



Akıllı Kontrolde Teknoloji Devi

# **SERIAL DEVICE SERVER CONFIGURATION SOFTWARE**

- SC100 SERIES  
SERIAL DEVICE SERVER

**12 / 2022**

**MIKRODEV\_SM\_SC100\_EN\_v1.0**

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# Preface



Mikrodev SC100 series serial device server creates a gateway between serial communication (RS232 and RS485) ports and TCP/IP. Ethernet, GSM, Wi-Fi and RF communication port options are offered.

It can work as server in TCP/IP connection. It also provides multiple connection support for TCP socket connections and can serve up to 4 different TCP Master devices over the same port. The Mikrodev SC100 series serial device server is programmed using the Assistant program.

Please follow our site [www.mikrodev.com](http://www.mikrodev.com) for the current version of the document.

## About Mikrodev



Since 2006, MIKRODEV has been developing and manufacturing industrial control and communication products. MIKRODEV serves the system integrators in the public and private sector, OEM and end users.

Our products are manufactured complying with the quality standards required by the industrial automation industry and the quality of our products are proved on the field for many years

MIKRODEV is one of the few companies in the world that has its own designed IEC 61131-3 compliant library for its programmable logic control devices. In addition, the open, flexible, programmable SCADA solution developed by MIKRODEV is also available to customers.

MIKRODEV products' performance and wide range of applications make them possible for customers to achieve faster, simplified and cost-effective results.

# Warning!



- ✓ Use the programming editor only for Mikrodev Certified devices
- ✓ When you change your physical hardware configuration, update your development to the appropriate version.
- ✓ The developed program should be tested separately before taking to field service and should be shipped to the field after the tests are successfully completed.
- ✓ Take all accident prevention measures and safety measures identified by local law



**Failure to comply with these rules may result in death, serious injury or property damage**

## **1 SERIAL GATEWAY CONFIGURATION SOFTWARE**

### **1.1 General Information**

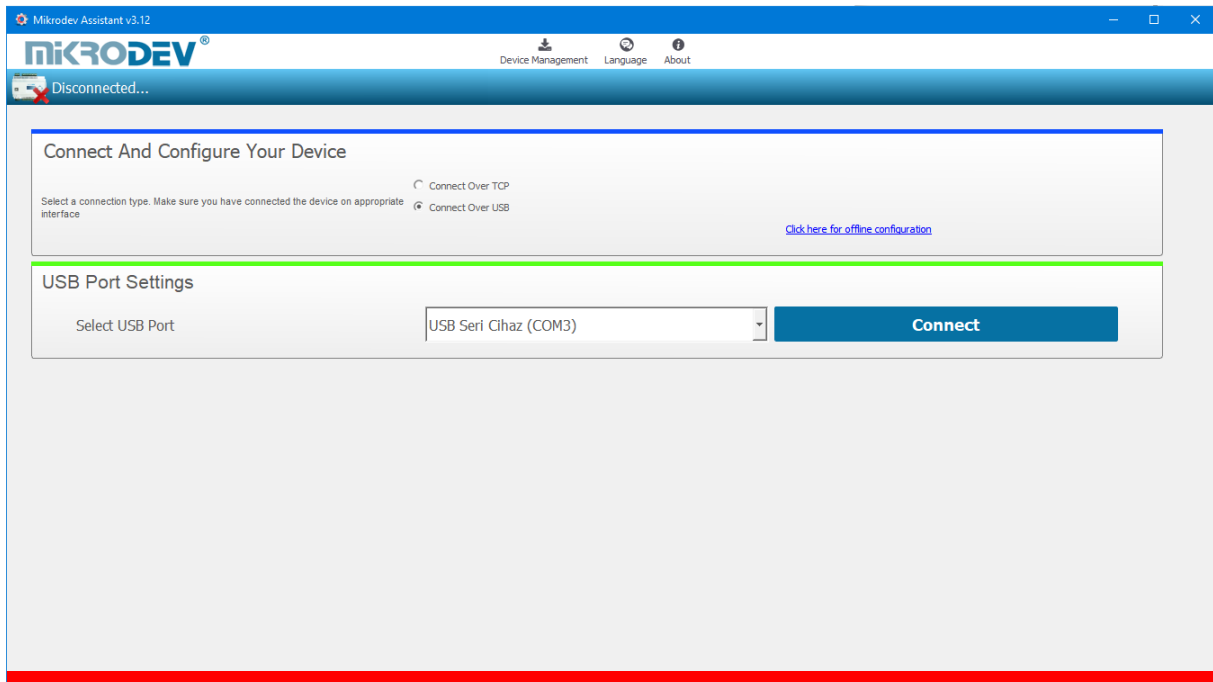
The Assistant software is used to make all necessary settings for the Mikrodev gateway devices. Thanks to the software, device settings can be made online and/or offline. The settings that are loaded on the device can easily be downloaded and the previously saved settings can easily be uploaded into the device by the program.

The connection between the program and the device can be established in various ways such as USB, Ethernet, GSM, Wi-Fi. For Ethernet supported devices; there is also the ability to search the network and list details with connection information.

