



User's Manual

PROGRAMMABLE DC POWER SUPPLY

APS-7303/7303L/7305/7305L



Thank you for choosing AKTAKOM Power Supply.

www.tmatlantic.com

BRIEF PRODUCT INTRODUCTION

APS-730X series single-channel programmable power supplies are designed to supply wireless devices with stabilized voltage or current, while used in debugging processes, repair and laboratory research in normal climate conditions.

Power Supplies APS-7303L, APS-7305L in addition to stand-alone control (control and monitoring from the front panel) can be operated remotely by computer via USB 1.1 interface and LAN, or by a mobile device (IPad, iPhone, any Android-based mobile devices) via Ethernet.

INSTRUCTIONS

- Never put the heavy objects on this equipment;
- Never crash or damage the machine due to improper operation;
- Never make the equipment be static discharge;
- Don't block the cooling exit;
- Don't make the equipment power on when it is connected to the power;
- Never disassemble it unless getting the confirmation of the professionals.

WARNING

- Output voltage 110V 60Hz
- The power cord must be with reliable grounding to avoid the electronic shock

Model **APS-7303/7303L** **APS-7305/7305L**

Output voltage	0-30V	0-30V
Output current	0~3A	0~5A
Output power	90W	150W

TECHNICAL PARAMETERS

These parameters are tested under $25\pm 5^{\circ}\text{C}$ and after 2s power on.

Power effect: $CV\leq 0.01\%+3\text{mV}$ (AC $\pm 5\%$)

Load effect: $CV\leq 0.05\%+10\text{mV}$

Ripple and noise: $\leq 1.0\text{mVrms}$

Output accuracy: V: $0.05\%+2\text{Lsb}$

 I: $1\%+5\text{Lsb}$

Read-back accuracy: V: $0.5\%+10\text{Lsb}$

 I: $1\%+20\text{Lsb}$

Types of protection: over current, over voltage, over temperature

Working environment: $0\sim 40^{\circ}\text{C}$

Humidity: less than 80%

ATTENTION

- Kindly use the rated input voltage;
- Never operate at a high temperature and the cooling exit mustn't be blocked;
- Please make the fuse with rated parameters equipped.

DIAGRAMS OF PANELS

Front Panel for APS-7303, APS-7303L, APS-7305, APS-7305L

1. Output Voltage

Display

2. Output Current

Display

3. Storage Data

Instruction

4. Adjusting Knob

5. «RECALL» key of record / new / saved settings calling

6. «↑» key to select previous saved parameters

7. «↓» key to select next saved parameters

8. «V SET» to activate output voltage settings

9. «I SET» to activate output current settings

10. «OUTPUT» to switch on/off the outputs

11. «POWER» to switch on/off the device power

12. «-», «+» output terminals and grounds



Rear Panel for APS-7303, APS-7305

- 13. Cooling Fan
- 14. Power cable connection plug



Rear Panel for APS-7303L, APS-7305L

- 13. Cooling Fan
- 14. Power cable connection plug
- 15. LAN port
- 16. USB port



The Power Supply can operate in several control modes:



MANUAL MODE.



CONTROL MODE WITH BUILT-IN MEMORY.



REMOTE CONTROL MODE OF APS-730XL BY COMPUTER VIA USB INTERFACE.



REMOTE CONTROL MODE OF APS-730XL BY COMPUTER VIA LAN INTERFACE.



REMOTE CONTROL MODE OF APS-730XL VIA WEB INTERFACE



MANUAL MODE

1. Output Voltage Adjustment: Press the **V SET** key, the value of voltage setting will be displayed on the voltage display; and the setting will flicker. Repress **V SET** and the selection of the setting values will be changed. Turn the knob and the setting value of the output voltage will be adjusted while the setting flickers. Stop turning for a few seconds the setting will stop flickering and the power will return to the initial status.

2. Output Current Adjustment: Press the **I SET** key, the value of current setting will be displayed on the current display; and the setting will flicker. Repress **I SET** and the selected place of the setting values will be changed. Turn the knob and the setting value of the output current will be adjusted while the setting flickers. Stop turning for a few seconds, the setting will stop flickering and the power will return to the initial status.

