



# User Manual

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## PowerGate

PGA-M-1DE, PGA-M-4DE, PGS-3-2DE,  
PGS-5-2DE, PGS-3-4DE, PGS-5-4DE

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# Safe operation

To ensure safe and reliable operation of the devices, please observe the following requirements:

- Use the device only for its intended purpose;
- Do not use devices that show signs of malfunctioning;
- Avoid strong physical impacts on the device;
- Protect devices and cables from contact with corrosive liquids;
- Whenever a fault is detected in the device, please contact the manufacturer.

## Warning!

The device uses hazardous voltage AC 100-230V

# General information

PowerGate converter presents is an intelligent PWRDMX/Ethernet/DMX converter protocols, with functions of merging (merging) and redundancy data, and is an effective solution for managing lighting equipment based on the interface DMX512. A special feature of the converter is it's multifunctionality, which is expressed in the possibility various transformations and merging (merging) of protocols PWRDMX, DMX512, RDM (ANSI E1.20), ArtNet (1,2,3,4), sACN (Draft, Release), KiNet (v1, v2), RTTrPL, data transfer of these protocols via a power line up to 400 m long and an Ethernet network with functions and redundancy, as well as the possibility of building different combinations of reception / transmission of signals. To connect an additional equipment and settings via Ethernet the converter has a built-in Ethernet port with a speed of 10/100 Mbit / s. For equipment settings, you can use the built-in web interface, ArtGate Setting program, third-party software manufacturers supporting the ArtNet protocol, or specially developed ARISTO software. The device is designed in a dust-and-moisture-proof duralumin case with an IP65 protection class and can be used at positive and negative ambient temperatures outdoors, indoors, indoors and outdoors. The flexibility in placement of the device is characterized by its compactness, the ability to install on a farm and a horizontal/vertical surface.

# Installation

1. Visually inspect the device to make sure that there are no transportation damages;
2. Connect the first device in transmitter mode to DMX signal source, and the second device in receiver mode to DMX-controlled equipment;
3. Connect AC power cable of the device to a power outlet in the network segment which is selected for work. There should be no reactive components such as transformers, surge protectors, etc. between the power sockets transmitter and receiver connected to. Normal operation of the device in any mode starts immediately after switching power on.

## Warning!

Before mounting and power up, it is necessary to verify protective earthing and cable connections.

# Wireless network configuring (receiver)

1. At power-on the receiver waits for a connection request from the transmitter. In this state the green LEDs on it lights steadily.
2. When connected to the transmitter the receiver LEDs start blinking on every data reception. DMX512 data received from network are sent to the output interface.

# Wireless network configuring (transmitter)

1. At power-on the transmitter connects to all receivers connected to all receivers from the same segment of power network. If the DMX data stream at the input connector of this channel is correct the LED associated with it lights steadily green. If there is no data stream the LED starts blinking.
2. DMX512 data taken by the transmitter from the input connector are transmitted to all connected receivers.

# Indication

List of possible malfunctions and methods of their elimination:

Fault Name, Visual Signs	Possible Reasons	Troubleshootings
The device does not work, neither of the LEDs are lit	There is no supply voltage Supply line fuse is broken	Connect the device to a working power outlet Replace the supply line fuse
No data transmission between the transmitter and one or more receivers	The receivers are in another network segment There are reactive elements present in the segment	Check the network, put devices to the same mains segment Check the network, remove reactive load

## Web-settings

PowerGate devices support configuring most of their parameters through the web-interface using HTTP protocol (TCP port 80).

# Main settings

To access the settings page enter the IP-address of the device to the browser. Main settings page of the PowerGate device will be displayed.