## 1.2 Device Connection

### 1.2.1 USB Serial Connection

One of the methods for establishing communication between PC and Mikrodev device in device configuration is USB serial connection. In order to perform USB connection between PC and device, you need to install USB driver for PCs with Windows 7/8 / 8.1 operating systems. There is no need to install the USB driver for Windows 10 operating systems. For serial connection over USB, "Connect over USB" box in the "Connect and Configure Your Device" section of the Assistant software is selected. In the "USB Port Selection" section, you should select the port and click "Connect". USB connection will be established after that. (Figure 1)

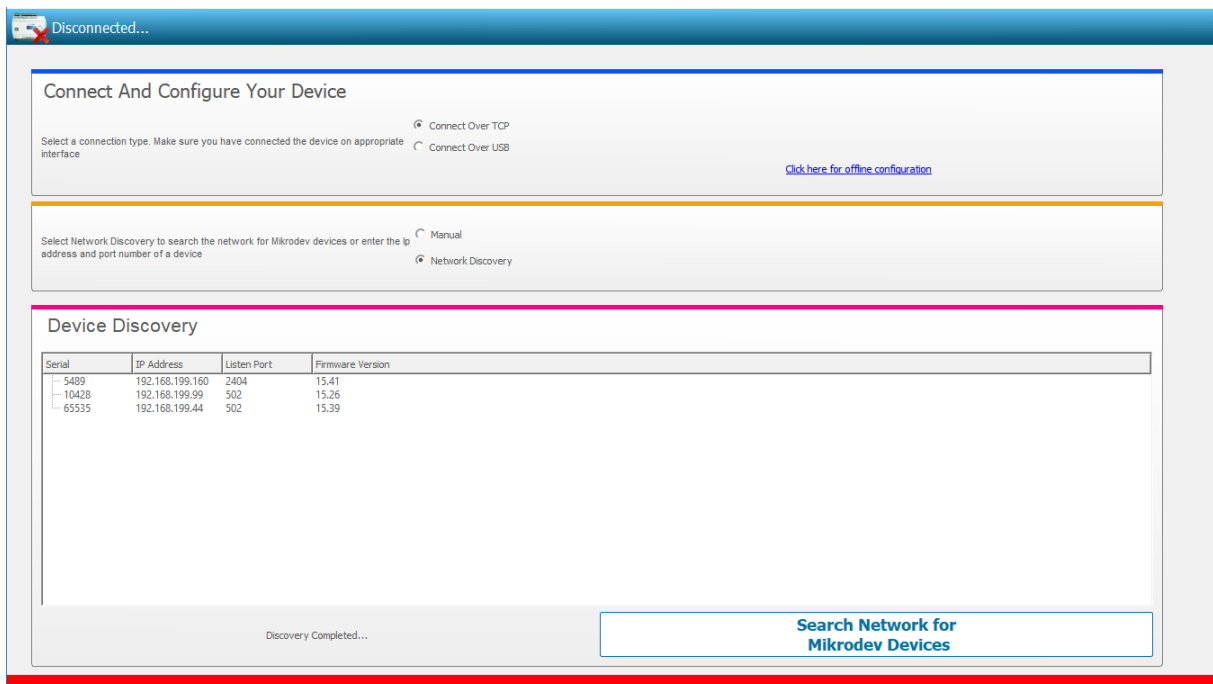


**Figure 1 USB Connection**



## 1.2.2 TCP Connection – Device Discovery Mode

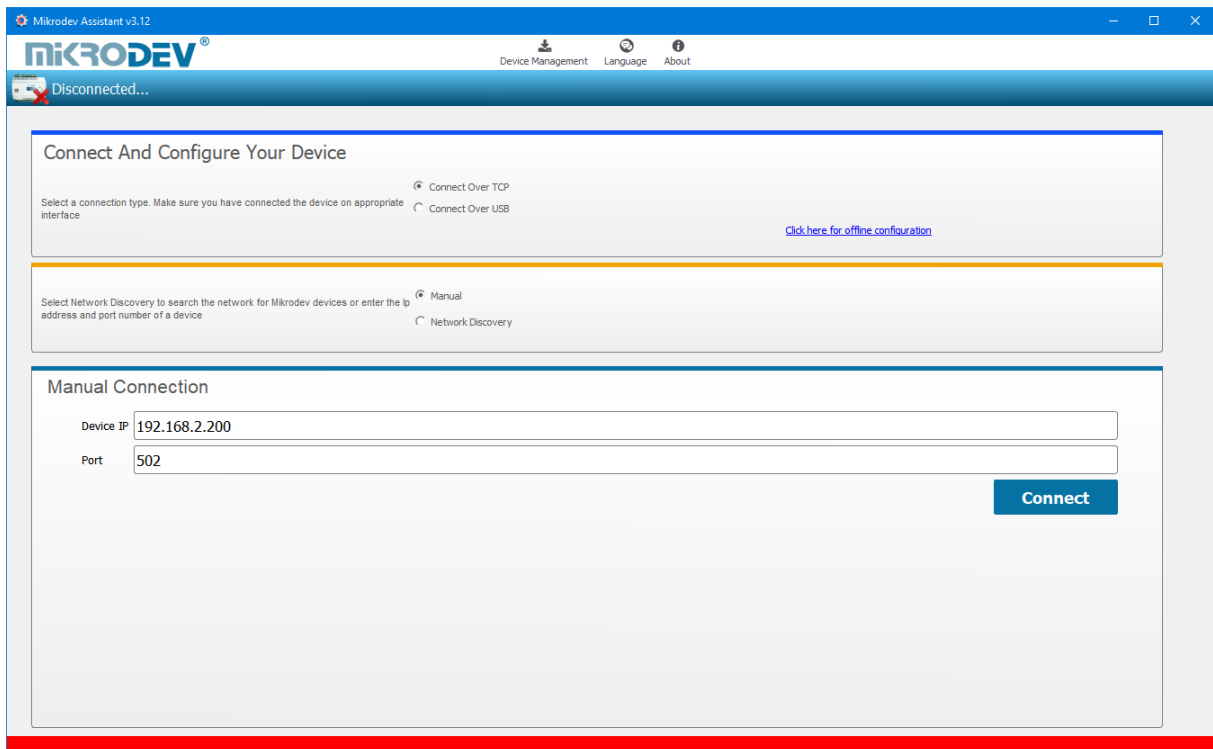
"Network Discovery" option is used to detect and connect IP addresses of Mikrodev devices which are active in the local network. The "Network Discovery" box will be highlighted after the "Connect via TCP" box is checked in the "Connect and Configure to Device" section of the Assistant software. After clicking "Scan Network for Mikrodev Devices", the serial number, IP address, listening port and software versions of all Mikrodev devices which are active in the network are listed on the screen. (Fig. 2) You can connect the device on the list by double clicking on the device name on the screen.



