3S-SMS-MB Configuration v2.0 Tool

1. Introduction

3S-SMS-MB Configuration Tool is a software tool used to test communication and set Modbus parameters of 3S-SMS-MB Soiling Sensor.

2. Cable Connection

Connect the green wire (RS485 A) of the output cable of the Sensor Box to USB-RS485 Converter Data (+) and connect the yellow wire (RS485 B) of the output cable of the Sensor Box to USB-RS485 Converter Data (-) like shown at Figure 1.

Figure 1: Cable Connections of the USB-RS485 Converter

Green	RS485 A / Data (+)
Yellow	RS485 B / Data (-)

Table 2: Communication cable color coding

3. System Requirement

3.1. Software Installation

Download the configuration tool from the following link and set it in your PC:
https://sevensensor.com/files/d/s/v2.0_3S_SMS_MB_Configuration_Tool.zip

3.2. Hardware Setup

The PC system has to have an RS485 port set up as a serial COM port. If the PC system does not have this port, follow the steps below.

- Download the CH341 driver
  Note: When this driver is required, Seven Sensor sales team will send 'CH341' file
- Connect the USB-RS485 Converter to the PC (as explained in section 2)
- Go to "Device Manager" in your PC
- Double Click on the port to which the USB-RS485 converter is connected from the "Ports (COM and LPT)

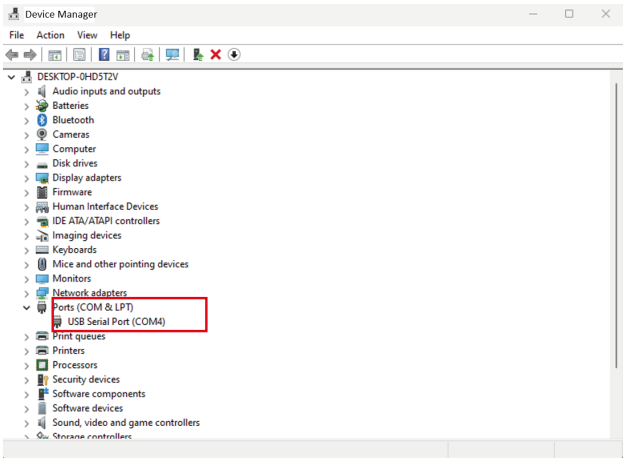

Figure 2: Ports (COM&LPT)

- In the window that is opened, go to "Driver" section and click on "Update Driver"

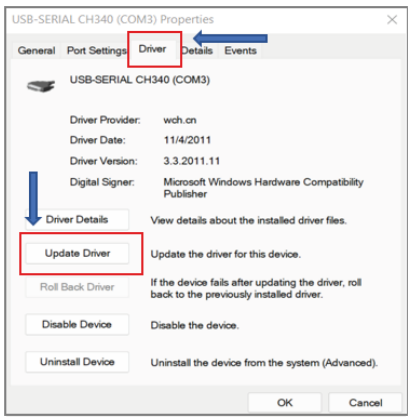

Figure 3: Update Driver

- Click on “Browse my computer for drivers”

