Aktakom Power Manager Express Pro

User's manual

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1.1 About...

The Aktakom Power Manager Express application is designed to manage AKTAKOM APS-7306 power supplies.

2 Getting Started

2.1 License contract

1. The present license contract is made between You and the Rightholder of the exclusive right on the present program, specified in the Operations manual to the device to which, or with which, the program was purchased (hereinafter referred to as "rightholder"). The conclusion of contract does not result in the lapse of exclusive right on the program to you.

2. While installing, making a copy, uploading, carrying out an access or somehow using the program, you understand and agree with the conditions of the present license contract. If you do not agree with the conditions of the present license contract, delete all program files from your information storage devices and stop using the program.

3. You have the right to install, use, display and run only one copy of the program for only one device, identified by the model and serial number for which the program was purchased. The number of PCs on which the program can be installed is unlimited. The use of the program is limited to several devices that differ in model or serial number.

4. You do not have the right to decompile, disassemble, create new versions, make alterations in all parts of the program.

5. You do not have the right to sell, rent, on loan or somehow pass the copy of the program, as well as to gain from the distribution of the program. You are not allowed to

distribute this program together with any commercial programs and printing.

6. You are allowed to make one backup copy, and you have the right to use it only for archival purposes and for replacement of the legally acceptable purchased copy in cases, when this copy is lost, destroyed or get unsuitable to use. Herewith the copy of the program can not be used for other purposes and must be destroyed if the possession of the copy of such program is not lawful any more.

7. A legally acquired copy of the program is considered to be an authentic copy received from the manufacturer's or distributor's website. after purchasing program along with the program, an access code (license number) is provided, which uniquely identifies the device for which this program was purchased.

a. If such a copy of the program or access code is lost, the copy of the program or access code cannot be replaced free of charge. When a new version of the program is released, the copyright holder may, at your request, provide you with access to copy the new version of the program from a website on the Internet additionally specified by the copyright holder.

b. After receiving updates, the use of the program that is the basis for receiving updates is limited.

c. Please note! Not all previously released devices and new versions of the program are compatible.

d. The program may have a demo version, which is distributed in the manner described above, but without advance payment and has a limited period of use, which cannot be extended without payment and obtaining a new access key.

8. The copy of the program is distributed "AS IS".

a. THERE ARE NO GUARANTIES ENCLOSED AND PROVIDED.

b. YOU USE THE PROGRAM ON YOUR OWN ACCOUNT. THE COPY OF THE PROGRAM IS PROVIDED " IN THE WAY LIKE IT IS" WITHOUT ANY GUARANTEES, EVIDENT OR IMPLIED, INCLUDING, BUT NOT BEING LIMITED, BY IMPLIED WARRANTIES OF THE CONSUMER PROPERTIES OR OF FITNESS FOR CERTAIN PURPOSES.

c. THE RIGHTHOLDER DOES NOT GUARANTEE, THAT THE FUNCTIONS OF THE PROGRAM WOULD MEET ALL YOUR REQUIREMENTS, THAT THE PROGRAM WOULD WORK FAIL-SAFE OR THAT ERRORS WOULD BE DEBUGED. IF THE ERRORS IN THE PROGRAM WOULD CAUSE YOU DAMAGE, ALL REPAIR COSTS, MAINTENANCE AND SYSTEMS RECOVERY COSTS ARE BORNE BY YOU (BUT NOT THE RIGHTHOLDER.)

d. UNDER NO CIRCUMSTANCES THE RIGHTHOLDER IS RESPONSIBLE FOR ACCIDENTAL, DIRECT OR INDIRECT, MATERIAL OR ANY OTHER KIND OF DAMAGE (INCLUDING THE LOSS OF PROFIT, LOSS OF THE BUSINESS INFORMATION AND OTHER FINANCIAL LOSSES, REGARDLESS OF THEIR SIZE).

9. The present license contract is in effect world wide.

10. This license agreement does not require any additional fee in addition to conditions listed in paragraph 7

11. The present license contract is concluded for the term equal to the validity term of the exclusive right on the program.

12. The rightholder has the right to terminate the license contract in case of non-compliance with the terms and conditions of the contract. On termination of the contract you are obliged to destroy all copies of the program which you have.

13. The present license contract regulates the use of updates, addenda, which could be offered to you by the rightholder after your purchasing the initial copy of the program, if these updates and addenda are not accompanied by special conditions. The conditions of the present contract could be modified for other version of the program.

