

**The "Digital inputs filter" module
PRINTED MANUAL**

"Digital inputs filter" module

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1 Introduction

The filter module "Digital inputs filter" for our data loggers (for example, Advanced Serial Data Logger) is an additional module that provides a method to exclude less significant data records from the final data export. The module works with digital data which can be interpreted as "True/False" or "0/1". For example, this data you can get from ADAM 6050, ICP-CON 7041 or MOXA ioLogik E2210 data acquisition modules.

These data acquisition modules are an Ethernet or RS232 devices that can be installed in your hardware system and connected to I/O signals inside or outside your device. The status of those signals can be read and displayed on our data logger screen. Each of the 16 input signals (DI0 through DI15 and depends on module type) can be individually configured for monitoring.

When any of these 16 signals changes state (from low to high, or high to low), the module adds a message to a data packet and passes this data packet down to data export modules. With help of data export modules you can write this data to a database, Access, Excel, export via DDE or OPC.

The module is used together with MODBUS RTU, MODBUS/TCP, ADAM, ICP-CON or ASCII data parser modules.

2 System requirements

The following requirements must be met for "Digital inputs filter" to be installed:

Operating system:

- Windows 95;
- Windows 95 OSR2;
- Windows 98;
- Windows Me;
- Windows NT4;
- Windows 2000;
- Windows XP (all editions) (both x86 and x64);
- Windows 2003 Server (both x86 and x64);
- Windows Vista (both x86 and x64).

Free disk space: Not less than 5 MB of free disk space is recommended.

Special access requirements: You should log on as a user with Administrator rights in order to install this module.

The main application (core) must be installed, for example, Advanced Serial Data Logger.

Notes for Microsoft Vista:

Since our software saves data to the registry and installs to the Program Files folder, the following requirements must be met:

1. You need Administrator rights to run and install our software
2. The shortcut icon of our software will be located on the desktop;
3. Windows Vista will ask for your confirmation to continue the installation.

NOTE: You can configure the user account only once in order not to see the above dialog box any more. Search Google for the solution of this problem.

3 Installing Digital inputs filter

1. Close the main application (for example, Advanced Serial Data Logger) if it is running;
2. Copy the program to your hard drive;
3. Run the module installation file with a double click on the file name in Windows Explorer;
4. Follow the instructions of the installation software. Usually, it is enough just to click the "Next" button several times;
5. Start the main application. The name of the module will appear on the "Modules" tab of the "Settings" window if it is successfully installed.

If the module is compatible with the program, its name and version will be displayed in the module list. You can see examples of installed modules on fig.1-2. Some types of modules require additional configuration. To do it, just select a module from the list and click the "Setup" button next to the list. The configuration of the module is described below.

You can see some types of modules on the "Log file" tab. To configure such a module, you should select it from the "File type" list and click the "Advanced" button.

