4 – HOW TO MONITOR ETHERNET PORT TRAFFIC

4.1 Introduction

The Ethernet port of UNIFLOW-200 can be configured as Modbus TCP Slave port, polled by some external device (PLC, supervisory system) for data.

In case of any malfunction in the communication, it can be useful to check the traffic on the Ethernet port, i. e. to see the transmitted and received messages.

This document describes how to monitor the traffic on the Ethernet port.

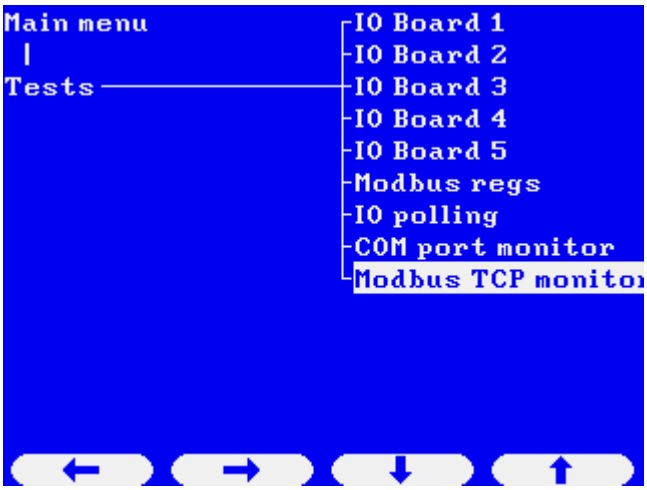
4.2 Firmware compatibility

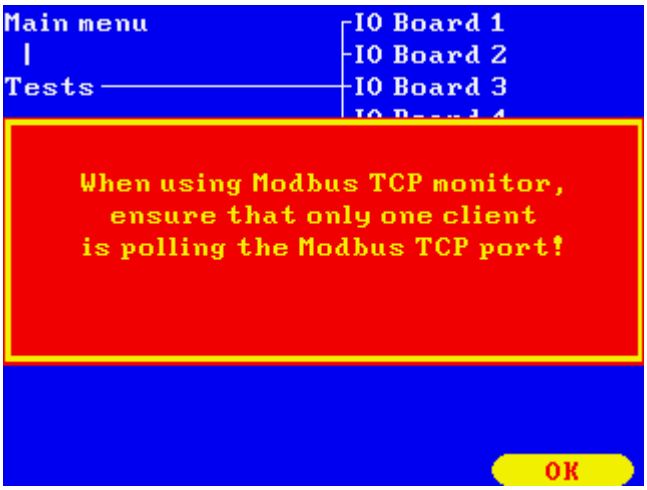
To implement and use features, procedures described in this document firmware version required:

201009 or higher.

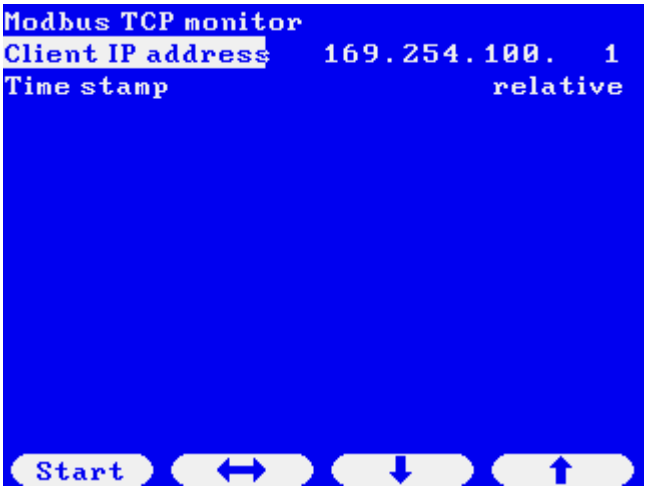
4.3 Run the Modbus TCP monitor

Navigate to the Modbus TCP monitor page as shown on the picture below.





