



# Resilient Power Control Module

## RPCM



### Quick Install Guide

Models:

RPCM DC ATS 76A

RPCM DC 232A

Version 201908210121

# 1. Congratulations on purchase of your RPCM!

*Dear Customer!*

*Please accept our congratulations on your purchase of RPCM - Resilient Power Control Module. This device will allow you to be in control of your power supply infrastructure with great user experience.*

*We have paid a lot of attention to craft the device the way we would want it to be for ourselves. In many ways, physically, ergonomically, architecturally, electrically it is designed to be one stop shop for many power control tasks that people meet in many circumstances.*

*We have made every effort to make RPCM useful both in enterprise environment behind firewall and in less strict environment with access to Internet, where all the power of the Cloud comes to your service.*

*We have tried to make interfaces as intuitive as possible and prepared detailed documentation to assist you in every case that may be not obvious or expected for this class of equipment.*

*Bon voyage! We hope you enjoy it!*

*RCNTEC Team*

## 2. Mounting onto a Rack

1. Install the cage (mounting) nuts as shown in the Fig. 1.
2. Place RPCM on the rack and secure it as shown in Fig. 2.
3. Prepare to connect the power lines as shown in Fig. 3.
4. Connect the power cables to the inputs.
5. Connect wires for connecting the devices to be supplied with power to the outlets.

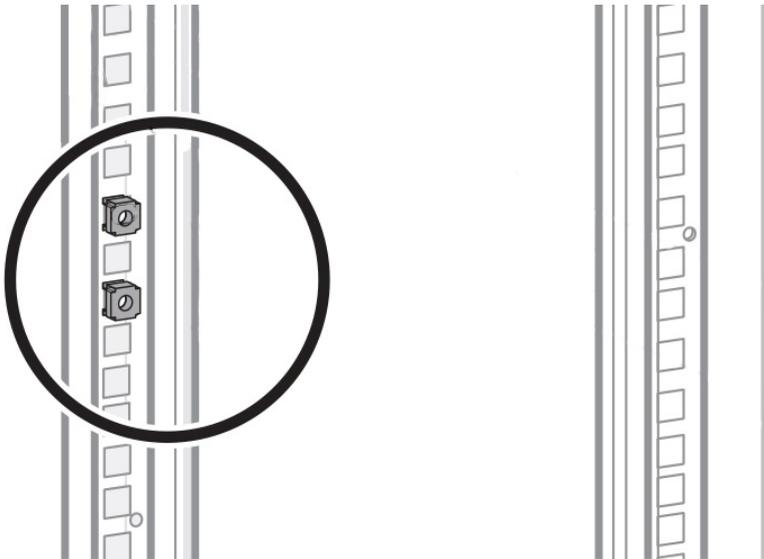


Fig.1. Installation of mounting cage nuts on rack

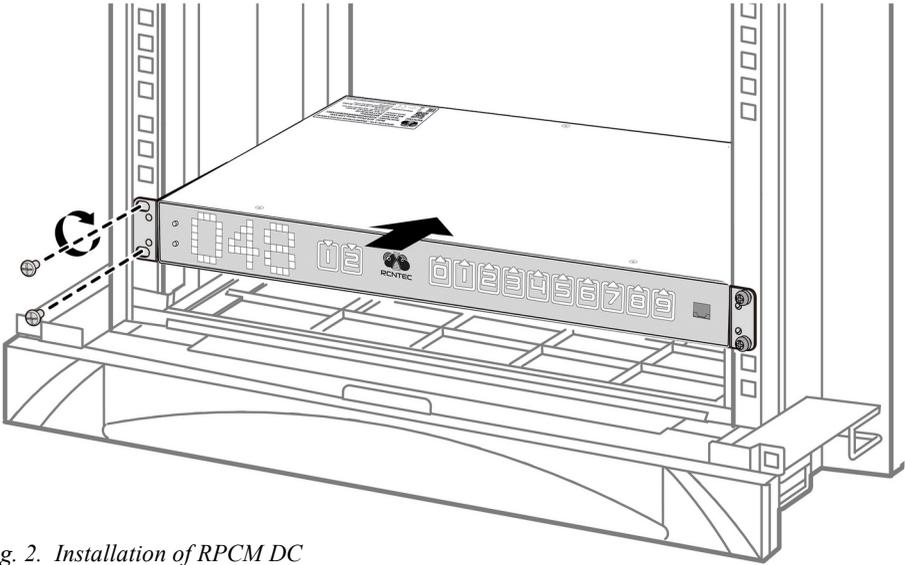


Fig. 2. Installation of RPCM DC

**Note.** In order to protect outlets from short circuits, short circuit protection selectivity has to be ensured in the electrical design.