**PowerGate**  
Main settings

Indication:  Normal  Blink  Off

Device name:

Device description:

Device status:

ArtNet4 Net address:

Port	Mode/merging	Pri. unv. protocol	Pri. unv. number	Sec. unv. protocol	Sec. unv. number	Status
DMX 1	Out/HTP	sACN	100	sACN	120	no new DMX data
DMX 2	Out/LTP	ArtNet	1	Disabled	0	transmitting DMX
DMX 3	Out/Auto	ArtNet	2	Disabled	0	no new DMX data
DMX 4	Out/Backup	ArtNet	3	ArtNet	23	transmitting DMX
DMX 5	In	ArtNet	85	Disabled	0	receiving DMX
DMX 6	Off	ArtNet	5	Disabled	0	-
DMX 7	Out/Trigger	ArtNet	78	sACN	1056	no new DMX data
DMX 8	Out/XFade	ArtNet	79	sACN	1053	no new DMX data

Save settings Set default Reset

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**Pic. 1**  
Main settings

**Indication** – switching LED indication modes:

- Normal** Indication depending on the current port status
- Blink** Search mode
- Off** LEDs are off

- Device name** Editable device name (up to 17 characters)
- Device description** Editable device description (up to 63 characters)
- Device status** Current state of the device
- ArtNet 4 Net address** Network number (0-127, only for ArtNet 4)

**Ports** – configuration and status for each DMX ports

- Mode/merging** Port direction and merge mode for output
- Pri. unv. protocol** Primary universe protocol
- Pri. unv. number** Primary universe number
- Sec. unv. protocol** Secondary universe protocol
- Sec. unv. number** Secondary universe number
- Status** Current state of the port

To save the changes in main settings, click «**Save settings**».

To restore default values of main settings, click «**Set default**».

To reset to the current saved values of main settings, click «**Reset**».

# Advanced settings

To edit the advanced settings of the device, click on the link **“Advanced”**.

## PowerGate

Advanced settings



Main
Advanced
Network
Profiles
Firmware

RDM devices:

DMX signal timing:

DMX line terminator:

Options:

Advanced port settings:

Triggers/alarms:

```

DMX 1 - 1 devices found
           ManId: 29B7, DevId: A1153B05
DMX 2 - 0 devices found
DMX 3 - 0 devices found
DMX 4 - 0 devices found
DMX 7 - 0 devices found
DMX 8 - 0 devices found
          
```

Start discovery
Refresh report

Break, usec	MaB, usec	Data slots	Pause, usec
<input type="text" value="200"/>	<input type="text" value="20"/>	<input type="text" value="512"/>	<input type="text" value="0"/>

Port	1	2	3	4	5	6	7	8
	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Frame integrity mode	ArtNet Subnet-Unv. mode	ArtNet 4 support	sACN Release	KiNet v2
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Port	Src. timeout, sec	XFade unv. protocol	XFade unv. number	XFade unv. channel	Loop. unv. protocol	Loop. unv. number
DMX 1	<input type="text" value="30"/>	Disabled ▼	<input type="text" value="0"/>	<input type="text" value="512"/>	ArtNet ▼	<input type="text" value="80"/>
DMX 2	<input type="text" value="30"/>	Disabled ▼	<input type="text" value="0"/>	<input type="text" value="512"/>	ArtNet ▼	<input type="text" value="81"/>
DMX 3	<input type="text" value="10"/>	Disabled ▼	<input type="text" value="0"/>	<input type="text" value="512"/>	Disabled ▼	<input type="text" value="0"/>
DMX 4	<input type="text" value="10"/>	Disabled ▼	<input type="text" value="0"/>	<input type="text" value="512"/>	Disabled ▼	<input type="text" value="0"/>
DMX 5	<input type="text" value="10"/>	Disabled ▼	<input type="text" value="0"/>	<input type="text" value="512"/>	Disabled ▼	<input type="text" value="0"/>
DMX 6	<input type="text" value="10"/>	Disabled ▼	<input type="text" value="0"/>	<input type="text" value="512"/>	Disabled ▼	<input type="text" value="0"/>
DMX 7	<input type="text" value="10"/>	ArtNet ▼	<input type="text" value="130"/>	<input type="text" value="510"/>	Disabled ▼	<input type="text" value="0"/>
DMX 8	<input type="text" value="10"/>	ArtNet ▼	<input type="text" value="130"/>	<input type="text" value="511"/>	Disabled ▼	<input type="text" value="0"/>