Ensure that only one Client polling the Modbus TCP port. Generally, it is allowed to poll the Modbus TCP port with several Clients. In case of Modbus TCP monitoring temporary disable the polling from all but one Client. Press OK to acknowledge the warning message.



Enter the Client IP address.

Set the time stamp format. It can be:

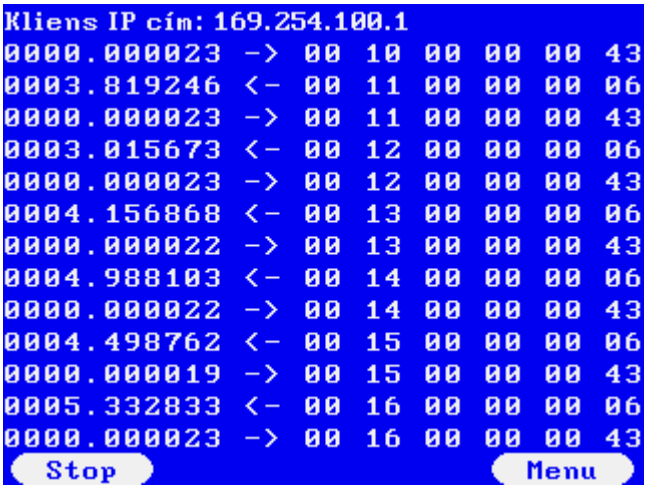
- absolute (hh:mm:ss.ssssss format, absolute time according to the real time clock)

- relative (hh:mm:ss.ssssss format, starting of the monitoring is the zero time)

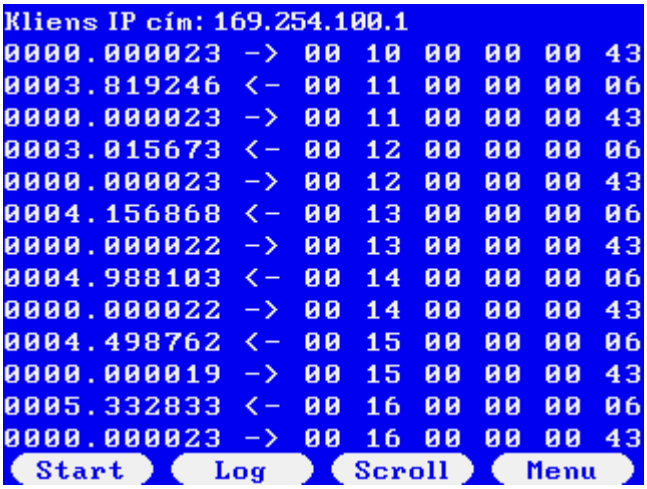
- between messages (ssss.ssssss format, elapsed time between messages)

Press the Start button.

You will see a page showing the incoming queries and outgoing responses.

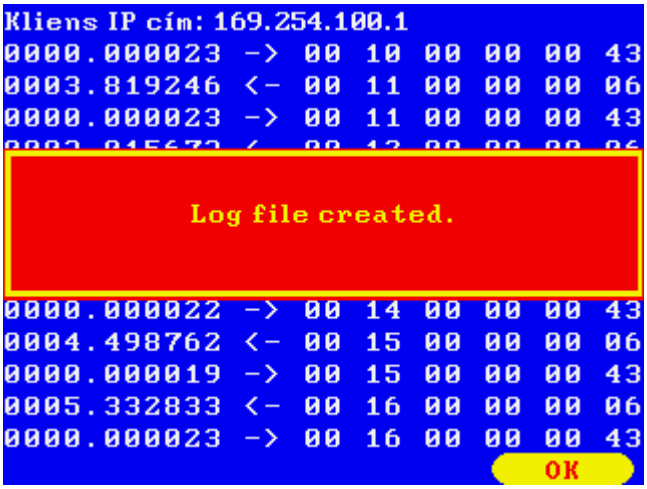


Wait until the screen filled up with the messages and scrolled up 2 or 3 times then press Stop.