For RPCM DC ATS 76A, RPCM DC 232A — short circuit protection engages at ~87.5A current on the outlet.

To ensure selectivity, the circuit breakers at the inputs must be selected so that the tripping does not occur at short-circuit currents <87.5A, the lower threshold of the tripping current of the upstream circuit-breakers must be chosen so that the tripping does not occur at the short-circuit current at the consumer connection point.

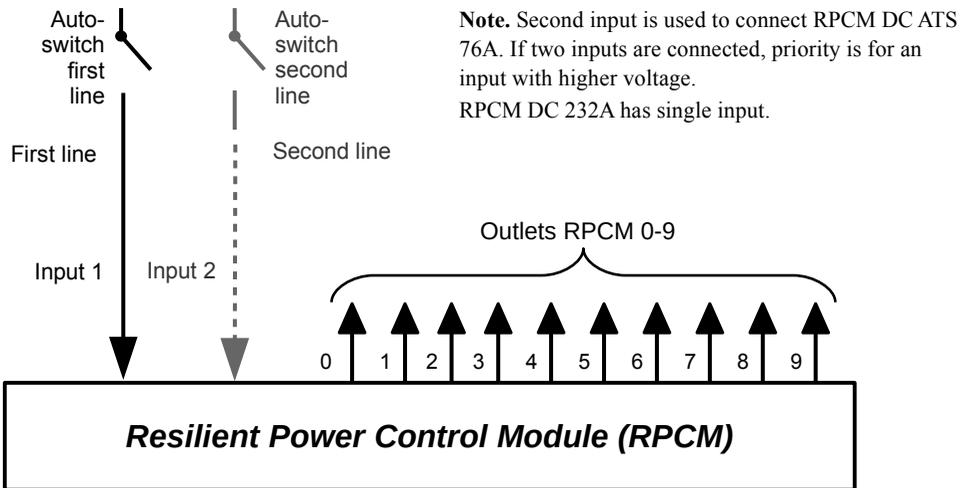


Fig. 3. Wiring Diagram for Resilient Power Control Module

### 3. External Elements

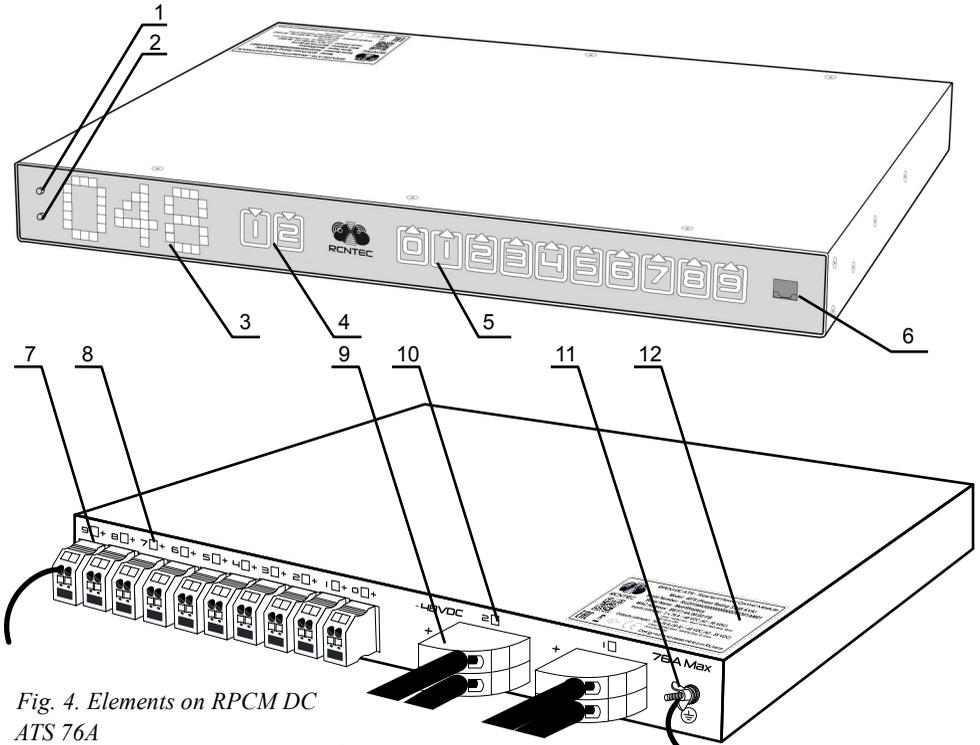


Fig. 4. Elements on RPCM DC  
ATS 76A

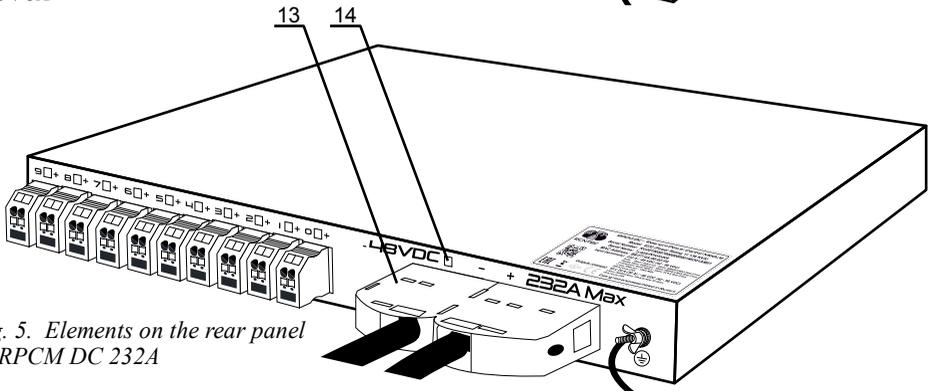


Fig. 5. Elements on the rear panel  
of RPCM DC 232A

#### Legend:

- |  |   |
|--|---|
| 1 — Top control button                                     | 7 — Outlets 0-9                           |
| 2 — Bottom control button                                  | 8 — LED outlet indicators 0-9             |
| 3 — System status display                                  | 9 — Inputs terminals of RPCM DC ATS 76A   |
| 4 — Input indicator (RPCM DC 232A has<br>single indicator) | 10 — Inputs indicators of RPCM DC ATS 76A |
| 5 — Outlet indicators 0-9                                  | 11 — Ground connect screw                 |
| 6 — Ethernet control port RJ45                             | 12 — Serial label                         |
