

# **Inptools Manual**

**Steffen Macke**

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# **Inptools Manual**

Steffen Macke

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# General

## 1. Introduction

Inptools provides functionality to process EPANET INP files in various ways.

*Inptools* is available from [epanet.de/inptools](http://epanet.de/inptools).

This manual describes *Inptools* version 2.0.12.1.

### 1.1. What's New?

A summary of changes.

#### 1.1.1. Version 2.0.12.1

- Explorer integration for inp2shp. Use the Explorer context menu to generate Shapefiles from INP files.
- Several inp2shp bugs were fixed.
- First three digits of the version number now match version number of EPANET version included in Windows installer.

#### 1.1.2. Version 1.0.1

- Fixed bug in CSV file generation: Link CSV file was named "node.csv" by default.

#### 1.1.3. Version 1.0.0

- EPANET 2.0.0.12 along with the documentation were added to the Windows installer.
- The Windows version requires Windows 7 or higher.
- Improved Windows explorer integration. Double click on \*.net and \*.inp files opens them in epanet2w.

#### 1.1.4. Version 0.2.2

- The inp2shp tool was added.

#### 1.1.5. Version 0.2.0

- New functions have been added to the Windows Explorer context menu: "Create CSV file", "Create binary result file", "Help"

The epanet2csv tool was added.

#### 1.1.6. Version 0.1.0

- The first public release.

## 2. Requirements

Linux or Windows (7, 8, 8.1 or higher) are required in order to use the *Inptools*.

Inptools 0.2.3 is the last version that supports earlier Windows versions.

## 3. Installation

How to install *Inptools*.

### 3.1. Windows Installation

How to install *Inptools* on Windows.

Download the installer from [epanet.de/inptools](http://epanet.de/inptools) and execute it.

### 3.2. Linux Installation

How to install *Inptools* on computers running the Linux operating system

Download the RPM package from [epanet.de/inptools](http://epanet.de/inptools) and install it.

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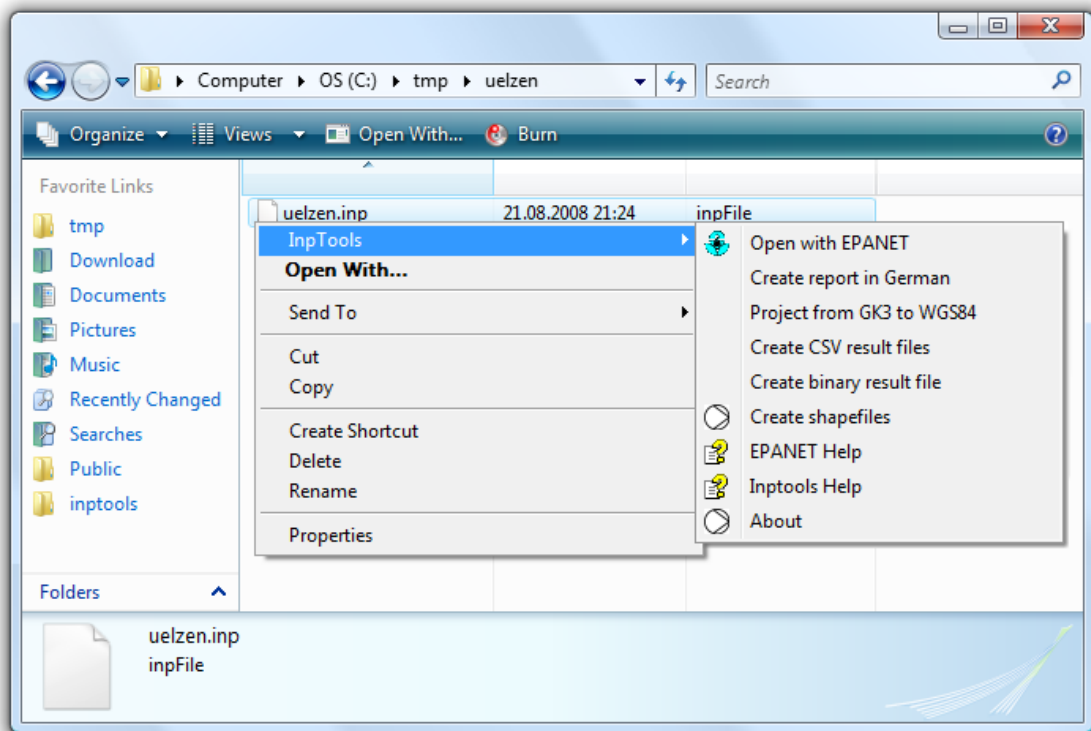
# Reference

## 1. Usage

Inptools can be used in Windows Explorer or from the commandline.

Inptools adds a context menu to Windows Explorer that can be activated by right-clicking on \*.inp files.

### 1.1. Windows Explorer Integration



Windows Explorer Integration

To access Inptools, do the following: Open Windows Explorer.

Navigate to an INP files.