**Figure 2 TCP Device Discovery**

### 1.2.3 TCP Connection – Manual

When manually entering the IP address and port number of the device that is active in the local network, "Manual" option is used. The "Manual" box is checked after the "Connect over TCP" checkbox is checked in the "Connect and Configure Device" section from the Assistant software. The IP address of the device to be connected is entered into the "Device IP" section, the port number is entered into the "Port" section and "Connect" is clicked. (Figure 3) Assistan software connects to the Mikrodev device with specified IP address and port number.



**Figure 3 TCP Connection**

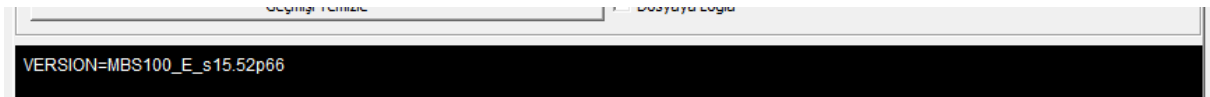
## 1.2.4 Port Numbering

Port terminal places might difference according to PCB version of device. To do right configuration connect over USB to device and check version with AT commands.



**Figure 4 Version Query**

Response from device should be like below.



**Figure 5 Response of Version Query**

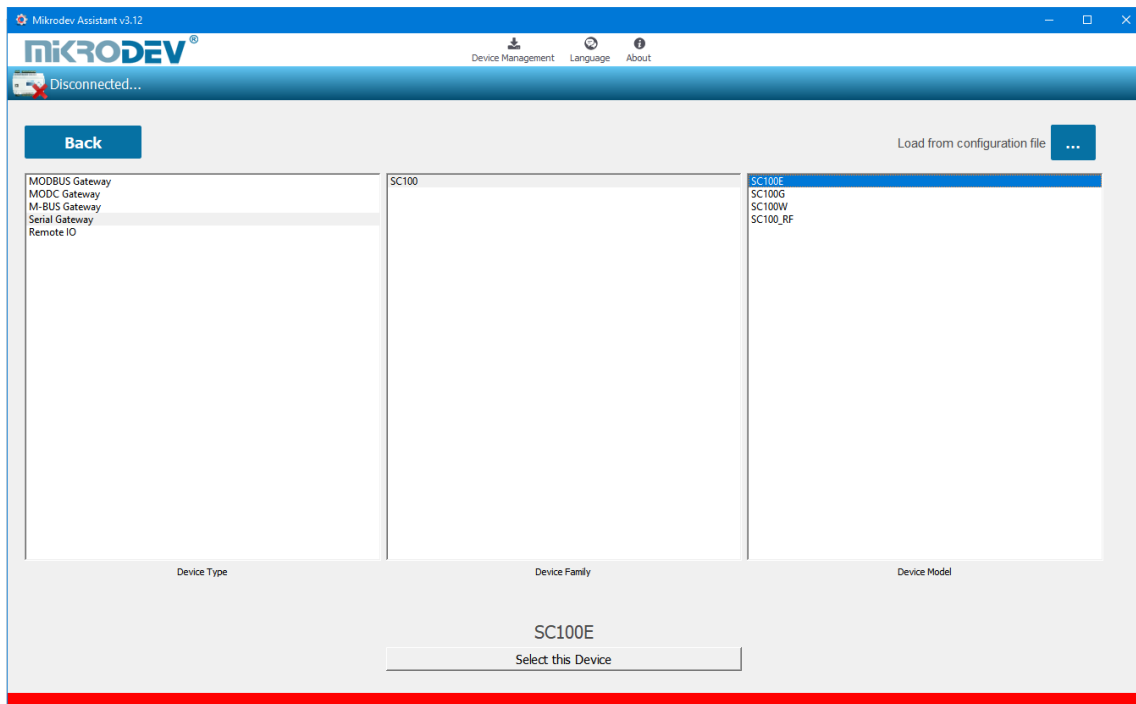
Check the PCB version number placed to last 3 character of response like "pXX"

