

# MICROSENS

## **User Manual** | Switch IP Config Tool

<b>Application Version</b>	2.1
<b>Document Version</b>	0.0.2
<b>Date</b>	2020-09-24

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# 1 Introduction

The MICROSENS Switch IP Config Tool (hereafter referred to IP Config Tool) makes it possible to find MICROSENS switches installed in the available corporate network and to modify their IP settings.

**Note:**

The IP Config Tool is a functional component of MICROSENS Network Management Platform (NMP) but operates independently from NMP as a stand-alone application. No NMP license file is necessary to use the IP Config Tool.

# 2 Installation

## 2.1 System Requirements

**Note:**

The IP Config Tool requires a 64-bit operating system.

The IP Config Tool is designed to run on personal computers with the following minimum requirements.

**Note:**

Please refer also to the latest IP Config Tool release notes document provided with the application installer. In case of doubt, it contains the latest installation requirements.

- Operating system: Windows 10, Debian Linux 9, CentOS Linux 7.6
- RAM: 512 MB
- Free disk space: 2 MB
- CPU: 1.5 GHz, typically 1-2 Core CPU
- Display resolution of at least 1024\*768

For network access a network interface with TCP/IP stack must be installed and configured.

## 2.2 Installer determination

While the IP Config Tool functionality is identical on both Windows® and Linux operating systems the installation process differs slightly.

	<b>Windows®</b>	<b>Linux</b>
Installation files	1x IP Config Tool installation file	1x IP Config Tool installation file
File format	Standard Windows® .exe file	compressed tarball files (.tar.gz)
Installation process	via file explorer	via Linux CLI or archive management application

The IP Config Tool is a Java application that works on both Windows® and Linux operating systems. The required Java Runtime Environment (JRE) is part of the

IP Config Tool installer, so that no additional Java installation is necessary on your operating system.

## 2.3 Port and Firewall Settings

To ensure a proper operation of the IP Config Tool in the corporate network the following port and firewall settings are mandatory:

Port	Protocols	Description
1025	UDP, MICROSENS proprietary protocol	<b>Note:</b> Necessary for the receiving end only (destination port) Used for application and device communication: <ul style="list-style-type: none"><li>• application initiates the communication with devices</li><li>• used on G5 and older generation of switches</li></ul>
8340	UDP, MICROSENS proprietary protocol	Used by IP Request listener for application and device: <ul style="list-style-type: none"><li>• application listens on this port for special UDP packets (IP Requests)</li><li>• used for device IP configuration of all generations of MICROSENS switches and NM3 modules</li></ul>

## 2.4 Software Installation on Linux Operating Systems

### Note:

For more information on how to use the CLI or the archive management application of your specific Linux distribution please refer to the respective documentation.

To install the IP Config Tool on Linux use the following steps:

1. Create a new IP Config Tool directory on the local computer, e.g. `~/MICROSENS/IP_Config_Tool/`.
2. Extract the files contained in the respective `tarball` file into this directory, either by opening the CLI and using the `tar` command (e.g. `tar -zxvf MICROSENS_SwitchIpConfigTool(v2.1.0)_64bit.tar.gz`) or the respective archive management application of your Linux distribution.
3. If you want to use a shortcut later on to conveniently start the IP Config Tool with one click (e.g. on your desktop or in the quick launch bar) please refer to the respective documentation of your Linux distribution. The shortcut has to point to the file `start.sh`.

### Note:

After file extraction is finished the IP Config Tool has to be started with root access rights.

## 2.5 Software Installation on Windows® Operating Systems

On Windows® open the file explorer and navigate to the directory containing the installation file of the IP Config Tool. Double-click the respective file (e.g. named MICROSENS\_SwitchIpConfig\_Installer(v2.1.0)\_64bit.exe) to start the installation process.

