PISO-DNM100U FAQ

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Q1: What is the meaning of the Explicit_EPR in the AddDevice() function? (2017/11/07, Johney)

Ans:

It is the “Expected Packet Rate”. This means that the timeout value when the slave device does not response. There are various slave devices which have different performance. We suggest that the user set the value of 2500 which is the default value of the DeviceNet spec.

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Q2: Does the PISO-DNM100U support loading the EDS file function? (2017/12/02, Johney)

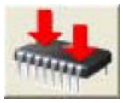
Ans:

There is another method which works like loading the EDS file.
By using the DNM_Utility, the user could add slave devices one by one in the first PISO-DNM100U. The setting information will always be saved in the module, even the module was moved to another PC.

After adding all slave devices, the users are able to "Export the setting" from the PISO-DNM100U.
By using the "Export" button in the DNM_Utility, the setting of the PISO-DNM100U will be save in a file (*.EEP). The “Export” button was shown In the ch 3.1.11 of the DNM_Utility manual which is “DeviceNet Master Utility User Manual.pdf”.



The file (*.EEP) could be viewed as the EDS file of the PISO-DNM100U. The users can "Import the file" into another PISO-DNM100U by the DNM_Utility. The "Import" button was shown in the ch3.1.12 of the DNM_Utility manual which is “DeviceNet Master Utility User Manual.pdf”.



The configured PISO-DNM100U has all the slaves’ information. The users just make the PISO-DNM100U to start working in the Labview and no need to add the slave devices again.

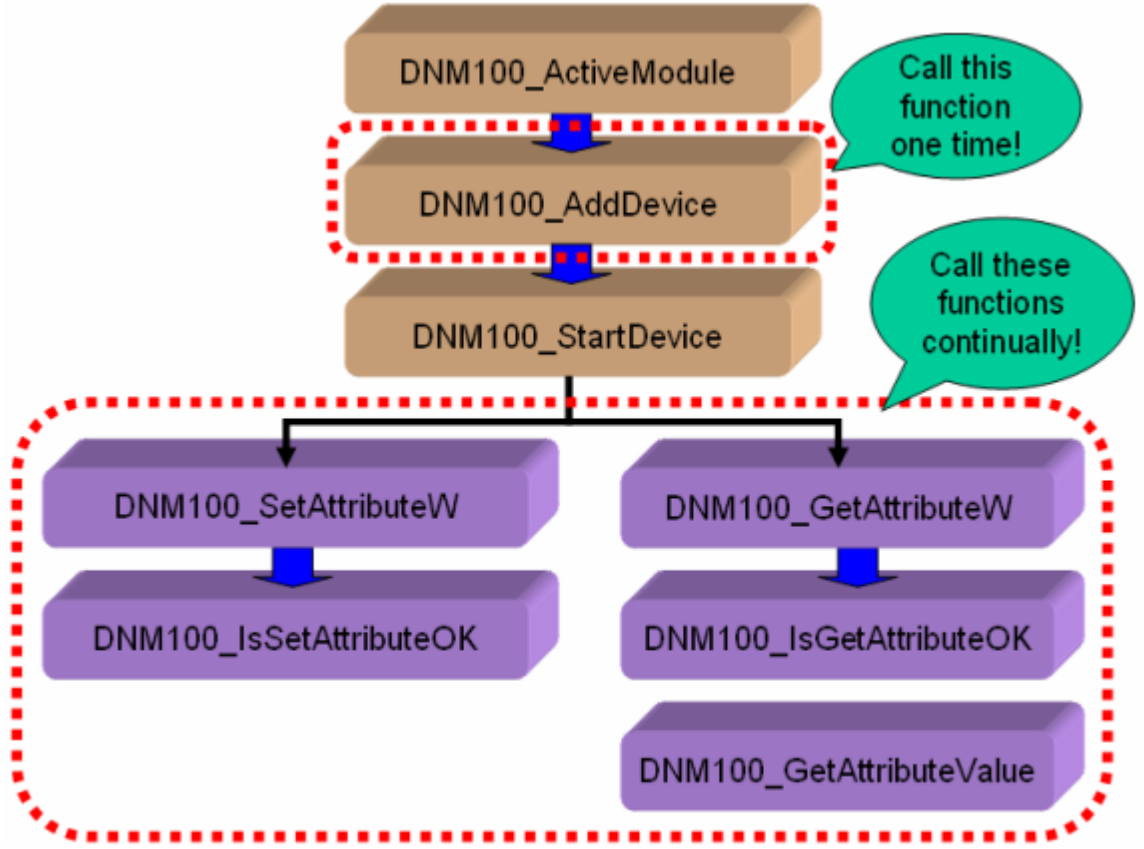
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Q3: Does the PISO-DNM100U could only work with Explicit Message connection? (2017/12/16, Johney)

Ans:

Yes. The firmware version v1.6 or newer could support this methodology.

After added slave devices, you need to call PISODNM_StartAllDevice API. It will make the PISO-DNM100U to communicate with all slave devices. The user could follow the flow char in the manual. Here is the example in page 39.



