Title
IcepapCMS 0.1 User Manual

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# Table of Contents

# 1  Introduction

The aim of this application is to provide a tool that allows managing the hardware settings of the motor drivers in an Icepap system.

## 1.1  Features

- **Tool initialization and controller selection**. Determine the accessible controllers, which motor drivers are present, their status, etc. Check the configuration consistency between the local configuration and the Icepap System.

- **Display a graphical representation of the Icepap.** (crate, position at the rack)
    - Display a grid with all the drivers in the current Icepap system.
    - Detailed view of a single crate.
    - For each driver display the current, axis and the Enabled/Disabled status.

- **Driver configuration**.
    - Current configuration of each driver.
    - Different configuration per motor driver. (Historical configuration)
    - Configuration templates. Default parameters for particular motors.

- **Test tool.**

- It must be possible to run the tool in a beamline environment and on a networkless computer.
    - **Beamline environment.**
        - Icepap System configuration database
    - **Networkless computer.**
        - Single directory to store the system configuration.

# 2  Icepap system management

The tree explorer section shows a tree with the different Icepap Systems.

## 2.1  Adding Icepap

Perform the following steps:
1.  Click add Icepap ✚
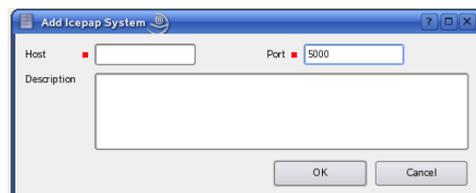
2. Enter the hostname and the port where the icepap is listening
3. Optionally enter a description
4. Press Ok button

## 2.2 Removing Icepap

Perform the following steps:
1. Select an Icepap System in the tree.
2. Click remove Icepap ▬

## 2.3 Consistency checking

At the application startup or when the user presses the button ⟳, a consistency checking is done. The following checks are done:

- New driver present. 🔘
  The system has found a new driver in the Icepap system



- Driver not present. 🚫
  A driver in the Icepap is not accessible at this moment.
  Double-clicking the driver icon, the icepap can permanently remove the driver or keep it in the database.
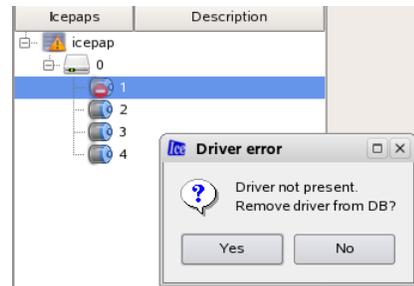


- Driver configuration has changed ⚠️
  The system has detected that the configuration in the hardware has changed.
  Double-clicking the driver icon, a table shows the differences between the Icepap and the System values. The user can choose which configuration is the correct one.
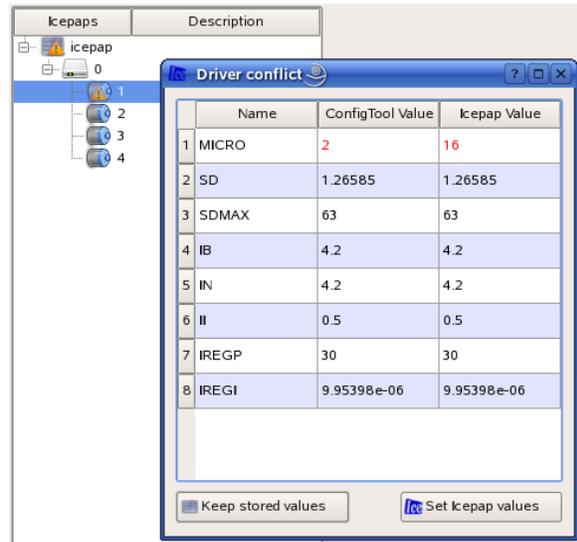
## 2.4  System / Crate view

There are different views of the Icepap system, starting from the highest level (full system view) and ending in the driver level (Configuration and Test Tool). The tree explorer allow the users to navigate at the different levels.

