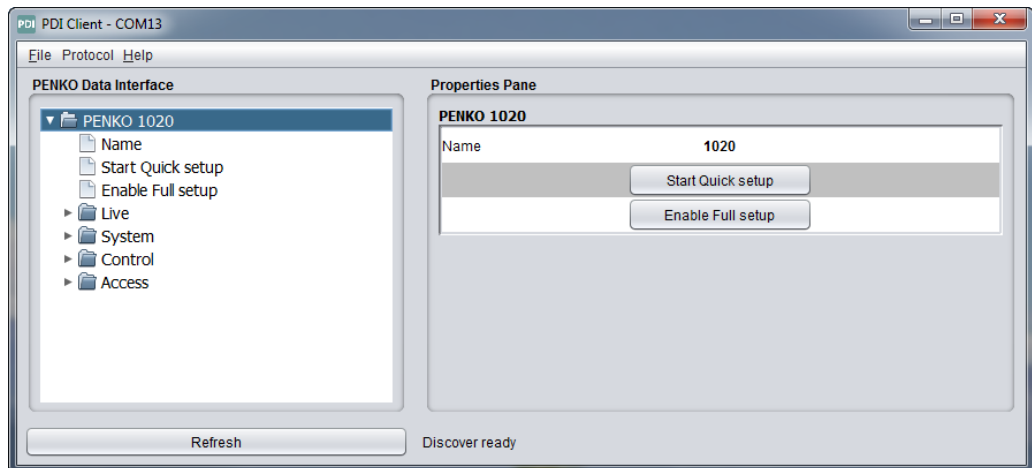


PENKO Engineering B.V.

Your Partner for Fully Engineered Factory Solutions



Manual:
PDI Client



PENKO

an ETC Company

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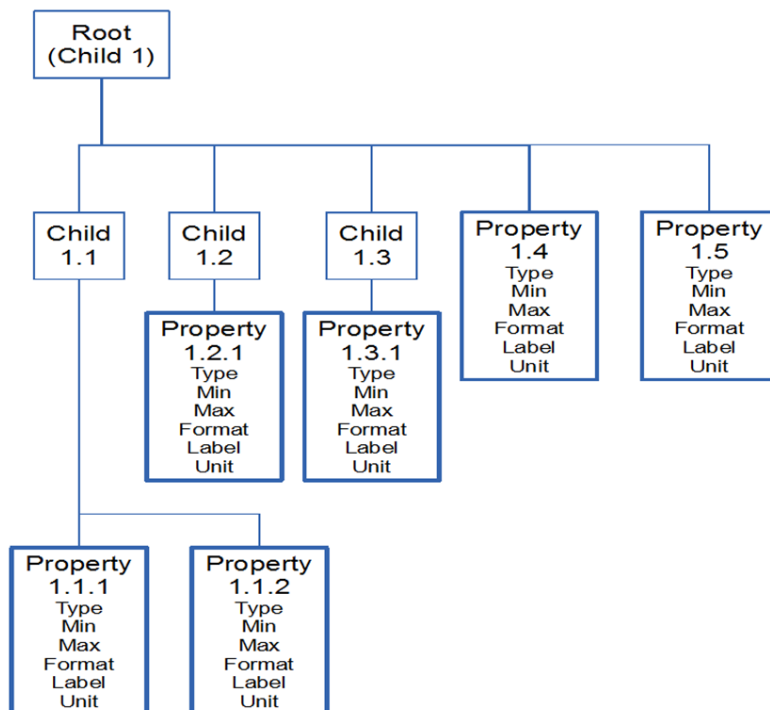
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Introduction

PDI Client is a small and easy to use Java based program to monitor and configure PENKO devices. PDI stands for **PENKO Device Interface** and is the protocol used to communicate.

The PDI data forms a tree structure with the device itself as the highest level. A multi-level data under there is a child. Each child has some properties or another node. Each property or child has a unique path number in the tree. The first child is 1. The first child or property under there is 1.1 and thus there's added another number for each layer. Each property has various properties like data type, minimum value, unit etc.
