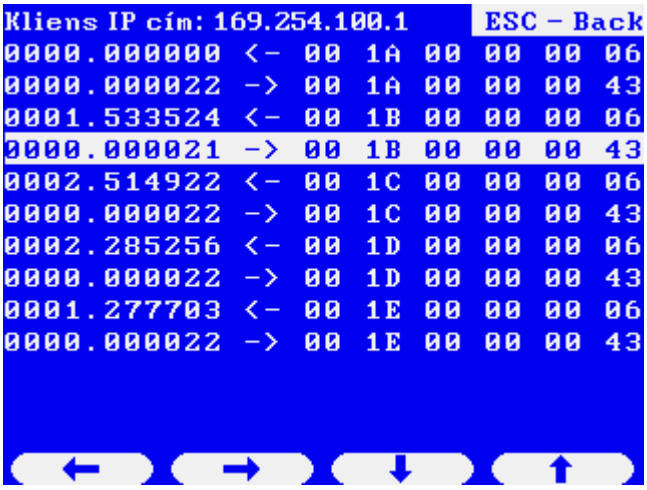


Log and Scroll buttons appear. You can save the messages to file with subsequent transferring it from Uniflow-200 to the PC.

To save messages to file press Log button. In few seconds you will see message “Saving log file”, then message “Log file crated” appear.



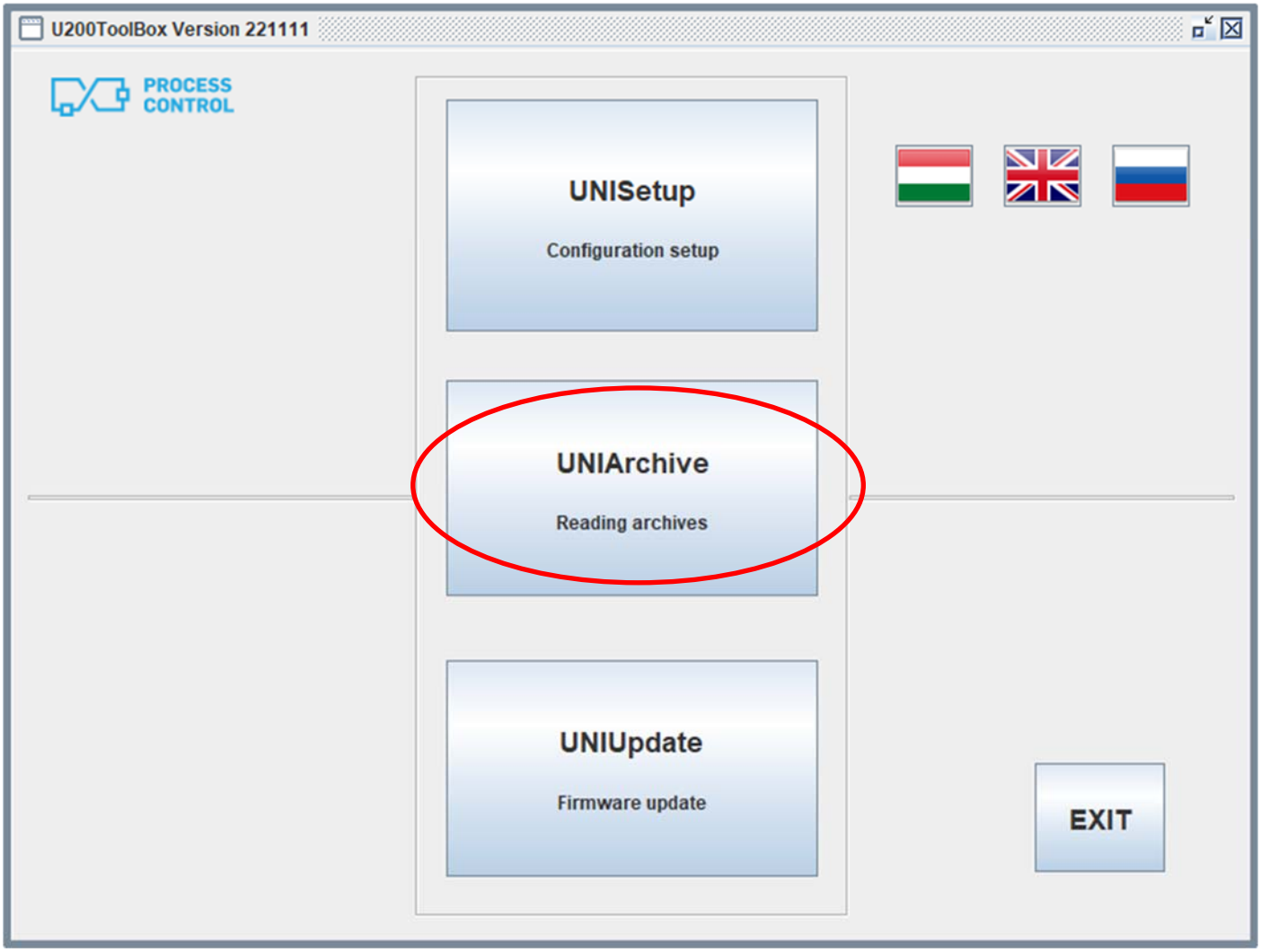
You can also check the content of the massages on the display. To be able to navigate between messages and see the full message press Scroll button.

