

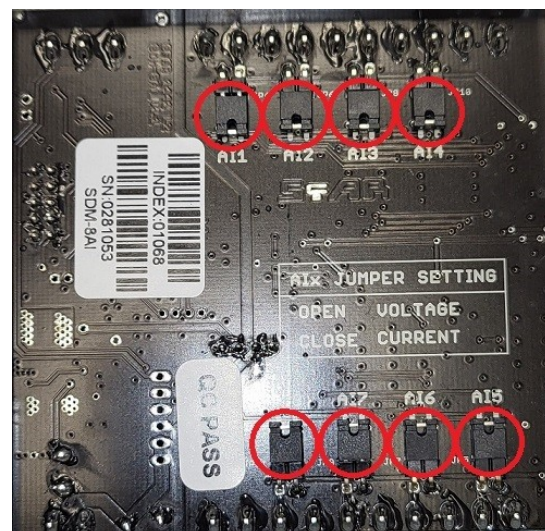
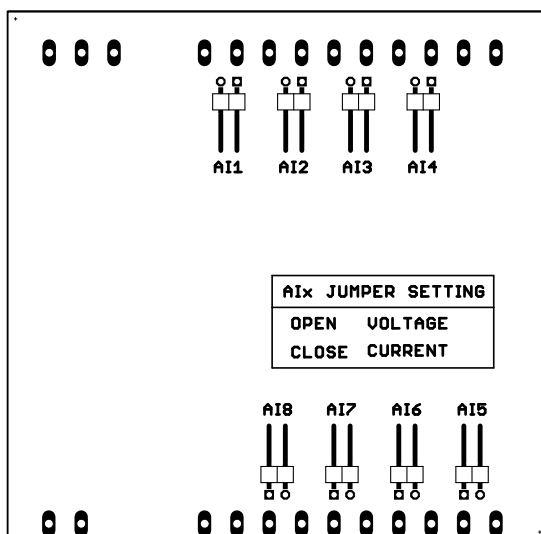
## **CURRENT input configuration and connecting with SDM-8AI by RS485 Modbus.**

1. Remove a bottom cover of **SDM-8AI**:

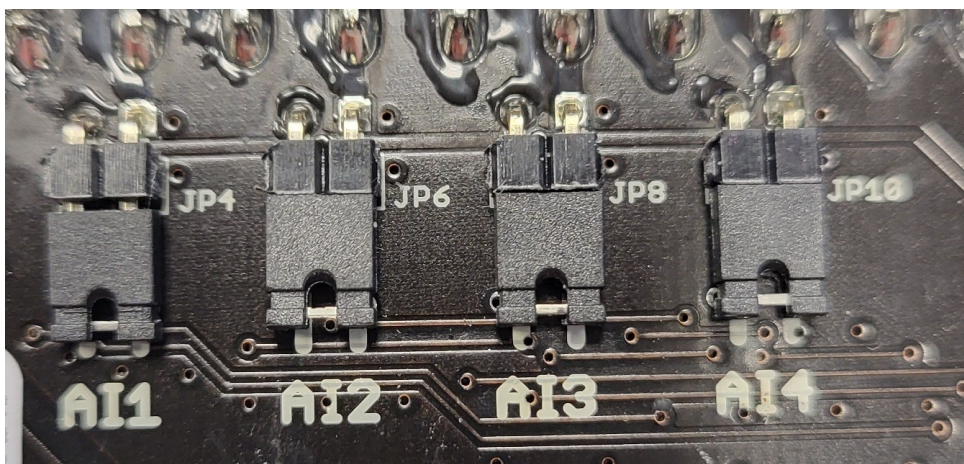


2. Set jumpers to **Current** inputs. The channel with current input must have a **shorted jumper (close)**.

Location of the jumpers

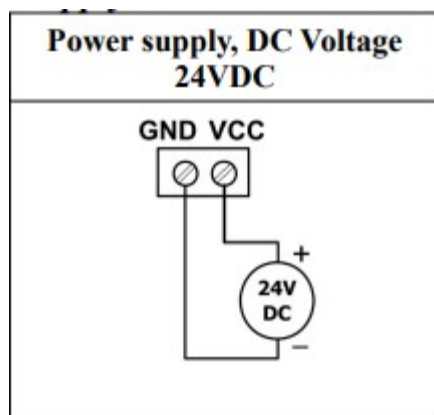


View of the shorted jumpers (close)



