 7-31 Stanley Alpha II Configuration

7.5.5. Stanley PSI

Take notice of the unusual baudrate (28800 baud)!



Figure 7-34 Stanley PSI

Serial Connection	
COM Port:	COM21
Databits:	8
Speed:	28800
Stopbits:	One
Parity bits:	None

Figure 7-33 Stanley PSI Configuration

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7.5.6. Atlas Copco PF3000

These controllers are connected with the OpenProtocol communication protocol. Several brands have adopted the OpenProtocol standard so they can all be interchanged when connecting to ProTight. Connection can be serial or via Ethernet.



Figure 7-36 Atlas Copco PF3000

☐ **Serial Connection**

COM Port:

Databits:

Speed:

Stopbits:

Parity bits:

☒ **Ethernet Connection**

IP:

EthernetPort:

Figure 7-35 Atlas Copco PF3000 Configuration

7.5.7. Atlas Copco PF4000

These controllers are connected with the OpenProtocol communication protocol. Several brands have adopted the OpenProtocol standard so they can all be interchanged when connecting to ProTight. Connection can be serial or via Ethernet.



Figure 7-38 Atlas Copco PF4000

☐ **Serial Connection**

COM Port:

Databits:

Speed:

Stopbits:

Parity bits:

☒ **Ethernet Connection**

IP:

EthernetPort:

Figure 7-37 Atlas Copco PF4000 Configuration

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 71(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

7.5.8. Georges Renault CVI, CVIS, CVI II, CVI Twin

All these controllers are connected with a serial connection. Use the PC4 encoding (standard setup on the CVI family) to connect to ProTight.



Figure 7-39 CVI, CVIS

Serial Connection	
COM Port:	COM21
Databits:	8
Speed:	19200
Stopbits:	One
Parity bits:	None

Figure 7-40 CVI Connection

Goto the menu PERIPHERALS AND MISCELLANEOUS on the controller=>

Here you can set the settings of each serialport

Set them as followed

report output

port type RS232

speed 19,200 bauds

data bits 8

stop bits 1

parity none

7.5.9. Desoutter CVI3

These controllers are connected with the OpenProtocol communication protocol (on Ethernet)



Figure 7-42 Desoutter CVI3

Ethernet Connection	
IP:	127.0.0.1
EthernetPort:	2001

Figure 7-41 Ethernet connection

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 72(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

7.5.10. SCS Freedom



Figure 7-43 SCS Freedom

Installation is a bit more complex and is explained in chapter: [Appendix E: Installation of the freedom](#). This is a Bluetooth device



Figure 7-44 Configure Freedom tool

If the installation uses an Freedom tool we need to place the settings of the PLC to:

- Ouvert: False (Since we will not be using an PLC)

The toolsettings are then set to:

- Type de nutrunner: EasyTorque
- Type de nutrunner: Freedom
- Numéro de tool: 1
- Addressfamily: InterNetwork

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Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

- Ouver: True
- Type de socket: Dgram
- Type de protocol: Udp
- IP Address: 127.0.0.1 (Depends on witch PC the Service program is running)
- Porte: 1060

Ethernet Connection

IP:

EthernetPort:

Figure 7-45 Freedom tool config

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 74(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

7.5.11. NorbarTool

Use these settings to connect the NorbarTool to ProTight.

The NorbarTool is a special tool in ProTight because you will set your values for OK/NOK in the configuration.

So the tool might send information OK/NOK but ProTight will discard this information and compare the incoming torque values with the configuration.



☒ **Serial Connection**

COM Port:	COM3
Databits:	8
Speed:	9600
Stopbits:	One
Parity bits:	None

☐ **Ethernet Connection**

IP:	127.0.0.2
EthernetPort:	801

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 75(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

7.5.11.1. Setting up serial output for the NorbarTool

Click on the Settings button.

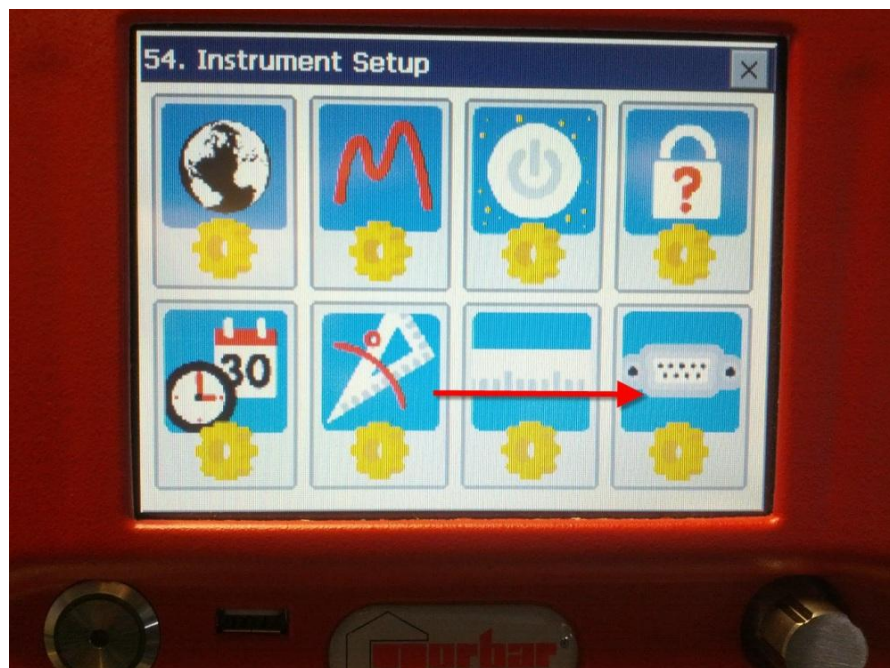


Click on the Device settings button.

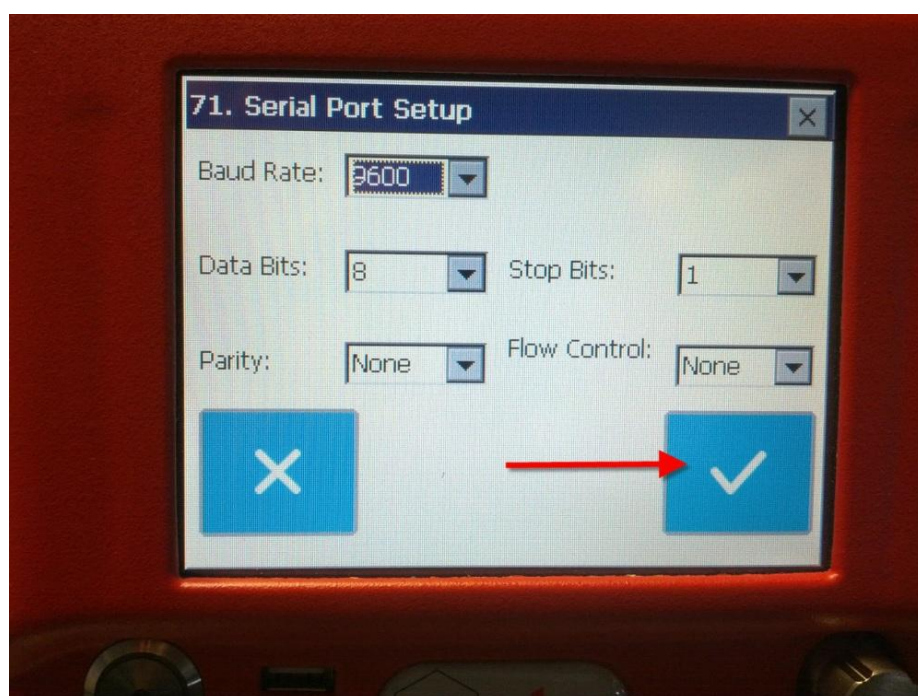


	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 76(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

Click on the Serial settings button.

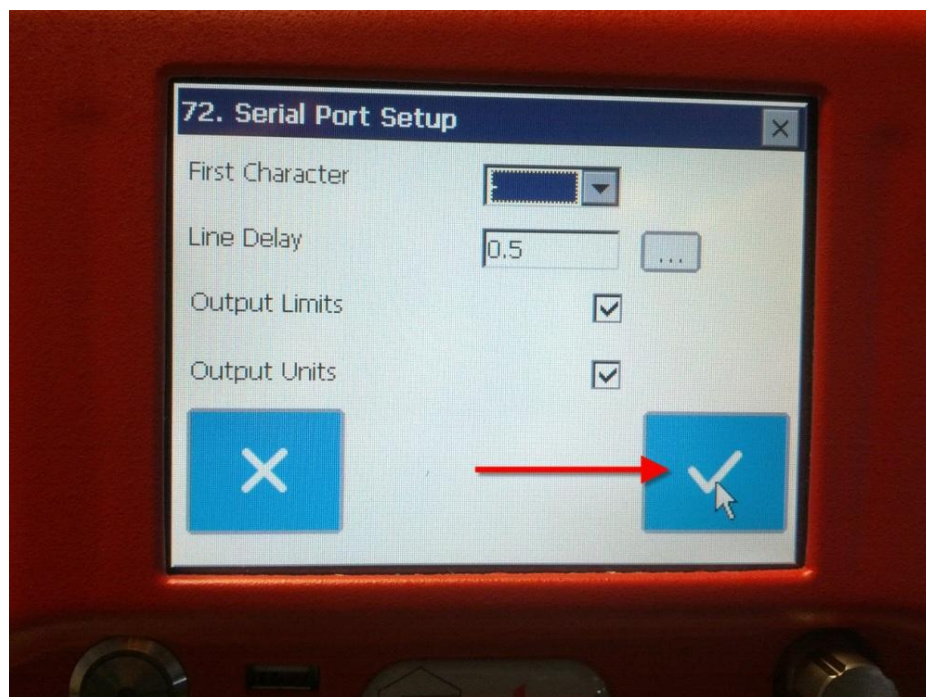


Change the settings to these values and press “V”.

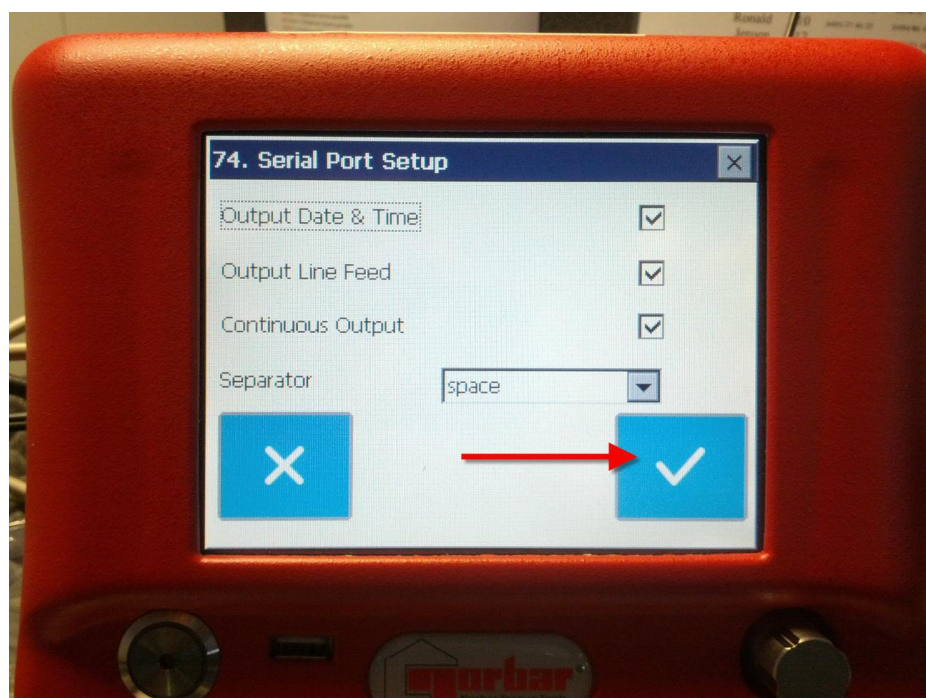


	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 77(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

Change the settings to these values and press “V”.

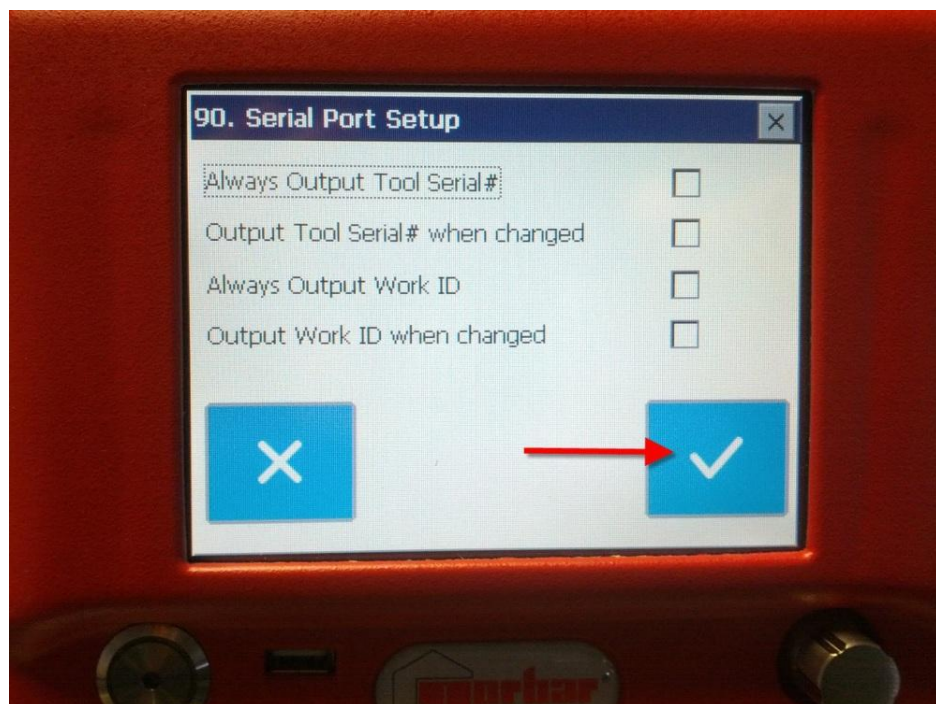


Change the settings to these values and press “V”.

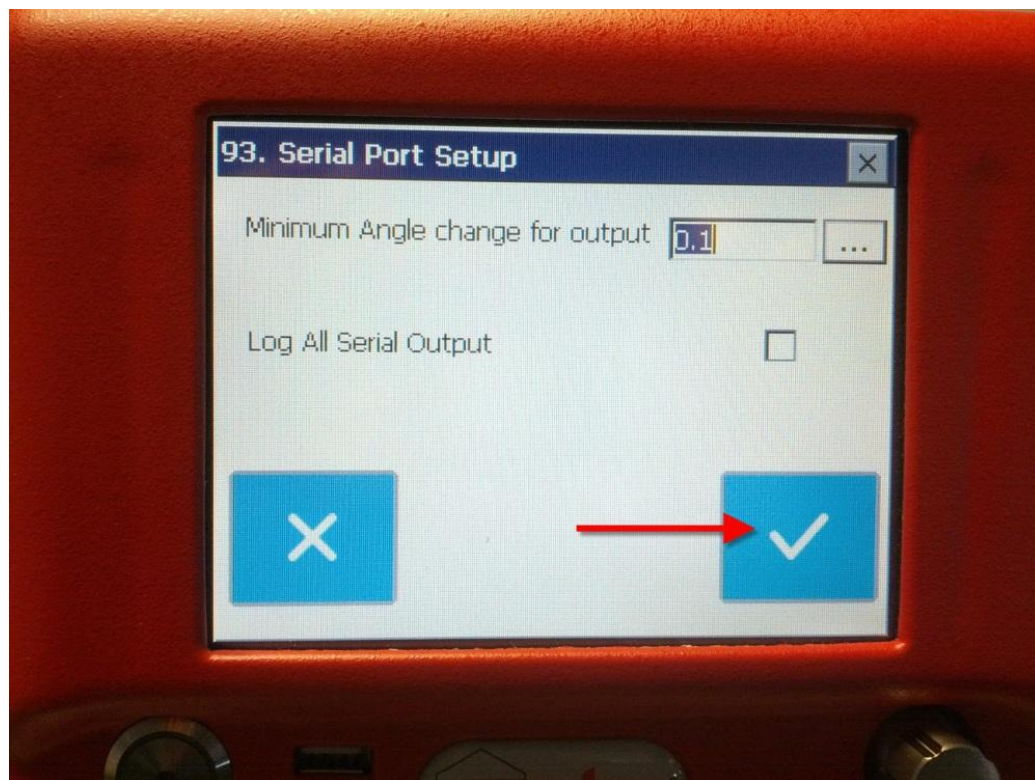


	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 78(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

Change the settings to these values and press “V”.

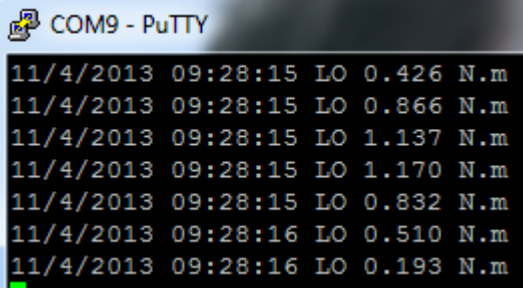


Change the settings to these values and press “V”.



		H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66		Documentnaam Manual ProTight Template: FM44A		Pagina 79(284)	
Bewerker (Naam, telefoon) Christophe De Mey +32(0)9/378.49.89				Bijlagen Ja/Neen		Datum 10-Sep-13	
Onderwerp : ProTight manual							

After finishing these settings the output for the device should look like this.



```

COM9 - PuTTY
11/4/2013 09:28:15 LO 0.426 N.m
11/4/2013 09:28:15 LO 0.866 N.m
11/4/2013 09:28:15 LO 1.137 N.m
11/4/2013 09:28:15 LO 1.170 N.m
11/4/2013 09:28:15 LO 0.832 N.m
11/4/2013 09:28:16 LO 0.510 N.m
11/4/2013 09:28:16 LO 0.193 N.m
  
```

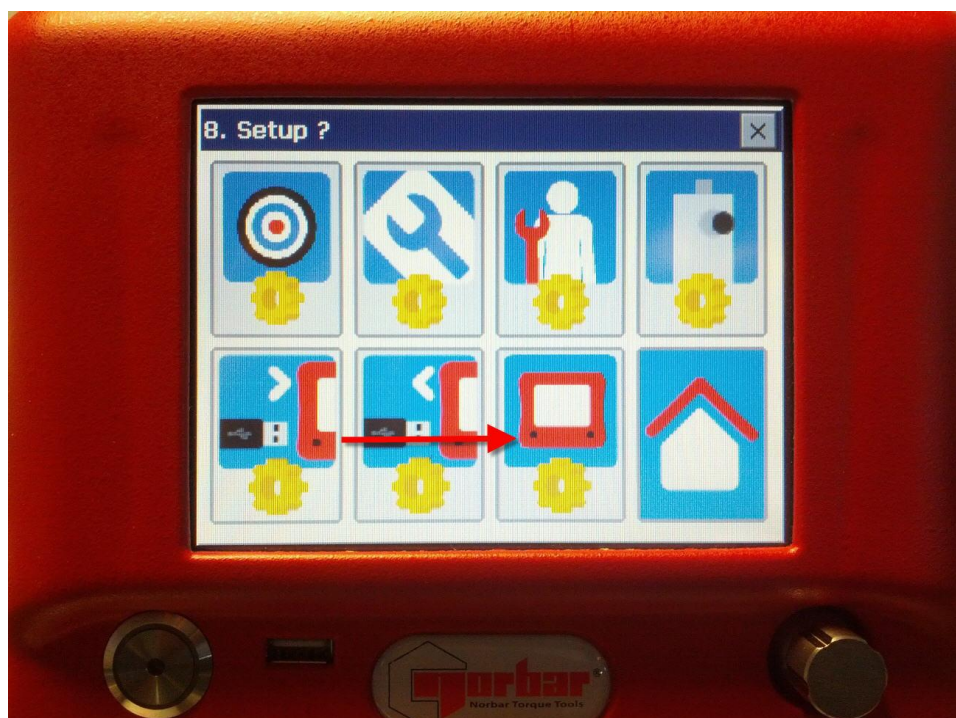
	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 80(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

7.5.11.2. Units Setup

Click on the Settings button.



Click on the Device settings button.

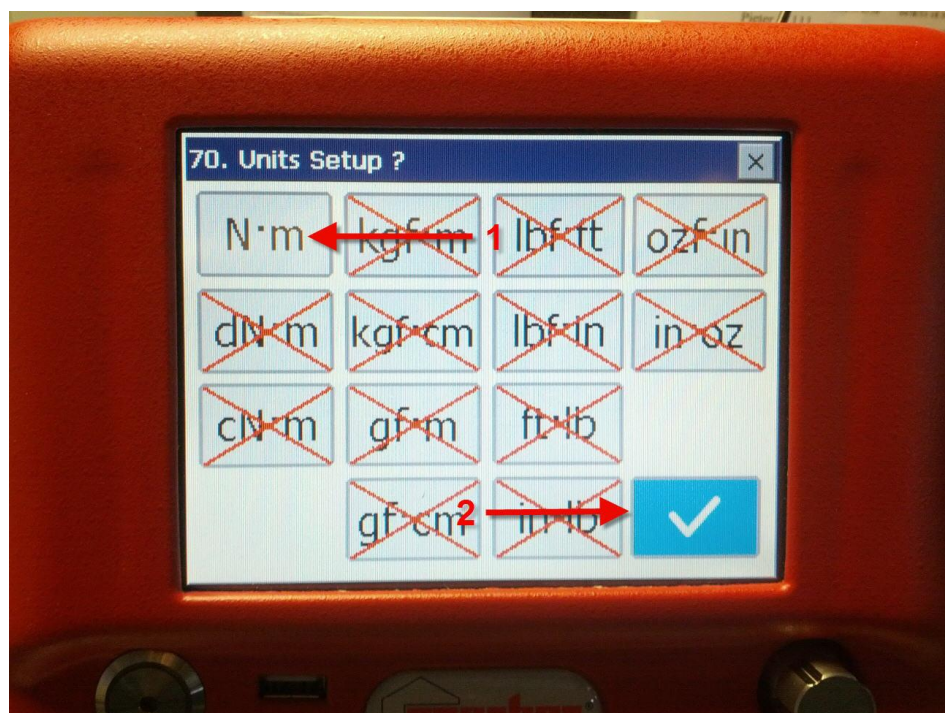


	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 81(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
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Click on the Units button.



Select N.m als unit and disable all other units, finish the setup by clicking on the “V”.



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Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

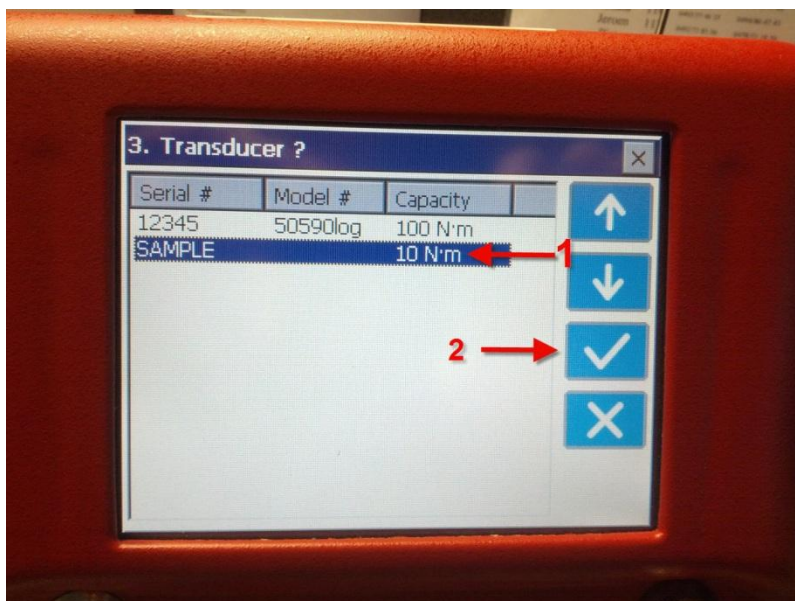
7.5.11.3. Selecting transducer and target

Use the button with number 1 and rotate it left or right until you reach the channel where your transducer is connected to.

Once you have selected your transducer correctly click the Button marked with number 2.



Select the target that you want to use, note that the target settings are not important since you determine The target settings inside ProTight, click on the "V" button to finish.



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Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

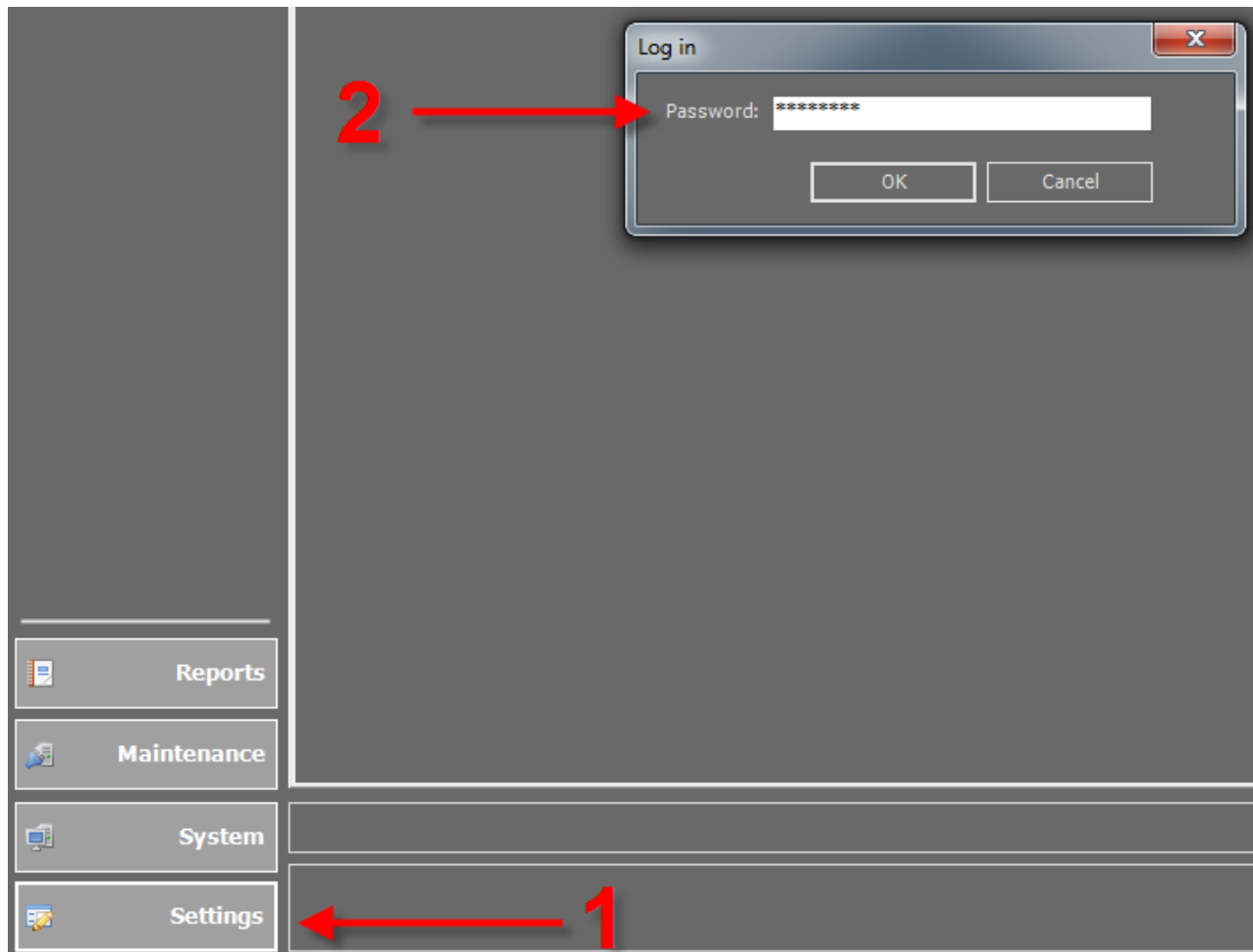
Your target is now selected and when you torque the tool the values on the screen will update.



	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 84(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

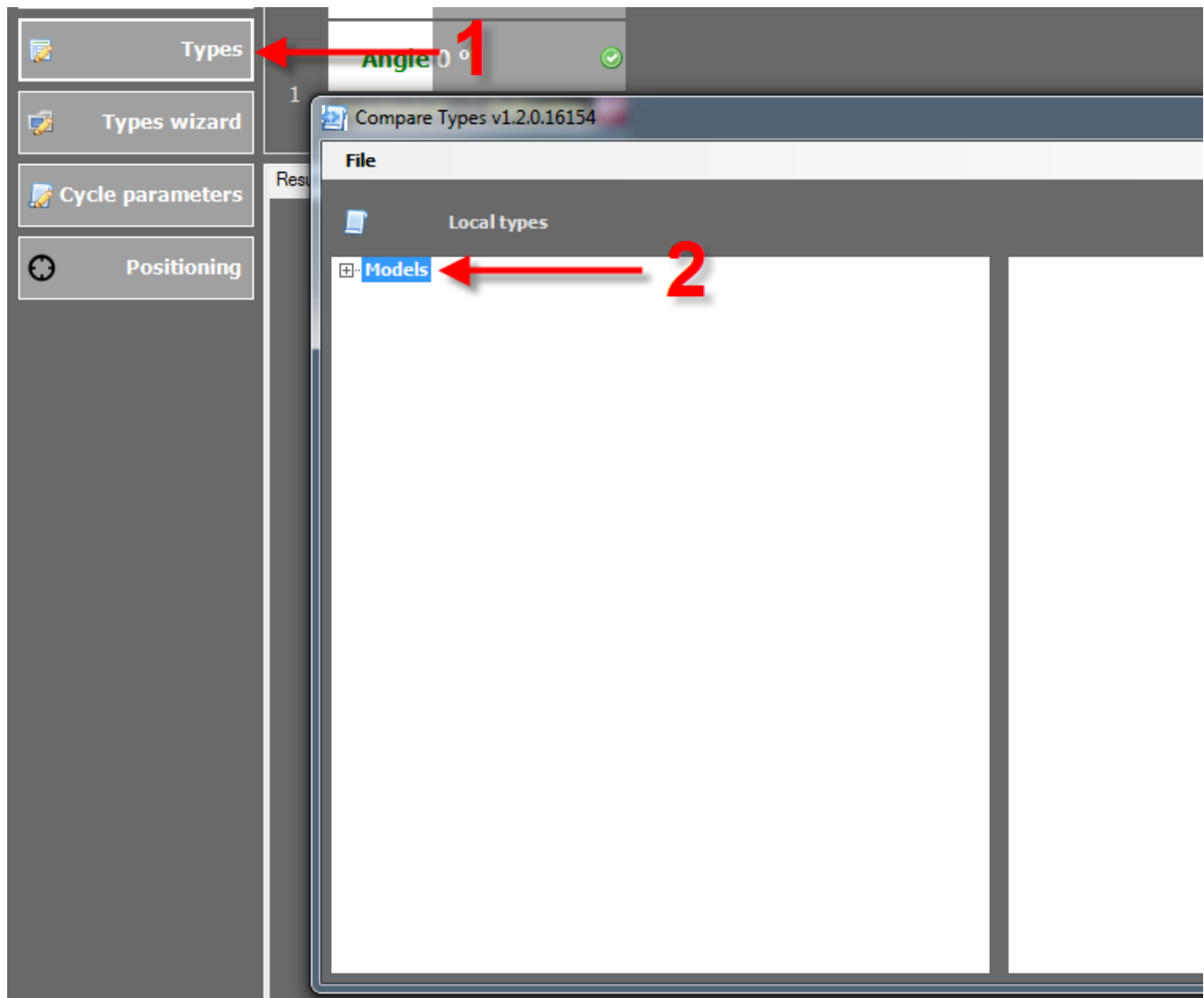
7.5.11.4. Configuring Upper and Lower values for results in ProTight.

Press the “Settings” button and Log in using “ProTight” as password.



	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 85(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

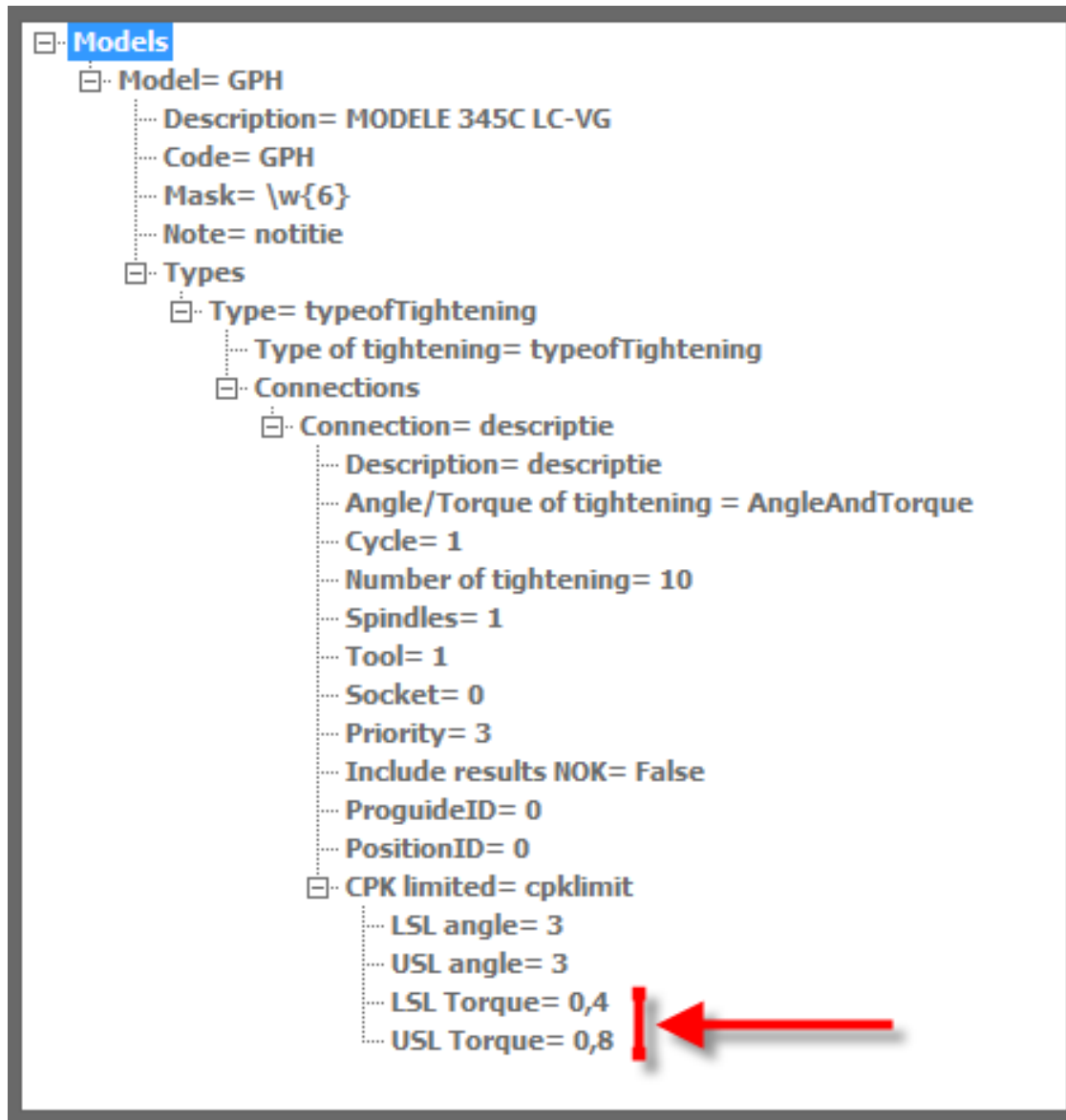
Click on the “Types” button and proceed by unfolding the “Models” in the treeview.



	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 86(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

Unfold the Model that you want until you reach the “Connections” level, here you wil find one more level called “CPK Limited” which has 2 properties that the NorbarTool uses.

- LSL Torque, wich stands for the Lower limit Torque.
- USL Torque, wich stands the the Higher limit Torque



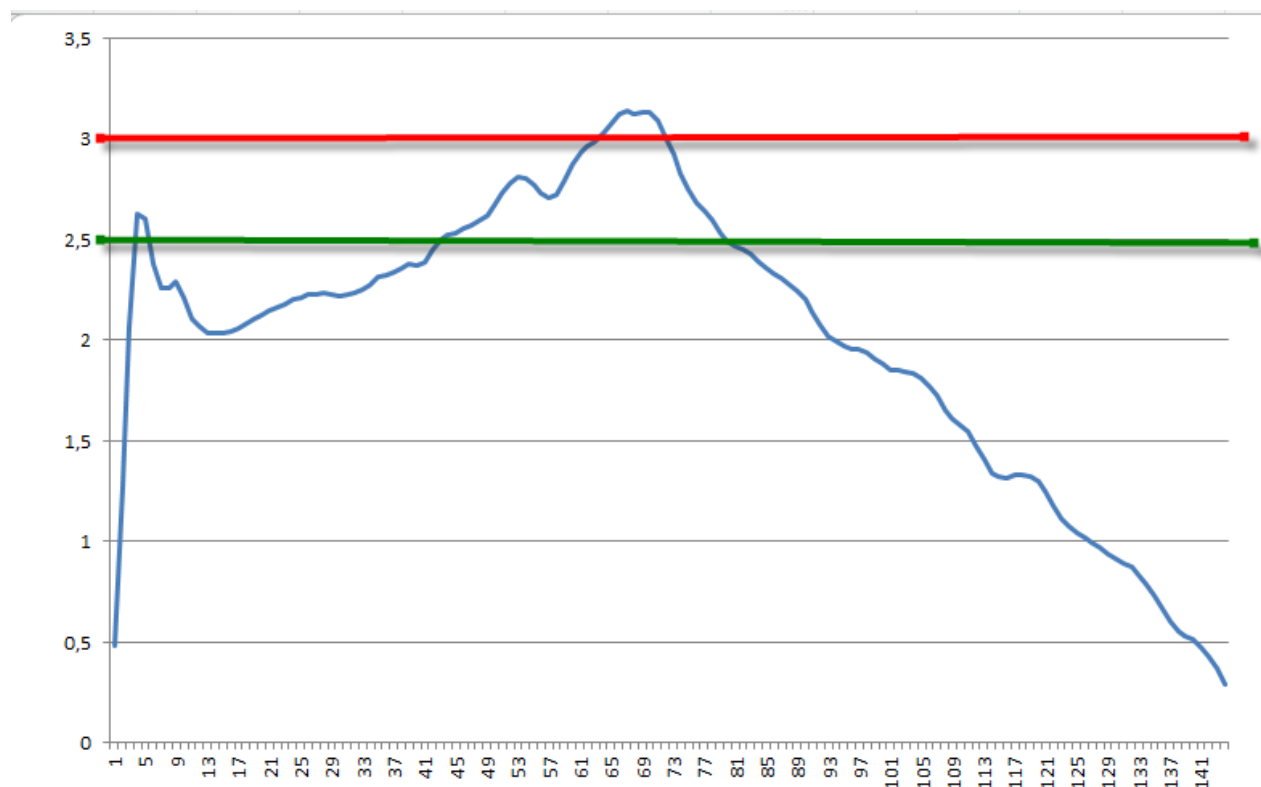
	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 87(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

7.5.11.4.1. Visual sample of connection with limitations.

This chart example uses the following values.

USL Torque = 3 (Red line)
LSL Torque = 2,5 (Green line)

The blue line represents the Connection.



		H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66		Documentnaam Manual ProTight Template: FM44A	Pagina 88(284)
Bewerker (Naam, telefoon) Christophe De Mey		+32(0)9/378.49.89		Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual					

7.5.12. NorbarToolActive

Use these COM settings to connect the NorbarActive tool to ProTight.



Serial Connection

COM Port:

Databits:

Speed:

Stopbits:

Parity bits:

Ethernet Connection

IP:

EthernetPort:

Don't forget to make sure the Disk icon on the left bottom is marked gray, else the Norbar will not send results to ProTight.

For the Norbar output setup use the NorbarTool setup located under 7.5.11.1

7.6. I/O

By default, ProTight uses a Beckhoff PLC as intelligent IO device. In some cases a Allen Bradley device or other brand can be used. Other platforms can be supported on request.

The IO device can be Ethernet based or AMS based

Type

IP

Porte

Socket

Protocol

AdressFamily

Figure 7-46 PLC settings wizard

Configuration

Algemeen

Used PLC Type

Used PLC Type= Twincat

Adressfamily= InterNetwork

Open= False

Sockettype= Stream

Protocol= IP

IP Address= 127.0.0.1

Port= 801

AMSid= 192.168.0.130.1.1

Use polling= True

Delay Time= 5000

Nutrunners

Scanner serial port

Badgereader serial port

Log in

Installatie

Visualisatie

Results

Reports

Figure 7-47 PLC settings treeview

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 89(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

Type	Twincat
AMSid	192.168.0.130.1.1
Porte	801

Figure 7-48 twincat settings

		H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66		Documentnaam Manual ProTight Template: FM44A	Pagina 90(284)
Bewerker (Naam, telefoon) Christophe De Mey		+32(0)9/378.49.89		Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual					

7.6.1. ProConnect

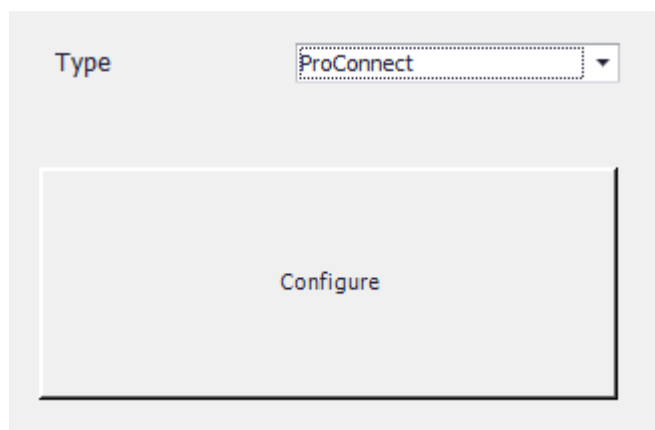


Figure 7-49 ProConnect settings

ProConnect is a configurable module. It supports 2 different devices: a ProConnect device or a ProMID module. The 2 devices are configured with the Configure button. This opens up a new wizard: The ProConnect wizard.

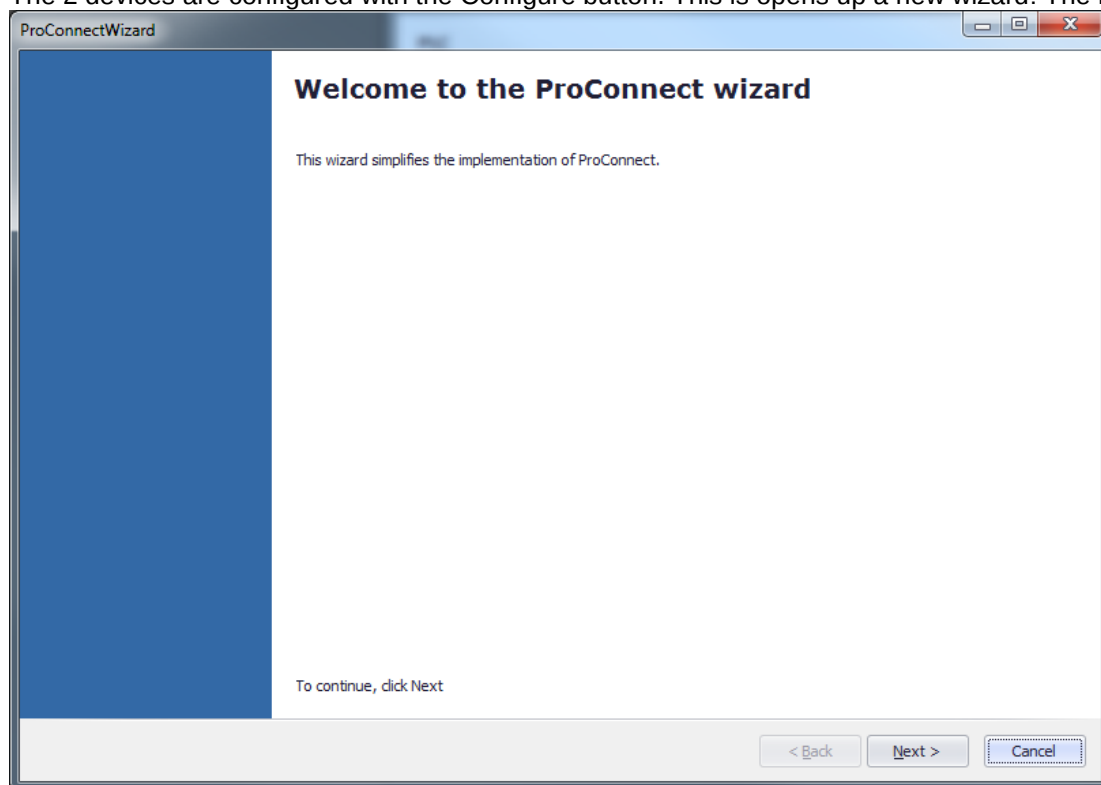


Figure 7-50 ProConnect wizard startpage

This is the start page of the ProConnect wizard. To continue with the wizard, click Next.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 91(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
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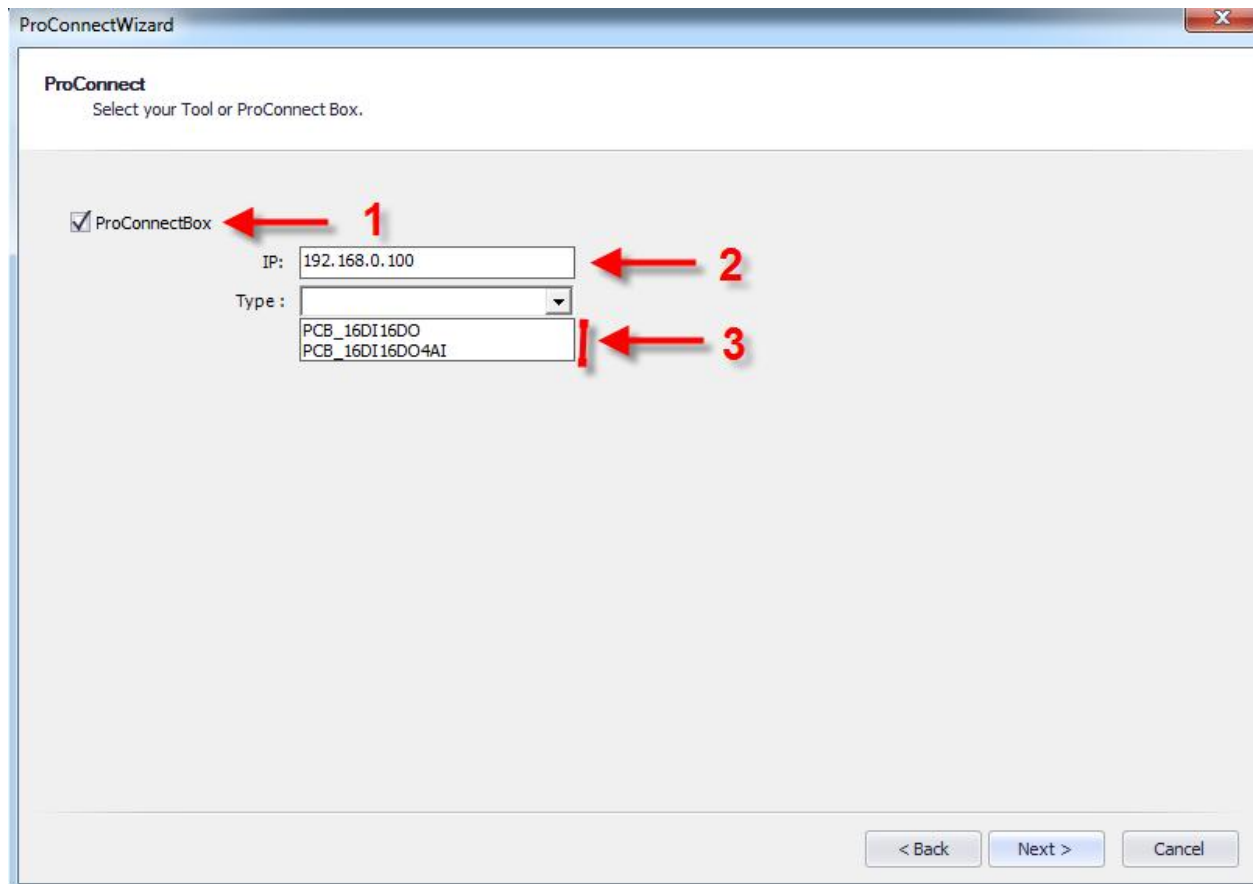


Figure 7-51 ProConnect Selector page

The ProConnect module has 2 different devices:

- The ProConnect box
- ProMID through open protocol (This option will appear when an Open Protocol tool has been configured).

1. Enable ProConnect box.
2. Insert the ProConnect box ip address, this is always 192.168.0.100 .
3. Select the type of ProConnectBox.

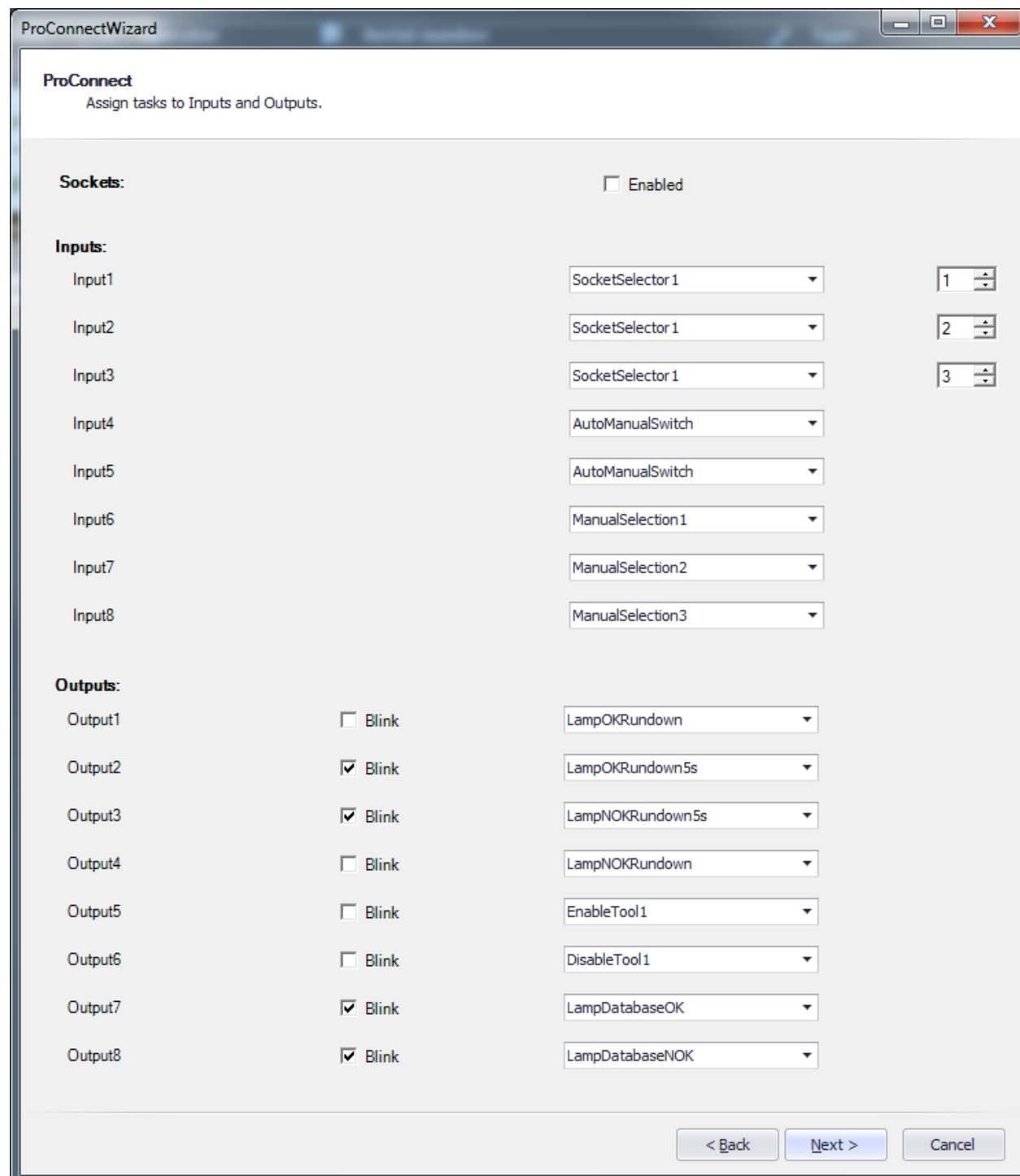
	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 92(284)
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Image of the ProConnect box.



Figure 7-52 ProConnectBox

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ProConnect
Assign tasks to Inputs and Outputs.

Sockets: ☐ Enabled

Inputs:

Input	Task	Value
Input1	SocketSelector1	1
Input2	SocketSelector1	2
Input3	SocketSelector1	3
Input4	AutoManualSwitch	
Input5	AutoManualSwitch	
Input6	ManualSelection1	
Input7	ManualSelection2	
Input8	ManualSelection3	

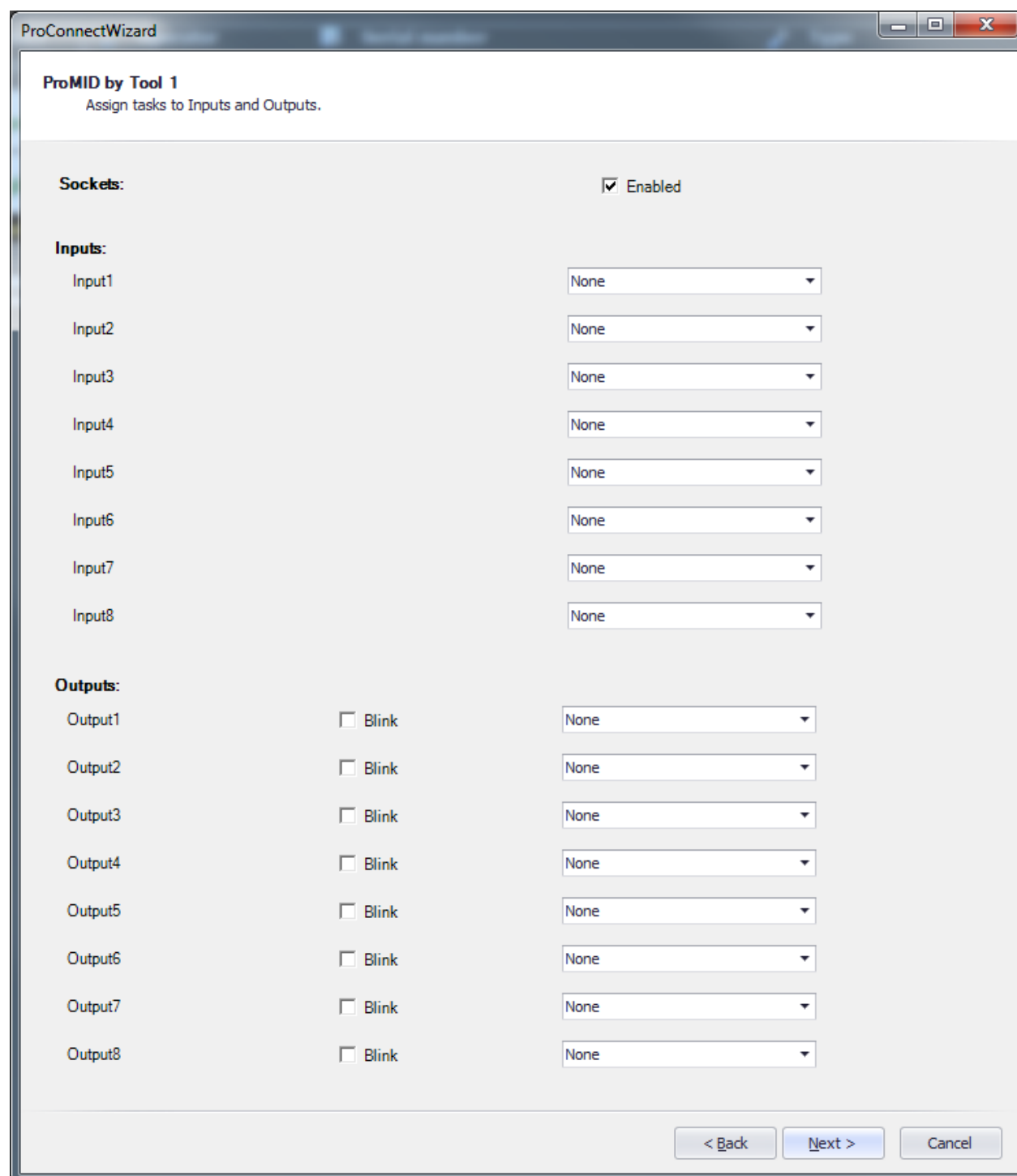
Outputs:

Output	Blink	Task
Output1	☐	LampOKRunDown
Output2	☒	LampOKRunDown5s
Output3	☒	LampNOKRunDown5s
Output4	☐	LampNOKRunDown
Output5	☐	EnableTool1
Output6	☐	DisableTool1
Output7	☒	LampDatabaseOK
Output8	☒	LampDatabaseNOK

< Back Next > Cancel

Figure 7-53 ProConnect box

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ProConnectWizard

ProMID by Tool 1
Assign tasks to Inputs and Outputs.

Sockets: ☒ Enabled

Inputs:

Input1	None
Input2	None
Input3	None
Input4	None
Input5	None
Input6	None
Input7	None
Input8	None

Outputs:

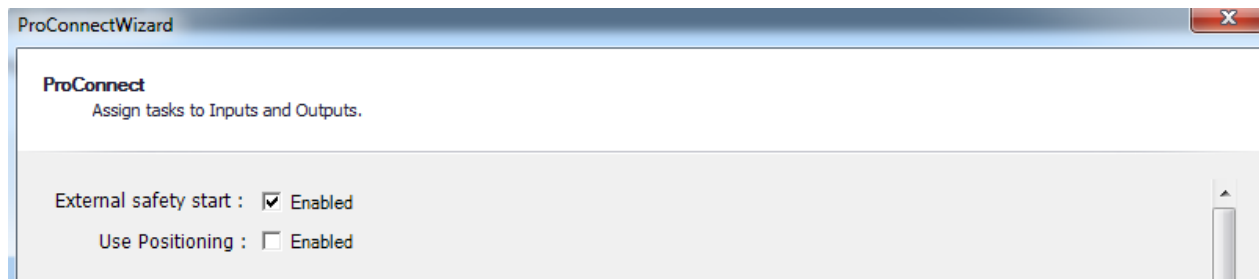
Output1	☐ Blink	None
Output2	☐ Blink	None
Output3	☐ Blink	None
Output4	☐ Blink	None
Output5	☐ Blink	None
Output6	☐ Blink	None
Output7	☐ Blink	None
Output8	☐ Blink	None

< Back Next > Cancel

Figure 7-54 ProMID

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When you enable the “External safety start” you wil sacrifice 2 inputs (Input14 and Input15).



Finishing the ProConnect wizard.