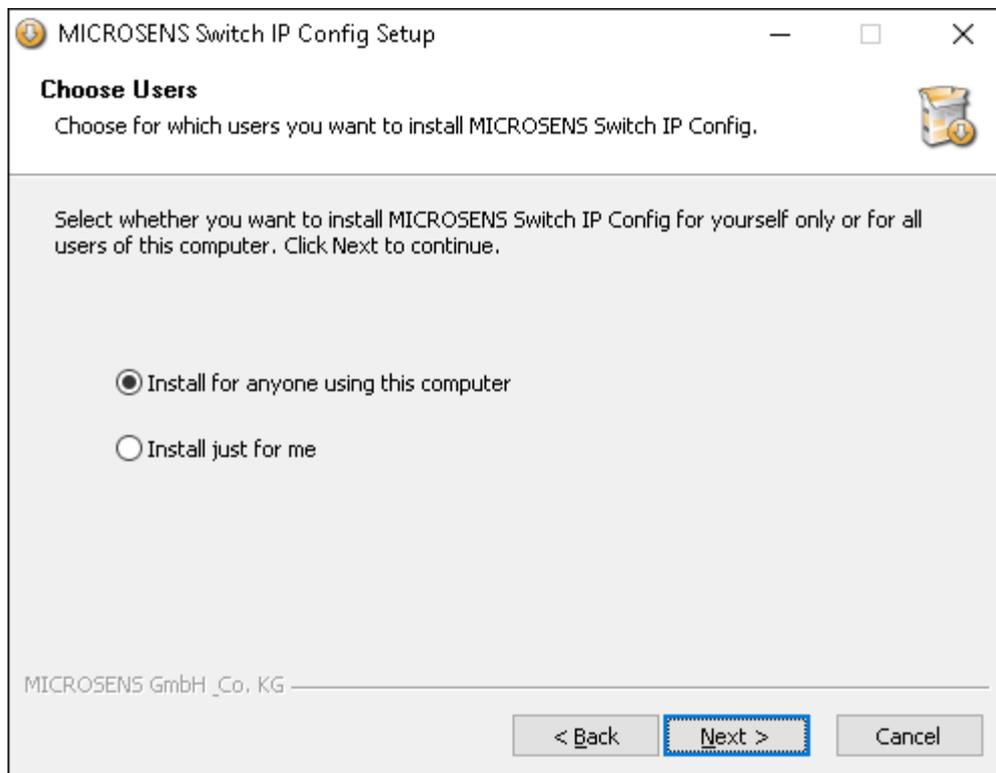
### Note:

After starting the installer application Windows® may show a popup dialog asking you to confirm the installation. Click the button "Yes" to proceed.

### 2.5.1 Choose Users

On the installer's welcome screen click the button "Next" to proceed.

On the opening user selection screen choose for which users the management application should be installed:



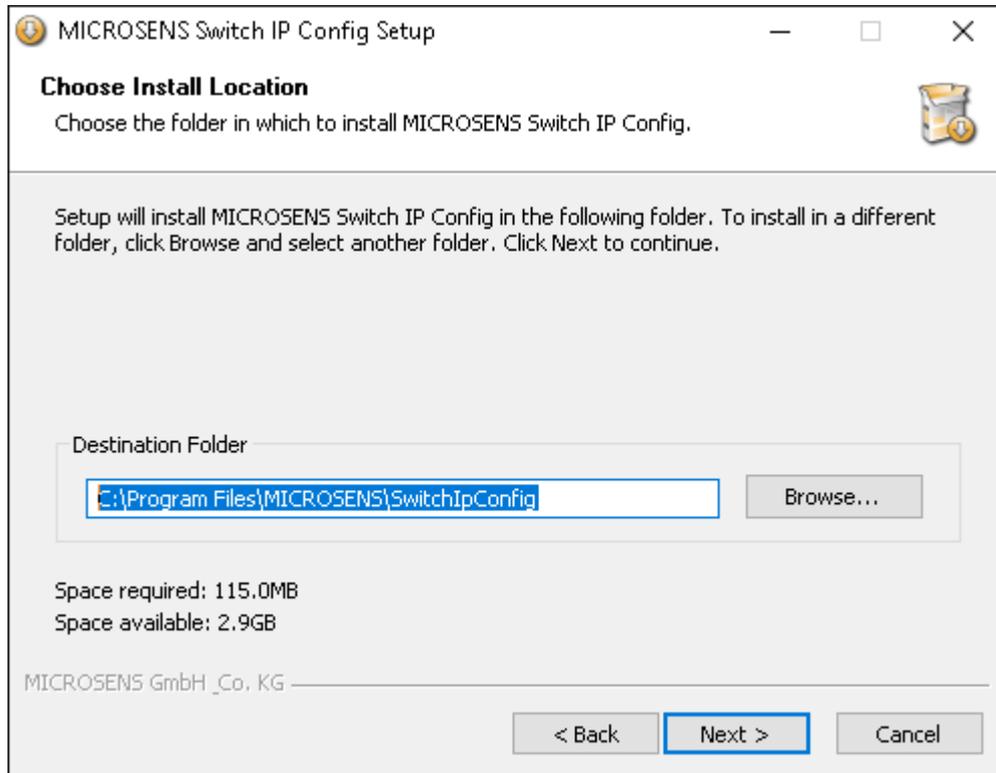
**Fig. 1: Installation - Choose Users**

- "Install for anyone using this computer": Every registered user on this computer is able to use the management application after installation.
- "Install just for me": Only the user logged in can use the management application, whereas other users can't.

Hit the button "Next" to proceed.

## 2.5.2 Choose Install Location

Enter the installation path in which you want to install the application. For most cases it is recommended to leave the default destination folder as is.

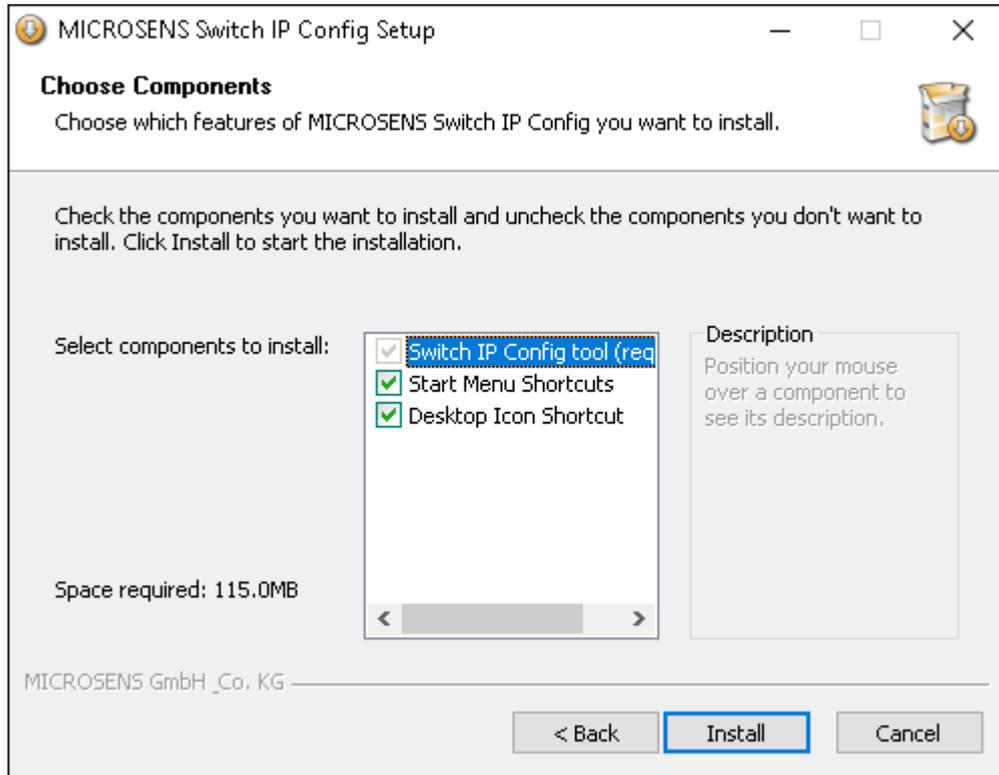


**Fig. 2: Installation - Choose Install Location**

Hit the button "Next" to proceed.