|  | 13 — Input terminals of RPCM DC 232A      |
|  | 14 — Input indicator of RPCM DC 232A      |

## 4. Conductors Connection

### Connection to Inputs of RPCM DC ATS 76A

Carefully study the labeling and polarity of the connection.

Remove the insulation from the wire.

When using flexible wires without ferrule, you must first open the spring. To do this, insert a screwdriver into the rectangular shaft near the clamp.

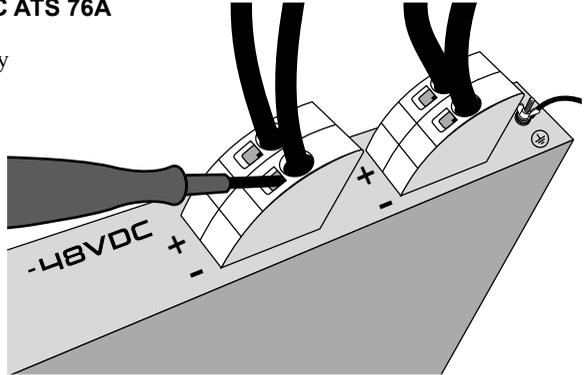


Fig. 6. Connecting wires to the inputs RPCM DC ATS 76A

**Note.** To disconnect, you must also insert a screwdriver into the rectangular shaft next to the clip.

**IMPORTANT!** No mechanical loads should be transferred to the Push-in spring clip, otherwise the electrical connection may be damaged.

For this, the cable may, for example, be secured in front of the push-in clamp using a cable clip.

### Conductors Connection to Outlets of RPCM DC ATS 76A and RPCM DC 232A

To connect the conductors to the terminals, use the terminals in the form of a push-in clamp.

**To connect the conductor to the RPCM DC ATS 76A or RPCM DC 232A terminal, you must:**

Remove the insulation from the conductor.

Insert the conductor directly into the round hole of the terminal.

To open the spring, press the orange Push button with a screwdriver.

Similarly connect the second conductor.