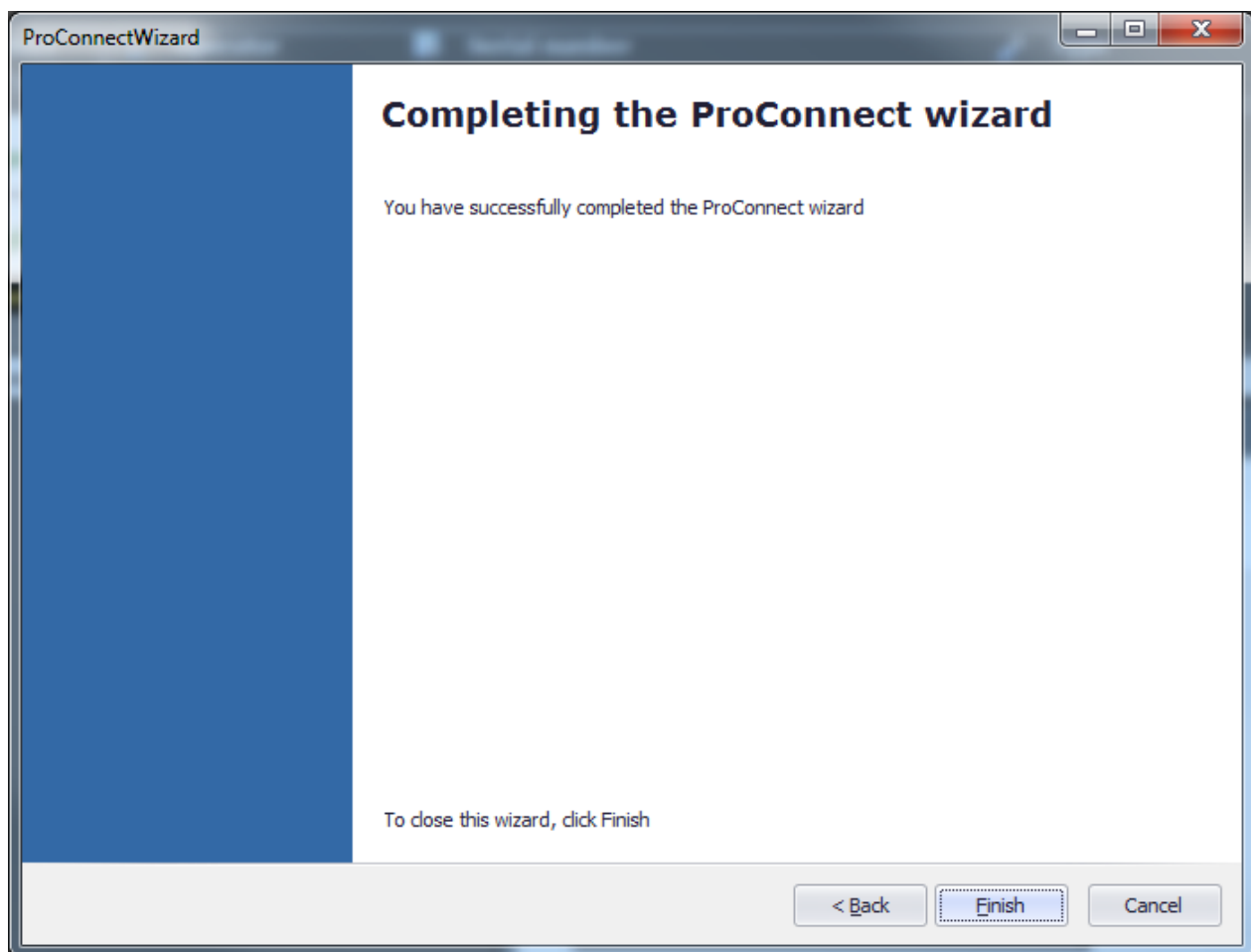


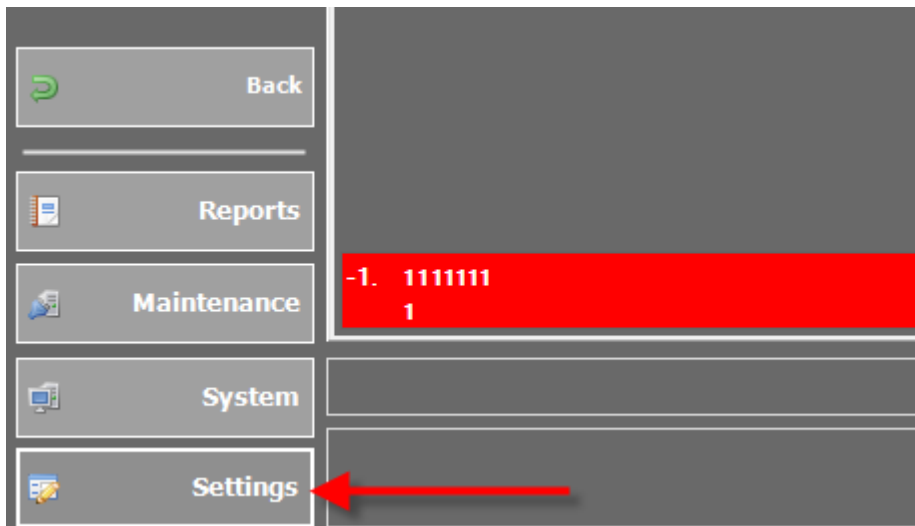
Figure 7-55 Finish the tutorial

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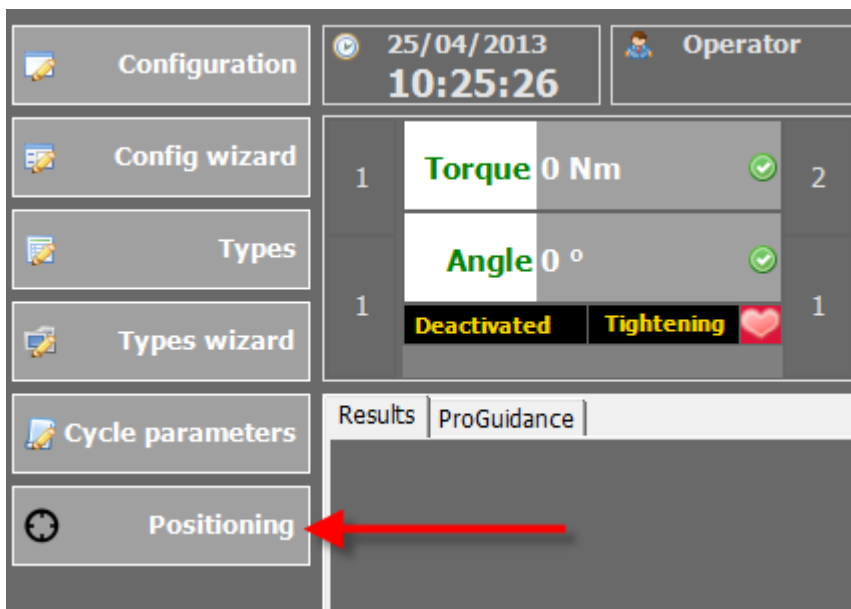
7.6.1.1. Configuring Positioning

7.6.1.1.1. Opening the Positioning Configurator

Click on the Settings button and login to ProTight.



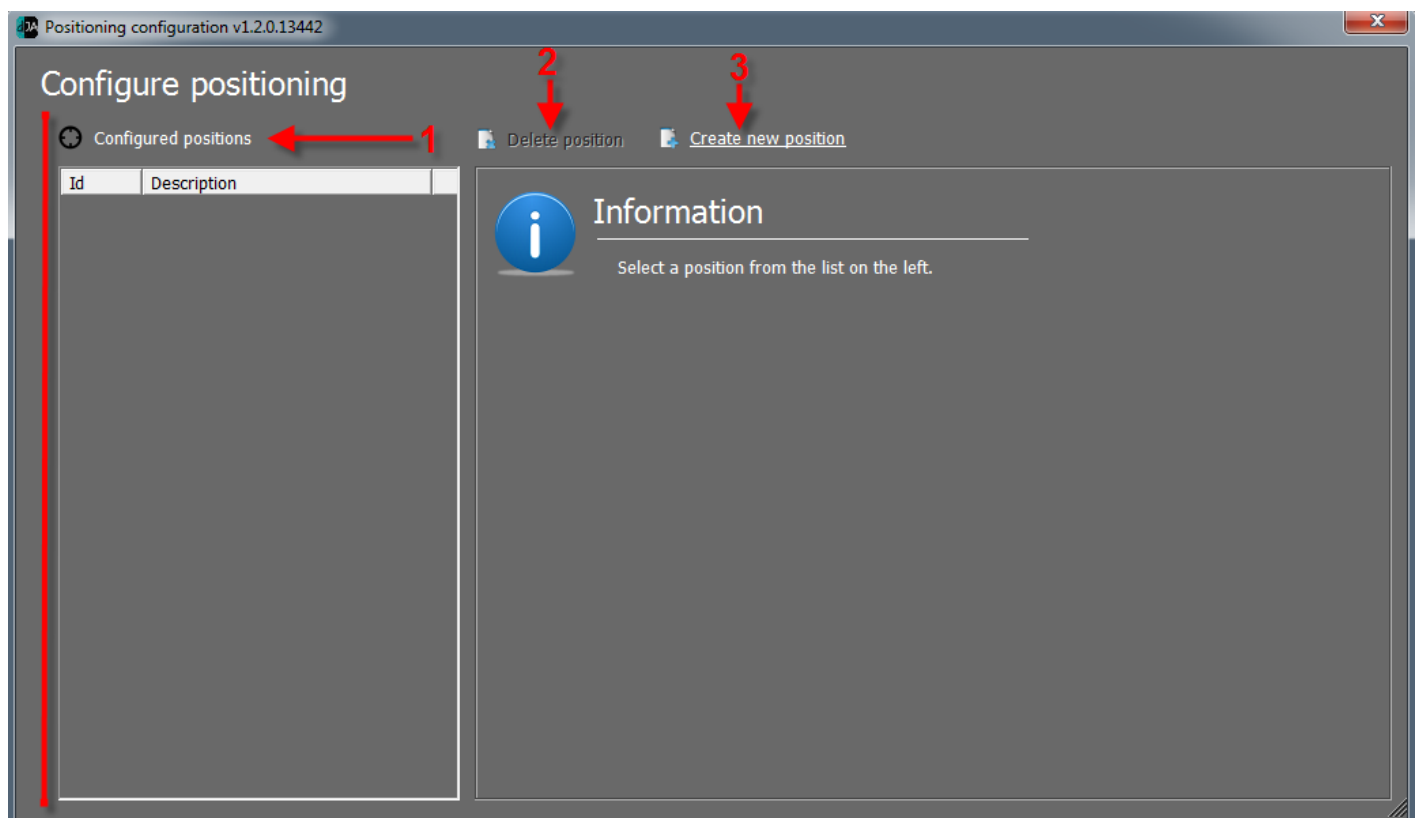
Click on the “Positioning” button.



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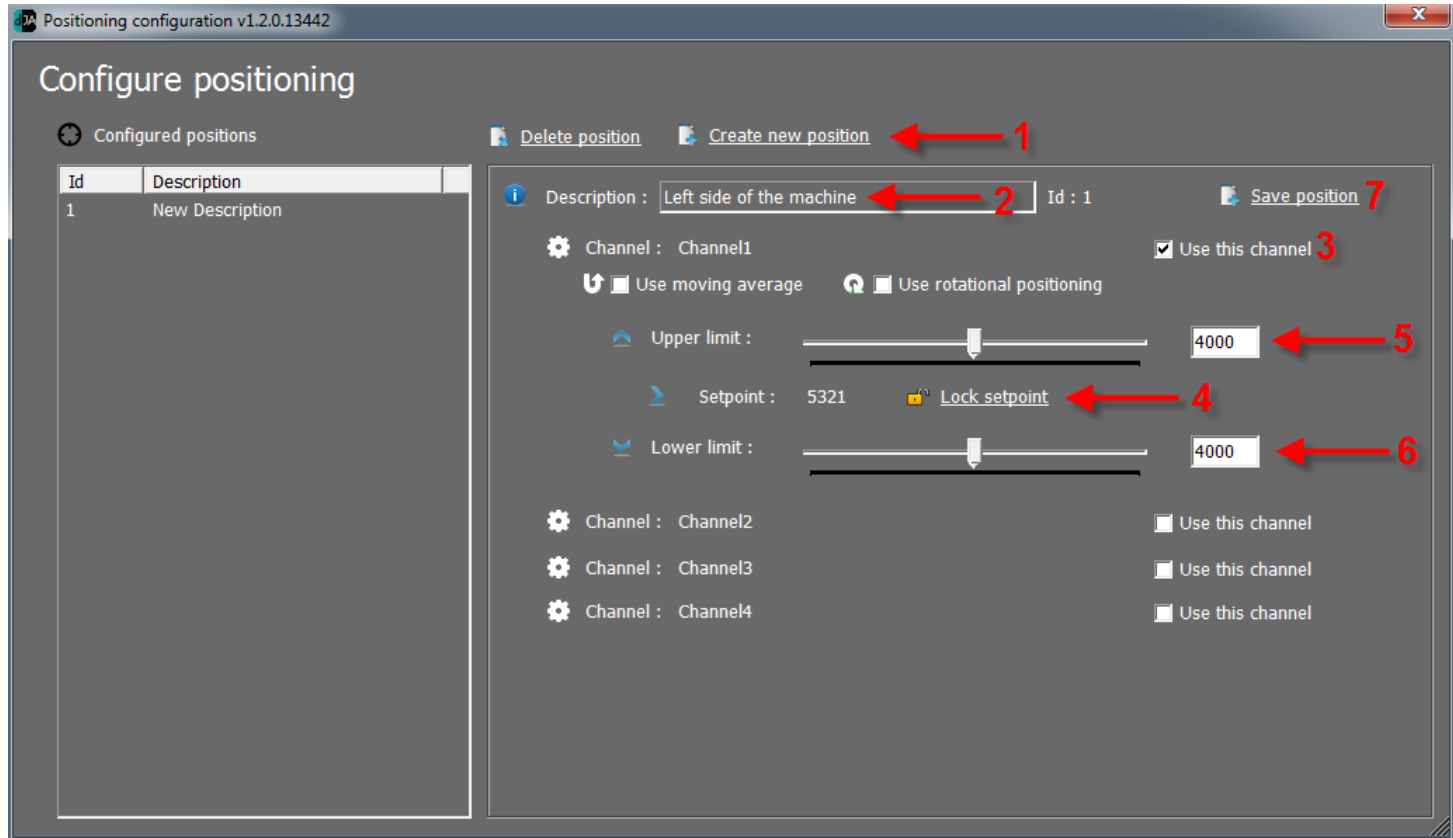
7.6.1.1.2. Positioning configuration overview

1. This list holds all configured positions with the Id and Description of the position.
2. Delete position, after selecting a position from the list on the left you can decide to delete it by clicking on this link.
3. Create new position, will create a new position template.



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7.6.1.1.3. Adding a new position.



1. Start by creating a new position.
2. Fill in a description for the position, this makes it easier to identify the positions in the list of Configured positions.
3. Select the channels you want to use, it is possible to use multiple channels in one position.
4. Unlock the setpoint, this is the ideal point in the position, data from the sensor will change the setpoint value, move the sensor around until you have reached the correct position, then lock the setpoint again.
5. Set an upper limit difference from the setpoint, ex: if setpoint is 2000 and upper limit is 500, then values from 2000 to 2500 will return a positive position.
6. Set an lower limit difference from the setpoint , ex: if setpoint is 2000 and lower limit is 500, then values from 1500 to 2000 will return a positive position.
7. When the channels you want to use are configured you can save the position.

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7.6.1.1.4. Special filters.


Description :

Id : 1


Save position


Channel : Channel1

☒ Use this channel

1

Use moving average

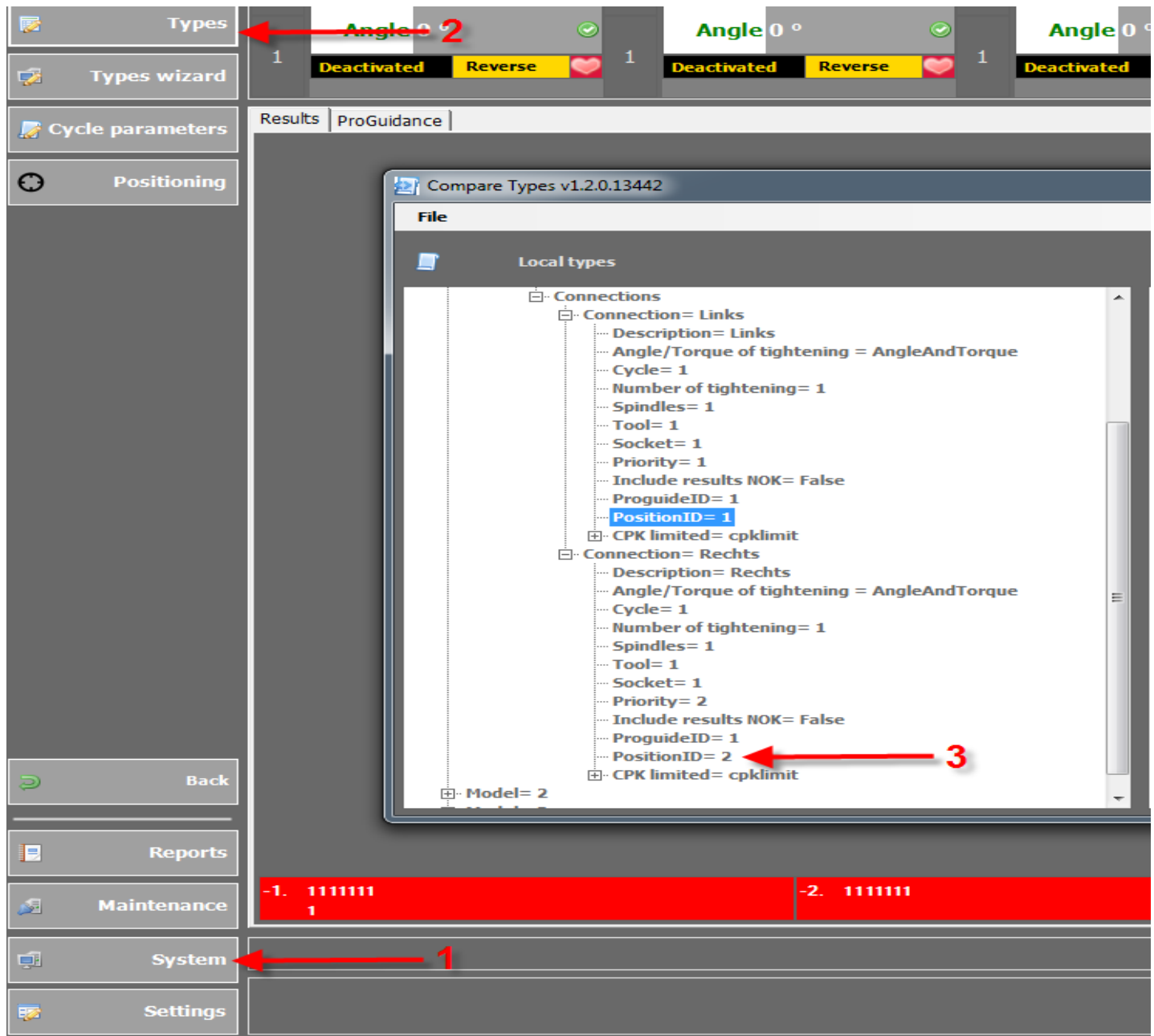

Use rotational positioning
2

1. Use moving average, this will calculate the last fields into an average for a more stable result.
2. Use rotational positioning, this is used for rotational positioning.

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7.6.1.1.5. Linking a position to a connection.

1. Click on the System button.
2. Click on the Types button.
3. Unfold the Types until you reach your connections there you will find the positionID property.



The screenshot shows the ProTight software interface. On the left is a vertical menu with buttons: Types, Types wizard, Cycle parameters, Positioning, Back, Reports, Maintenance, System, and Settings. The 'Types' button is highlighted with a red arrow and the number 1. At the top, there are three status bars for 'Angle' (0°) with 'Deactivated' and 'Reverse' buttons; the second 'Reverse' button is highlighted with a red arrow and the number 2. In the center, a 'Compare Types v1.2.0.13442' dialog box is open, showing a tree view of 'Local types'. Under 'Connections', there are two entries: 'Connection= Links' and 'Connection= Rechts'. The 'PositionID= 1' property under 'Links' is highlighted with a red arrow and the number 3. At the bottom, the 'System' button in the left menu is highlighted with a red arrow and the number 1. Below the 'System' button, there are two red bars with white text: '-1. 1111111' and '-2. 1111111'.

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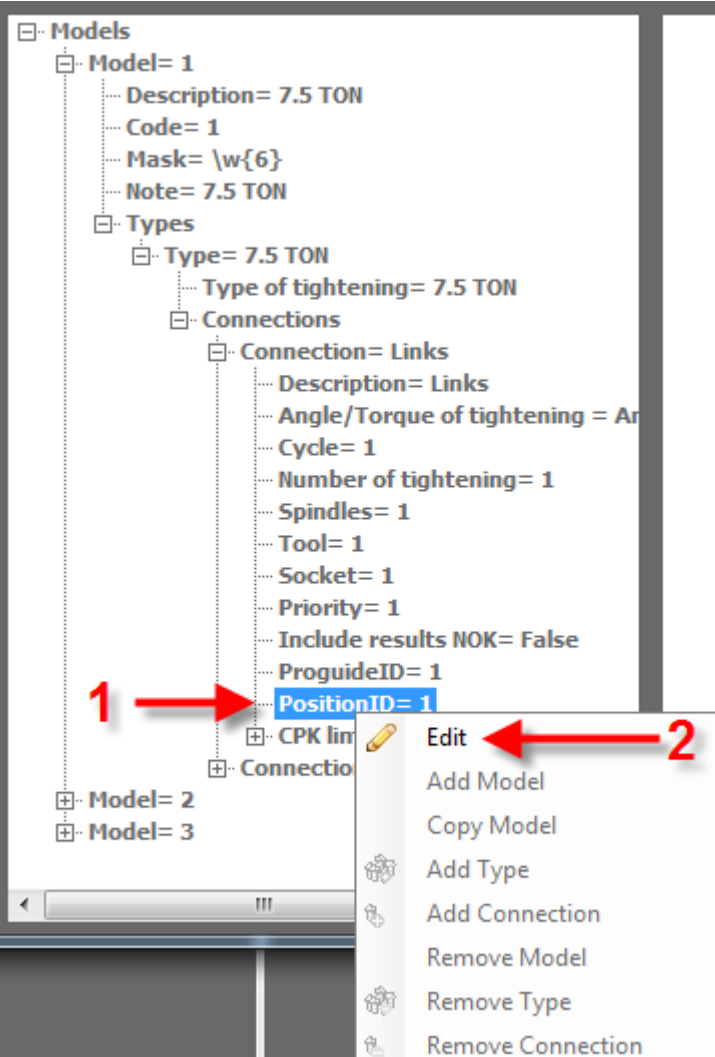
Get the Id from the Positioning configuration.

1. Rightclick on the PositionID.
2. Select Edit and fill in the PositionID

Configure positioning

 Configured positions

Id	Description
1	Left side of the machine



That's it, now when you start your type you will need to be in position.

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7.6.1.2. Setting up sockets with leds in ProConnect.

1. Select the socketselector you want to use, you can use up to 5 socket selectors.
2. Select the position of the socket in the socketselector.

Inputs:

Input1	1	SocketSelector 1	2	1
Input2		SocketSelector 1		2
Input3		SocketSelector 1		3
Input4		SocketSelector 1		4
Input5		SocketSelector 1		4

Set up the led connections.

1. Decide if you want the leds to blink or not.
2. Chose the socket selector you are using, note that you must use the same number of the socketselector. For example, you chose SocketSelect1 and you want the leds to work you need to chose LedSocketSelector1 in outputs.
3. Select the position of the led in the ledsocketselector.

Outputs:

Output1	☒ Blink	LedSocketSelector 1	1
Output2	☒ Blink	LedSocketSelector 1	2
Output3	1 ☒ Blink	2 LedSocketSelector 1	3
Output4	☒ Blink	LedSocketSelector 1	4
Output5	☒ Blink	LedSocketSelector 1	5

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7.7. SCANNER SERIAL PORT

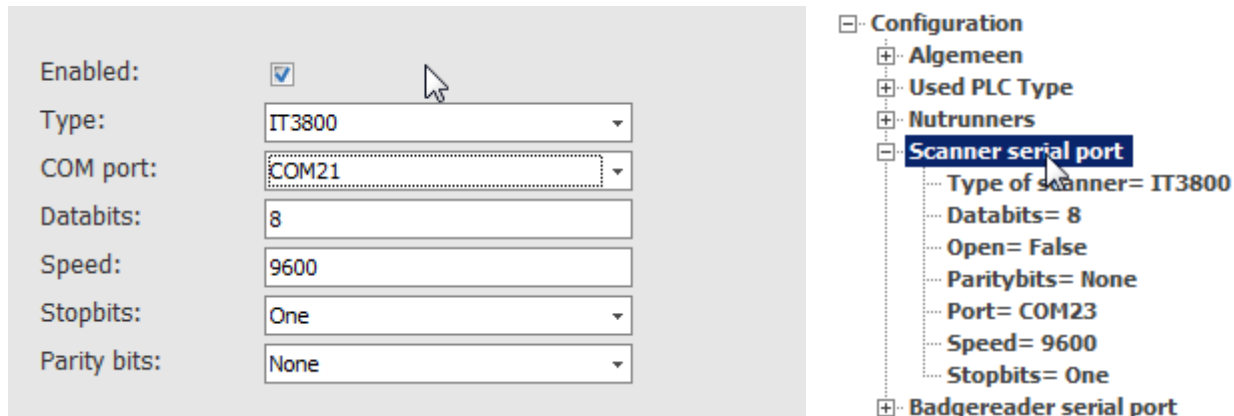


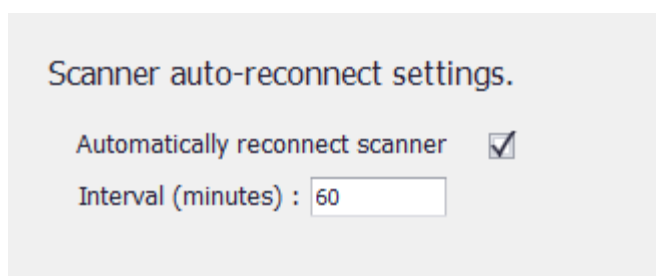
Figure 7-56 Configure scanner

The default settings are:

- Type de scanner: IT3800
- Databits: 8
- Enabled/Open: True
- Paritybits: None
- Port: COM1 (it depends in witch port the serial cable has been placed)
- Speed: 9600
- Stopbits: One

7.7.1. Scanner auto-reconnect.

This functionality will reconnect the scanner each time the interval elapses.



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7.8. BADGEREADER KABA NET 91 07

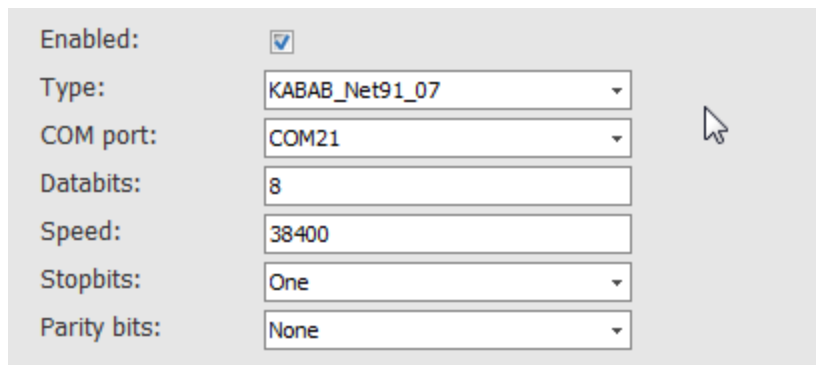
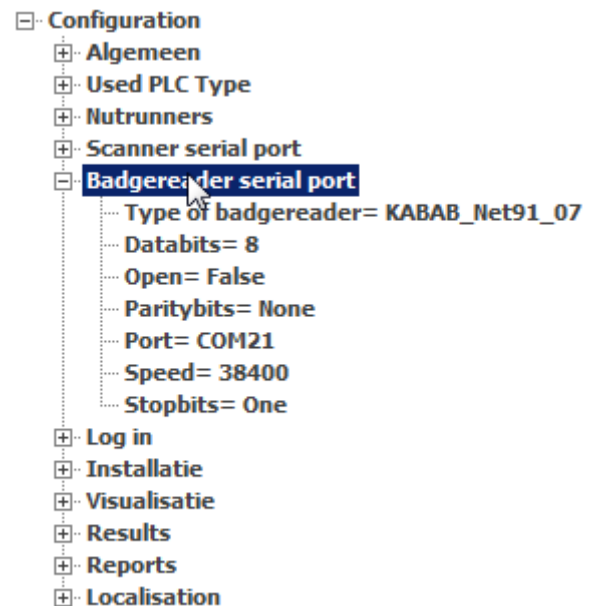


Figure 7-57 Configure kaba reader

The default settings are:

- Type: KABAB_Net91_07
- Databits: 8
- Enabled/Open: True
- Paritybits: None
- Port: COM1 (it depends in witch port the serial cable has been placed)
- Speed: 38400
- Stopbits: One



7.9. BADGEREADER KABA MP 05

The default settings are:

- Type: KABA05MPLogic
- Databits: 8
- Enabled/Open: True
- Paritybits: None
- Port: COM1 (it depends in witch port the serial cable has been placed)
- Speed: 9600
- Stopbits: One

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7.10. LOGIN PARAMETERS

To define the operator and job ID we need to have some parameters.

Normal

Number of operators:
Machine Number:
Manual Login Allowed: ☒
Number Operator manual:
Number Operator Automatic:
Prefix:
Validate two times: ☐
Validation serial number: ☐
Database Verification Operator: ☐
Database Verification Serienumber: ☐

Advanced

Machine Regex:

Figure 7-58 Login wizard

+	Algemeen
+	Used PLC Type
+	Nutrunners
+	Scanner serial port
+	Badgereader serial port
-	Log in
	Number of Operators= 1
	Machinenumber= \w{6}
	Manual Login Permit= True
	Manual operator= \w{4}
	Automatic operator= \w{4}
	Prefix=
	Confirm two times= False
	Confirm the serial number= False
	Confirm CATCEM= False
	Confirm HFRAME= False
	DB verification operator= False
	DB verification serial= False
+	Webservice
+	Installatie
+	Visualisatie
+	Results
+	Reports
+	Localisation

Figure 7-59 treeview Login configuration

- Number of Operators: ProTight supports 1 or two operators.
- Machine number: The length of the machine number.
- Manual Login allowed: Option to permit a manual login (by keyboard).
- Number Operator manual: Length of the manual operator login code.
- Number Operator automatic: Length of the automatic operator login code.
- Prefix: Additional prefix for the model / serial number.
- Validation two times: If no DB verification is available (e.g. DB offline), ProTight can verify the same entries twice, to make sure that they are correct.
- Validation serial number: If a serial number is used, use this option. If no serial number is used (e.g. bulk production), don't use this number.
- Database verification operator: Verify the operator on the DB to check if he's permitted to work on this installation.
- Database verification serial number: Verify the serial number on the DB to check if this part is allowed to be made (e.g. considering repair rules).
- Machine Regex: use this regular expression to define the machine serial. This regex parses the input of a scanner to a correct internal format.

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7.10.1. The Machine Regex

The machine regex is used to extract the useful information out of the barcode.

Example:

```
(?<prefix>) (?<machineNb>) (?<type>\w{12}) \\/ (?<serialNb>\w{12}) (?<suffix>)
```

The machine regex exists out of 5 parts:

- Prefix
- machineNb
- type
- serialNb
- suffix

Each part is a named capturing groups. Each capturing group defines what is necessary for that part. A capture group is defined with a name. Examples of an empty capture group:

```
(?<prefix>)
(?<machineNb>)
(?<type>)
(?<serialNb>)
(?<suffix>)
```

The barcode that needs to be parsed exists of a series of characters. To define which character belongs to which capturing group, we need to add expressions.

- \w defines a alphanumeric letter
- \d defines a numerical characters
- [A-Z] defines a uppercase letter
- [a-z] defines a lowercase letter
- [1-9] defines a digit between 1 and 9 (not zero)
- \' defines the ' character
- \- defines the '-' character
- \s defines a whitespace

Examples:

```
(?<prefix>\w)           -- 'prefix' contains an alphanumeric letter
(?<machineNb>\w\w\w)    -- 'machineNb' contains 3 alphanumeric letters
(?<type>APP\d\d)        -- 'type' must start with APP and then 2 numerical characters
(?<type>[A-Z]\d\d)      -- 'type' must start with uppercase letter and then 2
numerical characters
```

An expression can also exist out of sequences. Sequences are used to repeat the previous.

- \w{3} defines 3 alphanumeric letters
- \w{5} defines 5 alphanumeric letters
- [A-Z]{2} defines 2 uppercase letters

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Examples:

(?<prefix>\w{12})	-- 'prefix' contains 12 alphanumeric letter
(?<machineNb>\w{3})	-- 'machineNb' contains 3 alphanumeric letters
(?<type>APP\d{2})	-- 'type' must start with APP and then 2 numerical characters

To recapitulate on the example:

Example:

(?<prefix>) (?<machineNb>) (?<type>\w{12}) \ / (?<serialNb>\w{12}) (?<suffix>)
--

This barcode is 25 characters long with 6 parts in it:

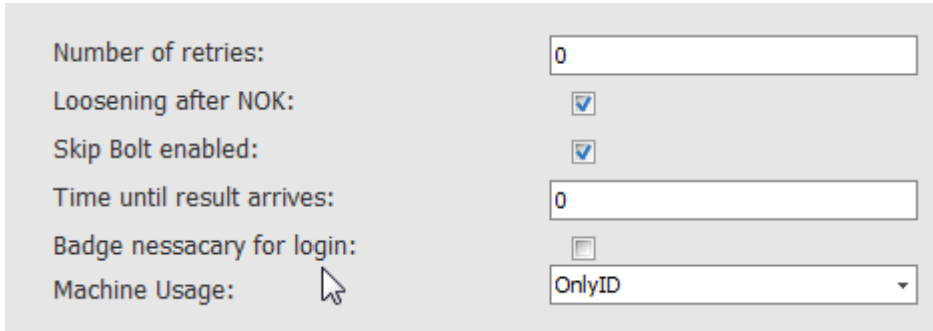
(?<prefix>)	prefix is empty
(?<machineNb>)	machineNb is empty.
(?<type>\w{12})	type is 12 alphanumeric letters.
V	In between type and serialNb, there is a '/' character
(?<serialNb>\w{12})	serialNb is 12 alphanumeric letters
(?<suffix>)	suffix is empty.

In between type and serialNb, there is a '/' character. This character isn't captured in any of the parts.

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7.11. INSTALLATION PARAMETERS

Some installation parameters needs to be made. Most of them have their influence in the general assembly process.



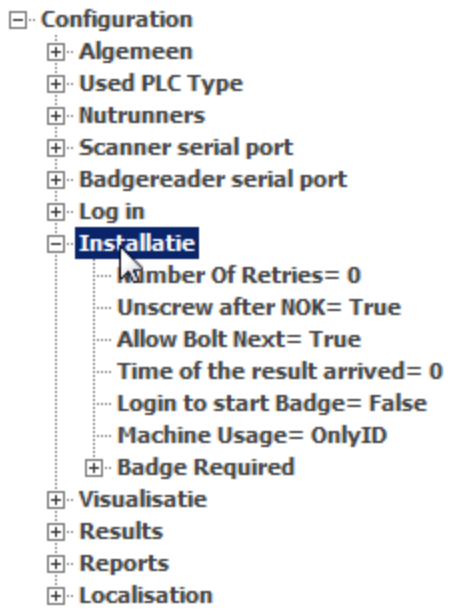


Figure 7-61 Installation wizard

- **Number of retries:** Defines the amount of retries the operator can make on a NOK tightening. If this amount is reached, the installation can be blocked. Only a permitted person can unblock this installation.
A value 0 disables this option..
- **Loosening after NOK:** Checks whether after a NOK tightening, the installation goes into reverse. A OK reverse tightening has to be made to resume the normal cycle
- **Skip bolt enabled:** Checks whether it is permitted to skip a bolt from the operator screen
- **Time until results arrives:** Timeout between two tightenings. Default value is 0
- **Badge necessary:** Checks if a badge is needed to login.
- **Machine usage:** Option to check in which mode ProTight works (ID, via higher system, ...)

Figure 7-60 Installation treeview

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7.11.1. Machine Usage: ID

This makes use of the local system of the types. The local system is based on the Types configuration.

7.11.2. Machine Usage: IDandSequence

This makes use of the orders from ProSuite. The orders are located at a certain file location.

7.12. VISUALIZATION PARAMETERS

Manual mode visible:	☒
Last 5 results visible:	☐
Messages:	
End tighteningjob:	☐
NOK tighteningresult:	☐

Figure 7-63 visualization wizard

- Manual mode visible: Show the manual results or not
- Last 5 results visible: Show the last 5 build machine status
- Messages: show / hide messagebox after End of the job or after a NOK tightening result

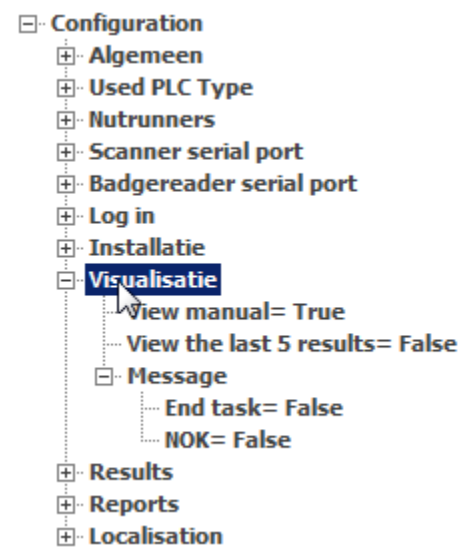


Figure 7-62 visualization treeview

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7.13. RESULTS PARAMETERS

These parameters tell us what will happen with the gathered tightening results

Save the results: ☒

Save the NOKs: ☒

Save the results in DB: ☐

Total months remembering the result:

- Save the results: save the results to DB and XML after a rundown
- Save the NOKs: Save the NOK results
- Save the results in DB: Save the results to a ProTight DB if available
- Total months remembering the results: how many months the results are stored locally

[-] Configuration

- [-] Algemeen
- [-] Used PLC Type
- [-] Nutrunners
- [-] Scanner serial port
- [-] Badgereader serial port
- [-] Log in
- [-] Installatie
- [-] Visualisatie
- [-] **Results**
 - Save your results= True
 - Save NOK= True
 - Save results to DB= False
 - Months to reflect the result= 3
- [-] Reports
- [-] Localisation

7.14. REPORT PARAMETERS

These parameters are used to parameterize the reports

Printer name:

Print OK: ☐

Print NOK: ☐

CPK configurations:

CPK limit:

Total days:

Day Number:

XR configuration:

XR points:

XR samples:

[-] Configuration

- [-] Algemeen
- [-] Used PLC Type
- [-] Nutrunners
- [-] Scanner serial port
- [-] Badgereader serial port
- [-] Log in
- [-] Installatie
- [-] Visualisatie
- [-] Results
- [-] **Reports**
 - Print OK= False
 - Print NOK= False
 - Printer Name=
 - [-] CPK limited
 - CPK Limits= 1.33
 - Limit of days= 30
 - Number of days= 1
 - [-] XR
 - PointsForXR= 50
 - XRsamples= 5
- [-] Localisation

A printer can be connected to ProTight to print production reports after a job.

- Printer name: the name of the local/network printer
- Print OK: print OK report
- Print NOK: print NOK report
- CPK Configuration
- XR configuration

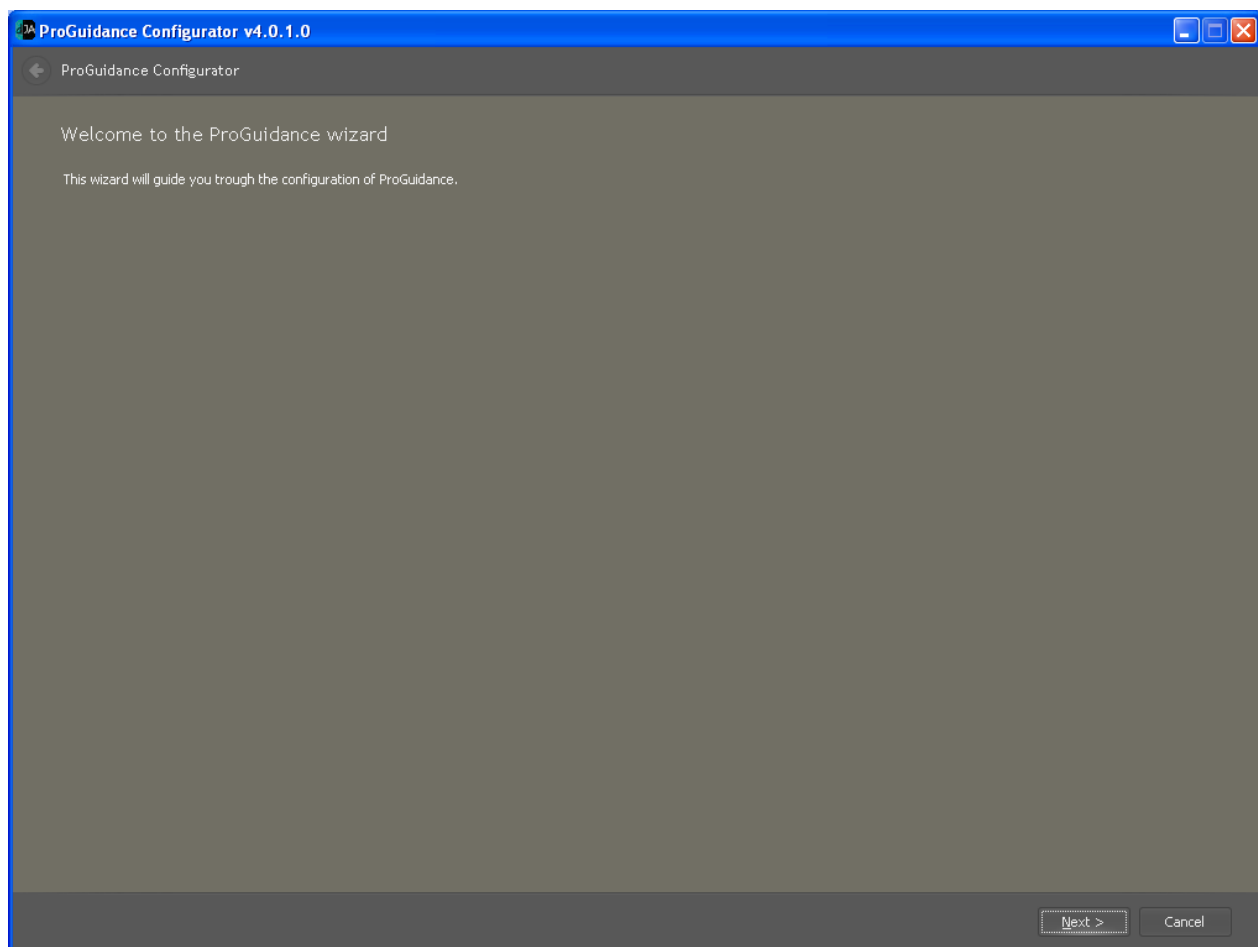
	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 111(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

7.15. PROGUIDANCE CONFIGURATOR

7.15.1. Introduction

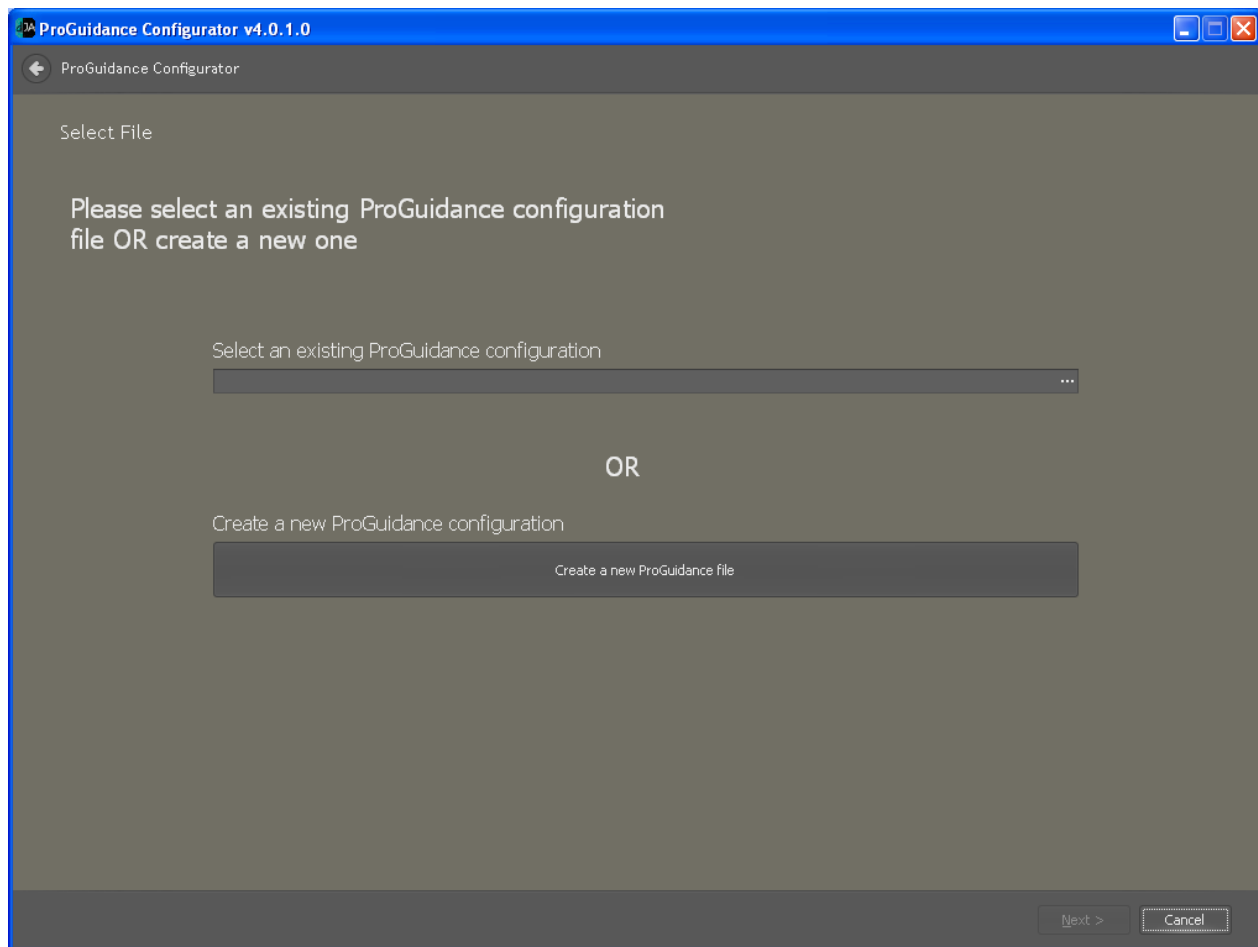
The ProGuidance configurator is used to generate the ProGuidance file.

7.15.2. Usage



This is the start page of the ProGuidance configurator. To continue through the wizard, it is necessary to click through with Next. The wizard can always be ended with the Cancel button.

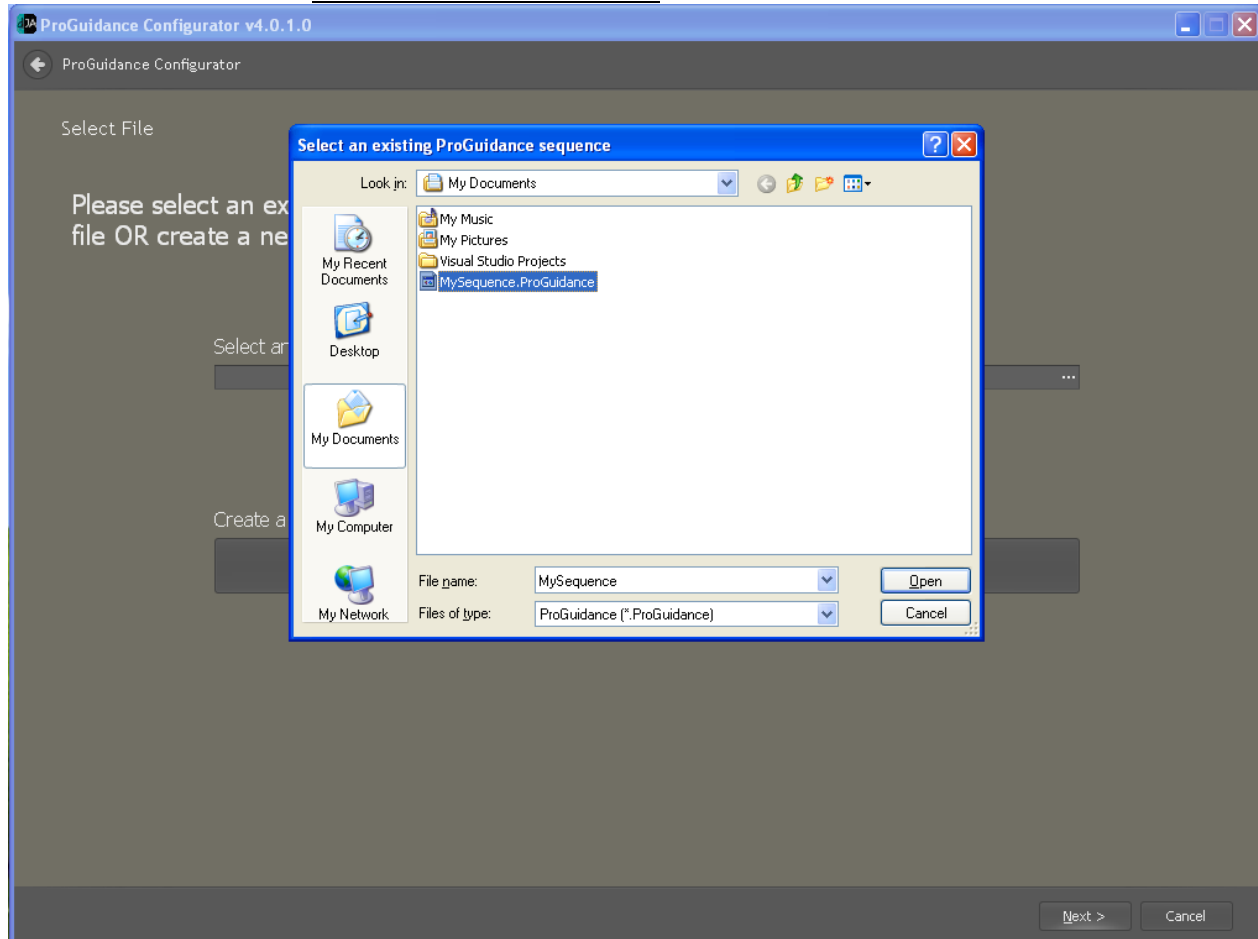
	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 112(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			



Here we can choose starting from a new file or starting from an old proguidance file. If the wizard is started from an old file, the existing ProGuidance configuration should be selected with the upper selection box. To continue from this page, you should have at least selected a file or created a new file.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 113(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

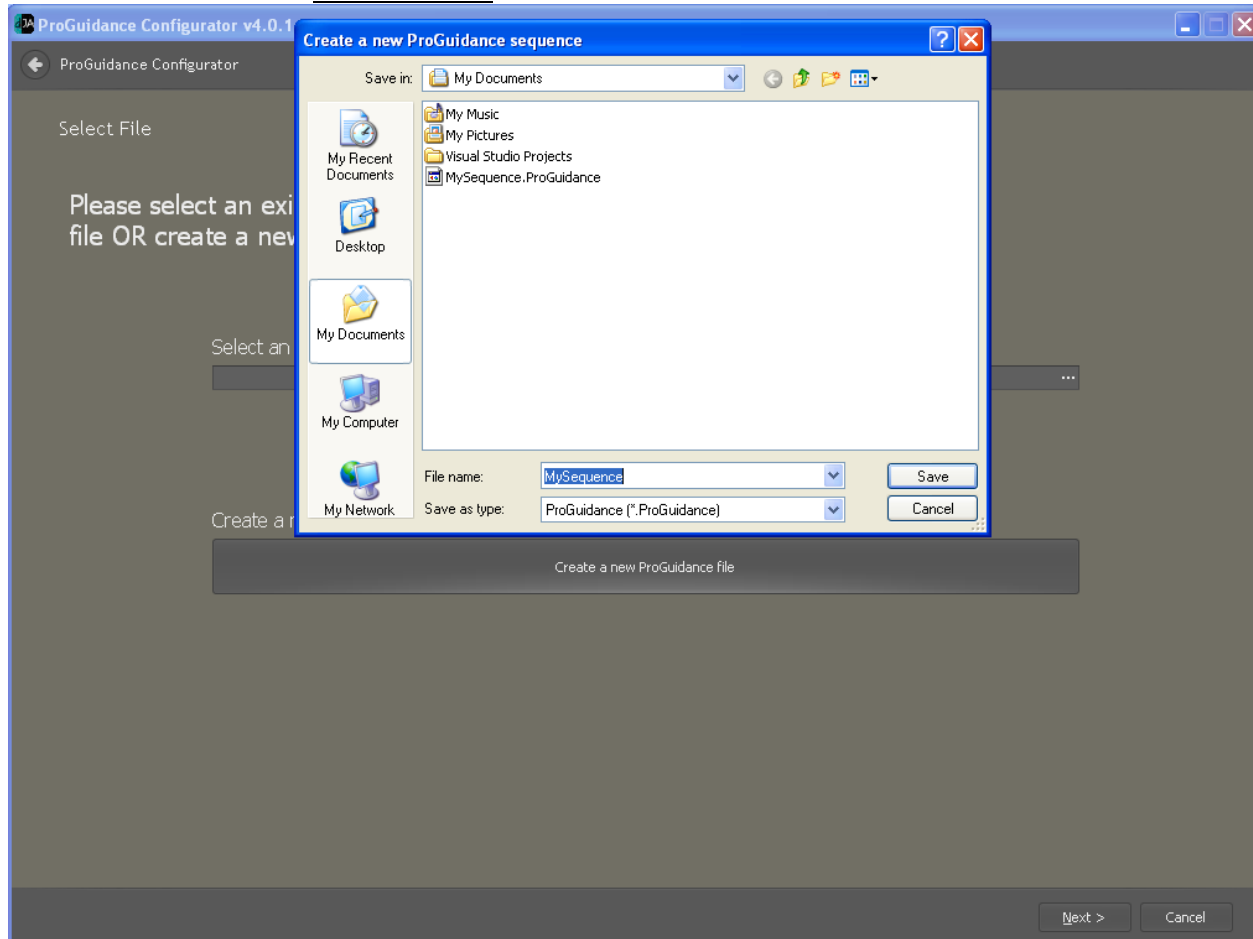
7.15.3. With an old ProGuidance File



The file can be chosen through the popup window.

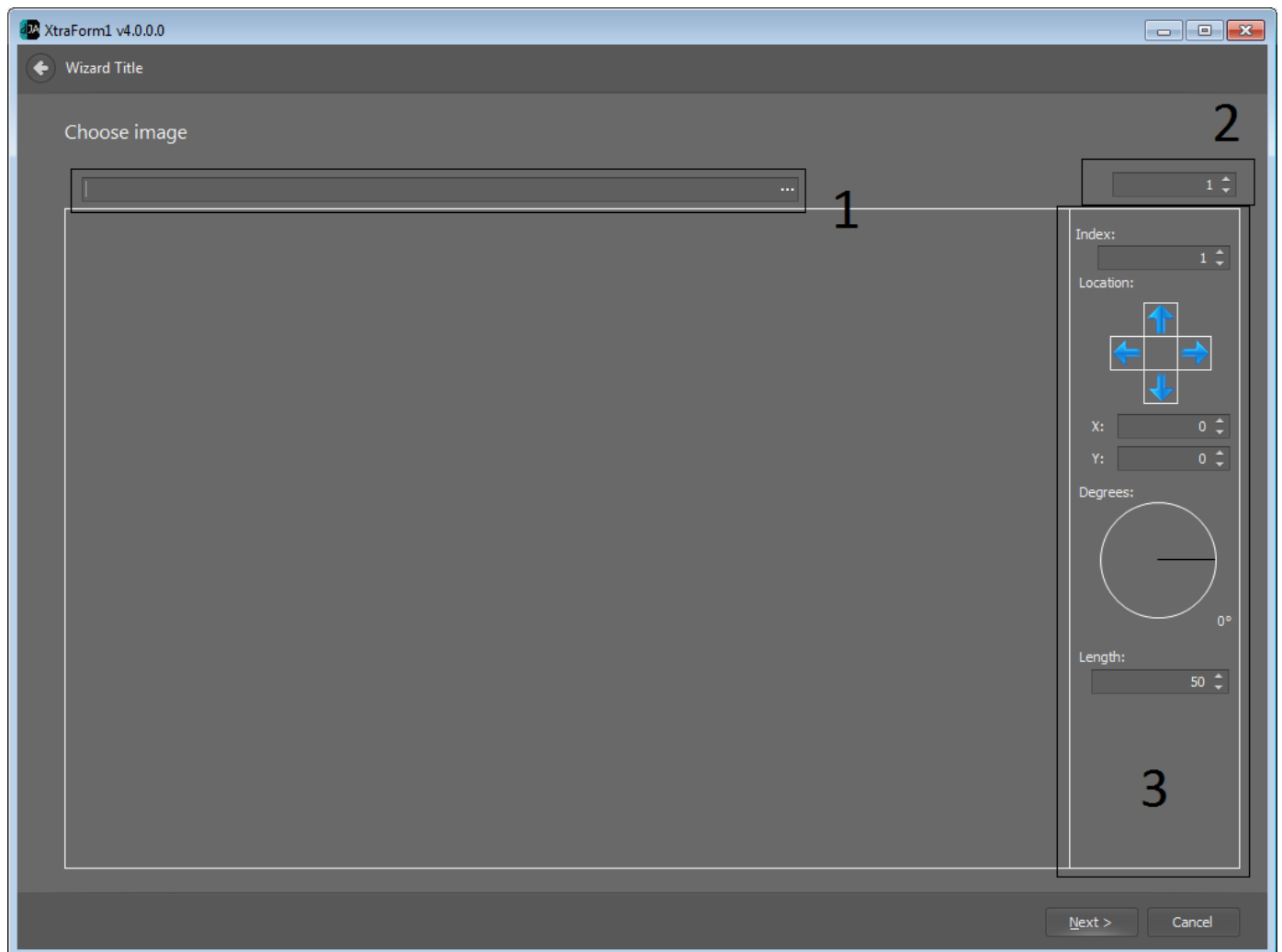
	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 114(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

7.15.4. With a new file



The new file can be stored on a chosen location. Keep in mind though that the images are also copied in a subfolder of this folder called Images. The ProGuidance configurator will automatically copy the necessary images in this folder. It will also make sure that the images are small enough of size to keep ProTight fluent in loading the images.