3. Over current protection: Press the **RECALL** key and the storage direction will flicker. At this time, press **OUTPUT** and it will stop flickering, then the power is in the mode of over current protection; that is, the over current protection starts then the current is up to the set value; Switch off the output voltage and the over current protection light [OCP] is on.
Eliminating the mode of the over current protection: press the **RECALL** key and the storage direction will flicker. At this time, press **OUTPUT** and it will stop flickering, then the power supplies will exit from the over current protection mode.



CONTROL MODE WITH BUILT-IN MEMORY.

Storage Selection: Press the **RECALL** key and the storage direction light will flicker, which indicates the current storage data. Then press the ↓ key and the next parameters of voltage and current can be selected; press ↑ and the previous parameters can be selected. In any storage direction, the relevant storage units can be stored then the parameters of voltage and current are set.

PRODUCT REGISTRATION

Please register on <http://www.tmatlantic.com> before the software installation and the device configuration for remote control mode operation



New user registration

Registration

Login (min. 3 characters):*

Password:*

Password confirmation:*

E-mail:*

Name:*

Last Name:*

Phone:

Spam bot protection (CAPTCHA)

CAPTCHA image characters:*

And then download the program installer following the recommendations on the web site www.tmatlantic.com



ADJUSTMENT OF REMOTE CONTROL MODE OF APS-730XL BY COMPUTER VIA USB INTERFACE.



Connect the power supply to the power outlet using the power cable.

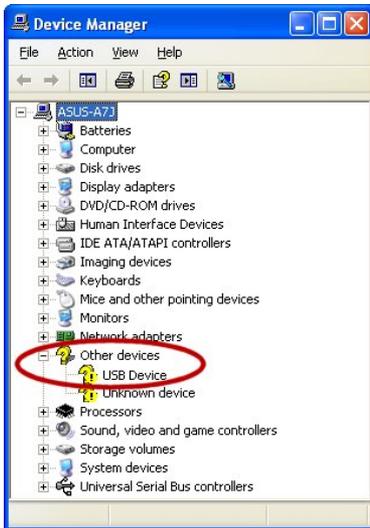
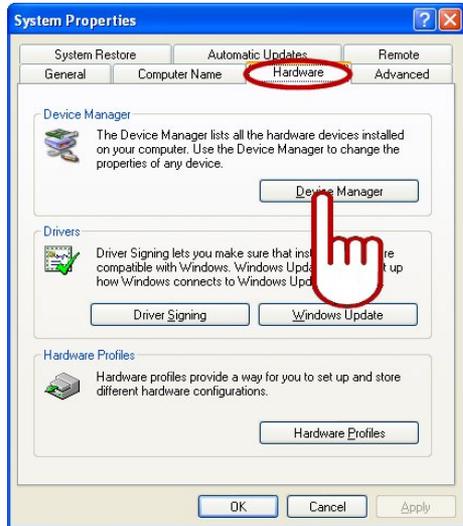


Switch on the power.

Connect the USB cable to the relevant inputs of the power supply and the PC.



Make sure the PC has found a new device, in order to do so, press **Windows + Pause** keys. Click **Device Manager** in open **System Properties** window in **Hardware** tab.



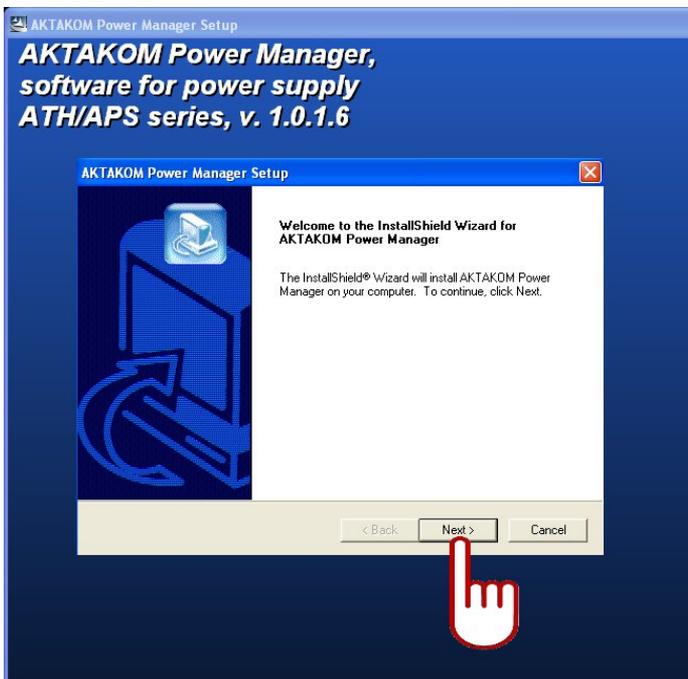
There should appear a new unknown **USB Device** in **Device Manager** Window. Take a further step without paying attention to **New Hardware Wizard** offer.