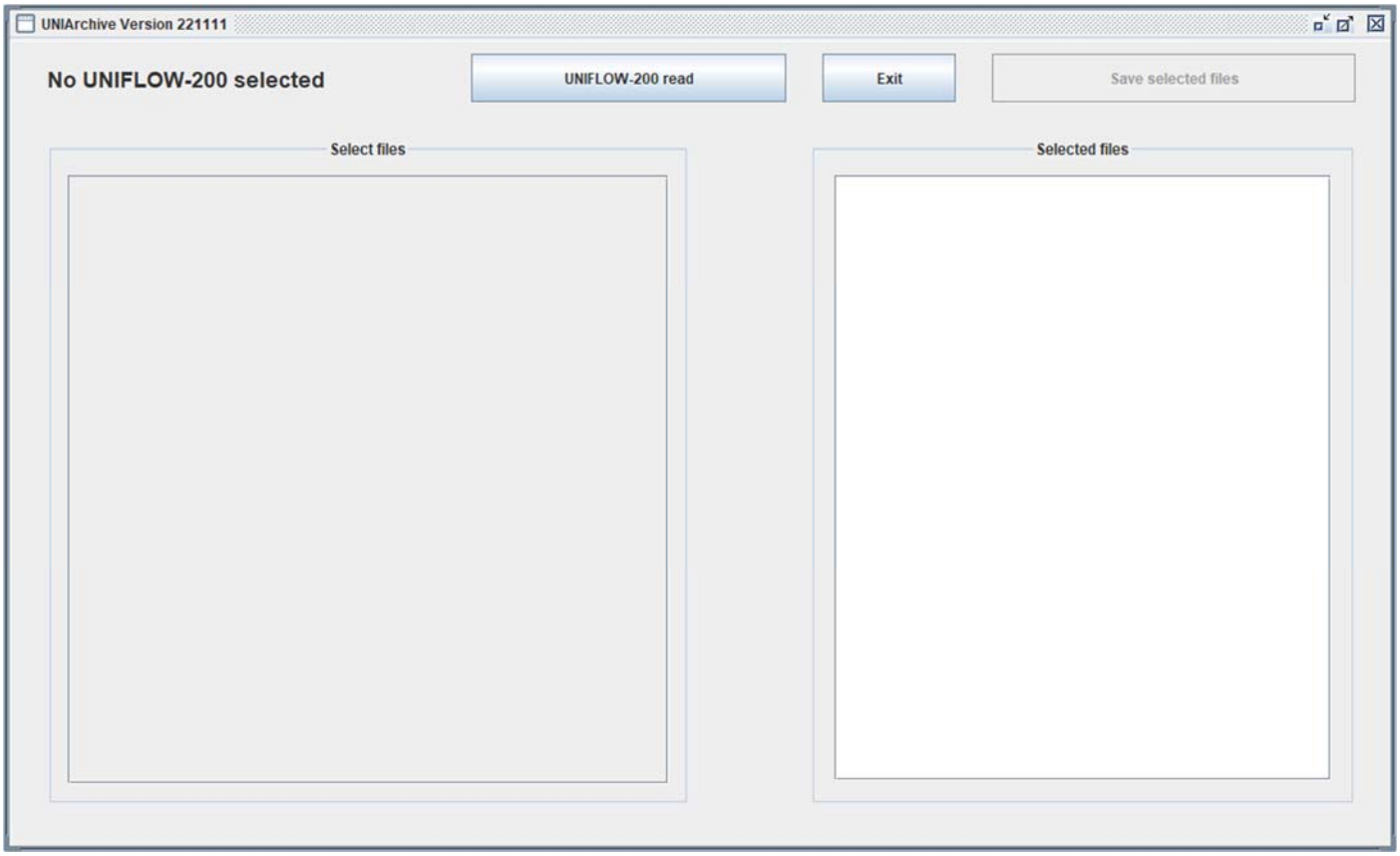


Navigate to the message you want to check with up and down arrow button and press left/right arrow button to