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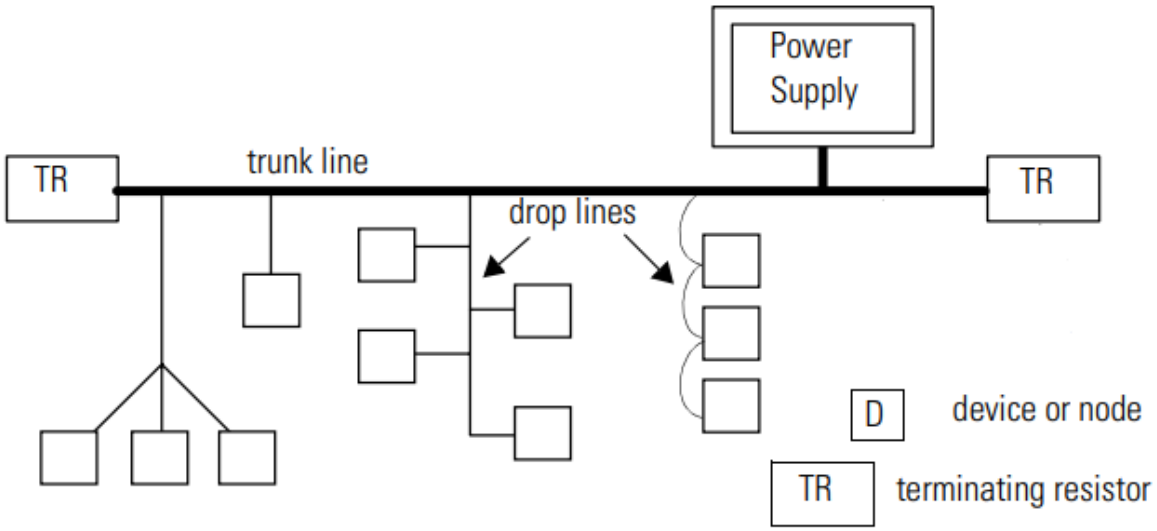
Q4: After connecting the PISO-DNM100U with the DeviceNet slaves, all slaves NET led are blinking. (2020/11/01, Johney)

Ans:

When the NET led blinking, it shows the CAN network meets some errors. Usually, there are two frequent problems.

1. The baud rate is mismatch.
   If you change the baud rate of the network, make sure that all slave devices change to the new baud rate. Mixed baud rates produce communication errors. There are only 125 kbps, 250 kbps, 500 kbps baud rates supported.

2. The wrong terminal resistor.
   Ensure that you have one 121Ω terminating resistor at each end of the trunk line.

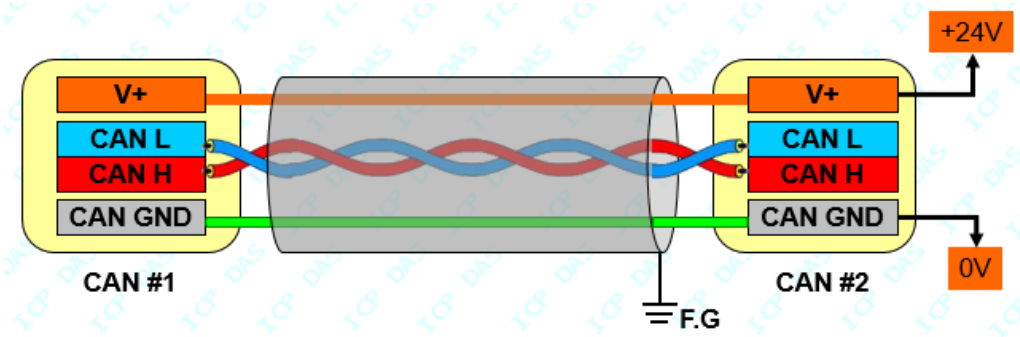


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Q5: Why the PISO-DNM100U cannot go online? (2020/11/03, Johney)

Ans:

1. Make sure the CAN network has other slave devices. The single PISO-DNM100U cannot go online alone.
2. Make sure the DeviceNet network has connected to the power source.