At the system/crate level, a grid of drivers shows:
- Name of the driver
- Status (enabled/disabled)
- Current used by the driver
- Limit switches

For each driver the users can perform the following actions:
- Enable / Disable the driver
- DoubleClick driver to configure it.
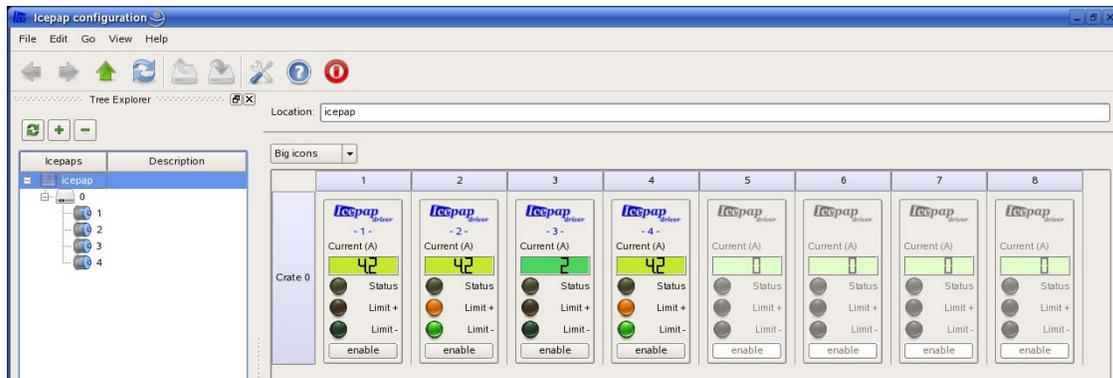
### 2.4.1 Full Icepap System View

This view will show a general view of the Icepap system, displaying a grid with all the drivers present at the different crates.

### 2.4.2 Crate view

This view will show the information for a single crate (8 drivers), displaying a more detailed view of the different drivers.

# 3 Driver configuration

## 3.1 Features



- Read/Write the driver configuration parameters.
- Configuration parameters filtered depending in the user mode.
- Historical configuration of the driver. Load/Save previous configurations.
- Motor Templates. Default parameters for particular motors.
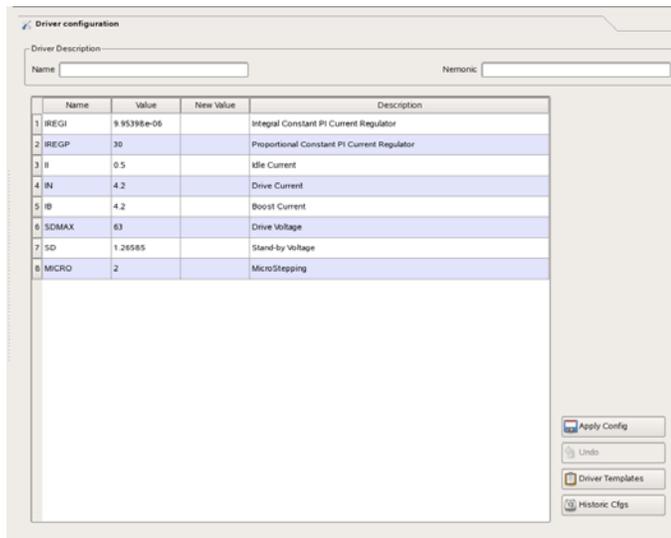
To change the current configuration of the driver, perform the following steps:

1. Enter the new values in the third column.
2. Click on *Apply Cfg.*

Press *Undo* to get the previous configuration

## 3.2 Historic configurations



The historic configuration allows the users to keep for one driver a list on different configurations sorted by data.