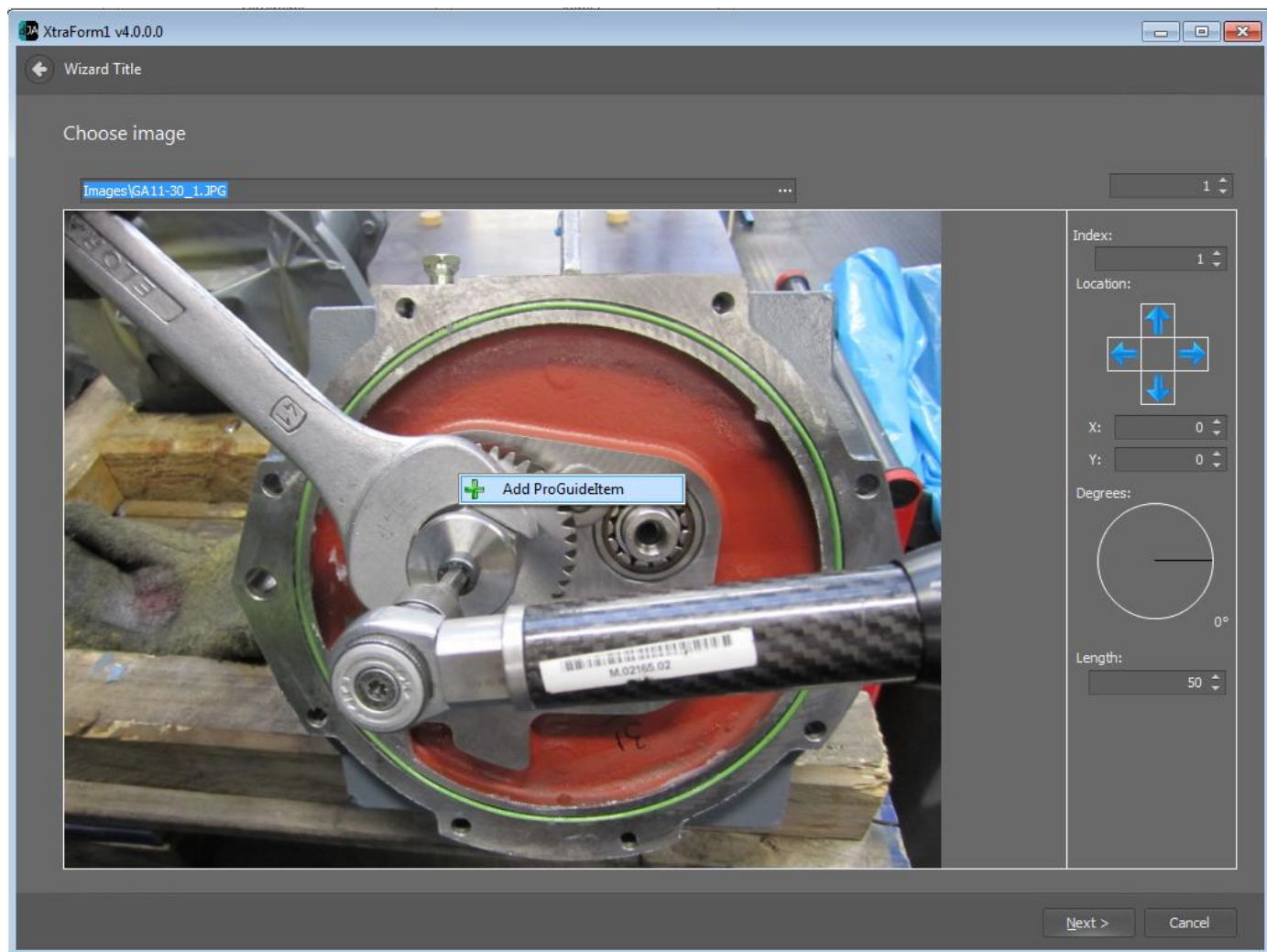
		H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66		Documentnaam Manual ProTight Template: FM44A		Pagina 115(284)	
Bewerker (Naam, telefoon) Christophe De Mey +32(0)9/378.49.89		Bijlagen Ja/Neen		Datum 10-Sep-13			
Onderwerp : ProTight manual							



At this wizard page the photo and the ProGuidanceID are coupled to each other. These get set by following controls:

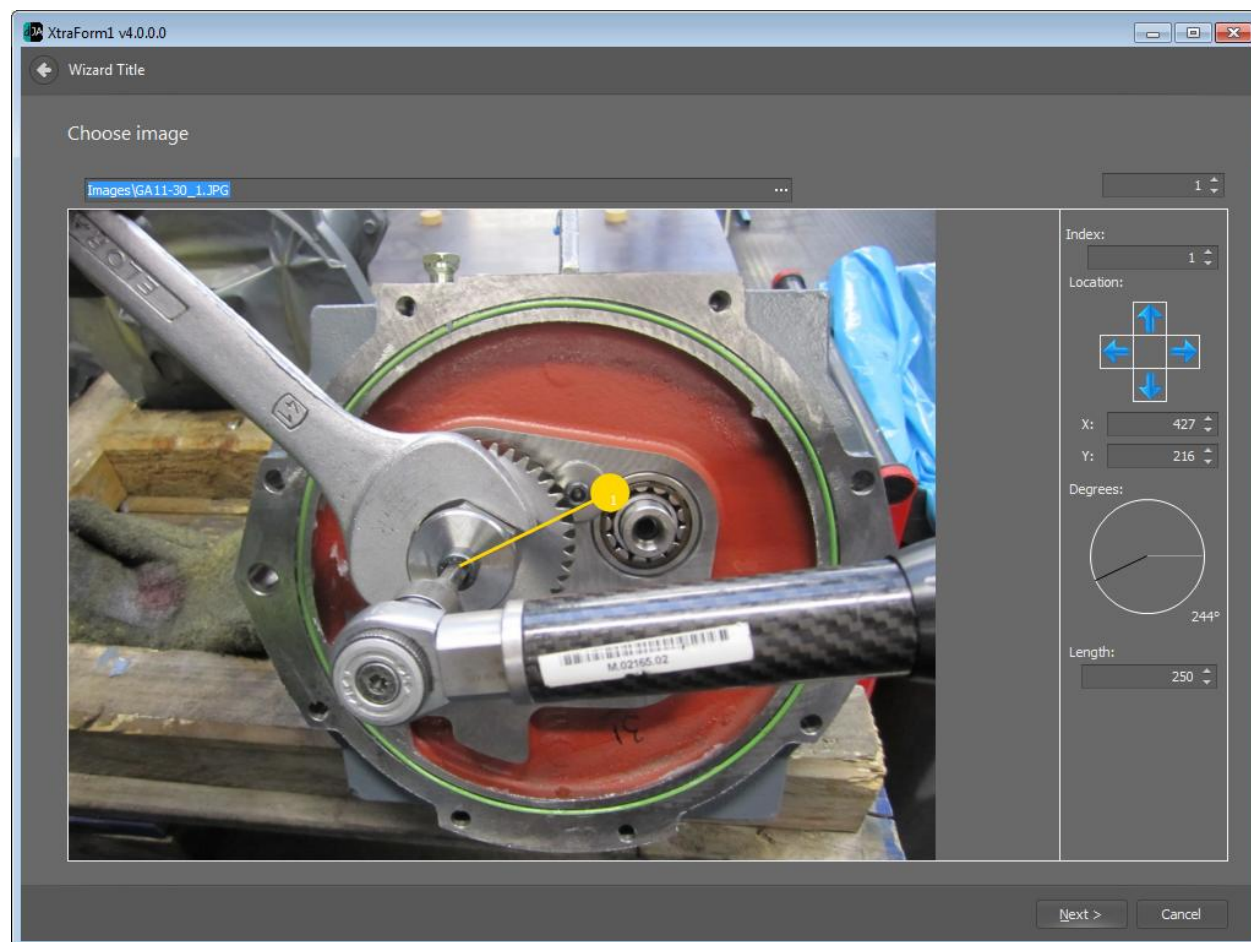
- 1 gets used to load the image. It also copies the image to the images Folder and shrinks the images.
- 2 decides the ProGuidanceID where the photo is linked to
- 3 has all information of the ProGuidance item of a certain connection.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 116(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			



When loading a ProGuidance photo, the photo gets shrinked and copied to the Images folder. To create a new ProGuidance item, It is nessecary to right click.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 117(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			



This ProGuidance Item can then be moved by dragging the item to the correct location. And It is possible to change the angle of the item's tail by holding the control button and then dragging the tail around.

To end this Wizard, just continue with the Next button and the ProGuidance file gets stored immediately at the specified location and the used images are stored in a Images folder at the ProGuidance file.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 118(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

8. CONFIGURATION OF THE TYPES

8.1. GENERAL STRUCTURE

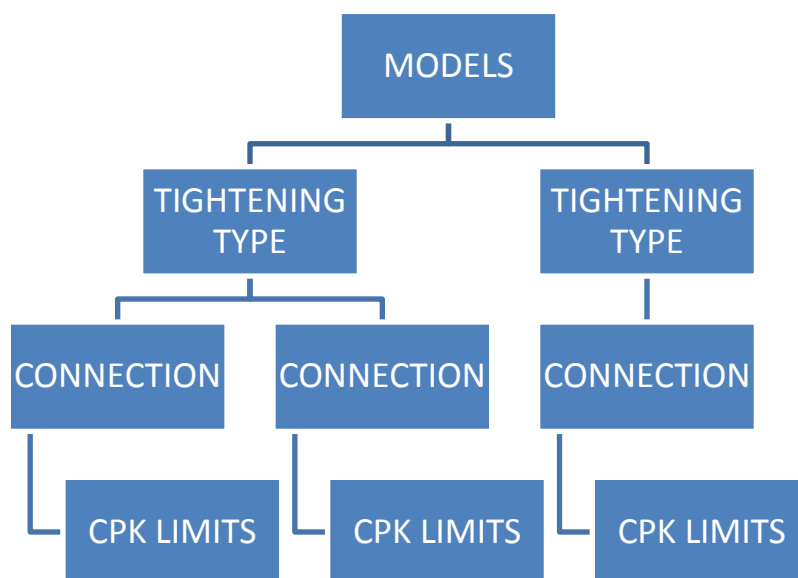


Figure 8-1 General structure Types

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 119(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

Specific information: Models

- ☐ Description
- ☐ Remark
- ☐ Code
- ☐ Mask

Specific information: TighteningType

- ☐ Name

Specific information: Connections

- ☐ AngleTorqueResult
- ☐ NumberOfConnections
- ☐ Cycle
- ☐ Tool
- ☐ Spindle
- ☐ Socket
- ☐ Description
- ☐ ProcessNOKResults
- ☐ Priority
- ☐ TighteningType

Specific information: CpkLimits

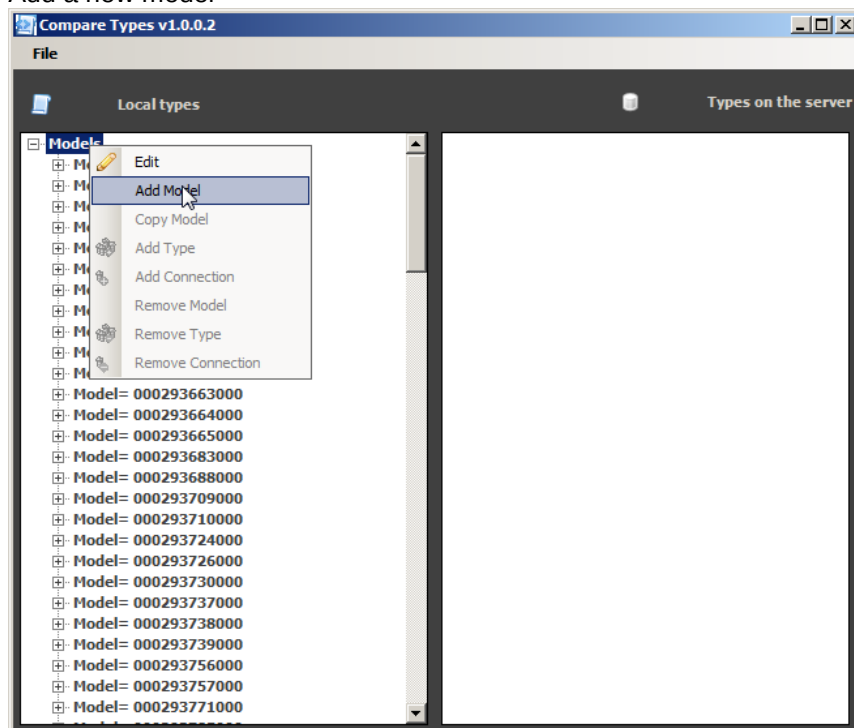
- ☐ CpkUSLTorque
- ☐ CpkLSLTorque
- ☐ CpkLSLAngle
- ☐ CpkUSLAngle

Figure 8-2 Configure types

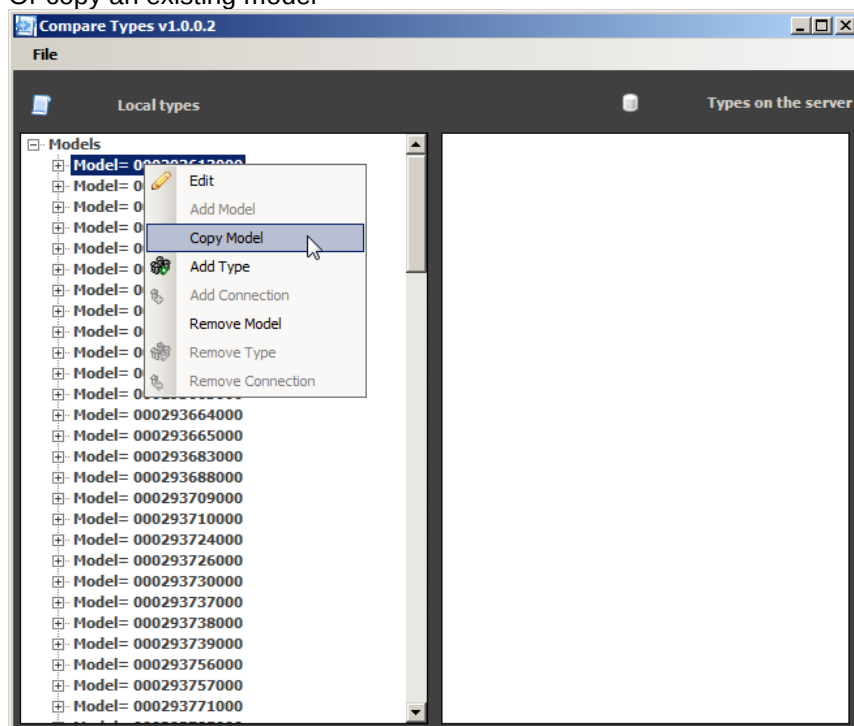
	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 120(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

8.2. ADDING OR DELETING A MODEL

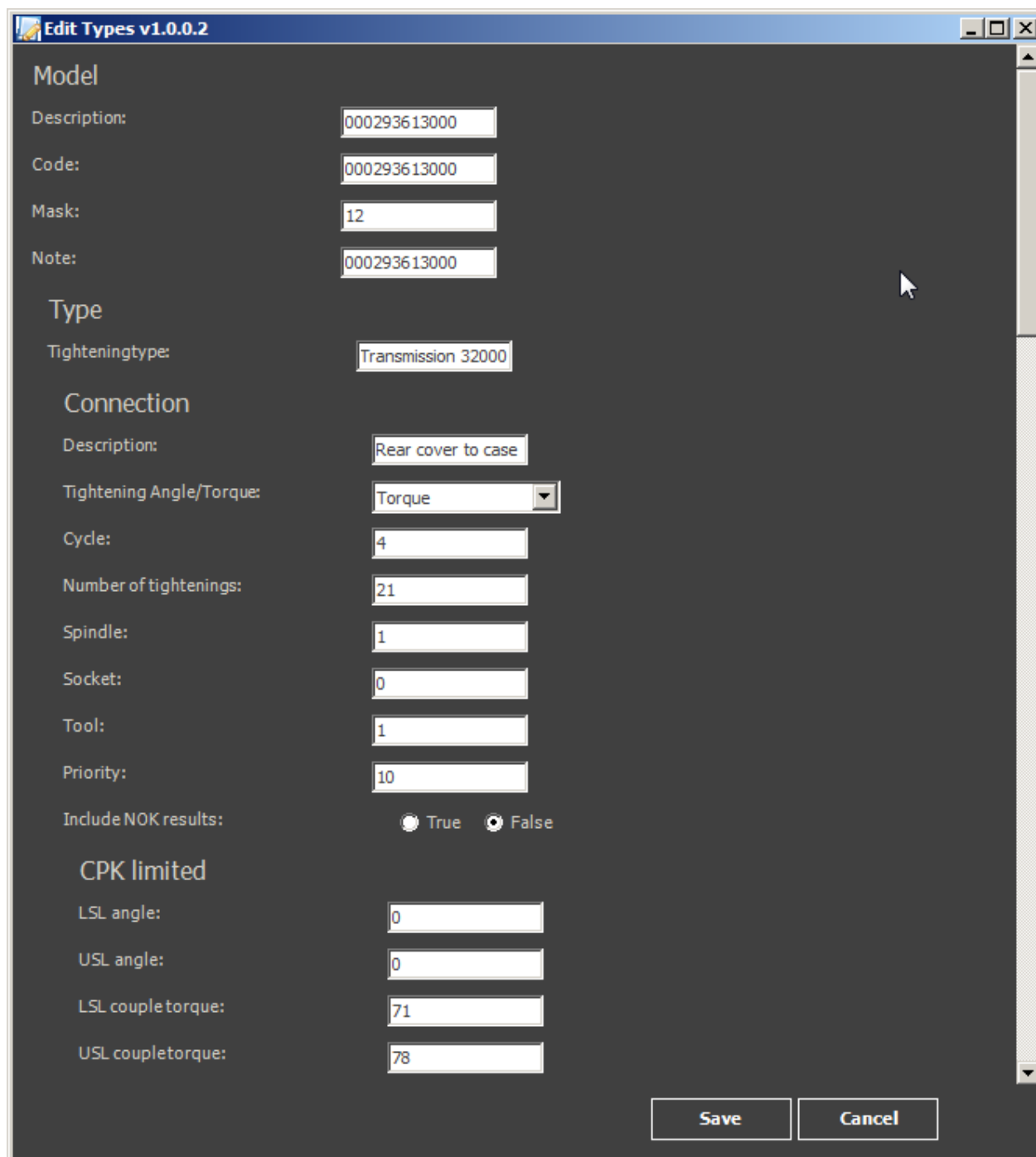
Add a new model



Or copy an existing model



	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 121(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			



Edit Types v1.0.0.2

Model

Description: 000293613000

Code: 000293613000

Mask: 12

Note: 000293613000

Type

Tighteningtype: Transmission 32000

Connection

Description: Rear cover to case

Tightening Angle/Torque: Torque

Cycle: 4

Number of tightenings: 21

Spindle: 1

Socket: 0

Tool: 1

Priority: 10

Include NOK results: ☐ True ☒ False

CPK limited

LSL angle: 0

USL angle: 0

LSL couple torque: 71

USL coupletorque: 78

Save Cancel

Figure 8-3 Configure types

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 122(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

Model

- Description: A description of the model.
- Code: This is the lettercode for the model
- Masque: This the length of the modelnumber.
- Note: custom description or comment

Type

- Tightening type: This is the name of the tighteningtype, a general name of every connection.

Connection

- Description: This a description of the tightening.
- Tightening angle torque: This is the strategy of the tightening, it can be angle, torque or both.
- Cycle: This is the number of the parameterset that is programmed in the tool, that we need to use to do the tightening.
- Number of tightenings: This is the number of tightenings that needs to be made.
- Spindle: This is the number of the spindle that needs to do the tightening (see configuration).
- Tool: This is the number of the tool that needs to do the tightening (see configuration).
- Socket: This is the socket the operator will have to use to do the tightening, If this is set to zero it means the operator does not need to use a socket.
- Priority: This is the order to do the tightenings. First the program will do all the tightenings with priority 1 and afterwards those with priority 2. But the program cannot handle two connections with the same tool, same spindle and same socket in one priority.
- Include NOK results Normally the user needs to give a comment after a NOK result, and program counts the result as handled, but if this is set to false, the operator can keep on trying until he gets an OK result, and only the OK will be counted.

CPK limits

- LSL Angle: This is the lower limit of the angle to calculate the Cpk value.
- USL Angle: This is the upper limit of the angle to calculate the Cpk value.
- LSL couple torque: This is the lower limit of the torque to calculate the Cpk value.
- USL couple torque: This is the upper limit of the torque to calculate the Cpk value.
- Utilisez les Cpk limits configure: This is turned to True if the program needs to calculate the CPK.

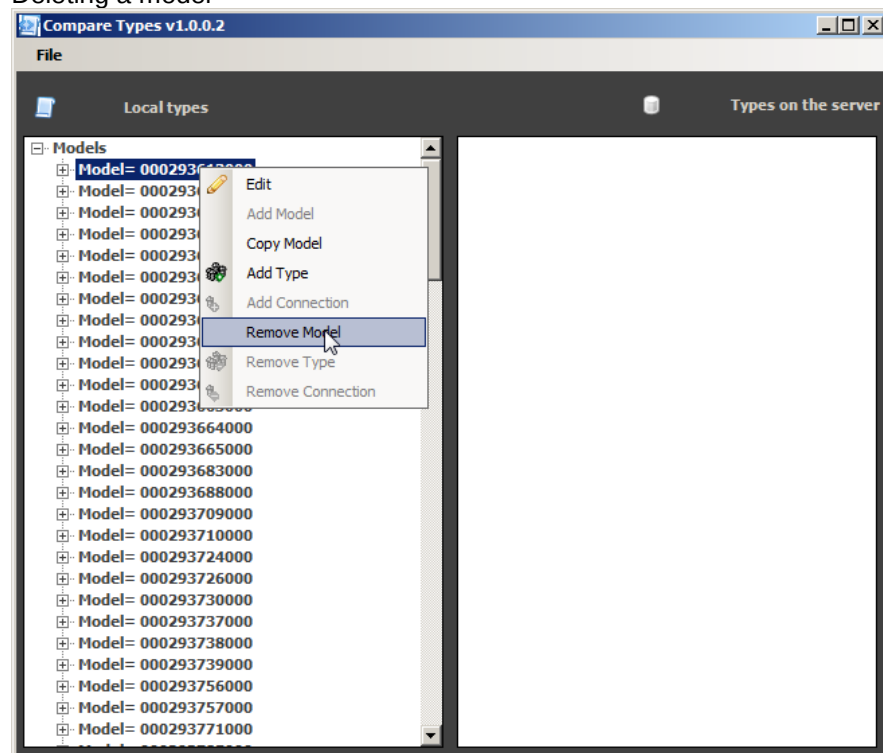
☐ Modèle
☐ Modèle = BFC
☐ Modèle = BTK
☐ Modèle = C3N
☐ Modèle = CZF
☐ Modèle = D3D
☐ Modèle = DTS
☐ Modèle = EBM
☐ Modèle = EDC
☐ Modèle = EDF
☐ Modèle = EJC
☐ Modèle = ERN
☐ Modèle = GBR
☐ Modèle = GGE
☐ Modèle = GMN
☐ Modèle = GPB

☐ Modèle
☐ Modèle = GPH
☐ Modèle = MGH
☐ Modèle = BVH
☐ Modèle = RDO
☐ Modèle = RDU

If there is a difference between the local types and the server types then this will be colored in orange.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 123(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

Deleting a model



To save the local models, select save local types. The program will always use the models that are configured on the PC.

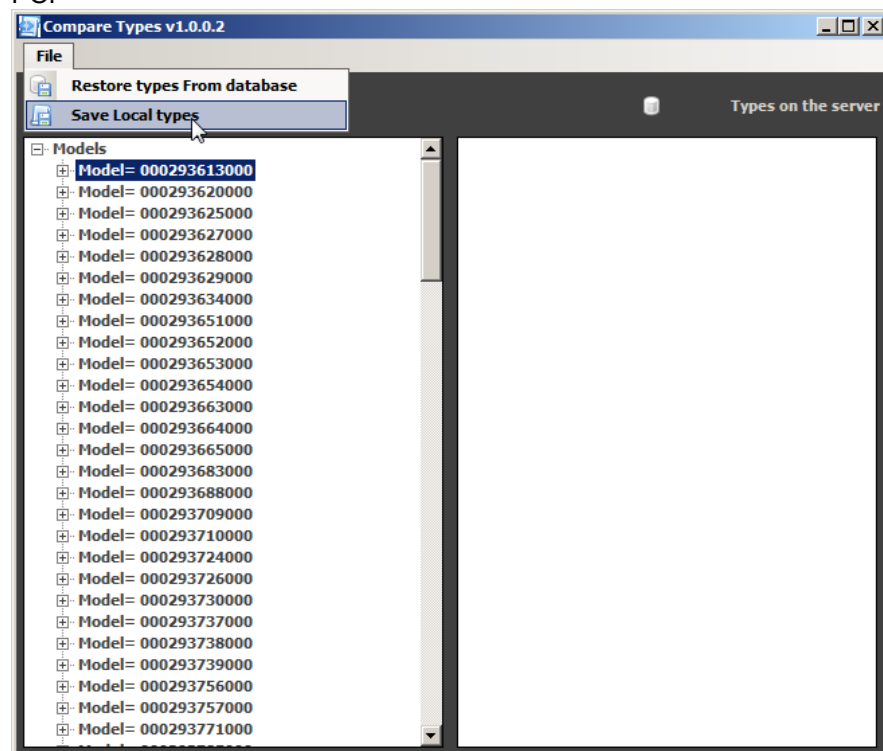


Figure 8-4 Save models

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 124(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

Or



The program asks if the user wants also wants to save the new types to the database.

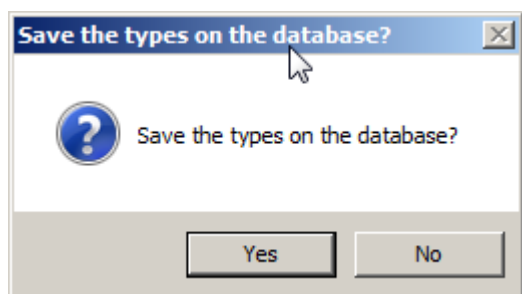


Figure 8-5 Save models to the database

To get the models from the database to the PC click on Restore Types From Database

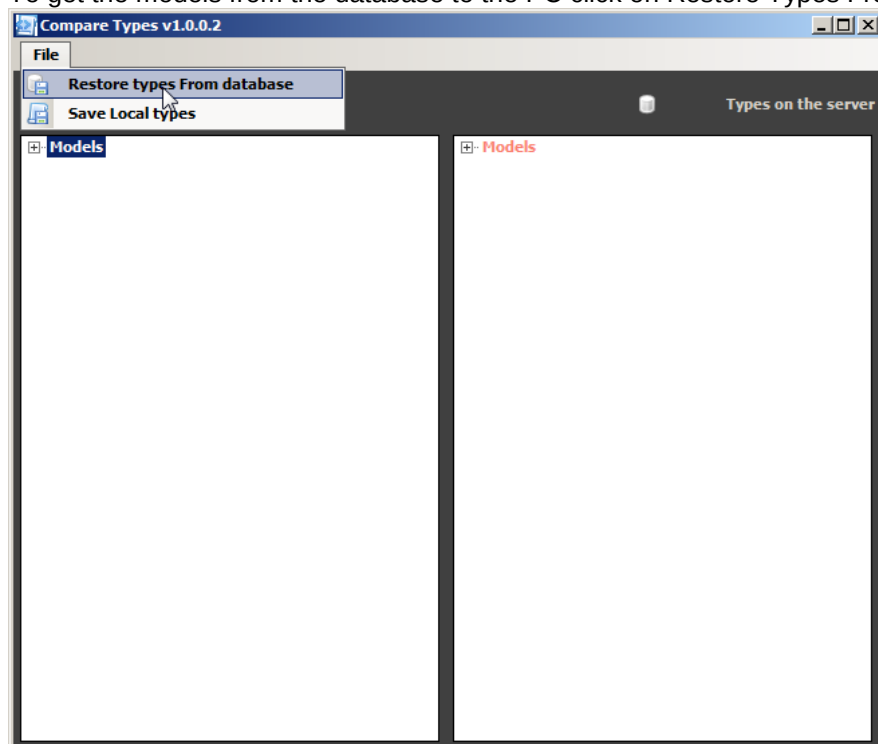
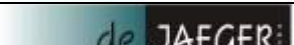


Figure 8-6 Get types from the database

		H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66		Documentnaam Manual ProTight Template: FM44A		Pagina 125(284)	
Bewerker (Naam, telefoon) Christophe De Mey +32(0)9/378.49.89				Bijlagen Ja/Neen		Datum 10-Sep-13	
Onderwerp : ProTight manual							

8.3. EDIT THE MODELS IN ONE STEP

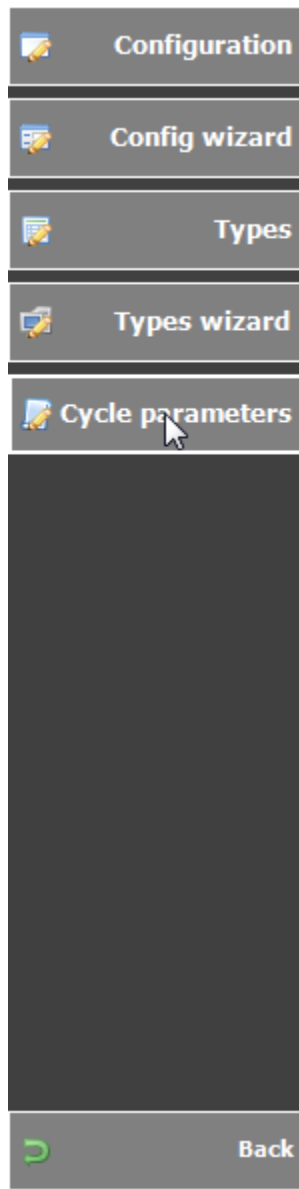


Figure 8-7 Edit models

Click Cycle Parameters

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 126(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

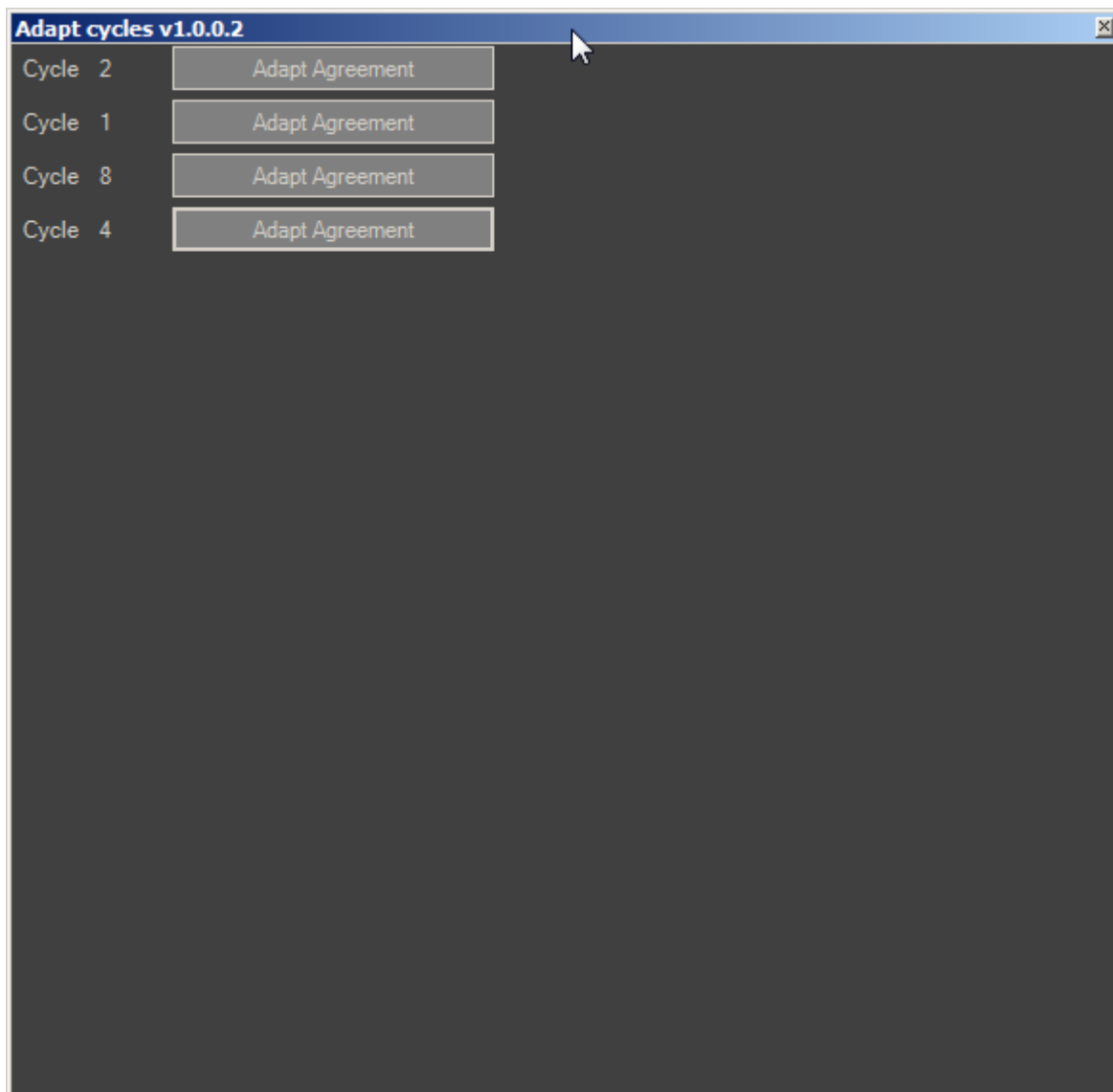


Figure 8-8 Edit models

The user will see a list of every cycle available.

Choose one, and click on adapt Agreement

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 127(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

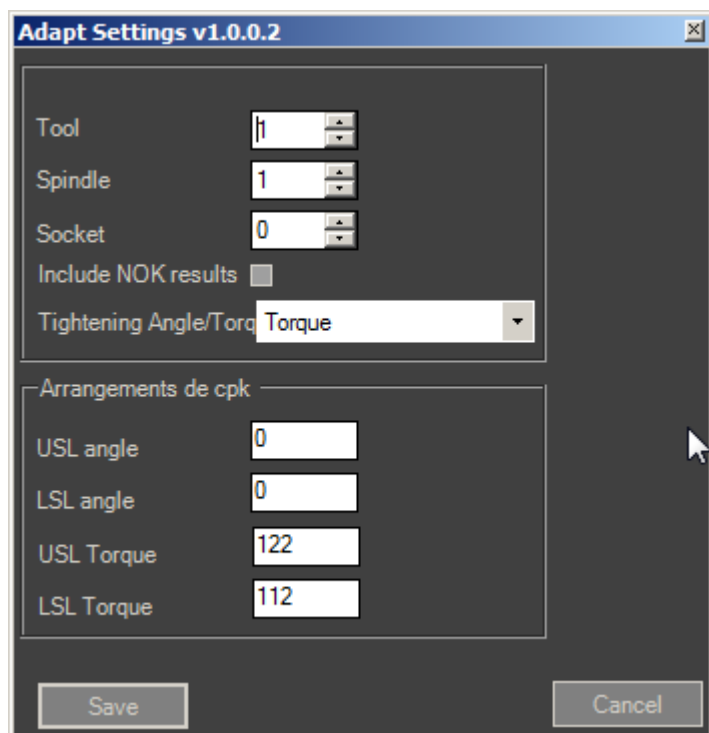
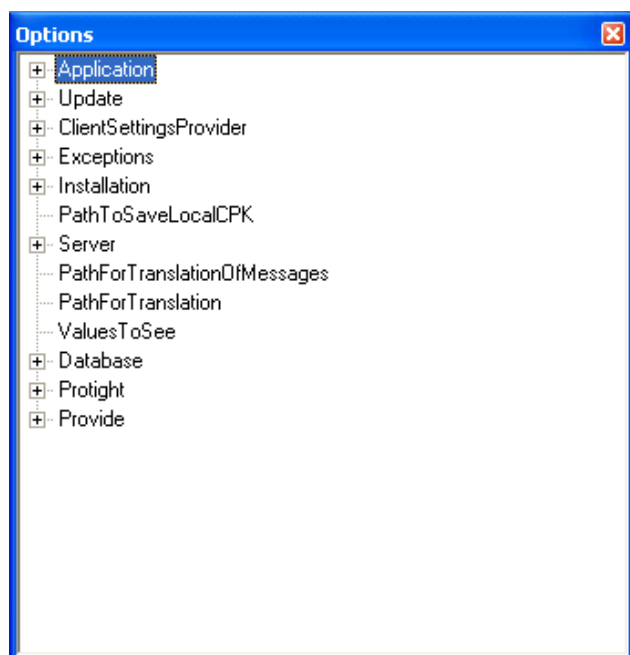


Figure 8-9 Edit models

The models that use the same cycle, spindle, tool, socket, strategy, include NOK result and Cpk configuration will be grouped to one parametersetlist in this screen, so if the user makes in this screen one adjustment and he clicks save, then these settings will be written to all the models with the same configuration.

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Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

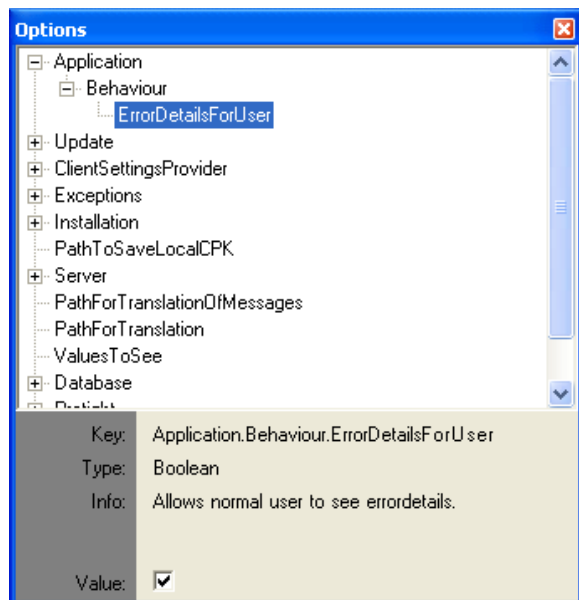
9. OPTIONS OF PROTIGHT



The options of ProTight contain all information about location of files and folders. These options are meant to be set once after the installation of ProTight.

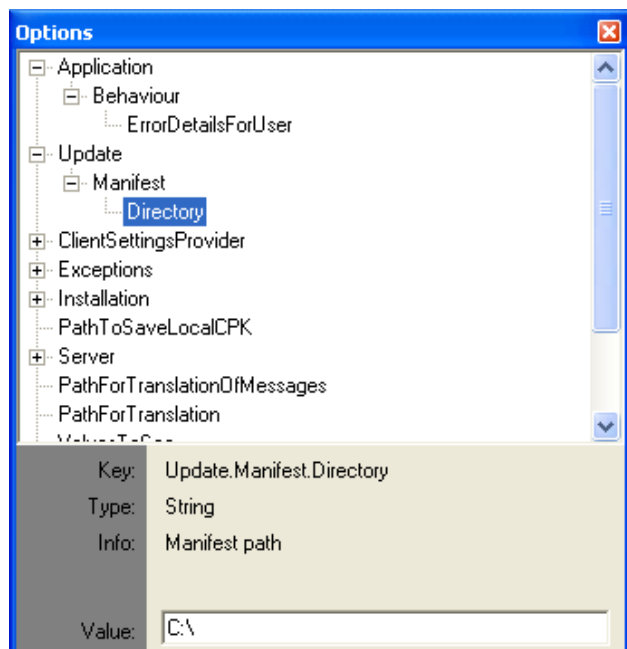
		H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66		Documentnaam Manual ProTight Template: FM44A	Pagina 129(284)
Bewerker (Naam, telefoon) Christophe De Mey		+32(0)9/378.49.89		Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual					

9.1. APPLICATION



If Application.behaviour.ErrorDetailsForUser is set, then the users will get more information when there is an error.

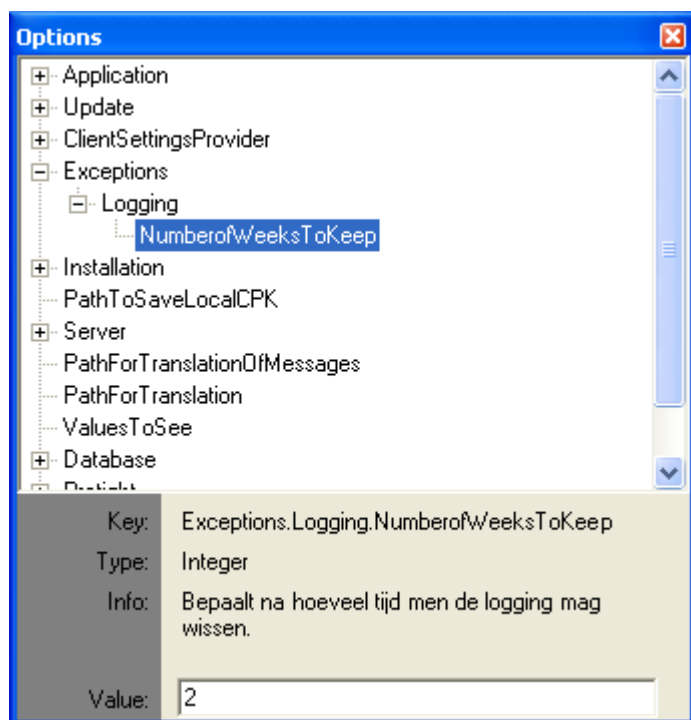
9.2. UPDATE



Update.Manifest.directory contains the path to where the manifest for the autoupdate is located.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 130(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

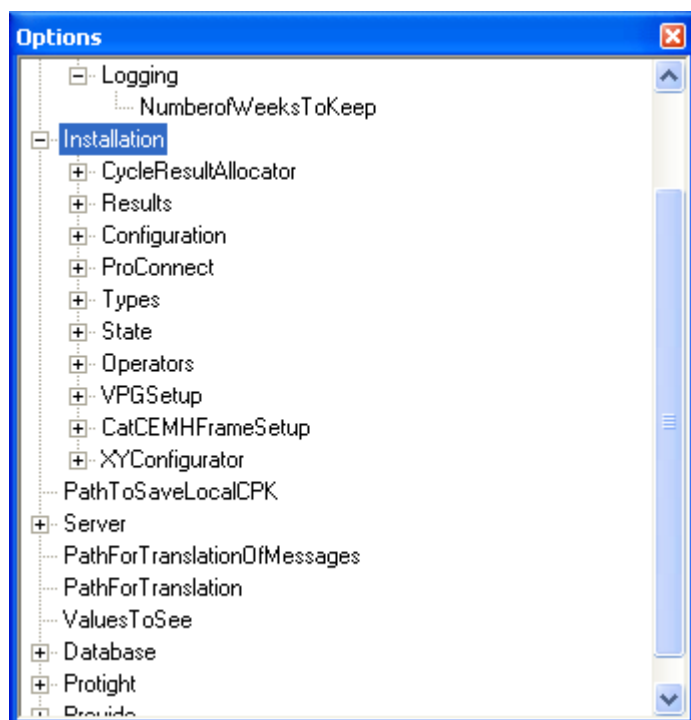
9.3. EXCEPTIONS



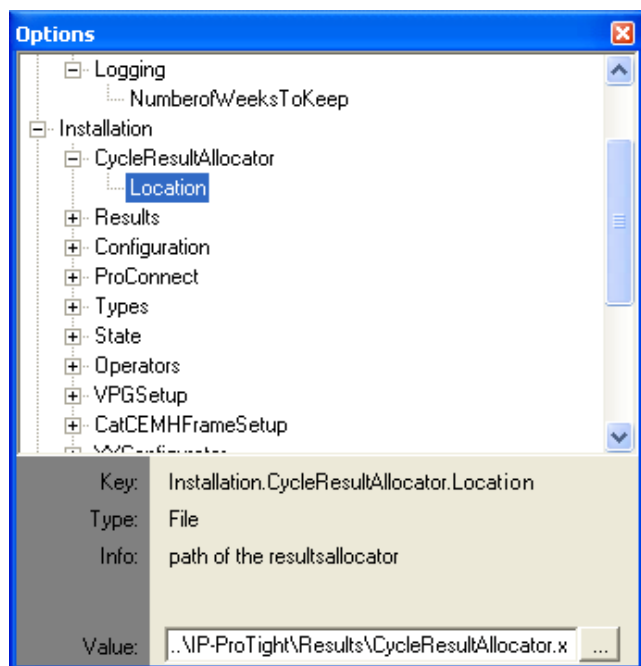
Exceptions.Logging.NumberofweeksToKeep decides how many weeks of logging ProTight can keep until they get removed. Default value is 2.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 131(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

9.4. INSTALLATION

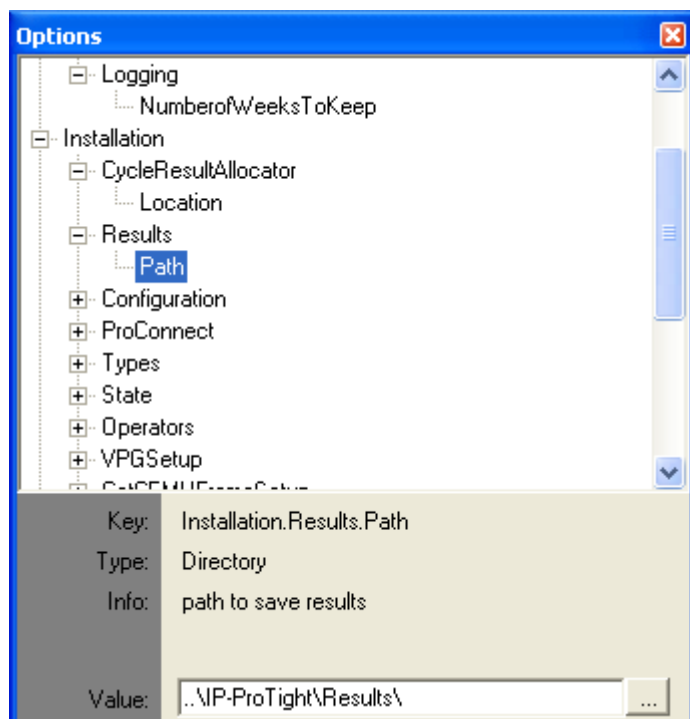


The installation options contain all location of important files.

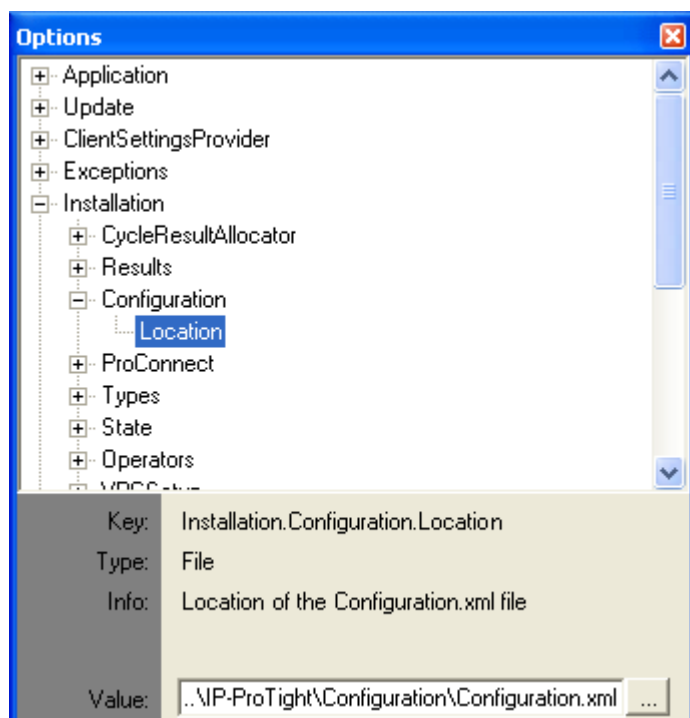


Installation.CycleResultAllocator.location contains the path to an xml which contains all result of ProTight. This XML has indexed all result to make it faster for ProTight to create reports.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 132(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
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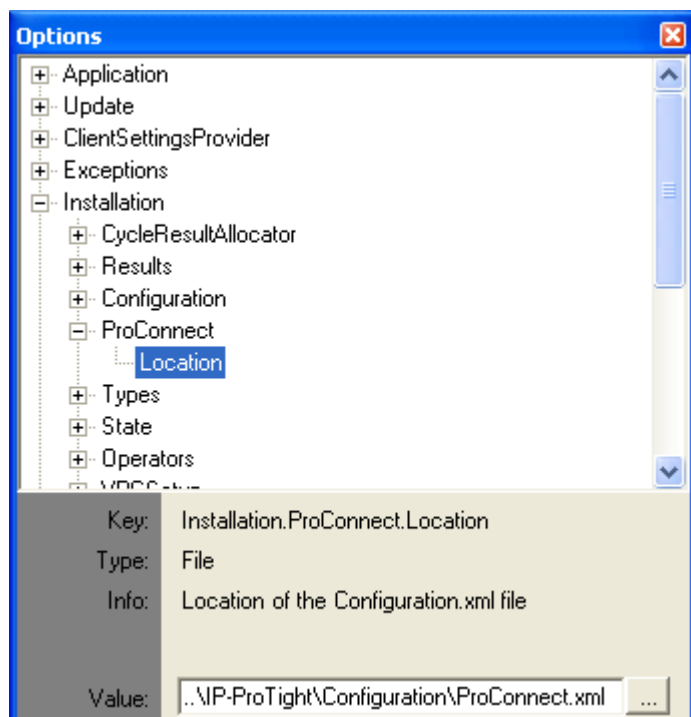


Installation.results.Path contains the path to the folder in which the local results are saved.

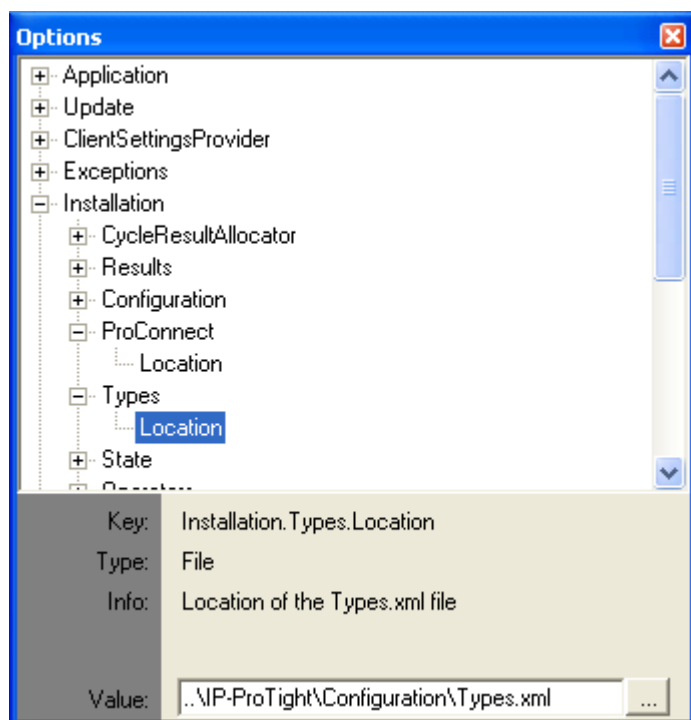


Installation.configuration.location contains the path to the configuration xml.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 133(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

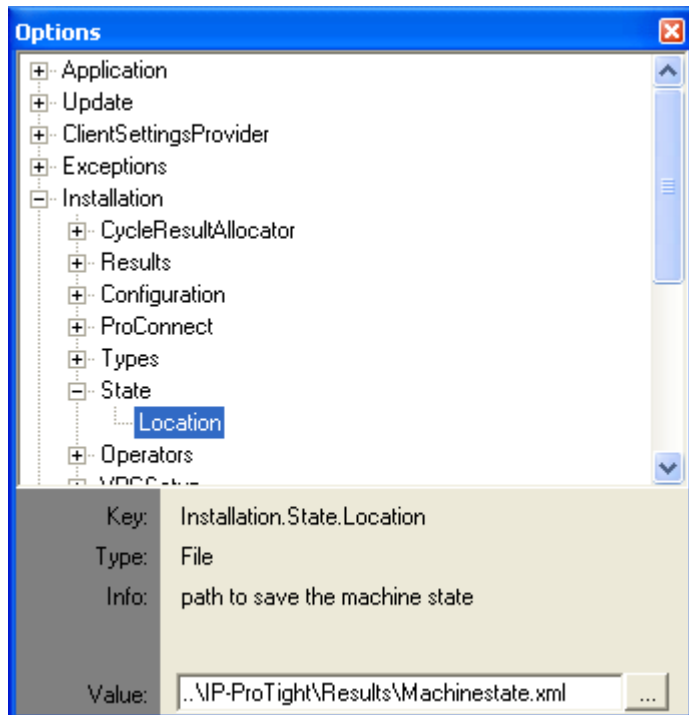


Installation.ProConnect.Location contains the path of the xml configuration of the ProConnect.



Installation.Types.location contains the path of the Types configuration.

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Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
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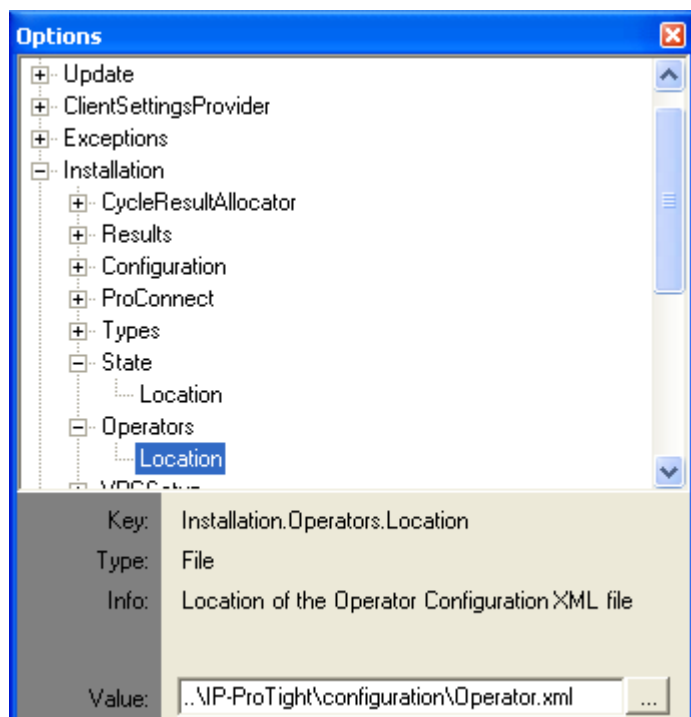


Installation.State.Location is the path of xml which contains the machinestate.

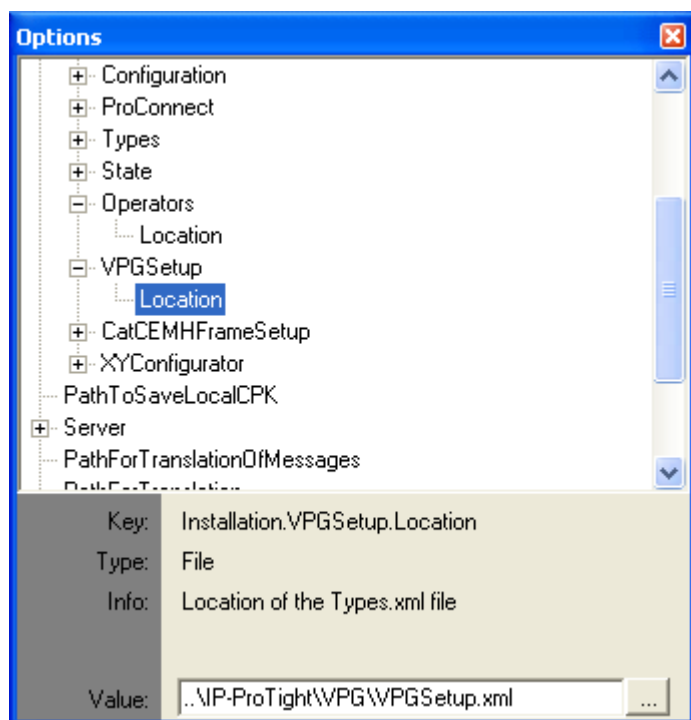
The machinestate keeps track of:

- The CPK state
- The number of rundowns done by a spindle.
- The threshold of the number of rundown allowed by a spindle

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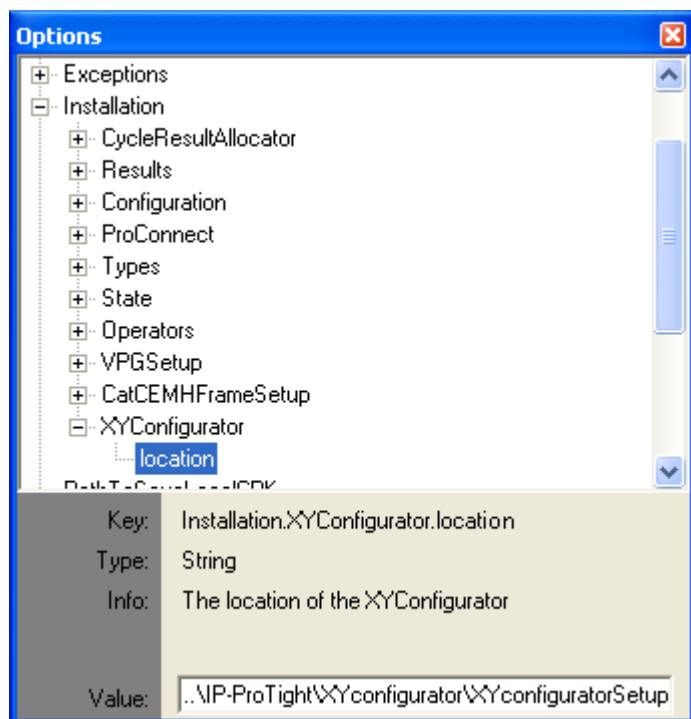


Installation.Operators.Location contains the location of where the local database of the operators is saved.



Installation.VPGSetup.Location is the location of the xml of the ProGuidance.

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Installation.XYConfigurator.location contains the path to the XYconfigurator configuration.

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10. WORKING FLOW

10.1. GENERAL EXPLANATION OF THE MAIN SCREEN

Database	PLC	Automatic
CPK Limits	Cycle	

Figure 10-1 Status menu

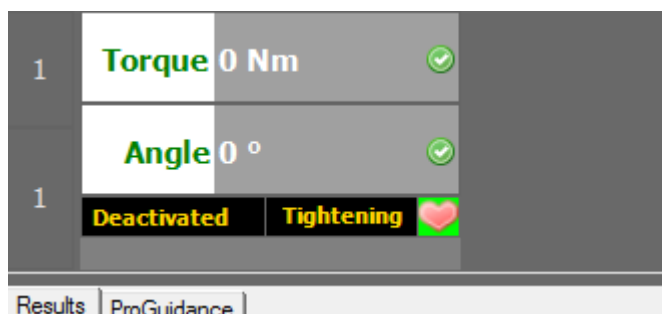


Figure 10-2 Tool window

Database: If the connection with the database is ok this colors green, if not it colors red. I
PLC Connection: If the PLC connection is ok this colors green and light green, if not it colors red.
Automatic/manual: This shows the mode of the program, if the users works manual it turns to manual.
cycle: This shows if the current spindle has reached the maximum limit of rundowns.
Cpk-Limits: This shows the Cpk state of the current cycle..
active/Deactivated: This shows if the tool is enabled or disabled.
Tightening/Reverse : This shows the run state of the spindle, Forward or Reverse.
The heart indicates if there's communication between the PC and the tool

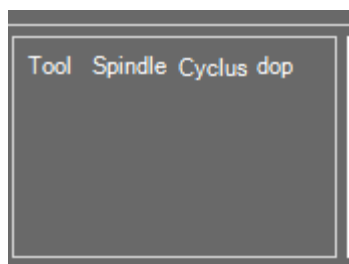


Figure 10-3 Busy window

In this screen the user can see what cycle he is going to make. It depends on the selected socket.
If the cycle is completed it will turn green or red, depending on the state (OK or NOK). It will also show the current cycle that's selected in blue.



Figure 10-4 Socket window

This screen shows the sockets that are picked. A red socket means that operator has picked the wrong socket. A green socket means the operator has picked the right socket. If the user wants to screw, he needs to pick the right

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Onderwerp : ProTight manual							

socket and place the wrong sockets back in the socket ray. If there are none, then we need to put all sockets back in the socket tray.



Figure 10-5 Count window

This shows how much bolts the operator still has to do. And the color will indicate if the total job is OK, green means that the job is OK and red isn't.



This shows us the state of the last tightening

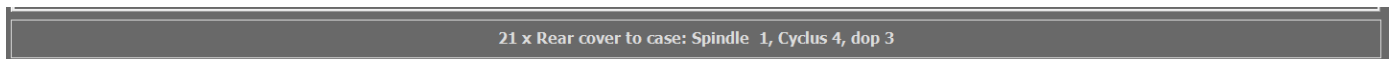


Figure 10-6 Busy window 2

This shows the description of the current cycle



Figure 10-7 Current cycle

This shows the serial number, the tightening type and the operator of the current cycle.



This show the last 5 results made by this machine and colors them if they are OK or NOK.

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10.2. GENERAL FLOWCHART

Instructies voor de operatoren
V1.2.0 11/10/08 De Jaeger Automation bvba

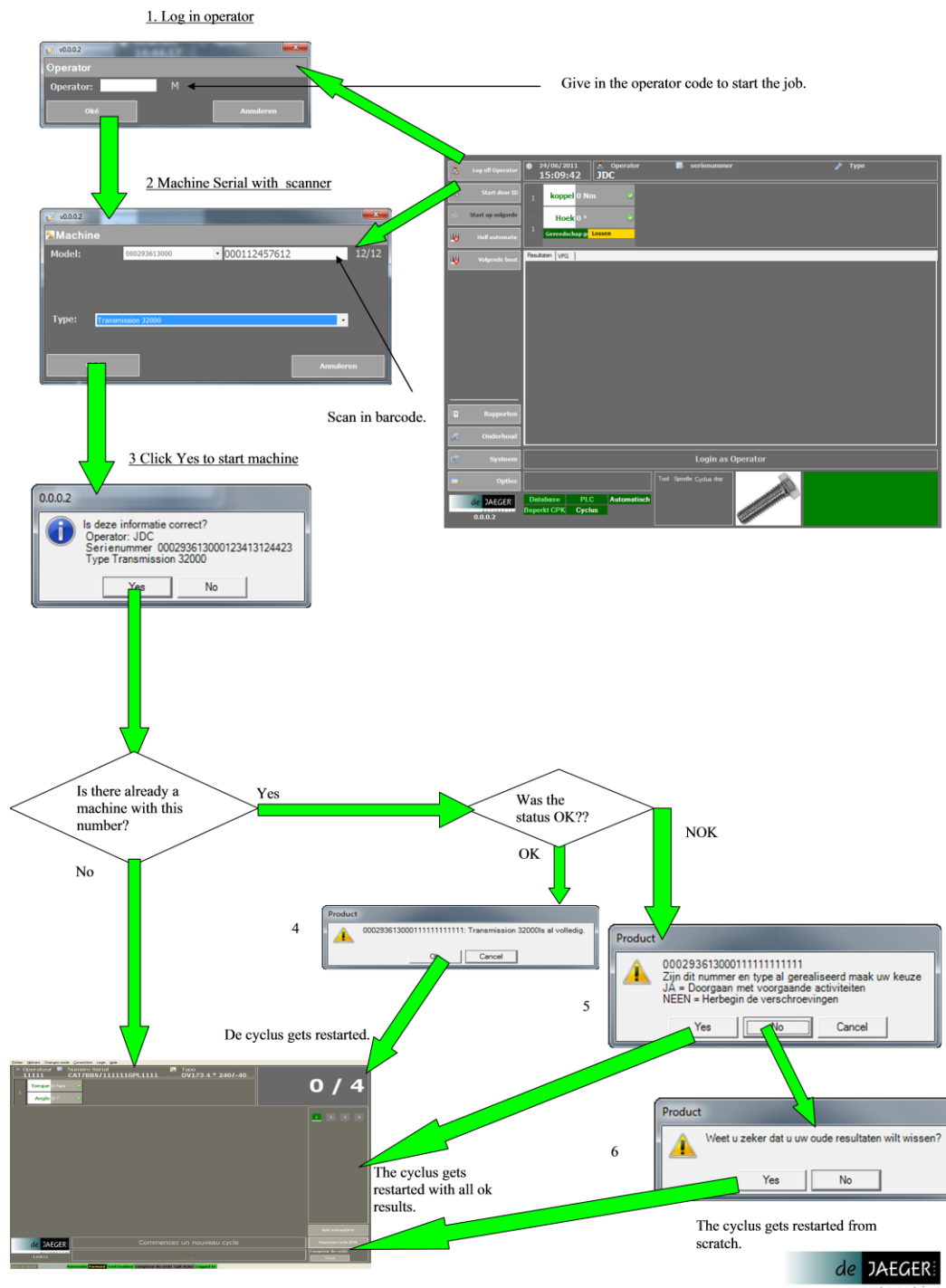


Figure 10-8 General flow

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10.3. STEP BY STEP

To Start a new cycle, press the button nouveau or press F9.