**Note.** To remove the conductor, you also need to push in the orange Push button with a screwdriver.

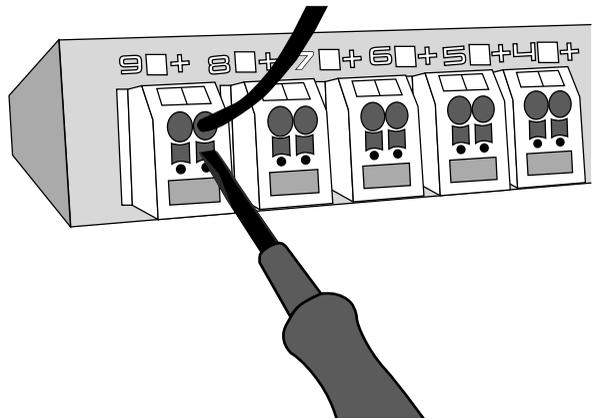


Fig. 7. Connect the conductor to the RPCM DC ATS 76A or RPCM DC 232A outlet terminal

## Connection to input RPCM DC 232A

To connect the input to the electrical circuit uses two terminals with screw terminals for the positive and negative conductors.

### For connecting cables to the screw terminal:

Remove insulation from wire.

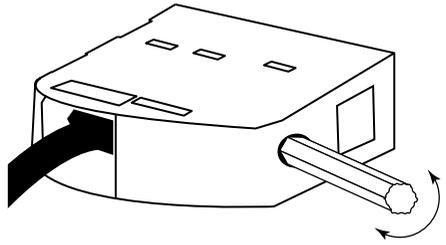
Insert the wire into the contact hole.

Insert the hex screwdriver into the side hole to tighten the screw.

Torque the screw with a force of 10Nm min - 12Nm max.

Connect the second conductor in the same way.

**CAUTION!** There is a danger of electric shock. The funnel-shaped hole for cable entry is not protected against contact. Do not connect or disconnect live terminals. Appropriate measures should be taken to protect against contact with conductive materials.



*Fig. 8. Connect the conductor to the input terminal RPCM DC 232A*

## Power and Grounding Requirements

Voltage: 48V. Electric current level: <76A for RPCM DC ATS 76A, <232A for RPCM DC 232A.

Grounding must be connected. Conductor requirements:

RPCM DC ATS 76A — 1.5mm<sup>2</sup> 14AWG min – 16mm<sup>2</sup> 4AWG MAX Strip 18mm 66A cULus CSA

RPCM DC 232A — Solid 25mm<sup>2</sup> 3AWG min – 95mm<sup>2</sup> 000AWG MAX Strip 27mm

Flexible 35mm<sup>2</sup> 2AWG min – 95mm, 000AWG MAX Strip 27mm

2 conductors 6mm<sup>2</sup> 4AWG – 35mm<sup>2</sup> 2AWG Strip 27mm 200A cULus CSA

**Note.** If only one input is connected, RPCM DC ATS 76A will function properly except ATS operations.

## 4. Starting to Operate

### Receiving an IP address

IP address is obtained by default via DHCP. If there is no DHCP server or it is temporarily unavailable, RPCM will obtain IP through Automatic Private IP Addressing (APIPA) thanks to Zero Configuration.

When this method of configuring network addresses is used, IP ranging from 169.254.xxx.xxx, Netmask 255.255.0.0 (CIDR standard — 169.254.0.0/16) are automatically assigned.

### Determining the IP or MAC address

To find out the IP address, you will need to press the bottom button 3 times in succession (press 4 times for the MAC address. Before pressing the next time, you will need to wait for a reaction to the previous press).

When you press the first time, a running message regarding the electric current level (for example «10Amps») will be displayed. Only numerical figures will be displayed after 5 seconds.

When you press the second time, the power level will be displayed also as a running message. Only numerical figures will be displayed after 5 seconds.

When you press the third time, RPCM will switch over to IP address display mode.

When you press the fourth time, the MAC address will be displayed.

### Reset to Factory Settings

To reset the device, hold the top button on the front panel for 20 seconds.

## 6. Connecting via Web Interface

This type of control is based on use of application level protocols: HTTP/(HTTPS). The IP address or domain name of the device registered in DNS is indicated in the browser field. For example: *http://192.168.xxx.yyy is our device's IP.*

Authentication is performed using username and password.

**Default user name and password: user name — *rpcadmin*  
password — *rpcpassword***

RPCM's web interface supports an array of browser models and versions:

- Chrome — version 61.0.3163.100 and higher.
- Safari — version 10.1.1 and higher.
- Firefox — version 56.0 and higher.
- Opera — version 48.0.2685.32 and higher.

After going to the specified webpage, the authentication window will open up where you can enter username and password, as well as select a different language for the interface. Then you will be sent to RPCM's main web interface window - the Dashboard, where general information is provided in addition to system controls.