14. The present license contract does not give any rights in respect of any trademarks, belonging to the rightholder or third party

2.2   Minimum computer requirements

Computer used for the device work should meet the following minimal requirements:
- USB-port;
- Installed Windows 7 or higher operating systems.

2.3   Preparation for use

2.3.1   Hardware installation

To install the device it's necessary to:
− Connect the device to the PC USB-port by "A-B" type cable subject to the connection with the USB-port
− Switch on the PC

2.3.2   Software installation

Insert the media with the software distributive into the disk drive, find setup program, run it and then follow the program installation instruction.
After the installation process is completed there will be a program group created with shortcuts for the program and for its Help. You may start them using "Start" menu.
Before using the device it's necessary to install a USB interface driver. All necessary files will be put into the program working folder, System subfolder, at the software installation.

Silicon Labs Virtual COM Port (VCP) Universal Driver

The virtual COM port driver is installed automatically when you install the application, but you can also install it manually later.

All necessary files are located in the program working directory, for example:

C:\Program Files\AKTAKOM\AKTAKOM Power Manager Express\Driver
INSTALLATION:
Prompted install

If Windows prompts you to install a driver for a CP210x device

(for example, if you plug a CP210x into your computer):

1. Use the dialog to browse for the driver location

2. Locate the driver folder (that you previously unzipped)

3. Follow the instructions

Manual install

1. Using Windows File Explorer, locate the driver folder

   (that you previously unzipped)

2. Right click on the silabser.inf file and select Install

3. Follow the instructions

2.3.3 Checking device readiness

If you correctly installed the hardware and software components of the system, when you start the program, it will detect the operating device itself and inform you about the successful connection. Otherwise, the program will report that the device cannot be found and will work offline. This may be due to the fact that you have not connected the device to the computer port correctly or have not installed the necessary drivers, as described in the sections above.

If the program successfully detects the device, it will ask you for a license key to work with it. Find the string of the key that you received when purchasing the program or device, enter it in the dialog and click OK:
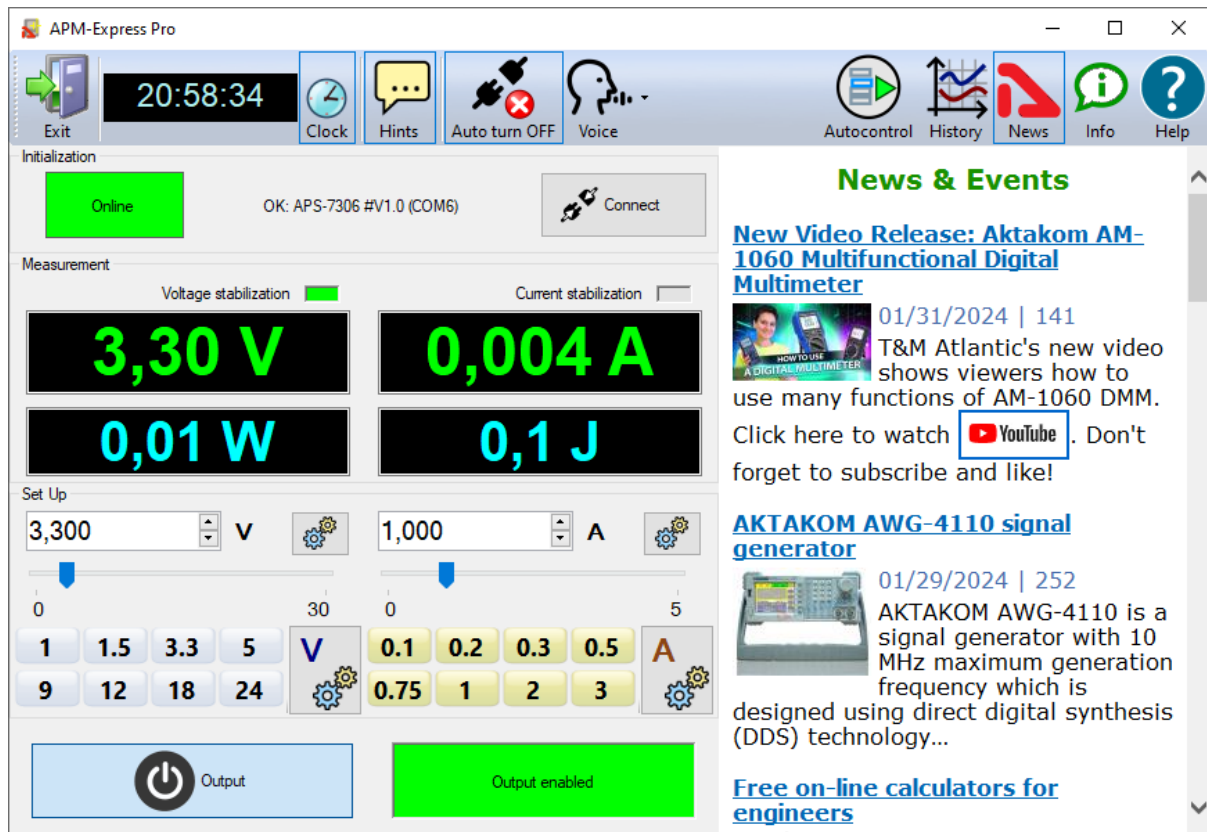
Enter key

