

# Advantech Data Acquisition card

## Advantech Data Acquisition Card communication protocol

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### Supported device types and versions

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The protocol provides data input/output from PC (PSL series) cards of the Advantech company of the following types: digital input, digital output, analog input, analog output. There is required the installation of the Advantech 32 bit dll driver for particular card type. The driver versions 1.3 a 1.4 beta 4 were tested. Data acquisition has been verified for the card PCL812PG.

Communication DLL name: **PROTADVLLIO.DLL**

### Communication line configuration

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- communication line category: **API**.

### Communication station configuration

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- communication protocol: **Advantech DA Card**.
- Station address is a number allocated by the **Advantech IO Device Installation** installation tool to the card. The tool allocates the numbers from 000, 001, 002, .... to cards.

### I/O tag configuration

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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).

According to the I/O tag type, it is required to define:

#### Di, Dout types:

- **Port** - serial number of octad (8 bits) of digital inputs or outputs within the frame of the card. It is indexed from 0.
- **Bit** - bit number within the range of 0..7 within the frame of the port.

#### Ci, Co types:

- **Port** - serial number of octad of digital inputs or outputs within the frame of the card. It is indexed from 0.

#### Ai type:

- **Channel** - number of the AI input channel within the frame of the card. It is indexed from 0.
- **Gain** - input AI channel gain. It is an index within the range of gains offered according to the card type. It is indexed from 0. Count and input voltage range of individual gains can be acquired by using the test software **Driver test**, that is part of the installation of the Advantech 32 bit dll driver.

#### Ao type :

- **Channel** - number of the AO channel within the frame of the card. It is indexed from 0.
- **Reference** - selection of a voltage reference type for AO output. It depends on used card and its settings (jumpers). "Int" means internal and "Ext" external reference.
- **Min. Value** - min. possible adjustable voltage for AO output.
- **Max. Value** - max. possible adjustable voltage for AO output. The parameters Min. Value and Max. Value may be any values within the physically adjustable range of the AO output.

### Literature

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- "Advantech DLL Drivers User's Manual and Programmer's Reference", 1st edition. (c) 1999 Advantech Co., Ltd.

## Changes and modifications

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## Document revisions

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- Ver. 1.0 -February 7th 2001 - document creation.



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[Communication protocols](#)