Run **APM_Setup.exe** installer of **AKTAKOM Power Manager** Program.



In **Choose Setup Language** panel select the interface language and click **OK**.

Follow the instructions of **InstallShield Wizard**.



Then the installation process is finished there will be a program group created, as well as, the launch icons of **AKTAKOM Power Manager** program and its help.



AKTAKOM Power
Manager



AKTAKOM Power
Manager help



AKTAKOM Power
Manager help (Adobe
PDF)



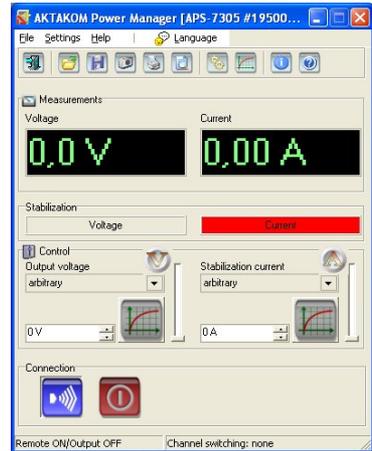
REMOTE CONTROL MODE OF APS-730XL BY COMPUTER VIA USB INTERFACE

AFTER AKTAKOM Power Manager PROGRAM INSTALLATION

Connect the USB cable to the relevant inputs of the power supply and the PC.

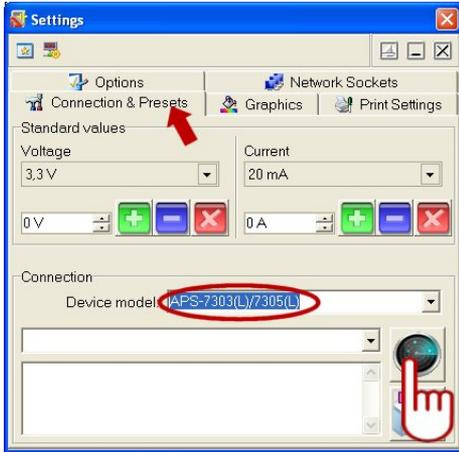


Run **AKTAKOM Power Manager** program from **Start** menu: **Start** → **Programs** → **AKTAKOM** → **AKTAKOM Power Manager** → **AKTAKOM Power Manager**. **AKTAKOM Power Manager** program main window will open (for a single-channel device).



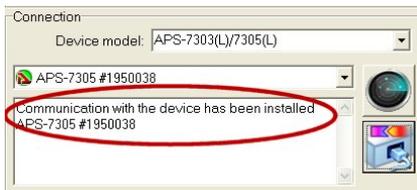
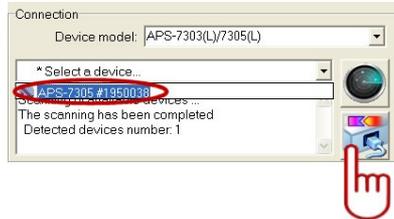
Open **Settings** panel from **Settings** main menu.

Go to **Connection and Presets** tab.



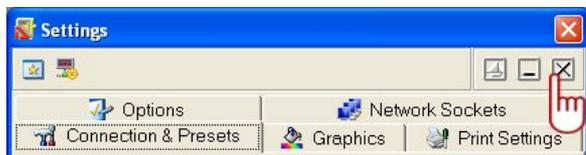
Select a device model connected to the PC from **Device Model** dropdown list and then click  button.

Select a device with the right name in the dropdown list of device selection and then click



A message containing the connection and test results will be showed in **Protocol** text field.

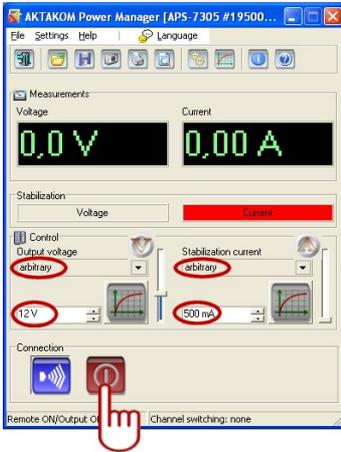
Close **Settings** panel window.