VERSION=MBS100\_E\_s15.52p66

- If PCB version is p55 ;
  - Port 1 -> RS 232 (ROUTE 1)
  - Port 2 -> RS 485 (ROUTE 2)
- If PCB version is p66 ;
  - Port 1 -> RS 485 (ROUTE 1)
  - Port 2 -> RS 232 (ROUTE 2)

### 1.3 Offline Settings

Offline mode is used when parameter settings are made and saved without connecting to the device. Click on "Click here for offline configuration" on the Assistant main screen when you want to make the offline parameter settings. The device is selected in the screen that appears, and then "Select this device" is clicked. (Fig. 6) Offline parameter settings of the selected device can be made. In addition, using the "Load from configuration file" option on the same page, previously saved configuration values can also be loaded to the program.



**Figure 6 Offline Device Selection**

## 2 SERIAL GATEWAY Settings

### 2.1 Status Page

It is the status information screen which shows related information to the connected Mikrodev device. This screen contains the device's manufacturing information, IP settings and serial connection settings (port1, port2). (Fig. 7) You can access the web interface of the device from this screen as well. To access the web interface, click the "Click here to access the web interface of the device" option.

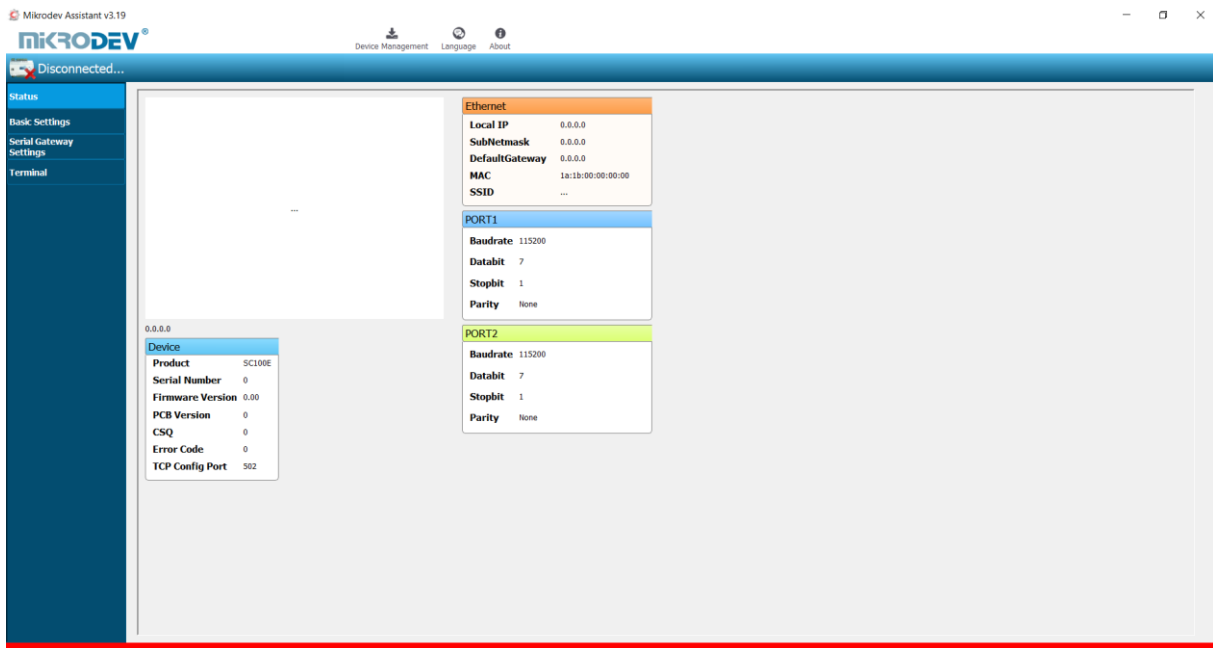
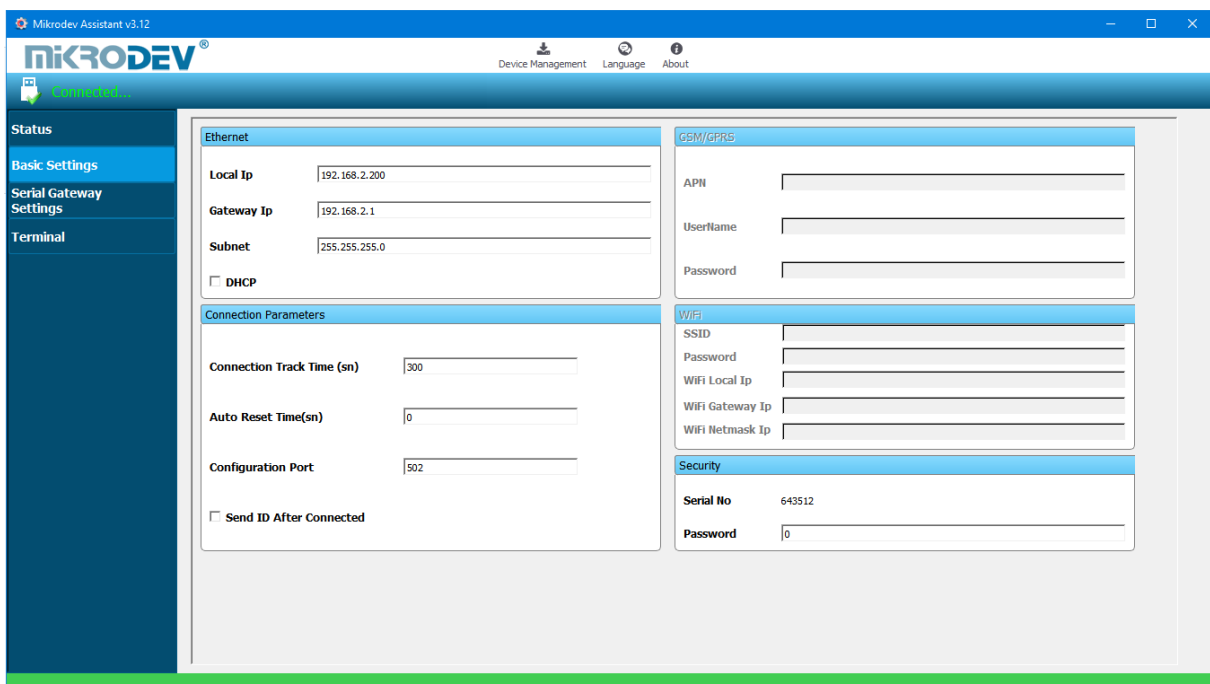


