

# MCS NETWORK INTERFACE CONFIGURATION GUIDE

## ***Introduction***

This document gives you a step by step introduction to configure the network parameter of the MCS ethernet interface according to your needs. Any internet browser may be used to change the network configuration via the provided graphical web interface (web gui).

The MCS is delivered to you with a preconfigured (default) network configuration. See table below for the configuration parameters.

## ***External Preconditions***

To be able to access the configuration webpage, the MCS must be connected to a network in the address range 192.168.xxx.xxx. The easiest way to do this is to connect the MCS directly to the PC ethernet interface and to configure a static IP address for the PC. (For example 192.168.1.100). If the network is still configured to meet the address range 192.168.xxx.xxx the MCS can be connected directly to this network.

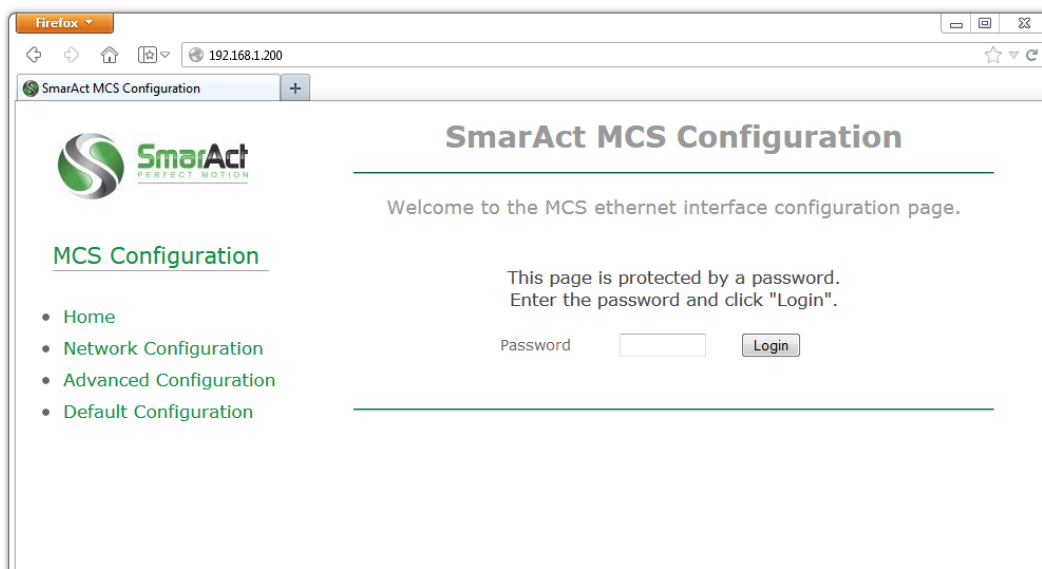
If several MCS with ethernet interface should be used at the same time, make sure to configure a unique IP address for every MCS.

## ***Default Configuration***

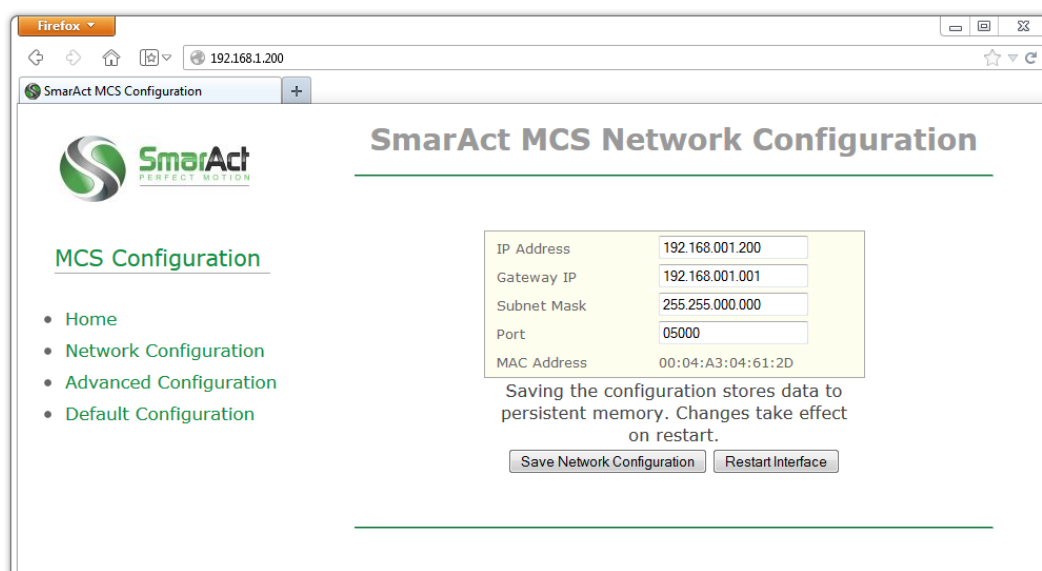
Parameter Name	Default Value
IP Address	192.168.1.200
Gateway IP	192.168.1.1
Subnet Mask	255.255.0.0
Port	5000
Default Password	smaract
Retry Timeout [ms]	200
Retry Count	3