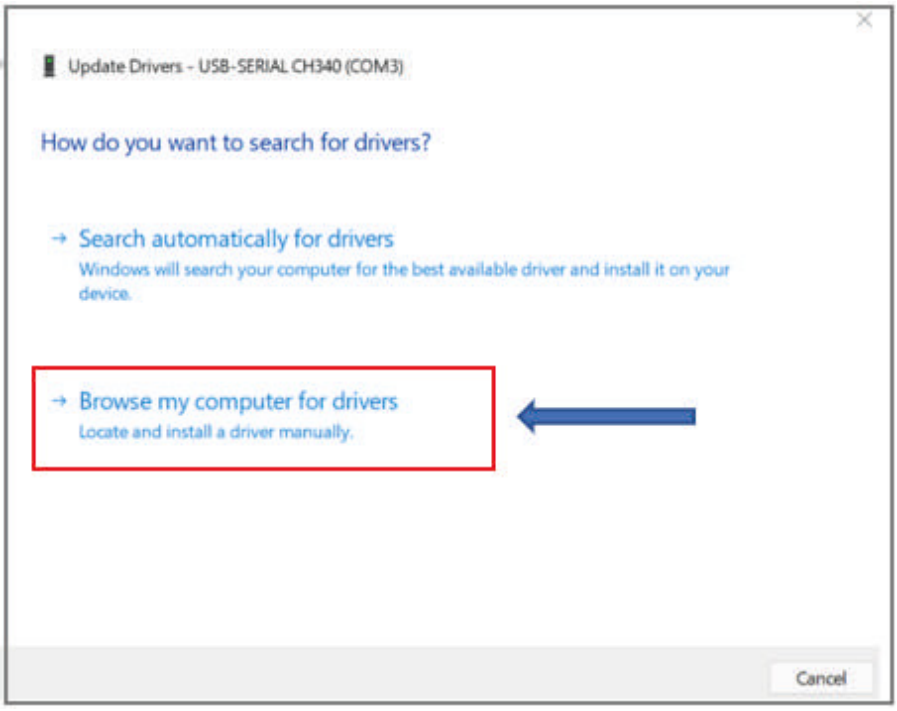

Figure 4: Search drivers in PC

- Click on “Browse” and Select the CH341 file. Finally, click on “Next” then the driver installation

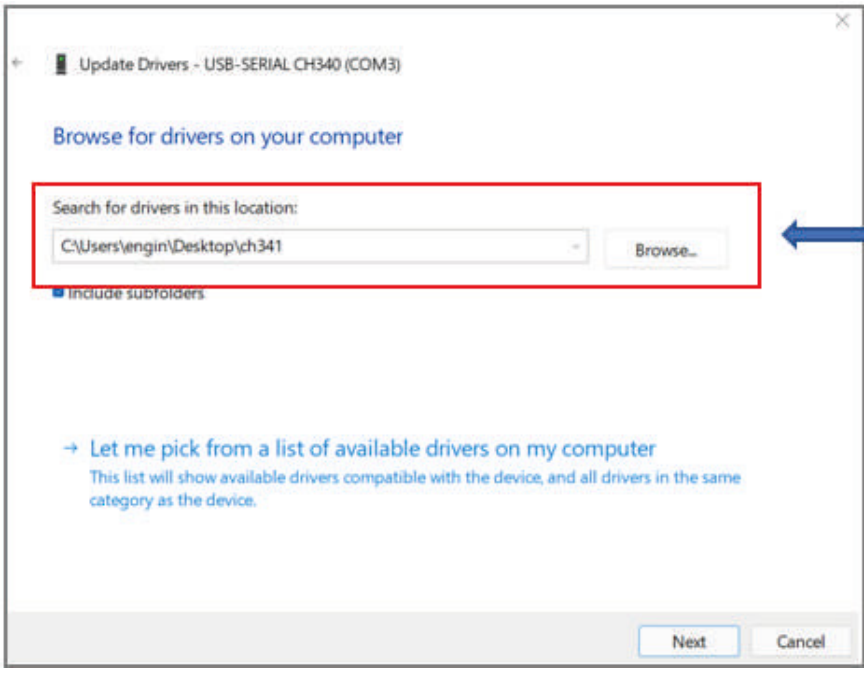

Figure 5: Completing the update driver

4. 3S-SMS-MB Configuration v2.0 Tool

After lunching 3S-SMS-MB Configuration Tool v2.0 the following screen appears.