Specify the required voltage and output current on the device output, for example: voltage of **12 V**, current of **500 mA**.

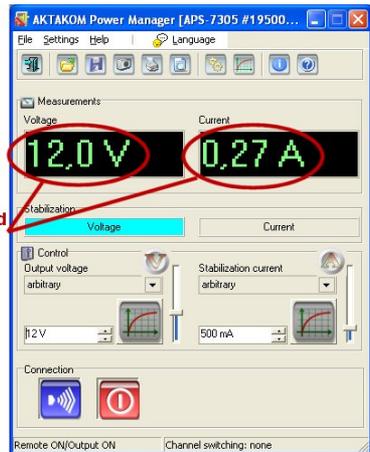
In the program main window, in **Control** box, in Output voltage and Stabilization current dropdown lists, select “arbitrary” mode – manual control of parameters.

In the entry field of voltage and current numerical values enter the voltage of **12 V** and the current of **500 mA** and then click  button of the output switch.



Measurements box contains voltage and current indicators which display the measured output voltage and load current in the device operating mode.

The measured values





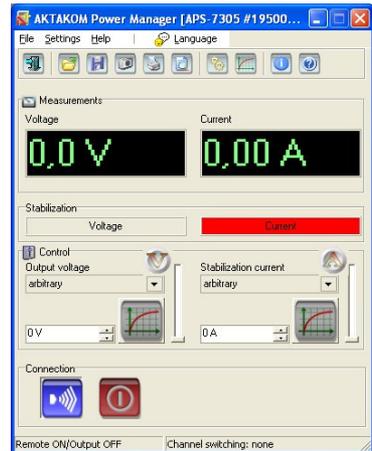
ADJUSTMENT OF REMOTE CONTROL VIA LAN INTERFACE (AULNET-TCP/IP PROTOCOL)

Parameter setting for the operation with LAN is made via USB port with the help of AKTAKOM Power Manager Program.

Connect the USB cable to the relevant inputs of the power supply and the PC.

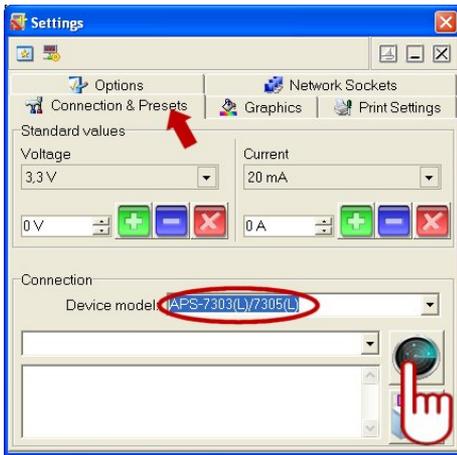


Run **AKTAKOM Power Manager** Program from **Start** menu: **Start** → **Programs** → **AKTAKOM** → **AKTAKOM Power Manager** → **AKTAKOM Power Manager**. **AKTAKOM Power Manager** Program main window will open (for a single-channel device).



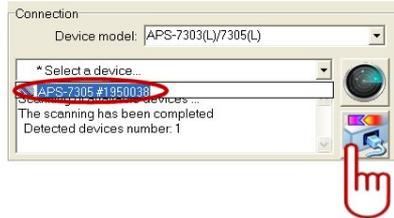
Open **Settings Panel** from **Settings** main menu.

Go to **Connection & Presets** tab.



Select a device model connected to the PC from **Device Model** dropdown list and then click  button.

Select a device with the right name in the dropdown list of device selection and then click

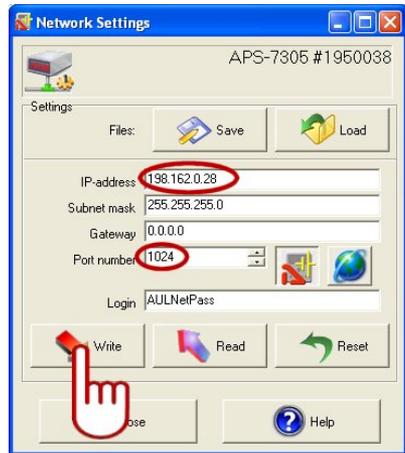


A message containing the connection and test results will be showed in **Protocol** text field.

Click **Network Settings** icon in **Settings** panel.



In **Network Settings** window enter the device IP-address into **IP-address** line (ask your network administrator) and **1024** into **Port number** line.



