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Printed: 11/2/2024

Publisher

AGG Software

Production

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# 1 Introduction

This data export module allows you to print the values of one or more parser variables on the printer as soon as the parser receives and processes the data packet.

The module is a must-have for alarm systems or security systems if you need to have a hard copy of each received message.

The module supports any Windows-compatible printers connected via the local network, USB, LPT, or COM.

The module can print in the optimized text mode on a dot-matrix printer.

The module also supports virtual printers (PDF or XPS). In that case, a digital copy of the document will be created.

# 2 System requirements

The following requirements must be met for "Printer Out" to be installed:

**Operating system**: Windows 2000 SP4 and above, including both x86 and x64 workstations and servers. The latest service pack for the corresponding OS is required.

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.

# 3 Installing Printer Out

- 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;
- 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.

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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.

Configuration	options		?	×
COM port	Data export			
Log file	Select data export modules			
Other	Module name	Versio	n	
Modules	OPC server (buildin.dll)	3.2.0.	6	_
Query Parse Filter	✓ Printer out (printerout.dll)	4.0.28	.1103	
Data export				2
	Download plugin now	Help	Se	tup
P	Redirect data to another configurat	tion		
Events handling	Configuration			
		ПК	[a	ncel
		OR		

Fig. 1. Example of installed module

# 4 Glossary

**Main program** - it is the main executable of the application, for example, Advanced Serial Data Logger and asdlog.exe. It allows you to create several configurations with different settings and use different plugins.

**Plugin** - it is the additional plugin module for the main program. The plugin module extends the functionality of the main program.

**Parser** - it is the plugin module that processes the data flow, singling out data packets from it, and then variables from data packets. These variables are used in data export modules after that.

Core - see "Main program."

# 5 Setup

## How the module works

The module waits for data from the parser. When the module receives a data packet that consists of one or more variables, it prepares the data for printing and sends them to the printer.

## **Basic print parameters**

The basic print parameters are shown in Figure 1.

Printer out 4.0.28 build 1103			?	Х
Printer Select Printer:	PDFCreator, A4, Portrait, Unknown paper source, 600x600 dpi, 100%, 1 copies			
Main Format Page header Page fo	poter Margins			
Output mode		Print mode		
Graphics (quality)		◉ Line mode		
O Text (fast, but without formatting)		◯ Page mode		
Number of lines on page	25			
Line spacing (mm)	5			
Preview without printing				
	ОК	Cancel		

Figure 1: Printer settings

In the "Printer" settings group, you can select a printer and see information about the currently selected printer. To select a different printer or change the current printer's settings, click the "Select" button. To the right of the printer's name, you can see the page layout with the margins, header, and footer.

Output mode - Allows you to print in one of these modes:

• Windows (graphics) - This option is used by default.

Δ

• DOS (text) – This option is useful for printing on a dot-matrix printer.

Print mode – Sets the number of variables to be printed on each page:

- One variable per page This option is used by default.
- Multiple variables.

**Lines per page** – The maximum number of lines that can be printed on a page, not counting the header and the footer. The footer is printed either at the bottom of the page (in the "Windows" mode), or after the specified number of lines (in the "DOS" mode). The default setting is 25 lines per page.

**Line spacing (mm)** – The distance between two lines when printing in the "Windows" mode. This setting is unavailable if the "DOS" or "One variable per page" option is used. The default setting is 5 millimeters.

**Print preview (no printing)** – This setting allows you to preview a page in the preview window, so that you know in advance how the variable would look on paper if printed with the current print settings. If this option is turned on, the data will not be sent to the printer.

## **Basic formating settings**

Printer out 4.0.28 build 11	03	?	$\times$
Printer Select Printer: State:	PDFCreator, A4, Portrait, Unknown paper source, 600x600 dpi, 100%, 1 copies Ready		
Main Format Page header View Simple	Page footer Margins		~
Variable Text before variable Text after variable Font Select	DATA_PACKET		
	OK Cancel		

Figure 2: Basic formating settings

**Variable** – The name of the variable whose value is printed. You can select the name from the list of variables received by the module. If the parser receives and processes text data, you can select the "DATA\_PACKET" variable name. In that case, the last received data line will be sent to print.