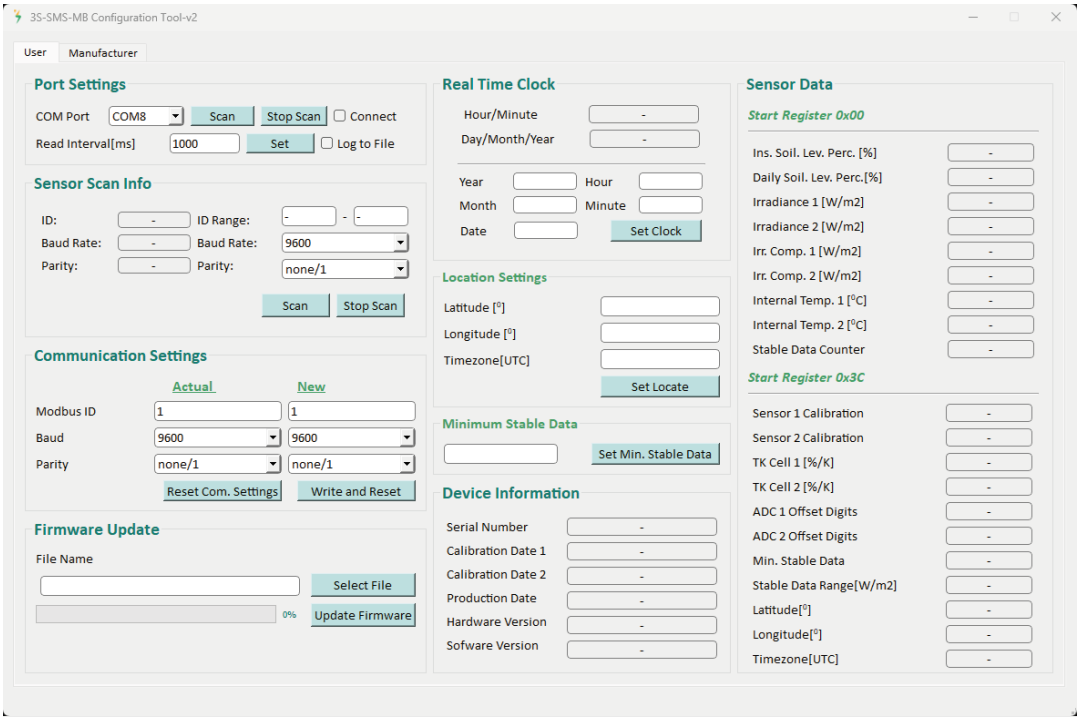

Figure 6: 3S-SMS-MB Configuration Tool v2.0

4.1. 3S-SMS-MB Configuration Tool v2.0 Connection

1.Select the Port which is connected to USB-RS485 Converter.
2.Enter Modbus ID and Baud of Sensor on **"Communication Settings"** in **"Actual"** section.
Note: At Factory Default: Modbus ID:1 Baud:9600 Parity: None/1.
3.Click the **"Connect"**.

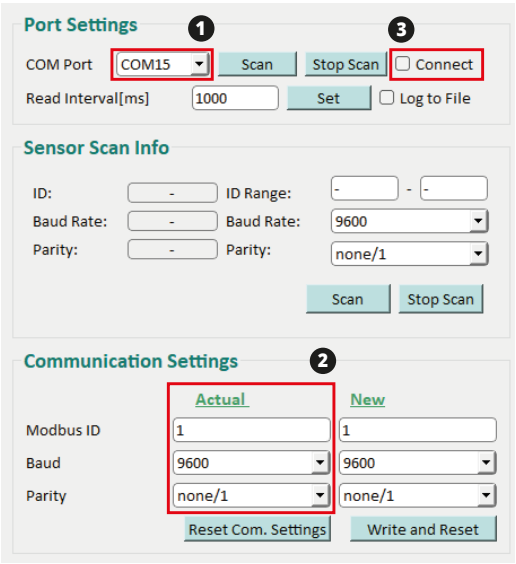

Figure 7: 3S-SMS-MB Configuration Tool v2.0 Connection

4.Once the connection is successfully completed, the data which comes from the sensor will be displayed in the **“Sensor Data”** section.