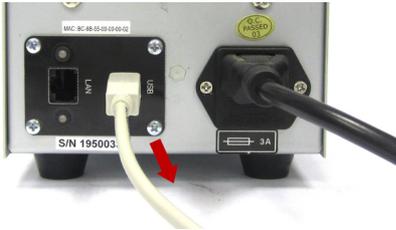
Click **Write** button.



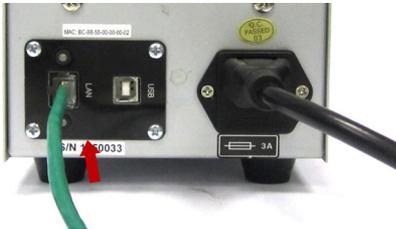
Confirm the successful operation completion by clicking **OK** and then **Close** button



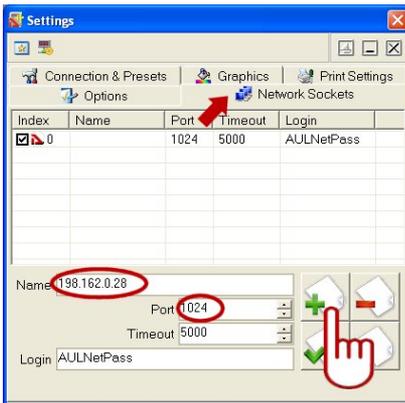
REMOTE CONTROL MODE OF APS-730XL BY COMPUTER VIA LAN INTERFACE.



Please Note: Disconnect the USB-cable from the device.



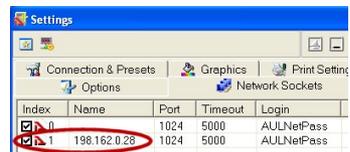
Connect the device **LAN** port with the local network using Ethernet cable.



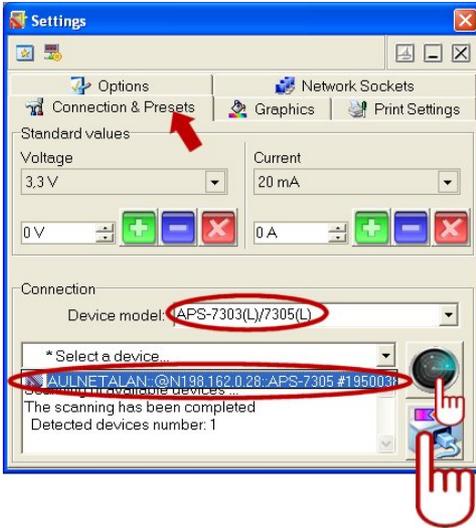
Go to **Network Sockets** tab in **Settings** panel. Enter a domain name to connect to the device, for example, its IP-address, into **Name** column. Enter **1024** into Port column.

Click **Add a socket** .

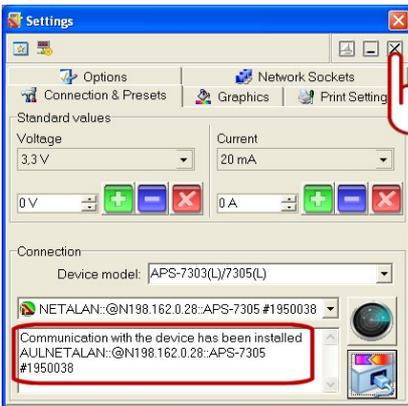
You will see a new socket in AULNet socket list.



Go to **Connection & Presets** tab.



Select a device model from **Device Model** dropdown list and then click  button. Select a device named **AULNETALAN** in **Select a device** dropdown list and afterwards click  button.



A message containing the connection and test results will be showed in **Protocol** text field. Close **Settings** window.

Remote control via LAN interface is made from AKTAKOM Power Manager Program main window similar to USB control (follow the example above). This control type is better than USB control because USB interface, the PC and the device don't have a common ground wire. Thus the device control via LAN causes the galvanic isolation of the power supply and the control source.