3. Make sure the communication distance and the baud rate. The ideal CAN table shown below.

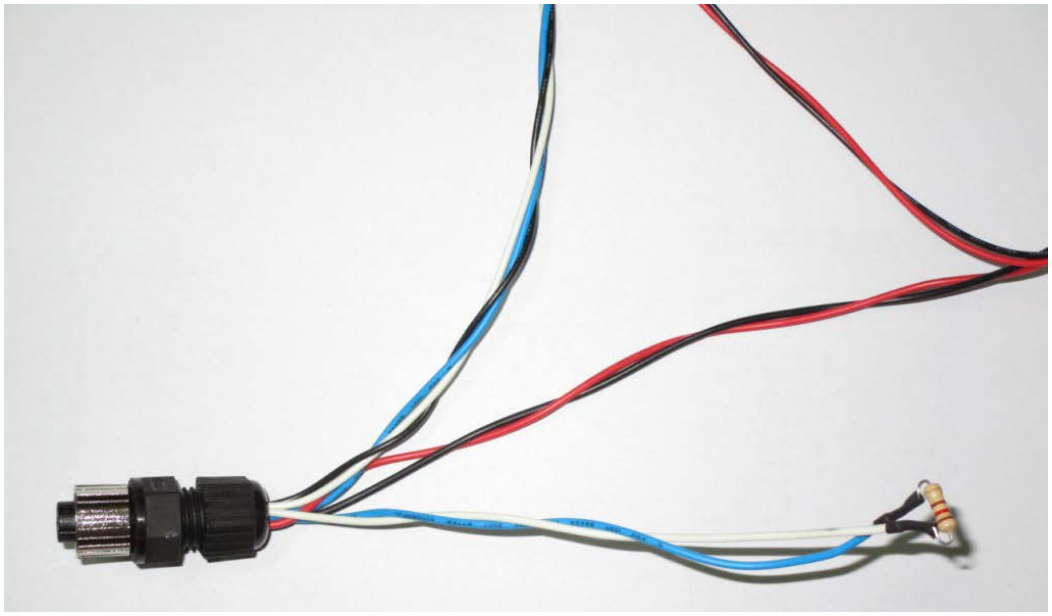
CAN Baud Rate	Ideal CAN bus distance
500 Kbps	100 meters
250 Kbps	250 meters
125 Kbps	500 meters

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Q6: How can I add a terminal resistor with the M12 connector? (2020/11/12, Johney)

Ans:

Here shows the instruction.



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Q7: How to communicate with the [SMC Valve] by the PISO-DNM100U? (2020/11/12, Johney)

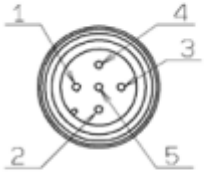
Ans:

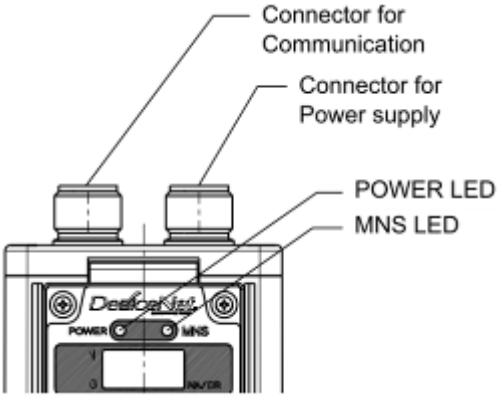
SMC ITVH-2000 :

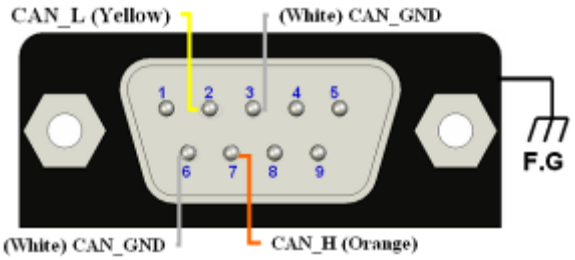
Series ITV electro-pneumatic and electronic vacuum regulators control air/vacuum pressure in proportion to an electric signal. They are light weight in design with a bright and easy to read LED display.

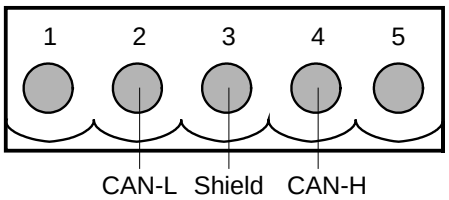


Wire connection with the DeviceNet Master:

DeviceNet™ Connector M12 5PIN CONNECTOR	Power supply Connector M12 4PIN CONNECTOR
	