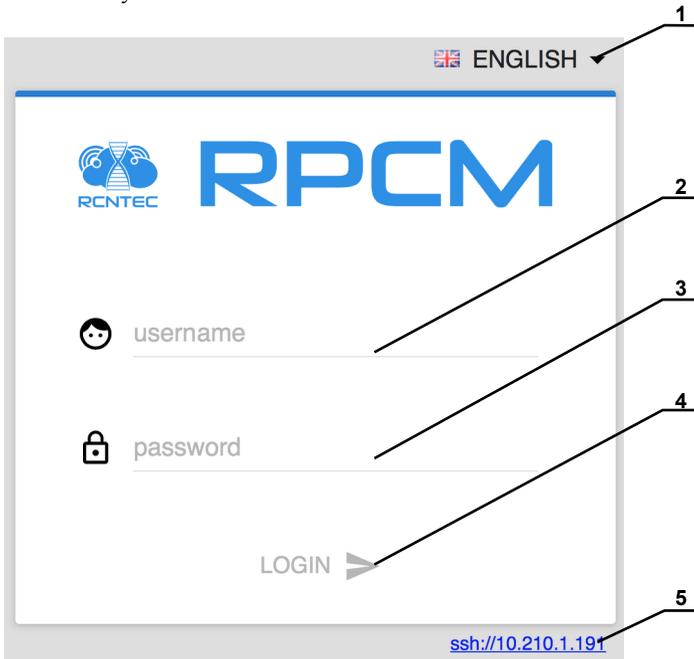


Fig. 9. System entry window

**Please Note:** For more detailed information about RPCM capabilities, please consult the User Manual available at <http://rpcm.pro/docs>

### Designation:

- 1 — Web interface language selection menu
- 2 — Entry field for username
- 3 — Entry field for password
- 4 — LOGIN button to confirm credentials and to enter RPCM's web interface
- 5 — Link for launching SSH-client with this address as a parameter

## 7. Connecting via SSH

To connect via SSH protocol in UNIX-based systems, it will be sufficient to indicate from within the terminal's emulator the command: `ssh ip_address`.

In the MS Windows environment, you can use the PUTTY program. You will need to configure settings in the Sessions section of this program. If you have any question about SSH clients, e.g. PUTTY, please consult the relevant documentation.

RPCM's system during access via SSH uses username and password authentication.

**Default user name and password: user name — *rpcmadmin*  
password — *rpcmpassword***

Example our device's IP is 192.168.xx.yy:

```
ssh 192.168.xx.yy
```

In response, username and password will be requested:

```
login as: rpcmadmin
```

```
rpcmadmin@192.168.xx.yy's password:
```

Alternatively, you can create a username right away:

```
ssh rpcmadmin@192.168.xx.yy
```

In this case, the system will request that you enter only the password:

```
rpcmadmin@192.168.xx.yy password:
```

```
RPCMcli version 0.7.78 is starting
user rpcmadmin successfully authenticated from 192.168.xx.yy, access level superuser
Auto-logout time is set to 3600 seconds

[Serial Name]: DobriyVolk [Temperature]: 28C
[Serial Number]: RU2017101100000002M001DN02 [Ground]: GOOD
[Firmware Version]: 0.9.743 [Firmware Release Date]: 20190515093438
[Software Version]: 0.7.78 [Software Release Date]: 20190518105432
[Model/Hardware Version]: 4076/RPCM DC ATS 76A [Uptime]: 7087d+20:00:49

-----
[Input 1]: 47.8V 2.338A 0.493KW (ACTIVE, PRIORITY)
[Input 2]: 47.8V 0.000A 0.000KW
-----
[Output 0]: OFF <admin: ON> 0mA 0W (SHORT)
[Output 1]: ON <admin: ON> 586mA 125W (OVERLOAD)
[Output 2]: ON <admin: ON> 223mA 46W
[Output 3]: ON <admin: ON> 530mA 112W
[Output 4]: ON <admin: ON> 251mA 52W
[Output 5]: ON <admin: ON> 223mA 46W
[Output 6]: ON <admin: ON> 525mA 112W
[Output 7]: ON <admin: ON> 0mA 0W
[Output 8]: ON <admin: ON> 0mA 0W
[Output 9]: OFF <admin: OFF> 0mA 0W

Type 'help' to get suggestions
DobriyVolk [192.168.xx.zz] 0 rpcmadmin >
```

Fig. 10. An example of the console screen when logging in via SSH to the RPCM DC ATS 76A

### Contacts:

<http://rpcm.pro>

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### Feedback:

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