1 Installation of needed software

PDI Client is a single file Java program which doesn't need installation. Because it's a Java file, it runs on all operating system that support Java Runtime Environment, the Java virtual machine. The minimum JRE version needed for the program is JRE 1.8.0 (Java 8). Short installation instruction are given for Windows, Linux and Mac OS X

1.1 Windows

Windows users can use the **PDI Client.exe** file. This file contains the Java file and checks the JRE version installed on the operating system. When the JRE is not present or the version is too low, a message appears. Click OK and a browser is opened with the Java download website. Install the correct version, depending on the Windows version, 32-bit (x68) or 64-bit(x64):

Java SE Runtime Environment 8u5		
You must accept the Oracle Binary Code License Agreement for Java SE to download this software.		
<input type="radio"/> Accept License Agreement <input checked="" type="radio"/> Decline License Agreement		
Product / File Description	File Size	Download
Linux x86	40.27 MB	 jre-8u5-linux-i586.rpm
Linux x86	55.46 MB	 jre-8u5-linux-i586.tar.gz
Linux x64	40.4 MB	 jre-8u5-linux-x64.rpm
Linux x64	54.41 MB	 jre-8u5-linux-x64.tar.gz
Mac OS X x64	56.61 MB	 jre-8u5-macosx-x64.dmg
Mac OS X x64	52.61 MB	 jre-8u5-macosx-x64.tar.gz
Solaris SPARC 64-bit	50.32 MB	 jre-8u5-solaris-sparcv9.tar.gz
Solaris x64	47.99 MB	 jre-8u5-solaris-x64.tar.gz
Windows x86 Online	1.53 MB	 jre-8u5-windows-i586-iftw.exe
Windows x86 Offline	29.67 MB	 jre-8u5-windows-i586.exe
Windows x86	45.87 MB	 jre-8u5-windows-i586.tar.gz
Windows x64	32.55 MB	 jre-8u5-windows-x64.exe
Windows x64	48.87 MB	 jre-8u5-windows-x64.tar.gz














After the correct JRE is installed, double clicking **PDI Client.exe** will directly open the program.

1.2 Linux

Linux users can use the **PDI Client.jar** file. Make sure JRE 1.8.0 or higher is installed. Various JRE downloads for Linux are available on:

<http://www.oracle.com/technetwork/java/javase/downloads/jre8-downloads-2133155.html>

Download and install the correct version and PDI Client can be started.

Java SE Runtime Environment 8u5		
You must accept the Oracle Binary Code License Agreement for Java SE to download this software.		
<input type="radio"/> Accept License Agreement <input checked="" type="radio"/> Decline License Agreement		
Product / File Description	File Size	Download
Linux x86	40.27 MB	 jre-8u5-linux-i586.rpm
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Mac OS X x64	56.61 MB	 jre-8u5-macosx-x64.dmg
Mac OS X x64	52.61 MB	 jre-8u5-macosx-x64.tar.gz
Solaris SPARC 64-bit	50.32 MB	 jre-8u5-solaris-sparcv9.tar.gz
Solaris x64	47.99 MB	 jre-8u5-solaris-x64.tar.gz
Windows x86 Online	1.53 MB	 jre-8u5-windows-i586-iftw.exe
Windows x86 Offline	29.67 MB	 jre-8u5-windows-i586.exe
Windows x86	45.87 MB	 jre-8u5-windows-i586.tar.gz
Windows x64	32.55 MB	 jre-8u5-windows-x64.exe
Windows x64	48.87 MB	 jre-8u5-windows-x64.tar.gz

JRE can also be downloaded through the terminal, for example when using Linux Ubuntu. This example is made with Ubuntu 14.04:

Open the terminal (CTR-ALT-T) and enter the following commands:

```
sudo add-apt-repository ppa:webupd8team/java
sudo apt-get update
sudo apt-get install oracle-java8-installer
```

This will install the latest JRE 8 version.

The Java version can be checked with the following command:

```
java -version
```














```
penko@penko-Ubuntu: ~
penko@penko-Ubuntu:~$ java -version
java version "1.8.0_05"
Java(TM) SE Runtime Environment (build 1.8.0_05-b13)
Java HotSpot(TM) 64-Bit Server VM (build 25.5-b02, mixed mode)
penko@penko-Ubuntu:~$
```

1.3 Mac OS X

Mac users can use the **PDI Client.jar** file. Make sure JRE 1.8.0 or higher is installed. Various JRE downloads for Mac are available on:

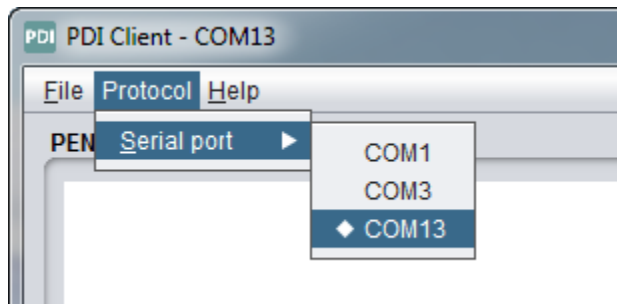
<http://www.oracle.com/technetwork/java/javase/downloads/jre8-downloads-2133155.html>

Download and install the correct version and PDI Client can be started.