go through the message.

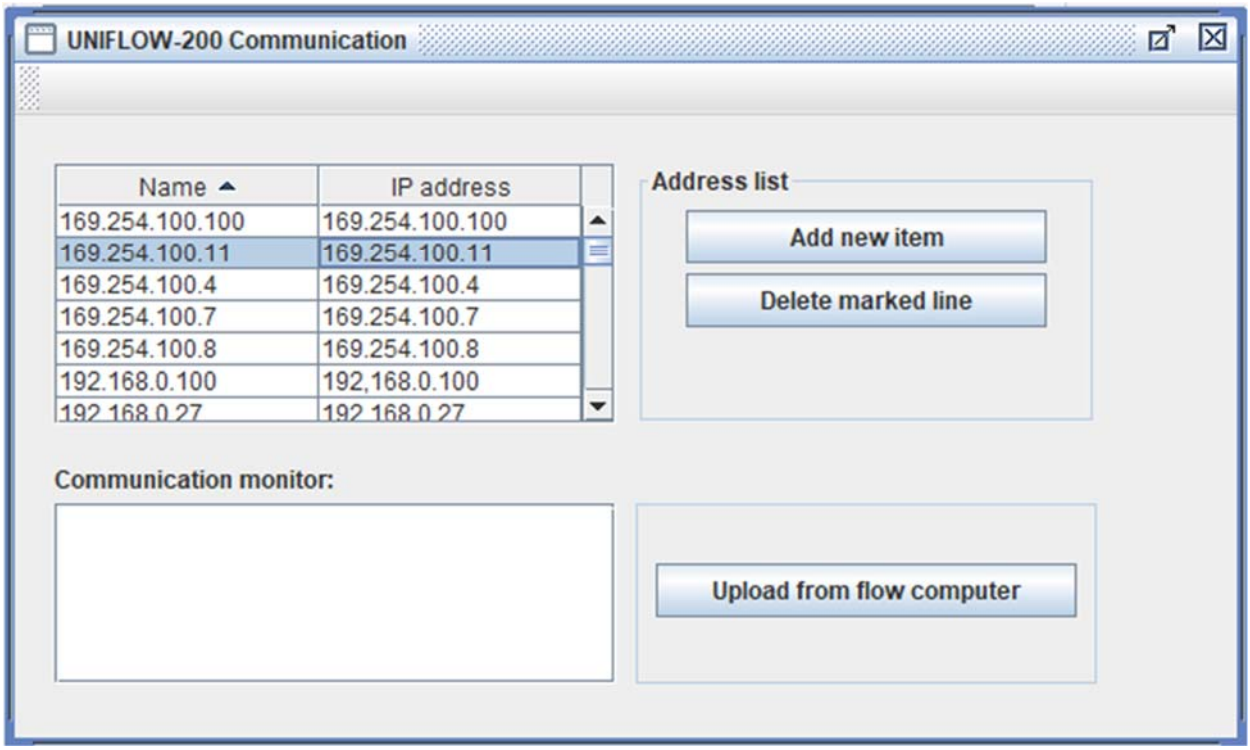
4.4 Transfer the log file to PC

Start the UNIArchive program in the ToolBox software.