1. DRAIN	1. Vcc
2. V+	2. No Connection
3. V-	3. GND
4. CAN_H	4. No Connection
5. CAN_L	

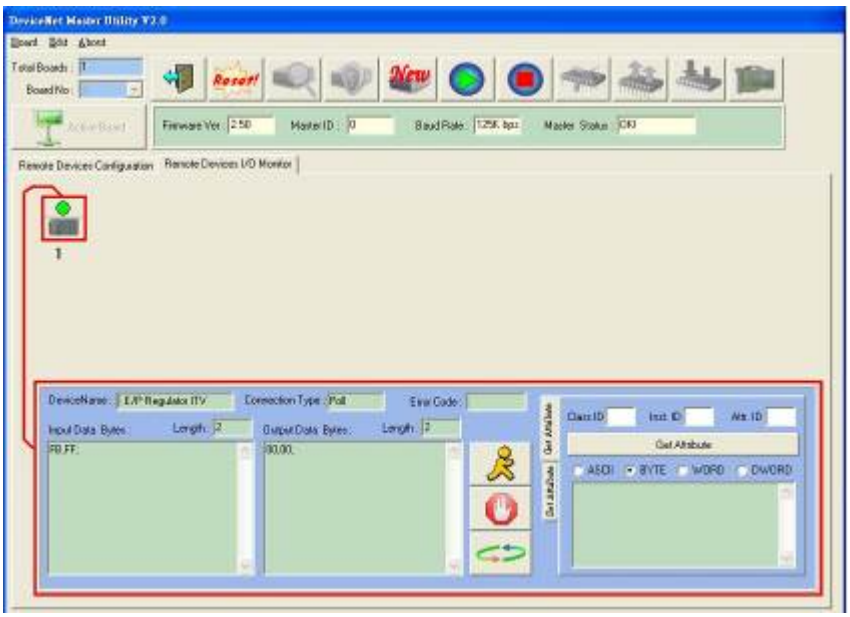




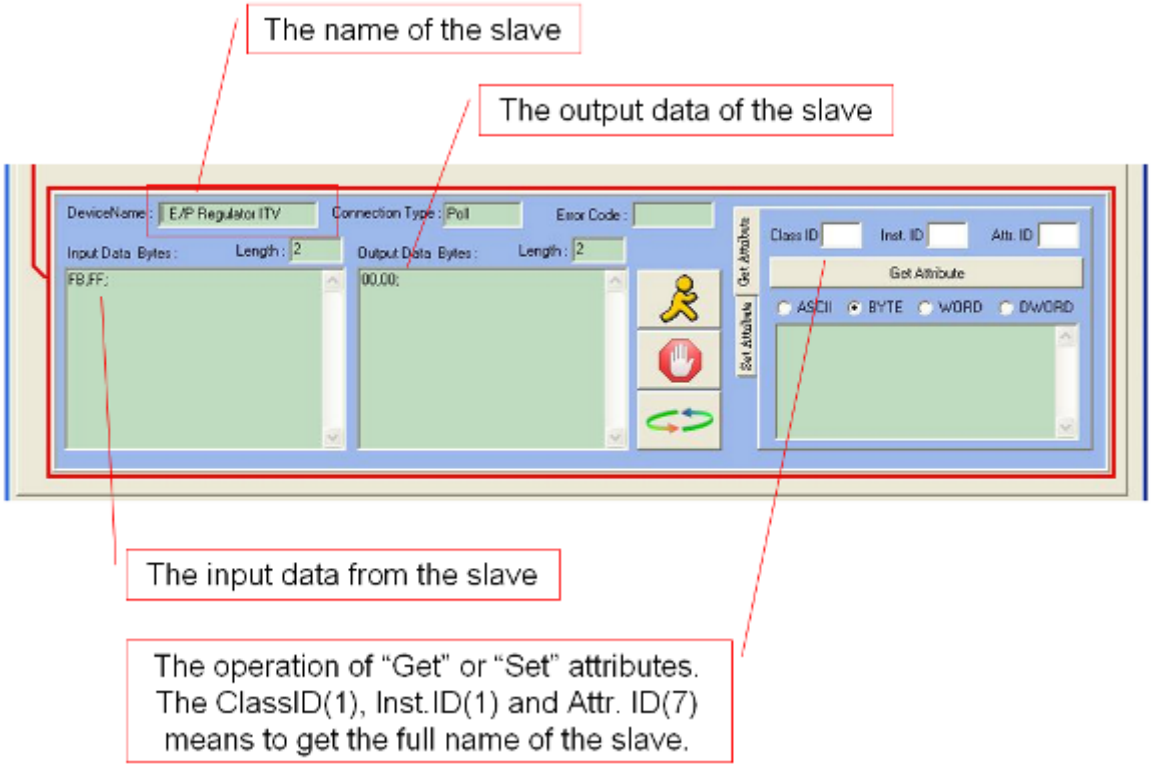


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The DNM Utility communicates with the SMC ITV valve :



Here shows that the DNM_Utility has communicated the SMC valve.