3. Close **SDM-8AI**

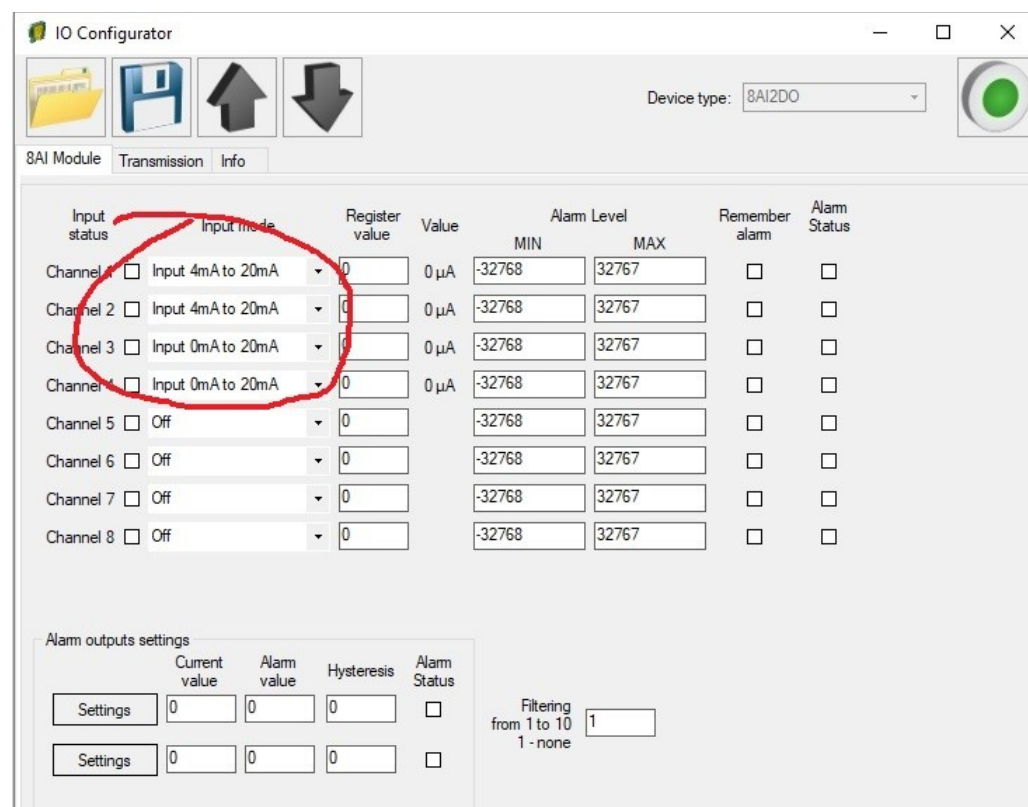
4. Connect power supply:



5. Connect SDM-8AI by USB cable and set type of input in IO Configurator.

Link to download:

[https://www.aspar.com.pl/katalogi/IOMODULES/KONFIGURATOR/software/Konfigurator\\_IO.zip](https://www.aspar.com.pl/katalogi/IOMODULES/KONFIGURATOR/software/Konfigurator_IO.zip)



Input status	Input mode	Register value	Value	Alarm Level		Remember alarm	Alarm Status
				MIN	MAX		
Channel 1	<input type="checkbox"/> Input 4mA to 20mA	0	0 $\mu$ A	-32768	32767	<input type="checkbox"/>	<input type="checkbox"/>
Channel 2	<input type="checkbox"/> Input 4mA to 20mA	0	0 $\mu$ A	-32768	32767	<input type="checkbox"/>	<input type="checkbox"/>
Channel 3	<input type="checkbox"/> Input 0mA to 20mA	0	0 $\mu$ A	-32768	32767	<input type="checkbox"/>	<input type="checkbox"/>
Channel 4	<input type="checkbox"/> Input 0mA to 20mA	0	0 $\mu$ A	-32768	32767	<input type="checkbox"/>	<input type="checkbox"/>
Channel 5	<input type="checkbox"/> Off	0		-32768	32767	<input type="checkbox"/>	<input type="checkbox"/>
Channel 6	<input type="checkbox"/> Off	0		-32768	32767	<input type="checkbox"/>	<input type="checkbox"/>
Channel 7	<input type="checkbox"/> Off	0		-32768	32767	<input type="checkbox"/>	<input type="checkbox"/>
Channel 8	<input type="checkbox"/> Off	0		-32768	32767	<input type="checkbox"/>	<input type="checkbox"/>

Alarm outputs settings				
	Current value	Alarm value	Hysteresis	Alarm Status
Settings	0	0	0	<input type="checkbox"/>
Settings	0	0	0	<input type="checkbox"/>

Filtering from 1 to 10  
1 - none

6. Prepare the current signal that you want to connect to (for example) input AI 4.

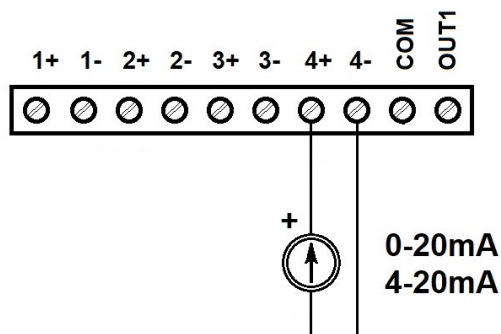
**The SDM-8AI module does not provide the power supply to the various types of transducers, e.g. pressure. The outputs of the such transducers should be powered from another source.**