**Text before the variable** – Any text that is printed before the variable value.

**Text after the variable** – Any text that is printed after the variable value.

**Select** – This button opens the dialog box for configuring the font for the printable text. In the "Example" pane, you can see how a sample text would look if printed using the selected font.

#### Advanced formating settings

Printer out 4.0.28 build 1103		?	Х
Printer Select Printer: State:	PDFCreator, A4, Portrait, Unknown paper source, 600x600 dpi, 100%, 1 copies Ready		
Main Format Page header Page fo	oter Margins		
<ul> <li>✓ Print Height (mm)</li> <li>@Arial Unicode MS ∨ 8 ∨</li> <li>① Spec. fields ▼ ① Variables ▼ B</li> <li><b>Page</b> { PAGE_NUMBER</li> </ul>	20 ► ✓ 및 Ξ Ξ Ξ ♣ Ø × <sup>2</sup> × <sub>2</sub> ¶ 🛞 ဩ 掌 ☷ } / {DATE}	A	^
<			>
Preview	▲ ▲		
Page {PAGE_NUMBER} / {DATE}			
	OK Cancel		

Figure 3: Advanced formating settings

This feature allows you to format the text to be printed. Above the template editor pane, you can see the toolbar that contains formating commands. The template editor pane contains the template to be used when sending the text to print. The template uses a simplified version of the HTML text layout language, which is used for webpages.

You can use special substitute variables enclosed in braces {}, which will be replaced by the respective values. For more details about the substitute variables, see the "Substitute variables" section.

Please note that only one formating mode (selected in the settings) can be used for printing.

Page	header	settings
i age	neader	Settings

Printer out 4.0.28 build 1103		?	×
Printer Select Printer: State:	PDFCreator, A4, Portrait, Unknown paper source, 600x600 dpi, 100%, 1 copies Ready		
Main Format Page header Page for	oter Margins		
🗹 Print Height (mm)	20		
@Arial Unicode MS ∨ 8 ∨ D Spec. fields ▼ D Variables ▼ B <b>Page</b> {PAGE_NUMBER}	✓ 山 圭 圭 重 畿 இ ײ ×₂ ¶ 🛞 🔚 譚 ☷ / {date}	A 🖸	< v
<	<b>▲</b>		>
Preview Page {PAGE_NUMBER} / {DATE}			
	OK Cancel		

Figure 4: Page header settings

**Print** – Enables/disables the printing of the page header. If enabled, the header will be printed at the beginning of the page.

**Height (mm)** – The height of the header, in millimeters. If enabled, the header will be printed below the top margin. The default setting is 20 millimeters.

**Text** – An extended page header template, which is specified similar to the extended variable formating parameters (see the previous section).

## **Footer settings**

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The page footer settings are the same as the page header settings.

### **Margin settings**

On this tab, you can set up the margins (Figure 5). The size of each margin is specified in millimeters.

Printer out 4.0.28 build 1	03	?	Х
Printer Select Printer: State:	PDFCreator, A4, Portrait, Unknown paper source, 600x600 dpi, 100%, 1 copies Ready		
Main Format Page heade	Page footer Margins		
Left (mm)	Right (mm) 10		
Top (mm) 10 📮	Bottom (mm) 10		
	OK Cancel		

Figure 5: Margin settings

## **Substitute variables**

Substitute variables are entered as {VALUE}. VALUE is the name of the variable to replace the substitute variable in the template. You can use the name of any parser variable as VALUE.

The module has a few internal variables:

DATE - The current date.

TIME - The current time.

DATE\_TIME - The current date and time.

PAGE\_NUMBER – The number of the current page.

#### **Preview window**

The preview window automatically appears when the module attempts to print something on the printer for the first time. The preview window allows you to see how the variable would look on paper if printed with the current print settings. To save the preview image to a file, double-click the page. The image will be saved to the "Pages" subfolder of the application's installation folder.

## 6 Troubles?

## 6.1 **Possible problems**

**No data for publication/exporting** - no data is passed for export. Solution: configure the parser and make sure that one or more variables are defined 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 match source data.

Unable to disconnect from the database [%s] and Unable to connect to a database [%s] - it is impossible to connect or disconnect form 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 the "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

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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 execution of 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.