Figure 7 Status Screen

## 2.2 Basic Settings

In the basic settings section, parameter set values are entered according to communication types. For ethernet connection enter the local IP, gateway IP, subnet and for GSM connection enter the APN, username, user password. SSID (modem username) and password are entered when Wi-Fi connection is requested. In addition; the password definition for access control to the Mikrodev device is performed on this page. Also, device connection follow-up duration, auto reset duration, and configuration port can be entered. You can send ID after connection by checking the "Send ID after connection" checkbox. (Figure 8)



**Figure 8 Basic Settings**

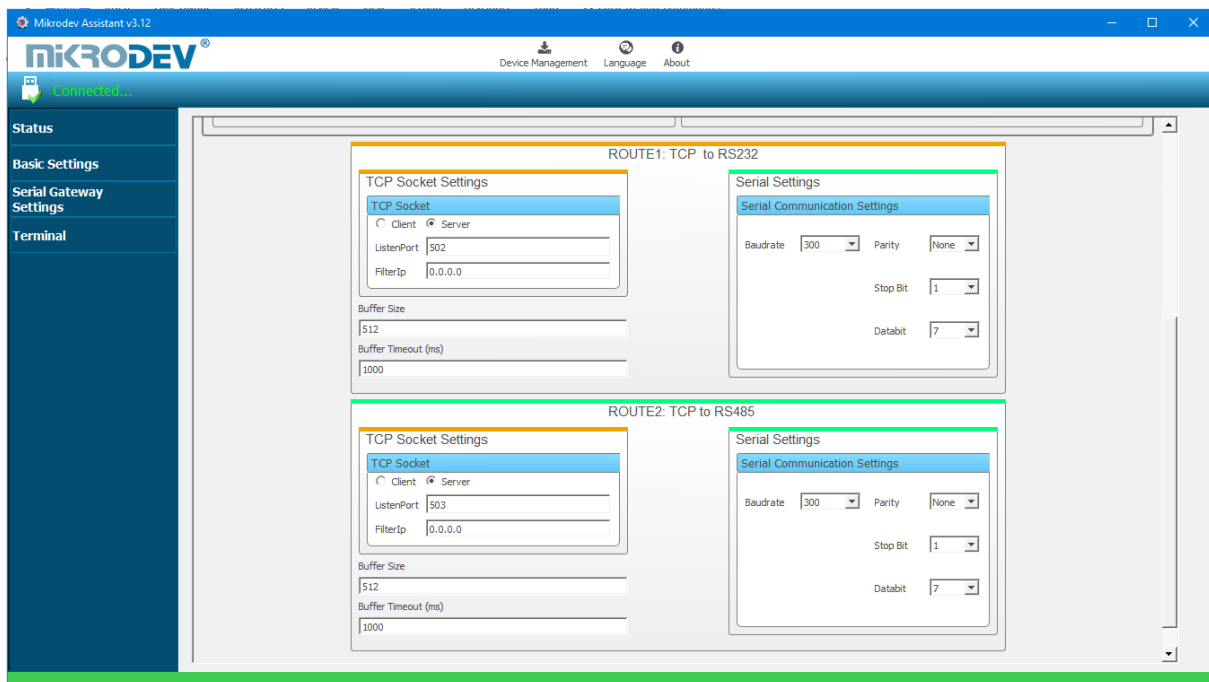
## 2.3 Serial Gateway Settings

The device has 2 separate routes for RS232 - Ethernet and RS485 - ethernet connections. In route 1, RS232 - Ethernet settings are made and in route 2, RS485 - Ethernet connection settings are made.