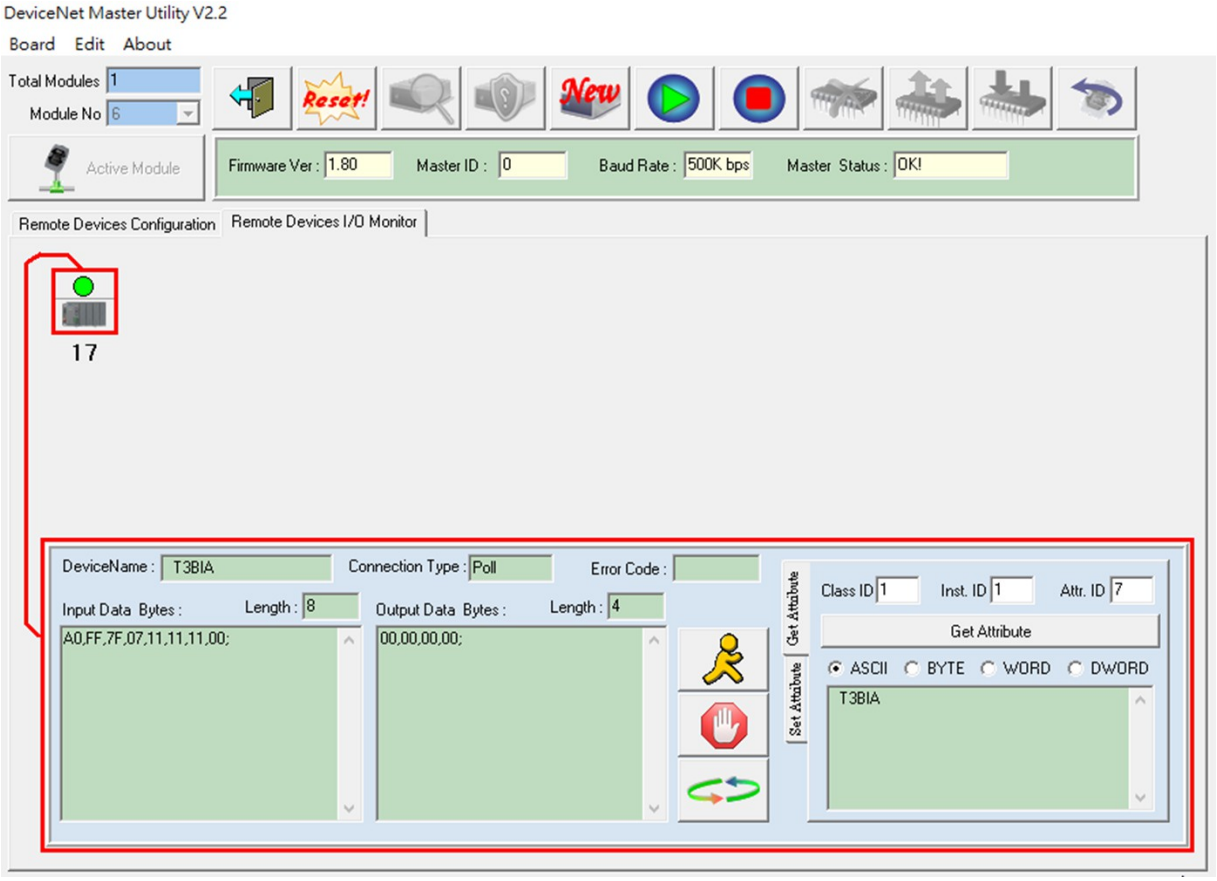


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Q8: How to open/close the MKS T3BIA with the DNM_Utility? (2020/11/18, Johney)

Ans:

Here shows the output data bytes of the DNM_Utility.



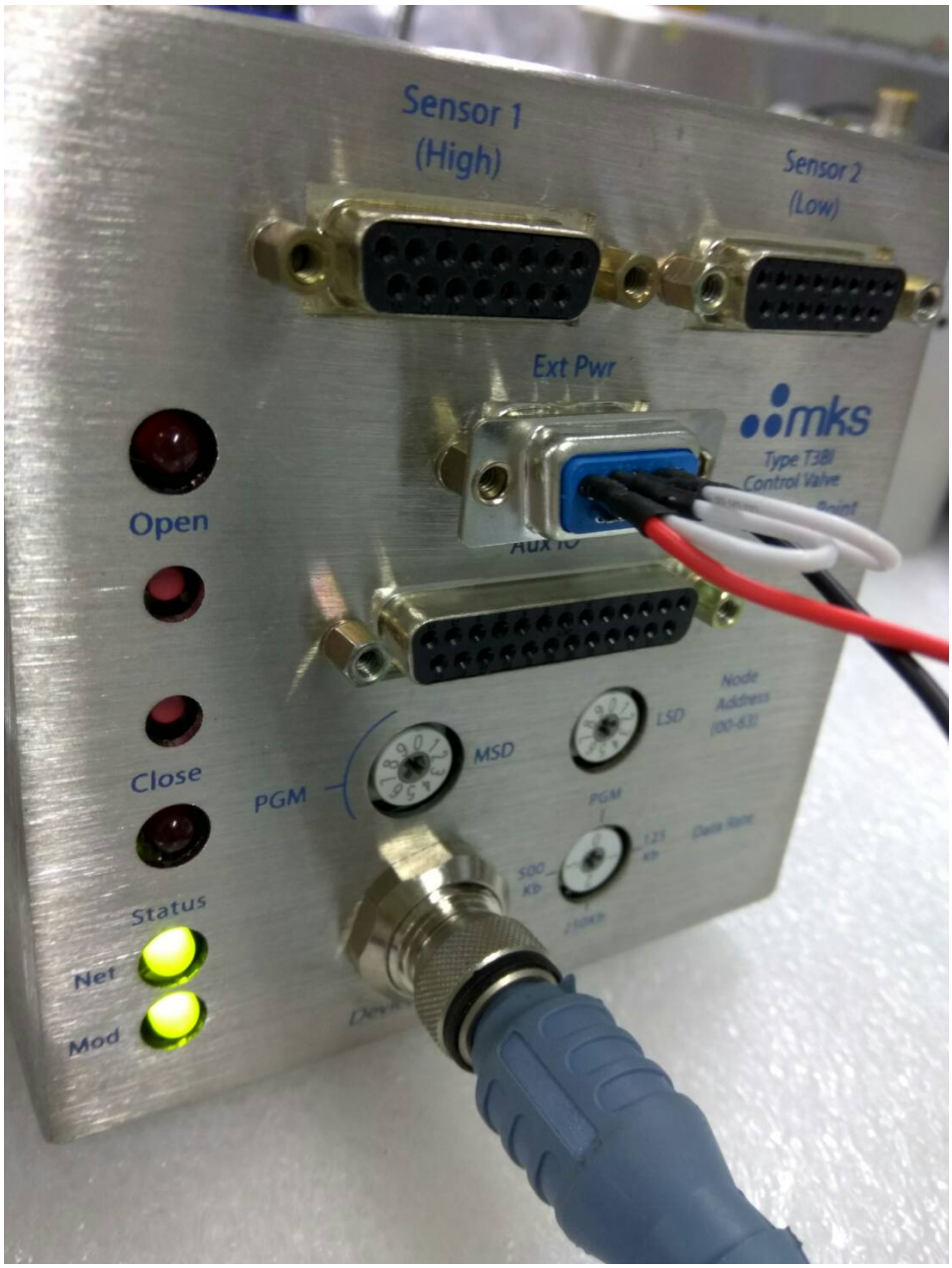
Output(4 bytes)	Input(8 bytes)	Plate
00,00,00,01;	A0,FF,7F,FF,FF,00,00,00	Open
00,00,01,01;	A0,FF,7F,00,00,00,00,01	Close
00,00,02,01;	A0,FF,7F,FF,FF,00,00,02	Open