Input	Mode	Delay, msec	Action	Status
Trigger 1	Alarm, N.O. ▼	<input type="text" value="0"/>	<span>Capture scene</span>	open
Trigger 2	Trigger, N.O. ▼	<input type="text" value="5000"/>	<span>Capture scene</span>	open

Save settings
Set default
Reset

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**Pic. 2**

Advanced settings

**RDM devices** – RDM devices list, connected to DMX ports:

**Start discovery**

Searching connected devices

**Refresh report**

Refresh search/list state detected devices

**DMX signal timing** – sets the parameters of the output DMX signal for all ports:

<b>Break</b>	from 4 to 1000 $\mu$ s
<b>MaB</b>	from 4 to 1000 $\mu$ s
<b>Data slots</b>	1 to 512
<b>Pause</b>	from 0 to 10000 $\mu$ s

**DMX line terminator** – enables (selected) or disables (cleared) termination resistor between D+ and D- wires of DMX line on each port.

**Options** – enable/disable device features.

**Advanced port settings** – settings for advanced features for each port:

<b>Src. timeout</b>	Universe source timeout, in seconds
<b>Trigger/XFade unv. protocol</b>	XFade/Trigger control universe protocol
<b>Trigger/XFade unv. number</b>	XFade/Trigger control universe number
<b>Trigger/XFade control channel</b>	XFade/Trigger control channel
<b>Loop. unv. protocol</b>	Loop back universe protocol
<b>Loop. unv. number</b>	Loop back universe number

**Triggers/alarms** – (for PowerGates equipped with Trigger inputs)- setup the mode of Trigger inputs:

<b>Input</b>	Trigger/Sensor input
<b>Mode</b>	Operating mode (disabled, trigger/alarm sensor normally open/closed)
<b>Delay, ms</b>	Delay for triggering in milliseconds
<b>Action</b>	Current status of input (open, closed, active, alarm) Save the current state of all DMX ports as scene to recall on trigger activation

To save the changes in advanced settings, click **«Save settings»**.

To restore default values of advanced settings, click **«Set default»**.

To reset to the current saved values of advanced settings, click **«Reset»**.



# Network settings

To edit the network settings of the device, click on the link “**Network**”.

**PowerGate**  
Network settings

Main Advanced **Network** Profiles Firmware

MAC address: 00:02:8C:A6:15:3B (secondary IP: 2.161.21.59)

Main IP: 2.161.21.59

Subnetwork mask: 255.0.0.0

Gateway IP: 0.0.0.0

ArtNet UDP port: 6454

sACN UDP port: 5568

Access login: admin

Access password:

Save settings Set default Reset [www.sundrax.com](http://www.sundrax.com)

**Pic. 3**  
Network settings

<b>MAC address</b>	Hardware address and secondary (permanent) IP-address of the device
<b>Main IP</b>	Set the main network address of the device
<b>Subnetwork mask</b>	Set the mask of the IP-subnet
<b>Gateway IP address</b>	Set the network address of the gateway (if ability to operate via the Internet is required)
<b>Art-Net UDP port</b>	Set the UDP-port for ArtNet protocol
<b>sACN UDP port</b>	Set the UDP-port for sACN protocol
<b>Access login/password</b>	Login and password for access to web-interface of device. If password is empty, authentication is not performed