3 Operating procedure

3.1 How to work with the program

After starting the application, its main window will open:

Upper panel buttons of the main window:

"**Exit**" button terminates the program operation.

The button with a **clock icon** shows or hides the clock display on the keypad.

"**Hints**" button shows or hides the keys caption text.

Button **"Auto turn OFF"** - enables/disables the mode of automatic switching off of the outputs of the device at the end of the program.

"Voice" - Selects a Windows voice guide that will announce application events to you. Select the "No voice" option to disable the voice guide.

"Autocontrol" - Recalls the automatic control panel using a specified list of commands.

"History" - Opens the application event history window.

"**News**" button shows or hides Aktakom news feed.

"**Info**" button displays the information about the program and connected device.

"**Help**" button recalls this help file.

The **Initialization** box is used to connect the device to the program. If the device was

already connected to the PC via USB when the program was started, the program will connect it automatically. If you connected the device later, click the **Connect** button.

After successful connection of the device, the name and serial number of the device will be displayed in the initialization block. Otherwise, an error message will be displayed there.

The **Set Up** box allows you to control the parameters of the device. Use the settings button to set the desired increment of numeric controls.
Panels with shortcut buttons are configured using the dialog Preset settings.
Button **Output** - turns on / off the outputs of the device.

The **Measure** box shows the current state of the device - switching on outputs, output voltage and current, stabilization mode - by voltage or current.
Additional bottom digital indicators show the current power in Watts and integral energy consumption in Joules. To reset the energy consumption readings, double-click on this indicator.

Remarks

The APS-7306 device in the basic configuration has some features of operation:
- there is no command to turn off remote operation
- to switch to local control, turn off and then turn on the power supply of the device.
- display of the current parameters on the screen of the device may not coincide with the readings of the program in the absence of a load connected to the device.

3.2 Presets list edit

The appearance of the dialog box in the picture below.
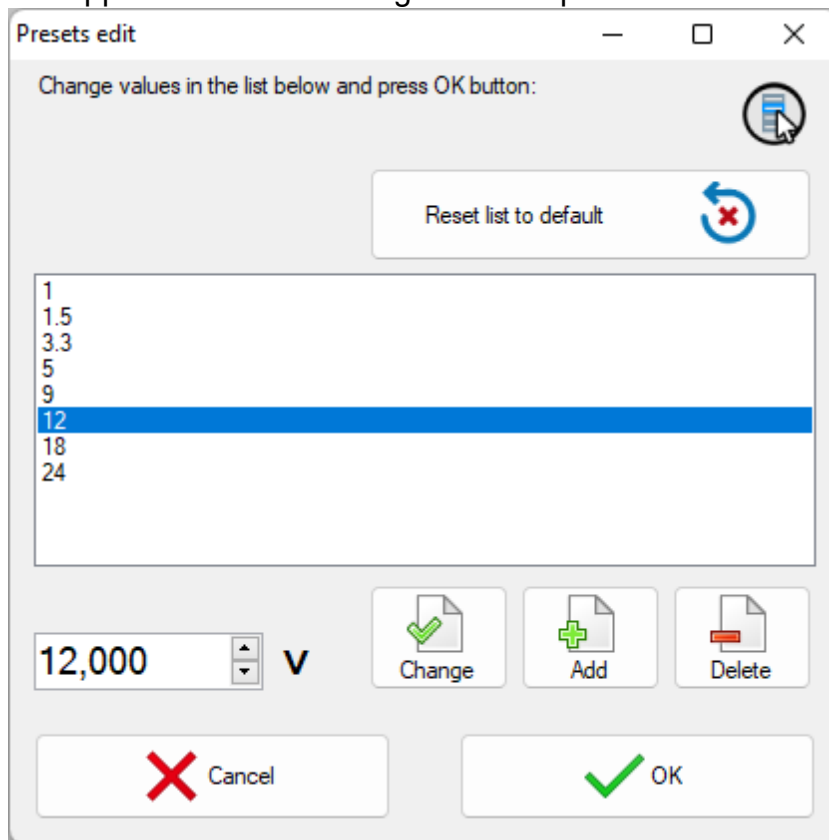
The list of presets (shortcut buttons) is a list of Voltage or Current values, which can be set on the device "with one touch". In dialogue editing presets in addition to the list itself, the program displays the following buttons:
Reset list to default - return the contents of the list to default values.
Change - replace the selected line of the list with the entered value.
Add - add a new value to the list.
Delete - remove the current line from the list.
Cancel - close the dialog without saving changes.
OK - save changes and close the dialog.