Java SE Runtime Environment 8u5		
You must accept the Oracle Binary Code License Agreement for Java SE to download this software.		
<input type="radio"/> Accept License Agreement <input checked="" type="radio"/> Decline License Agreement		
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Windows x86	45.87 MB	 jre-8u5-windows-i586.tar.gz
Windows x64	32.55 MB	 jre-8u5-windows-x64.exe
Windows x64	48.87 MB	 jre-8u5-windows-x64.tar.gz

2 Connect devices

The by USB connected PENKO devices will show up under **Protocol - Serial port**.



For Windows systems a USB driver must be installed first. Windows will then see the PENKO device as serial port device. Download the needed USB driver and consult the USB driver manual. Note that the basic serial ports on the computer like COM1 are also shown. The PENKO device will get a COM number depending on the used USB port, like COM13 in the above picture.



For Linux systems a driver is not needed. The systems will directly see the PENKO device as serial port device. However, in a standard configuration the user does not always have the correct access rights for the ports.

To gain access to the serial ports the user must be added to the “dialout” group.

```
sudo usermod -a -G dialout username
```

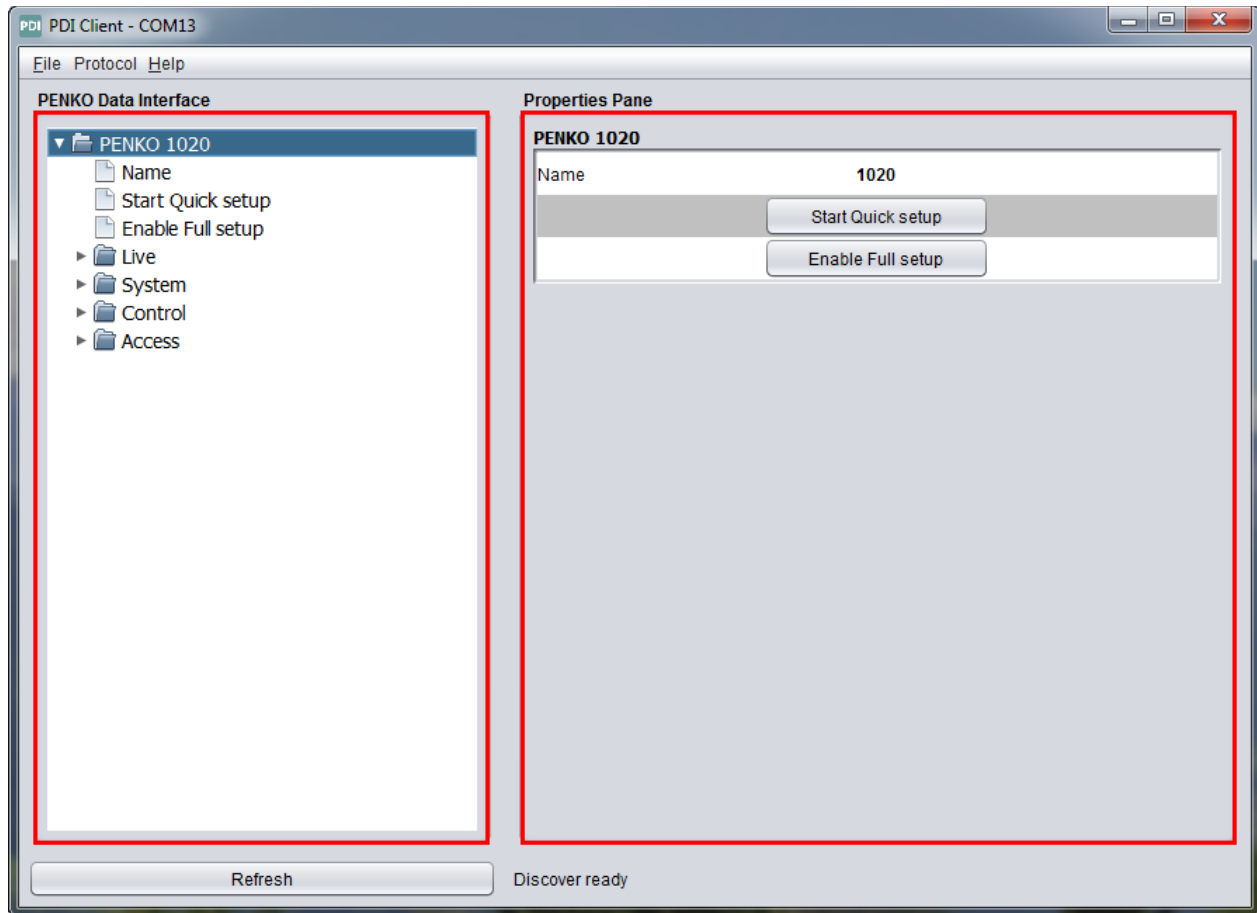
After this command the user has to log off and log back in to get access right to the serial ports. The first connected device is enumerated as `/dev/ttyACM0`, the second as `/dev/ttyACM1` etc.