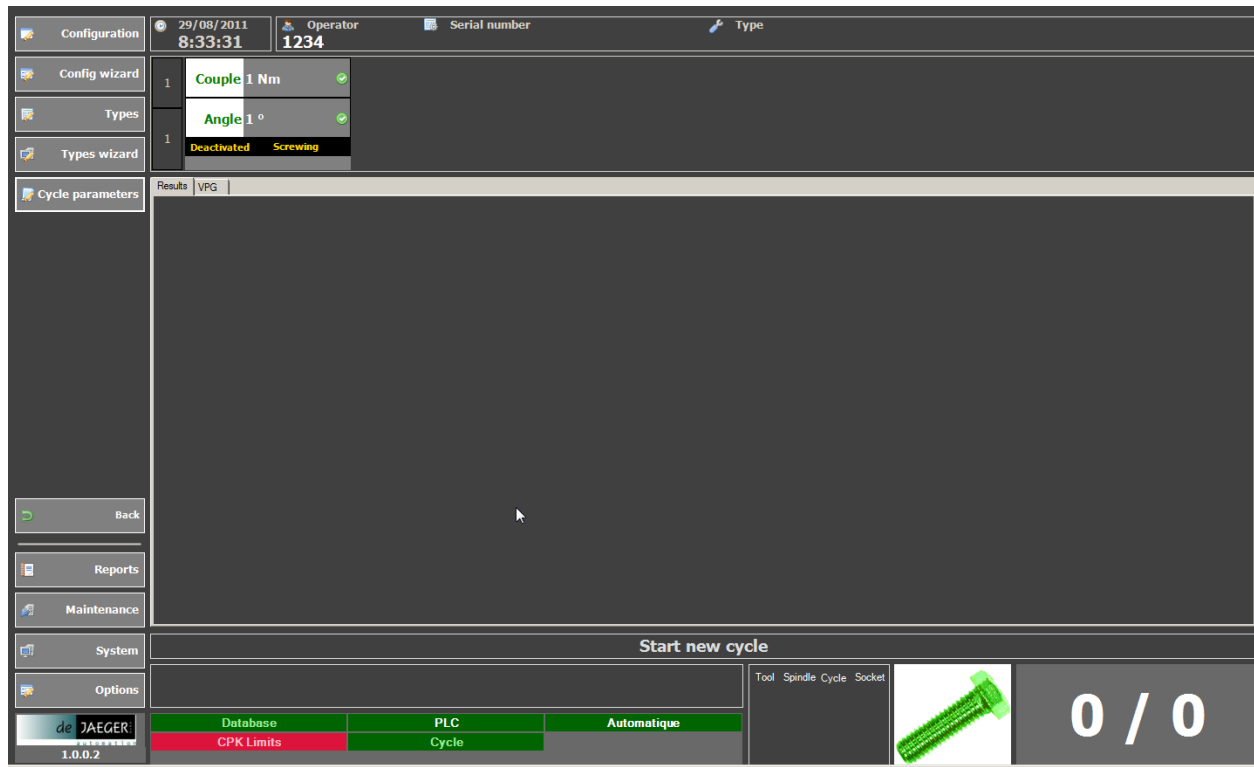


Figure 10-9 New cycle

In the next screen you can give in the data of the machine.

In the first field you can give in the operator code.

If you give it in manually you need to give the 5 number code. If you use the badgereader the 6 number code will be used. These lengths can be changed in the configuration.

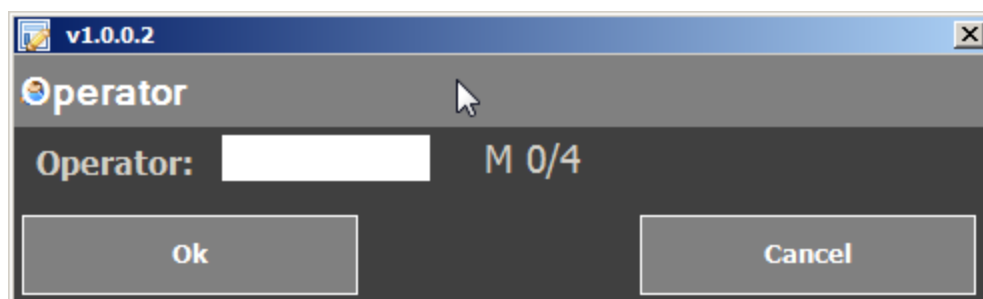


Figure 10-10 Operator code

On the right you can see how much characters you can give in and how much characters are already given.

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Figure 10-11 model code

Serial: Here the operator has to give in the modelnumber.

If the operator is ready, he clicks OK

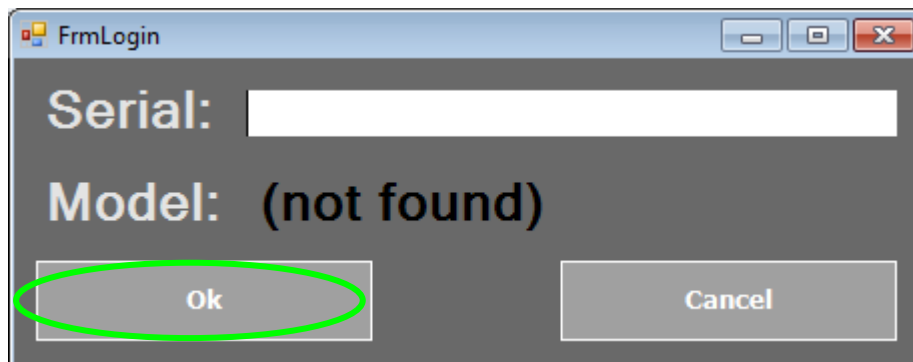


Figure 10-12 Confirm choice

If it was not ended well the operator gets next screen, with a few possibilities

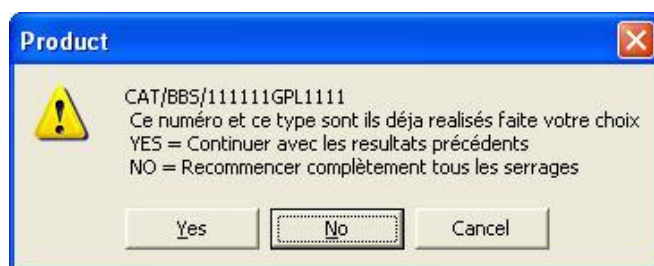


Figure 10-13 Made but not finished ok

The operator chooses YES, the cycle is started with the old good results. So the operator only has to redo the bad results.

The operator chooses Cancel, the cycle will not be started.

The operator chooses NO, the cycle will be restarted from scratch.
The program asks if the operator is sure of his choice.

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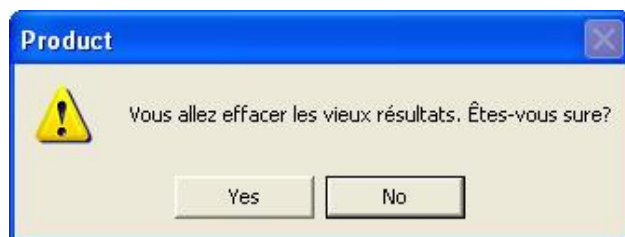
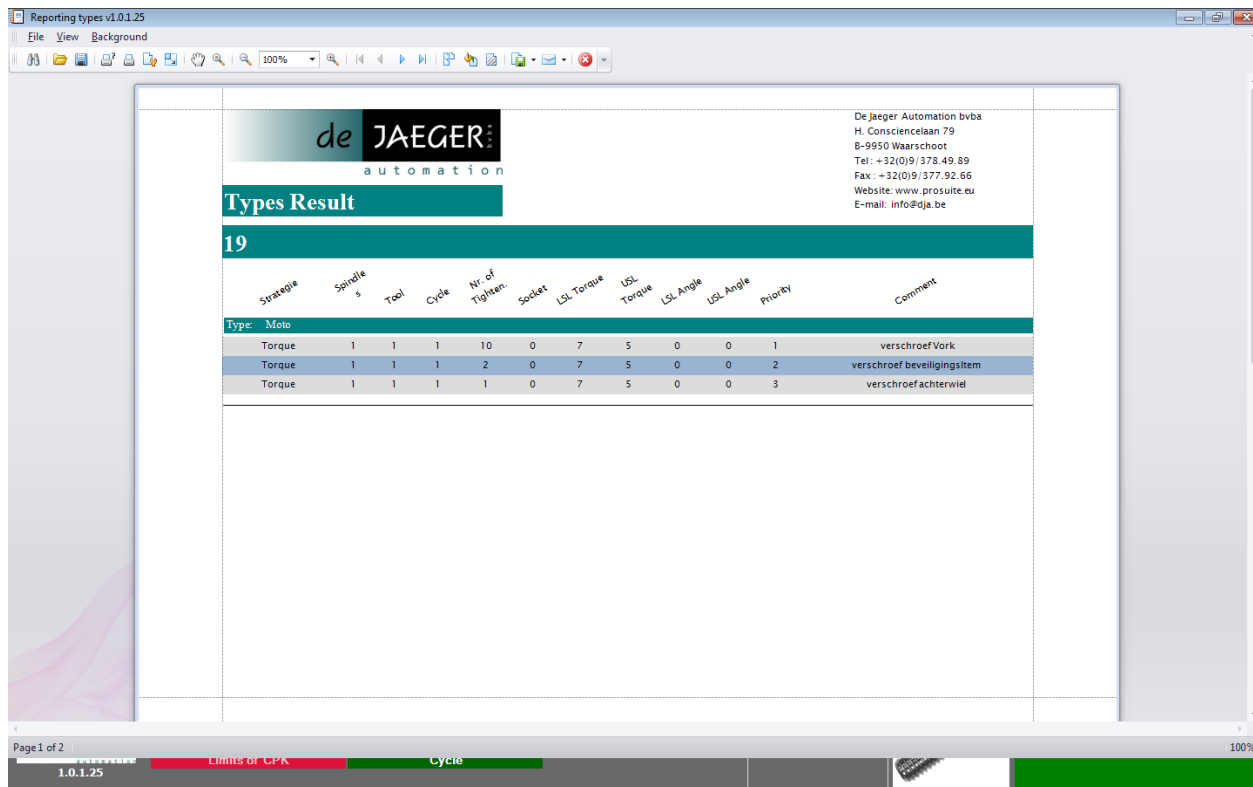


Figure 10-14 Confirm to start from the beginning

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11. REPORTS

11.1. TYPES



Reporting types v1.0.1.25

File View Background

100%

de JAEGER automation

Types Result

19

Type	Strategie	Spindles	Tool	Cycle	Nr. of Tighten.	Socket	LSL Torque	LSL Torque	LSL Angle	LSL Angle	Priority	Comment
Moto												
Torque	1	1	1	10	0	7	5	0	0	1		verschroef Vork
Torque	1	1	1	2	0	7	5	0	0	2		verschroef beveiligingsitem
Torque	1	1	1	1	0	7	5	0	0	3		verschroef achterwiel

Page 1 of 2

1.0.1.25 Limits of CPK Cycle

Figure 11-1 Report types

This shows a report with all the types possible for this installation.

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11.2. RESULTS

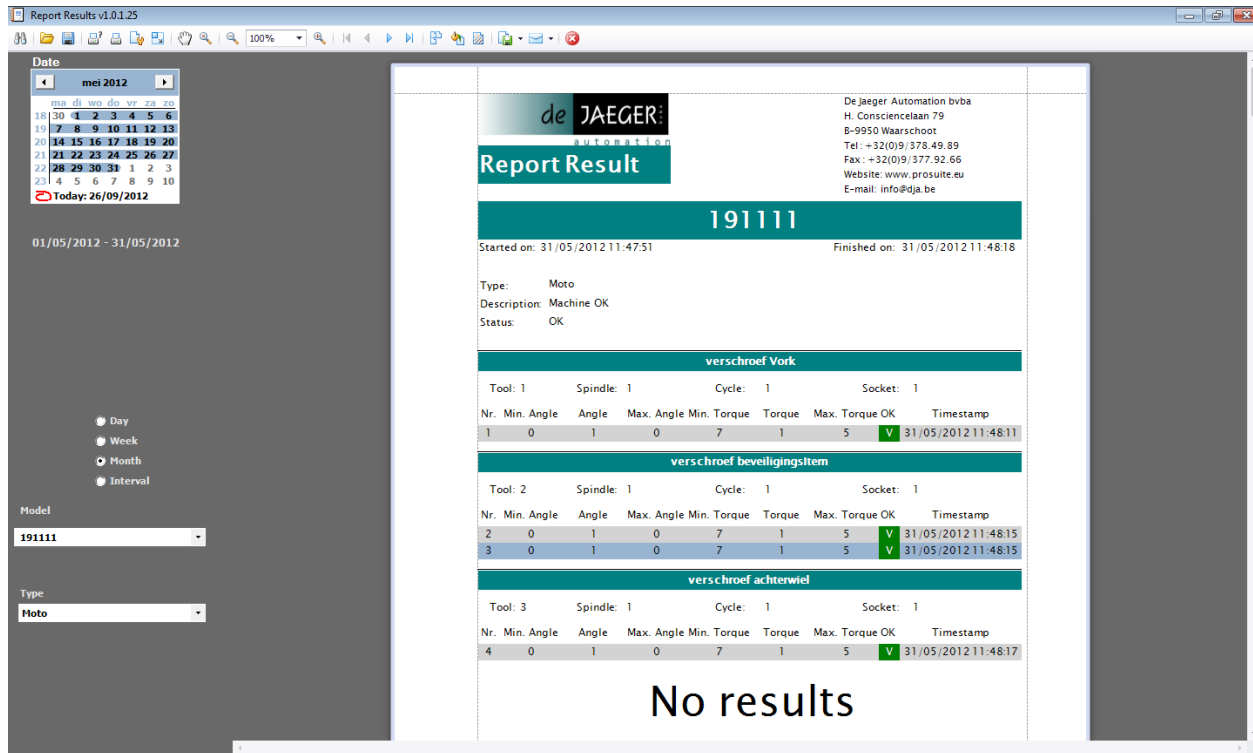


Figure 11-2 report results

This shows a report with the results, for a certain date. The user can choose a the dates. He can also switch the interval type:

- Year: The user can only show the results for one day
- Week: The user can see the results for the selected week.
- Month: The user can see the results for the selected month.
- Interval: The user can see the results between two chosen dates.

After selecting the date, the user can also select the model in the list with his tightening type.

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11.3. DAILY CPK

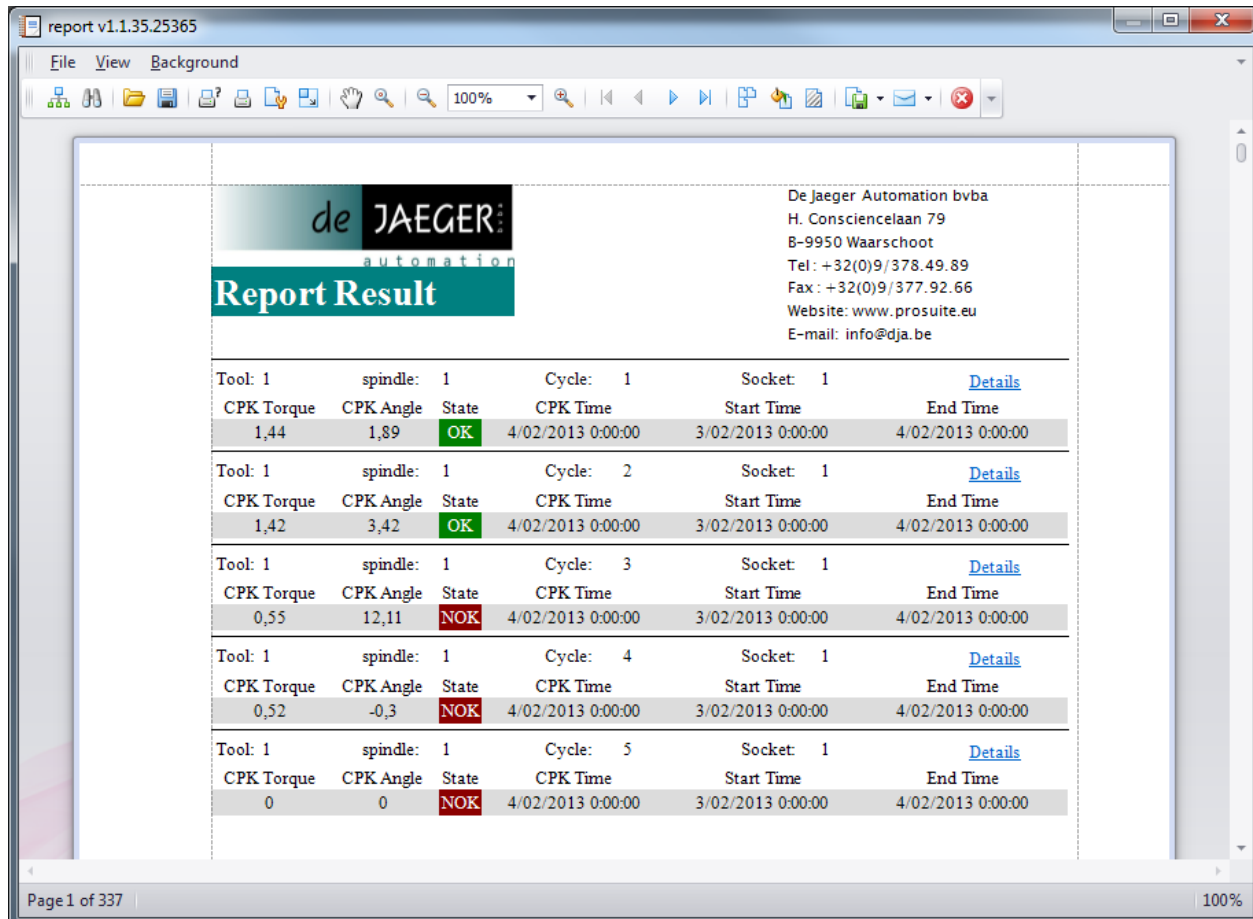


Figure 11-3 Report daily CPK

This report shows the last calculated CPK for each cycle.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 146(284)
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11.4. CPK-CHART

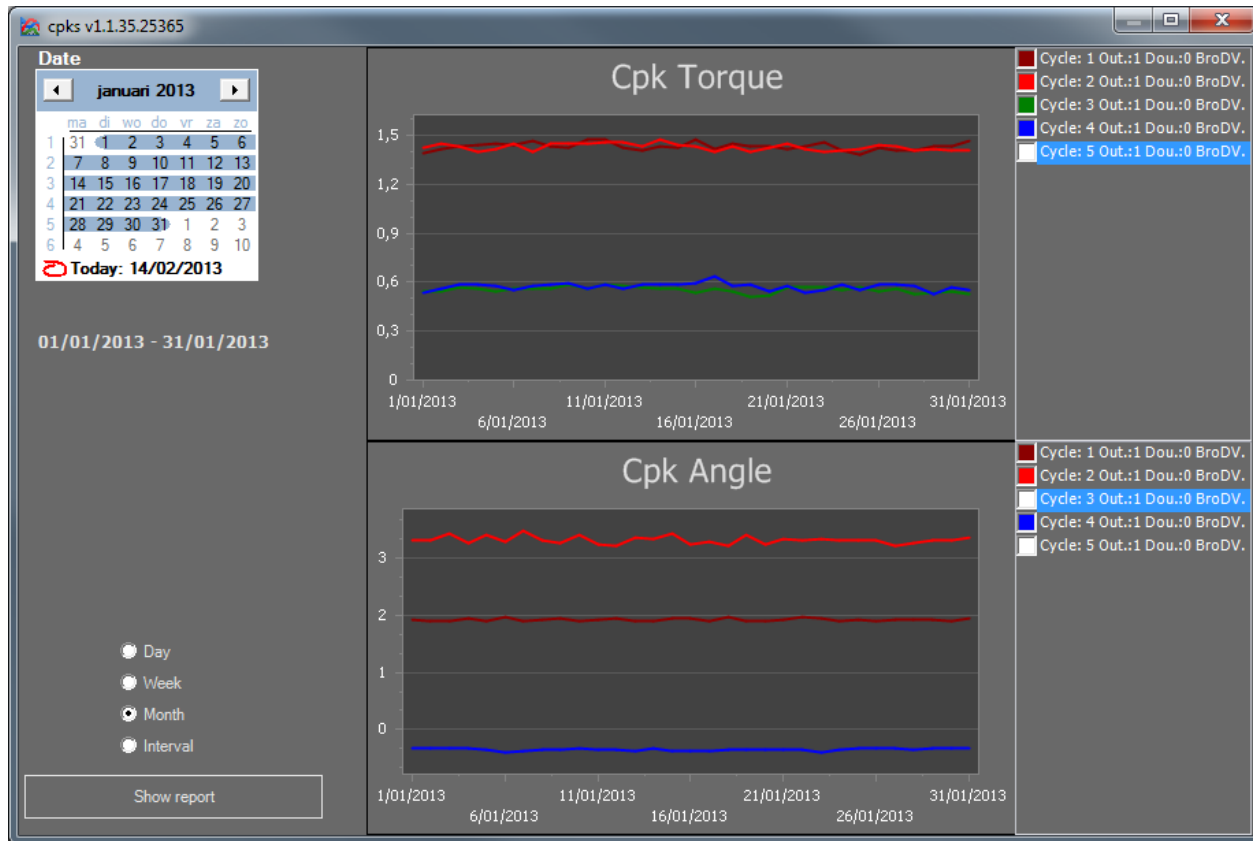


Figure 11-4 Report CPK chart

This shows a chart with all the Cpk results for the selected date.
So it gives the user an idea of the evolution of the machine.
He can also ask a report with all the results.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 147(284)
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11.5. XR-CHART

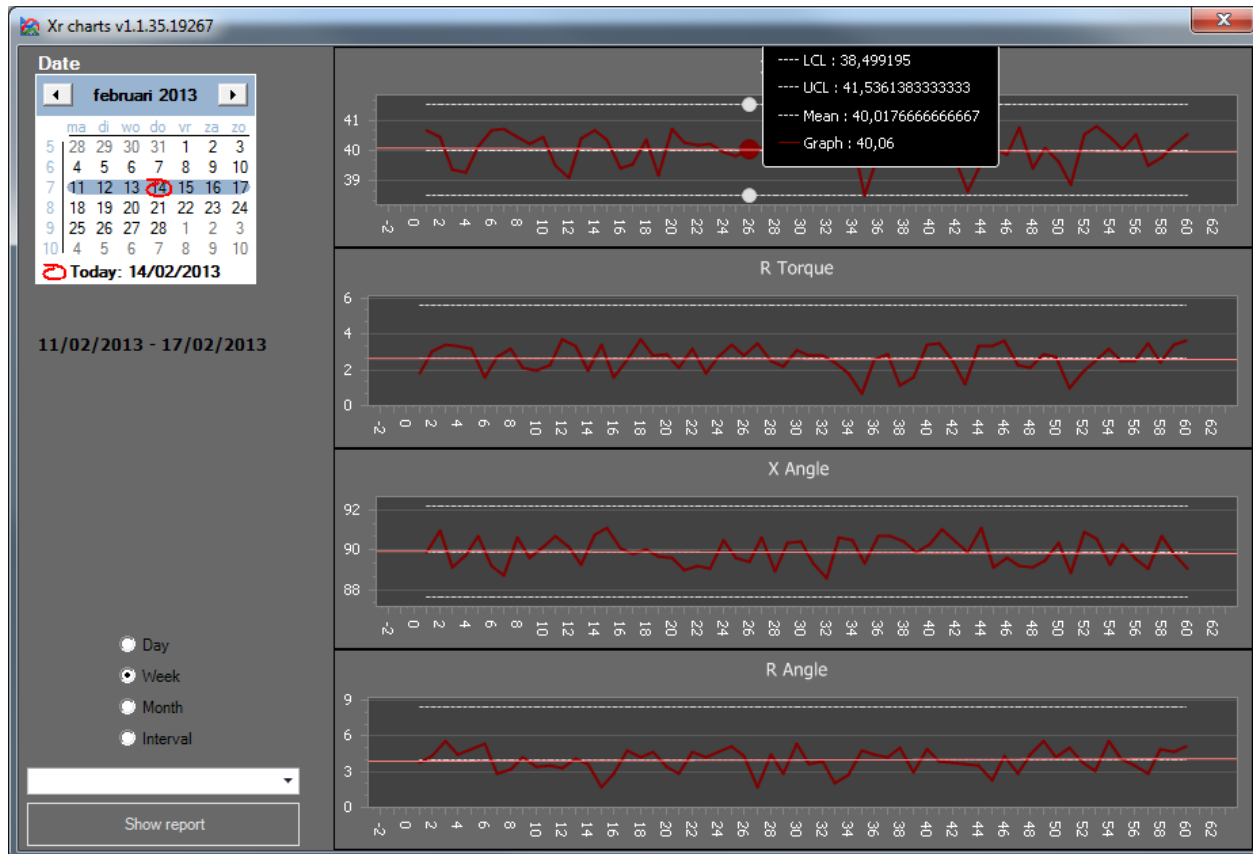


Figure 11-5 XR chart

This shows a chart with all the XR results for the cycles, between given dates. It also gives the user an idea of the evolution of the machine. These results are live calculated, so these XR results are not stored in the database. The user can also ask a report here.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 148(284)
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11.6. CPK-LIVE

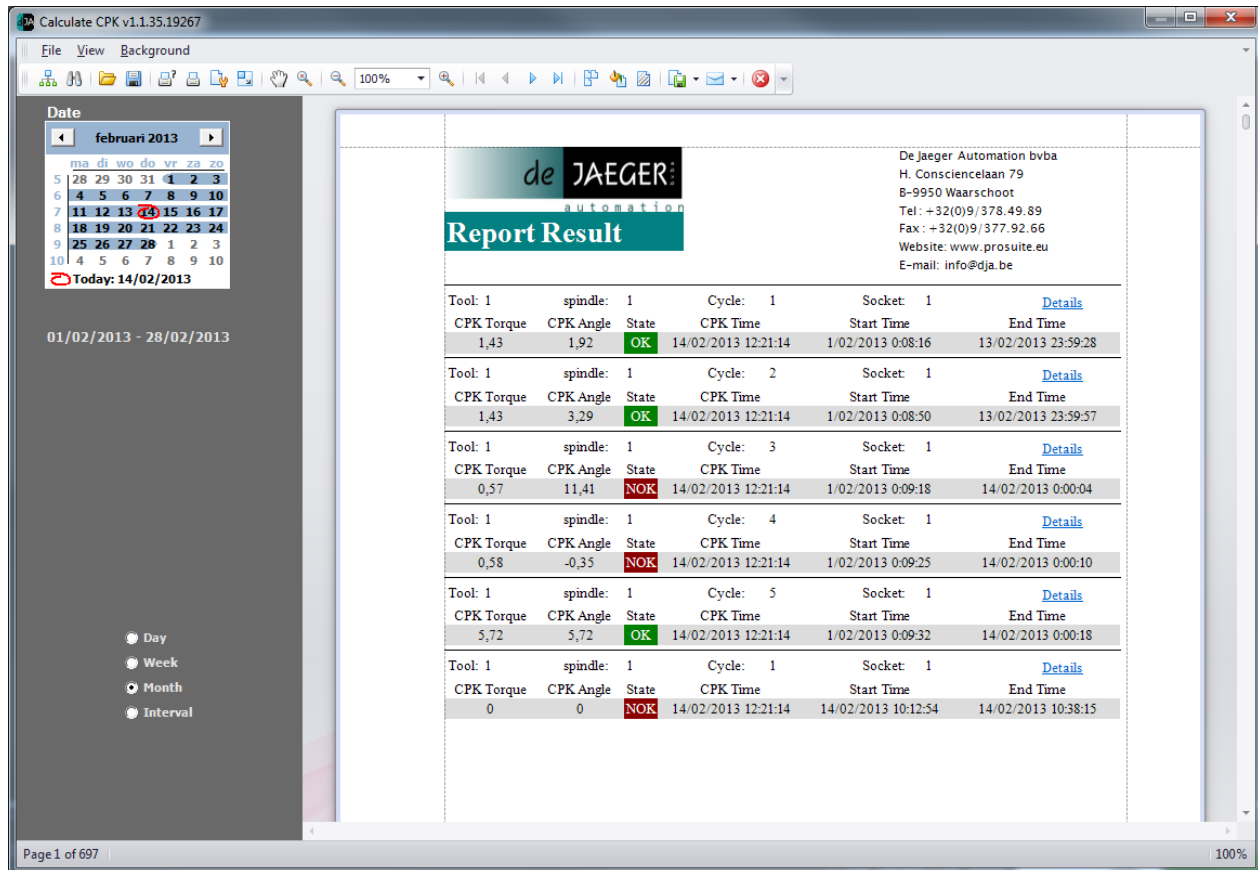


Figure 11-6 Report Live CPK

This report calculates a CPK between the given dates, this CPK value is not stored in the database.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 149(284)
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12. EXTRA TOOLS

12.1. DB TEST

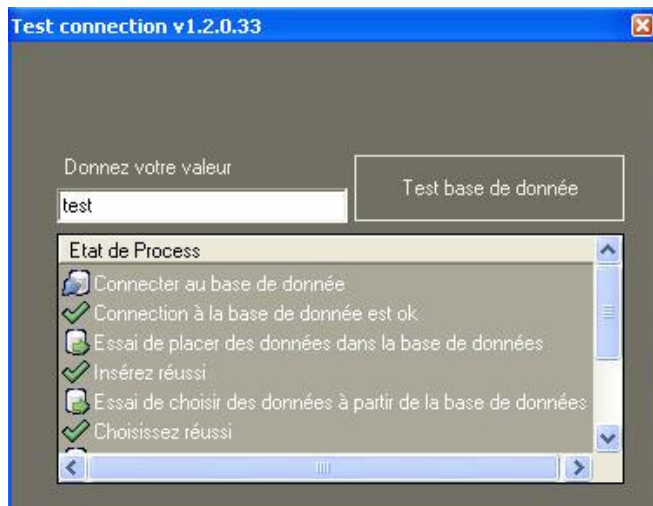


Figure 12-1 DB test OK

The user can test the communication with the database in this screen.

Give a value and click on Test base de donnée.

The program tries to connect to the database, and tries to do an insert, an select, and an update. After the test the connection is closed again.

If there are any troubles the messages will get an error icon.

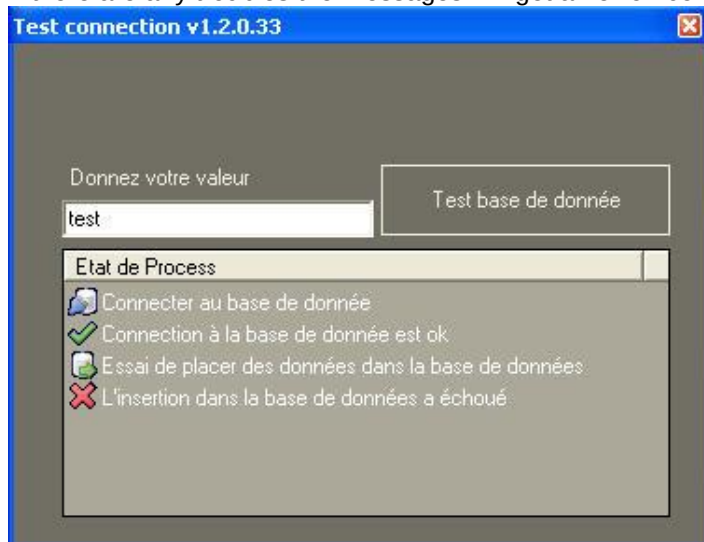


Figure 12-2 DB test NOK

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 150(284)
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If the program gives an error, make sure the Ethernet connection is ok. Test if the user can connect with the database through the oracle.UDL-file that is placed in C:\CAT

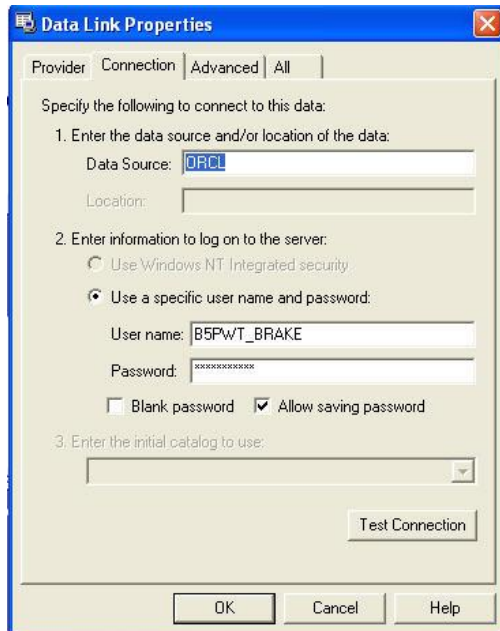


Figure 12-3 Test connection

Click on Test connection.
If the connection is OK you get next screen.

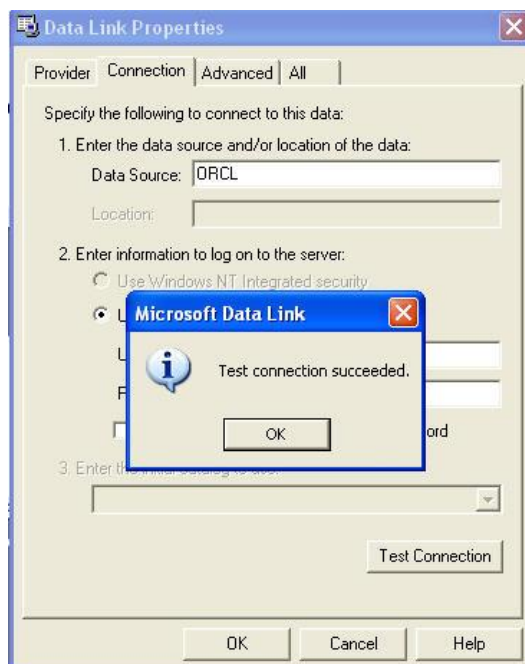


Figure 12-4 Test OK

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Onderwerp : ProTight manual			

If not you can get next screen:

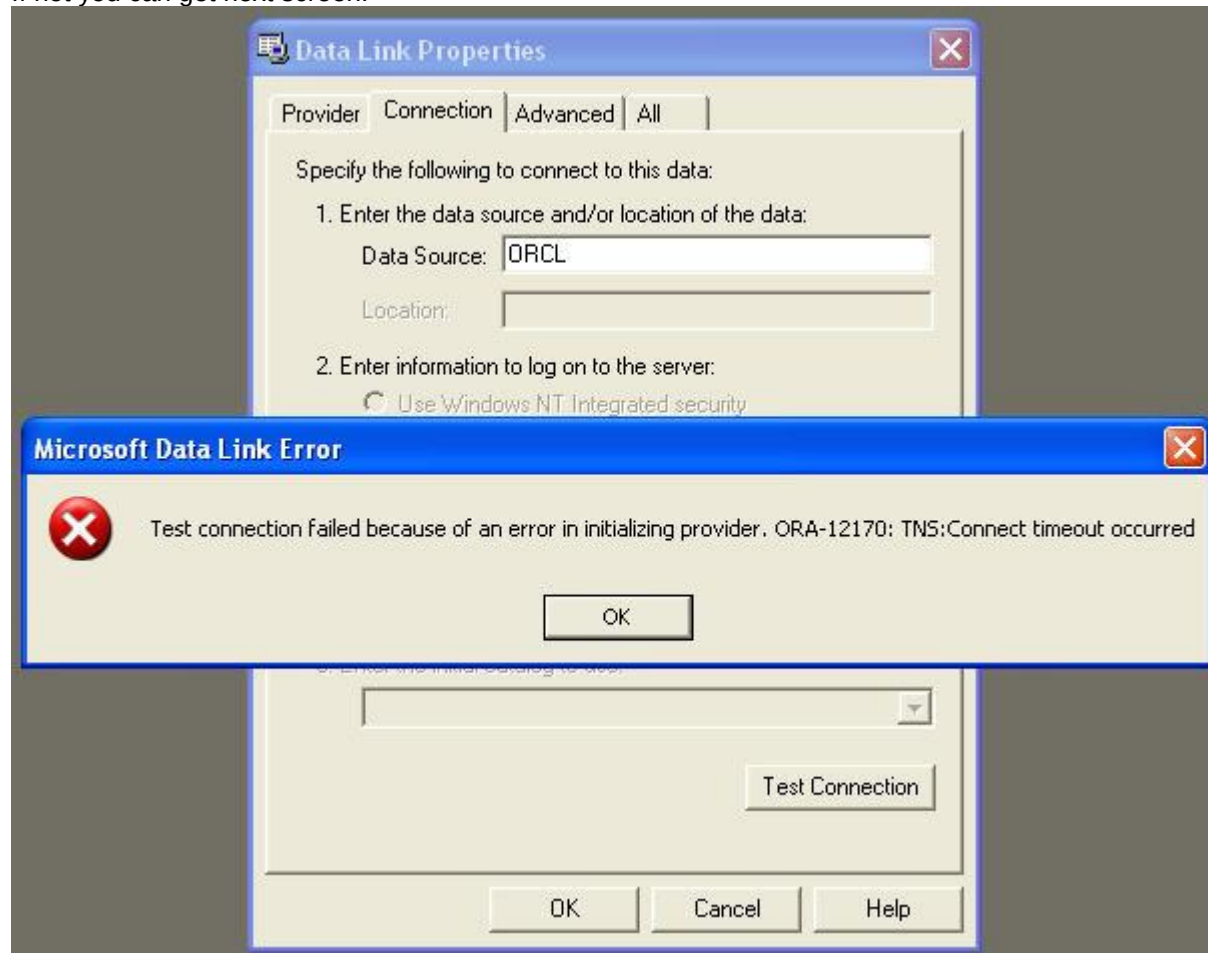


Figure 12-5 Test NOK

Make sure that files 'sqlnet.ora and tnsnames.ora' that are placed in the oracle client directory NETWORK\ADMIN are the right files.

If these are right, take contact with the database admin.

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Onderwerp : ProTight manual			

12.2. COMMUNICATION TEST

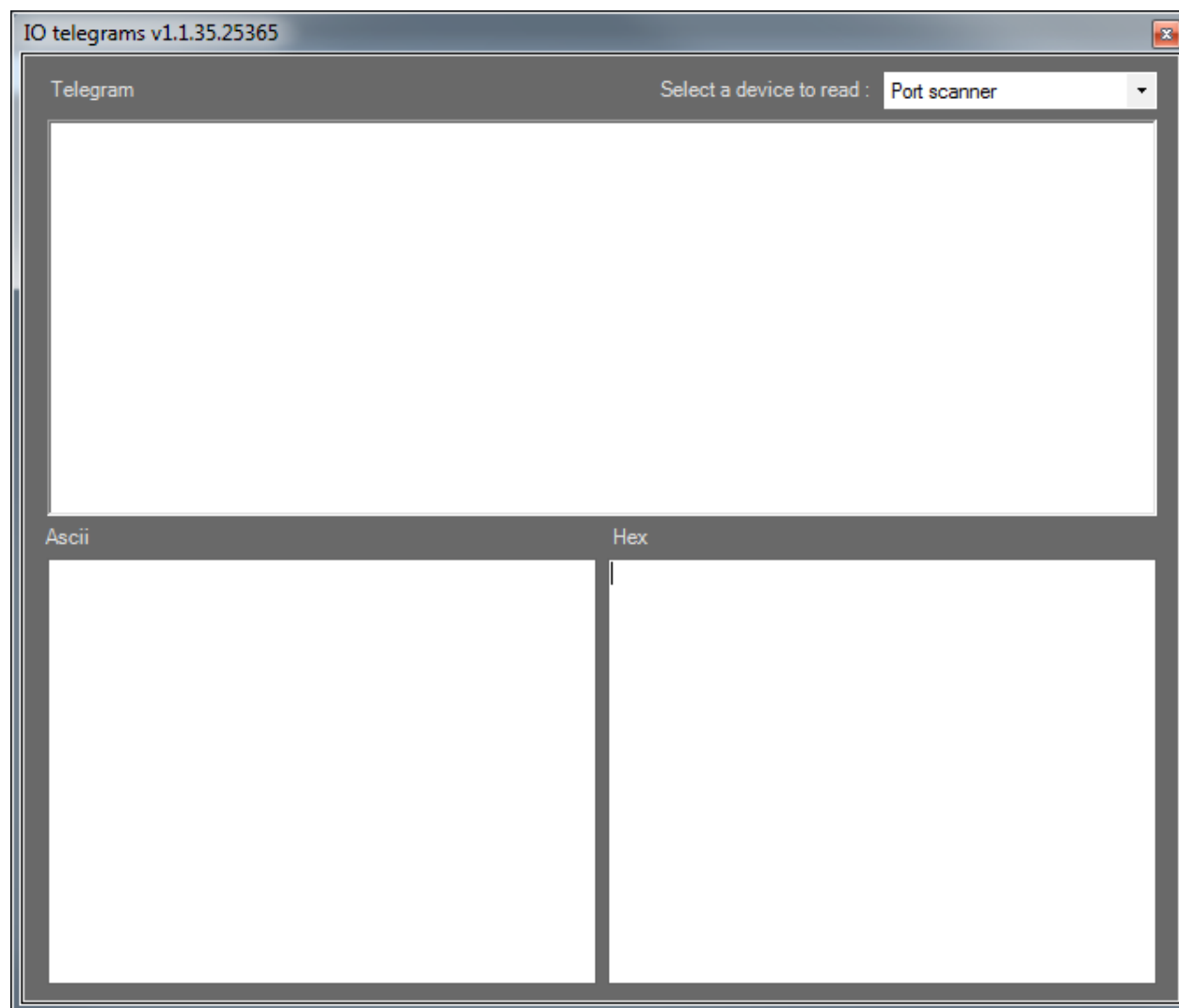


Figure 12-6 Communication test

With this tool, the user is able to test if the badgereader, scanner and tool are well connected. The user chooses one of the tools out the list on the right. To test the tool the user starts to turn the tool until he triggers. To test the badgereader, the user selects the badgereader in the right menu and scans his badge. To test the scanner, the user selects barcode, and scans a barcode.

If everything is ok the user should see a data packet on the screen:

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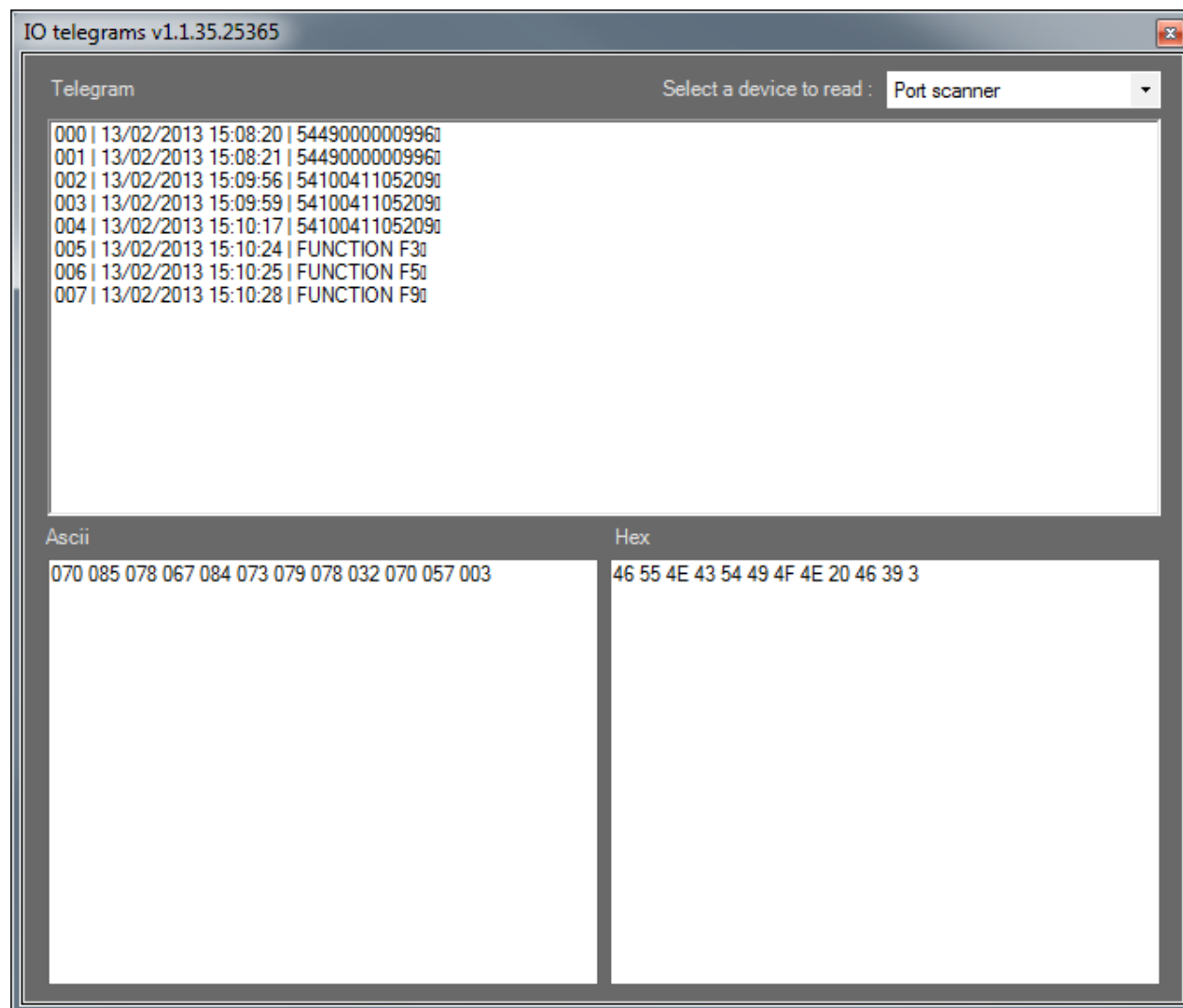


Figure 12-7 Communication result

For a scanner the data packet should end with asciinumber 003.

If you get nothing on the screen, make sure you have selected the right tool in configuration.

Some tools need to receive to keep the connection open. For example the Kaba Net 91 07 badgereader, and the Freedomtool. If the operator open the test screen, he will be able to see these packets passing by.

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Onderwerp : ProTight manual			

12.3. RUNDOWN RESET TOOL

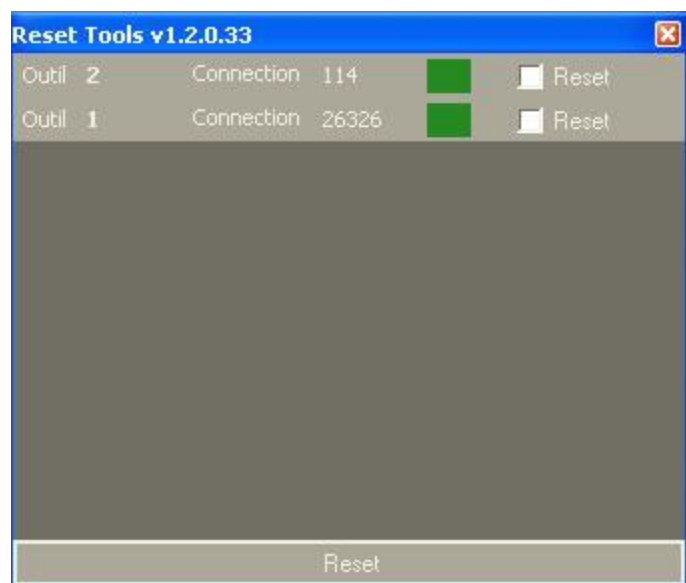


Figure 12-8 Rundown reset

This tool is used to reset the number of rundowns the spindle already made. Check the Spindles you want to reset, and click on reset.

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Onderwerp : ProTight manual			

13. INSTALLATION OF PROTIGHT

13.1. INSTALLING BARCODESCANNER

A wide range of barcode scanners can be used with ProTight. Nearly all brands can be used: Sick, Datalogic, Symbol. A barcode scanning device has to follow these rules:

-Connection with ProTight is done by using a serial port. A real serial port or an emulated serial port is preferred. A barcodescanner with USB connection which is emulating a COM port connection is the best solution.

-A suffix 0x03 has to be added to the barcode. The barcodescanner should have the option to add a suffix to its scanned barcode

In the next chapters we will discuss the setup of the Sick 3800g scanner

13.1.1. Configuring Sick 3800g scanner with USB com port emulation

See the documentation on page 1-3 of the product manual

Scan the following code to program the 3800g to emulate a regular RS-232-based Com Port. If you are using a Microsoft® Windows® PC, you will need to download a driver from the Hand Held Products website (www.handheld.com)



USB Com Port Emulation

Figure 13-1 Com port emulation code

The driver will use the next available Com Port number. Apple® Macintosh computers recognize the imager as a USB CDC class device and automatically uses a class driver. Scanning the code below changes the terminal ID to 130.

Note: No extra configuration (e.g., baud rate) is necessary.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 156(284)
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Onderwerp : ProTight manual			

13.1.2. Installing the serial emulation driver

After scanning the configuration code, windows will automatically attempt to install the correct driver.



Figure 13-2 Install window

Select “install from a list or specific location” and click ‘Next’.

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Onderwerp : ProTight manual			

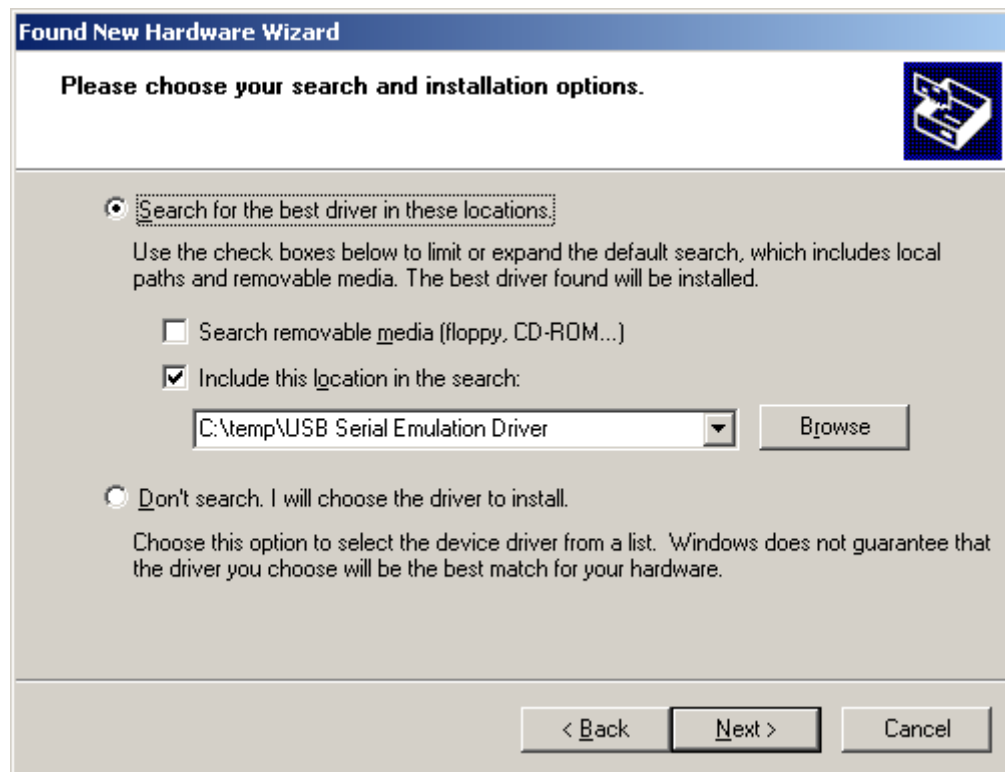


Figure 13-3 Install window hardware

!! Select by yourself the location of the installation software !!

These installation files can also be found on:

<https://docs.symbol.com/downloads/Symbol%20COM%20Port%20Emulation%20Driver%20v%201.8.5.zip>

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Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

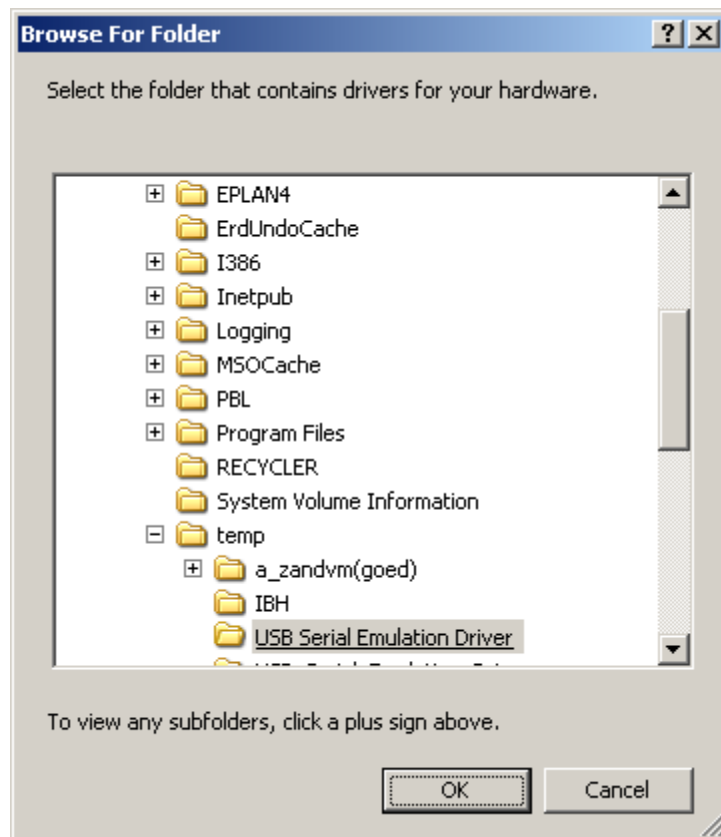


Figure 13-4 Browse for folder

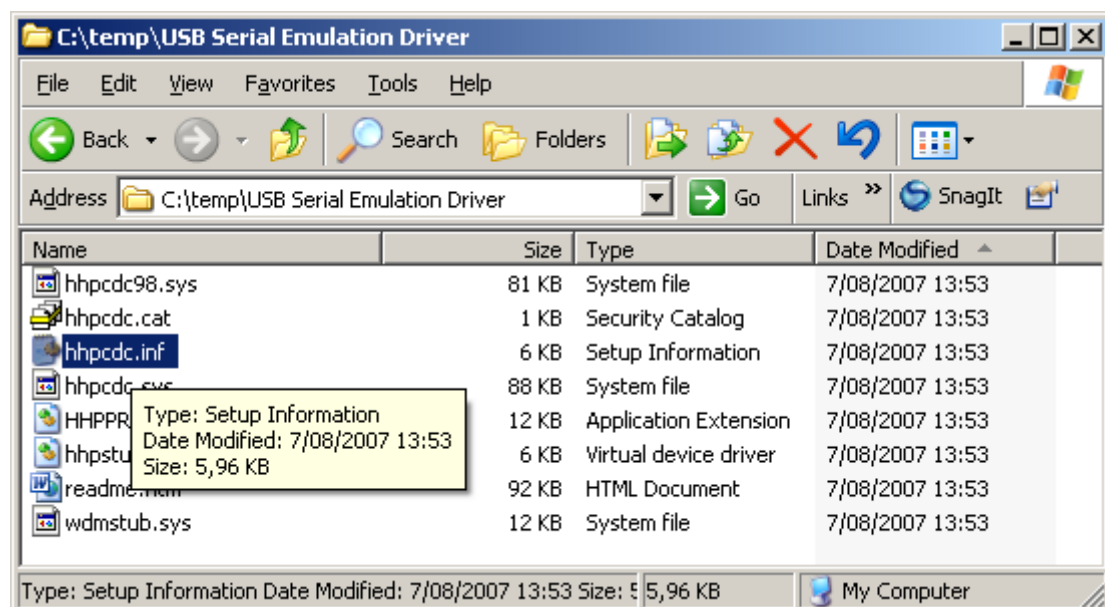


Figure 13-5 Select driver

After confirming the installation pad, Windows will search the correct driver.