3.3 Autocontrol

The appearance of the window in the picture below.
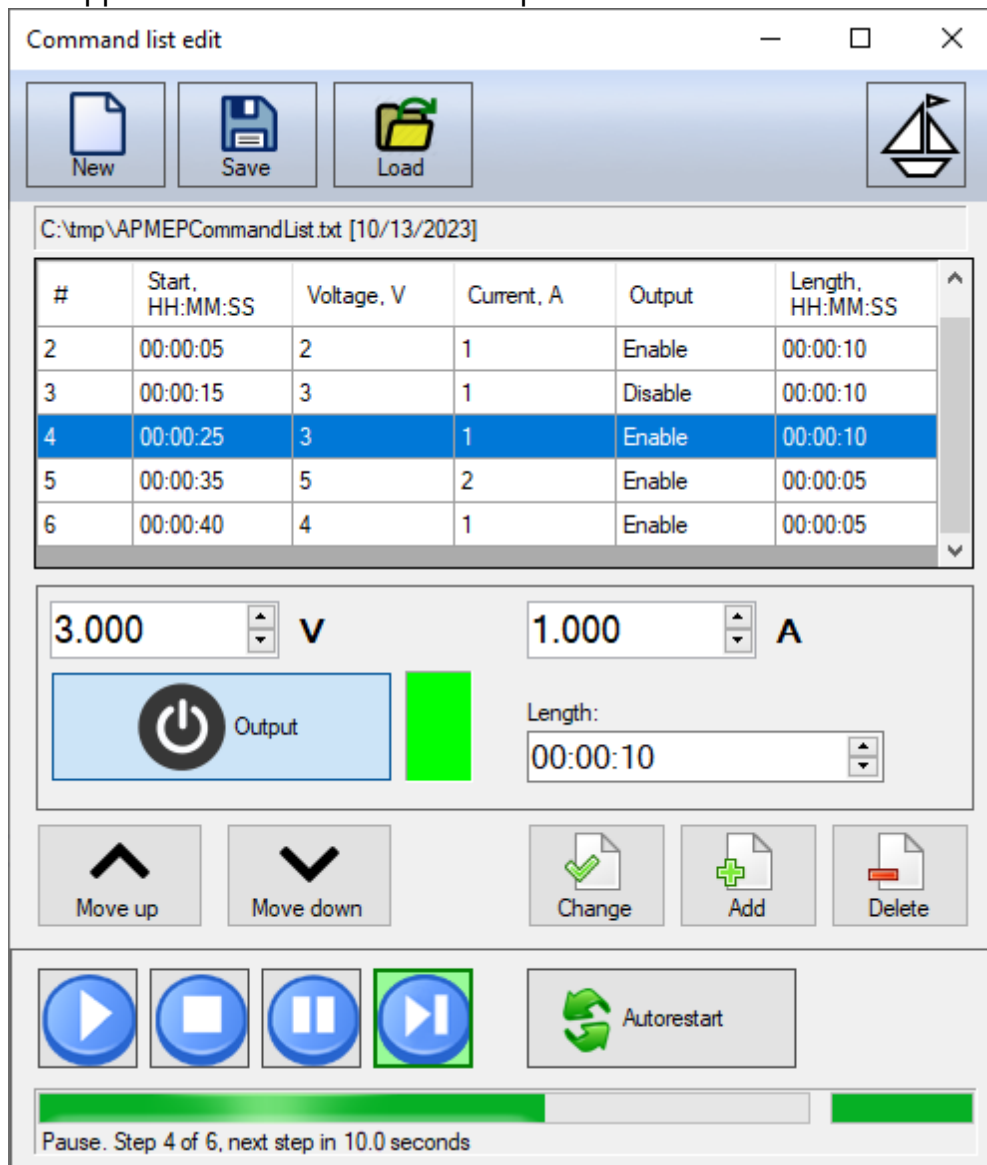
The panel makes allows the user to specify a list of commands that will be automatically sent to the device sequentially.