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Q9: The PISO-DNM100U can’t find the MKS T3BIA. How to connect the external power of the MKS T3BIA? (2020/11/21, Johney)

Ans:

Here shows the connection.



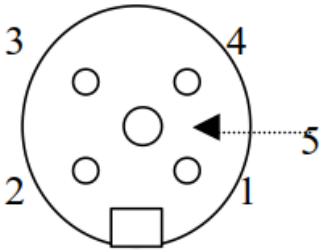
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Q10: The PISO-DNM100U is terminal block of CAN-H and CAN-L. How to connect to the M12 connector of the MKS T3BIA? (2020/11/27, Johney)

Ans:

Here is the M12 pin assignment. You can connect the corresponding pins.

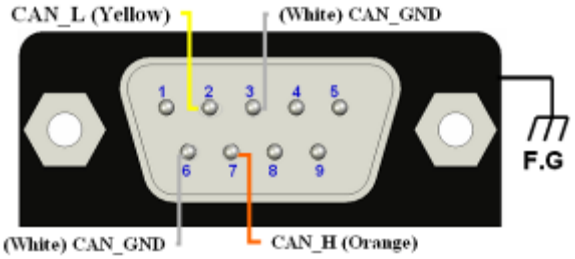
1 - Drain (bare)
2 - V+ (red)
3 - V- (black)
4 - CAN_H (white)
5 - CAN_L (grey)

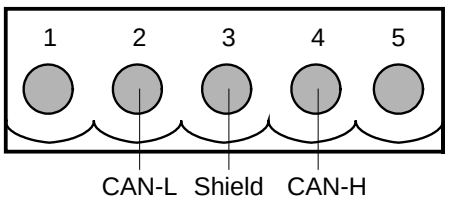


Mating Connector (Female)



Wire connection with the DeviceNet Master:



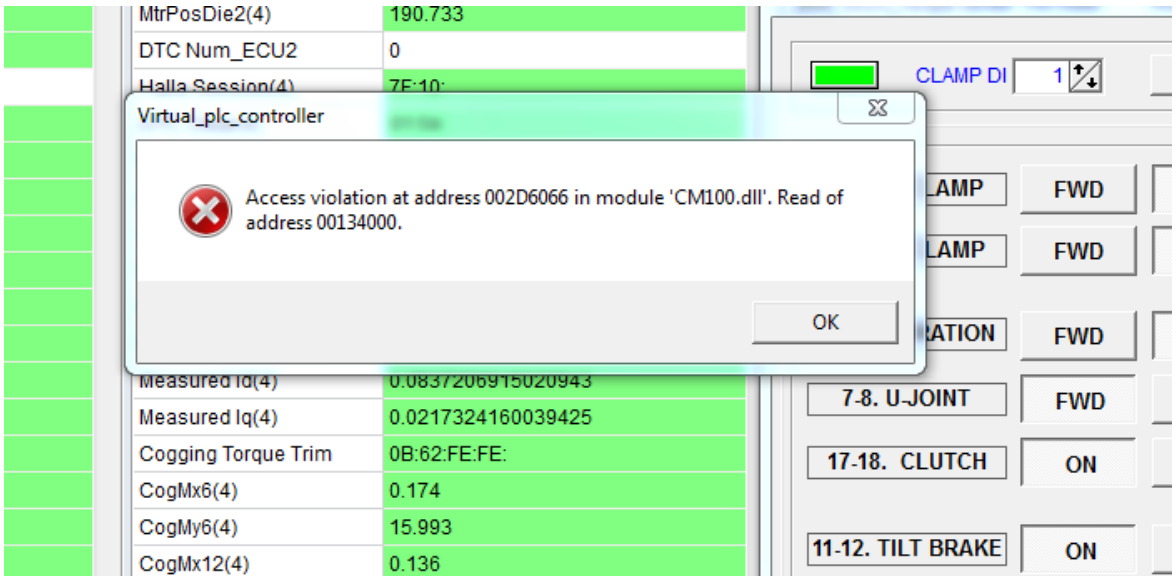


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Q11: When developing the PISO-DNM100U with C#, I got the “Access violation at ….”. How to solve this problem? (2020/11/27, Johney)

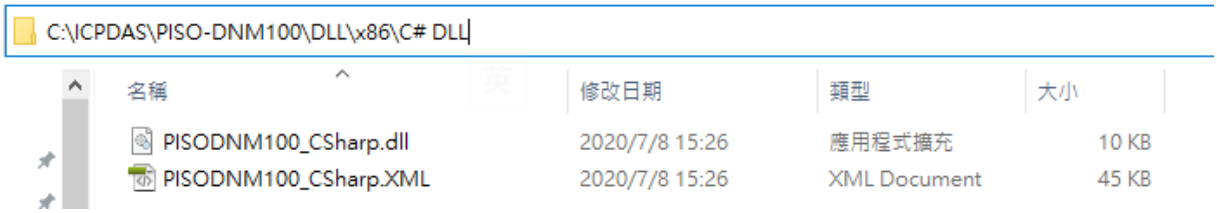
Ans:

Error message happens as the below, when PISO-DNM100U communicates with the slave devices.



The C# is managed tool. You should use the managed DLL. The PISO-DNM100U has provided the PISODNM100_CShart.dll for the C# development. After installing the PISO-DNM100U setup file, it locates at the

C:\ICPDAS\PISO-DNM100\DLL\x86\C# DLL



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Q12: When using the PISO-DNM100U with my application, I found the remote device has changed its control value and my application did not chang it. What is the problem? (2023/09/13, Johney)

Ans:

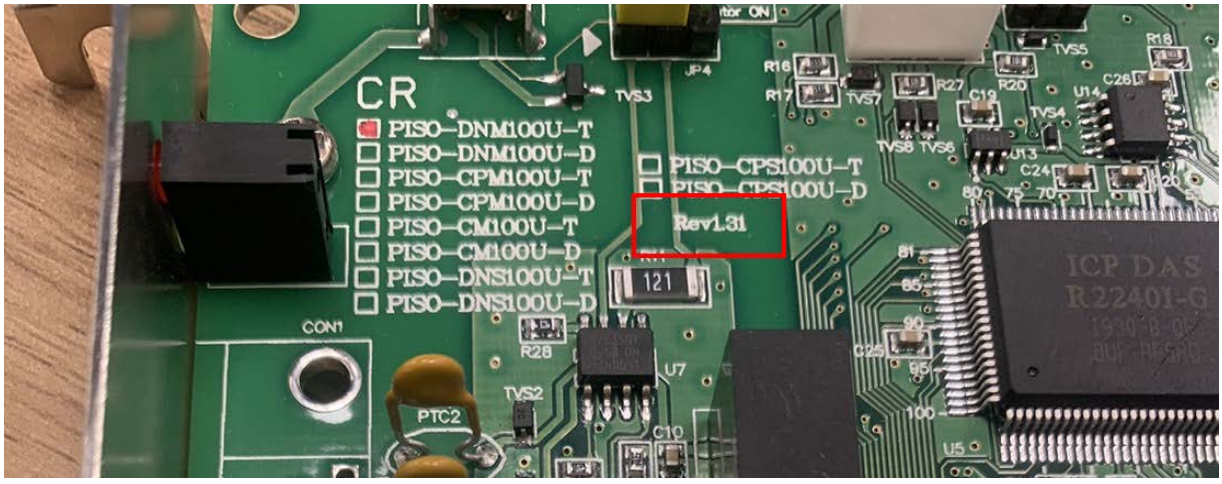
This is known problem with the PCB v1.30. It was caused by the component. It will change the control output data within DPRAM in random address and random time. Here shows the control value change case.