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Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

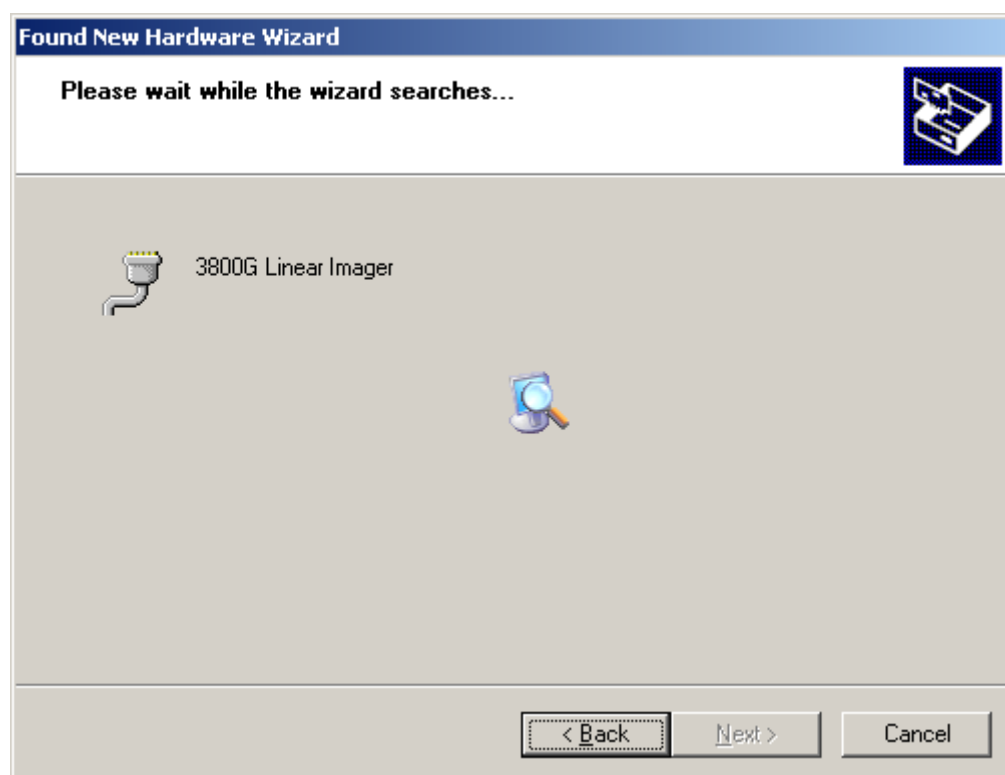


Figure 13-6 Installing driver

It can happen that following popup appears:



Figure 13-7 windows XP message

Select 'continue anyway'.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 160(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

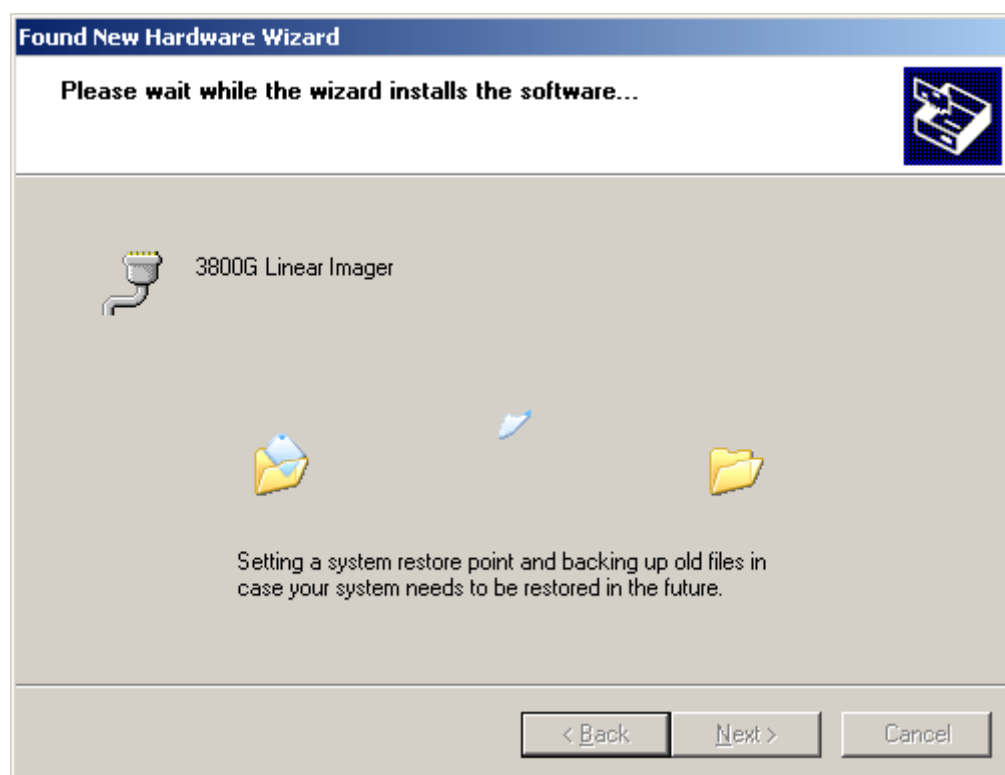


Figure 13-8 Installing drivers

After the installation, finish the wizard:

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 161(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

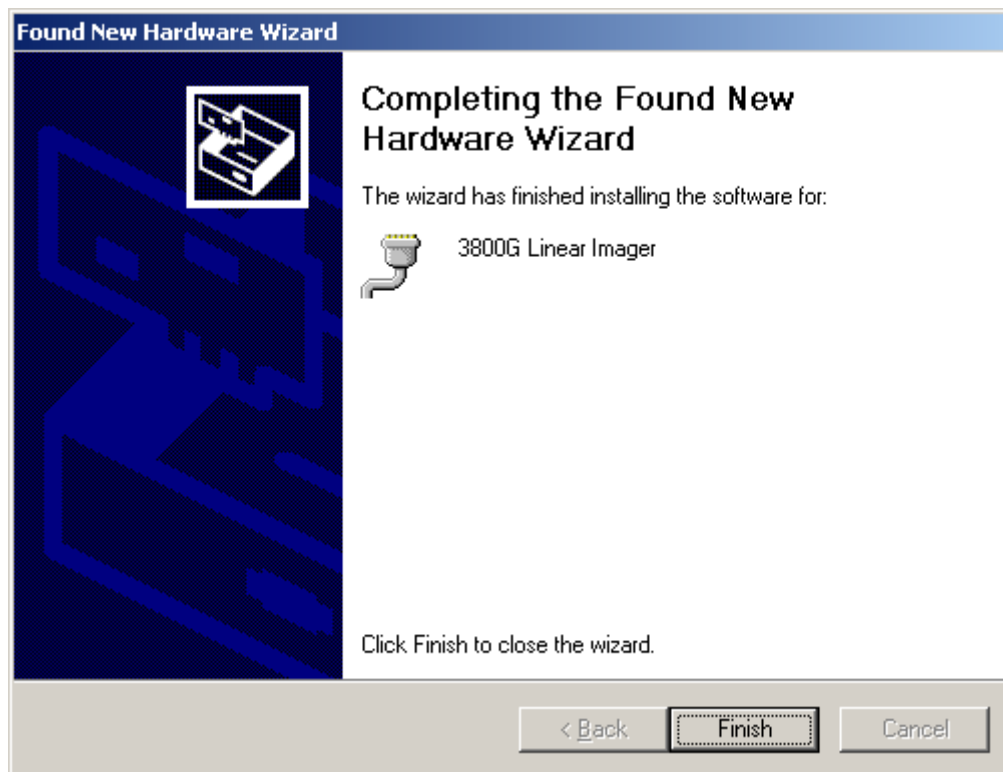


Figure 13-9 Finish installation

13.1.3. Testing the scanner

Via HyperTerminal the scanner can be tested:

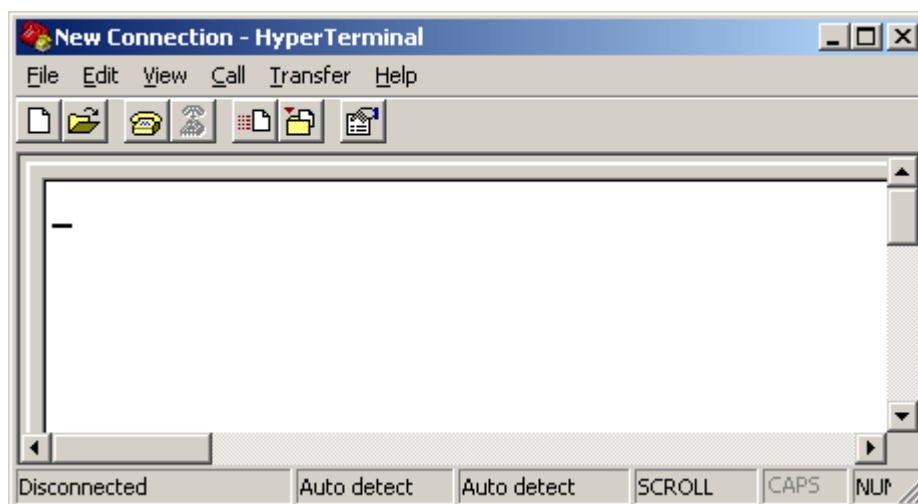


Figure 13-10 HyperTerminal

Select following configuration settings (the number of the Virtual COM port can differ on the target system, here it is COM6):

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Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

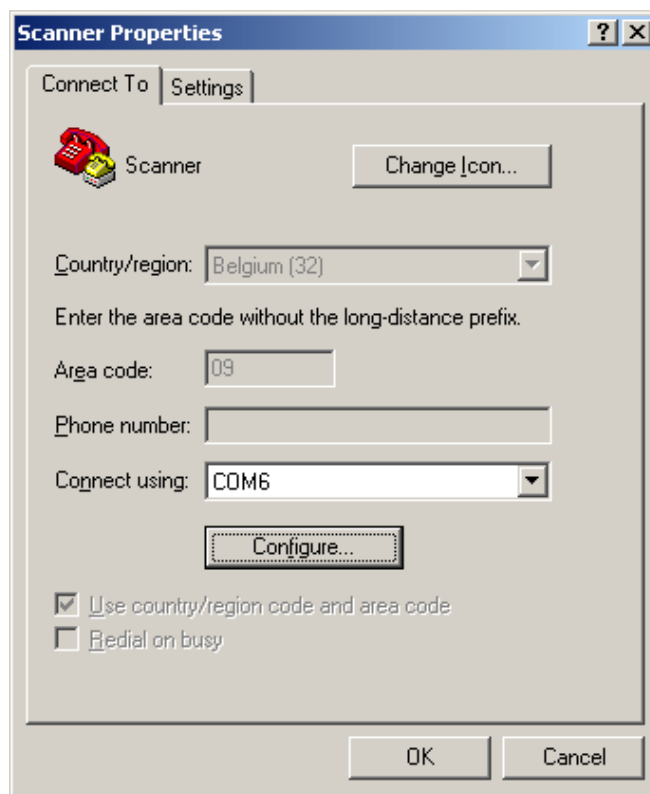


Figure 13-11 Establish connection

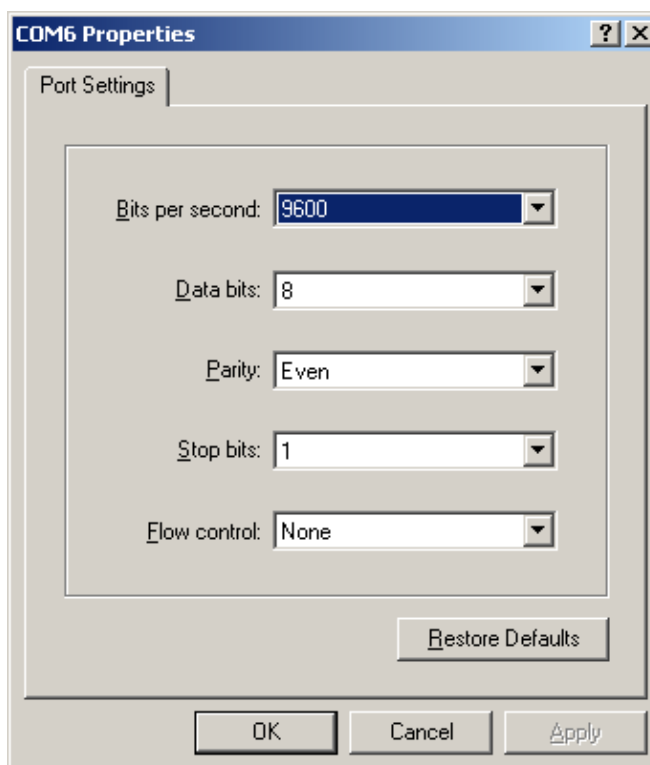


Figure 13-12 Establish connection

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 163(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

Perform the scanning test by scanning a barcode:

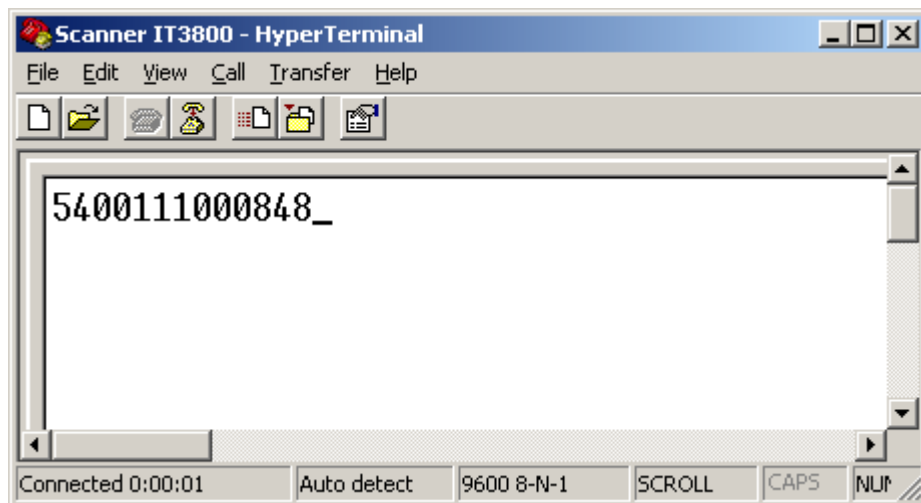


Figure 13-13 Do scan

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 164(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

13.1.4. Configuring a correct suffix to the 3800g scanner

To make it easier to detect that a barcode has been scanned completely a suffix code is being attached. By default we select this as code 0x03.

Some steps need to be done to create this suffix (according to the manual).

- **Step 1.** Scan the Add Prefix or Add Suffix symbol (page4-3) (previous prefixes or suffixes can be cleared first by scanning the corresponding barcodes below).

Prefix Selections



Add Prefix



Clear One Prefix



Clear All Prefixes

Suffix Selections



Add Suffix



Clear One Suffix



Clear All Suffixes

Figure 13-14 Add suffix

- **Step 2.** Determine the 2 digit Hex value from the Symbology Chart (included in the Appendix A) for the Symbology to which you want to apply the prefix or suffix. For example, for Code 128, Code ID is “j” and Hex ID is “6A”. For code 39 this is “62”.
- **Step 3.** Scan the 2 hex digits from the Programming Chart inside the back cover of this manual or scan 9, 9 for all symbologies.
- **Step 4.** Determine the hex value from the ASCII Conversion Chart (Code Page 1252) on page A-2, for the prefix or suffix you wish to enter. (in our case 0x03)
- **Step 5.** Scan the 2 digit hex value from the Programming Chart inside the back cover of this manual.
- **Step 6.** Repeat Steps 4 and 5 for every prefix or suffix character.

de JAEGER automation H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66		Documentnaam Manual ProTight Template: FM44A	Pagina 165(284)
Bewerker (Naam, telefoon) Christophe De Mey +32(0)9/378.49.89		Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			



0



2



4



6



8



A



C



E



1



3



5



7



9



B



D



F

Figure 13-15 Add suffix

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Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			



Note: If you make an error while scanning the letters or digits (before scanning Save), scan Discard, scan the correct letters or digits, and **Save**.

Figure 13-16 Save suffix

To add the suffix 0x03 in code 39 format we need to scan following barcodes consecutively:



Figure 13-17 Flow to add suffix

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 167(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

Sometimes different barcode formats are used for the same application. In that case it can be handy to add the suffix 0x03 in all code formats. We need to scan following barcodes consecutively:



Figure 13-18 Flow to add suffix

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 168(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

13.2. INSTALLING BADGEREADERS

A wide range of badgereaders can be used with ProTight. Some brands are Deister, Kaba, ...

Connection with ProTight is done by using a serial port. A real serial port or an emulated serial port is preferred. A badgereader with USB connection which is emulating a COM port connection is the best solution.

In the next chapters we will discuss the setup of the Kaba net 9107

13.3. INSTALLING DRIVERS KABA (ONLY KABA NET 91 07)



Kaba's B-Net 91 07 USB reader is designed for the recording of information from LEGIC data carriers (e.g. badges, key-tags, etc.) at a PC workstation. The desktop device is set up next to the workstation and connected to the PC's USB interface.

The PC reader can be integrated into any application. Within the application the reader is used for the assignment of user authorizations and for user identification.

Figure 13-19 KABA_NET 91 07

After connection the kaba net 91 07 in the PC the next installation screen will appear



Figure 13-20 Install kabareader

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 169(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

Choose, No not this time => Next



Figure 13-21 Install kabareader

Choose install from a list or specific location (Advanced)

=> Next

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 170(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

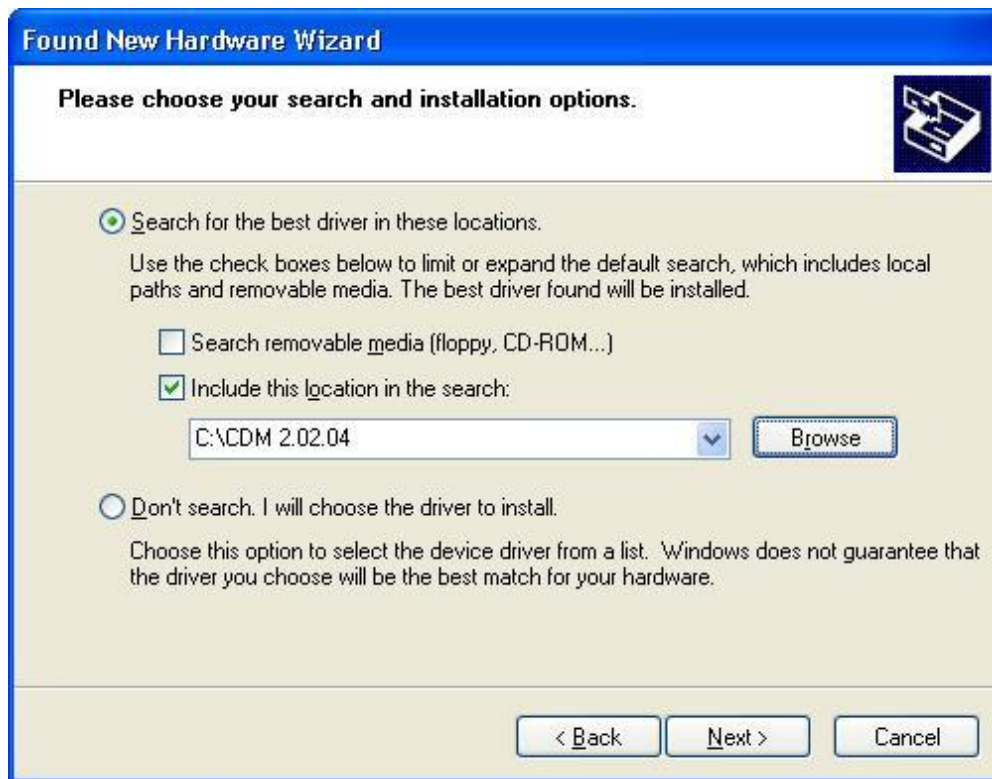


Figure 13-22 Install drivers kaba

Choose the location where the Kaba drivers are placed. => Next
Next screen may appear



Figure 13-23 Windows XP message

choose Continue Anyway

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 171(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			



Figure 13-24 Installing drivers

The software will be installed

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 172(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			



Figure 13-25 Finish installation

Click finish

A second installation screen will appear

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 173(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			



Figure 13-26 kaba driver installation

Choose No, not this time

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 174(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			



Figure 13-27 Kaba driver installation

Choose Install from a list or specific location (Advanced) => Next

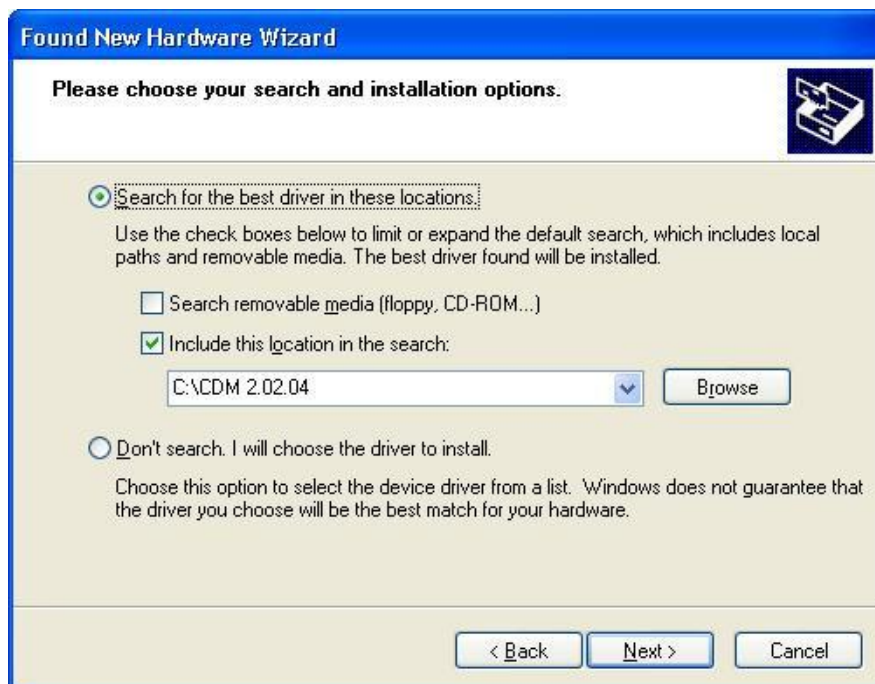


Figure 13-28 Kaba driver installation

Choose the location where the drivers of the kabareader are placed => Next
 Next screen may appear

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 175(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			



Figure 13-29 Windows XP message

Choose Continue Anyway

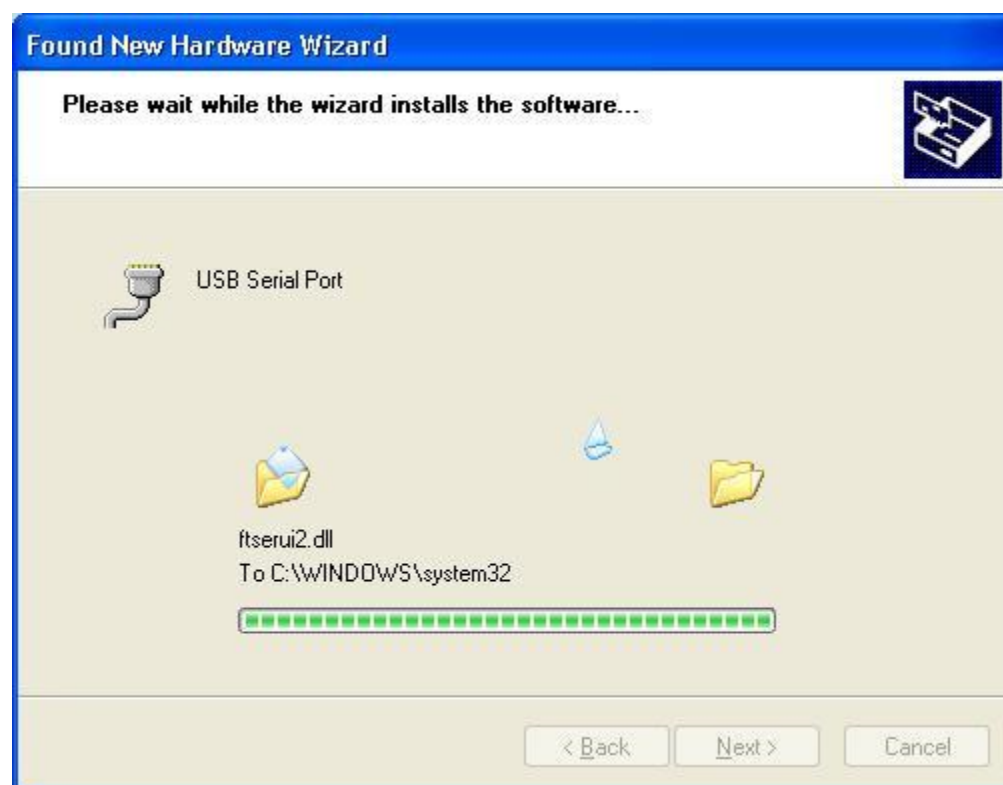


Figure 13-30 Installing drivers

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 176(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

The software is being installed.



Figure 13-31 Finish installation

Click Finish

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 177(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

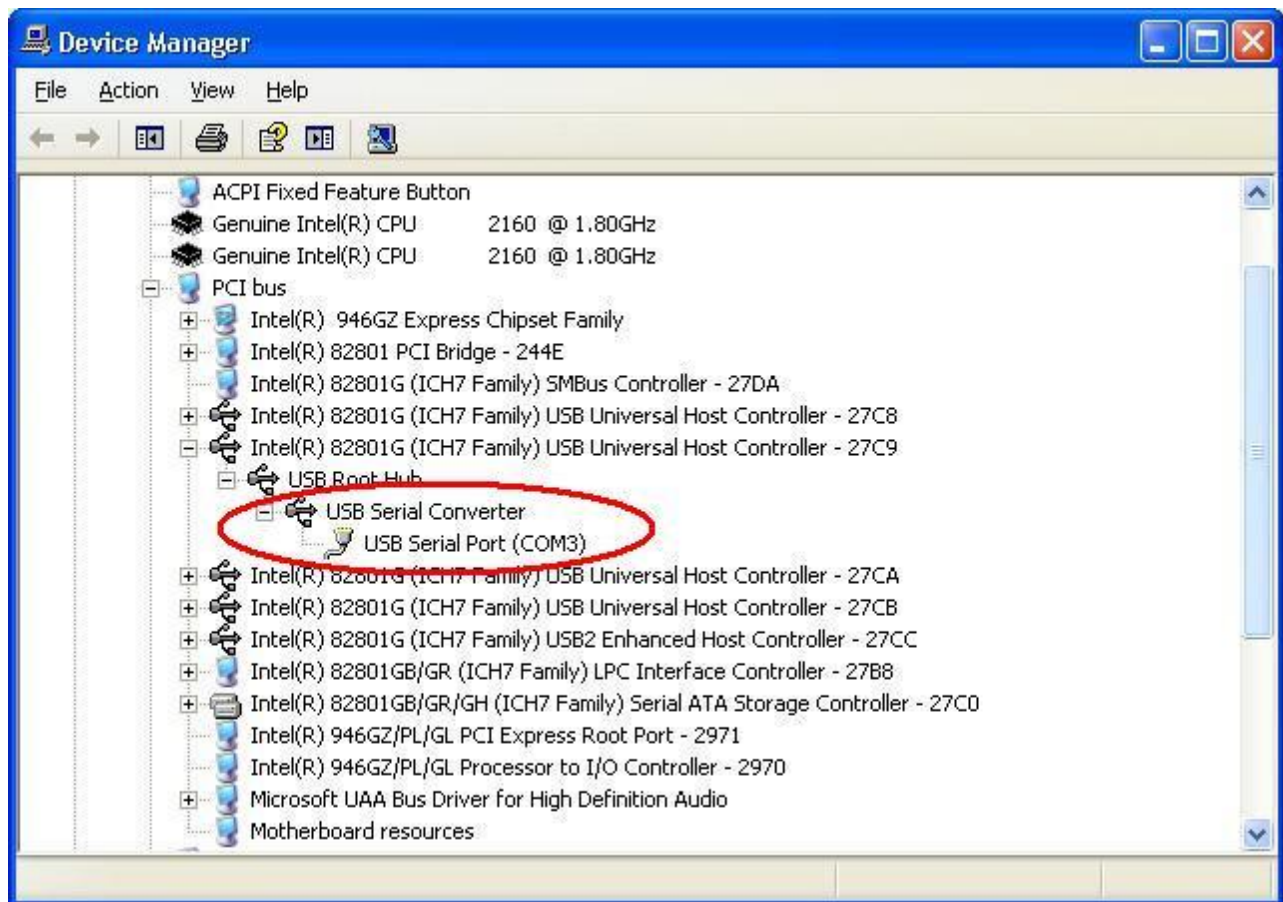


Figure 13-32 Check the installation

Go to the control panel, open the administrative tools, choose computer manager and click on device manger. Change the view to "Devices by Connection". Open the tree node advanced configuration and power interface=>Microsoft ACPI-compliant system=>PCI-bus.

If you open the USB universal host controller there you will see the USB serial converter.

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 178(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 179(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

14. HARDWARE

14.1. SHORT OVERVIEW WITH DIFFERENT TYPES OF INSTALLATIONS

14.1.1. Fixed installation with 1 tool

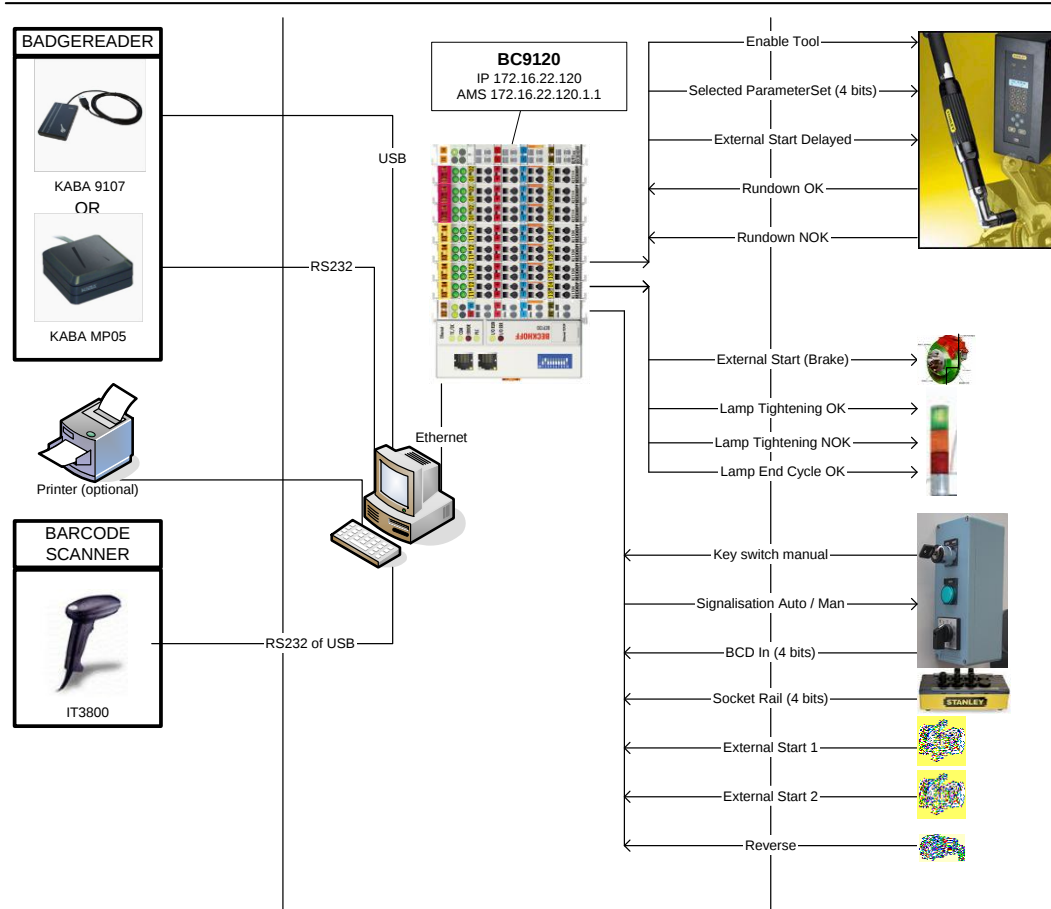


Figure 14-1 Fixed one tool

14.1.2. Fixed installation with 2 tools

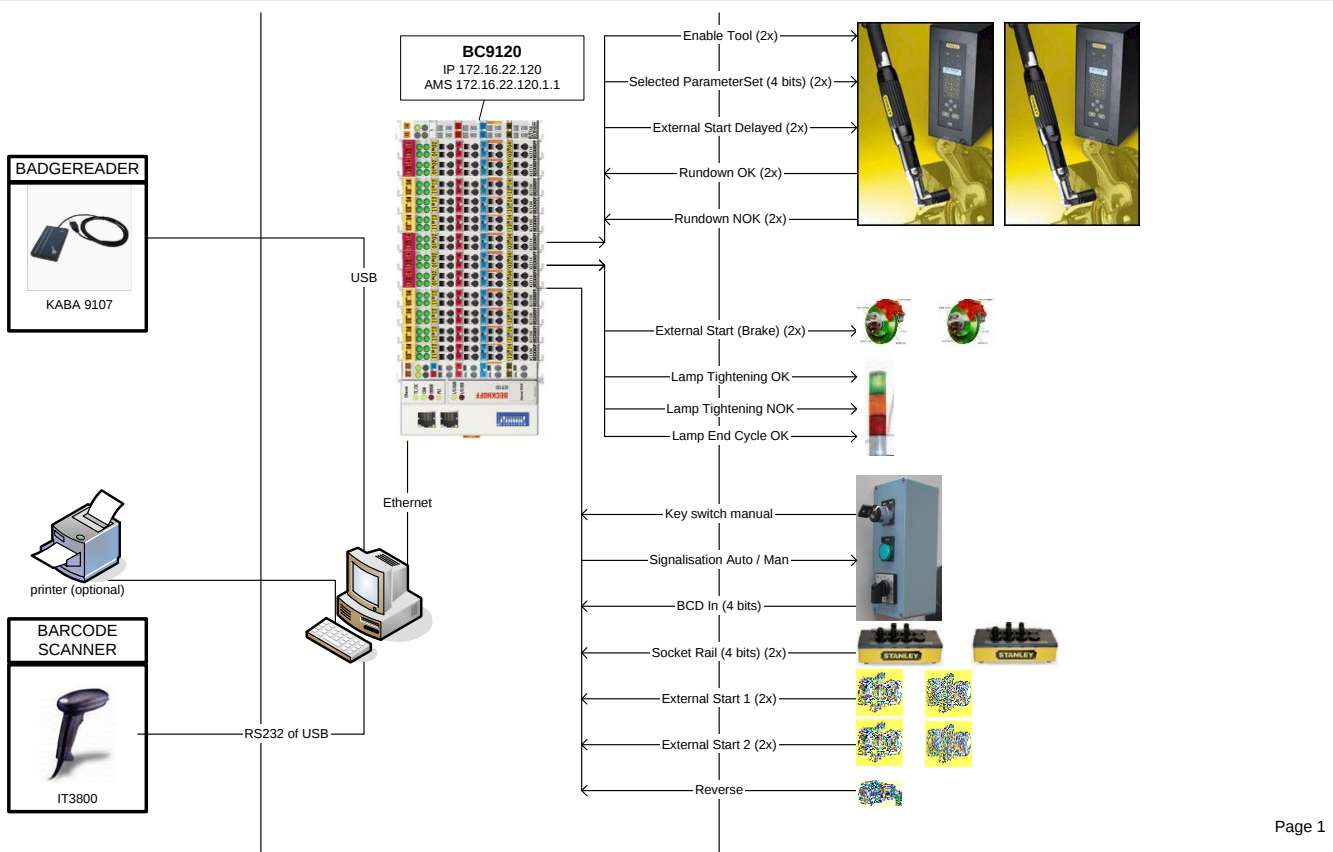


Figure 14-2 Fixed two tools

14.1.3. Mobile installation with 2 tools

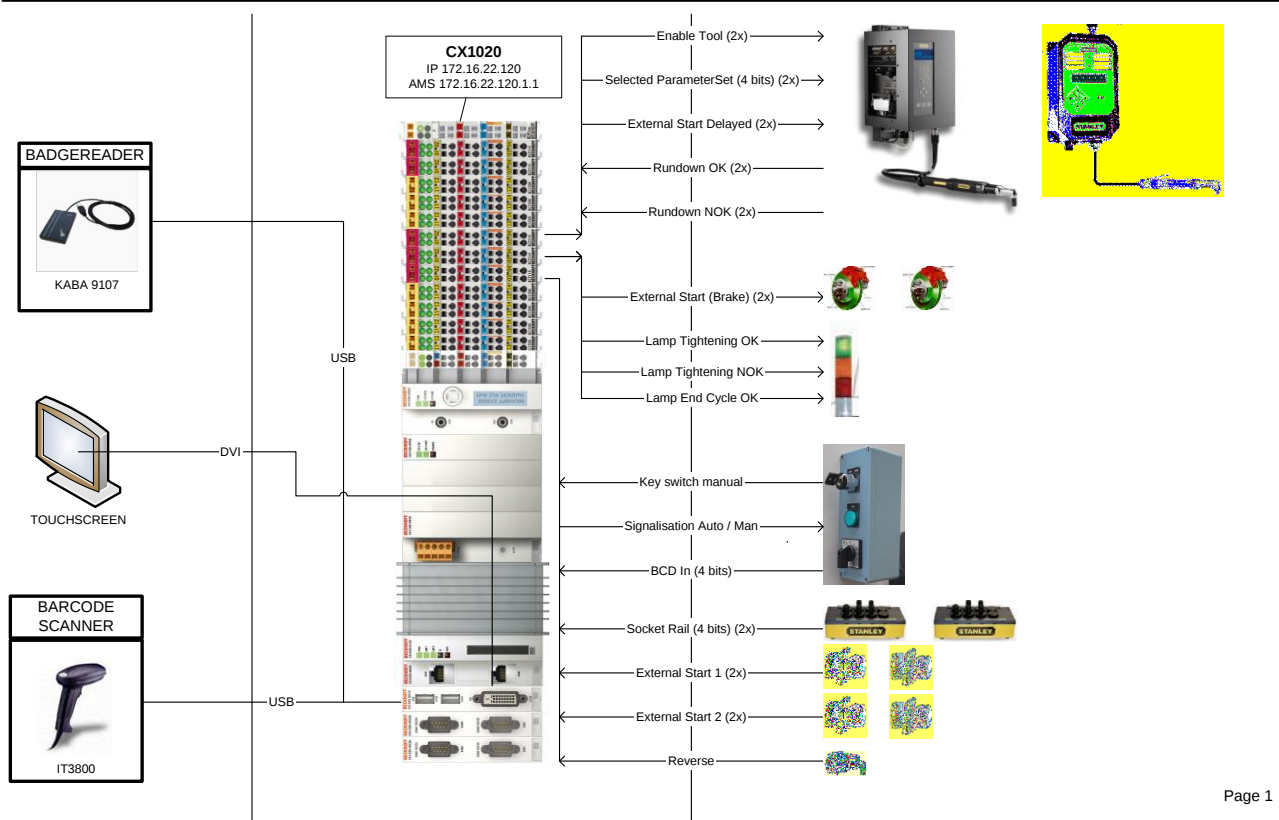
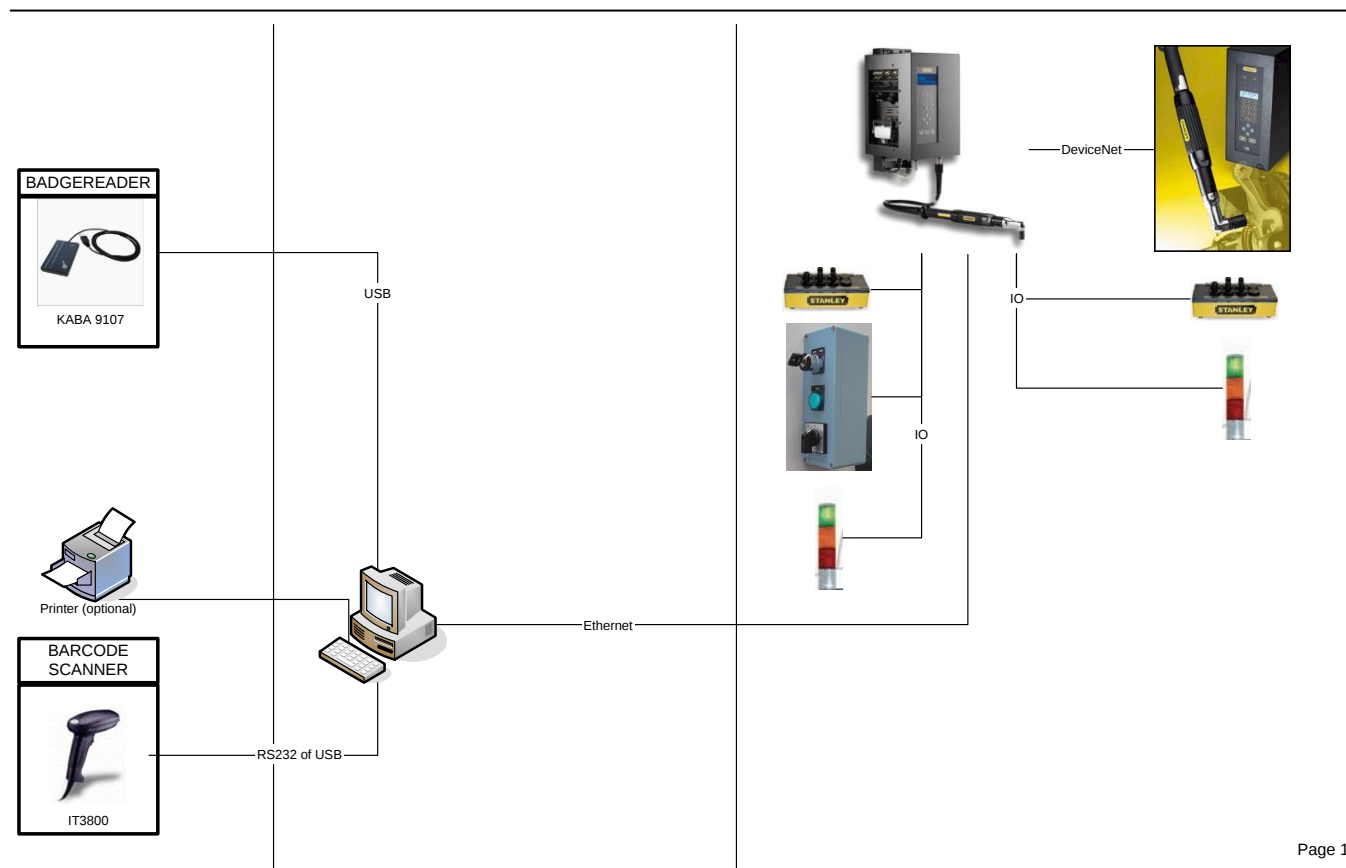


Figure 14-3 Mobile two tools

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 182(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

14.1.4. Installation based on Stanley Sigma/Gamma configuration(interne PLC)

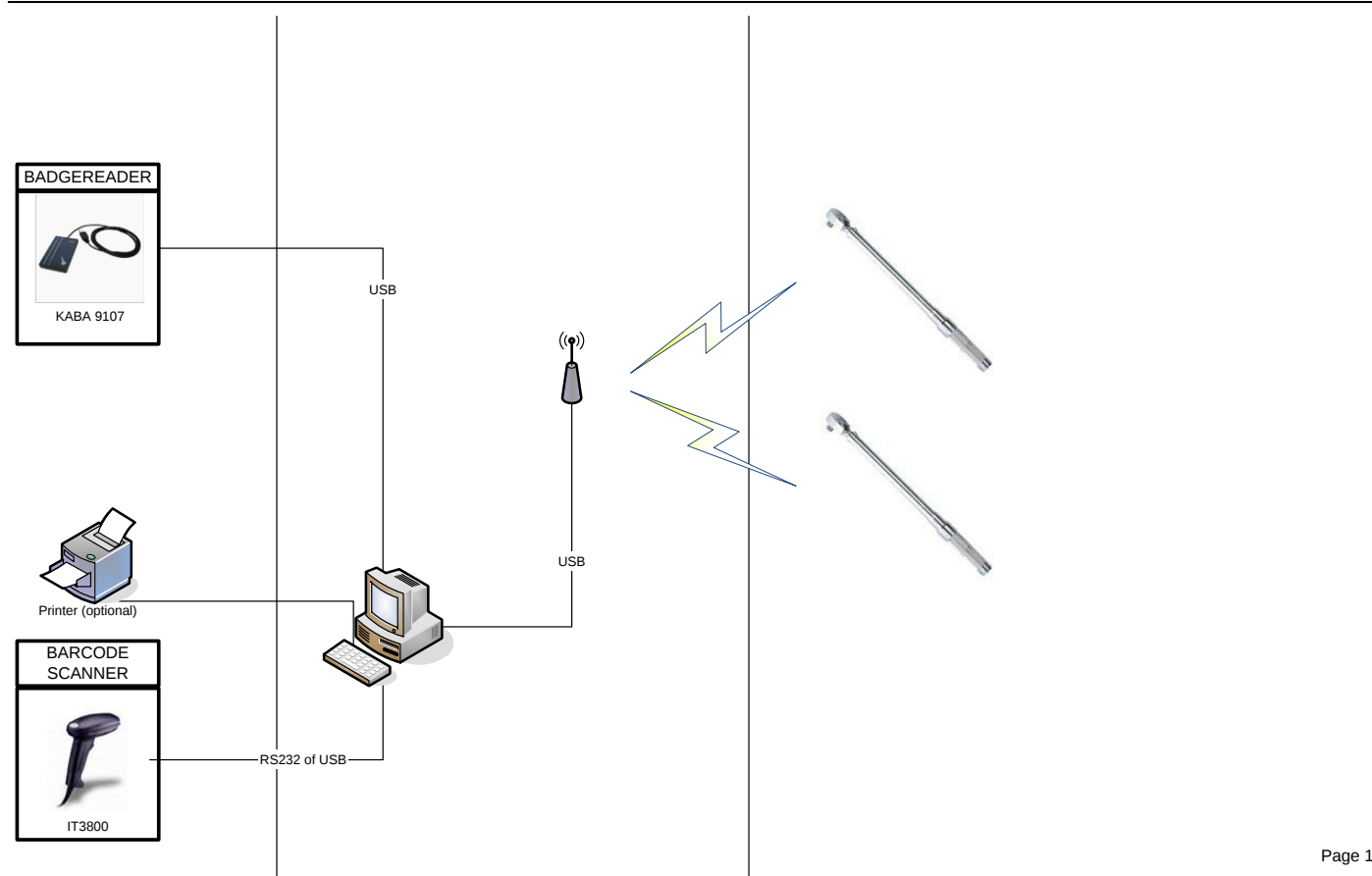


Page 1

Figure 14-4 Gamma installation

	H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 183(284)
Bewerker (Naam, telefoon) Christophe De Mey	+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual			

14.1.5. EasyTorque installation



Page 1

Figure 14-5 EasyTorque installation

		H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 184(284)
Bewerker (Naam, telefoon) Christophe De Mey		+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual				

14.2. BECKHOFF PLC

14.2.1. schema's

See external documentation

14.2.2. Diagrams of the Two installations



Figure 14-6 CX installation

		H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66		Documentnaam Manual ProTight Template: FM44A	Pagina 185(284)
Bewerker (Naam, telefoon) Christophe De Mey		+32(0)9/378.49.89		Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual					

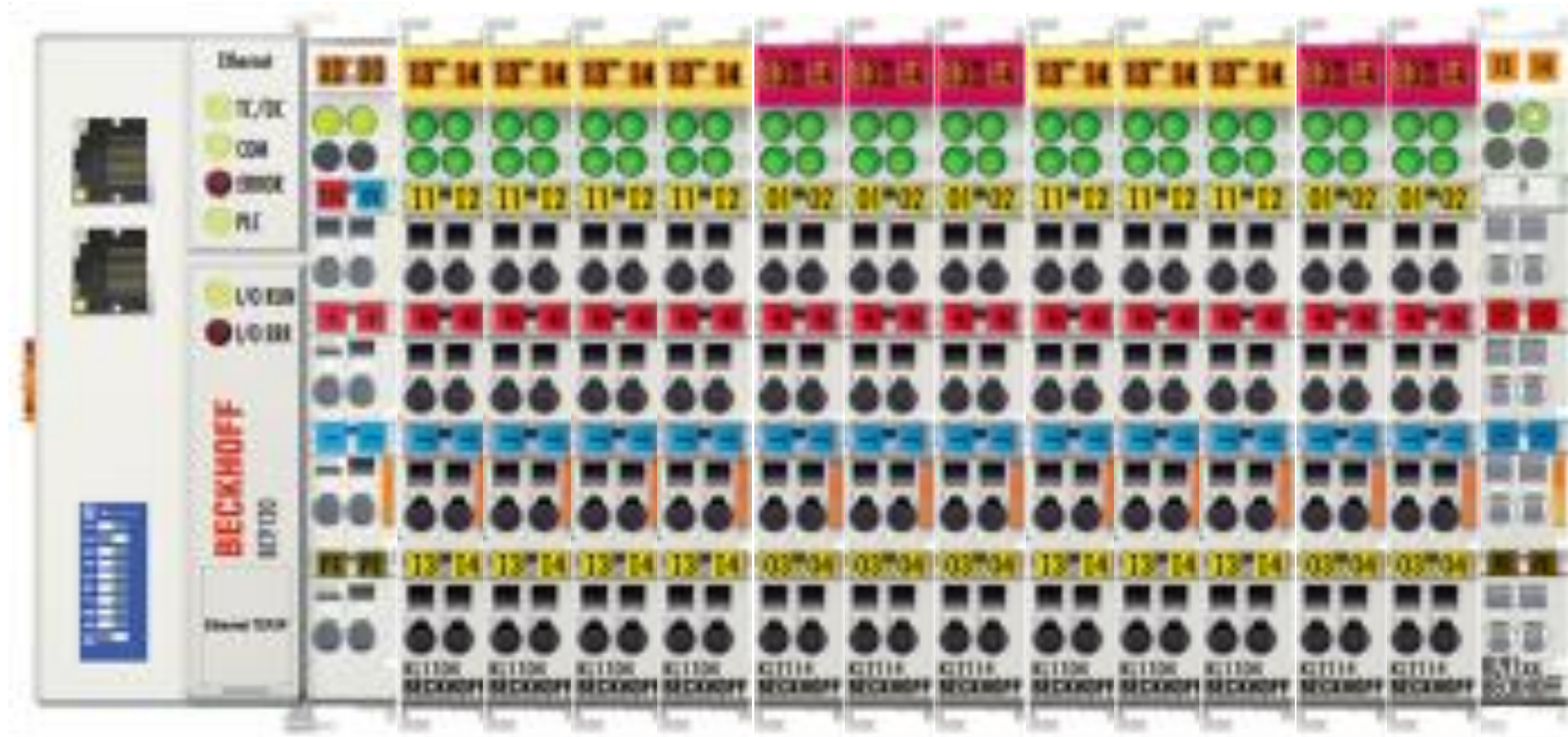


Figure 14-7 BC 9120

		H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66		Documentnaam Manual ProTight		Pagina 186(284)	
Bewerker (Naam, telefoon) Christophe De Mey		+32(0)9/378.49.89		Bijlagen Ja/Neen		Datum 10-Sep-13	
Onderwerp : ProTight manual							

14.2.3. BCD connections

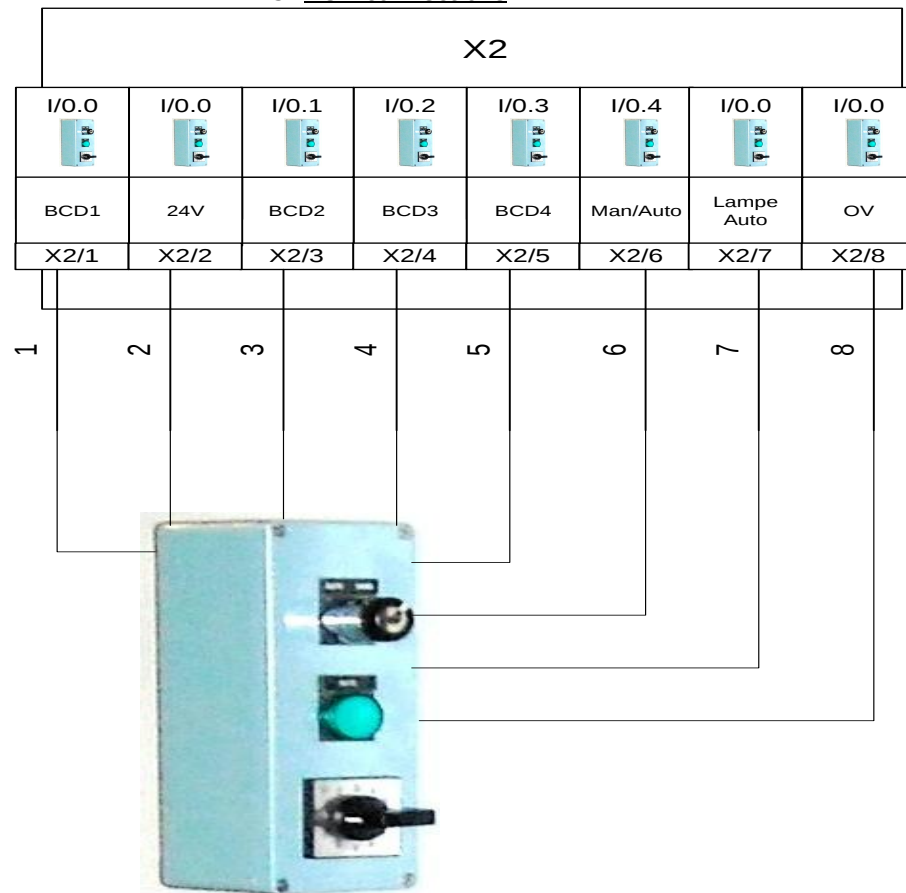


Figure 14-8 BC connections

14.2.4. IO/Sockets

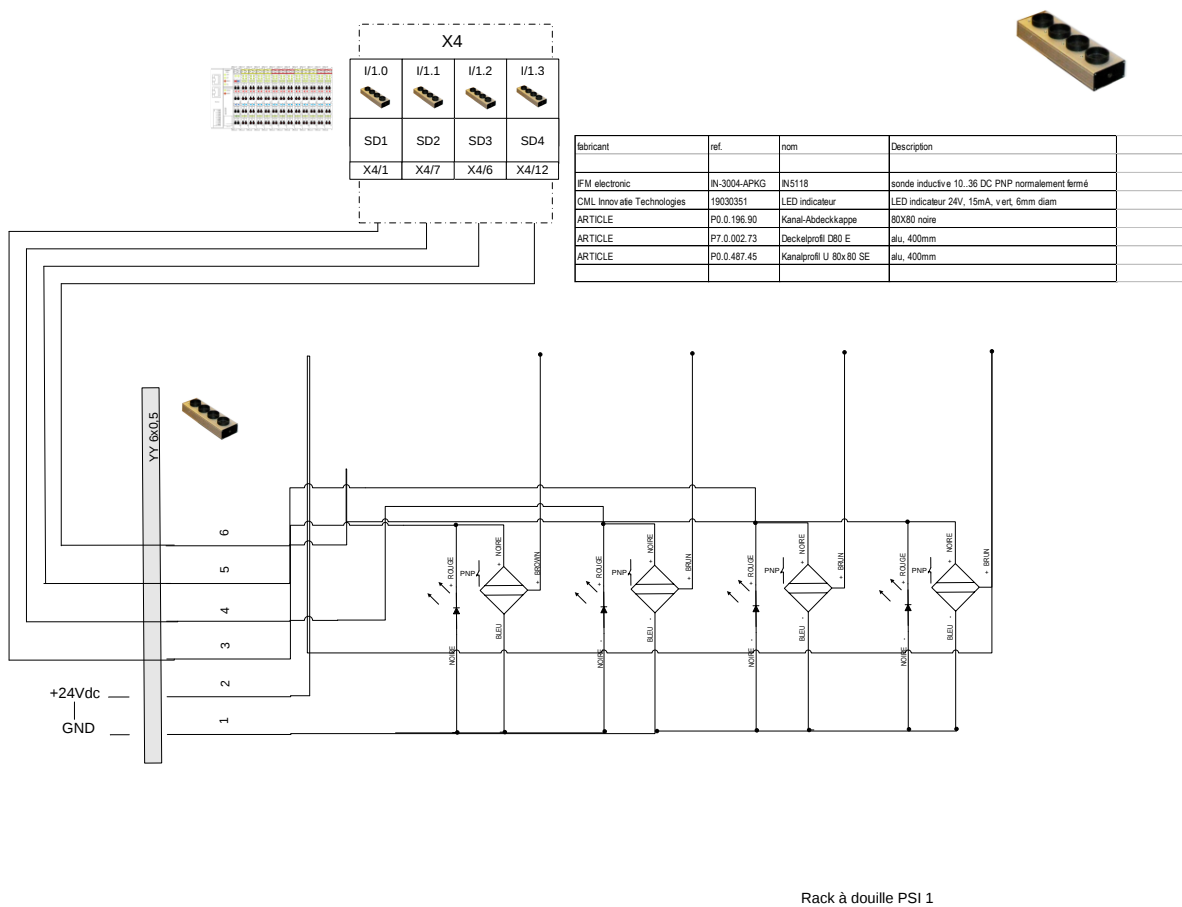


Figure 14-9 IO socket 1

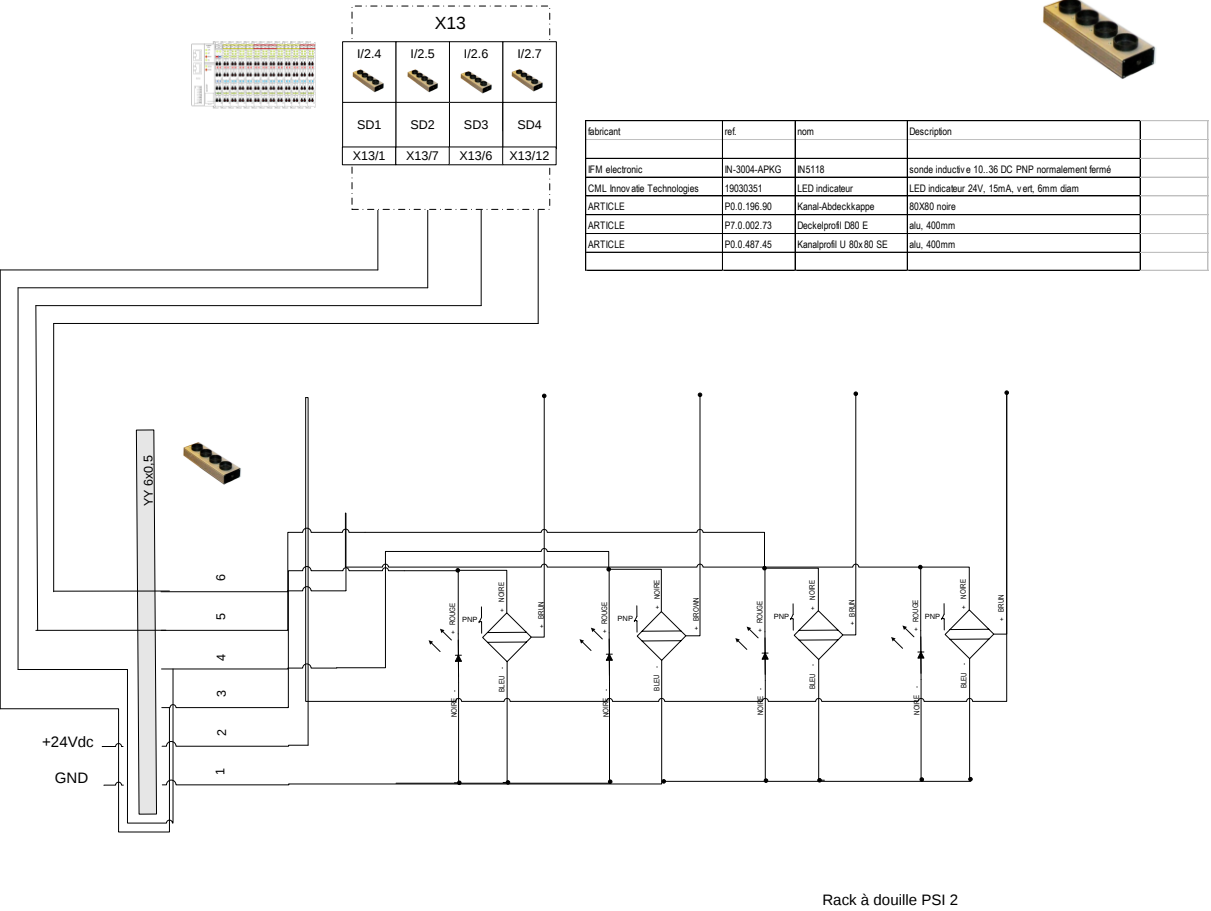


Figure 14-10 IO socket 2

		H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66		Documentnaam Manual ProTight Template: FM44A	Pagina 189(284)
Bewerker (Naam, telefoon) Christophe De Mey		+32(0)9/378.49.89		Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual					

14.2.5. Aansluiting met Alpha

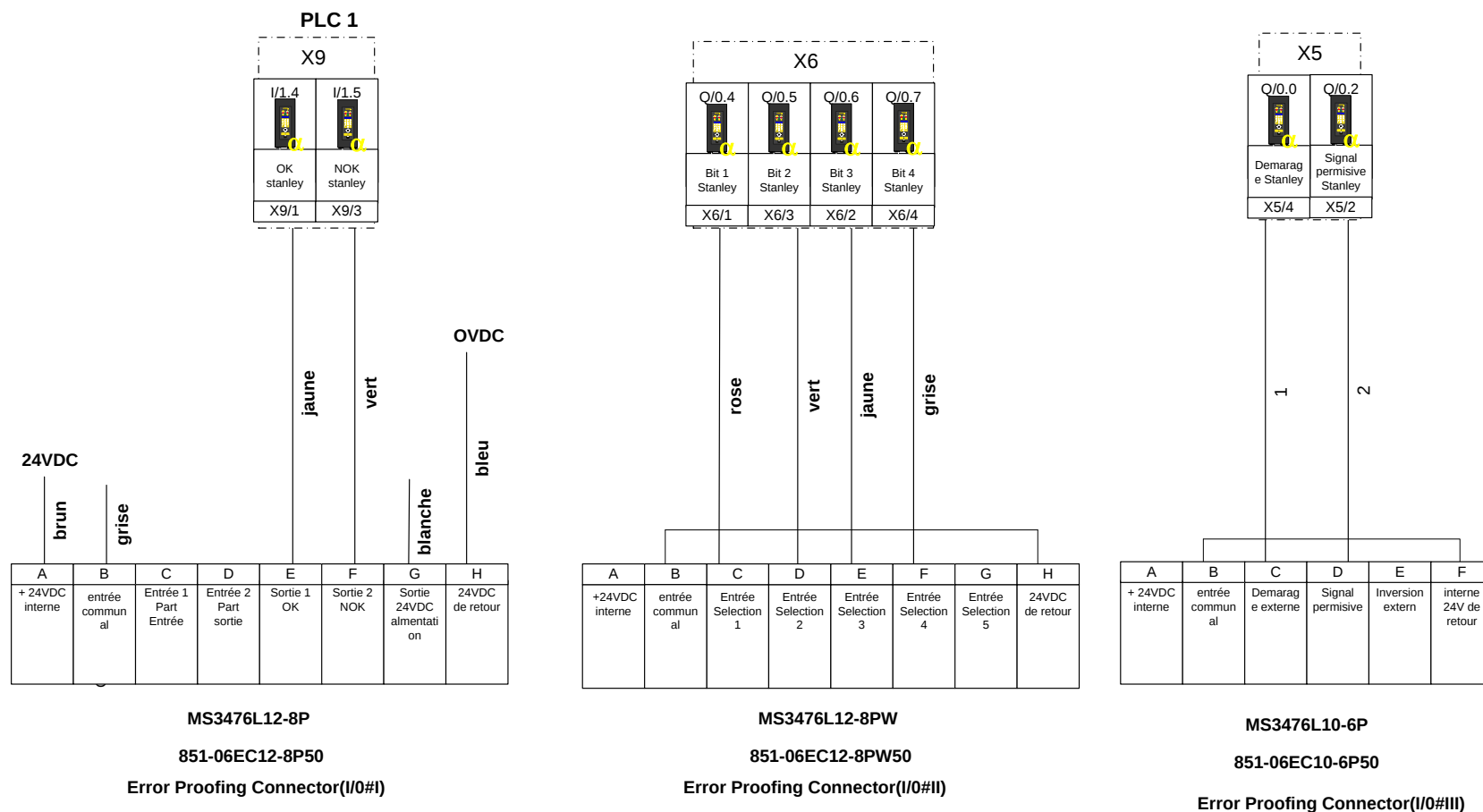


Figure 14-11 Alpha connections 1

		H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 190(284)
Bewerker (Naam, telefoon) Christophe De Mey		+32(0)9/378.49.89	Bijlagen Ja/Neen	Datum 10-Sep-13
Onderwerp : ProTight manual				

