



Mess- und Probenahmetechnik GmbH

# Instruction

## INSYS SCR L200



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# Initial Setup

## Default IP-Address of SCR L200:

192.168.1.1                      Port configuration interface: **8080**

## Default web server and mwce login data:

User:            maxx  
Password: 6299

The SCR L200 is already preconfigured with **mwce 6.17**.

Following explained are the required minimum settings for establishing a cellular or a network connection.

If you want to test the function of your router first, you can use the address **192.168.1.10** in your browser. You then should get the **mwce interface**.

First you have to open the configuration interface of the router. To do this, a computer must be connected to the ETH1 port (inner socket, RJ45) of the SCR L200- and the address **192.168.1.1:8080** must be used in the browser. To access all settings, we recommend using the "classic" interface.

If you have a device with a built-in LAN socket, you must ensure that it is connected to the ETH2 port. For configuration, you must open the control housing to connect to ETH1.

## Login

Username:            *maxx*

Password:            *6299*

After logging in, the overview page of the of the router should be displayed. Now you can start with the setup.

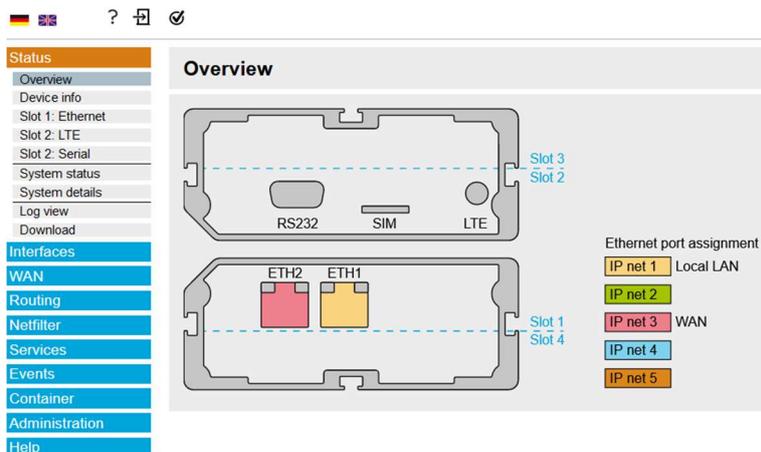


Figure 1: Overview configuration interface

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### **Basic Information:**

All settings can be saved using the "**Save settings**" button. In order to apply the settings, click on the flashing cogwheel in the upper left corner. Activating the profile can be done at the very end. Saving the settings is necessary on every page, if changes have been made.

Via the question mark, also in the upper left corner, help texts for the different settings can be displayed.

## Establishing a mobile connection

A **fixed-IP SIM card** is required to establish a mobile connection. The required access data should be attached to it. In the "Interfaces" → "Slot 2: LTE", the user name, password and access point name must be entered.

Slot 2: LTE

Description: Mobilfunk

PIN: [input field]

SMS center: [input field]

SMS character set:  GSM (up to 140 characters)  UCS2 (up to 70 characters)

MTU (Maximum Transmission Unit): 1500

Maximal wait time to establish connection: 60 (in seconds)

Log into the strongest net automatically

Preferred provider: [input field]

Only log in to this provider: [input field]

Authentication:  PAP  CHAP  PAP or CHAP

User name: mdex@mdex.de

Password: [masked]

Access Point Name: mdex.ic.t-mobile

Save settings

Figure 2: Adding a mobile connection

Then the route "lte2" must be activated under "Routing" → "Static routes". To do this, set the check mark in the "active" column. The route "net3" must **not** be activated!

Static routes

active	Interface	Type of the route	Gateway	Description	
<input type="checkbox"/>	net3	default route	static 10.10.10.250	Default route	[edit] [copy] [delete]
<input checked="" type="checkbox"/>	lte2	default route	dynamic		[edit] [copy] [delete]

+

Save settings

Figure 3: Activate Route "lte2"

In the menu "WAN → WAN chains" the WAN chain "wan2" must be at the top position. The chains can be moved using the arrow icons.