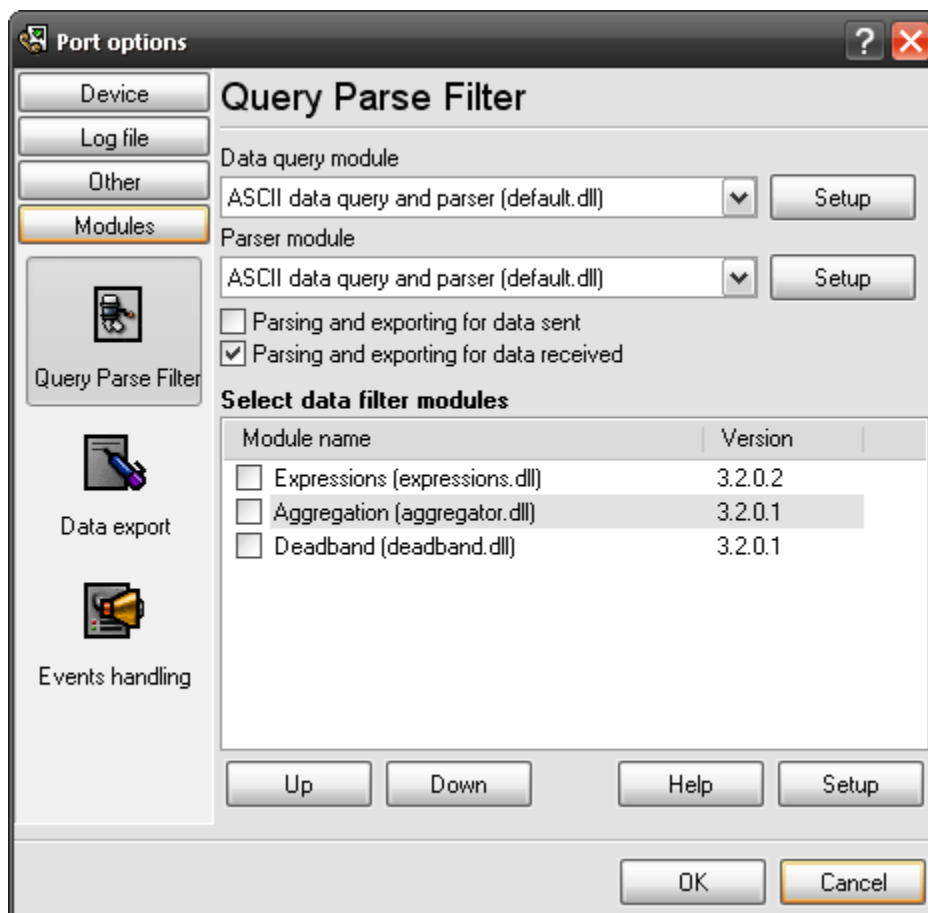


Fig.1. Examples of installed modules

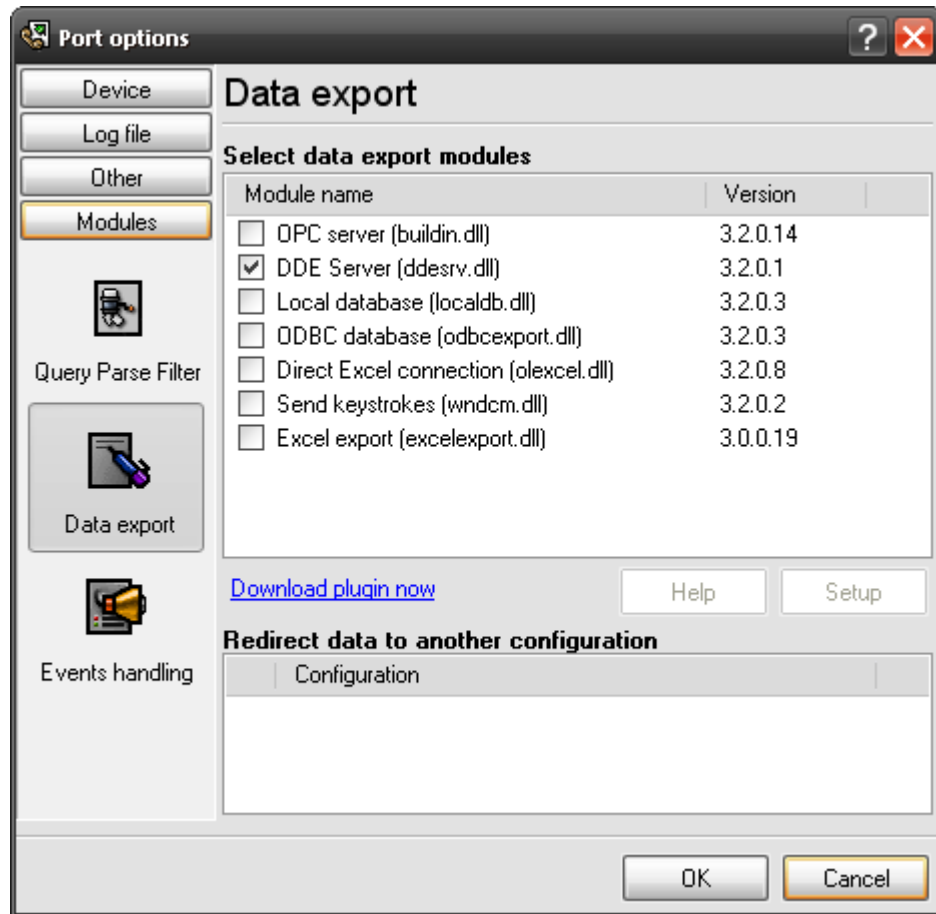


Fig.2. Examples of installed modules

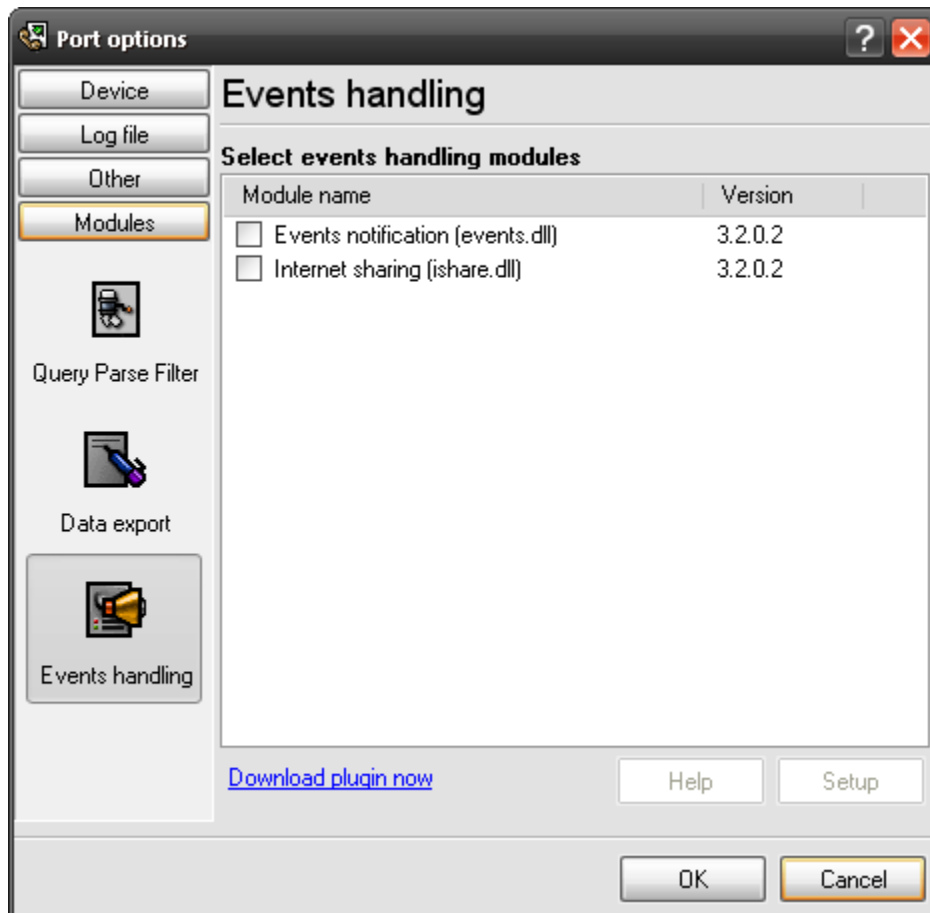


Fig.3. Examples of installed modules

4 Glossary

Plug-in - module

Main program – the program shell that uses this module. For example: Advanced Serial Data Logger

Parser – the module that processes the data flow singling out data packets from it and variables from data packets. These variables are used in data export modules after that.

Core - see "Main program".

