Advantech ADAM 5000 DeviceNet

Advantech ADAM 5000 DeviceNet communication protocol

Supported device types and versions

The protocol provides data input /output from the ADAM 5000 modules from the Advantech company via the CAN bus using the DeviceNet communication protocol. Communication requires the installation of the Advantech PCL-841 communication interface card. There are supported the following object types: digital input, digital output, analog input, analog output. There is required the installation of the Advantech 32 bit dll driver. The driver versions 1.3 a 1.4 beta 4 were tested. In light of long-term communication stability, it is recommended to use the version 1.4 beta 4 or later (March 2001), the version 1.3 was not successful on tests (communication had failed in 48 hours, required resetting the ADAM 5000 system). Using the configuration tool **Advantech IO Device Installation**, it is necessary to define basic ADAM modules connected in the CAN network. The following table shows the list of ADAM modules, which are supported by the communication protocol. The modules ADAM 5051 and ADAM 5017 were tested.

Table 1

ADAM module	Meaning
ADAM 5017	8-channel Analog Input Module
ADAM 5018	7-channel Thermocouple Input Module
ADAM 5024	4-channel Analog Output Module
ADAM 5051	16-point Digital Input Module
ADAM 5056	16-point Digital Output Module
ADAM 5060	6-channel Relay Output Module

Communication DLL name: **PROTADAM5KDN.DLL**

Communication line configuration

- communication line category: **API**.

Communication station configuration

- communication protocol: **Advantech ADAM 5000 DeviceNet**.
- Station address requires:
  - number allocated to corresponding CAN channel of the PCL-841 "CAN Device ID interface.
  - number allocated to corresponding ADAM module - ADAM module ID. These identification numbers are allocated by the installation tool **Advantech IO Device Installation**. Numbers are allocated from 000, 001, 002, ...

Station protocol parameter

Table 2

Keyword	Full name	Meaning	Units	Default value
DELAY	Delay	Delay among readings of individual stations.	ms	100

String containing the protocol parameters is being written as follows :

```
Keyword=value;Keyword=value; ...
```

Example :

```
DELAY=300;
```

I/O tag configuration

Possible I/O tag types : **Ai, Ao, Ci, Co, Di, Dout**.

The Ci and Co types allows reading DI inputs or writing to DO outputs byte by byte (8 bits).

I/O tag address is the number of corresponding I/O channel within the frame of the ADAM module.

Literature

- "Advantech ADAM-5000/CAN DEVICE NET NT DRIVER API", Online help ver. 1.0

Changes and modifications

- March 2002 - added protocol parameter DELAY.

Document revisions

- Ver. 1.0 - February 13th 2001 - Document creation.
- Ver. 1.1 - March 15th 2002 - the protocol parameter DELAY added.

ⓘ **Related pages:**

Communication protocols