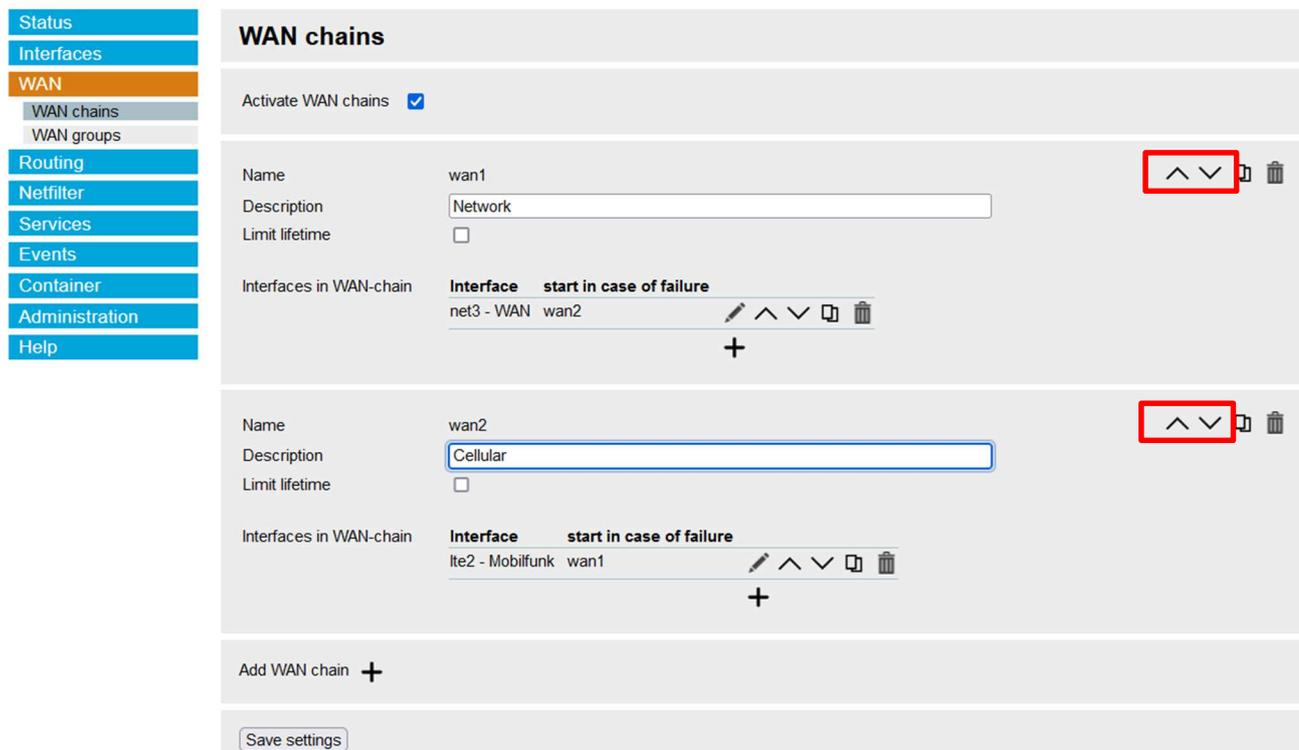


Figure 4: Configure WAN chains

To reach the mwce interface via mobile communication, the correct port must be called. The SCR L200 is preconfigured so that a call to port **47234** opens the mwce interface.

The configuration interface of the router can also be opened via the mobile connection using port **8080**.

It is also possible to get access to the device via **Modbus TCP**.

The Modbus port is **502**.

An overview of all Modbus registers can be downloaded from the mwce interface (in the Modbus tab).

## Network Connection

In order to integrate the SCR L200 into a network, it must first be assigned an IP address. This is done in the "Interfaces" → "IP network 3 (net3)" tab. The IP address **10.10.10.129** is preset and can be overwritten with the desired address.