### 2.5.3 Choose Components

Check or uncheck the component options based on your needs.



**Fig. 3: Installation - Choose Components**

Hit the button "Install" to start the installation process. After successfully completing the installation hit the button "Finish" to close the IP Config Tool installer.

The IP Config Tool is ready for use.

## 3 Start and Operation

### 3.1 Starting on Linux

Depending on how you finished the installation process there are two principle methods to start the IP Config Tool:

- Click on the specific shortcut (e.g. on your desktop or quick launch bar)
- Open a CLI and navigate to the directory where you previously unpacked the application files.

The home directory of the IP Config Tool contains a shell script file named `start.sh`.

In the CLI enter the command `./start.sh` to start the application.

**Note:**

Make sure you have the necessary permissions to execute shell scripts.

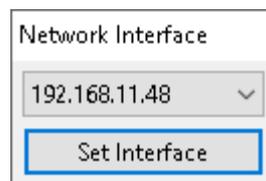
## 3.2 Starting on Windows®

Depending on the component selection during installation start the IP Config Tool by one of the following ways:

- Click on the desktop shortcut.
- Open the Windows® Start menu and navigate to **MICROSENS > MICROSENS SwitchIpConfig**.
- Open the file explorer, navigate to the previously determined installation path (e.g. C:\Program Files\MICROSENS\SwitchIpConfig) and start the application MsSwitchIpConfig.exe.

## 3.3 Choose Network Interface

To operate the IP Config Tool properly you have to choose the active network interface on first start up.



**Fig. 4: Choose Network Interface**

In the opening dialogue choose the respective IP address from the drop-down list and hit the button "Set Interface".

The IP Config Tool will automatically assign this IP interface on future start up.

You can change the IP interface afterwards via the menu entry **Actions > Change Network Interface** or directly with the button "Change Network Interface". No application restart is necessary.

### 3.4 Start Screen

The IP Config Tool displays the following start screen.