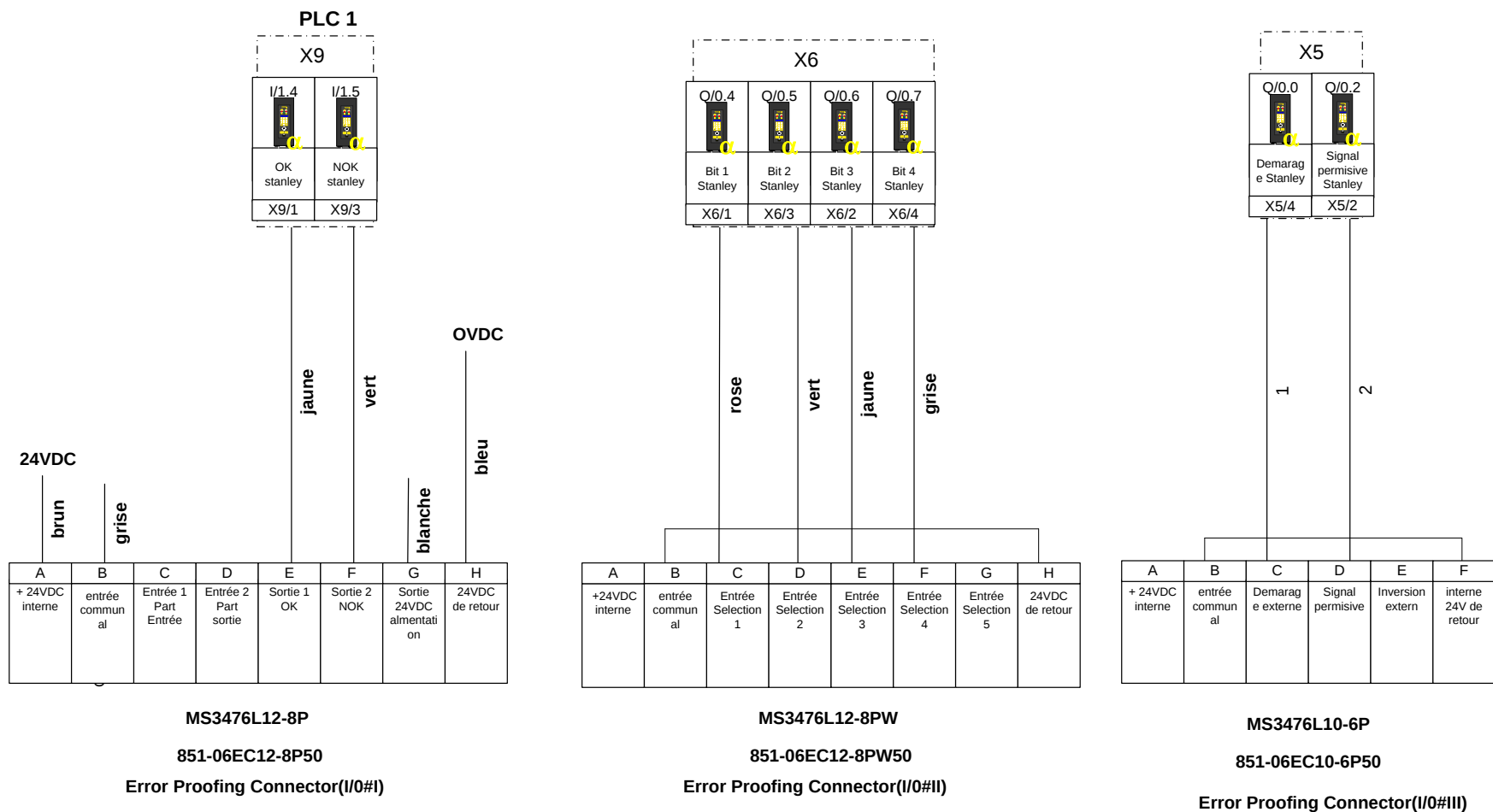
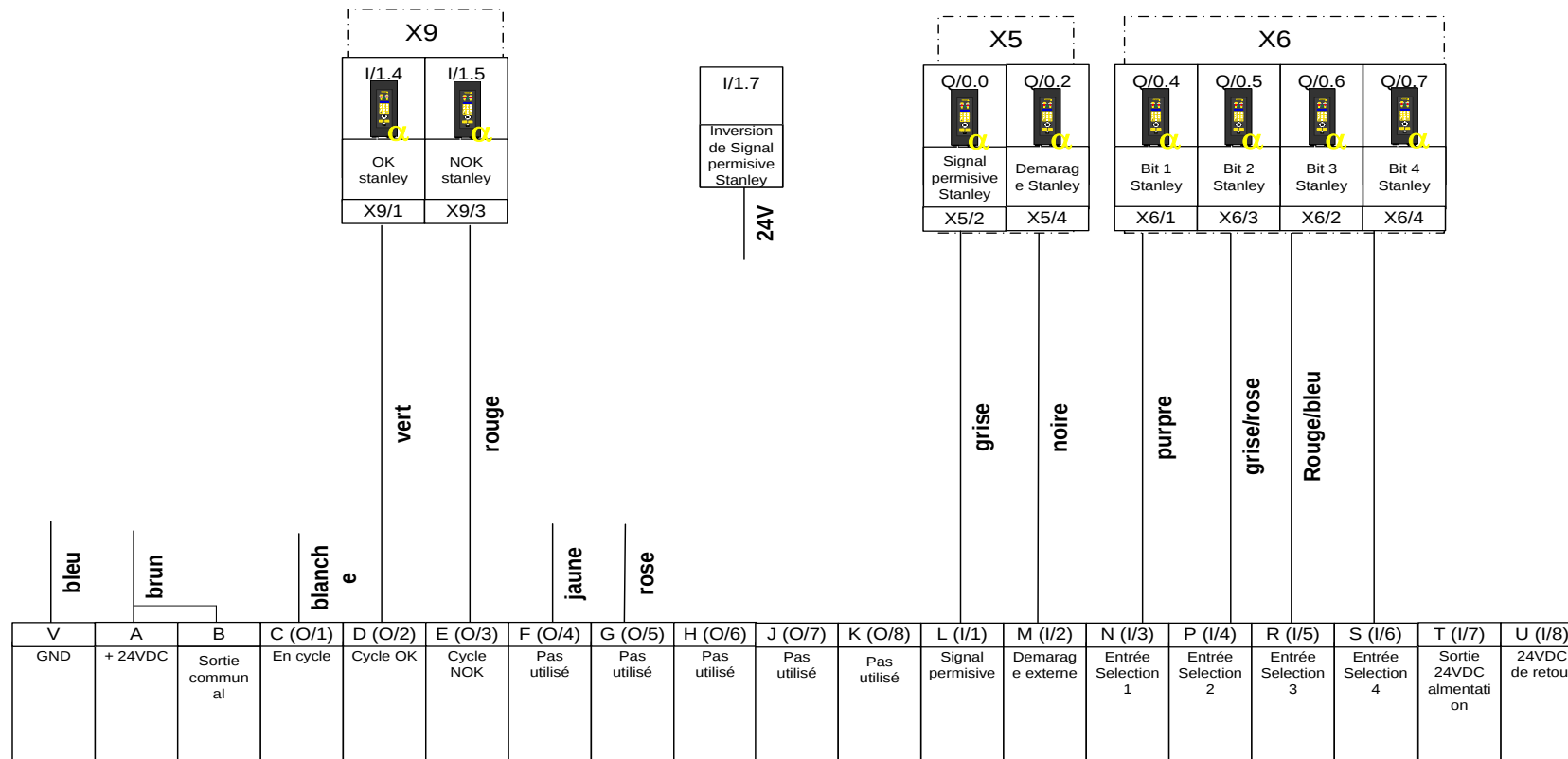


Figure 14-12 Alpha connections 2

		H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66	Documentnaam Manual ProTight Template: FM44A	Pagina 191(284)
Bewerker (Naam, telefoon) Christophe De Mey +32(0)9/378.49.89		Bijlagen Ja/Neen	Datum 10-Sep-13	
Onderwerp : ProTight manual				

14.2.6. Aansluiting met AlphaII

PLC 1



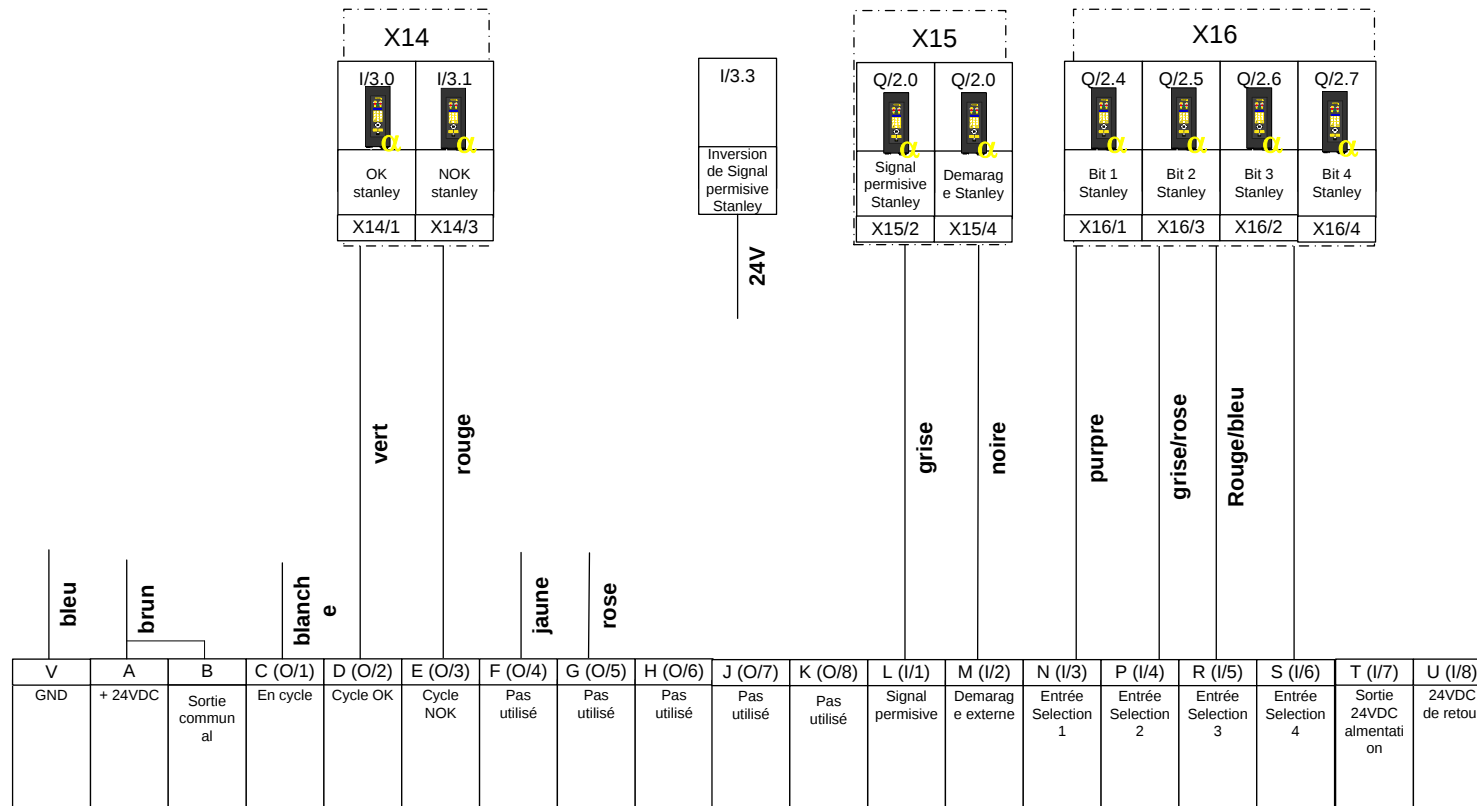
PT06A14-19P - 470

Error Proofing Connector(I/O)

Figure 14-13 A Alphall connections 1

		H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66		Documentnaam Manual ProTight Template: FM44A		Pagina 192(284)	
Bewerker (Naam, telefoon) Christophe De Mey +32(0)9/378.49.89				Bijlagen Ja/Neen		Datum 10-Sep-13	
Onderwerp : ProTight manual							

PLC 1



PT06A14-19P - 470

Error Proofing Connector(I/O)

Figure 14-14 Alphall connections 2

		H. Consciencelaan 79,9950 Waarschoot Tel: +32(0)9/378.49.89 Fax: +32(0)9/377.92.66		Documentnaam Manual ProTight		Pagina 194(284)	
Bewerker (Naam, telefoon) Christophe De Mey		+32(0)9/378.49.89		Bijlagen Ja/Neen		Datum 10-Sep-13	
Onderwerp : ProTight manual							

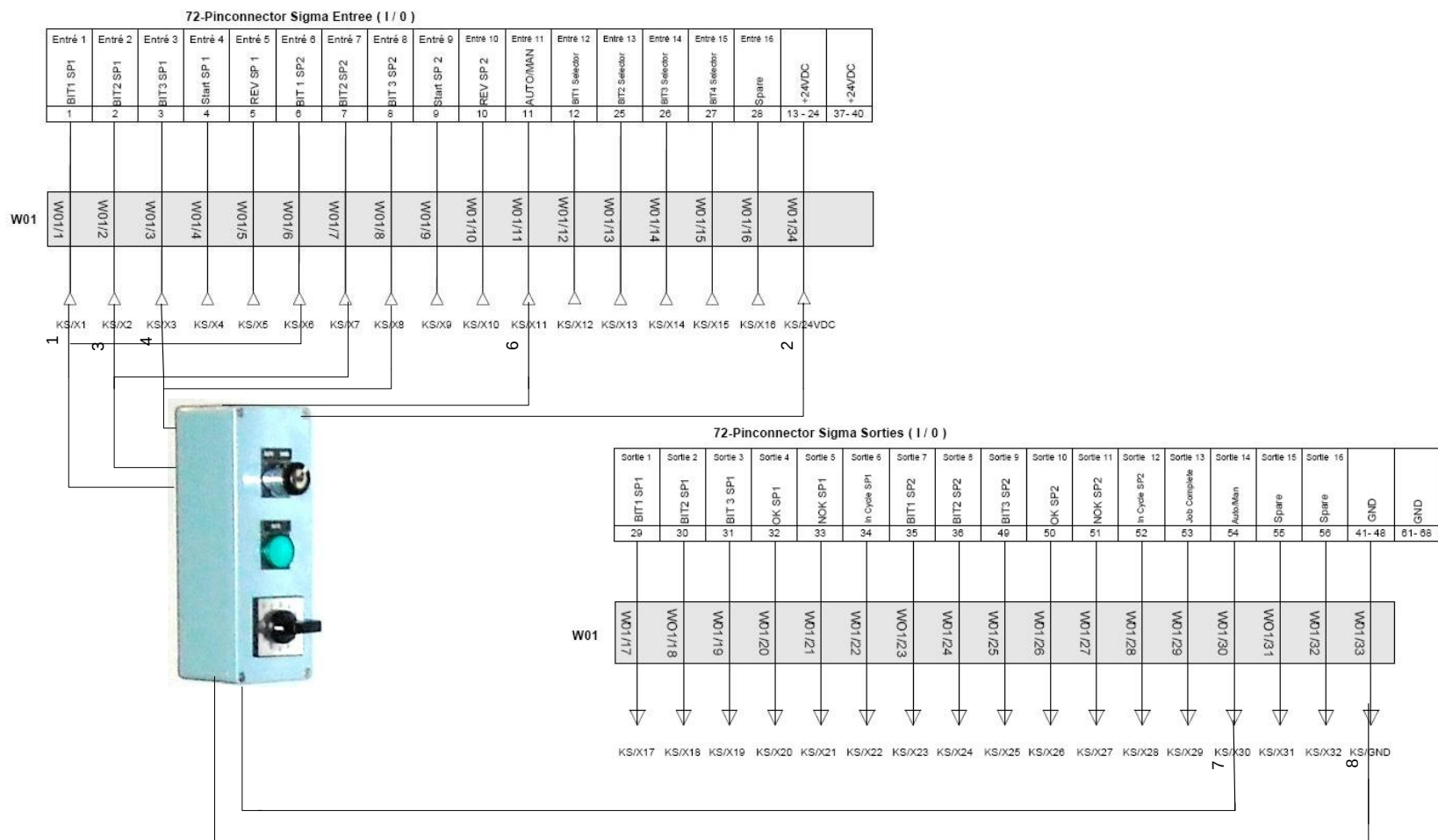
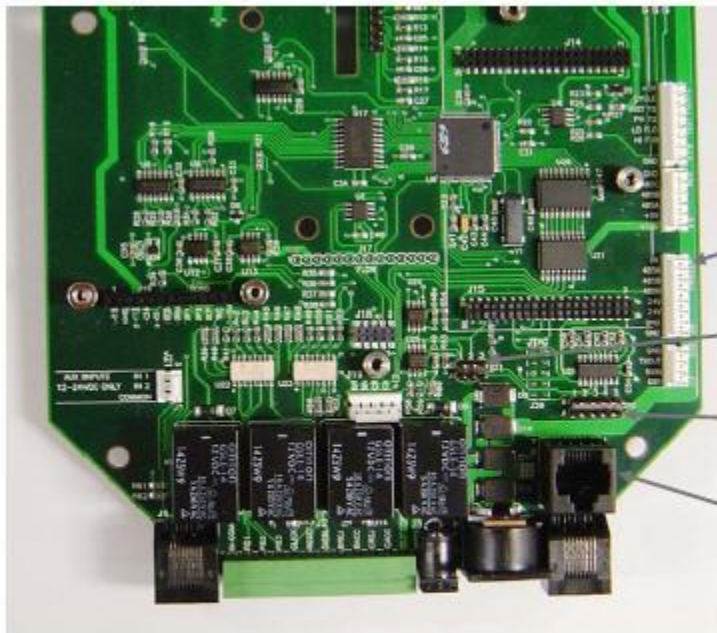


Figure 14-15 Gamma Connections

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14.2.8. Aansluiting met PSI

RJ45 to DB9 cable



ADAPTERS (RJ45 TO DB9F) are required for the following:

DATA COLLECTION - SERIAL - ADAPTOR - RJ45 TO DB9F

RJ45 PIN 5 TO DB9 PIN 5

RJ45 PIN 7 TO DB9 PIN 2

RJ45 PIN 3 TO DB9 PIN 3

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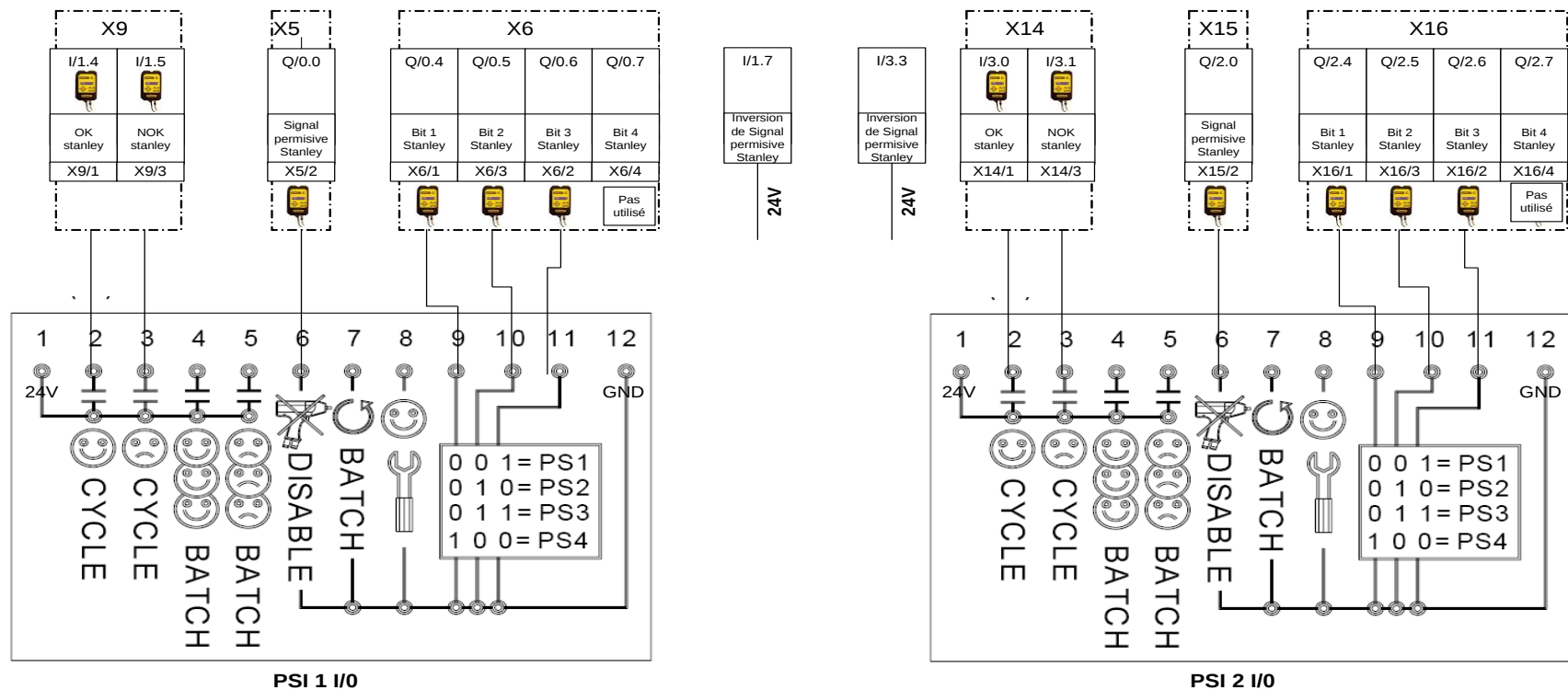


Figure 14-16 PSI IO connections

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14.2.9. Aansluiting CVI

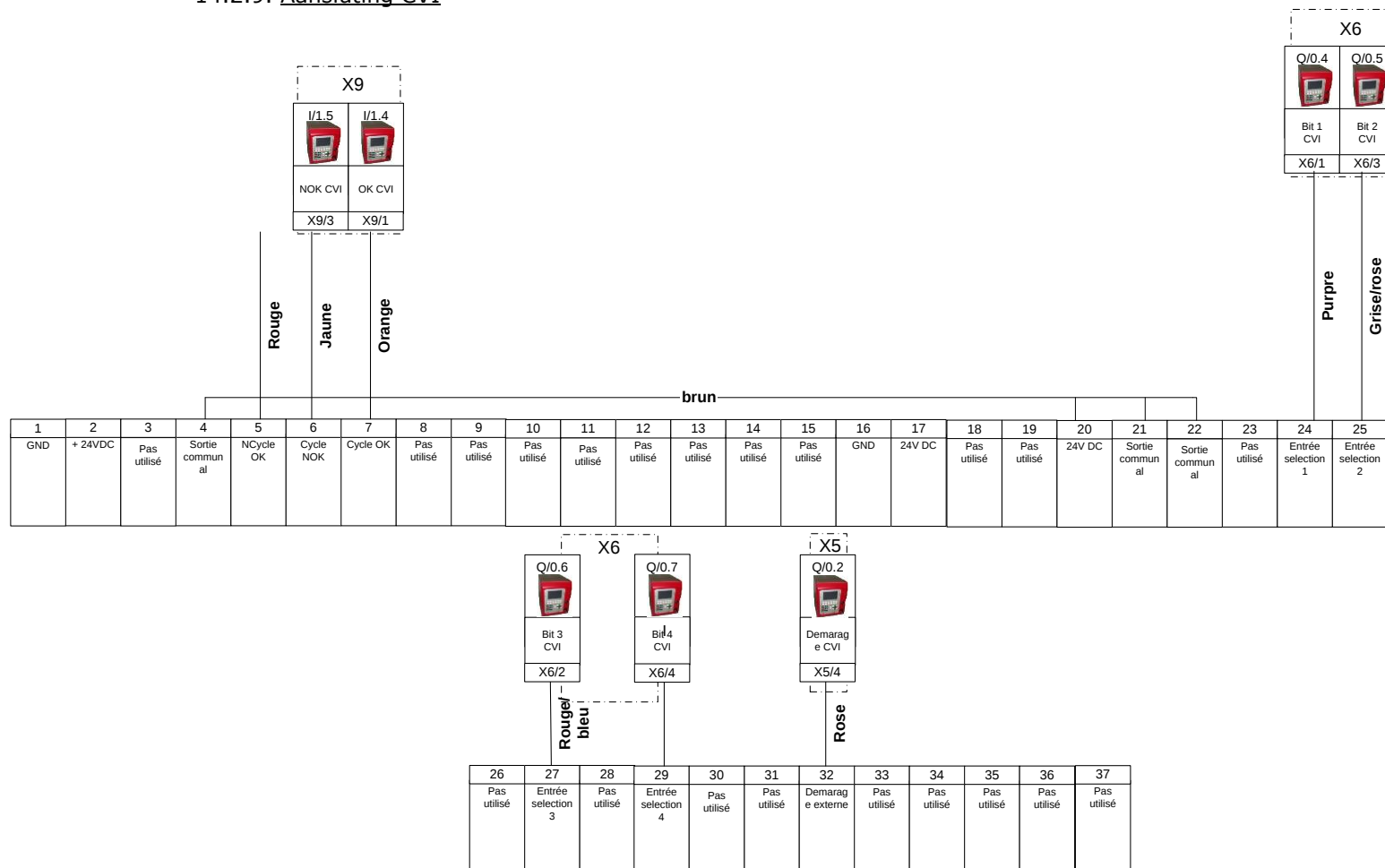


Figure 14-17 CVI IO connections 1

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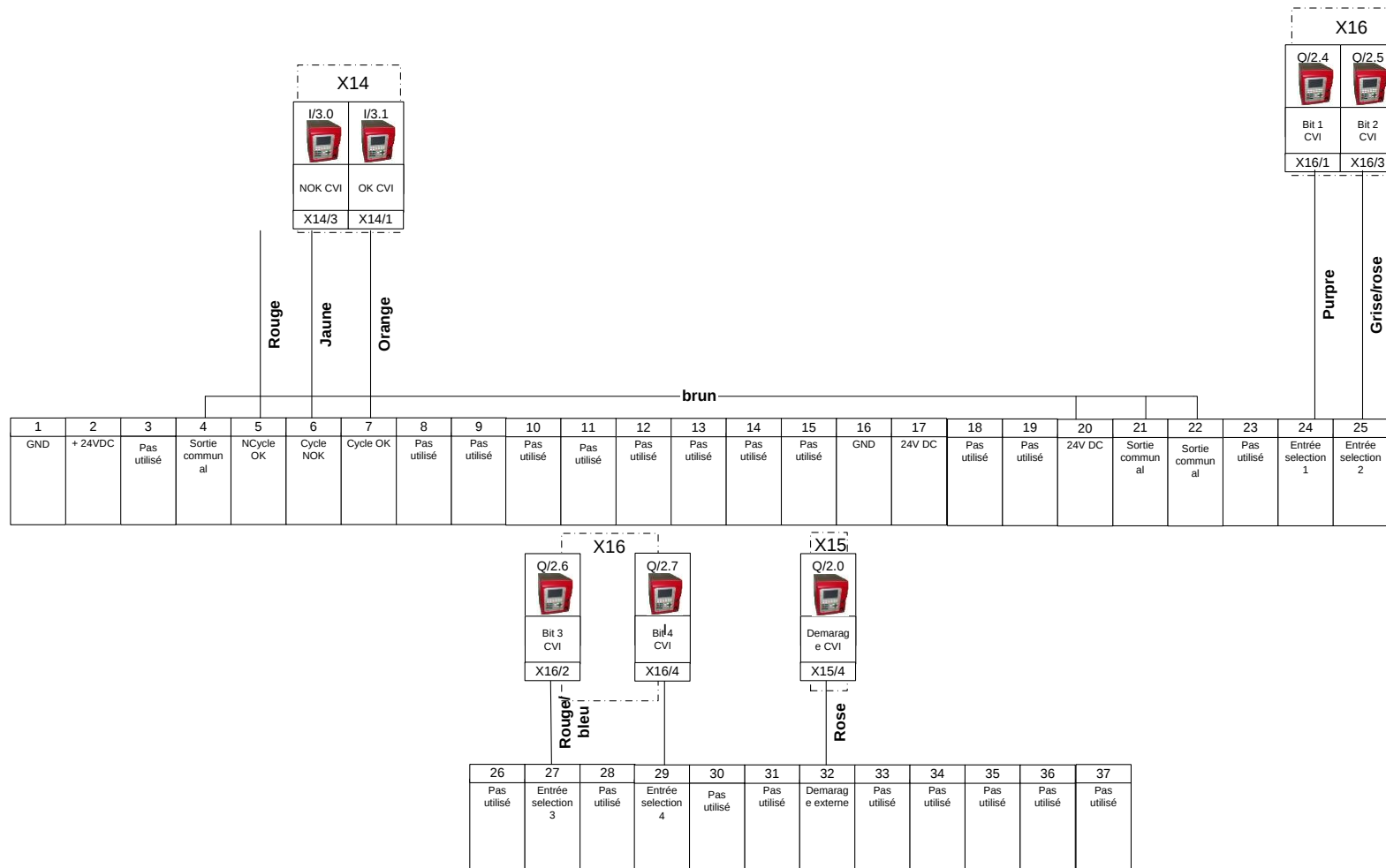


Figure 14-18 CVI IO connections

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14.3. SCANNER



Hand Held Scanners IT3xxx / IT3800g / general purpose / Standard Range

Model Name IT3800g 14E
Part Number 6034326

- Fast and reliable identification also of badly or partly damaged codes
- Scan rate up to 270 scans/second
- Reading distance up to 2m (depending on model)



Features

Field of application :	general purpose
Type :	Standard Range
Scanner design :	Linear imager hand-held scanner
Light source :	visible red light (630 nm)
Scanning frequency :	<=270 Hz
Code resolution :	>=0.075 mm
Reading distance (at code resolution) :	10 mm ... 660 mm (0.5 mm)
Read field (at distance) :	200 mm (300 mm)

Performance

Supported code type :	1D
Bar code types :	2005 Sunrise/GTIN compliant

Interfaces

Serial :	✓
Function (Serial) :	RS232 TTL
Ethernet :	-
Remark (Ethernet) :	Alternatively possible via external connection module (CDM + CMF)
CAN-Bus :	-

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Remark (CAN-Bus) :	Alternatively possible via external connection module (CAN232)
Profibus :	-
Remark (Profibus) :	Alternatively possible via external connection module (CDM + CMF)
Profinet :	-
DeviceNet :	-
Remark (DeviceNet) :	Alternatively possible via external connection module (CDM + CMF)
PS/2 :	✓
Function (PS/2) :	Keyboard wedge
USB :	✓
Function (USB) :	Keyboard wedge, COM port emulation
Optical indicators :	1 LED (Good Read)
Acoustic indicators :	Beeper, disengageable

Mechanics/electronics

Operating voltage :	5 V DC
Enclosure rating :	IP 41
Weight :	160 g, without cable
Dimensions :	110 mm x 150 mm x 80 mm

Ambient data

Mechanical shock :	50 drops from 1.5 m height on concrete
Ambient operating temperature :	0 °C ... 50 °C
Storage temperature :	-40 °C ... 60 °C
Permissible relative humidity :	95 %, non-dewing
Ambient light safety :	70,000 lx
Bar code print contrast (PCS) :	>= 20 %

General notes

Note :	For setting-up operation an interface cable and if necessary a power supply unit are additionally required. For further assistance see the "Accessories overview". (Download via "Literature"-section on the right hand side)
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14.4. BADGEREADER

14.4.1. Kaba MP05

setup comm. speed

	1	2	3	4	5	6	7	8	speed
ON	—	—	—	—	—	—	—	—	1200
ON	—	—	—	—	—	—	—	—	4800
ON	—	—	—	—	—	—	—	—	9600
ON	—	—	—	—	—	—	—	—	19200

	1	2	3	4	5	6	7	8	current setup
ON	—	—	—	—	—	—	—	—	Facility code and badge no., 9600 – 8 databits, no parity, 1 stopbit with terminator CR/LF

async interface

	1	2	3	4	5	6	7	8	
ON	—	—	—	—	—	—	—	—	8 databits, no parity, 1 stopbit, without terminator
ON	—	—	—	—	—	—	—	—	8 databits, no parity, 1 stopbit, with terminator CR/LF
ON	—	—	—	—	—	—	—	—	7 databits, even parity, 1 stopbit, without terminator
ON	—	—	—	—	—	—	—	—	7 databits, even parity, 1 stopbit, with terminator CR/LF

TAGREADER PRINT

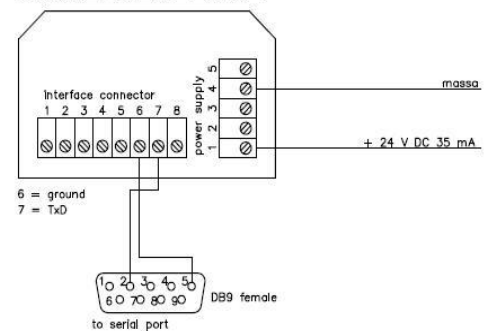


Figure 14-19 Badgereader MP 05 connections

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14.4.2. Kaba Net 91 07

Access Control - B-Net 91 07 (Details)

The authorization reader B Net 91 07 protects your PC against unauthorized access and thus against manipulation.

Features:

- Legic reader
- USB interface version 2.0
- USB plug type A
- USB driver for Windows 2000 or XP
- Communication driver for integration into any application
- Cable length 1.6 m
- Housing color anthracite



Supply voltage:

- Power supply via USB

Dimensions:

- Width: 54 mm
- Depth: 85 mm
- Height: 13 mm

Environmental conditions:

- Temperature range
0°C to +40°C
- IP 40 protection class

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B-Net is a registered trademark of Kaba GmbH.

Function and use of the B-Net 91 07

Function

The authorization reader is connected to a PC by means of its USB interface and integrated in the corresponding software. It is used for acquiring information from a LEGIC data carrier. If, for example, an employee places his/her Legic badge or LEGIC key on the reader, the data are read, transmitted and checked. If the data coincide, the authorization for access to the PC and the application is given and controlled. Depending on the requirements, there is a possibility to record and personalize the access by entering a password in addition. Thus, it can be documented who has carried out or activated which procedure.

The badge or key must remain in the read area of the authorization reader during the entire access to the PC. If the LEGIC data carrier is removed from the read area of the B-Net 91 07, the PC and its applications are immediately blocked.

Possible applications

The B-Net 91 07 can be used for multiple applications, for example:

- for Kaba CardLink functions
- as reader for PC authorization
- as ID media coding station
- as write unit for biometric templates

Technical data

- Legic reader
- Power supply via USB
- USB interface version 2.0
- USB plug type A
- USB driver for Windows 2000 or XP
- Communication driver for integration into any application
- Cable length 1.6 m
- Ambient temperature 0° to +40° C
- IP 40 protection class
- Housing color anthracite
- Dimensions (LxWxH)
85 mm x 54 mm x 13 mm



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14.5. TOOLS

14.5.1. Alpha

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1.4.1 Alpha Controller Installation

When mounting the Alpha Controller as a stand-alone unit or to a PLC:

1. Secure the Alpha Controller with three fasteners (not supplied). For dimensions and screw holes, see Figure 1-14.
2. Connect the Alpha Controller to a power source.
3. Connect the tool cable to the Alpha Controller.
4. Turn on the Alpha Controller.



NOTE:

Steps five and six are only applicable if the Alpha Controller is installed to a PLC.

5. Set the *Network Unit Number* parameter 36 (see section 2.1.4, By Number Setup Screen) for the spindle location where the Alpha Controller is being placed.
6. Connect DeviceNet™ or Profibus to the Alpha Controller.

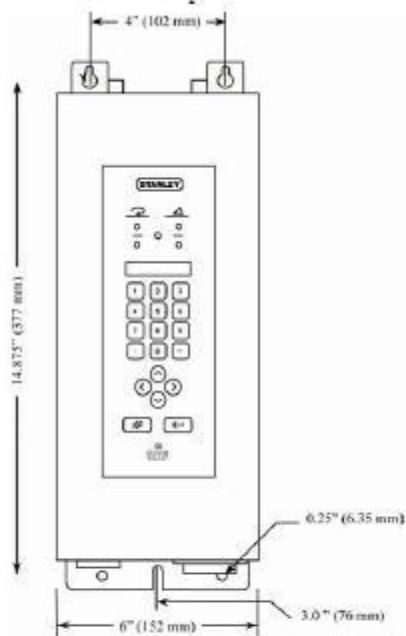


Figure 1-14 Alpha Controller Installation Dimensions

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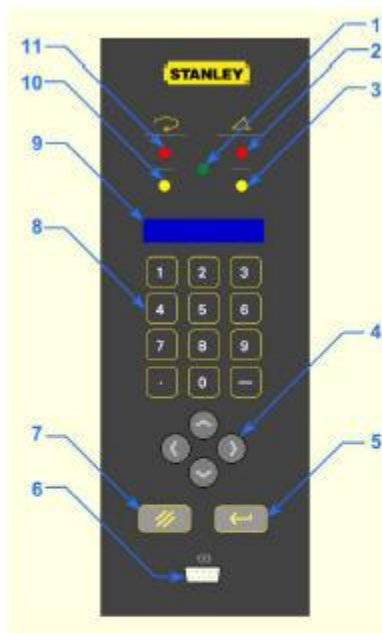


Figure 1-11 Alpha Controller Keypad and Display

The keypad and display (Figure 1-11) perform three major functions for the Alpha Controller:

- Rundown Status
- Data Display
- Programming and Data Entry

Rundown Status is shown using five indicator lights above the display. Successful rundowns are shown with a green OK [1] light, amber lights are used for rejects for low torque [10] and low angle [3], and red lights are used for rejects for high torque [11] and high angle [2].

A 2-line by 16-character display screen [9] is used for both data entry and programming. The display shows the torque and angle readings for the last rundown as well as displaying information about previous rundowns (see section 2.1.2, **Data Screen**), rundown statistics (see section 2.1.3, **Statistics Screen**) and showing or editing parameters (see section 2.1.4, **By Number Setup Screen**).

Programming and data entry use the keys below the display. The numeric keypad [8] is for entering parameters. The cursor keys [4] allow movement between the screens on the display. The **Enter** [5] key is used to start the programming mode (see section 2.1, **Alpha Controller Programming**) and to save changes. A **Cancel** [7] key stops the programming process and allows entry to the setup menu system.

The keypad and display unit also has an RS-232 serial connector [6] (see section 6.1.3, **Alpha Controller**) for connecting a laptop computer for programming the controller using QPM Support Software.

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1.3 Module Specifications, Layout, and Display

1.3.1 Alpha Controller Specifications and Layout

Power Source:	100 – 120 VAC, 50 – 60 Hz or 220 – 240 VAC, 50 – 60 Hz				
Dimensions (Overall):	Width:	6.0 in	152 mm		
	Height:	15.75 in	400 mm		
	Depth:	10.3 in	260 mm		
Dimensions (Cabinet):	Width:	6.0 in	152 mm		
	Height:	14.0 in	356 mm		
	Depth:	10.3 in	260 mm		
Weight:		16 lb	7.0kg		
Operating Conditions:	Temperature:	32 to 122 °F (0 to +50 °C)			
	Humidity:	0 to 95 % non-condensing			
Power Source:	110 – 120 VAC, 50/60 Hz, 15 – 30A service or 220 – 240 VAC, 50/60 Hz, 10 – 16A service				
Power Consumption:	Stand by:	0.2 A (amperes)			
	Continuous:	1-2.5 kVA			
Tool Motor Power Consumption:	Service Rating:	E02/E23	E33/E34	E44/E45	E55
	@ 115 VAC:	15A	15A	20A	30A
	@ 230 VAC:	10A	10A	10A	16A
	Continuous kVA:	0.3	0.7	1	1.7

The bottom of the controller (Figure 1-5) can contain the following connections:

Figure 1-5 Alpha Controller Connections

	Connector	Section
[1]	Power Switch	
[2]	Ethernet	6.1.1
[3]	DeviceNet® micro or Profibus	6.1.5 or 6.1.6
[4]	Serial Com Port 1 – Barcode Printer	6.1.3
[5]	Power-in connection	
[6]	Tool	6.1.2
[7]	Error Proofing Connector	
[8]	Socket Tray or Parameter Selection	
[9]	Remote Pendant	

Figure 1-5 Alpha Controller Connections

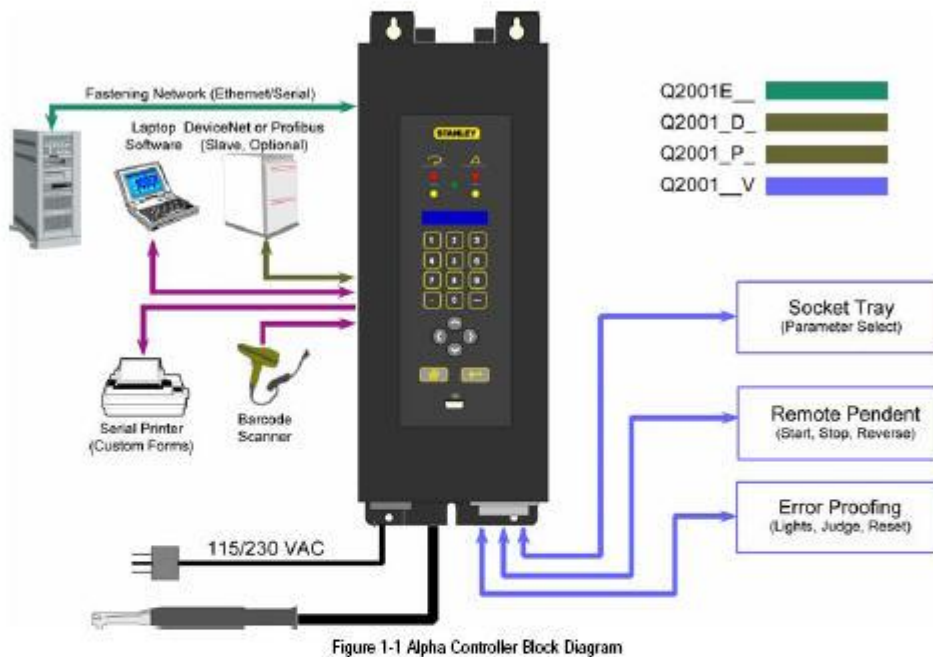
Power comes into the Alpha Controller through an IEC 60320-style connector [5] and is controlled through a rocker power-switch [1]. Ethernet [2] enables network communication. A DeviceNet™ or Profibus option [3] provides communication between the Alpha Controller and a PLC. A serial port [4] enables barcode input or printer output. The tool connector [6] is at the left front of the base of the Alpha Controller. Optional input and output connectors enable error proofing [7] socket tray or parameter selection [8] and a remote pendant [9] for use with fixtured nutrunners.

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1.2 Intended Use and Features of Modules

1.2.1 Alpha Controller

The Alpha Controller is a compact servo drive unit for controlling and monitoring industrial DC electric nutrunners. It is the basic operating component of multiple-spindle controllers. It can also be used by line builders as a basic tool controller or stand-alone to operate a single tool. Interface options include Ethernet, Device Net, Profibus, and 24V DC I/O.



- Q1001 models operate single tool-series QPM DC electric nutrunners.
- Operate as stand-alone units or managed by a Sigma Interface.
- Have a 2-line by 16-character display.
- Programmed from the front panel or a laptop computer using QPM Support Software.
- Support a serial printer.
- Can use a barcode reader input the scanned part number.
- Can auto-detect 115 VAC or 230 VAC power input.
- Include mounting plinths that simplify module removal, replacement, and cable management.
- Each Alpha Controller has at least one of the following interface options:
 - Q2001E__ supports TCP/IP networks over an Ethernet or a serial connection.
 - Q2001_D__ uses DeviceNet™ for communications and use as a slave unit.
 - Q2001_P__ uses Profibus for communications and as a slave unit.
 - Q2001__V has three fixed 24V DC input and output connections:
 - For a remote pendant for operating fixtured tools.
 - For a socket tray or other means of parameter selection.
 - For simple error proofing.

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Warnings and Cautions

Definitions

The safety notices and warnings for protection against loss of life (the users or service personnel) or for the protection against damage to property are highlighted in this document by the terms and pictograms defined here. The terms used in this document and marked on the equipment itself have the following significance:

- Danger** - Indicates that death or severe personal injury **will** result if proper precautions are not taken.
- Warning** - Indicates that death or severe personal injury **may** result if proper precautions are not taken.
- Caution** - Indicates that property damage may result if proper precautions are not taken.



- Indicates an electrical hazard. This icon appears as a part of a Danger, Warning, or Caution notice.



- Indicates a general hazard. This icon appears as a part of a Danger, Warning, or Caution notice.



- Indicates that eye protection should be worn. This icon appears as a part of a Danger, Warning, or Caution notice.



- Read and understand all the safety recommendations and all operating instructions before operating tools and controllers.



- Indicates an item of special interest.



WARNING

To Avoid Injury:

- Read and understand all the safety recommendations and all operating instructions before operating tools and controllers. Save these instructions for future reference.
- Train all operators in the safe and proper use of power tools. Operators should report any unsafe condition to their supervisor.
- Follow all safety recommendations in the manual that apply to the tools being used and the nature of the work being performed.
- Verify that all warning labels illustrated in this manual are readable. Replacement labels are available at no additional cost from **STANLEY ASSEMBLY TECHNOLOGIES**.

Qualified Personnel



WARNING

To Avoid Injury:

- Only allow suitably qualified personnel to install, program, or maintain this equipment and or system.
- These persons must be knowledgeable of any potential sources of danger and maintenance measures as set out in the Installation, Operations, and Maintenance manual.
- This product must be transported, stored, and installed as intended, and maintained and operated with care to ensure that the product functions correctly and safely.
- Persons responsible for system planning and design must be familiar with the safety concepts of automation equipment.

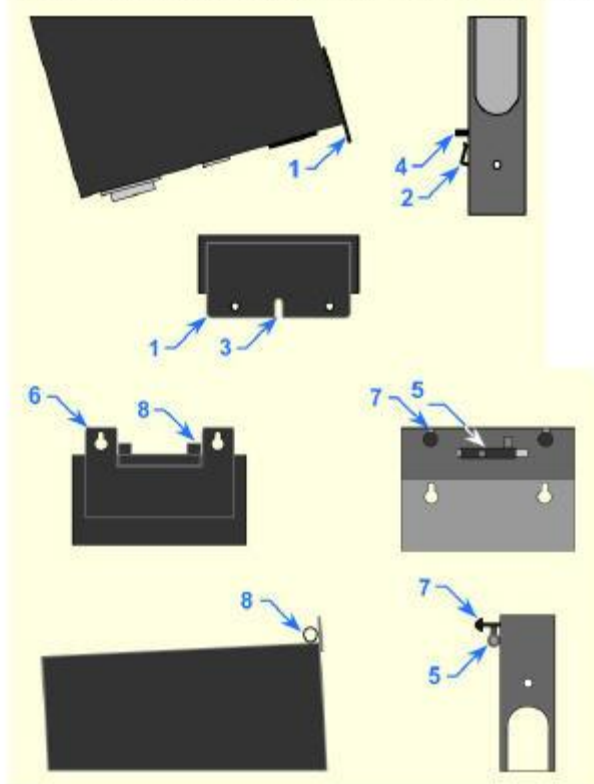
14.5.2. AlphaII

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1.4.2 Controller

1. Make sure the bolts of the barrel-latches [5] on the plinth are retracted. Place the lower flange of the Alpha controller [1] into the lip [2] on the plinth.
2. Align the slot [3] in the flange with the lower mounting-pin [4] on the plinth while placing. Rotate the top of the controller back towards the plinth.
3. Place the openings on the upper flange of the controller [6] over the upper mounting pins [7] on the plinth. Release the bolts on the barrel-latches [5] making sure the bolts enter the two barrels [8] on the controller.
4. Connect the Alpha Controller to a power source.
5. Connect the tool cable to the Alpha controller and press the power switch on the controller.



1.4.3 Alpha Controller E-Stop Precaution



WARNING

INTEGRATED E-STOP CIRCUIT NOT PRESENT

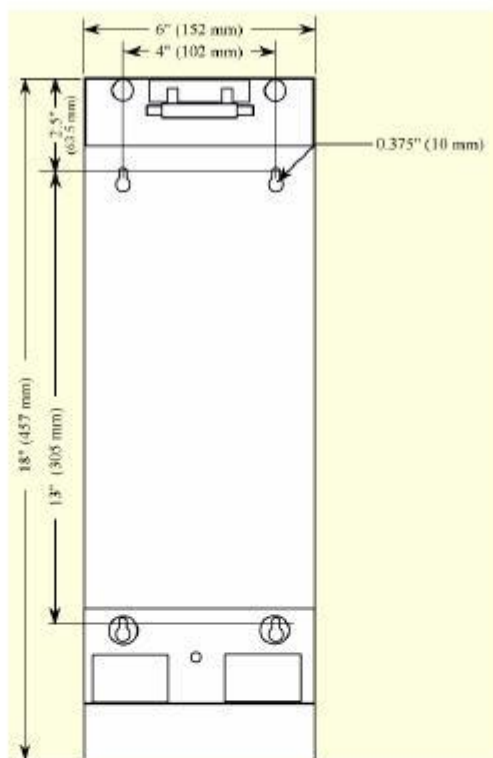
To Avoid Injury:

When an Alpha controller connects to a tool where a fault can result in personal injury or substantial damage to property, an E-stop circuit is required. An E-stop circuit must be created in the external power supply line.

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Alpha Controller

1.4.1 Plinth



Plinths are used as wall mount brackets for Alpha Controllers. This allows for easy installation, quick change out and provides for neat cable management.

Plinths and Alphas can be mounted individually for single tool operation or grouped for multiple applications.

Plinths connect to each other with four 10-32 machine screws through openings on the top and right side to threaded openings on the bottom and left side. When plinths are mounted next to each other, the center to center distance between the mounting holes in different plinths is 2" (50.8 mm). When plinths are mounted one above another, the center to center distance between the mounting holes in different plinths is 6" (152.4 mm).

1. Install the Alpha Controller either directly to the wall or to a plinth.
2. Fasteners through four mounting holes secure plinths to a wall or other surface. Plinths can be connected using 10-32 threaded holes on the bottom and left side and through holes on the top and right side.

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User Manual

1.4 Installation Instructions



WARNING

To Avoid Injury:

- Always wear eye and foot protection when installing equipment.
- Only use equipment and accessories specifically designed to operate with Stanley assembly tools and use them only in the manner for which they are intended.
- Do not install worn, damaged, or modified equipment that may be unsuitable for safe use.
- Train all operators in the safe and proper use of power tools. Operators should report any unsafe condition.
- Store idle tools and accessories in a safe location accessible only by trained persons.
- Disconnect power source (air, electricity, etc.) from tool prior to making adjustments, changing accessories, or storing.
- Prior to operation, always check and test tools and accessories for damage, misalignment, binding or any other condition that may affect operation. Maintenance and repair should be performed by qualified personnel.
- Do not operate tools in or near explosive environments or in the presence of flammable liquids, gases, dust, rain or other wet conditions.
- Keep the work area clean, well lit and uncluttered.
- Keep unauthorized personnel out of the work area.
- Install modules in dry, indoor, non-flammable, and non-explosive environments only.
- Qualified personnel should perform installation and programming. Follow all manufacturer installation instructions, applicable regulatory electrical codes, and safety codes.
- Limit module access to trained and qualified personnel. Lock module cabinets.

DC Electric Tools & Controllers:

- Install tools in dry, indoor, non-flammable, and non-explosive environments only – Humidity: 0 to 95% non-condensing and Temperature: 32 to 122 °F (0 to +50 °C).
- Installation, maintenance and programming should be performed by qualified personnel. Follow all manufacturer installation instructions and applicable regulatory electrical codes and safety codes.
- Tool and controller plugs must match the outlet. This equipment must be earth grounded. Never modify a plug in any way or use any adaptor plugs.
- Avoid body contact with electrically energized surfaces when holding a grounded tool.
- Prior to connecting a power source, always ensure the tool or controller is turned off.
- Limit controller access to trained and qualified personnel. Lock controller cabinets.



WARNING

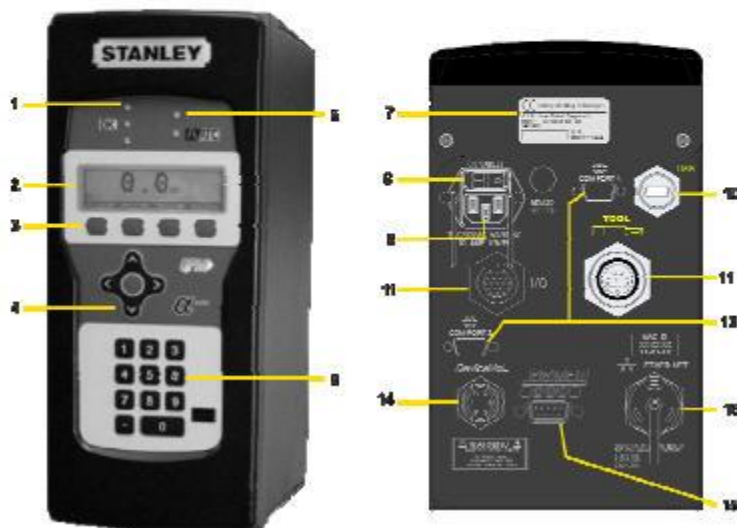
ELECTRICAL HAZARD

To Avoid Injury:

- Do not use this product near water, for example near a washbowl, wet basement, or the like.
- This product should be located away from heat sources such as radiators or other devices that produce heat.
- This product should not be subjected to vibration or shock or in close contact with water or other liquids.
- To minimize electrical interference, place the module as far away from possible sources of electrical noise, such as arc welding equipment.

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Alpha Controller



Item	Functional Description
1	Red, Green, Yellow LEDs for Limits Evaluation
2	Display
3	Function Keys with Active Label Above
4	Cursor Keys with Center Button to Expand Lists
5	Maintenance Due and ATC Active LEDs
6	Numeric Keypad to Enter Numbers or Select Options
7	Controller Label and Serial Number
8	Power Switch
9	Power Input
10	USB Port for Data Transfer
11	Optional 24 VDC Input/Output Connector
12	Tool Connector
13	Serial Connectors
14	Optional Device-Net Connector
15	Optional Profibus Connector
16	Ethernet Connector

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User Manual

Qualified Personnel



WARNING

To Avoid Injury:

- Only allow suitably qualified personnel to install, program, or maintain this equipment and or system.
- These persons must be knowledgeable of any potential sources of danger and maintenance measures as set out in the Installation, Operations, and Maintenance manual.
- This product must be transported, stored, and installed as intended, and maintained and operated with care to ensure that the product functions correctly and safely.
- Persons responsible for system planning and design must be familiar with the safety concepts of automation equipment.

1.2 User Manual Conventions

Underlined text indicates glossary terms. Menu options appear in *Arial 10 bold italic*.

1.3 Specifications, Layout and Display

Dimensions	Width:	6.0 in	152 mm		
	Height:	14.2 in	361 mm		
	Depth:	10.3 in	262 mm		
Weight:		17 lb	7.7kg		
Operating Conditions:	Temperature:	32 to 122 °F (0 to +50 °C)			
	Humidity:	0 to 95 % non-condensing			
Power Source:	100 – 120 VAC, 50/60 Hz, 15 service or 220 – 240 VAC, 50/60 Hz, 15 service				
Power Consumption:	Stand by:	0.2 A (amperes)			
	Continuous:	1-2.5 kVA			
Tool Motor Power:	Service Rating:	E02/E_23	E_33/E_34	E44/E45	E55
Consumption	@ 115 VAC:	15A	15A	20A	-
	@ 230 VAC:	10A	10A	10A	16A
	Continuous kVA:	0.3	0.7	1	1.7

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Alpha Controller

Getting Started

This manual is intended to promote proper and safe use and give guidance to owners, employers, supervisors, and others responsible for training and safe use by operators and maintainers. Please contact your Stanley Sales Engineer for further information or assistance on Stanley training or assembly tool operations.

1.1 Warnings and Cautions

Definitions

The safety notices and warnings for protection against loss of life (the users or service personnel) or for the protection against damage to property are highlighted in this document by the terms and pictograms defined here. The terms used in this document and marked on the equipment itself have the following significance:

- | | |
|---|---|
| Warning | - Indicates that death or severe personal injury may result if proper precautions are not taken. |
| Caution | - Indicates that property damage may result if proper precautions are not taken. |
|  | - Indicates an electrical hazard. This icon appears as a part of a Danger, Warning, or Caution notice. |
|  | - Indicates a general hazard. This icon appears as a part of a Danger, Warning, or Caution notice. |
|  | - Indicates that eye protection should be worn. This icon appears as a part of a Danger, Warning, or Caution notice. |
|  | - Read and understand all the safety recommendations and all operating instructions before operating tools and controllers. |
|  | - Indicates an item of special interest. |

WARNING

To Avoid Injury:

- Read and understand all the safety recommendations and all operating instructions before operating tools and controllers. Save these instructions for future reference.
- Train all operators in the safe and proper use of power tools. Operators should report any unsafe condition to their supervisor.
- Follow all safety recommendations in the manual that apply to the tools being used and the nature of the work being performed.
- Verify that all warning labels illustrated in this manual are readable. Replacement labels are available at no additional cost from STANLEY ASSEMBLY TECHNOLOGIES.

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14.5.3. Gamma

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1.4.6.2 Gamma Controller DeviceNet Connections

The Gamma controller [1] can control additional Alpha controllers [2]. DeviceNet micro-T's [4] connect to each controller. A DeviceNet cable [3] connects the micro-T's together to enable communication with the Gamma controller. A DeviceNet micro termination resistor [5] closes the communication network at each end (internal termination for Gamma controller). If the Gamma is being used as a stand-alone unit [6], a DeviceNet micro termination resistor [5] must be installed on the bottom of the Gamma.



NOTE:
DeviceNet cables for connecting the Gamma module to an Alpha Controller can be ordered from Stanley Assembly Technologies: part number 21C102301.

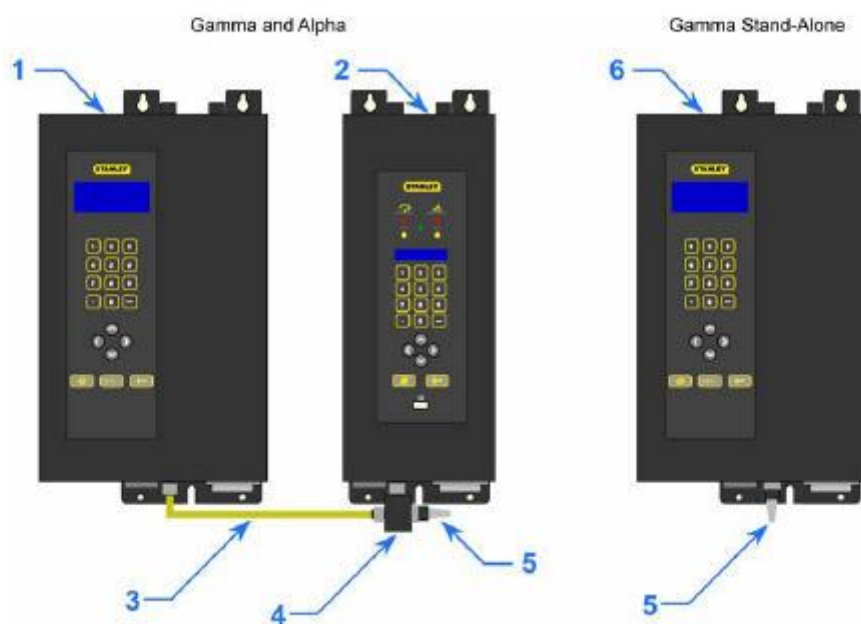


Figure 1-19 Gamma Module DeviceNet Connections

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1.4.3 Gamma Interface Module Installation

To install a Gamma interface module:

1. Find a suitable place for the Gamma. If mounting as a stand-alone unit, skip to step six (for dimensions and screw holes, see Figure 1-16).
2. Bolt plinths together and then to the mounting surface, or mount plinths independently to the mounting surface (see section 1.4.7.1, Plinth Installation). If mounting the module(s) directly to the wall, skip steps three through five (see Figure 1-17 and Figure 1-14 for installation dimensions for the Sigma Interface and Alpha Controllers).
3. Route power cords through the plinths.
4. Assemble and route DeviceNet™ cables through the plinths (see section 1.4.6, DeviceNet Connections).
5. Mount the Gamma to the leftmost plinth. Three inches of the module will overhang the left side of the plinth allowing Alpha Controllers to mount into plinths to the right of the Gamma (see section 1.4.7.2, Securing Modules into the Mounting Plinth).
6. Connect DeviceNet™ cables to the module(s). If the Gamma is used as a standalone unit, a DeviceNet™ termination resistor must be connected to the bottom of the module. The other termination resistor is built into the Gamma.
7. Connect the individual tool cable to the Gamma module and Alpha Controller(s).
8. Connect Alpha Controller power cord(s) to a power distribution module or individual power outlet drop.
9. Connect the Gamma interface module power cable to a power supply.
10. Turn on the power to the Gamma and Alpha Controller(s).
11. Program the modules (see section 2.2, Sigma Interface and Gamma System Programming).