To store the current configuration in the historic database perform the following steps:

1. At the driver configuration screen click on *Historic Cfgs*
2. Enter a name and a description of the current configuration.
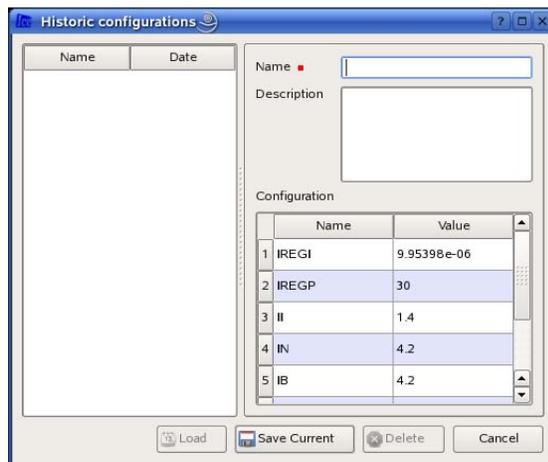
3. Click on *Save Current*

To load a previous configuration, perform the following steps:
1. At the driver configuration screen click on *Historic Cfgs*
2. Select the desired configuration on the left table.
3. Click on *Load or Delete.*
4. At the driver configuration screen, click on *Apply Cfg.*


## 3.3  Driver templates

The driver templates function allows the user to store configuration templates. This feature is useful for future driver configurations with similar specifications.

To store the current configuration as a driver template, perform the following steps:
1. At the driver configuration screen click on *Driver Templates*
2. Enter a name and a description of the current configuration.
3. Click on *Save Current*

To load a driver template, perform the following steps:
1. At the driver configuration screen click on *Driver Templates*
2. Select the desired configuration on the left table.
3. Click on *Load or Delete.*
4. At the driver configuration screen, click on *Apply Cfg.*
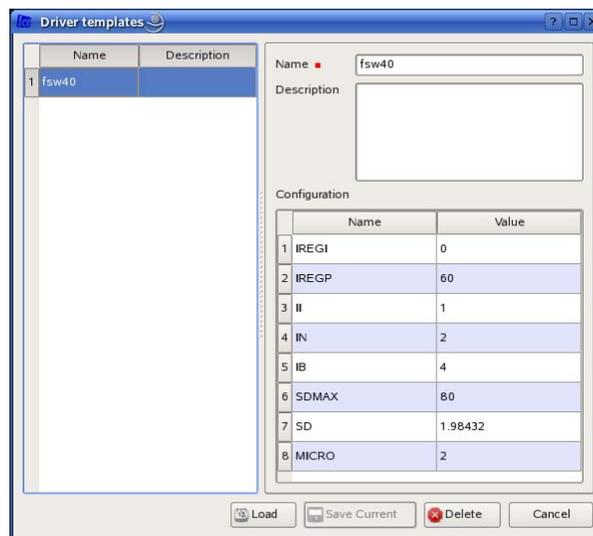

## 3.4  Working with files

At the driver configuration screen the user can export or import a configuration from an XML file.

# 4   Driver test tool

## 4.1   Features

- Tune
  - Speed
  - Acceleration (steps/s$^2$ )
  - Acceleration time ( (V-V$_0$) / a )
- Axis movement
  - Absolute and relative
  - Stop
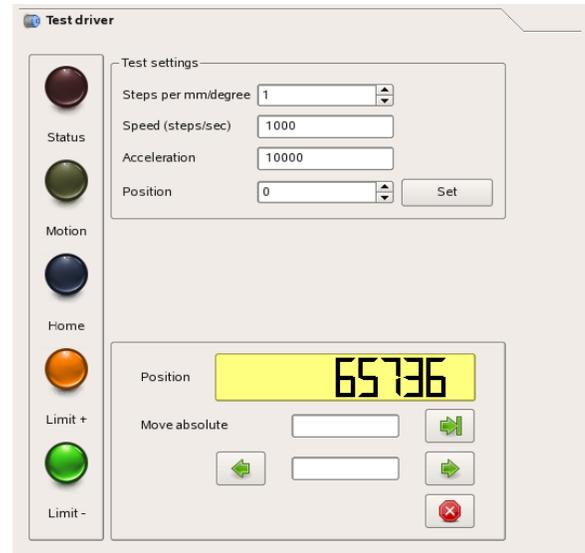
# 5   Preferences

## 5.1   Storage configuration

This system can work in two different modes.

- **Local storage**. The user has to select a directory where the system will store the database.
- **Remote storage**. Provide the hostname and the port of the machine where is running the ZEO server. (read the document remoteserver_setup.txt for more information)