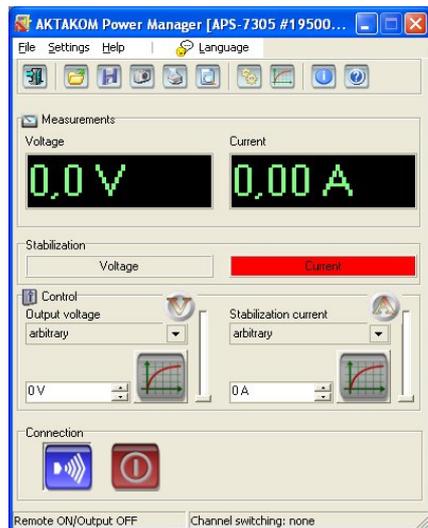
ADJUSTMENT OF REMOTE CONTROL MODE VIA WEB INTERFACE

Parameter setting for the operation with Web is made via USB port with the help of AKTAKOM Power Manager Program.

Connect the USB cable to the relevant inputs of the power supply and the PC.



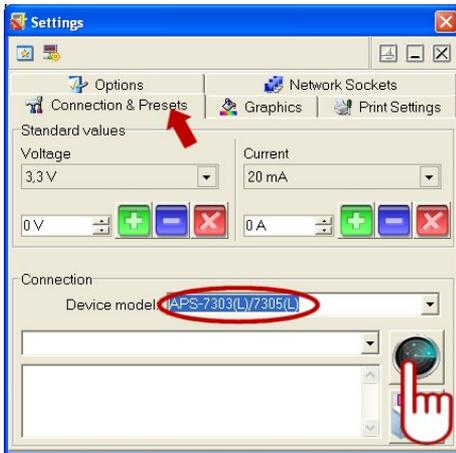
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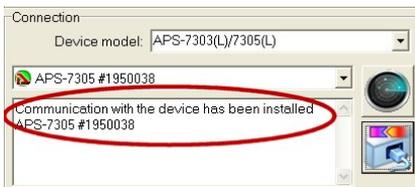
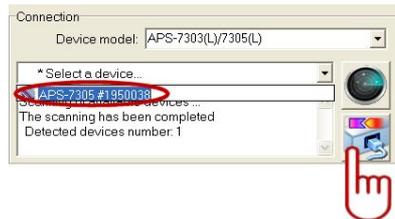
Open **Settings** panel from **Settings** main menu.

Go to **Connection & Presets** tab.



Select a device model connected to the PC from **Device Model** dropdown list and then click  button.

Select a device with the right name in the dropdown list of device selection and then click .

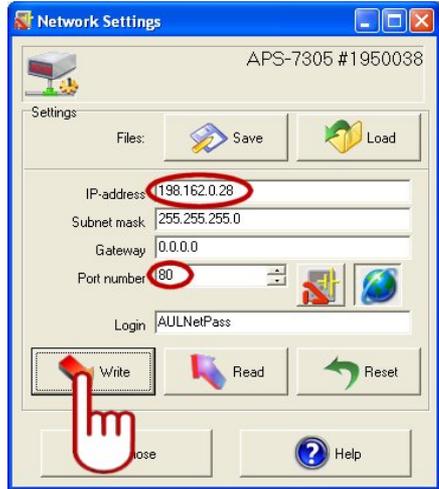


A message containing the connection and test results will be showed in **Protocol** text field.

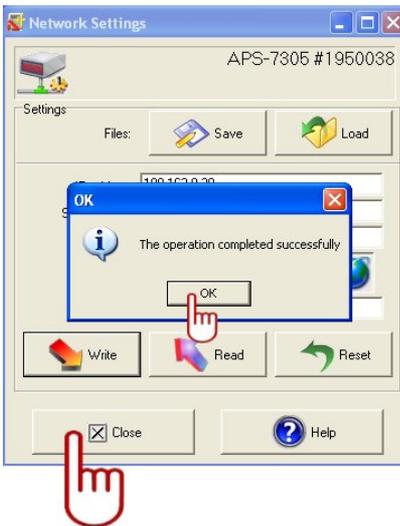
Click **Network Settings** icon in **Settings** panel.



In **Network Settings** window enter the device IP-address into **IP-address** line (ask your network administrator) and **80** into **Port number** line.

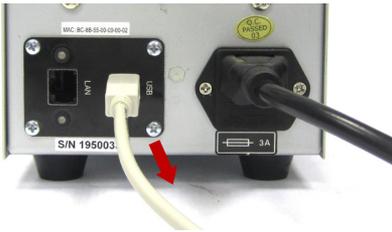


Click **Write** button.



Confirm the successful operation completion by clicking **OK** and then **Close** button

Close **AKTAKOM Power Manager** program.