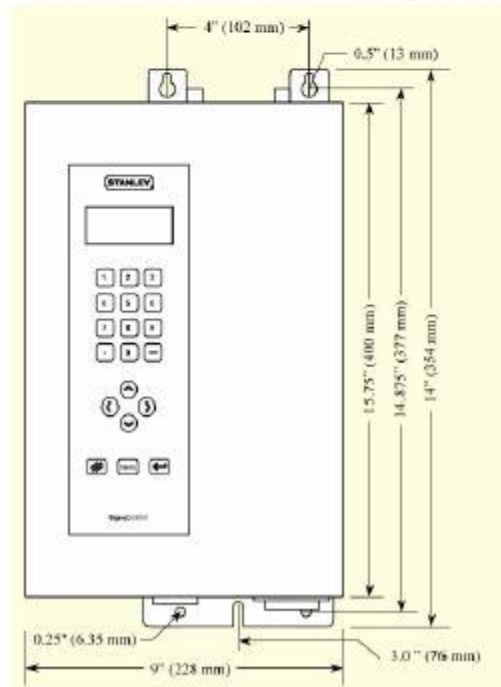


Figure 1-16 Gamma Installation Dimensions

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Figure 1-10 Sigma Interface/Gamma Controller Keypad

The interface keypad can be used to program the interface and Gamma controller modules.

The 4-line by 20-character display (1) shows rundown status, data entry, and programming. The display shows the torque and angle readings for the last rundown, previous rundowns, rundown statistics and showing or editing parameters.

The numeric keypad (6) is for entering parameters. The cursor keys (5) enable selections from menus and movement within the screens on the display. The menu (2) key is used to start the programming mode and to exit the programming mode while saving all of the changes made. The Enter (3) allows the entry of individual values on the screen. A Cancel (4) key stops the programming process.

The left side of the Gamma controller (Figure 1-9) contains the following connections (see section 6.3.1):



NOTE:

Gamma controllers can be ordered with either DeviceNet™ or Profibus networking capabilities. The graphic below shows a Gamma with all networking options; however, standard Gamma modules are built with only IP, Serial, and Parallel Printer ports.

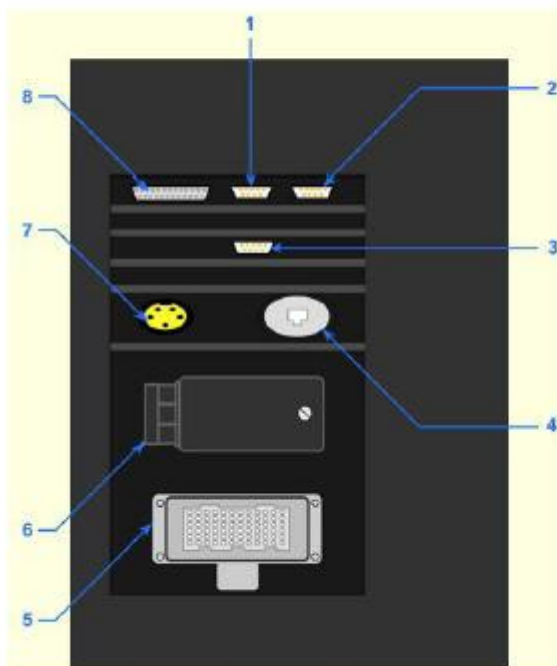


Figure 1-9 Gamma Controller - Left Side

	Connector	Section
[1]	Serial Com Port 1	6.3.2.1
[2]	Serial Com Port 2	6.3.2.1
[3]	Profibus Slave Port (replaces DeviceNet Slave)	6.3.6
[4]	Ethernet	6.3.4
[5]	24 VDC I/O	6.3.7
[6]	24 VDC I/O Fuse	
[7]	DeviceNet™ Slave (optional)	6.3.5
[8]	Parallel printer	6.3.3

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1.3.3 Gamma Controller Specifications and Layout

Power Source:	100 – 120 VAC, 50 – 60 Hz or 220 – 240 VAC, 50 – 60 Hz				
Dimensions (Overall):	Width:	9.0 in	228 mm		
	Height:	15.75 in	400 mm		
	Depth:	10.3 in	260 mm		
Dimensions (Cabinet):	Width:	9.0 in	228 mm		
	Height:	14.0 in	356 mm		
	Depth:	10.3 in	260 mm		
Weight:		24.0 lb	11 kg		
Operating Conditions:	Temperature:	32 to 122° F (0 to +50° C)			
	Humidity:	0 to 95 % non-condensing			
Power Source:	110 – 120 VAC, 50/60 Hz, 15 – 30A service or 220 – 240 VAC, 50/60 Hz, 10 – 16A service				
Power consumption:	Stand by:	0.2 kVA			
	Continuously:	1-2.5 kVA			
Tool Motor Power Consumption:	Service Rating:	E02/E23	E33/E34	E44/E45	E55
	@ 115 VAC:	15A	15A	20A	30A
	@ 230 VAC:	10A	10A	10A	16A
	Continuous kVA:	0.3	0.7	1	1.7

The bottom of the Gamma Controller (Figure 1-8) contains the following connections.

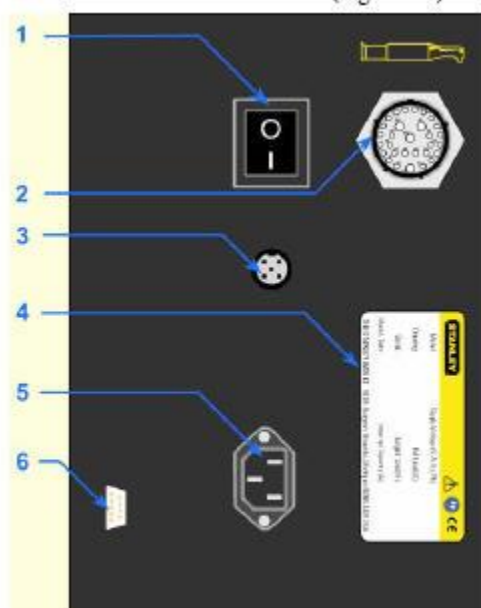


Figure 1-8 Gamma Controller – Bottom

	Connector	Section
[1]	Power switch	
[2]	Tool	
[3]	DeviceNet™	6.3.5
[4]	Manufacturer's data plate	
[5]	Power-in	6.3.1
[6]	Alpha upgrade	6.3.2.2

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1.2.3 Gamma Controller

The Gamma has a compact servo drive unit for controlling and monitoring QPM DC electric nutrunners.

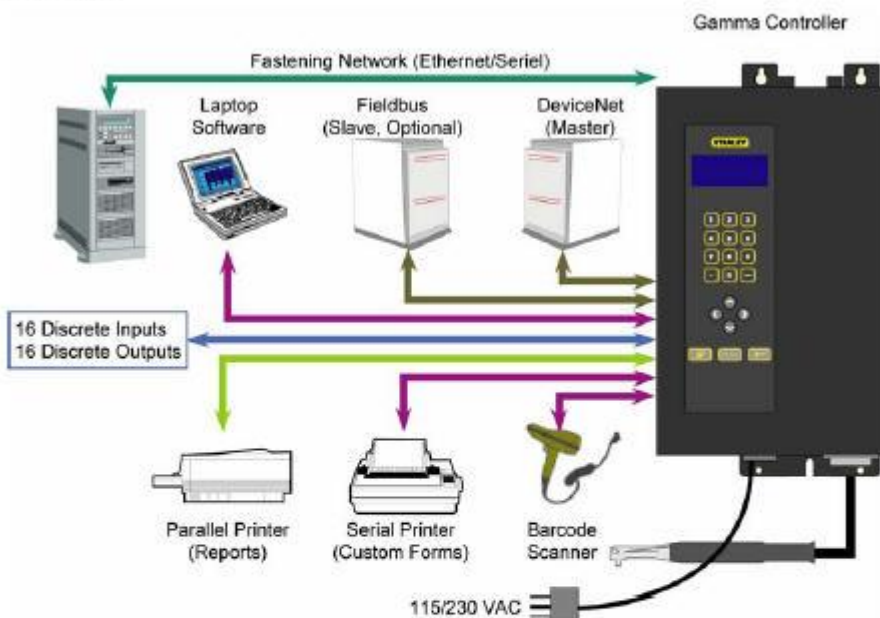


Figure 1-3 Gamma Controller Block Diagram.

The Gamma Controller:

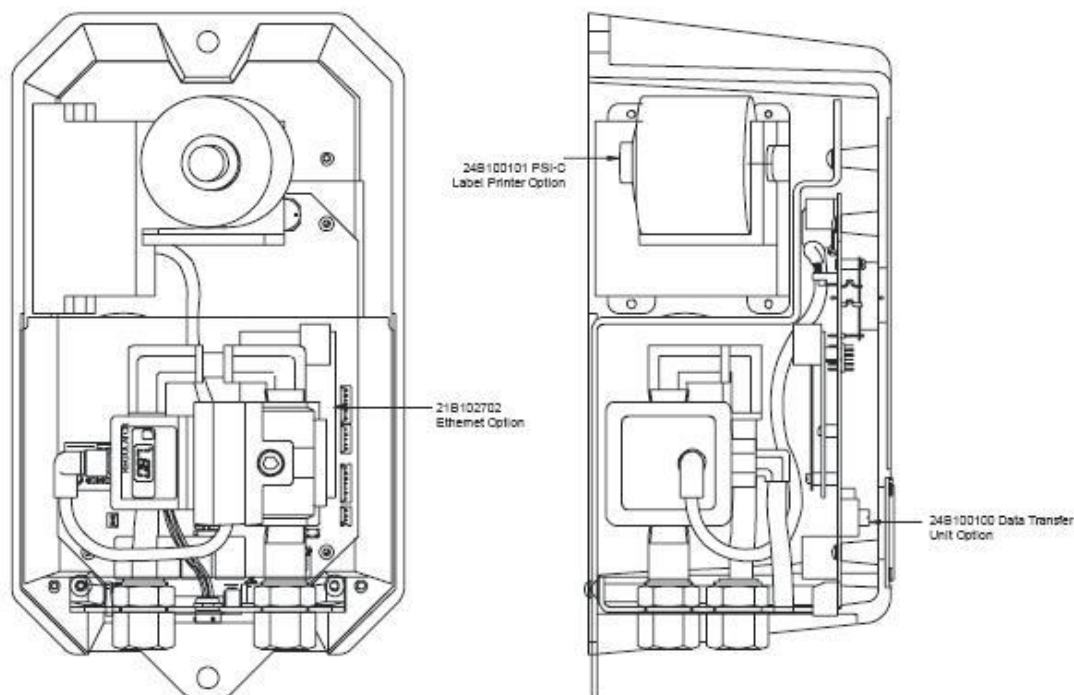
- Has a 4-line by 20-character display.
- Supports TCP/IP networks over an Ethernet or a serial connection.
- Supports a parallel printer for standard reports.
- Supports a serial printer for custom reports.
- Can use a barcode reader to change parameter sets from the scanned part number.
- Is a DeviceNet™ master controller to external devices.
- Options to act as a Fieldbus slave unit. (DeviceNet™ or Profibus Models)
- Programmed from the front panel or a laptop computer using QPM Support Software.
- Auto-detects 115 VAC or 230 VAC power input.
- Mounting plinths simplify module removal, replacement, and cable management
- Operates a single QPM tool-series DC electric nutrunner.

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14.5.4. PSI

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PSI-C Controller Options



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Introduction

The PSI-C controller provides closed-loop torque control and torque validation (available with date and time stamp). It is easy to program, has common network-ready hardware available and uses industry standard protocols.

The PSI-C controller provides precise torque control as well as multiple parameter set capability and *poka-yoke* error proofing to compatible transducer pulse tools. With the available DTU, up to 2800 fastening cycles are stored, STATISTICS is calculated, DATE/TIME and memory data storage transfer is easy to send to Windows EXCEL.

Compact in design, the PSI-C controller provides operator feedback via a large digital display and color LED's for fastener counting, parameter set identification, torque and joint condition status. There are OK / NOK indicator lights for finished cycle or batch evaluation for out-of-spec conditions. Available with eight parameter sets allowing different counts and application set-ups, one tool can be set to perform various applications using its full torque range.

Electrical Safety

The issue of operator safety is of maximum importance from both the attitude of ergonomic comfort as well as electrical safety.

The PSI-C controller operates from low voltage external AC or DC power. The standard configuration utilizes a CE approved power supply that is UL listed. It consists of a wall mount 120VAC transformer with a 16VAC 50 Hz at 1 Amp power output.

Power supplies for other International standards:

- Japan—115 v, 50 Hz, 1 Amp—part #PSI-Q/JP
- Australia—240 v, 50 Hz, 1 Amp—part #PSI-Q/AU
- United Kingdom—230 v, 50 Hz, 1 Amp—part #PSI-Q/UK
- Europe—230 v, 50 Hz, 1 Amp—part #PSI-Q/EU



WARNING

To Avoid Injury:

- Plug power cord into a grounded outlet that conforms to National Electric Code standards.
- Do not defeat the grounding pin on plug or substitute a cable that does not conform to the power and safety requirements of system.

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Specifications

Power	External Wall Mount Transformer to 16VAC, 50 Hz, 1 AMP
Pneumatic Source	50 scfm @ 6 bar pressure (87psi)
Operating Conditions	Temperature: 0 to +50 degrees Celsius Humidity: 0 – 95% non condensing
Weight	3.5 kg. (7.8lbs.)
Dimensions	8.25" wide X 13.62" height X 6.38" depth
Inputs/Outputs	Six Discrete 12-24V Optically Isolated Inputs with screw lug terminals Inputs available: Batch Reset, Manual Wrench Accept, Parameter Select (3) and Disable Four Dry Contact Relays with screw lug terminals Outputs available: Cycle Accept / Reject, Batch Accept / Reject CE, UL & VED rated up to 7 amps at 48V AC/DC
Printer (optional)	Internal Thermal Printer for documentation of cycle data onto individual labels; 2" x 4" adhesive backed
Serial Port	RS 232 port; RJ45 connector
Interface	Dual Line 0.5" LCD backlit (16) character
Five-button keypad	Up, Down, Enter (Menu), "Back" & ADMIN "Back" button: Momentary for Batch reset, hold down 2 sec for Over-ride.
LED Indicators	CYCLE OK / NOK Indicators & BATCH OK / NOK Indicators
EtherNET (optional)	Separate IP address with buffered memory provides asynchronous network communication. Supports standard WINDOWS based TCP/IP (10baseT) protocol; female RJ-45 connector
DTU (Data Transfer Unit) (optional)	Expands to use of (8) parameter sets, memory of rundown data (350 readings/PSET) Statistics and date/time information.
Air Fittings	1/2" NPT Air Input 3/8" NPT Air Output Connect

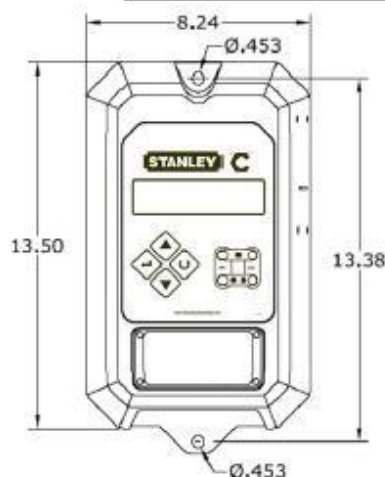
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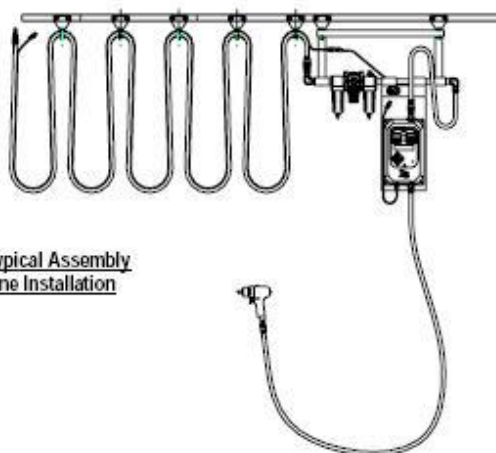
WARNING

To Avoid Injury:

- Always wear eye protection when installing equipment.
- Keep the work area clean and uncluttered.
- Keep unauthorized personnel out of the work area.
- Do not install worn, damaged, or modified equipment that may be unsuitable for safe use.
- Train all operators in the safe and proper use of power tools.
- Operators should report any unsafe condition.
- Install tools in dry, indoor, non-flammable, and non-explosive environments only.



Mounting Dimensions



Typical Assembly Line Installation

The controller is designed for mounting to a stable surface or bracket by bolting it via the two flanged mounting holes.

In general, the SUPPLY AIR line to power the PSI-C controller is same line which is sufficient to run the tool being used. A supply of compressed air that is filtered and dry is required. Please check the individual tool specification for air requirements. Most tool specifications are based on 90 psi (6 Bar) for full range operation. However, the controller will operate below at any level as long as the psi and scfm are sufficient for the tool to reach the required torque. The supply air hose should be a 1/2" (15mm) or 3/8" (10 mm) inside diameter with **no restrictions** (fittings) smaller than 3/8" inside diameter (1/2" NPT Air Input and 3/8" NPT Air Output). If the pressure and volume are insufficient, the performance of the tool will suffer and the full torque range of the tool will not be realized. If the controller does not receive sufficient air volume, the tool may operate erratically and the controller will indicate a bad code or no change on the display.

Install the PSI-C controller onto an airline with an air filter before the air inlet to the controller. If a lubricator is used, it can be installed before the controller or between the controller and the tool. The lubricator must be a free flowing design and not smaller than 1/2" NPT. Some lubricators act as a check valve and will not allow air flow "back" thru the lubricator. This type is not commended for use with the PSI-C.

The tool air hose/cable for Stanley transducer tools includes an integral transducer cable. A separate transducer cable is also available. Prevent unnecessary restrictions, elbows, swivels, etc. between the controller and the tool to prevent air flow (scfm) restrictions.



WARNING

To Avoid Injury:

- Shutoff valve must be in the closed position until the air lines are installed and properly terminated.
- Do not connect power to the PSI-C controller until all air line connections are secured.
- Supply air energizes the outlet port when electrical power is supplied to the PSI-C controller.

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Tool Compatibility



Transducer Pulse & Impact Tools

In addition to Stanley transducer pulse and impact tools, the PSI-C controller is available to control all other major brands of Transducer Pulse tools including URYU and Yokota/IR.

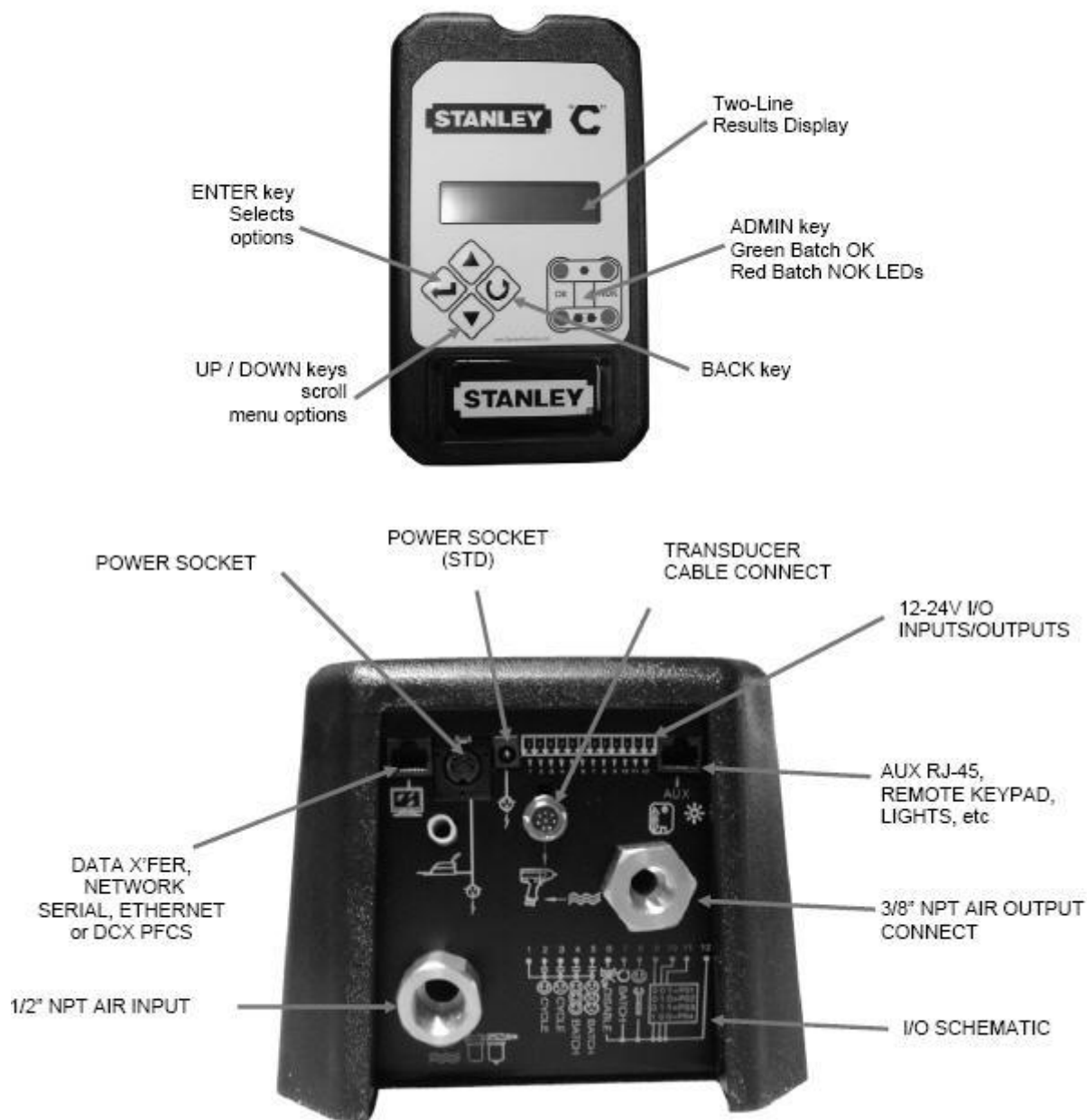
The transducer connector port is at the bottom of the controller. Make certain that the range of the tool being used is capable of handling the torque required. If prevailing torque is present or the joint is very soft, then an "over-sized" tool may be required.

With ALL PULSE TOOLS, large (heavy) sockets, loose fitting or worn sockets, extensions and universal sockets WILL reduce the efficiency of the tool and increase torque scatter.

Also always oversize the tool as needed to prevent premature tools wear and long cycle times. Prevailing torque and torque losses due to the above will reduce tool life, increase cycle times and increase torque scatter.

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Layout and Operator Interface



14.5.1. Easytroques

No documentation

14.5.2. Freedom-tool

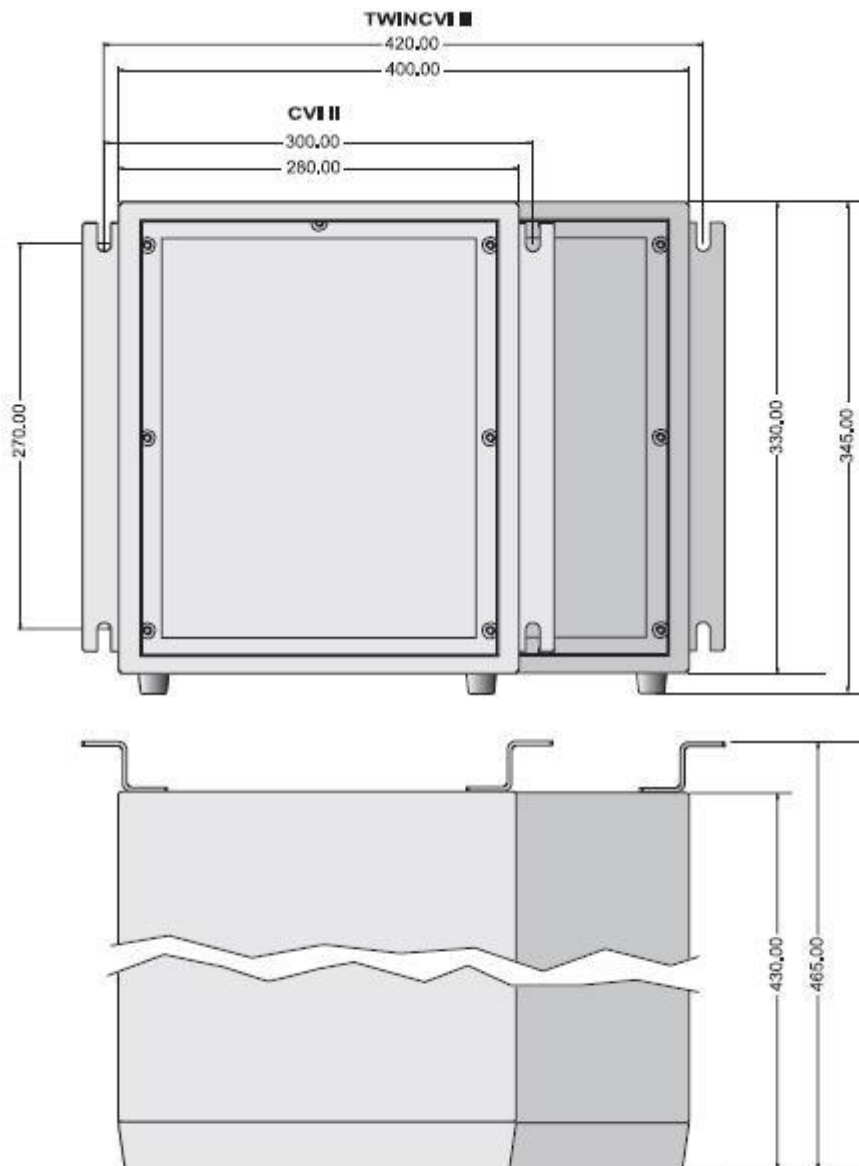
No documentation

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14.5.3. CVI

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The dimensions indicated are the upper limits.



2.5 - Temperature

The maximum temperature of use is 45°C.

3 - START-UP

- Connect the tool(s) cable(s) on the right-hand side of the controller.
- Rotate the switch on the front side (on the bottom right-hand corner) to switch on the controller.

An initialisation message is shown and the front side LEDs glow for a few seconds.

The language option screen is displayed.

Use the  and  keys to select the language used by the controller.

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1 - ON RECEIVING THE CONTROLLER

Check that the following items are included in the kit supplied with the controller:

- the SubD 37 pt (input/output) connectors
- the triangular wrench to open the controller
- the certificate of conformity and the safety instructions
- the CDROM

On delivery, a separate kit can be provided according to the country of destination. The kit includes the following items:

- the mains plug
- the Operator's Manual

2 - INSTALLATION

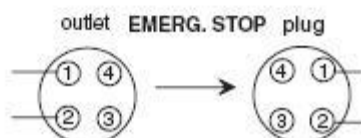
2.1 - Mains connection

The controller can operate equally from 115 to 230V $\pm 10\%$ / 50 to 60Hz without adjustment and without fuse change.

Option : 400V power supply (refer to appendix for wiring diagram and part number).

2.2 - Instant stop wiring

At the time of power up, check that the "INSTANT STOP" (EMERG. STOP) plug is connected correctly on the right-hand side of the controller. The instant stop can be connected either to the PLC, or to a push-button close to the tightening station. If it is not connected, check that the strap is correctly positioned in the plug (see diagram opposite). The opening of the Instant Stop contact disables the power circuit.



Note that it is recommended to wire the "INSTANT STOP" when using handheld tools but that this is absolutely mandatory for fixed tools.

2.3 - Power consumption

Although the peak power can reach 3 KVA per channel during the final speed phase, it is recommended to adjust the power circuits according to the maximum average power.

The average power consumption per channel depends on the type of tool which is connected, on the type of joint and on the tightening frequency. However, due to the heat dissipation of the servodrives, the maximum average power should not exceed 0.5 KVA per channel.

1 channel:	AvP	< 0.5 KVA
2 channels:	AvP	> 1 KVA

2.4 - Overall size, weight and fastening

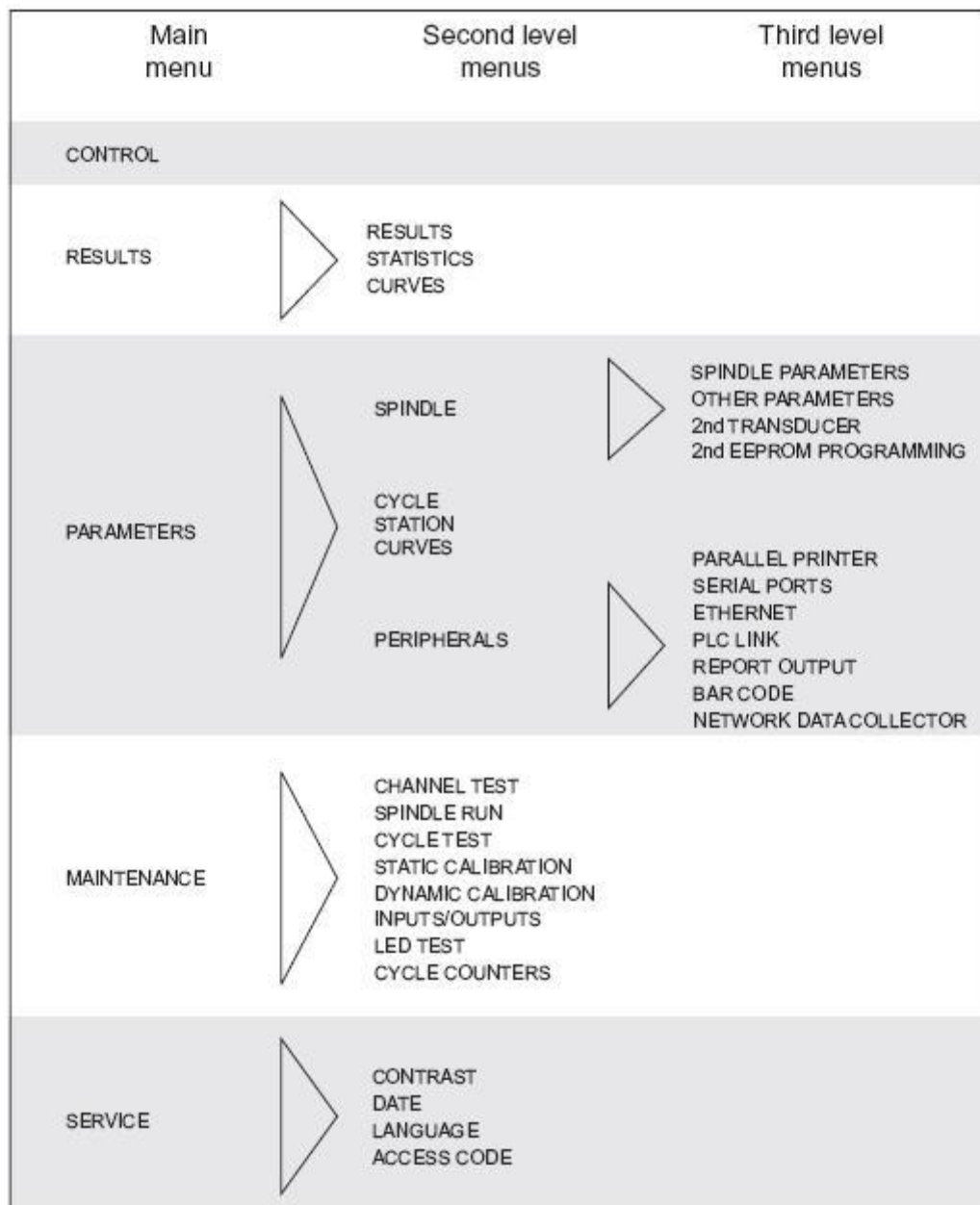
When installing the controller, a minimum clearance of 5 cm shall be provided on the right-hand side for the cables.

	Weight
CVII	18.5 kg
TWNCVII	27 kg

Fastening screw type to be used: M6

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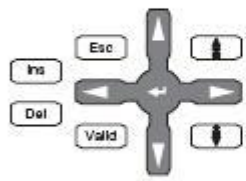
2.5 - Menu block diagram



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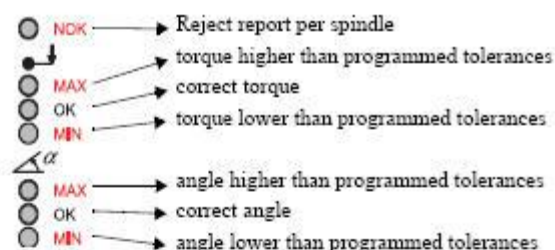
	Print in order of occurrence: to print the results at the end of the cycle.
	To get back to the previous menu AFTER saving the parameters.
	Direct access to the Contrast menu.

2.4 - Navigation keys

		to scroll through a list
		to scroll through a data entry field.
		to scroll through a menu
		to scroll through a data entry screen
		to validate a change
		to display the next screen
		text, cycle or phase insertion
		text, cycle or phase deletion
		back to the previous menu WITHOUT saving the parameters.
		back to previous screen AFTER saving the parameters (same as )
		previous page, previous spindle
		next page, next spindle

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2.1 - Report LEDs



2.2 - Symbols used for screen display

* star	used when an option is to be selected, to mean "all the values". For example: spindle no.: * means that the 2 spindles have been selected.
♦ diamond	option to be selected among several values.
⊖ no entry	unauthorised entry, tool not connected or in operation.
□ cycle in progress	on the top left-hand side of the screen.
X reject report	
OK accept report	
· decimal point	the decimal point format is "." ; since its position is not set, the operator must type it in, using the keyboard

2.3 - Keyboard

Keys common to all modes:	
↖	Beginning of menu.
End	End of menu
Shortcut keys in Control mode:	
F1	Help screen displaying the list of shortcut keys.
F2	Report detail: • cycle parameters • time and date of tightening • type of error
F3	Display of cycle time
F4	Inputs/Outputs: • displays the status of the inputs • allows you to change the outputs
F5	Displays the programming screen of the cycles.
F6	Results, curves and statistics: • displays the results • programs the curves • starts the statistical computations
F7	Cycle counters: displays the number of tightenings performed by the tool and the controller.
F8	Man/Station Interface: specific screen of the PLC ISaGRAF module.

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1.4 - Tightening and untightening strategies

Tightening types: Torque, Torque+Angle, Angle+Torque, Torque+Angle+Torque rate, Angle+Torque+Torque rate, Stall torque, Prevailing torque, Yield point/plastic zone.

Optional current monitoring.

Untightening types: Torque, Torque+Angle, Angle+Torque.

1.5 - Number of cycles and phases

The system allows you to run **250 tightening cycles of 20 phases each per spindle**.

The cycles are numbered from 1 to 250.

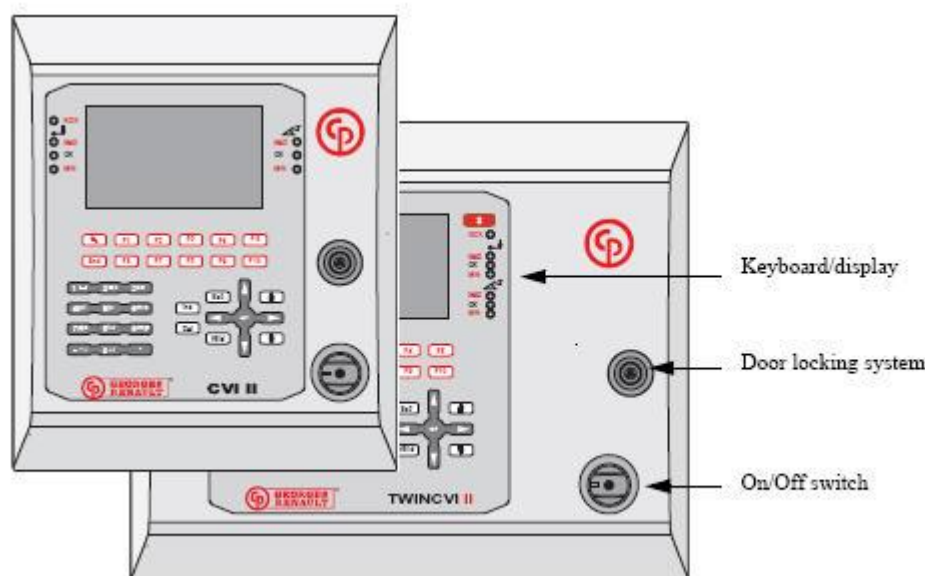
1.6 - Memory size:

Between 2,500 and 8,500 tightening results per station according to the number of cycles and operating mode (asynchronous or synchronous).

1.7 - Number of curves

3 curves per spindle, 2 whose cycle reports are OK, 1 whose cycle report is not OK.

2 - OVERVIEW



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1 - GENERAL

1.1 - TWINCVI II

The TWINCVI II controller can control 1 or 2 portable ER type and/or fixed EM type electric power tools. It is supplied ready to operate. The default settings meet a large number of applications.

The TWINCVI II includes 1 or 2 stations depending on whether the operating mode is synchronous or asynchronous.

The operating mode shall be selected according to the application and the number of spindles.

By default, the controller is in asynchronous mode.

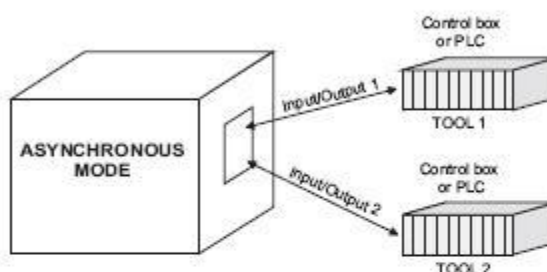
1.1.1 - Asynchronous operating mode

The 2 tools connected to the controller make up 2 independent stations.

The cycles and commands are independent.



If you change the operating mode subsequently, all the data already recorded will be erased

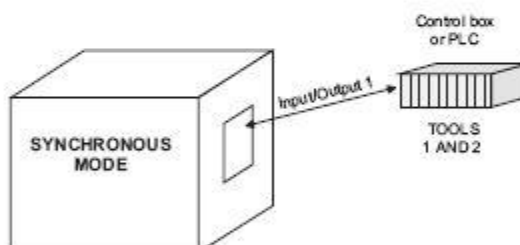


1.1.2 - Synchronous operating mode

The tool(s) connected to the controller make up 1 single station. They use one or more common cycles

but they can be programmed with different parameters.

The commands are common to both tools.



1.2 - CVI II

The CVI II controller can control 1 portable ER type and/or fixed EM type electric power tool. It is supplied ready to operate. The default settings meet a large number of applications.

The CVI II includes one station only and its operating mode is synchronous (see above diagram).

1.3 - Defining a station

In general, the station name is the name of the application.

Examples	Application	Number of stations	Operating Mode	Number of spindles
	Airbag	1	asynchronous	1
	Station 44	2	asynchronous	2
	Con-rod caps	1	synchronous	1
	Station 222	1	synchronous	1

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- Friction with the outer sheath should be restricted.
- Any direct pull on the cable should be avoided.

6 - TOOL CARE AND SERVICE

Tool service must be performed only by qualified repair personnel. Service or maintenance performed by unqualified personnel could result in a risk of injury.

Only experienced and qualified personnel (authorised electricians) are entitled to open and have access to the inside of the controller. To eliminate the risk of electric shock, the inside of the controller shall not be serviced until at least one minute has elapsed after switching off the controller. It is necessary to check that the capacitors are completely discharged. Since the temperature of the internal radiator can reach 75°C, it is important to check that this temperature cannot cause burns.

In order to eliminate the risk of electric shock and damage to components, the controller **MUST** be switched off prior to any tool change. The new tool is automatically recognised as soon as the rack is switched on.

When servicing a tool, use only identical replacement parts. Use of unauthorised parts or failure to follow Maintenance instructions may create a risk of electric shock injury.

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requiring a specific torque must be checked using a torque meter.

Note: so called "click" torque wrenches do not check for potentially dangerous over-torqued conditions. Do not use hand sockets. Use only power or impact sockets in good condition.

4.2 - Earthing connection

Make sure that the controller is grounded via a protective conductor. The tool is connected to earth by means of a green/yellow conductor via the controller. This protects the operator from any electric shock. The earthing contact of the tool connectors is longer than all other connectors. Should the tool be connected or disconnected while voltage is applied, the "earthing" connection will take priority and protect the operator from any electric shock. It is recommended not to carry out this operation when voltage is applied.

4.3 - Differential circuit-breaker

4.3.1 - Internal device

The controller is fitted with a differential circuit-breaker for user protection. Any insulation defect in the cable or in the tool is detected by this device. The tool motor stops when a leakage current exceeding 150 mA in 50 µs is detected by the device and a warning message is displayed on the screen of the machine. The device protects the operator from any electric shock and protects the servodrive from the deterioration of the power stage. The device is reset as from the next start cycle order (if the short-circuit is no longer present). See test procedure in the "Maintenance" section.

4.3.2 - External device

The decision to install an external differential circuit-breaker depends on the type of internal electric network in the customer's plant. This device detects any insulation defect between one of the phases of the network and the earth, immediately stops the tool by automatic power cutoff and protects the operator from any electric shock.

Should circuit-breakers be installed at line head, we recommend that you select equipment with the following specifications:

Single-phased 230V	10 A - curve D
Single-phased 115V	20A - curve D

5 - TOOL USE HAZARDS

There is a real burning risk when in contact with the accessible parts of the tool. The selection of the tool and of the controller takes account of the operating conditions as stated by the user, who shall not exceed the operating limits as specified by the manufacturer at the time of the selection.

Any excessive internal temperature of the tool electric motor if higher than 100°C is detected by the controller and stops the tool. It can start again only if the temperature decreases to under 80°C.

Use clamps or other practical way to secure and support the workpiece to a stable platform. Holding the workpiece by hand or against your body is unstable and may lead to loss of control. Be ready to counteract normal or sudden movements, using both hands.

Do not force tool. Use the correct tool for your application. The correct tool will do the job better and safer at the rate for which it is designed.

Do not use tool if switch doesn't turn it on or off: any tool that cannot be controlled with the switch is dangerous and must be repaired.

Disconnect the plug from power source before making any adjustments, changing accessories or storing the tool. Such preventive safety measures reduce the risk of starting the tool accidentally.

Store idle tools out of reach of children and other untrained persons. Tools are dangerous in the hands of untrained persons.

Maintains tools with care. Keep cutting tools sharp and clean. Properly maintained tools, with sharp cutting edges are less likely to bind and are easier to control.

Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tools operation. If damaged, have the tool serviced before using. Many accidents are caused by poorly maintained tools.

Use only accessories that are recommended by the manufacturer for your model. Accessories that may be suitable for one tool may become hazardous when used on another one.

Although our cables are designed to work under drastic conditions, we recommend that you check the following points for longer service life:

- Bending radii should not be lower than 10 times the cable diameter.

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1 - GENERAL INSTRUCTIONS



To reduce risk of injury, everyone using, installing, repairing, maintaining, changing accessories on, or working near this tool must read and understand the safety instructions before performing any such task. Failure to follow all instructions listed below, may result in electric shock, fire and/or serious personal injury.

SAVE THESE INSTRUCTIONS CAREFULLY

Our goal is to produce tools that help you work safely and efficiently. The most important safety device is the operator. Care and good judgement are the best protection against injury. All possible hazards cannot be covered here, but we have tried to highlight some of the important ones.

2 - WORK AREA HAZARDS

Keep your work area clean and well lit. Cluttered benches and dark areas invite accidents. Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. Power tools create sparks which may ignite the dust or fumes. Keep bystanders, children, and visitors away while operating power tool. Distractions can cause the operator to lose control.

3 - ELECTRICAL SAFETY



It is not possible to open the door of the controller when the controller is switched on. Only experienced and qualified personnel (authorised electricians) are entitled to open the CVIS door and access to the inside of the controller.

The tools and electrical equipment must be plugged into an outlet properly installed and grounded in accordance with all relevant codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adaptor plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. If the tools should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from user.

Never replace the fuses by fuses of higher value. Never replace fuses by a short-circuit. Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is grounded. Do not expose power tools to rain and wet conditions. Water entering a power tool will increase the risk of electric shock.

Do not abuse the cable. Never use the cable to carry the tool or pull the plug from an outlet. Keep cable away from heat, oil, sharp edges or moving parts.

Replace damaged cables immediately. Damaged cables increase the risk of electric shock.

When operating a power tool outside, use an outdoor extension cord marked "W-A" or "W". These cables are rated for outdoor use and reduce the risk of electric shock.

4 - PERSONAL SAFETY

4.1 - General

The operator must stay alert, watch what he/she is doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating power tools may result in serious personal injury.

Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts.

Avoid accidental starting. Be sure switch is off before plugging in. Carrying tools with your finger on the switch or plugging in tools that have the switch on invites accidents. Remove adjusting keys or switches before turning the tool on. A wrench or a key that is left attached to a rotating part of the tool may result in personal injury. Do not overreach. Keep proper footing and balance all times. Proper footing and balance enables better control of the tool in unexpected situations.

Use safety equipment. Always wear impact-resistant eye and face protection. Serious injury can result from over-torqued or under-torqued fasteners, which can break, or loosen and separate. Released assemblies can become projectiles. Assemblies

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14.6. SCANNERS

14.6.1. Scanner DS3508

ProTightScan001: Programming Barcodes for DS3508

Configuration name in Utility : ProTightScan001
Version : 001
Last Modified : 06-mei-13



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15. APPENDICES

15.1. APPENDIX A - CONTACTGEGEVENS:

Firma: **De Jaeger Automation bvba**
Adres: H.Consciencelaan 79
B-9950 Waarschoot
Tel.: +32 (0)9 / 378.49.89
Fax.: +32 (0)9 / 377.92.66
website: <http://www.dejaeger.nu>

Contactpersoon: Patrick De Jaeger
Tel.: +32 (0)9 378 49 89
E-mail: info@dja.be

15.2. APPENDIX B : SQL SCRIPTS

15.2.1. SQL-scripts

```

CREATE TABLE "B5PWT_BRAKE"."USERS_VW" ( "USERNAME" VARCHAR2(120), "FIRSTNAME"
VARCHAR2(120), "LASTNAME" VARCHAR2(120),"BADGE" VARCHAR2(120),"PEOPLESOFT"
VARCHAR2(120),"LEGIC" VARCHAR2(120), CONSTRAINT USERSVW_PK PRIMARY KEY
("USERNAME","FIRSTNAME","LASTNAME") VALIDATE ) ORGANIZATION INDEX;
commit;

CREATE TABLE "B5PWT_BRAKE"."SERIAL_NUMBER_VW" ( "SERIAL_NBR" VARCHAR2(120), CONSTRAINT
SERIALNBR_PK PRIMARY KEY ("SERIAL_NBR") VALIDATE ) ORGANIZATION INDEX;
commit;

CREATE TABLE "B5PWT_BRAKE"."REPORTINGPARAMERTERS" ( "ID" NUMBER, "CONFIDENTIAL"
VARCHAR2(250), "CONTENTOWNER" VARCHAR2(250), "WEBMASTER" VARCHAR2(250), CONSTRAINT
ReportingParameters_PK PRIMARY KEY ("ID") VALIDATE ) ORGANIZATION INDEX ;

commit;

insert into "B5PWT_BRAKE"."REPORTINGPARAMERTERS" (id,confidential,contentowner,webmaster) values
(0,'confidential green','Benny Verhamme','Benny Verhamme');

commit;

CREATE TABLE "B5PWT_BRAKE"."APPCONFIGURATION" ( "ID" NUMBER, "MACHINEID" VARCHAR2(120),
"CONF" BLOB, "TIMESTAMP" DATE, CONSTRAINT APPCONF_PK PRIMARY KEY ("ID") VALIDATE )
ORGANIZATION INDEX ;

commit;

CREATE TABLE "B5PWT_BRAKE"."APPTYPES" ( "ID" NUMBER(38), "MACHINEID" VARCHAR2(120), "TYPES"
BLOB, "TIMESTAMP" DATE, CONSTRAINT APPTYPES_PK PRIMARY KEY ("ID") VALIDATE ) ;
commit;

```

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```
CREATE TABLE "B5PWT_BRAKE"."CYCLECPK" ( "CPKID" NUMBER, "CYCLE" NUMBER, "CPKANGLE"
FLOAT(126), "CPKTORQUE" FLOAT(126), "TIMESTAMP" DATE, "TOOL" NUMBER(9), "SPINDLE" NUMBER(9),
"SOCKET" NUMBER(9), "LASTTIMESTAMP" DATE, "BEGINTIMESTAMP" DATE, "MACHINE" VARCHAR2(200),
"ANGLETORQUERESULT" NUMBER(3), CPKSTATE" VARCHAR2(250), CONSTRAINT CYCLECPK_PK PRIMARY
KEY ("CPKID") VALIDATE ) ORGANIZATION INDEX ;
```

commit;

```
CREATE TABLE "B5PWT_BRAKE"."CYCLEXR" ( "XRID" NUMBER(9), "CYCLE" NUMBER(9), "XANGLE"
FLOAT(126), "XTORQUE" FLOAT(126), "TIMESTAMP" DATE, "TOOL" NUMBER(9), "SPINDLE" NUMBER(9),
"SOCKET" NUMBER(9), "RANGLE" FLOAT(126), "RTORQUE" FLOAT(126), "MACHINE" VARCHAR2(200),
"BEGINTIMESTAMP" DATE, "LASTTIMESTAMP" DATE, "ANGLETORQUERESULT" NUMBER(3), CONSTRAINT
CYCLEXR_PK PRIMARY KEY ("XRID") VALIDATE ) ORGANIZATION INDEX ;
```

commit;

```
CREATE TABLE "B5PWT_BRAKE"."MACHINESTATE" ( "MACHINE" VARCHAR2(200), "CPKSTATE" NUMBER(9),
"RUNDOWNSTATUS" NUMBER(9), "TOTALRUNDOWNS" NUMBER(9), "LASTUPDATE" DATE, "TOOL"
NUMBER(9),CONSTRAINT MACHINESTATE_PK PRIMARY KEY ("MACHINE", "TOOL") VALIDATE ) ;
commit;
```

```
CREATE TABLE "B5PWT_BRAKE"."MODELS" ( "MODELID" NUMBER(9), "MASK" VARCHAR2(10), "REMARK"
VARCHAR2(120), "DESCRIPTION" VARCHAR2(120), "CODE" VARCHAR2(10),CONSTRAINT MODELS_PK
PRIMARY KEY ("MODELID") VALIDATE ) ORGANIZATION INDEX ;
commit;
```

```
CREATE TABLE "B5PWT_BRAKE"."TIGHTENINGRESULT" ( "TIGHTENINGRESULTID" NUMBER(9),
"OPERATORCODE" VARCHAR2(120), "COMMENTT" VARCHAR2(120), "FINISHED" NUMBER(3), "MODELCODE"
VARCHAR2(120), "TIGHTENINGTYPE" VARCHAR2(120), "PREFIXSERIAL" VARCHAR2(120),
"BARCODESERIAL" VARCHAR2(120), "MACHINESERIAL" VARCHAR2(120), "TIMESTAMPSTART" DATE,
"TIMESTAMPSTOP" DATE, "DESCRIPTION" VARCHAR2(120), "MACHINE"
VARCHAR2(200),"MACHINEDESCRIPTION" VARCHAR2(500), CONSTRAINT TIGHTENINGRESULT_PK
PRIMARY KEY ("TIGHTENINGRESULTID") VALIDATE ) ORGANIZATION INDEX;
commit;
```

```
CREATE TABLE "B5PWT_BRAKE"."TIGHTENINGCYCLERESULT" ("INCLUDENOK" NUMBER(3), "SOCKETRAY"
NUMBER(9), "PRIORITY" NUMBER(9), "NUMBEROFTIGHTENINGS" NUMBER(9), "CYCLE" NUMBER(9), "TOOL"
NUMBER(9), "SPINDLE" NUMBER(9), "SOCKET" NUMBER(9), "CYCLEID" NUMBER(9),
"TIGHTENINGRESULTID" NUMBER(9), "TIMESTAMP" DATE,"TOTALCYCLESTATE" NUMBER(3),
"ANGLETORQUERESULT" NUMBER(3),CONSTRAINT TIGHTENINGCYCLERESULT_PK PRIMARY KEY
("CYCLEID") VALIDATE ) ORGANIZATION INDEX;
```

commit;

```
CREATE TABLE "B5PWT_BRAKE"."RUNDOWNRESULT" ( "CYCLEID" NUMBER(9), "TIMESTAMP" DATE,
"BOLTNR" NUMBER(9), "COMMENTT" VARCHAR2(120), "RUNDOWNRESULTID" NUMBER(9), "FINALTORQUE"
```

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FLOAT(126), "TORQUEMIN" FLOAT(126), "TORQUEMAX" FLOAT(126), "FINALANGLE" FLOAT(126),
"ANGLEMIN" FLOAT(126), "ANGLEMAX" FLOAT(126), "STATUS" NUMBER(3),CONSTRAINT
RUNDOWNRESULT_PK PRIMARY KEY ("RUNDOWNRESULTID") VALIDATE) ORGANIZATION INDEX ;

commit;

CREATE TABLE "B5PWT_BRAKE"."TESTCAT" ("VAL" VARCHAR2(300), "TIMER" DATE,CONSTRAINT
TESTCAT_PK PRIMARY KEY ("TIMER", "VAL") VALIDATE) ORGANIZATION INDEX ;

commit;

CREATE TABLE "B5PWT_BRAKE"."FINISHEDTRANSLATION" ("FINISHEDVALUE" NUMBER(9),
"STRINGVALUE" VARCHAR(200) ,CONSTRAINT FINISHEDVALUE_PK PRIMARY KEY ("FINISHEDVALUE")
VALIDATE) ORGANIZATION INDEX ;

commit;

insert into "B5PWT_BRAKE"."FINISHEDTRANSLATION" (FINISHEDVALUE,STRINGVALUE) values (-1,'OK');

commit;

insert into "B5PWT_BRAKE"."FINISHEDTRANSLATION" (FINISHEDVALUE,STRINGVALUE) values (0,'NOK');

commit;

CREATE TABLE "B5PWT_BRAKE"."ANGLETORQUETRANSLATION" ("ANGLETORQUENUMBER" NUMBER(9),
"ANGLETORQUESTRING" VARCHAR(200) ,CONSTRAINT ANGLETORQUENUMBER_PK PRIMARY KEY
("ANGLETORQUENUMBER") VALIDATE) ORGANIZATION INDEX ;

commit;

insert into "B5PWT_BRAKE"."ANGLETORQUETRANSLATION"
(ANGLETORQUENUMBER,ANGLETORQUESTRING) values (0,'undefined');

commit;

insert into "B5PWT_BRAKE"."ANGLETORQUETRANSLATION"
(ANGLETORQUENUMBER,ANGLETORQUESTRING) values (1,'Angle');

commit;

insert into "B5PWT_BRAKE"."ANGLETORQUETRANSLATION"
(ANGLETORQUENUMBER,ANGLETORQUESTRING) values (2,'Torque');

commit;

insert into "B5PWT_BRAKE"."ANGLETORQUETRANSLATION"
(ANGLETORQUENUMBER,ANGLETORQUESTRING) values (3,'AngleTorque');

commit;

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//Sequences

```
Create SEQUENCE "B5PWT_BRAKE"."SEQCPK" CACHE 20;
Create SEQUENCE "B5PWT_BRAKE"."SEQTIGHTENINGCYCLERESULT" CACHE 20;
Create SEQUENCE "B5PWT_BRAKE"."SEQTIGHTENINGRESULT" CACHE 20;
Create SEQUENCE "B5PWT_BRAKE"."SEQTIGHTENINGRUNDOWNRESULT" CACHE 20;
Create SEQUENCE "B5PWT_BRAKE"."SEQXR" CACHE 20;
```

//triggers

```
CREATE OR REPLACE TRIGGER "B5PWT_BRAKE"."TRIGGERCPK" BEFORE
INSERT ON "B5PWT_BRAKE"."CYCLECPK" REFERENCING OLD AS OLD NEW AS NEW FOR EACH ROW begin
select SeqCpk.nextval into :new.CPKID from dual;
end;
```

commit;

```
CREATE OR REPLACE TRIGGER "B5PWT_BRAKE"."TRIGGERTIGHTENINGCYCLERESULT" BEFORE
INSERT ON "B5PWT_BRAKE"."TIGHTENINGCYCLERESULT" REFERENCING OLD AS OLD NEW AS NEW FOR
EACH ROW begin
select SeqTighteningCycleresult .nextval into :new.CYCLEID from dual;
end;
commit;
```

```
CREATE OR REPLACE TRIGGER "B5PWT_BRAKE"."TRIGGERTIGHTENINGRESULT" BEFORE
INSERT ON "B5PWT_BRAKE"."TIGHTENINGRESULT" REFERENCING OLD AS OLD NEW AS NEW FOR EACH
ROW begin
select SeqTighteningresult.nextval into :new.TIGHTENINGRESULTID from dual;
end;
```

commit;

```
CREATE OR REPLACE TRIGGER "B5PWT_BRAKE"."TRIGGERTIGHTENINGRUNDOWNRESULT" BEFORE
INSERT ON "B5PWT_BRAKE"."RUNDOWNRESULT" REFERENCING OLD AS OLD NEW AS NEW FOR EACH
ROW begin
select SeqTighteningrundownresult.nextval into :new.RUNDOWNRESULTID from dual;
end;
```

commit;

```
CREATE OR REPLACE TRIGGER "B5PWT_BRAKE"."TRIGGERXR" BEFORE
INSERT ON "B5PWT_BRAKE"."CYCLEXR" REFERENCING OLD AS OLD NEW AS NEW FOR EACH ROW begin
select SeqXR.nextval into :new.XRID from dual;
end;
```

//procedures

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```

CREATE OR REPLACE PROCEDURE "B5PWT_BRAKE"."SP_DJASTORECYCLECPK" (CYCLE in
Number,SPINDLE in Number,TOOL in NUMBER,ANGLETORQUERESULT in Number,SOCKET in
Number,CPKANGLE in float,CPKTORQUE in float,machine in varchar2,CPKSTATE in varchar2,BeginTIMESTAMP
in date,LastTIMESTAMP in date,TIMESTAMP in date)
as

begin

insert into "B5PWT_BRAKE"."CYCLECPK" (CYCLE,TOOL,SPINDLE,SOCKET ,CPKANGLE ,CPKTORQUE
,machine ,BeginTIMESTAMP ,LastTIMESTAMP,TIMESTAMP,ANGLETORQUERESULT,CPKSTATE )
values (CYCLE,TOOL,SPINDLE,SOCKET ,CPKANGLE ,CPKTORQUE ,machine ,BeginTIMESTAMP
,LastTIMESTAMP,TIMESTAMP,ANGLETORQUERESULT,CPKSTATE );

end;

commit;

CREATE PROCEDURE "B5PWT_BRAKE"."SP_DJASTORECYCLERESULT" (CYCLE in Number,TOOL in
Number,ANGLETORQUERESULT in NUMBER,SPINDLE in Number,SOCKET in Number,TIGHTENINGRESULTID
in Number,TIMESTAMP in Date,TOTALCYCLESTATE in Number,ider out number)
as

begin

insert into "B5PWT_BRAKE"."TIGHTENINGCYCLERESULT" (CYCLE ,TOOL ,SPINDLE ,SOCKET,TIMESTAMP
,TIGHTENINGRESULTID,ANGLETORQUERESULT , TOTALCYCLESTATE)
values (CYCLE ,TOOL ,SPINDLE ,SOCKET,TIMESTAMP ,TIGHTENINGRESULTID,ANGLETORQUERESULT
,TOTALCYCLESTATE);

select max(CYCLEID ) into ider from B5PWT_BRAKE.TIGHTENINGCYCLERESULT;

end;

commit;

CREATE PROCEDURE "B5PWT_BRAKE"."SP_DJASTORECYCLEXR" (CYCLE in Number,SPINDLE in
Number,TOOL in NUMBER,ANGLETORQUERESULT in NUMBER,SOCKET in Number,XANGLE in float,XTORQUE
in float,RANGLE in float,RTORQUE in float,machine in varchar,BeginTIMESTAMP in date,LastTIMESTAMP in
date,TIMESTAMP in date)
as

begin

insert into "B5PWT_BRAKE"."CYCLEXR" (CYCLE,TOOL,SPINDLE,SOCKET,XANGLE
,XTORQUE,RANGLE,RTORQUE,machine,BeginTIMESTAMP ,LastTIMESTAMP
,TIMESTAMP,ANGLETORQUERESULT )
values (CYCLE,TOOL,SPINDLE,SOCKET ,XANGLE ,XTORQUE,RANGLE,RTORQUE,machine,BeginTIMESTAMP
,LastTIMESTAMP ,TIMESTAMP,ANGLETORQUERESULT );

end;

```

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commit;

CREATE PROCEDURE "B5PWT_BRAKE"."SP_DJASTOREMACHINESTATE" (Amachine in varchar2,ACpkstate in number,Arundownstate in number,Atotalrundowns in Number,Alastupdate in date,Atool in Number)

```

IS
value Number;
begin

value :=0;
select count(tool) into value from "B5PWT_BRAKE"."MACHINESTATE" where machine=Amachine and tool=Atool;

if value=0 then
insert                                     into
"B5PWT_BRAKE"."MACHINESTATE"(machine,Cpkstate,RUNDOWNSTATUS,totalrundowns,lastupdate,tool) values
(Amachine,ACpkstate,Arundownstate,Atotalrundowns,Alastupdate,Atool) ;
else
update      "B5PWT_BRAKE"."MACHINESTATE"      set      lastupdate=Alastupdate
,Cpkstate=ACpkstate,RUNDOWNSTATUS=Arundownstate,totalrundowns=Atotalrundowns      where
machine=Amachine and tool=Atool;
end if;
end;
```

commit;

CREATE PROCEDURE "B5PWT_BRAKE"."SP_DJASTORERUNDOWNRESULTS" (CYCLEID in NUMBER,TIMESTAMP in DATE ,BOLTNR in NUMBER,COMMENTT in VARCHAR2,FINALTORQUE in FLOAT,TORQUEMIN in FLOAT,TORQUEMAX in FLOAT,FINALANGLE in FLOAT,ANGLEMIN in FLOAT,ANGLEMAX in FLOAT,STATUS in NUMBER, ider out number)

as

begin

```

insert into "B5PWT_BRAKE"."RUNDOWNRESULT" (CYCLEID,TIMESTAMP ,BOLTNR ,COMMENTT ,FINALTORQUE ,TORQUEMIN ,TORQUEMAX ,FINALANGLE ,ANGLEMIN ,ANGLEMAX ,STATUS) values
(CYCLEID ,TIMESTAMP ,BOLTNR ,COMMENTT,FINALTORQUE ,TORQUEMIN ,TORQUEMAX ,FINALANGLE ,ANGLEMIN ,ANGLEMAX ,STATUS);
```

```

select max(RUNDOWNRESULTID ) into  ider from B5PWT_BRAKE.RUNDOWNRESULT;
end;
```

commit;

CREATE OR REPLACE PROCEDURE "B5PWT_BRAKE"."SP_DJASTORETIGHTENINGRESULT" (OperatorCode in varchar2,Commentt in varchar2,Finished in number,MachineCode in varchar2,

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```

TighteningType in varchar,PrefixSerial in varchar,BarCode in varchar2,MachineSerial in varchar2,Description in
varchar2,TimeStart in date,TimeStop in date
,machine in varchar2,MACHINEDESCRIPTION in varchar2 ,ider out number)
as

begin

insert
" B5PWT_BRAKE"."TIGHTENINGRESULT"(OPERATORCODE,COMMENTT,FINISHED,MODELCODE,TIGHTENIN
GTYPE,PREFIXSERIAL
, BARCODESERIAL,MACHINESERIAL,TIMESTAMPSTART
, TIMESTAMPSTOP,DESCRIPTION,machine,MACHINEDESCRIPTION ) values ( OperatorCode ,Commentt
,Finished ,MachineCode ,TighteningType ,PrefixSerial ,BarCode ,MachineSerial ,TimeStart
,TimeStop,Description,machine,MACHINEDESCRIPTION );

select max(tighteningresultid) into ider from B5PWT_BRAKE.tighteningresult;
end;

commit;

//Deze stored procedure geldt voor de ProTightversies vanaf 1.2.0.20. In de oudere versies wordt er gebruik gemaakt
van de //oudere stored procdure

CREATE OR REPLACE PROCEDURE "B5PWT_BRAKE"."SP_DJASTORECYCLERESULT2" (CYCLE in
Number,TOOL in Number,ANGLETORQUERESULT in NUMBER,SPINDLE in Number,SOCKET in
Number,TIGHTENINGRESULTID in Number,TIMESTAMP in Date,TOTALCYCLESTATE in
Number,NUMBEROFTIGHTENINGS in Number,PRIORITY in Number,SOCKETRAY in Number,INCLUDENOK in
Number,ider out number)
as

begin

insert into "B5PWT_BRAKE"."TIGHTENINGCYCLERESULT" (CYCLE ,TOOL ,SPINDLE ,SOCKET,TIMESTAMP
,TIGHTENINGRESULTID,ANGLETORQUERESULT
, TOTALCYCLESTATE,NUMBEROFTIGHTENINGS,PRIORITY,SOCKETRAY,INCLUDENOK)
values (CYCLE ,TOOL ,SPINDLE ,SOCKET,TIMESTAMP ,TIGHTENINGRESULTID,ANGLETORQUERESULT
,TOTALCYCLESTATE,NUMBEROFTIGHTENINGS,PRIORITY,SOCKETRAY,INCLUDENOK);

select max(CYCLEID ) into ider from B5PWT_BRAKE.TIGHTENINGCYCLERESULT;
end;

commit;

CREATE TABLE "B5PWT_BRAKE"."VERSIONS" ( "MACHINE" VARCHAR2(250), "PLCVERSION"
VARCHAR2(250), "PCVERSION" VARCHAR2(250), "LASTUPDATE" TIMESTAMP(6), "MACHINEDESCRIPTION"
VARCHAR2(250), PRIMARY KEY ("MACHINE") VALIDATE ) TABLESPACE "USERS" PCTFREE 10 INITRANS 1
MAXTRANS 255 STORAGE ( INITIAL 64K BUFFER_POOL DEFAULT) LOGGING

commit;

//Deze nieuwe tabel wordt gebruikt vanaf de ProTightversies 1.2.0.47

CREATE TABLE "B5PWT_BRAKE"."CATCEMHFRAME" ("CATCEMHFRAMEID"

```

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```

NUMBER(9) NOT NULL, "TIGHTENINGRESULTID" NUMBER(9) NOT NULL,
"OPERATORCODELEFT" VARCHAR2(120) NOT NULL,
"OPERATORCODERIGHT" VARCHAR2(120) NOT NULL, "MACHINESERIAL"
VARCHAR2(120) NOT NULL, "CATCEMSERIAL" VARCHAR2(120) NOT NULL,
"CEMPARTNUMBER" VARCHAR2(120) NOT NULL, "HFRAMEPARTNUMBER"
VARCHAR2(120) NOT NULL,
CONSTRAINT "CATCEMHFRAMEID" PRIMARY KEY("CATCEMHFRAMEID"));

```

```

CREATE SEQUENCE "B5PWT_BRAKE"."SEQCATCEMHFRAME" INCREMENT BY 1
START WITH 1 MAXVALUE 1.0E28 MINVALUE 1 NOCYCLE
CACHE 20 NOORDER

```

```

CREATE OR REPLACE TRIGGER "B5PWT_BRAKE"."TRIGGERCATCEMHFRAME" BEFORE
INSERT ON "B5PWT_BRAKE"."CATCEMHFRAME" REFERENCING OLD AS OLD NEW AS NEW FOR EACH
ROW begin
select SeqCATCEMHFRAME.nextval into :new.CATCEMHFRAMEID from dual;
end;

```

```

CREATE PROCEDURE "B5PWT_BRAKE"."SP_DJASTORECATCEMRESULT" (
TIGHTENINGRESULTID IN NUMBER,OPERATORCODELEFT IN VARCHAR2,OPERATORCODERIGHT IN
VARCHAR2,MACHINESERIAL IN VARCHAR2,CATCEMSERIAL IN VARCHAR2,CEMPARTNUMBER IN
VARCHAR2,HFRAMEPARTNUMBER IN VARCHAR2,ider out number
)
as
begin
insert into
"B5PWT_BRAKE"."CATCEMHFRAME"(TIGHTENINGRESULTID,OPERATORCODELEFT,OPERATORCODERIGH
T,MACHINESERIAL,CATCEMSERIAL,CEMPARTNUMBER,HFRAMEPARTNUMBER) values
(TIGHTENINGRESULTID,OPERATORCODELEFT,OPERATORCODERIGHT,MACHINESERIAL,CATCEMSERIAL,
CEMPARTNUMBER,HFRAMEPARTNUMBER);

select max(CATCEMHFRAMEID) into ider from "B5PWT_BRAKE"."CATCEMHFRAME";
end;

```

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15.3. APPENDIX C : INSTALLING EASYTORQUE TESTSOFTWARE



If an EasyTorque wireless wrench is used in combination with ProTight a specific communication driver has to be installed. For specific EasyTorque information and set-up we refer to the EasyTorque documentation which can be found on:

<http://www.ansomat.be/ee/assets/bestandenmap/Stanley%20Easy%20Torques%20brochure.pdf>



Figure 15-1 Easy Torque

To start the installation select setup.exe

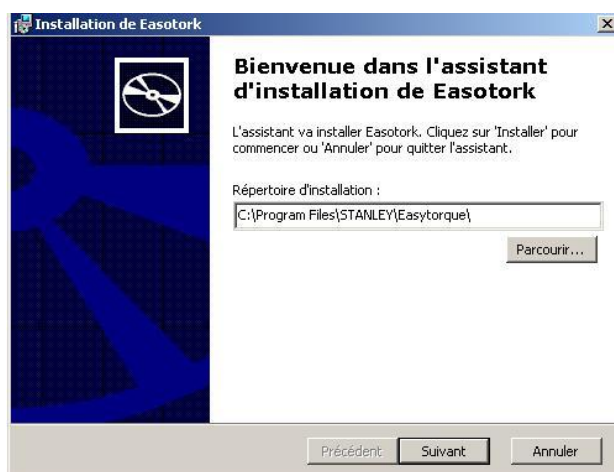


Figure 15-2 Start wizard

Choose a place to install the EasyTorque software.