U200ToolBox Version 221111
PROCESS CONTROL
UNISetup
Configuration setup
UNIArchive
Reading archives
UNIUpdate
Firmware update
EXIT


UNIArchive Version 221111
No UNIFLOW-200 selected
UNIFLOW-200 read
Exit
Save selected files
Select files
Selected files

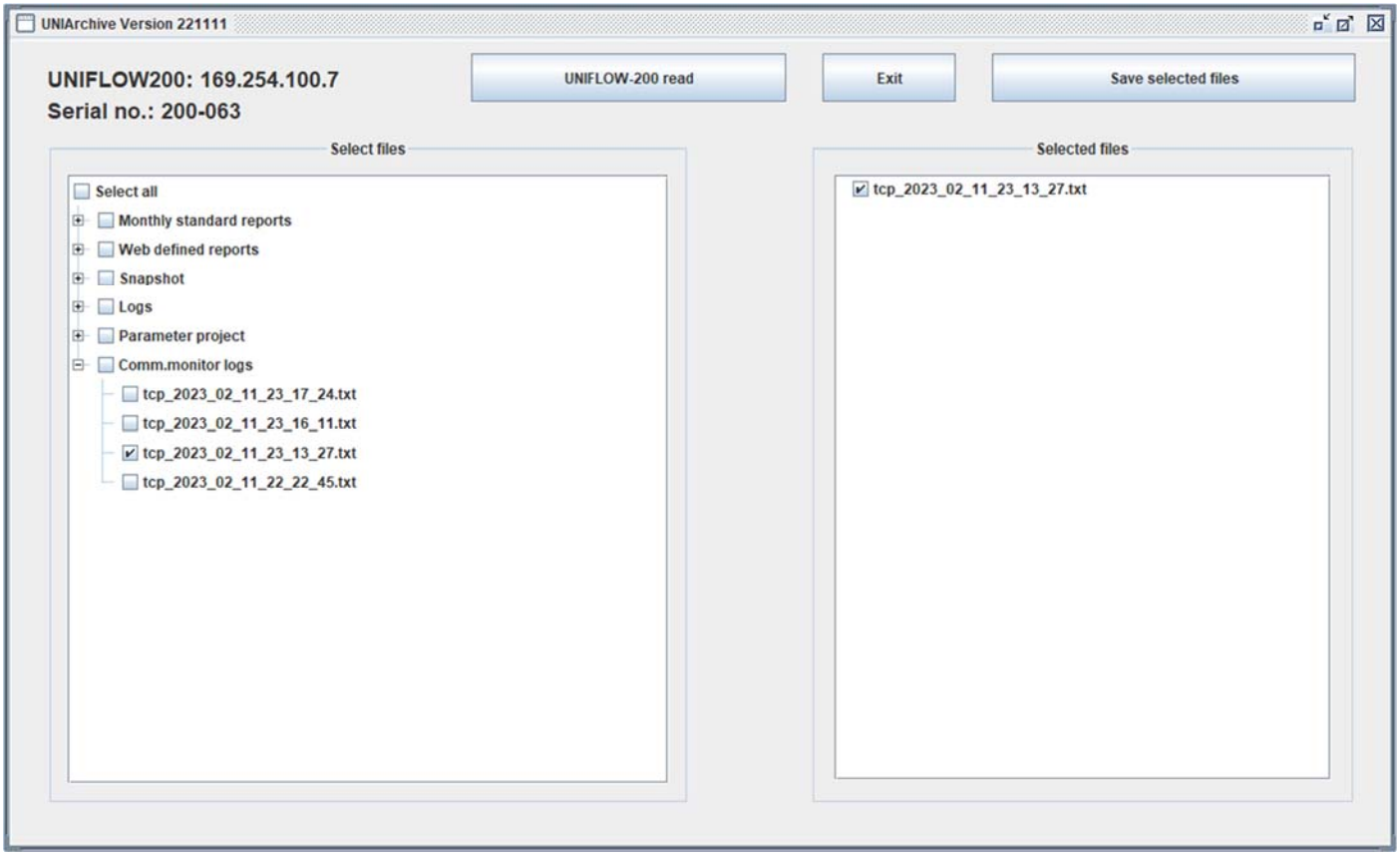
Press “Uniflow-200 read” button and select the flow computer IP address from the list. If the list is empty click Add new item button and enter the name and the IP address of the flow computer.