The screenshot shows the configuration page for 'IP net 3 (net3)'. The left sidebar has a menu with items: Status, Interfaces, WAN, Routing, Netfilter, Services, Events, Container, Administration, and Help. The 'Interfaces' menu is expanded, showing options: Slot 1: Ethernet, Slot 2: LTE, IP net 1 (net1), IP net 2 (net2), IP net 3 (net3) (selected), IP net 4 (net4), IP net 5 (net5), OpenVPN, IPsec, GRE, DMVPN, PPTP, and PPPoE. The main configuration area is titled 'IP net 3 (net3)' and includes the following settings:

- Activate network:
- Description: WAN
- Mode:  local net, interface will be started immediately;  Ethernet, interface will only be started within a WAN chain;  PPPoE, interface will only be started within a WAN chain
- Start SLAAC:
- Start DHCPv4 client:
- Start DHCPv6 client:  Get IPv6 prefix and delegate to: ---
- DHCP client Vendor ID:
- VLAN tag:

Static IP addresses table:

active	IP address	Description
<input checked="" type="checkbox"/>	10.10.10.129 / 24	

Buttons: Save settings

Figure 5: setting of IP-Address

The route for net3 must first be activated under "Routing" → "Static routes". To do this, click the "active" column. The route "lte2" must not be activated!

The screenshot shows the 'Static routes' configuration page. The left sidebar has a menu with items: Status, Interfaces, WAN, Routing (selected), Netfilter, Services, and Events. The 'Routing' menu is expanded, showing options: Static routes (selected), OpenVPN routes, and Dynamic routing. The main configuration area is titled 'Static routes' and contains the following table:

active	Interface	Type of the route	Gateway	Description
<input checked="" type="checkbox"/>	net3	default route	static 10.10.10.250	Default route
<input type="checkbox"/>	lte2	default route	dynamic	

Buttons: Save settings

Figure 6: activate Route "net3"

In the "WAN → WAN chains" menu, the WAN chain "wan1" (network) must be at the top. The chains can be moved using the arrow symbols.

The screenshot shows the Mikrotik WinBox interface for configuring WAN chains. On the left, a sidebar menu includes 'Status', 'Interfaces', 'WAN', 'Routing', 'Netfilter', 'Services', 'Events', 'Container', 'Administration', and 'Help'. The 'WAN' section is expanded, showing 'WAN chains' and 'WAN groups'. The main content area is titled 'WAN chains' and features a toggle for 'Activate WAN chains' which is checked. Below this, two WAN chain configurations are listed. The first chain, 'wan1', has a description of 'Network' and is associated with the interface 'wan2'. The second chain, 'wan2', has a description of 'Cellular' and is associated with the interface 'wan1'. Each chain configuration includes a 'Limit lifetime' checkbox (unchecked) and a list of interfaces in the WAN-chain. At the bottom of the configuration area, there is an 'Add WAN chain +' button and a 'Save settings' button.

Figure 7: Configure WAN-chains

Then edit the route "net3" using the pencil icon and enter the gateway.

The screenshot shows the Mikrotik WinBox interface for configuring a static route. The left sidebar menu includes 'Status', 'Interfaces', 'WAN', 'Routing', 'Netfilter', 'Services', 'Events', 'Container', 'Administration', and 'Help'. The 'Routing' section is expanded, showing 'Static routes', 'OpenVPN routes', and 'Dynamic routing'. The main content area is titled 'Static route' and shows configuration for a route with description 'Default route'. The 'Set after start of' dropdown is set to 'net3 - WAN'. The 'Type of the route' is set to 'default route'. The 'Gateway' section has 'static IP address' selected, with the IP address '10.10.10.250' entered in the text field. The 'Priority' field is empty. At the bottom, there is a 'Save settings' button.

Figure 8: setting of the net3-Route

## Addendum: configuration: Portforwards

If the preconfigured ports are not to be used, port forwards can be configured. These are to set up under "Network filter" → "NAT" → "Destination-NAT". A new rule can be created via the plus symbol. The type "**portforward**" with protocol "TCP" must be selected. In the "Incoming Interface" area, "lte2" must be selected for a mobile connection or "net3-WAN" for an Ethernet connection. If the rule is also to function via the connected computer, "net1-LAN" must also be selected.