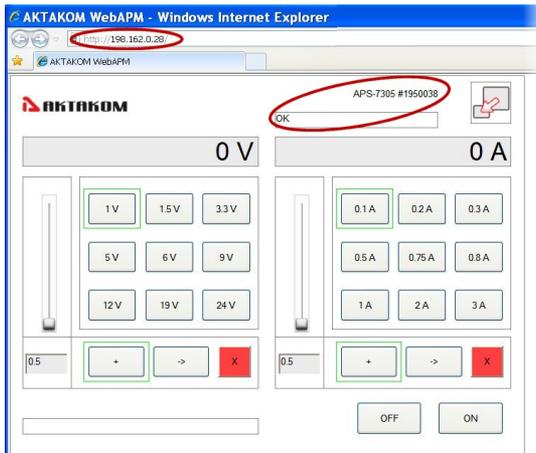
Please Note: Disconnect the USB-cable from the device.



REMOTE CONTROL MODE OF APS-730XL VIA WEB INTERFACE

Connect the device LAN port with the local network using Ethernet cable

Run **Web browser** on your PC connected to **Ethernet** computer network.

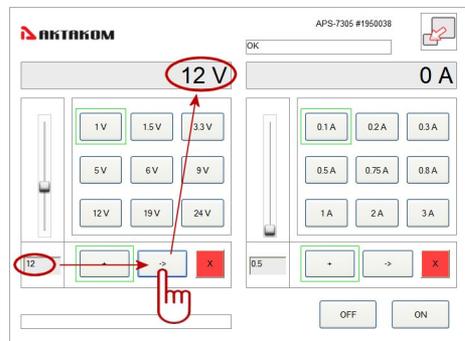


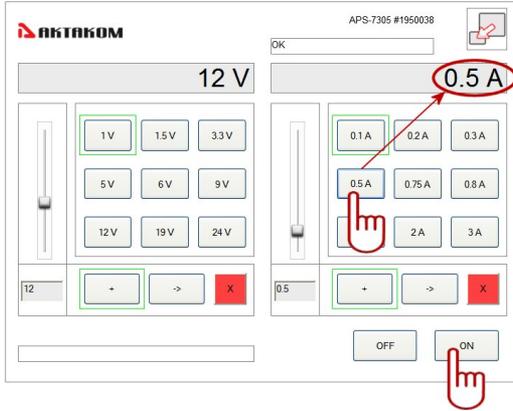
Search for the device IP-address in the browser address line to open Web-page of **AKTAKOM WebAPM** device.

After the communication with the device is established there will appear the device name, its number and **OK** message at the top of the interface. Specify the required output voltage and stabilization current parameters with the help of **AKTAKOM WebAPM** interface controls, for example: voltage of **12 V** and current of **0.5 A**.

Enter **12** (should be set in volts) into the voltage assignment field and click **->** button.

Wait till the set value of **12 V** appears in the top voltage indication field.

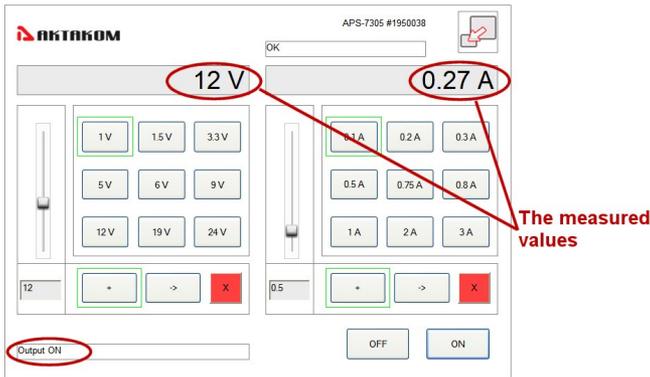




Click **0.5** button in the current assignment field.

Wait till the set value of **0.5 A** appears in the top current indication field.

Click **ON** button.



You will see **Output ON** record of the device output switch at the bottom of the interface. There will appear the measured voltage and current on the load connected to the device output.

This mode may be used to control the device by any mobile device (IPad, iPhone or any Android-based mobile devices). Therefore the device should be connected to Access Point (router), then enter IP-address specified in APS-730xL into the browser. There is no need to use special software!



Follow video examples of APS-730xL use, software installation and setting on www.tmatlantic.com in Applications section.

Find answers for frequent questions asked while operating APS-730xL on www.tmatlantic.com in FAQ section.

Visit www.tmatlantic.com for more information