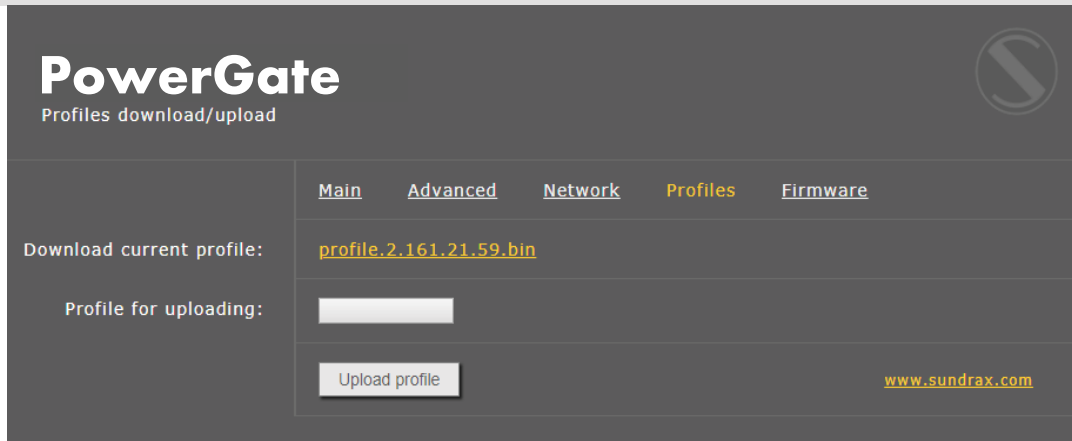
To save the changes in network settings, click «**Save settings**».

To restore default values of network settings, click «**Set default**».

To reset to the current saved values of network settings, click «**Reset**».

# Profiles

For profile operations, click on the link «**Profiles**».



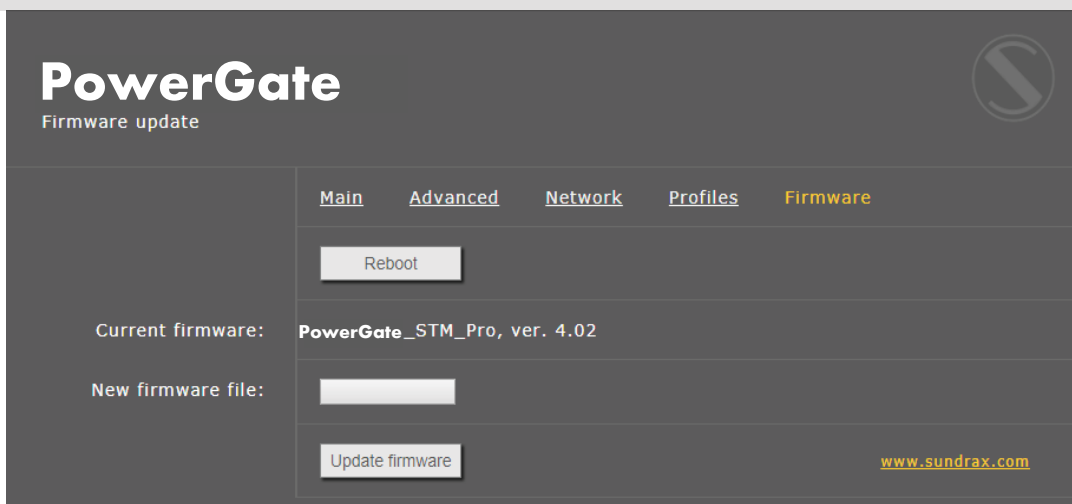
**Pic. 4**  
Profiles settings

**Download current profile**  
**Profile for uploading**  
**Upload profile**

Download the current settings as a file  
Select the file of previously saved profile  
To upload the selected profile in the device

# Firmware update

To update firmware of the device, click on the link «**Firmware**».



**Pic. 5**  
Firmware update

**Reboot**  
**Current firmware**  
**New firmware file**  
**Update firmware**

Device reboot button  
Current firmware name and version  
Select firmware file to upload to the device  
Upload the selected firmware file

After software update downloading, need to accept updating by clicking button «**Reboot**».

# Technical maintenance

Maintenance, search and troubleshooting should be performed by service personnel. The device should be free from dirt, dents, connecting cables and wires must be intact and securely fastened.

## Notes



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Sundrax Electronics  
6008, First Central 200  
2 Lakeside Drive, Park Royal, London  
NW10 7FQ United Kingdom  
+ 44 (0) 208 991 33 19  
office@sundrax.com  
www.sundrax.com