On the TCP socket settings side, the TCP socket server is selected, the port is defined. The defined port should not be the same for RS232 and RS485, it should be different. In the IP filter section, you can define the TCP client IP that you want to connect to the device. Only the IP address can be connected to the device. If you do not want to filter, this section should be 0.0.0.0 as shown in the figure (Figure 9).

Buffer settings are set here. The buffer size is used to define the packet size to be sent, and the buffer timeout is used to define the waiting time for sending if the incoming data does not reach the specified buffer size.

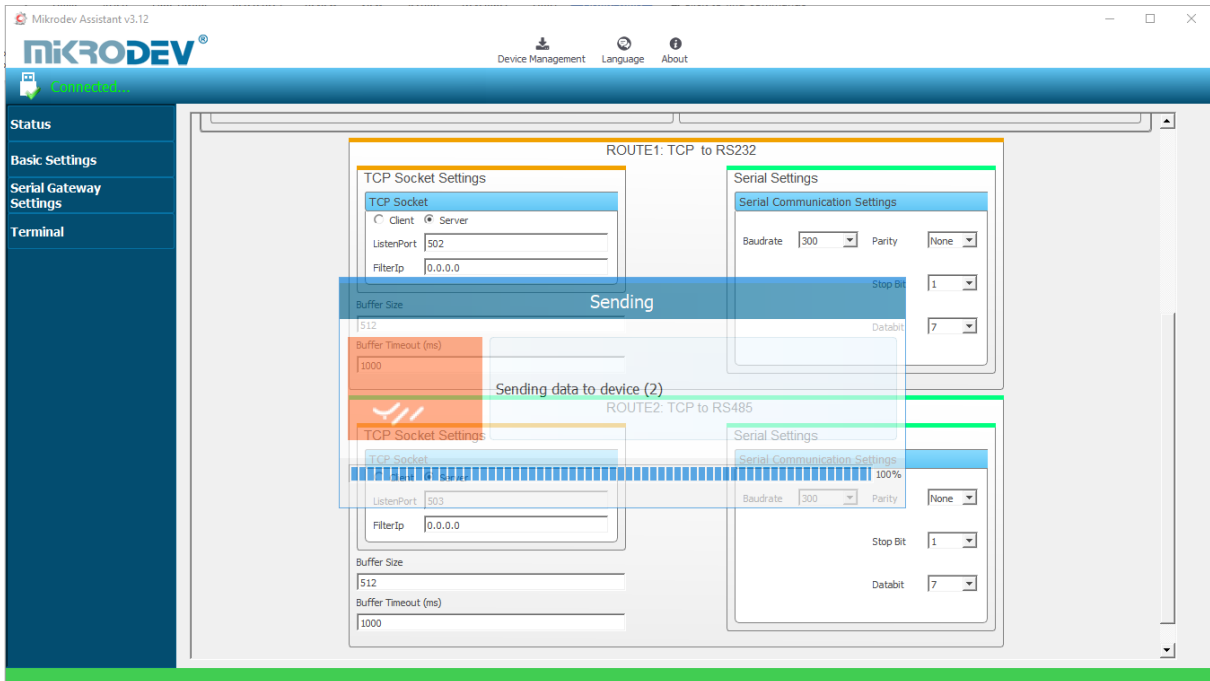
In the serial gateway settings section, baud rate, parity, stop bit and databit settings are made for RS232 and RS485. these settings must be made in accordance with the serial device to be connected to the Mikrodev device.