The destination port restricts the rule to a specific called port (range). For example, forwarding to mwce is activated by default only for port 47234 (see Figure 9).

Destination-NAT on address specifies the destination address of the data packet. If the destination is the mwce container, its IP address must be entered here (192.168.1.10 by default). This can also be looked up in the "Container" tab after clicking "Edit".

Finally, the field "Destination NAT on port" must be filled in. The mwce interface can be reached with port 80 or port 47234.

The screenshot displays the configuration page for a "Destination NAT rule". On the left, a sidebar menu includes "Status", "Interfaces", "WAN", "Routing", "Netfilter" (highlighted), "IP filter", "NAT", "MAC filter", "Services", "Events", "Container", "Administration", and "Help". The main configuration area is titled "Destination NAT rule" and contains the following fields:

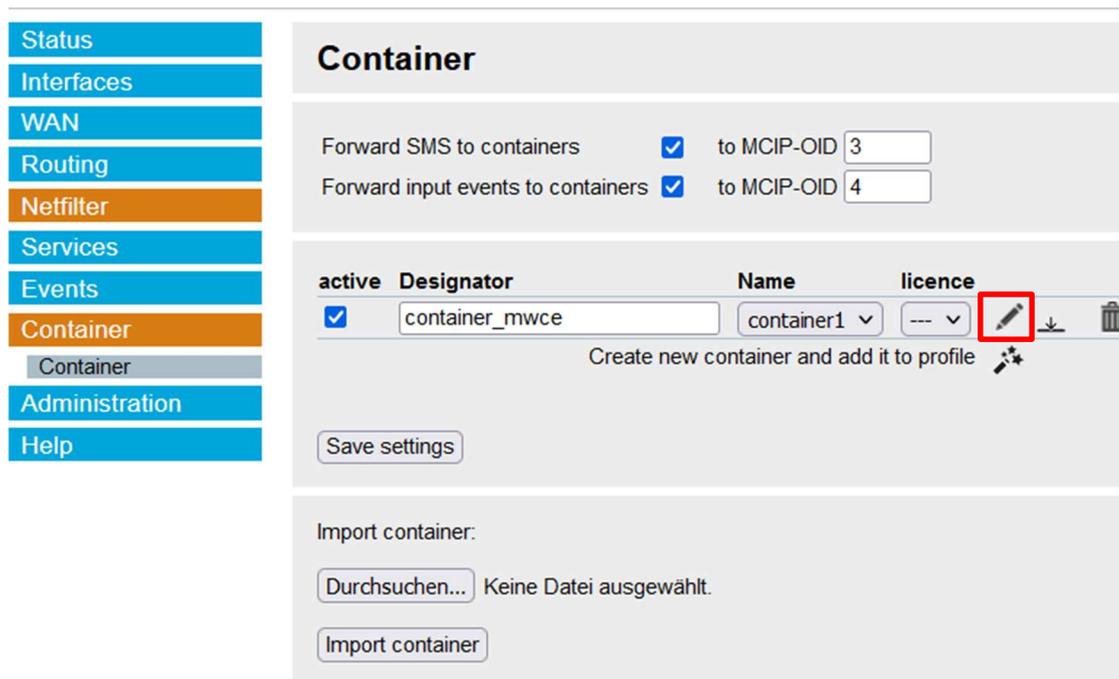
- Description: An empty text input field.
- Type: A dropdown menu set to "portforward".
- Protocol: A dropdown menu set to "TCP".
- Input interface: A list of network interfaces with checkboxes. The checked options are "net1 - Local LAN", "net3 - WAN", and "lte2 - Mobilfunk".
- Destination port: A text input field containing "47234" followed by a "till" field.
- Destination NAT to address: A text input field containing "192.168.1.10".
- Destination NAT to port: A text input field containing "80" followed by a "till" field.

At the bottom of the configuration area, there is a "Save settings" button.