鎽	? 153	RECEIVE	52D	DATA	2.0A	2 0A 17	14:50:56	512642
鎽	? 153	RECEIVE	52D	DATA	2.0A	2 0A 17	14:50:56	746756
鎽	? 153	RECEIVE	52D	DATA	2.0A	2 0A 17	14:50:56	982020
鎽	? 153	RECEIVE	52D	DATA	2.0A	2 0A 17	14:50:57	216831
鎽	? 153	RECEIVE	52D	DATA	2.0A	2 0A 17	14:50:57	450329
鎽	? 153	RECEIVE	52D	DATA	2.0A	2 0A 17	14:50:57	684279
鎽	? 153	RECEIVE	52D	DATA	2.0A	2 0A 17	14:50:57	917957
鎽	? 153	RECEIVE	52D	DATA	2.0A	2 0A 17	14:50:58	151325
鎽	? 153	RECEIVE	52D	DATA	2.0A	2 0A 17	14:50:58	386655
鎽	? 153	RECEIVE	52D	DATA	2.0A	2 0A 17	14:50:58	620887
鎽	? 153	RECEIVE	52D	DATA	2.0A	2 0A 17	14:50:58	854575
鎽	? 153	RECEIVE	52D	DATA	2.0A	2 0A 07	14:50:59	89884
鎽	? 153	RECEIVE	52D	DATA	2.0A	2 0A 07	14:50:59	324409
鎽	? 153	RECEIVE	52D	DATA	2.0A	2 0A 07	14:50:59	558351
鎽	? 153	RECEIVE	52D	DATA	2.0A	2 0A 07	14:50:59	792021
鎽	? 153	RECEIVE	52D	DATA	2.0A	2 0A 07	14:51:00	25685
鎽	? 153	RECEIVE	52D	DATA	2.0A	2 0A 07	14:51:00	259067
鎽	? 153	RECEIVE	52D	DATA	2.0A	2 0A 07	14:51:00	492739
鎽	? 153	RECEIVE	52D	DATA	2.0A	2 0A 07	14:51:00	727190

SP:120

SP:36.6

If you found your PCB is v1.30, mail to us to upgrade the component. Here show the upgrade PCB v1.31

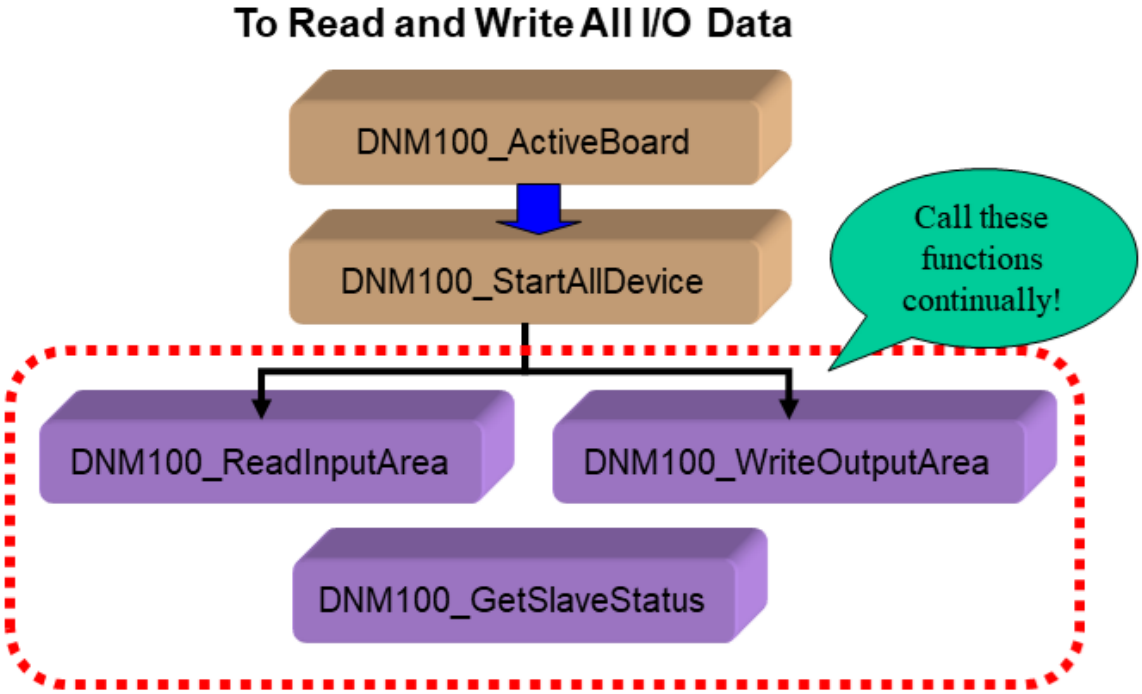


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Q13: When I call `ReadInputArea()` to read all Slave IOs, I find that a certain IO value remains unchanged. It turns out that a specific Slave has malfunctioned. How can the program determine the status of the Slave? (2024/05/17, Johney)

Ans:

`DNM100_ReadInputArea` retrieves the latest Input Data from all Slaves. If a Slave malfunctions, the Input Data corresponding to that Slave will remain as the last recorded value and will no longer change. To address this issue, the program should continuously monitor the status of all Slaves. You can call `DNM100_GetSlaveStatus` to obtain the current status, allowing immediate detection of any Slave malfunction. The general workflow is as follows:



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Q14: I want to use the PISO-DNM100U to monitor the communication status of the DeviceNet network. How should I use it? (2024/05/18, Johney)

Ans:

The PISO-DNM100U card is a DeviceNet Master, which establishes connections with Slaves and may interfere with the existing DeviceNet system. Please use a standard CAN converter for monitoring instead. ◦

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