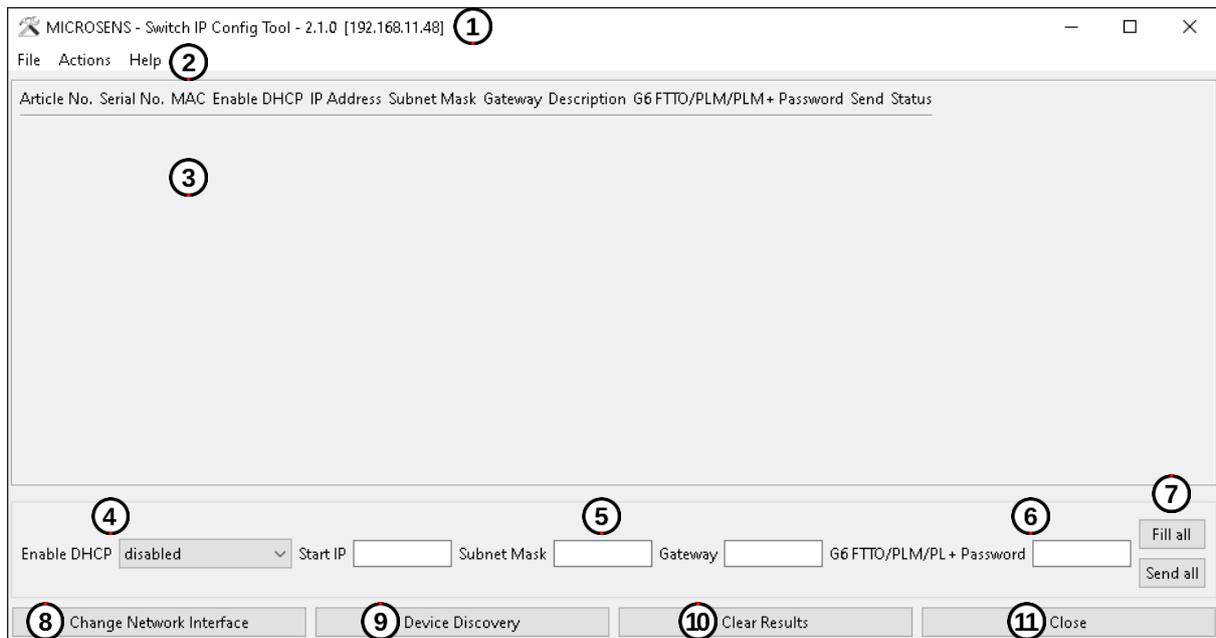


Fig. 5: Start Screen

**Note:**

The most important actions are available via the buttons at the bottom of the dialogue. Those actions can be conveniently executed either via the button or via the respective entry in the menu bar.

- ① - The application's title bar shows the selected IP interface.
- ② - Menu bar
- ③ - Information pane that provides information about MICROSENS devices found in the broadcast domain.
- ④ - DHCP settings
- ⑤ - IP settings
- ⑥ - Password for G6 devices
- ⑦ - Editing of multiple devices at once
- ⑧ - Change the network interface.
- ⑨ - Start the device search.
- ⑩ - Clear the search results in the information area (③).
- ⑪ - Close the application.

## 3.5 Menu Bar

The menu bar (see Fig. 5, ②) contains the following entries:

### 3.5.1 File

- **Exit**

Close the application (identical to Fig. 5, ⑪)

### 3.5.2 Actions

- **Change Network Interface**

Select another IP interface from the drop-down list if necessary (identical to Fig. 5, ⑧)

- **Device Discovery**

Search for all MICROSENS devices in the connected corporate network (identical to Fig. 5, ⑨)

- **Clear Results**

Clear the information area list from previously found devices (identical to Fig. 5, ⑩)

### 3.5.3 Help

- **About:** Shows an information window containing the application's version and the manufacturer's address information.

Use this information when asking the manufacturer for support.

## 3.6 Searching Network for Devices

After start up the information pane (Fig. 5, ③) is empty. Providing that the correct IP interface is selected a click on the button "Device Discovery" (Fig. 5, ⑨) will start the network scanning process.

This function allows you to search devices without an IP address assigned or with an unknown or wrong IP address (i.e. if its IP address does not belong to your network).

**Note:**

This function searches devices only in your broadcast domain.

All devices discovered are listed afterwards in the information pane (Fig. 6, ③).