## Network Configuration Step by Step

Step	Description	Additional Information
1.	Connect the power supply plug to the MCS and connect the system to the PC via a standard RJ45 ethernet cable.	Make sure to connect only one MCS (with default configuration) at the same time, to avoid IP address collisions.
2.	Power up the MCS.	
3.	Open the internet browser. Enter the IP address of the MCS in the address bar. Press return.	Disable a potentially configured proxy server in the browser settings.  Default IP: <b>192.168.1.200</b>
4.	Now you should see the login page of the MCS's web configuration interface. If not, assure that the MCS is connected properly.	See screen shot 1 below. The "ping" command can be used to test the physical connection. Open a command shell and type: "ping 192.168.1.200". Press return. In case of correct network setup and proper connection you get a reply from the MCS.
5.	The configuration page is protected by a password. Enter the password and press the "Login" button.	See screen shot 2 below. Default password: <b>smaract</b>
6.	Select "Network Configuration" in the menu and configure the network parameter to fit your needs.	Make sure to keep the parameter for later use.
7.	Press "Save Network Configuration" to store the modifications you have made in persistent memory.	Note: The new configuration does not get applied immediately. A restart of the controller is needed. This allows to correct a potentially wrong configuration, since the interface is still accessible until restart.
8.	By pressing the button "Restart Interface" or by a power down/up cycle, the new configuration gets applied.	The MCS is configured for your network.



Screenshot 1: web interface login page



Screenshot 2: web interface network configuration page

### **Advanced Configuration**

The page “Advanced Configuration” of the web gui can be used to configure the network parameter “Retry Timeout” and “Retry Count”. These parameters define the timeout for all tcp communication. Applying this parameters take immediate effect. Note: Resetting the interface to default configuration sets this parameters to its default values as well.

## Reset Network Configuration

There are two ways to reset the network configuration to default settings:

1. Using the web gui. If the interface ip address is known and access to the interface web gui is possible, the button "Reset Interface To Default Configuration" on the page "Default Configuration" can be used to reset the interface configuration.
2. Using the program "MCSNetworkInterfaceConfig.exe". If direct access to the interface web gui failed, e.g. if the current configuration is unknown.

MCSNetworkInterfaceConfig is a command line tool to read out the configured configuration, to set a new configuration or to reset all network parameters to default. This tool uses the MAC address to connect to the MCS. This way it is possible to communicate with the MCS without knowing the actual network parameters, like IP address etc. It can also be used if the current configuration is unknown and the interface can not be reached by the web gui. To use the tool, a special network driver, called WinPCap, must be installed. The MCS-Installer can be used to install the driver. Furthermore administrative privileges on the PC is needed.

Step	Description	Additional Information
1.	Make sure the WinPCap driver package is installed. Execute the MCS-Installer or install the driver manually by double clicking "WinPcap_x_x_x.exe".	Select "MCS/Network support" when executing the MCS-Installer. Follow the installation instructions.
2.	Connect the MCS you wish to configure directly to the ethernet interface of the PC and power it up.	No routers or other PCs should be connected to this network, to ensure proper function.
3.	To run the program, double click on "MCSNetworkInterfaceConfig.exe".	The program is located in the SmarAct MCS program folder.
4.	If the PC has more than one ethernet interface installed, select the one where the MCS is connected to by typing the corresponding number.	The name and the current IP address of the ethernet interface is displayed to identify the proper interface. Note: The MAC address is used for communication, therefore actual IP addresses are without relevance.
5.	The program searches for available MCS devices and displays their MAC addresses.	
6.	By selecting a number of a menu entry, the corresponding function is called.	Currently reading out the actual configuration, setting a new configuration, resetting to default configuration as well as restarting the interface is supported.
7.	To reset the interface to default configuration, select the corresponding menu entry and follow the displayed instructions.	Do a power down/ power up cycle to restart the interface with the default configuration.

## Using the MCS Ethernet Interface in your Software

To use the MCS ethernet interface in your software the MCSControll API version 2 is needed. To initialize the MCS, the new added functions `SA_OpenSystem` and `SA_CloseSystem` have to be used. These functions allow to specify a locator string containing the IP address and port number.

Please refer to application note *AN\_ChangesInMcsApiV2* and *MCSProgrammerGuide* for further information.