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.

Main menu Tests	-IO Board 1 -IO Board 2 -IO Board 3 -IO Board 4	Main menu Tests	-IO Board 1 -IO Board 2 -IO Board 3
	-IO Board 5 -Nodbus regs -IO polling -COM port monitor -Modbus TCP monitor	When using ensure t is polling f	Modbus TCP monitor, hat only one client the Modbus TCP port!
			OK

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.sssss format, absolute time according to the real time clock)
- relative (hh:mm:ss.sssss format, starting of the monitoring is the zero time)
- between messages (ssss.sssss format, elapsed time between messages)

Press the Start button.

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

Kliens IP cím: 1	69.2	54.1	00.1				
0000.000023	\rightarrow	00	10	00	00	00	43
0003.819246	<-	00	11	00	00	00	06
0000.000023	\rightarrow	00	11	00	00	00	43
0003.015673	<-	00	12	00	00	00	06
0000.000023	\rightarrow	00	12	00	00	00	43
0004.156868	<-	00	13	00	00	00	06
0000.000022	\rightarrow	00	13	00	00	00	43
0004.988103	<-	00	14	00	00	00	06
0000.000022	\rightarrow	00	14	00	00	00	43
0004.498762	<-	00	15	00	00	00	06
0000.000019	\rightarrow	00	15	00	00	00	43
0005.332833	< -	00	16	00	00	00	06
0000.000023	\rightarrow	00	16	00	00	00	43
Stop)						1enu	

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

Kliens IP cím	: 169.2	54.1	00.1				
0000.00002	3 ->	00	10	00	00	00	43
0003.81924	6 <-	00	11	00	00	00	06
0000.00002	3 ->	00	11	00	00	00	43
0003.01567	'3 K-	00	12	00	00	00	06
0000.00002	3 -≻	00	12	00	00	00	43
0004.15686	8 K-	00	13	00	00	00	06
0000.00002	2 ->	00	13	00	00	00	43
0004.98810	13 KH	00	14	00	00	00	06
0000.00002	2 ->	00	14	00	00	00	43
0004.49876	2 <-	00	15	00	00	00	06
0000.00001	.9 - ≻	00	15	00	00	00	43
0005.33283	3 K-	00	16	00	00	00	06
0000.00002	:3 ->	00	16	00	00	00	43
Start	Log	X	Scr	oll		1enu	

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.

Kliens IP cím: 1	69.2	54.1	00.1				
0000.000023	\rightarrow	00	10	00	00	00	43
0003.819246	< -	00	11	00	00	00	06
0000.000023	\rightarrow	00	11	00	00	00	43
0000 045470	1	00	4.0	00	00	00	04
0000 000000		0.0		0.0	0.0	0.0	
0000.000022	->	00	14	00	00	00	43
0000.000022 0004.498762	-> <-	00 00	14 15	00 00	00 00	00 00	43 06
0000.000022 0004.498762 0000.000019	-> <- ->	00 00 00	14 15 15	00 00 00	00 00 00	00 00 00	43 06 43
0000.000022 0004.498762 0000.000019 0005.332833	-> <- -> <-	00 00 00	14 15 15 16	00 00 00	00 00 00	00 00 00 00	43 06 43 06
0000.000022 0004.498762 0000.000019 0005.332833 0000.000023	-> <- -> <- ->	00 00 00 00	14 15 15 16 16	00 00 00 00	00 00 00 00	00 00 00 00	43 06 43 06 43

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.

Kliens IP cím: 1	69.2	54.1	00.1		ESC	; – B	ack
0000.000000	< -	00	16	00	00	00	06
0000.000022	\rightarrow	00	16	00	00	00	43
0001.533524	<-	00	1 B	00	00	00	06
0000.000021	->	00	1 B	00	00	00	43
0002.514922	< -	00	10	00	00	00	06
0000.000022	\rightarrow	00	10	00	00	00	43
0002.285256	<-	00	1 D	00	00	00	06
0000.000022	\rightarrow	00	1 D	00	00	00	43
0001.277703	<-	00	1 E	00	00	00	06
0000.000022	\rightarrow	00	1 E	00	00	00	43
(← X ·	→ _	X	- +			1	

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			r 🖂
CONTROL	UNISetup Configuration setup		
	UNIArchive Reading archives		
	UNIUpdate Firmware update		EXIT
UNIArchive Version 221111			ី ៧ និ
No UNIFLOW-200 selected	UNIFLOW-200 read	Exit	Save selected files
Solort files			Salactad filas

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.

Name 🔺	IP address		Address list
169 254 100 100	169,254,100,100		
169.254.100.11	169.254.100.11		Add new item
169.254.100.4	169.254.100.4		
169.254.100.7	169.254.100.7		Delete marked line
169.254.100.8	169.254.100.8		
192.168.0.100	192,168.0.100		
192 168 0 27	192 168 0 27	-	
Communication mo	nitor:		Lipload from flow computer

Then click "Upload from flow computer" button

Press OK button on the Upload successful message box.

i	Upload successful
	ОК

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.

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NIFLOW200: 169.254.100.7	UNIFLOW-200 read	Exit	Save selected files
erial no.: 200-063			
Select files			Selected files
Select all		✓ tcp_2023_02_11_23_	13_27.txt
Monthly standard reports			
⊡ Web defined reports			
⊕- 🔜 Snapshot			
🗈 🔚 Logs			
🗈 🔄 Parameter project			
E Comm.monitor logs			
- tcp_2023_02_11_23_17_24.txt			
- tcp_2023_02_11_23_16_11.txt			
- ₩ tcp_2023_02_11_23_13_27.txt			
- tcp_2023_02_11_22_22_45.txt			

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

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