The sequence consists of steps that include: voltage and current values, output status, and step duration.

Click the **New** button to create a new list of commands. Set the necessary parameters for the first step, and add it to the list using the **Add** button. Add all subsequent steps in the same way. If necessary, correct the order of steps using the **Move Up** and **Move Down** buttons. To change the values of a step, select it in the list of commands, set the desired values and click the **Change** button. To remove an unnecessary step, select it and click the **Delete** button.

Save the list of commands to a file using the **Save** button. In the future, you can load it again using the **Load** button.

To control the execution of the list, use the buttons at the bottom of the panel: **Start, Stop, Pause, Next**. To repeat the list execution cyclically, click the **Autorestart** button. The progress will be displayed at the bottom of the block.

Please note that in auto-control mode, the **Set Up** block of the main program window will change its background color to light green. In this case, the controls of the main window are not blocked; if necessary, you can quickly manually control the device without interrupting the sequence of automatic commands.

The **button with a boat** in the upper right corner of the window turns the "floating" panel mode on and off. In floating mode, a window remains on top of other windows even if it is no longer active.

3.4   History

The appearance of the panel in the picture below.

History window

The window of application event history contains three main parts:
- data table with custom filter;
- graph of current and voltage measurements at the device output;
- a text log of events.

Top buttons from left to right:
- save data table to a file;
- save chart data to a file;
- save the text protocol to a file;
- open data folder;
- clear the history;
- show/hide data table;
- show/hide chart;
- show/hide text log.
The button with a boat in the upper right corner of the window turns the "floating" panel mode on and off. In floating mode, a window remains on top of other windows even if it is no longer active.

The text log is convenient for finding and eliminating errors while working with the program, the graph gives a visual representation of changes in current parameters, and the table contains the most complete information, combining data from the event protocol and the measurement graph into a single database.

Table fields:
Time - contains the date and time of measurements accurate to tenths of a second, the SQL date time format is used;
Voltage - measured voltage value in volts;
Current - measured current value in amperes;
Output - output status, OFF - output disabled, ON - enabled;
Mode - power supply stabilization mode, CC - current stabilization, CV voltage stabilization;
Event - a list of events that occurred during the period since the previous entry in the table;
Note - a user comment, the only field available for editing by the user.

Custom filters:
You can select only the records you need from the data table using filters in the Selection block. Check the boxes for the selection fields, select the necessary parameters, and then click the Collect button (icon with a box) - the program will create a filter line based on the parameters you specified. Click the Filter button (funnel icon) to apply the assembled filter. The installed filter will be applied to all old and new records in the table until you change it to another one. Please note that the filter also applies to data saved to a file! If you need to upload all the data contained in the table to a file, reset the filter by clearing its row and clicking the Filter button. The filter string follows SQL syntax and is editable, so you can manually build any filter you want if necessary. Table column names for creating filters: Time - T, Voltage - V, Current - C, Output - O, Mode - M, Event - E, Note - N.

Filter examples

Select records no earlier than midnight February 12, 2023:
T >= '2024-02-12 0:00:00'

Select records no later than midnight February 13, 2023:
T <= '2024-02-13 0:00:00'

Select records in which the voltage is outside the range of 4.5...5.5 V:
(V < 4.5) OR (V > 5.500)

Select records where the current is greater than zero when the output is on:
(C > 0) AND (O = 'ON')

Select records for the period February 12, 2023, in which the voltage is greater than 2.5 V, the current is greater than zero, current stabilization mode and a non-empty list of events:
((T >= '2024-02-12 0:00:00') AND (T <= '2024-02-13 0:00:00')) AND (V > 2.5) AND (C > 0) AND (M = 'CC') AND (E <> '')

4   Service

4.1   Update and technical support

To update the software and receive AKTAKOM proprietary technical support, you can visit our website on the Internet: **www.tmatlantic.com**

You can also send your questions, wishes and suggestions by:
it_dep@tmatlantic.com