Right-click on the INP file.

Select the Inptools menu.

#### 1.1.1. Open INP file with EPANET

Chosen Inptools->Open with EPANET will open the selected INP file in **epanet2w** for interactive editing.

This option is only available if EPANET is installed.

#### 1.1.2. Create report in German

Choosing Inptools->Create report in German will create a hydraulic analysis report in German language from the selected INP file.

### 1.1.3. Project from GK3 to WGS84

Choosing Inptools->Project from GK3 to WGS84 will convert (projects) the selected INP file with Gauß-Krüger coordinates (GK3) into a new INP file with geographic (WGS84) coordinates.

### 1.1.4. Create CSV result files

Choosing Inptools->Create CSV result files will create two CSV files with hydraulic analysis results. One file will contain node results and the other will contain link results. When generating CSV files, make sure that you use different file names for nodes and links.

### 1.1.5. Create binary result file

Choosing Inptools->Create binary result file will create a hydraulic analysis report along with a binary result file. This file can be further processed e.g. with the commandline tool **epanet2csv**.

### 1.1.6. Create Shapefiles

Choosing Inptools->Create Shapefiles will create several shapefiles (junctions, pipes, pumps, tanks, reservoirs and valves) from the selected INP file.

The generated Shapefiles can be used in GIS Software like QGIS (Have a look at the GHydraulics plugin, if you use QGIS.).

## 1.2. Commandline Usage

The inptools package contains several commandline tools.

### Note

The use of the commandline tools is optional for Windows users. If you are not familiar with commandline interfaces, please stick to the Windows Explorer context menu (Section 1.1, “Windows Explorer Integration”).

### 1.2.1. epanet2csv

**epanet2csv** converts an EPANET binary result file into two CSV files. CSV files can be read by spreadsheet software like OpenOffice Calc or Excel, relational database software like PostgreSQL or MySQL and GIS software.

Binary result files can be created e.g. using **epanet2d** or **epanet2l** (Section 1.2.2, “epanet2d”, Section 1.2.3, “epanet2l”).

#### 1.2.1.1. Synopsis

```
epanet2csv binaryresultfile nodes.csv links.csv
```

### 1.2.2. epanet2d

**epanet2d** is part of the standard EPANET distribution. It's documented here because it's part of the Windows Inptools package and one option to create a binary result file that can be processed by **epanet2csv**.

#### 1.2.2.1. Synopsis

```
epanet2d inpfile reportfile [binaryresultfile]
```

The `binaryresultfile` parameter is optional. Provide a path or filename in order to create a binary result file.

### 1.2.3. epanet2l

**epanet2l** is a modified (localized) version of **epanet2d** that allows to generate report files in German.

The `LANG` environment variable can be used to determine in which language the command should operate (E.g. "en" or "de").

#### 1.2.3.1. Synopsis

```
epanet2l infile reportfile [binaryresultfile]
```

The `binaryresultfile` parameter is optional. Provide a path or filename in order to create a binary result file.

### 1.2.4. inp2shp

The `inp2shp` command converts an INP file into a set of shapefiles.

#### 1.2.4.1. Synopsis

```
inp2shp infile reportfile junction_shapefile pipe_shapefile pump_shapefile rese
```

### 1.2.5. inproj

The `inproj` command converts (projects) an INP file with Gauß-Krüger coordinates (GK3) into a new INP file with geographic (WGS84) coordinates.

#### 1.2.5.1. Synopsis

```
inproj inputfile outputfile
```

## 2. Troubleshooting and Support

Please report any problems through the `epanet.de` support form:

<http://epanet.de/en/support.php>

## 3. Development

Most of the source code is plain C and should compile with virtually any C compiler.

Users on Linux or with a Linux-like build system should be able to use the standard

```
./configure  
make  
make install
```

in order to build and install.

The `epanet2csv` command does not have any external dependencies.

The `inp2shp` command depends on the EPANET toolkit and `shapelib` libraries. Please add the respective header files to your include path and link against the libraries

The `inproj` command depends on the EPANET toolkit and `PROJ.4` libraries. Please add the respective header files to your include path and link against the libraries.



The C++ code can be compiled using MinGW.

## 3.1. Release Process

Update the version number in `configure.in`, `installer/win32/inptools-setup.nsi`, `doc/de/inptools.xml`, the MSVC project and `doc/en/inptools.xml`.

## 3.2. Coding style

K&R style with 8 character indents shall be used to format the code. The `indent` command can be used to format the code:

```
indent -kr -i8 epanet2csv.c
```

## 4. License

Inptools - Tools to work with EPANET INP files.

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### 4.1. Shapelib License

The `inp2shp` and `shp2inp` commands use shapelib under the terms of the LGPL.

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### 4.2. PROJ.4 License

The `inproj` command use the PROJ.4 cartographic projections library.

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### 4.3. Gettext License

Several `Inptools` commands use `gettext` under the terms of the LGPL.

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