7. Measure the prepared current signal with a multimeter.

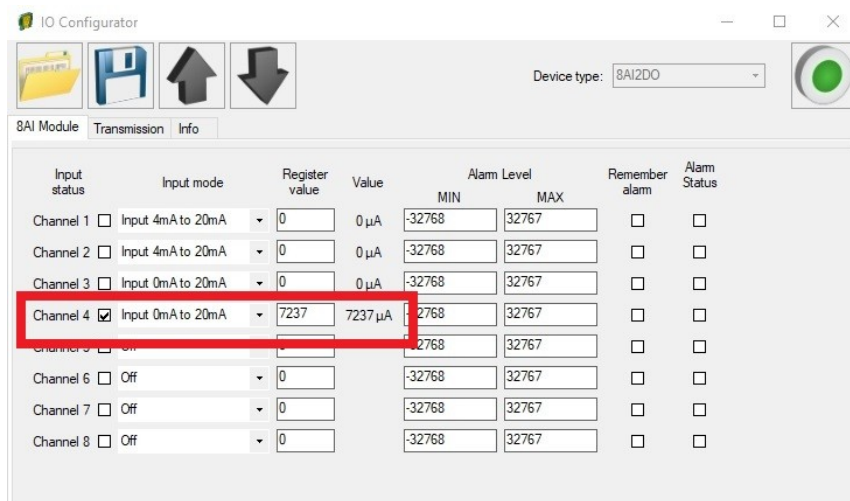


Our current signal example: **7,24mA**

8. Connect prepared current signal for example to AI 4 (channel 4):

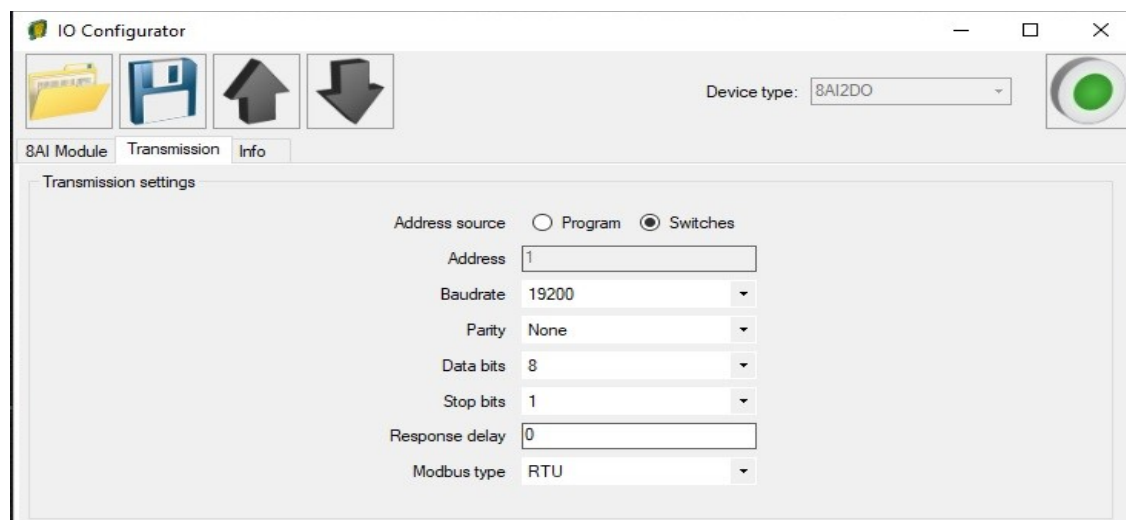


9. Read the value of the current AI 4 (Channel 4) in the IO Configurator.



The read value is:  $7237\mu A = 7,237mA \approx \mathbf{7,24mA}$

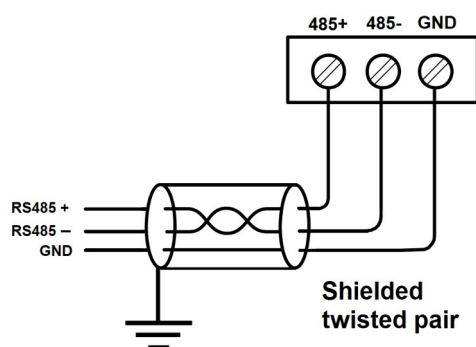
10. Set communication parameters in IO Configurator (SDM-8AI is a Modbus slave, client)



11. Set communication parameters in your **Master Device** (Baudrate, parity, Data bits, Stop bits, Modbus type – the same, Address – other).