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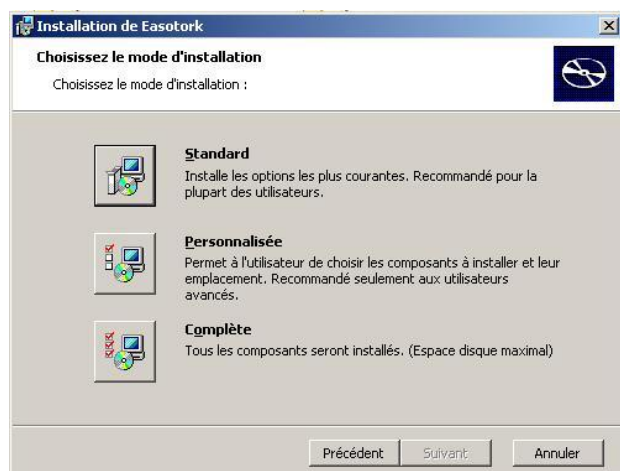


Figure 15-3 Install the program

Click on complete.

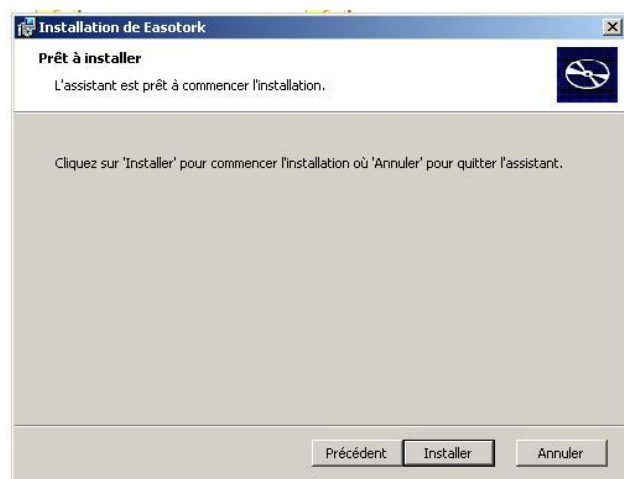


Figure 15-4 Install the program

Click on Installer

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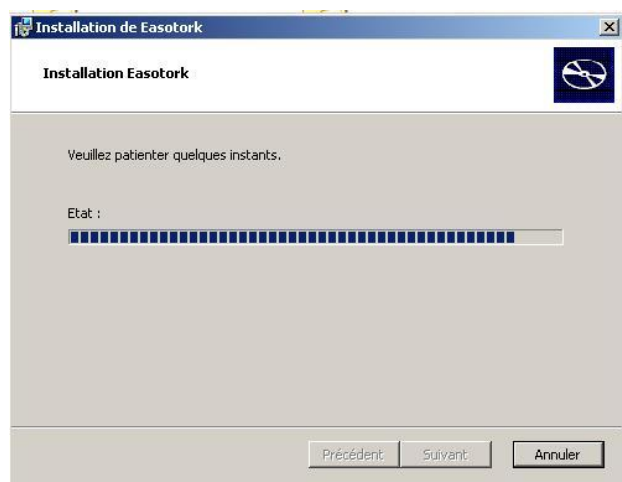


Figure 15-5 Software is installed

The software is being installed

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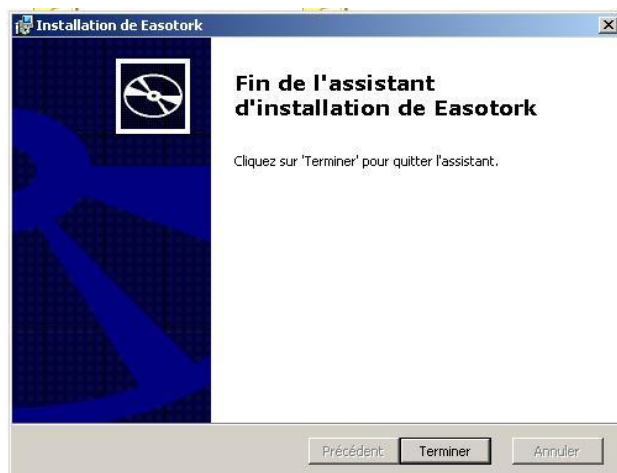


Figure 15-6 Finish the installation

The software is installed, click on terminer

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15.4. APPENDIX D: INSTALLATION OF THE DATABASE

It is possible to connect ProTight to a specific database. For the moment (Q32011) only Oracle databases are supported. More databases will be supported in the future.

To add this functionality to ProTight the Oracle Client needs to be installed on the client PC.
An Oracle server instance has to be present, in order to create the ProTight database.

If no Oracle database is present, or no network connection is present, ProTight can be run in standalone mode.

15.4.1. Installing the oracle client



Figure 15-7 Installing oracle

Click on install.

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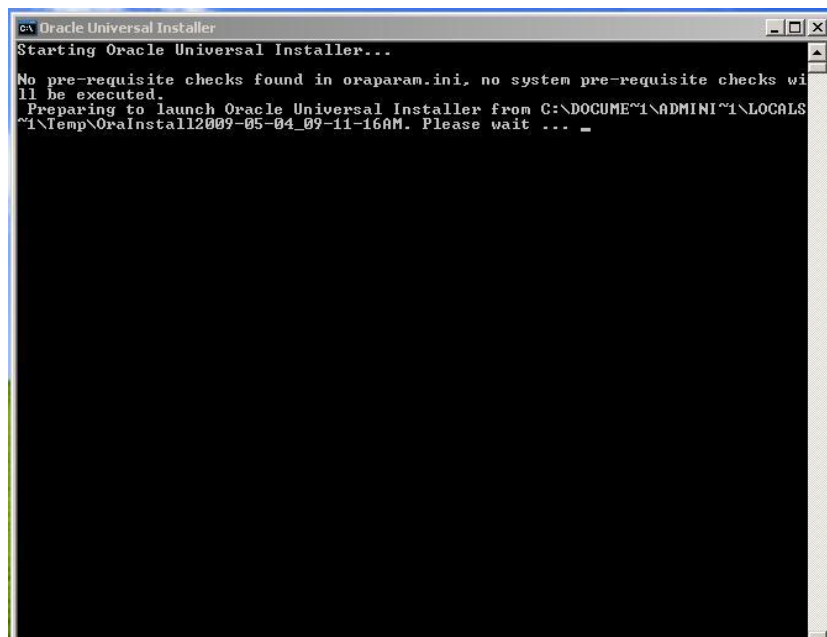


Figure 15-8 installing oracle

The installer is being loaded.

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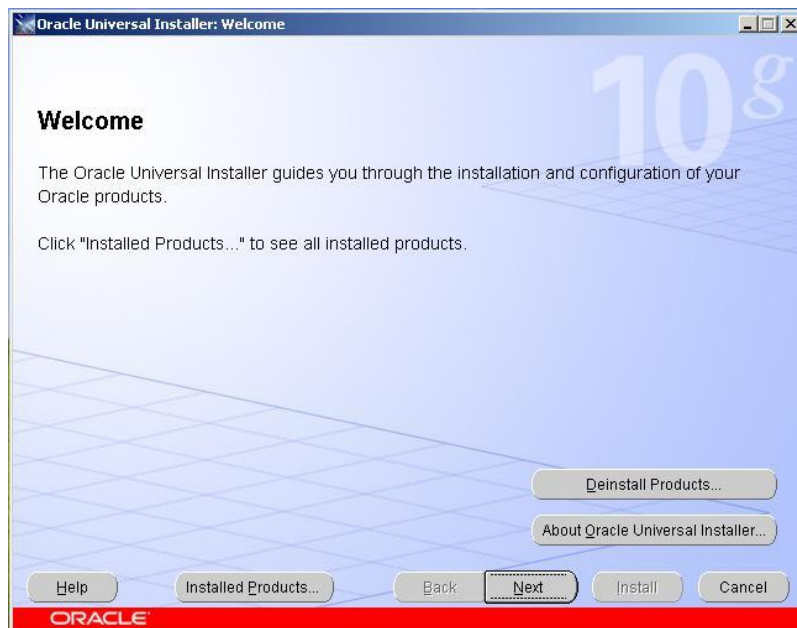


Figure 15-9 installing oracle

Click Next

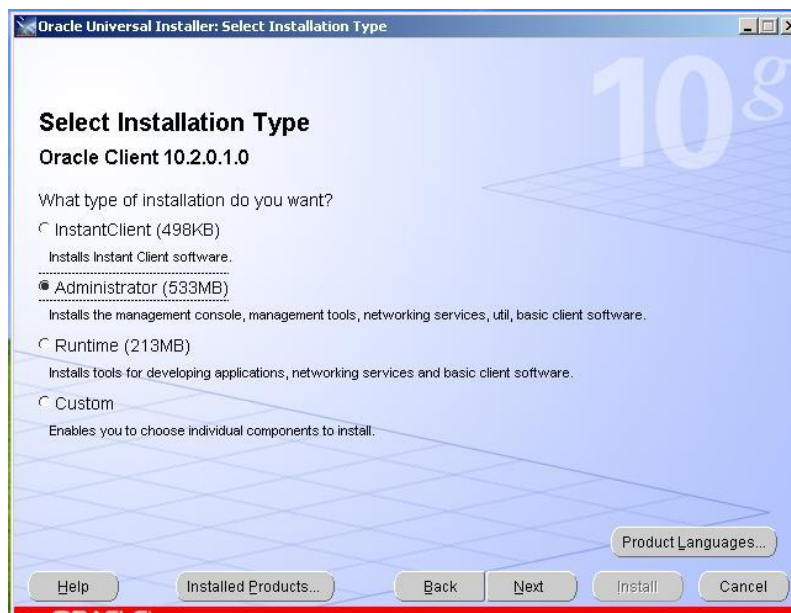


Figure 15-10 Installing oracle

Choose the Administrator package. => Next

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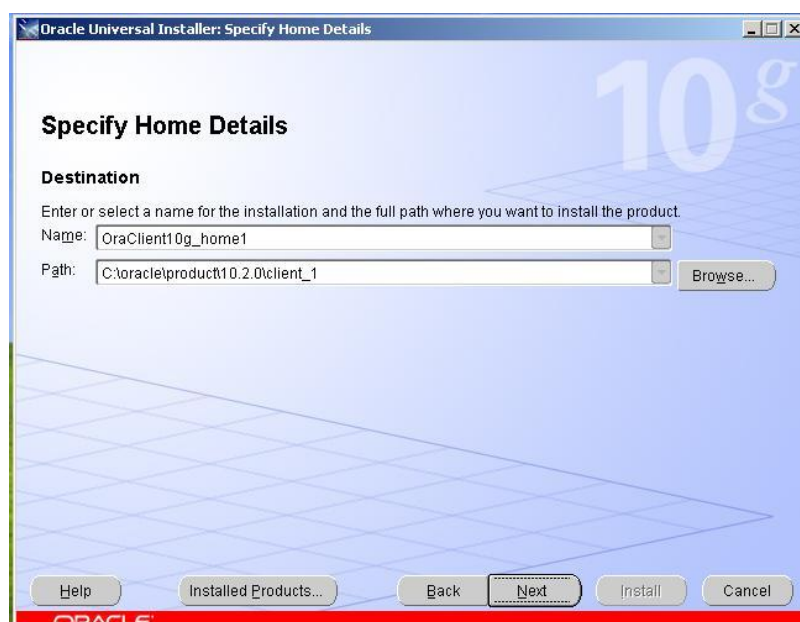


Figure 15-11 Installing oracle

Click Next

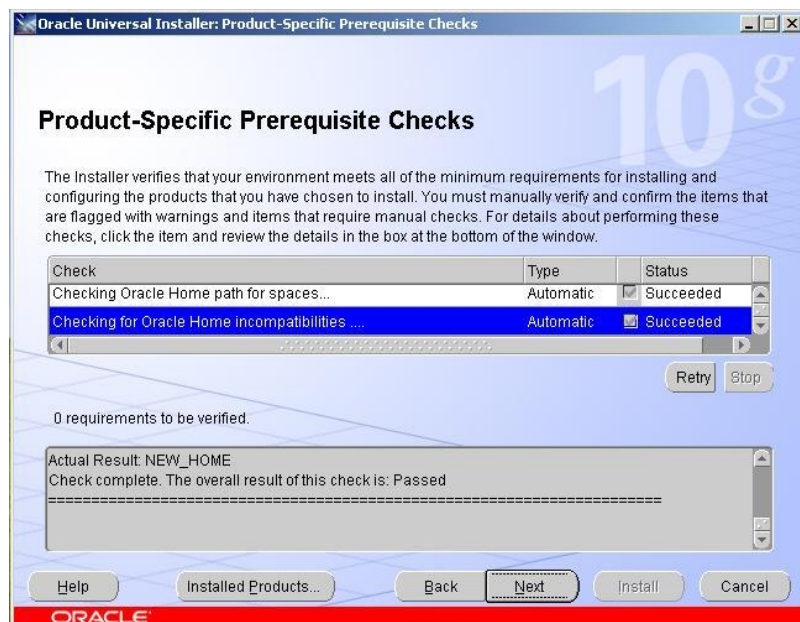


Figure 15-12 Installing oracle

Click Next

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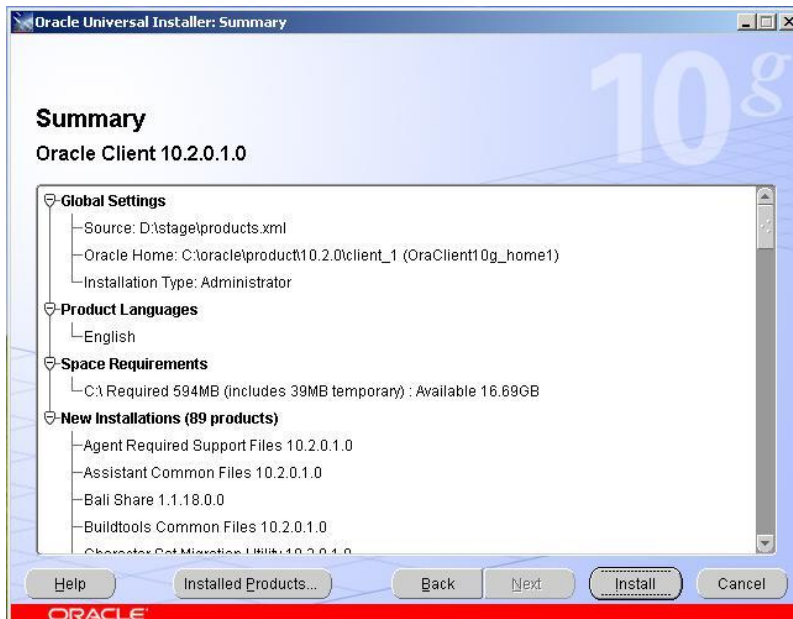


Figure 15-13 Installing oracle

Choose Install.

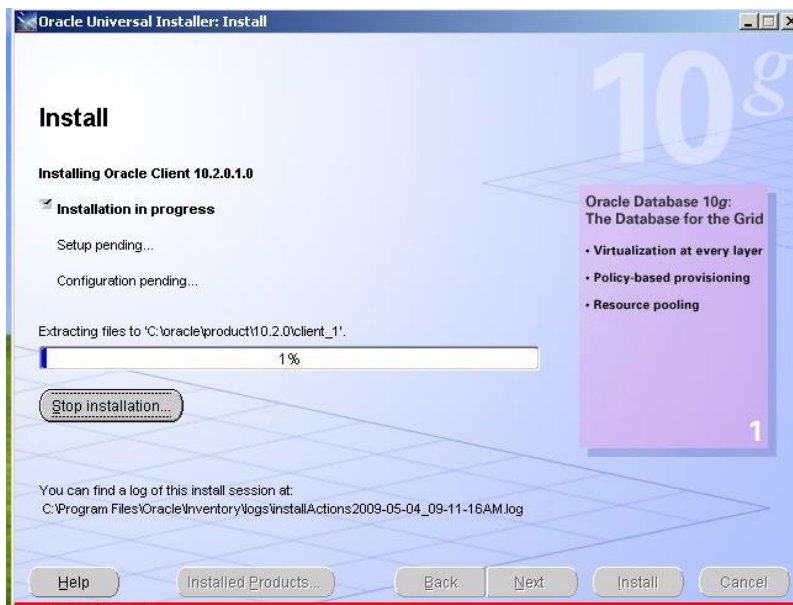


Figure 15-14 Installing oracle

The oracle client is being installed.

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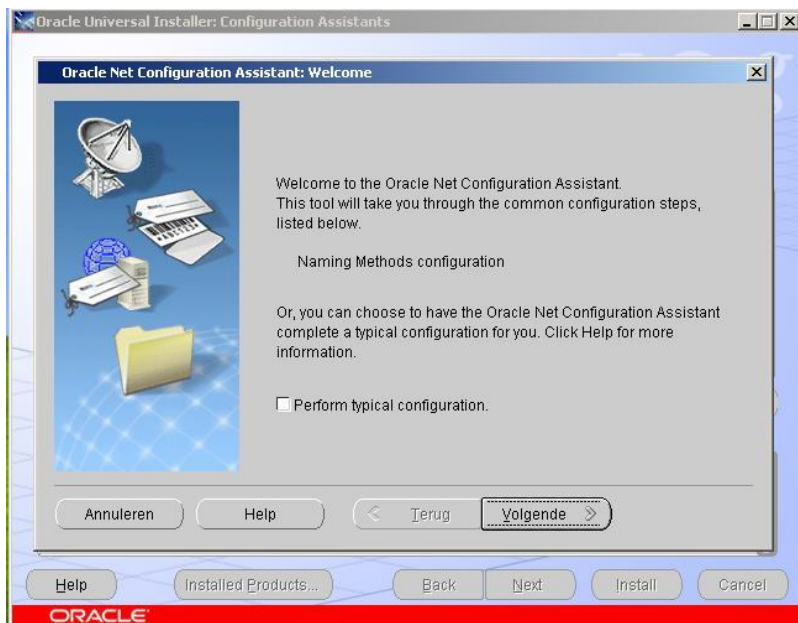


Figure 15-15 Installing oracle

Choose Cancel.

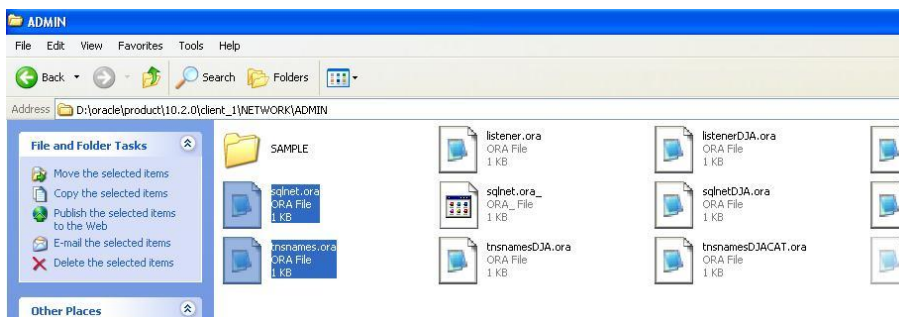


Figure 15-16 Copy files necessary

After the installation

Copy tnsnames.ora and sqlnet.ora to the oracle directory under \NETWORK\ADMIN

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15.4.2. Installing scripts

The following tables need to be made on the Oracle DB.

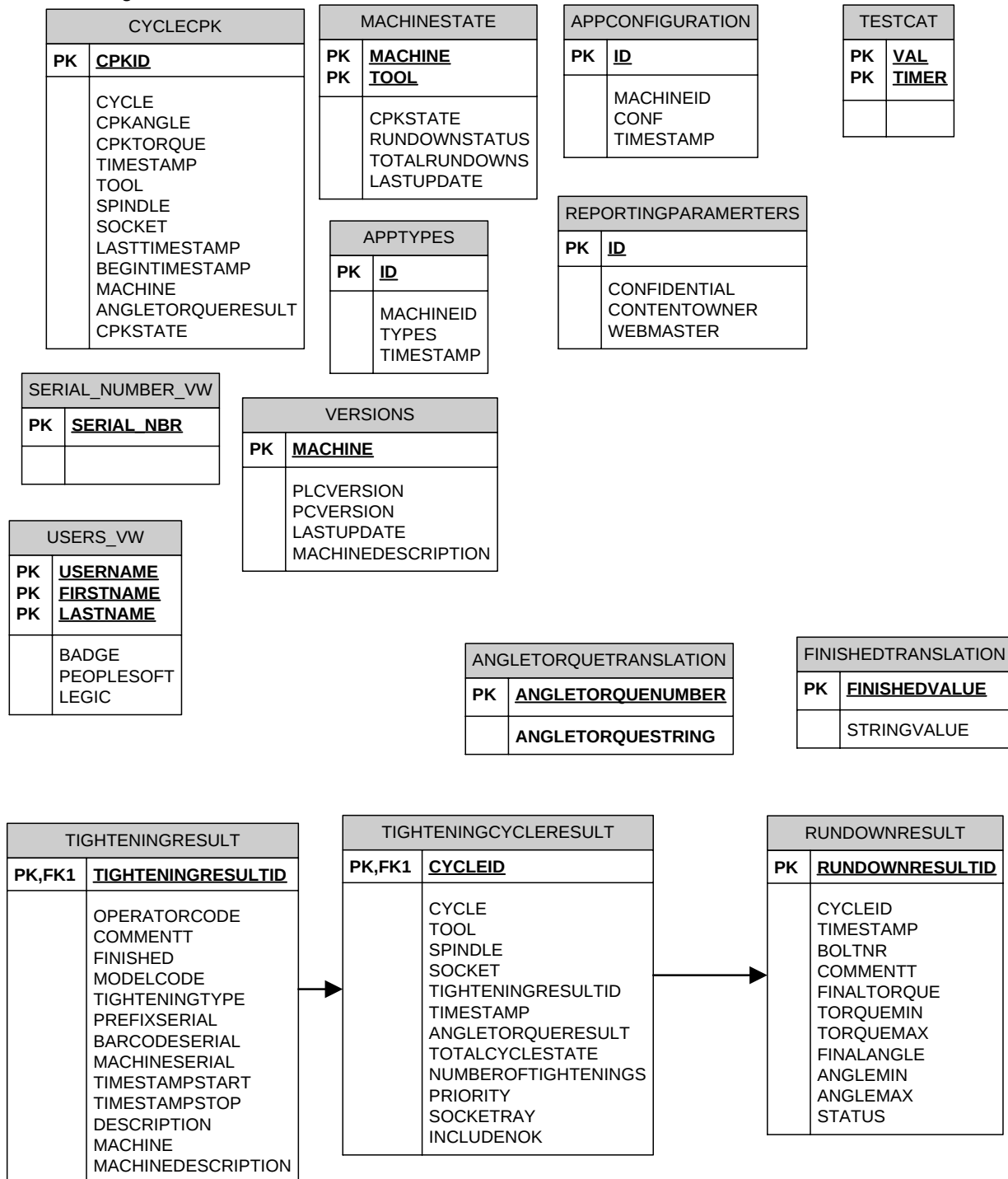


Figure 15-17 Oracle scripts

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The scripts can be found in Appendix B under SQL scripts.

Or you can double click on the figure above, and open the last tab page, click on the database table, and choose notes in the properties screen. All the scripts are placed here.

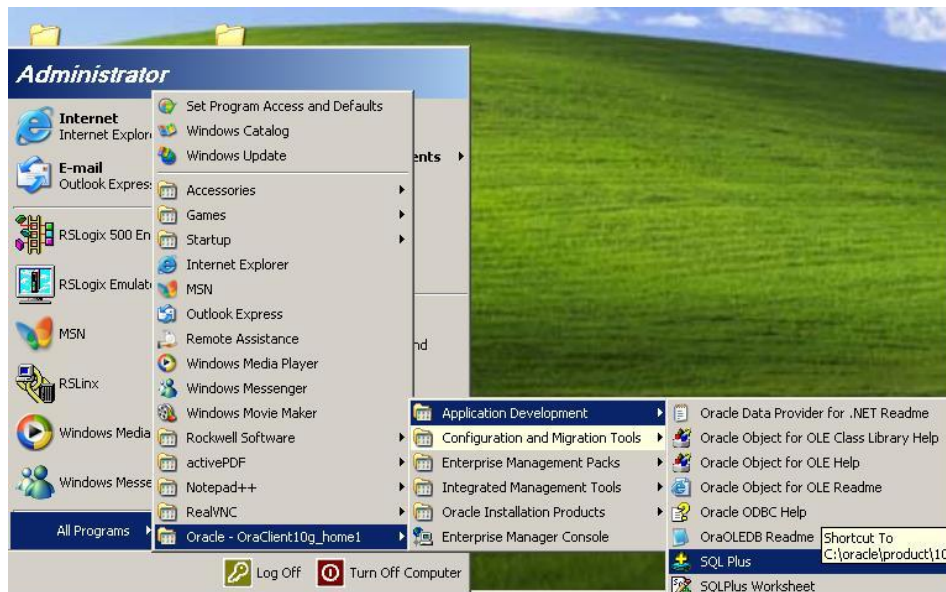


Figure 15-18 Using SQL ++

To execute a SQL- script open the oracle SQL++ tool

Furthermore we'll use the B5PWT_BRAKE schema as an example.

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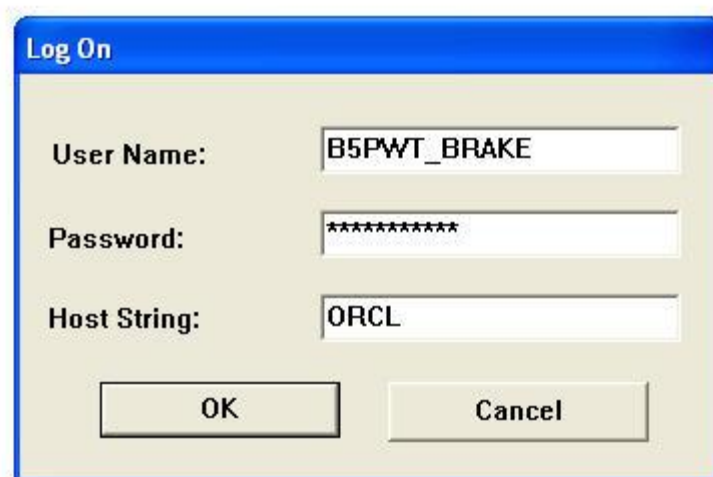
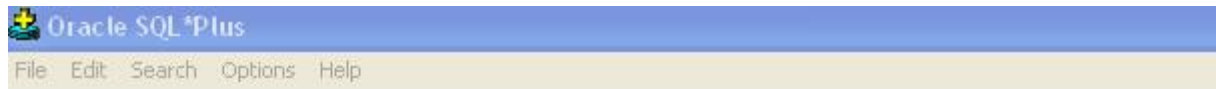


Figure 15-19 Login in SQL ++

Login in the program

User Name: B5PWT_BRAKE

Password: B5PWT_BRAKE

Host String: B5P6

```
SQL> CREATE TABLE "B5PWT_BRAKE"."USERS_UW" ( "USERNAME" VARCHAR2(120), "FIRSTNAME" VARCHAR2(120), "LASTNAME" VARCHAR2(120), "BADGE" VARCHAR2(120), "PEOPLESFT" VARCHAR2(120), "LEGIC" VARCHAR2(120), CONSTRAINT USERSUW_PK PRIMARY KEY ("USERNAME", "FIRSTNAME", "LASTNAME") VALIDATE ) ORGANIZATION INDEX;
```

Figure 15-20 Execute a command

Now a script can be copied into the SQL++ tool and executed.

To execute triggers and stored procedures, you have to use the web console or the toad-tool.

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ORACLE Enterprise Manager 10g
Database Control

Login

Login to Database:orcl

* User Name

* Password

Connect As Normal ▼

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Figure 15-21 Login in web console

Login into the web console

User Name: B5PWT_BRAKE

Password: B5PWT_BRAKE

Connect As: Normal

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Database Instance: orcl

[Home](#)
[Performance](#)
[Administration](#)
[Maintenance](#)

The Administration tab displays links that allow you to administer database objects and initiate database operations inside an Oracle c

Database Administration

Storage

[Control Files](#)
[Tablespaces](#)
[Temporary Tablespace Groups](#)
[Datafiles](#)
[Rollback Segments](#)
[Redo Log Groups](#)
[Archive Logs](#)

Statistics Management

[Automatic Workload Repository](#)
[Manage Optimizer Statistics](#)

Policies

[Policy Library](#)
[Policy Violations](#)

Database Configuration

[Memory Parameters](#)
[Undo Management](#)
[All Initialization Parameters](#)
[Database Feature Usage](#)

Change Database

[Migrate to ASM](#)
[Make Tablespace Locally Managed](#)

Schema

Database Objects

[Tables](#)
[Indexes](#)
[Views](#)
[Synonyms](#)
[Sequences](#)
[Database Links](#)
[Directory Objects](#)
[Reorganize Objects](#)

Programs

[Packages](#)
[Package Bodies](#)
[Procedures](#)
[Functions](#)
[Triggers](#)
[Java Classes](#)
[Java Sources](#)

Figure 15-22 Installing the procedures

Go to the Administration tab.
Click on Procedures. => Click on create

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```

CREATE PROCEDURE "B5PWT_BRAKE"."SP_DJASTORECYCLERESULT" (CYCLE in Number, TOOL in Number,
ANGLETORQUERESULT in NUMBER, SPINDLE in Number, SOCKET in Number, TIGHTENINGRESULTID in
Number, TIMESTAMP in Date, TOTALCYCLESTATE in Number, ider out number)
as

begin

insert into "B5PWT_BRAKE"."TIGHTENINGCYCLERESULT" (CYCLE ,TOOL ,SPINDLE ,SOCKET,TIMESTAMP
,TIGHTENINGRESULTID,ANGLETORQUERESULT , TOTALCYCLESTATE)
values (CYCLE ,TOOL ,SPINDLE ,SOCKET,TIMESTAMP ,TIGHTENINGRESULTID,ANGLETORQUERESULT
,TOTALCYCLESTATE);

select max(CYCLEID ) into ider from B5PWT_BRAKE.TIGHTENINGCYCLERESULT;
end;

```

This is the script that is executed in the screenshot. Only the code from the first hook to the word end; has to be copied in the body of the procedure. You can find the name and schema of the procedure just before the first hook.

[Database Instance: orcl](#) > [Procedures](#) > Create Procedure
[Create Procedure](#)

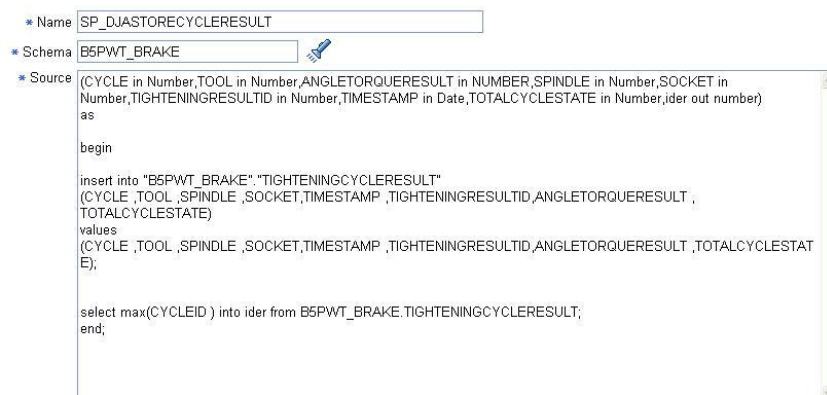


Figure 15-23 Installing a procedure

```

CREATE OR REPLACE TRIGGER "B5PWT_BRAKE"."TRIGGERTIGHTENINGCYCLERESULT" BEFORE
INSERT ON "B5PWT_BRAKE"."TIGHTENINGCYCLERESULT" REFERENCING OLD AS OLD NEW AS NEW FOR
EACH ROW begin
select SeqTighteningCycleresult .nextval into :new.CYCLEID from dual;
end;

```

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Database Instance: orcl > Triggers > Create Trigger

Create Trigger

General Event Advanced	
* Name	TRIGGER_TIGHTENINGCYCLERESULT
* Schema	B5PWT_BRAKE 
☒ Replace If Exists ☐ Enable	
* Trigger Body	<pre>begin select SeqTighteningCycleresult.nextval into :new.CYCLEID from dual; end;</pre>
General Event Advanced	

Figure 15-24 Installing a trigger

Go Back to the administration panel and click on Triggers. => Click on create
 Between the body comes the code that stands between the word begin and the word end;
 The name and the schema just stands after the words 'CREATE OR REPLACE TRIGGER'

Database Instance: orcl > Triggers > Create Trigger

Create Trigger

General Event Advanced	
Trigger On	Table 
* Table (Schema.Table)	"B5PWT_BRAKE"."TIGHTENINGCYCLERESULT" 
Fire Trigger	☒ Before ☐ After
Event	☒ Insert ☐ Delete ☐ Update of Columns
General Event Advanced	

Figure 15-25 Installing a procedure

Go to Event check before and insert.

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Fill in the table name this can be found just after the words 'BEFORE INSERT ON'

Database Instance: orcl > Triggers > Create Trigger

Create Trigger

General	Event	Advanced
---------	-------	-----------------

☒ Trigger for each row

Referencing

Old as

New as

Condition

General	Event	Advanced
---------	-------	-----------------

Figure 15-26 Installing a procedure

Go to Advanced
 - Check Trigger for each row.
 - Fill in:
 Old as OLD
 New as NEW

Click on OK.

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15.5. APPENDIX E: INSTALLATION OF THE FREEDOM

First a Bluetooth device needs to be installed, here we install the bluesoleil software of Bulgin.



Figure 15-27 Select language

Select your language

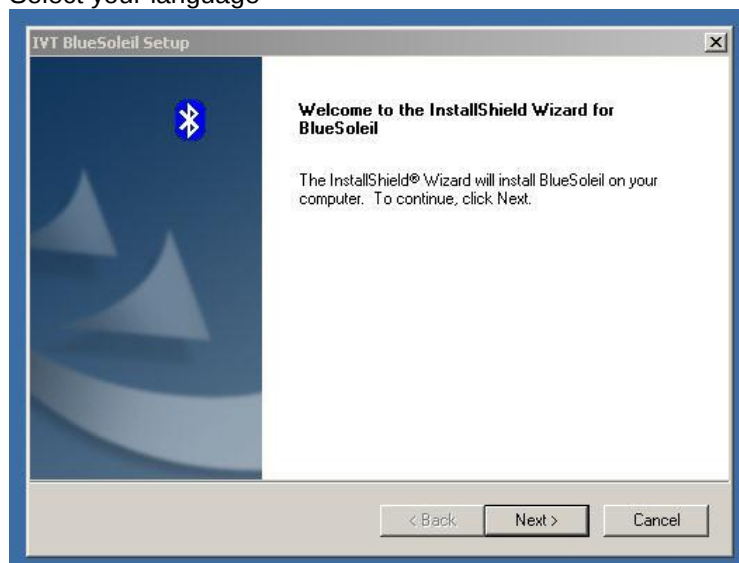


Figure 15-28 Install Bluetooth software

Click Next

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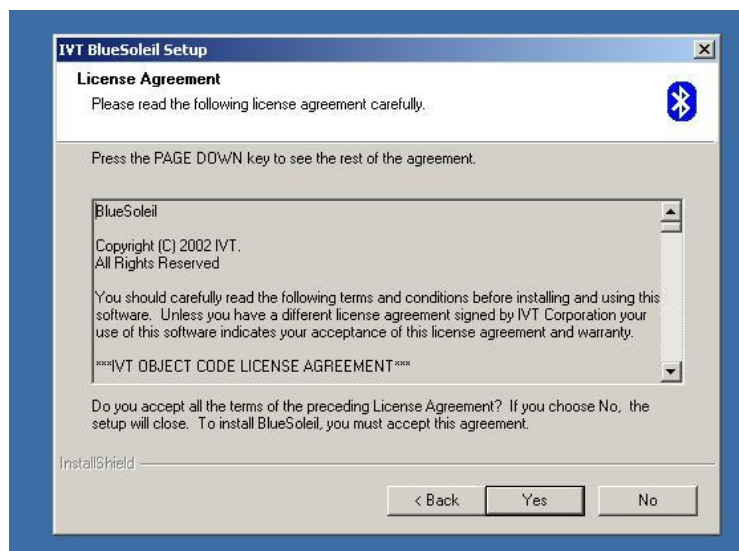


Figure 15-29 Install Bluetooth software

Click Yest

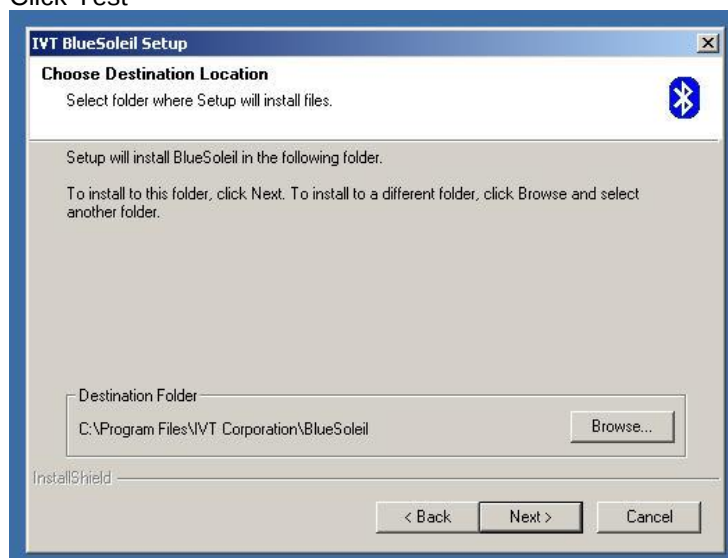


Figure 15-30 Click next

Click Next

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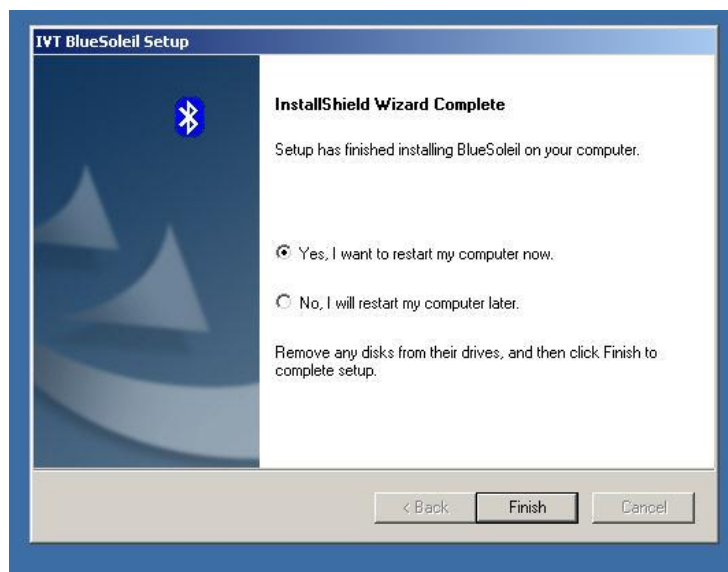


Figure 15-31 Finish installation

Click Finish

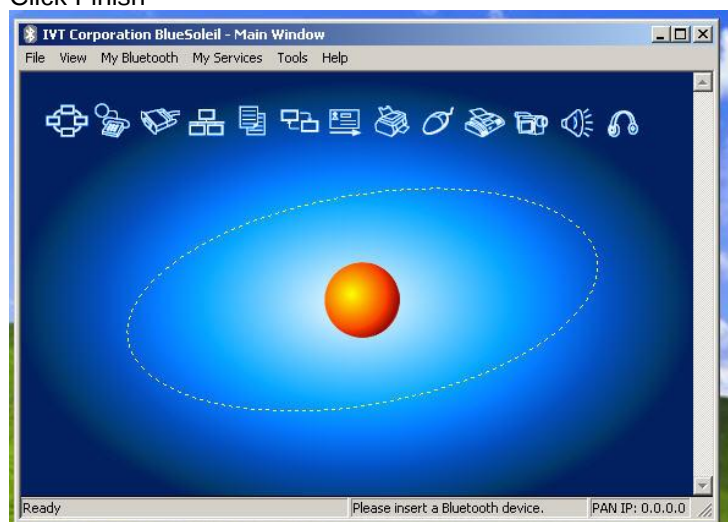


Figure 15-32 The Bluetooth software starts

The software is installed and started

First a program called FIM service needs to be installed to be able to use this type of tool.

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```

Microsoft Windows XP x86 DEBUG Build Environment

ing SDK environment relative to C:\Program Files\Microsoft SDKs\Windows\v6.0
eting Windows XP x86 DEBUG

rogram Files\Microsoft SDKs\Windows\v6.0>"C:\De Jaeger Automation\tmp\FIM fi
FIM-SRV-SERVICE.exe" /install
  
```

Figure 15-33 Install FIM service

The FIMCfg needs to be configured as follow:

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```

;--- Customization: 1=Standard version, 2=Audi Gyor
;--- Warning: when a not standard version is set, other parameters are ignored
CUSTOMIZATION=1
;--- HostCommType, way to communicate with the host program: 1=UDP server, 2=RS232 server
HOSTCOMMTYPE=1
;--- WrenchCommType: 1=BT, 2=RS232, 3=USB, 4=RADIO 868
WRENCHCOMMTYPE=3
;--- WrenchCommPort: The serial port to communicate with the wrench
WRENCHCOMMPORT=19
;--- Flag to set the wrenches in fully slave mode, possible values: 0/1
WRENCHFULLYSLAVE=1
;--- Net id (RADIO 868 only)
NETID=1
;--- Node id (RADIO 868 only)
NODEID=1
;--- ServerUDPPort: Default=1060
SERVERUDPPORT=1060
;--- ServerSerialPort: The serial port to communicate with host program
SERVERSERIALPORT=16
;--- Flag to send batch informations in the result message, possible values: 0/1
SENDERBATCHINFO=1
;--- Input signal to disable the results sending, possible values: 0 = none, 1/8 = input signal to monitor
IGNORERESULTSINPUTSIGNAL=0
;--- UseBarcode: If a barcode reader is connected to FIM, possible values: 0/1
USEBARCODE=0
;--- BarcodeSerialPort: If a barcode reader is connected, the serial port on which the barcode is connected
BARCODESERIALPORT=0
;--- If send results to IPM, possible values: 0/1
COMMUNICATEWITHIPM=0
;--- Name of the windows service dependency (blank = none)
SERVICETOWAIT=
;--- Timeout waiting "SERVICETOWAIT" service startup (seconds)
SERVICEWAITTIMEOUT=120

```

Figure 15-34 Configure Fim service

The Wrenchcomport depends on the Bluetooth software. The Bluetooth software will emulate a comport that the bluetoothdevices will use, when they connect.

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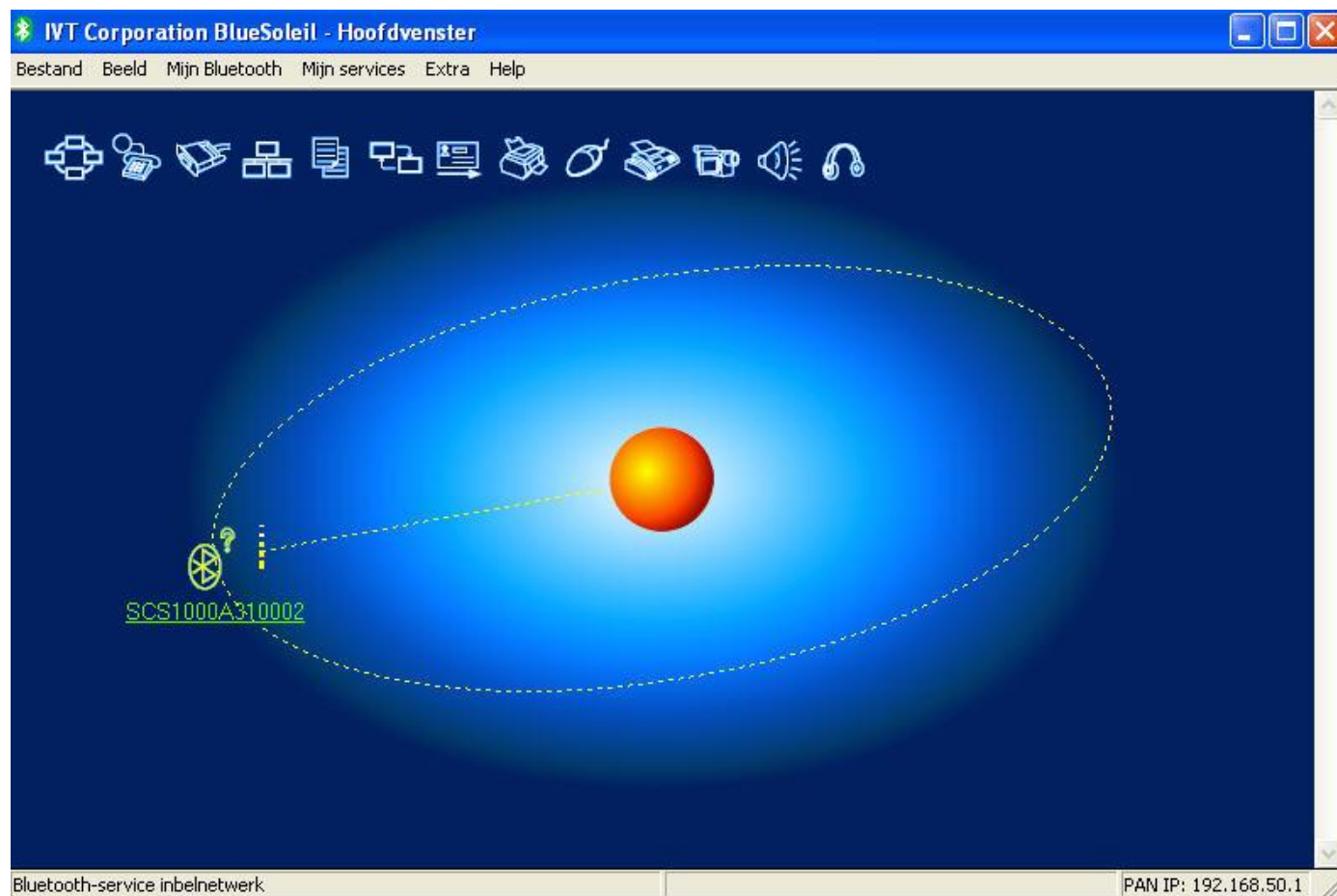
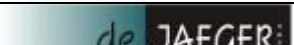


Figure 15-35 Freedom connected



Figure 15-36 Properties Bluetooth

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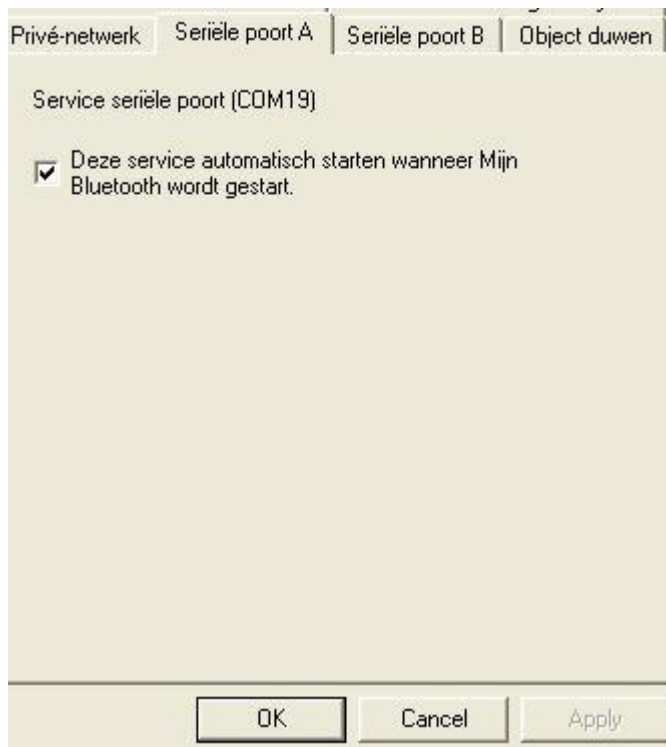


Figure 15-37 Serial port

Here you can see the serial port that the freedom will use to connect.
 This is also the port that needs to be placed in the configuration of the FIM service.
 The wrenchcomport.

To start the Fim service, goto the control panel=>administrative tools=> services

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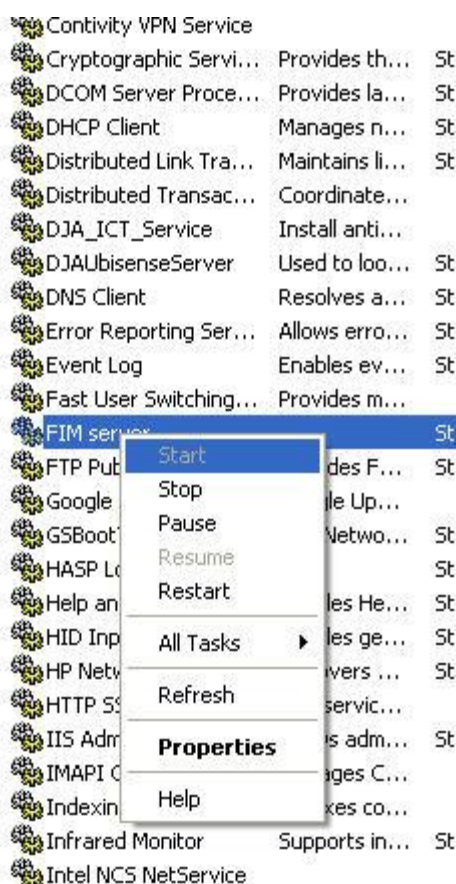


Figure 15-38 Start FIM service

Press start

After words open the properties

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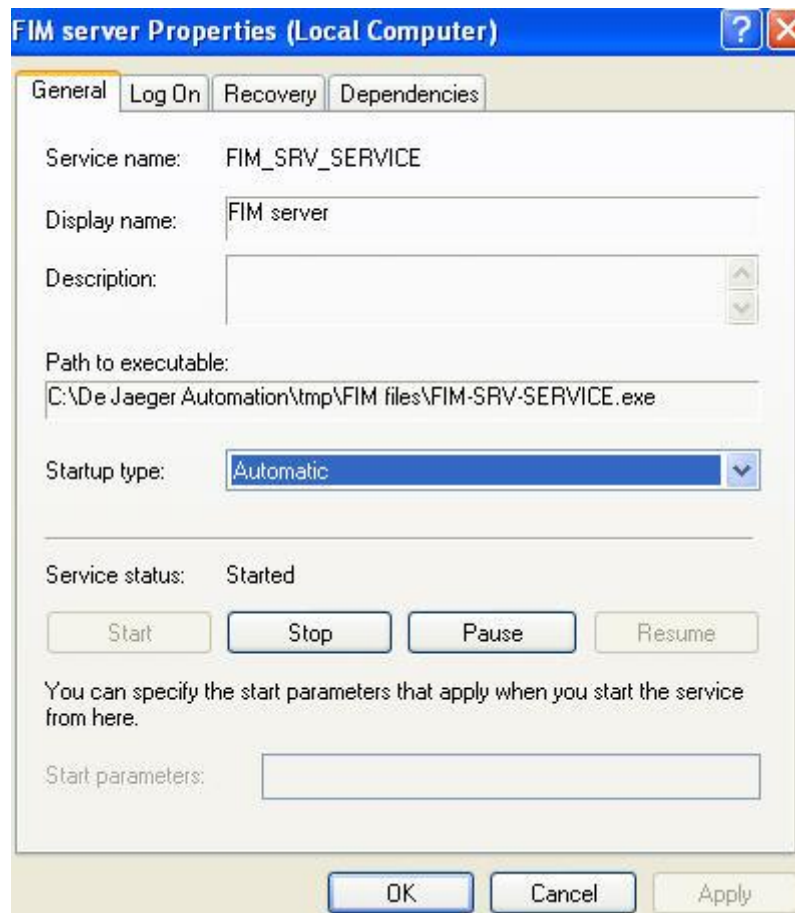


Figure 15-39 Set service to Autostart

Set the Startup type to Automatic and click OK.

16. NOTA'S

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18. NAVIGATION

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