**Figure 9 Serial Gateway Settings**

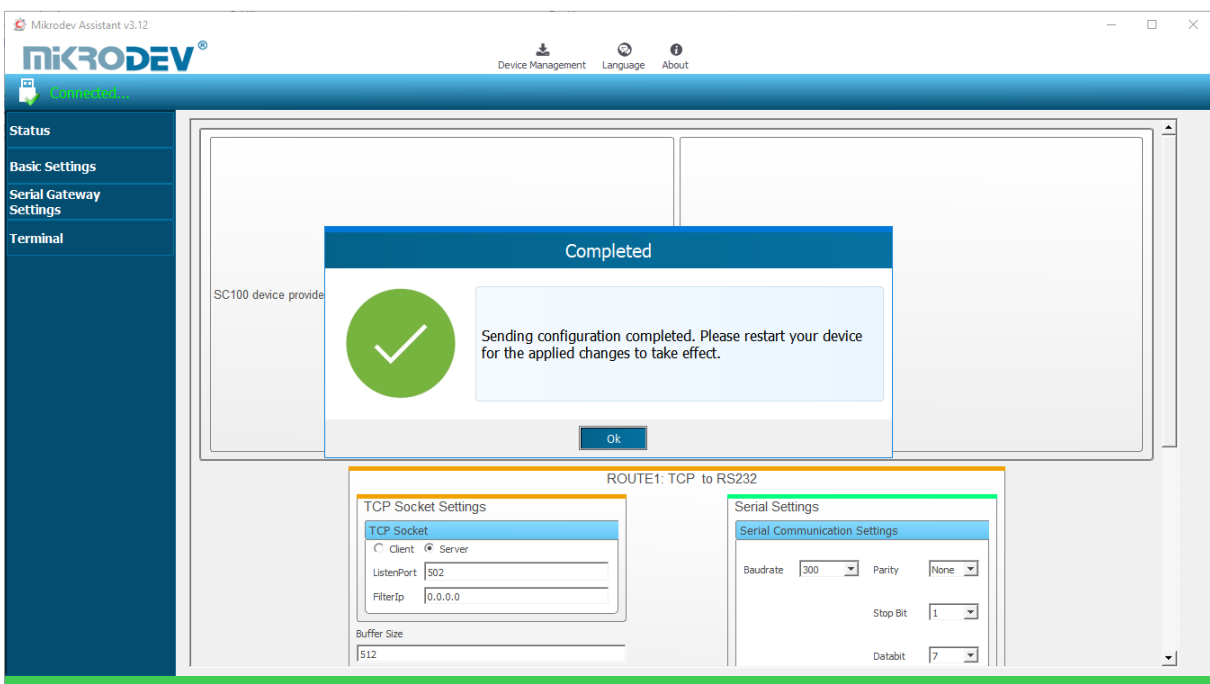
## 2.4 Loading Settings to Device

Click "Device Management" on the Assistant software to send the configuration settings to the device. Then click "Send Configuration" option. (Figure 10)



**Figure 10 Load Settings**

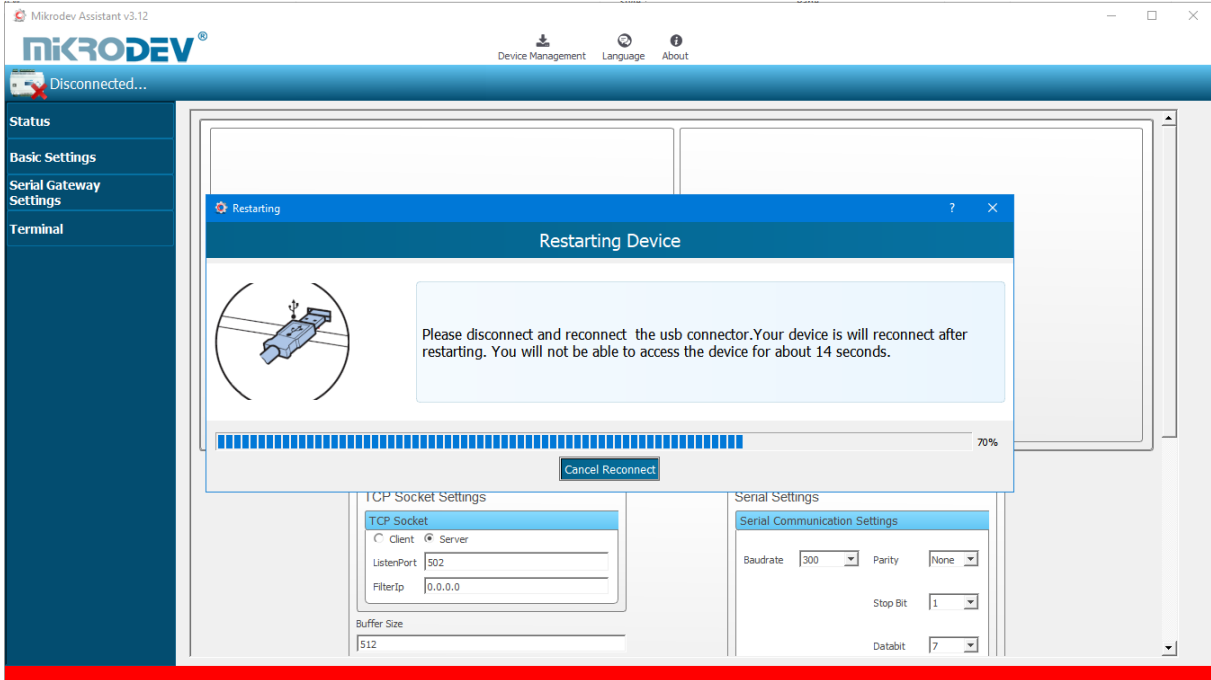
After completing the configuration, the device must be rebooted in order to register the settings. (Figure 11)