5.You can find sensor information details on **“Device Information”** section

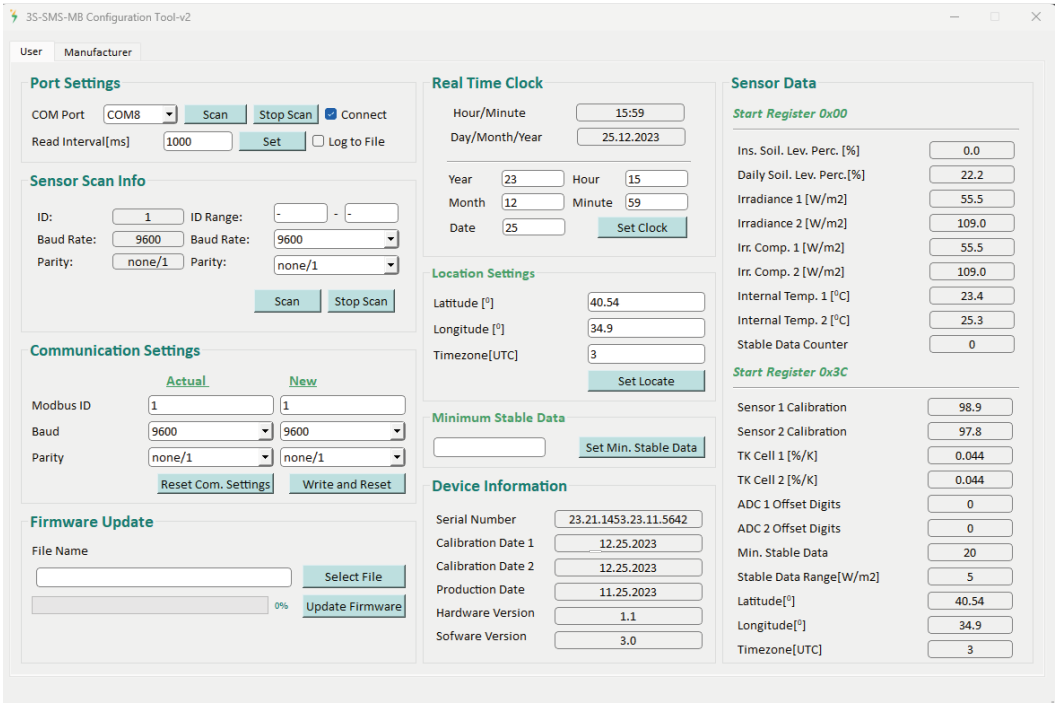

Figure 8: Display of sensor data received from the sensor

4.2. Find the Modbus Parameters

If you change the Modbus parameters and connect again;
1.Modbus parameters of device can be found with **“Scan”** button in the **“port settings”** section. When the search is finished and the Modbus parameters of the sensor are found you will receive a massage on desktop as **“Sensor Device is Found”** (as Figure10). The found parameters are filled in automatically.
2.Reconnect with the **“Connect”** button.

Note: The search process can be stopped with the **"Stop Scan"** button.

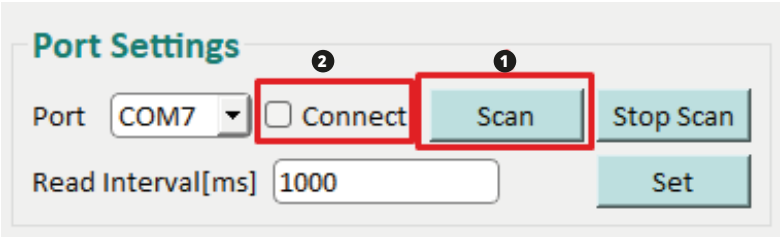

Figure 9: Finding Modbus parameters

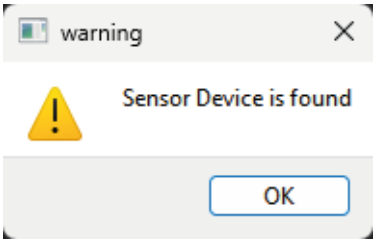

Figure 10: Sensor found message

4.3. Searching for Parameters within Desired Range

If you want to search for Sensor IDs and Baud Rate values within a desired range:

1. Enter the ID range to be searched.
2. Enter the Baud Rate value to be searched.
3. Enter the Parity value to be searched.
4. Click on the **"Scan"** button.

Not: If ID values are left blank, Sensor Scan will default to operating from 1 to 255. ID scanning can be performed between 1 and 255.

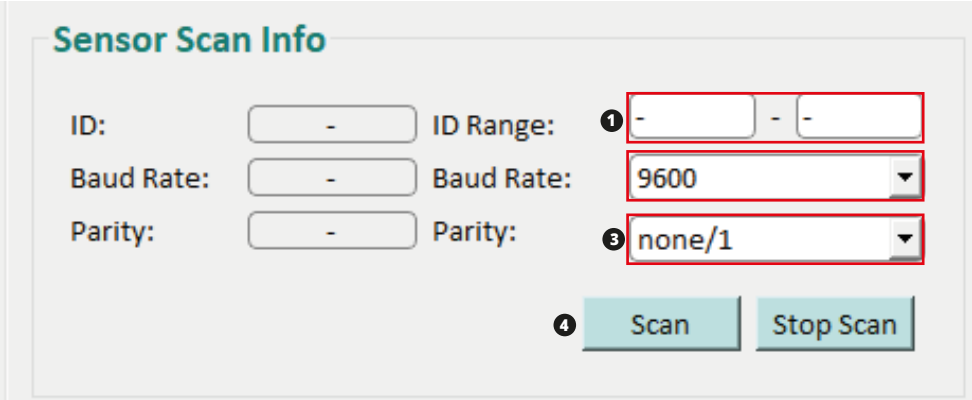

Figure 11: Searching for Parameters within Desired Range.