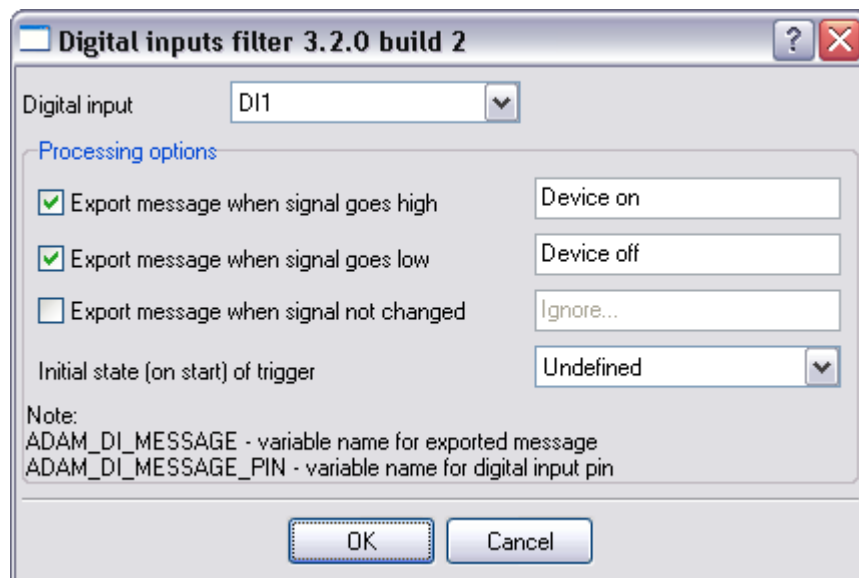
5 Configuration

The module configuration is very simple (pic.1). You should specify rules for one or more digital inputs (up to 16). The module receives the data from a data parser module and operates with variables, which name ends with DI0-DI15. If the parser returns a variable with a null (empty) value, then this variable will be ignored.

By default, the module ignores all data packets, because rules are not defined. If you'll define a rule, then the module will control a state of the digital input and pass a data packet down to data export modules. If you'll define rules for several pins, then the module will clone a data packet and export it for each pin. Before exporting, the module will add a corresponding message to a cloned data packet.

For example, if you'll define rules from the picture below, then the module will only export a data packet, if DI1 changes state from low to high or high to low. If you want to export the data packet with any state of the DI pin, then you should activate the **"Export message when signal not changed"** option.

The **"Initial state"** option allows you to specify an initial state of an internal trigger for each digital input. If the "Undefined" value has been specified, then the module will export a data packet after first reading and will not control the DI state. Otherwise the module will compare first read value with the specified state.



Pic.1. Configuration window

6 Troubles?

6.1 Possible problems

No data for publication/exporting – no data is passed for exporting. Solution: configure the parser, make sure that one or more variables are declared in the parser.

Error on binding variable with name %s [%s] – the error usually occurs if data does not correspond to the specified format. For example, the date and time format does not correspond to the data.

Unable to disconnect from the database [%s] and **Unable to connect to a database [%s]** – it is impossible to connect/disconnect to/from the database. You should check the parameters of the database connection. The analysis of the additional information will help you locate the error.

Database access error [%s]. Stop operations with the database? – the message appears if an error occurs during an attempt to execute an SQL query if the second variant of reacting to errors is selected. The message implies a "Yes" or "No" answer. The analysis of the additional information will help you locate the error.

Unable to verify your SQL script [%s] – the message appears when an attempt to analyze your SQL query fails. Check if the syntax of your SQL query is correct.

Tested successfully – the message appears if your database connection is successfully tested. It requires no additional actions.

Database isn't used – the message appears if the module is temporarily disabled (the "Temporarily disabled" check box is selected) or the database name field is empty. Check the connection parameters.

Database isn't selected - the message appears if the database type is not selected. Check the connection parameters.

Database: %s – %s contains the database name. The message appears if the database connection is successful. Usually, you see it when you call the module for the first time. It requires no additional actions.

Invalid data block length (columns=%d,length=%d) – an internal application error. It means that the data sent by the parser is in an invalid format. Perhaps, you are using the module incompatible with the version of the Advanced Serial Data Logger kernel. Update the versions of both the kernel and the module.

The time of connection is not due yet (%d,%d) – the message appears during an attempt to connect to the database after the connection to it has been lost and the "Reconnect after" option is enabled. No additional actions are required.

Invalid procedure call. Bad arguments –an attempt to call the module using invalid parameters. Perhaps, you are using the module incompatible with the version of the Advanced Serial Data Logger kernel. Update the versions of both the kernel and the module.

Writing to the database is complete - the message appears if your queue of SQL queries is successfully executed. It requires no additional actions.

Writing to the database is complete with errors – the message appears if the executing your queue of SQL queries was interrupted by an error. It requires no additional actions.

Your SQL is empty. Please, specify some SQL text first – the message appears if you do not enter the text for your SQL query. Check if the options on the "SQL queue" tab are configured correctly.

Invalid temporary path – the path to the temporary file specified by you does not exist. Enter a new path in the "Temporary folder" field on the "Errors handling" tab.

%s, %d – will be replaced by additional information.