12. Disconnect IO Configurator

13. Connect SDM-8AI with your Master Device by RS485:



14. Master Device: Send a query to SDM-8AI – read value of analog input AI 4 (Channel 4). Use Modbus function - **Read Holding Registers 03**. Address of the register analog input 4 (AI 4): **55** (dec) or **37** (hex).

40052	51	0x33	Outputs	Read & write	bit 8 and 9 alarm outputs
30053	52	0x34	Analog 1	Read	Value of analog input in mV for voltage inputs in $\mu$ A for current inputs
30054	53	0x35	Analog 2	Read	
<del>30055</del>	<del>54</del>	<del>0x36</del>	<del>Analog 3</del>	<del>Read</del>	
30056	55	0x37	Analog 4	Read	
<del>30057</del>	<del>56</del>	<del>0x38</del>	<del>Analog 5</del>	<del>Read</del>	
30058	57	0x39	Analog 6	Read	
30059	58	0x3A	Analog 7	Read	
30060	59	0x3B	Analog 8	Read	
30061	60	0x3C	Value of 1 alarm input	Read	Output status of alarm input 1

15. View of communication frame:

A. query to SDM-8AI:

01 03 00 **37** 00 01 35 C4

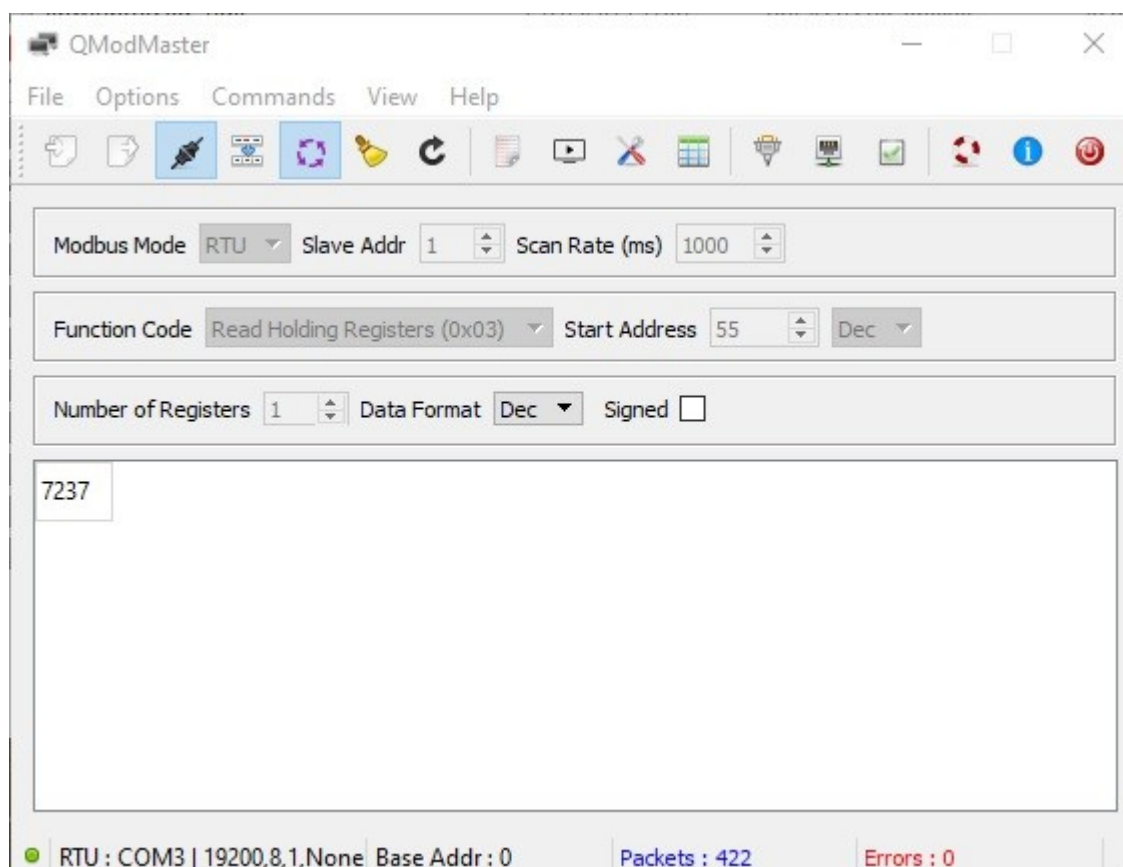
B. answer from SDM-8AI

01 03 02 **1C 45** 71 77

1C45 (hex) = 7237 (dec)



16. Read the value of the current AI 4 (Channel 4) in Master Device.  
In this example Modbus Master is software – QModMaster:



17. The input value is **7237**. The same value like in the IO Configurator (point. 9):  
 $7237\mu\text{A} = 7,237\text{mA} \approx \mathbf{7,24\text{mA}}$