HOW-TO

How-to Configure PMU CAN Stream in ADU

Document version: 1.0
Firmware: 100.0
Published on: 19 January 2024

1. Description

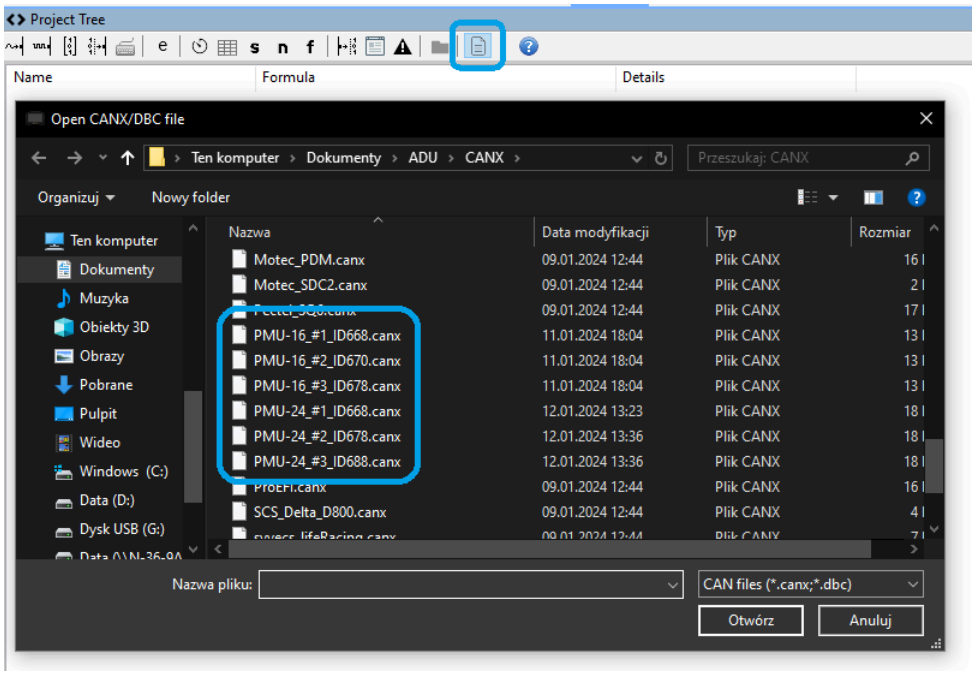
ADU firmware 100.0 addes the native support of the PMU-24 to the previously supported PMU-16. The ADU supports up to 3 PMUs, each of them being 16 or 24 version.

To add the PMU CAN stream, import one of the .CANX files. There are three files to choose from, each containing the PMU device number and default base address in its name:

- PMU-24_#1_ID668.canx
- PMU-24_#2_ID678.canx
- PMU-24_#3_ID688.canx

Additionally, the names of the CANX files for PMU-16 have changed. These are three files:

- PMU-16_#1_ID668.canx
- PMU-16_#2_ID670.canx
- PMU-16_#3_ID678.canx



It's important to notice that importing the PMU .CANX file creates only CANbus Message objects in the Project Tree. In the case of PMU-24, for PMU number #1, these are two CANbus Message Objects of the following types:

- PMU1 [1-16]
- PMU1 [17-24]

In the case of PMU-16 for PMU number #1 there is only one CANbus Message Object of type:

- PMU1 [1-16]

The CANbus Inputs are not necessary, because the channels decode automatically. This saves the user resources.

The scheme below shows the default CAN stream locations of the PMUs. Please note, that if using PMU 24 and PMU 16 on the same CANbus, the default CAN stream locations may need to be adjusted to avoid conflict.

ID	Default CAN stream locations for PMU-16	Default CAN stream locations for PMU-24
0x668	PMU-16 #1 at 0x668	PMU-24 #1 at 0x668
0x669		
0x66A		
0x66B		
0x66C		
0x66D		
0x66E		
0x66F		
0x670	PMU-16 #2 at 0x670	
0x671		
0x672		
0x673		
0x674		
0x675		
0x676		
0x677		
0x678	PMU-16 #3 at 0x678	PMU-24 #2 at 0x678
0x679		
0x67A		
0x67B		
0x67C		
0x67D		
0x67E		
0x67F		
0x680		
0x681		
0x682		
0x683		
0x684		
0x685		
0x686		
0x687		
0x688		PMU-24 #3 at 0x688
0x689		
0x68A		
0x68B		
0x68C		
0x68D		
0x68E		
0x68F		
0x690		
0x691		
0x692		
0x693		
0x694		
0x695		
0x696		
0x697		

To keep track of PMU channel status information, you can open a separate Log panel for each PMU. Below is a list of channels for each of the three built-in PMU devices:

- pmuX.totalCurrent
- pmuX.battery
- pmuX.boardTemperatureL
- pmuX.boardTemperatureR
- pmuX.boardTemperatureMax
- pmuX.status
- pmuX.userError
- pmuX.oY.status – states for each of the 24 outputs
- pmuX.oY.active – activity flags for each of the 24 outputs
- pmuX.oY.current (*) – current values for each of the 24 outputs
- pmuX.oY.voltage (**) – voltage values for each of the 24 outputs
- pmuX.aY.voltage – voltages in the range of 0-5V for each of the 16 inputs

(*) – For outputs O1-O16, the current value resolution is 0.25A, and for outputs O17-O24, it is 0.1A.
(**) – For outputs O1-O16, the measurement range is 0-16V, and for outputs O17-O24, it is 0-20V.

Inputs A9-A16 have the capability to measure voltage in the range of 0-20V, but the information sent on the CAN channels pmuX.aY.voltage is limited to the range of 0-5V. To read the voltage value on these analog inputs across the entire measurement range, you can utilize channels pmuX.oY.voltage. For instance, the voltage value on input A9 is also available on pmuX.o17.voltage. Similarly, the voltage value on input A16 is also available on pmuX.o24.voltage.

2. Document history

Version	Date	Changes
1.0	2024.01.19	Initial release