4.4. Change the Modbus Parameters

1.Işınım sensörünün Modbus parametrelerini (Modbus ID, Baud ve Parity) değiştirmek için gösterildiği gibi **"Communication Settings"** bölümünde ilgili yerlere atamak istediğiniz yeni değerleri giriniz.
2."Write and Reset" butonuna tıklayınız.

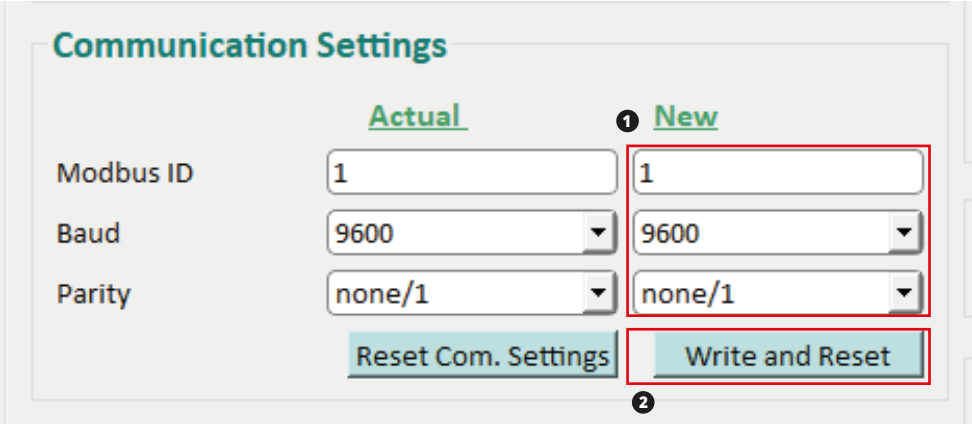

Figure 12: : Changing the Modbus Parameters

4.5. Setting the Minimum Stable Data Counter

1.To ensure accurate calculations, the minimum number of stable data points that the sensor needs to measure should be entered. The recommended minimum stable data value is 20.
2.Then click on the **"Set Min. Stable Data"** button.

Figure 13: Setting Minimum Stable Data

4.6. Setting Location Info

1.The latitude and longitude values of the location to be set are entered with 2 decimal places after the dot.
2.The UTC (GMT) time zone of the location is entered.
3.Then click on the **"Set Locate"** button.

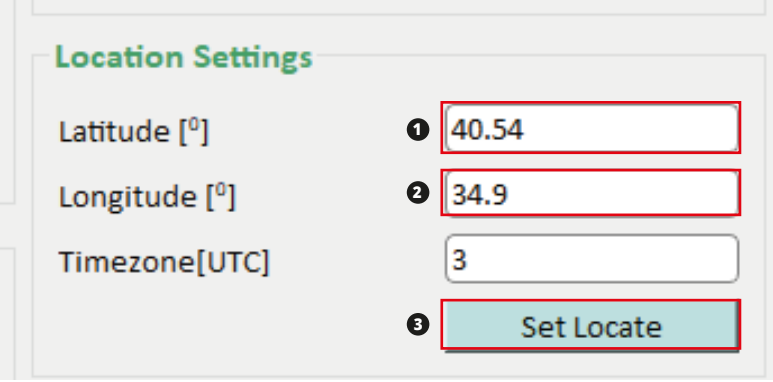

Figure 14: Setting Location Info

4.7. Resetting Sensor Parameters to Factory Settings

1.Connect the sensor to the computer.
2.Without pressing the Connect button, select the port to which the sensor is connected.
3.Click on the **"Reset Com. Settings"** button
4.Turn off the power of the sensor and then turn it back on.