Figure 9: Set up port forwarding

## Addendum: Change the IP address of the mwce container

The IP address of the mwce container can be changed in the "Container" tab. To do this, the installed container must be edited using the pencil icon.

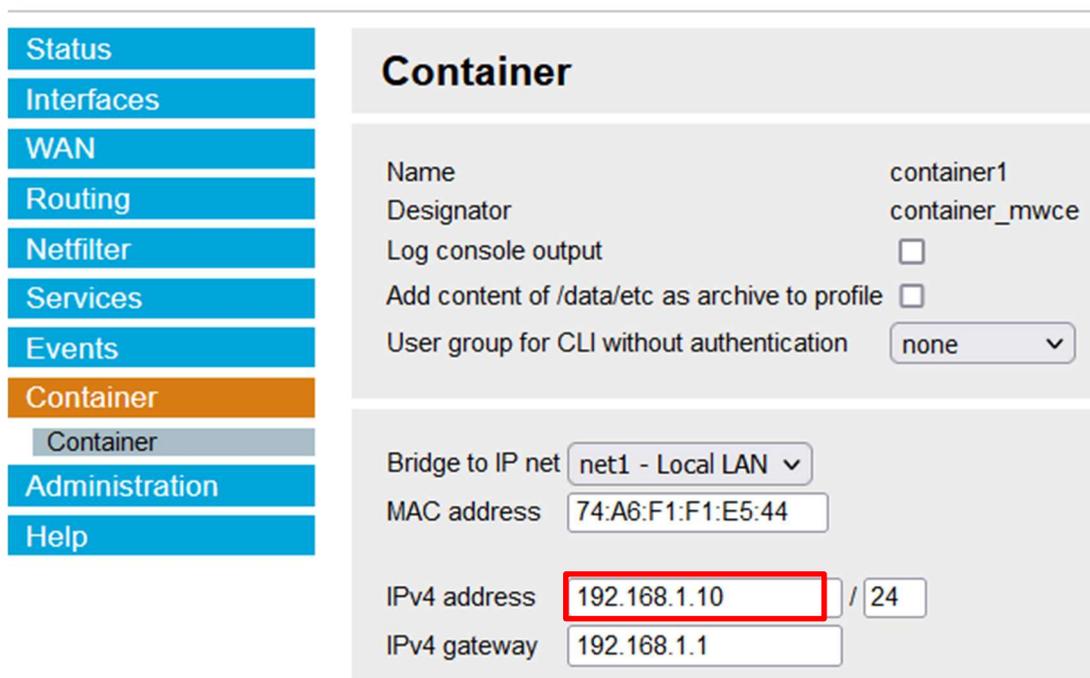


The screenshot shows the 'Container' configuration page. On the left is a sidebar with menu items: Status, Interfaces, WAN, Routing, Netfilter, Services, Events, Container (highlighted), Container, Administration, and Help. The main content area is titled 'Container' and contains the following elements:

- Forward SMS to containers  to MCIP-OID
- Forward input events to containers  to MCIP-OID
- A table of containers with columns: active, Designator, Name, licence. The first row shows: , container\_mwce, container1, and a dropdown menu. A red box highlights the pencil icon (edit) next to the container name.
- Buttons: Save settings, Import container (with a search button 'Durchsuchen...' and text 'Keine Datei ausgewählt.').

Figure 10: Change IP Adress

The IP address can be entered in the next window.



The screenshot shows the detailed configuration for a container. On the left is the same sidebar as in Figure 10. The main content area is titled 'Container' and contains the following elements:

- Name: container1
- Designator: container\_mwce
- Log console output:
- Add content of /data/etc as archive to profile:
- User group for CLI without authentication: none (dropdown)
- Bridge to IP net: net1 - Local LAN (dropdown)
- MAC address: 74:A6:F1:F1:E5:44
- IPv4 address: 192.168.1.10 (highlighted with a red box) / 24
- IPv4 gateway: 192.168.1.1

Figure 11: Change IP Adress

Changing the IP address also requires adjusting the "port forwarding". In addition, the gateway may have to be adjusted as well. (Compare addendum: **Setting up containers**)

## Addendum: Create new configuration

If a new mwce version has to be installed, a new "container" must be loaded onto the device. To do this, the installed container should first be deleted using the trash-bin icon in the "Container" tab. The new container must be selected using the "Browse..." button. It is a **.tar** file (e.g. mwce\_scr\_X\_XX.tar). Then import the "container" and create it new, using the magic wand icon. The container can be configured by clicking on the pencil symbol. In addition the IP address, the bridge to the IP network (default = "net1") and the gateway must be entered.