For MAC systems a driver is not needed. The systems will directly see the PENKO device as serial port device. The first connected device is enumerated as `/dev/tty.usbmodem0`, the second as `/dev/tty.usbmodem1` etc.

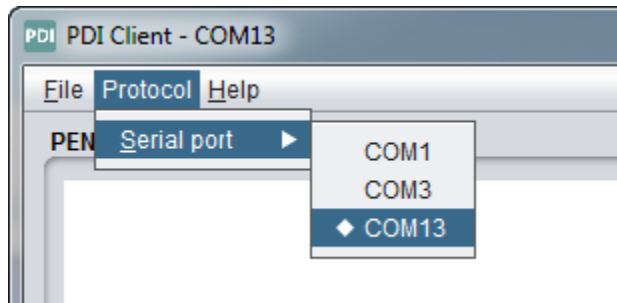
3 Program overview

PDI Client is divided into two screens. The left screen shows the device configuration in a tree structure. The right screen shows the properties that belong to the selected node in the tree.



3.1 Select device

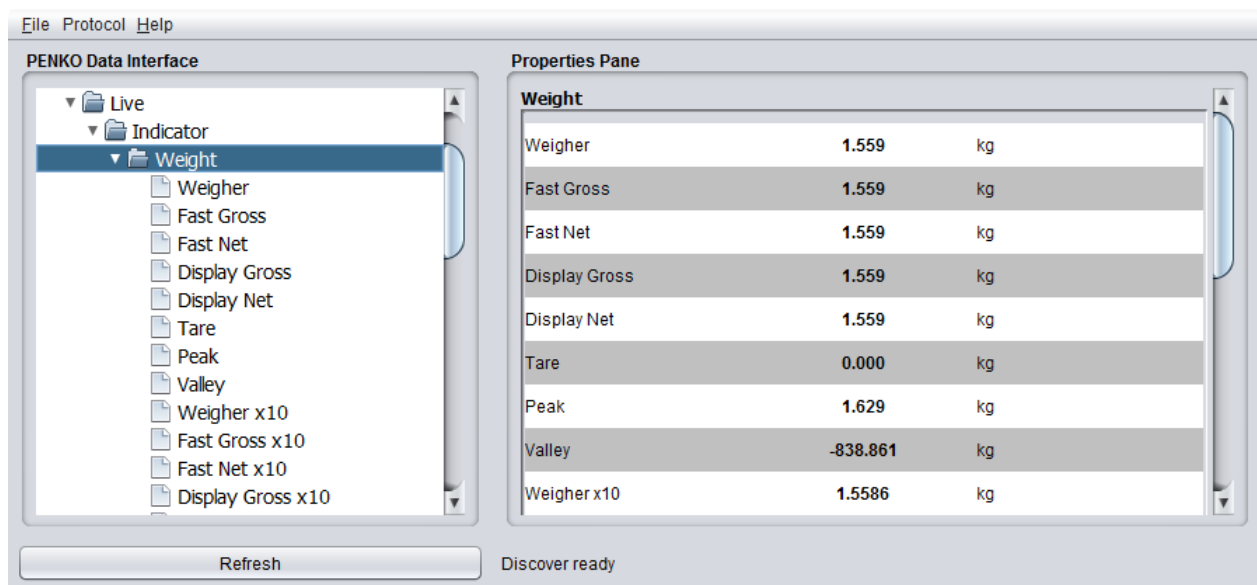
Use **Protocol - Serial port** to select the device.



The configuration of the device is read and will then be shown in the left screen. The **Refresh** button rereads the configuration from the device. The text field next to the button shows the current state of the protocol.

3.2 Read properties

Select a node in the tree and the properties of the node are shown. Live properties are constantly refreshed.



3.3 Write properties

Select a node in the tree and the properties of the node are shown. For a property with a selection list, select the option from the list.