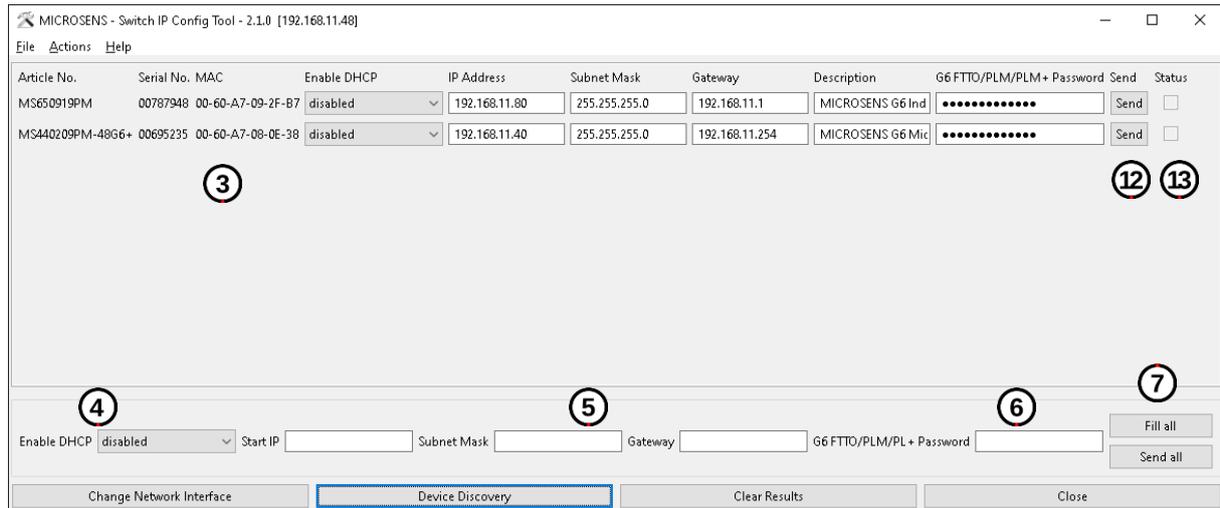


Fig. 6: Information Pane with Search Results

The IP Config Tool provides the following information for the specific device:

- Article number,
- serial number,
- MAC address,
- DHCP setting,
- current IP settings,
- device description and
- masked password.

## 3.7 Changing Device Settings

### 3.7.1 Single Device

It is possible to edit the editable text field of a single list entry. Just alter the desired setting of the field (e.g. IP settings or description) and hit the button "Send" (Fig. 6, ⑫) of the respective entry row.

- The status indicator (Fig. 6, ⑬) changes to yellow which means that the configuration is being applied.
- The status indicator eventually changes to green if the changes were correctly applied.
- In case of a failure (e.g. using a wrong password) the status indicator eventually changes to red. In such a case you can try to send new configuration once again with the button "Send".

### 3.7.2 Multiple Devices

It is possible to configure multiple devices at once by using the configuration options at the bottom (Fig. 6, ④ to ⑥).

Enter the desired settings for DHCP and IP settings into the fields and hit the button "Fill all" (Fig. 6, ⑦). All settings are transferred to the respective list field.

Hit the button "Send all" (Fig. 6, ⑦) to send the specific settings to the respective device.

**Note:**

Before sending the new configuration to all devices it is possible to change some entries if necessary.

## 3.8 Constraints

When changing the settings of one or multiple devices keep the following constraints in mind:

### 3.8.1 MAC-based Device Discovery

The device searching mechanism is based on finding MAC addresses in the network.

As a result, this will work only for devices whose firmware supports MAC-based Discovery functions. In case of doubt contact MICROSENS to get the newest firmware for your devices.

### 3.8.2 DHCP Settings

The application offers three different modes for DHCP:

- DHCP disabled
- DHCP enabled
- DHCP with Script

For FTTO switches Generation 5 (and older) and for Industrial switches (e.g. MS65086x) only the first two DHCP options are available.

When using FTTO switches Generation 6 or PLM ProfiLine Modular/PL+ Industrial switches it is possible to select the option "DHCP with Script" (i.e. use DHCP, load script from server and execute it, also known as "Option 66/67").

### 3.8.3 Passwords

Additionally, in order to configure the FTTO G6, PLM or PL+ switches the correct admin password must be entered. For switches prior Generation 6 the value from the password field is omitted.

The default password for the admin user is "administrator". If for security reasons the default password has changed ask the responsible administrator for valid credentials.

When entering one password for multiple devices make sure that all devices are using the same password. If a device rejects the new settings due to a wrong password the status indicator of the respective device turns red.

If this happens enter the correct password for the respective device and manually send the new settings by hitting the button "Send" (Fig. 6, ⑫).

### **3.8.4 Consecutive IP Address Order**

It is possible to assign consecutive IP addresses to multiple devices.

Enter the start IP address into the specific field (Fig. 6, ⑤) and hit the button "Fill all" (Fig. 6, ⑦).

The top list entry gains the determined start IP address. From then on, all list entries below get a consecutive IP address increased by "1" for the node address part (e.g. "192.168.11.20", "192.168.11.21", "192.168.11.22" and so on).

**Note:**

**Use this function with caution!** Bear in mind that devices in the network not detected by the IP Config Tool may use an IP address that you are going to assign to a listed device additionally. Two devices with identical IP addresses may cause the network to work instable.

## **Disclaimer**

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Document ID: UM-200xx\_2020-xx-xx