Status	
Interfaces	
WAN	
Routing	
Netfilter	
Services	
Events	
Container	
Container	
Administration	
Help	

### Container

Name	container1
Designator	container_mwce
Log console output	<input type="checkbox"/>
Add content of /data/etc as archive to profile	<input type="checkbox"/>
User group for CLI without authentication	none ▾

Bridge to IP net	net1 - Local LAN ▾
MAC address	74:A6:F1:F1:E5:44
IPv4 address	192.168.1.10 / 24
IPv4 gateway	192.168.1.1
IPv6 address	<input type="text"/> / <input type="text"/>
IPv6 gateway	<input type="text"/>

Figure 12: Containerconfiguration

After the settings have been saved and the profile has been activated, the container setup is complete. If the mwce interface can be called via the entered IP address, the container has been configured correctly.

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## Addendum: Create new configuration

If a new user with a completely new configuration has to be created, or if connections are to be adjusted, the use of wizards offers an easy way of making the desired settings.

These can be found under **"Help" → "Wizards"**.

**Caution: If a new profile is created, the container (mwce) must also be reinstalled.**

**Make sure you have the required file (e.g. mwce\_scr\_X\_XX.tar) available!**

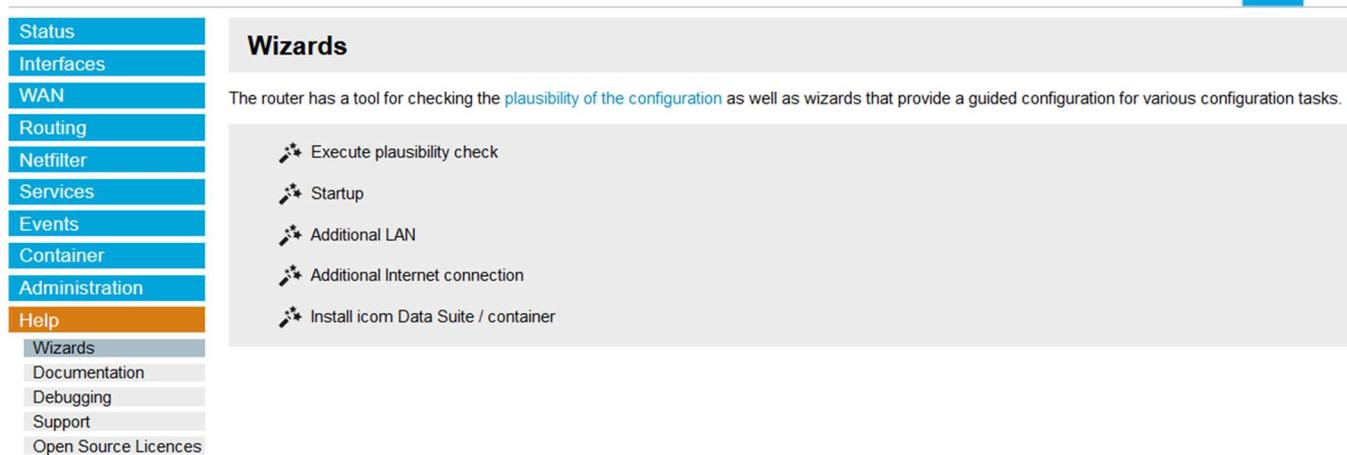


Figure 13: Wizards for further setup

For more information on configuring the SCR-L200 see:

<https://www.insys-icom.com/en/support/documentation-and-downloads/>