Decimal	<input type="text" value="."/>
Keybeep	<input type="text" value="No"/>
Language	<input type="text" value="English"/>
MenuTimer	<input type="text" value="0"/>
Indicator	<div><div>WEIGHER</div><div>PEAK VALLEY WEIGHER x10 FAST GROSS x10 FAST NET x10 DISPLAY GROSS x10 DISPLAY NET x10 TARE x10</div></div>

The selected option is directly written to the device:

```
Write property Indicator, path [1, 3, 8, 3, 5], value[WEIGHER x10] result: Succeeded
```

For a property with a value, enter the new value and press Enter.

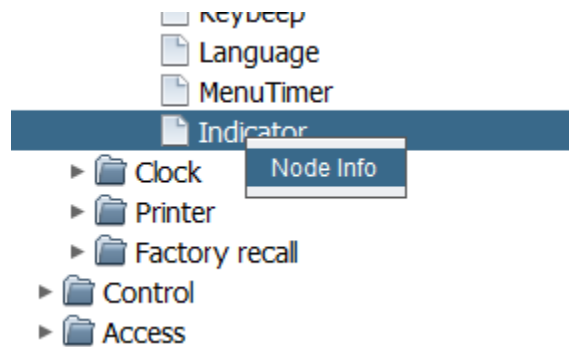
Decimal	<input type="text" value="."/>
Keybeep	<input type="text" value="No"/>
Language	<input type="text" value="English"/>
MenuTimer	<input type="text" value="30"/>
Indicator	<input type="text" value="WEIGHER x10"/>

The entered value is directly written to the device:

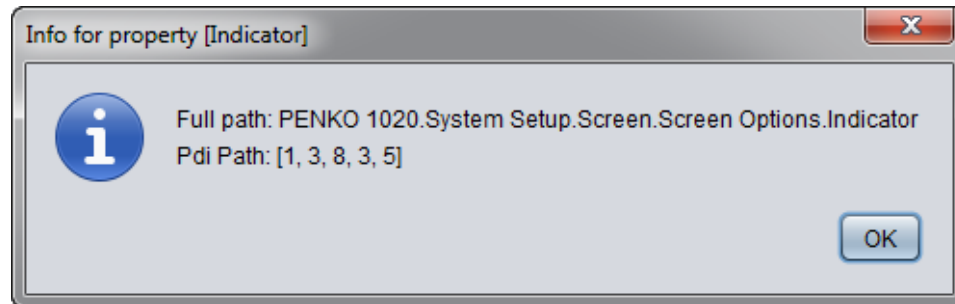
```
Write property MenuTimer, path [1, 3, 8, 3, 4], value[30] result: Succeeded
```

3.4 Property information

Right click a node in the left screen and click **Node Info**.



A dialog opens with the path of the property.



The PDI Path can be used when writing a custom communication application using the PENKO TP protocol.



About PENKO

Our design expertise include systems for manufacturing plants, bulk weighing, check weighing, force measuring and process control. For over 35 years, PENKO Engineering B.V. has been at the forefront of development and production of high-accuracy, high-speed weighing systems and our solutions continue to help cut costs, increase ROI and drive profits for some of the largest global brands, such as Cargill, Sara Lee, Heinz, Kraft Foods and Unilever to name but a few.

Whether you are looking for a simple stand-alone weighing system or a high-speed weighing and dosing controller for a complex automated production line, PENKO has a comprehensive range of standard solutions you can rely on.

Certifications

PENKO sets high standards for its products and product performance which are tested, certified and approved by independent expert and government organizations to ensure they meet – and even – exceed metrology industry guidelines. A library of testing certificates is available for reference on:

http://penko.com/nl/publications_certificates.html



PENKO Professional Services

PENKO is committed to ensuring every system is installed, tested, programmed, commissioned and operational to client specifications. Our engineers, at our weighing center in Ede, Netherlands, as well as our distributors around the world, strive to solve most weighing-system issues within the same day. On a monthly basis PENKO offers free training classes to anyone interested in exploring modern, high-speed weighing instruments and solutions. A schedule of training sessions is found on: www.penko.com/training

PENKO Alliances

PENKO's worldwide network: Australia, Belgium, Brazil, China, Denmark, Germany, Egypt, Finland, France, India, Italy, Netherlands, Norway, Poland, Portugal, Slovakia, Spain, Syria, Turkey, United Kingdom, South Africa, Slovakia Sweden and Switzerland, Singapore.

A complete overview you will find on: www.penko.com/dealers