Then click “Upload from flow computer” button

Press OK button on the Upload successful message box.

On the left-hand pane of the window, you will see the archive file group names. This time we are interested in Comm. monitor logs. Click the (+) sign in front of the group name to drop down the list of files. Mark the check box in front of the file name you want to transfer, or mark the check box in front of the group name to select all the files.



You will see the selected files on the right-hand side pane.

Click the “Save selected file” button and browse the directory on the PC where the files to be saved.

4.5 Content of the log file

The log file is a simple txt file.

The naming convention of the file is: tcp_yyyy_mm_dd_hh_mm_ss.txt

Example of the file: tcp_2023_02_12_20_05_20.txt

In the header it shows the settings.

In the body it shows the incoming and outgoing messages in hexadecimal format.

See a sample of the log file below.

```
2023/02/11 23:17:24 Host IP address: 169.254.100.7
2023/02/11 23:17:24 Client IP address: 169.254.100.1
2023/02/11 23:17:24 Modbus address: 1
2023/02/11 23:17:24 Reg. assignment: User_Modbus
Time stamp: between messages

0000.000000 <- 00 1a 00 00 00 06 01 03 03 e9 00 20
```

```
0000.000022 -> 00 1a 00 00 00 43 01 03 40 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 cc d5 3f 8c cd 56 3d cc 00 00 41 20 b7 c6 3f b7
71 c5 3f af ae da 3f 87 3f 2a 40 69 ea 87 40 6f 00 00 00 00 00 00 00 00 00 00

0001.533524 <- 00 1b 00 00 00 06 01 03 03 e9 00 20

0000.000021 -> 00 1b 00 00 00 43 01 03 40 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 cc d5 3f 8c cd 56 3d cc 00 00 41 20 b7 c6 3f b7
71 c5 3f af ae da 3f 87 3f 2a 40 69 ea 87 40 6f 00 00 00 00 00 00 00 00 00 00

0002.514922 <- 00 1c 00 00 00 06 01 03 03 e9 00 20

0000.000022 -> 00 1c 00 00 00 43 01 03 40 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 cc d5 3f 8c cd 56 3d cc 00 00 41 20 b7 c6 3f b7
71 c5 3f af ae da 3f 87 3f 2a 40 69 ea 87 40 6f 00 00 00 00 00 00 00 00 00 00

0002.285256 <- 00 1d 00 00 00 06 01 03 03 e9 00 20

0000.000022 -> 00 1d 00 00 00 43 01 03 40 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 cc d5 3f 8c cd 56 3d cc 00 00 41 20 b7 c6 3f b7
71 c5 3f af ae da 3f 87 3f 2a 40 69 ea 87 40 6f 00 00 00 00 00 00 00 00 00 00

0001.277703 <- 00 1e 00 00 00 06 01 03 03 e9 00 20

0000.000022 -> 00 1e 00 00 00 43 01 03 40 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 cc d5 3f 8c cd 56 3d cc 00 00 41 20 b7 c6 3f b7
71 c5 3f af ae da 3f 87 3f 2a 40 69 ea 87 40 6f 00 00 00 00 00 00 00 00 00 00
```