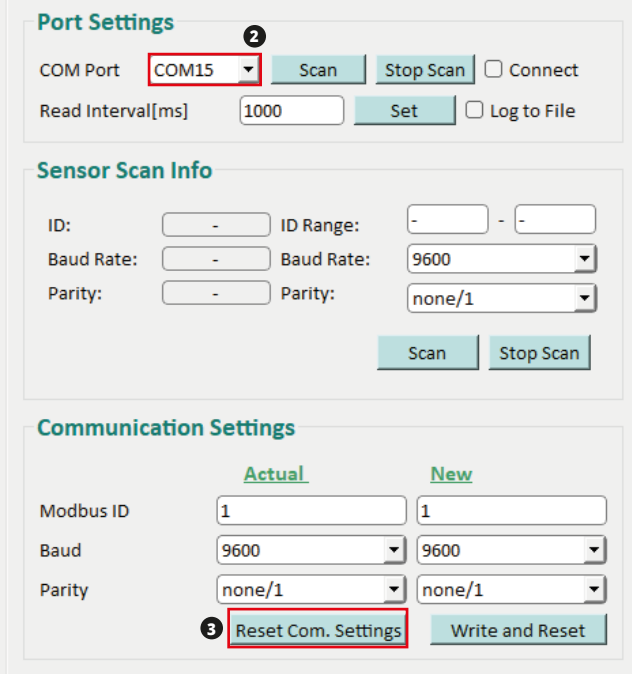

Figure 15: Resetting Sensor Parameters to Factory Settings

4.8. Setting Time Information

1.The values to be adjusted are entered in the relevant fields as 2 digits, respectively. (Example Date: 23.04.23 Time: 12.50)
2.Click on the **"Write"** button.

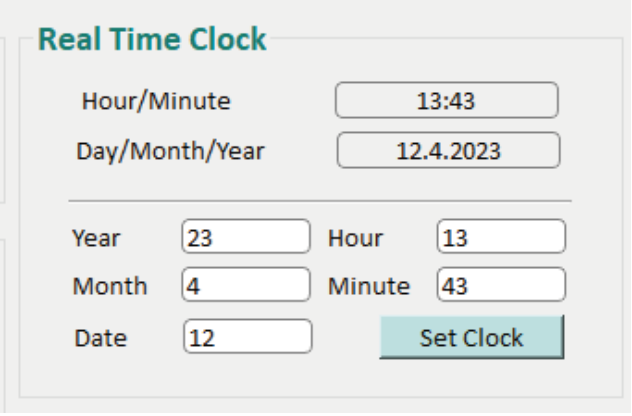

Figure 16: Setting Time Information

4.9. Remote Software Installation Process

The power of the sensor should be switch off.

1.Selected the software update file (.bin) with the **"Select File"** button.
2.Click on the **"Update Firmware"** button.
3.Power of the sensor should be switch on within 10 seconds.

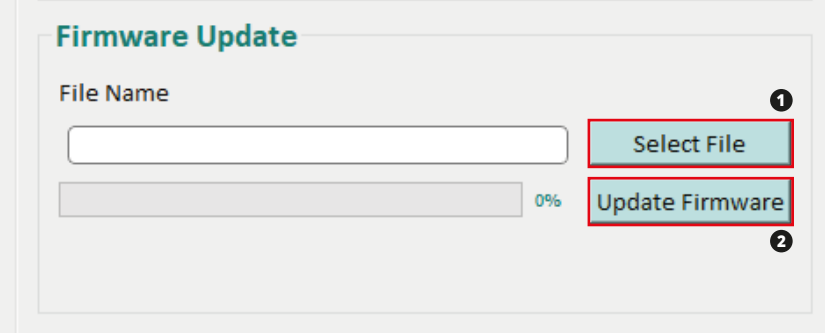

Figure 17: Remote firmware update proces

5. Trouble Shooting

In case you cannot establish a connection to the sensor, please check the steps below.

- ✔ The power supply has to be open.
- ✔ Cable connections must be done corretly (Data(+)...Green, Data(-)...Yellow) .
- ✔ Check that the CH341 file has been downloaded correctly .
- ✔ Check that you have selected the correct port .
- ✔ Check that the Modbus parameters (Modbus Id and Baud) of the sensor has been correctly entered .
- ✔ Restart (Off/On) the Power Supply and disconnect the USB-RS485 Converter then connect it again.

Contact Information:

Please feel free to contact our technical team if you face any difficulties during settings.

Technical Support
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