**Figure 11 Loading Finished**

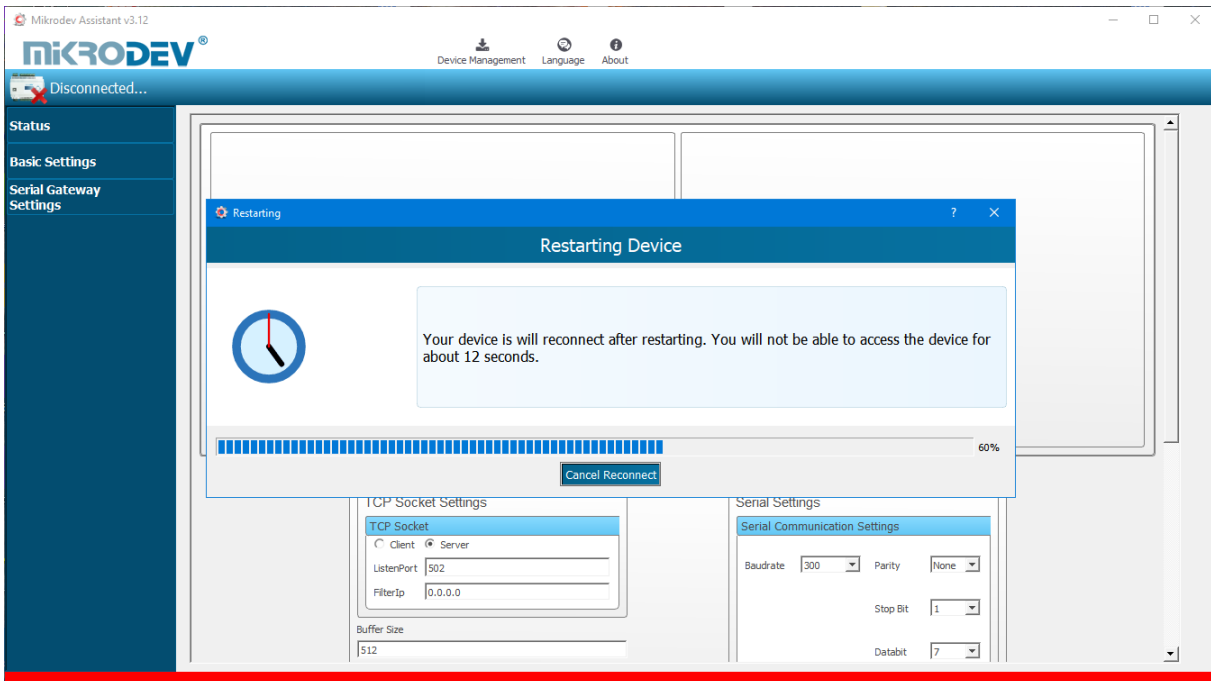


Restart the device by clicking "Restart Device" under "Device Management" on the main screen of the Assistant program. When the device is rebooted, you may need to remove and reinsert the USB cable to reconnect with the serial port. (Figure 12)



**Figure 12 Serial Connection Reset**

The TCP connection between the device and the PC will be established automatically after the device is rebooted, after waiting approximately 20 seconds to reconnect to the device through the TCP connection. (Figure 13)



**Figure 13 TCP Connection Reset**

## 2.5 Terminal

Terminal is the section where the command lines for the SC100 series serial device servers are entered. In this section, information coming from the device is listed on the screen. In the "Custom Command Input" section, type the command to be queried (eg AT + VERSION =?) And click "Send" to send the query to the device. The query answer appears on the screen. (Fig. 14) Click "Clear History" in the "Console Window" section to clear the inquiries on the screen.

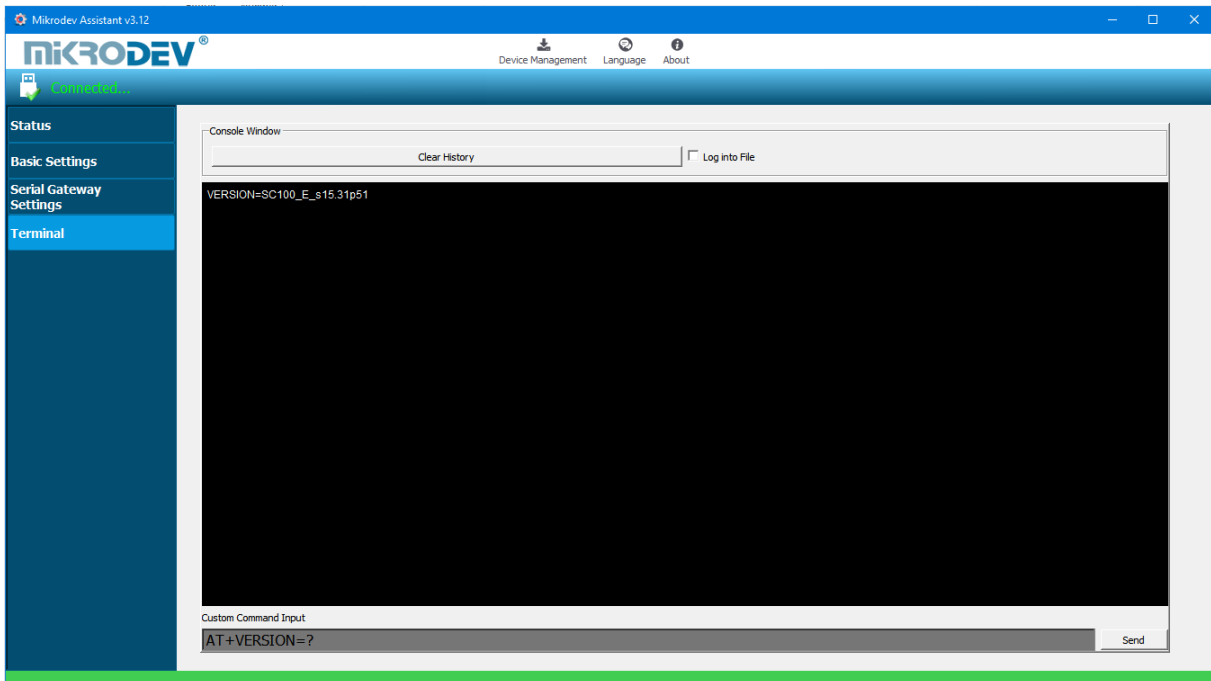


Figure 14 Terminal Page