SUNDRAX electronics RGS-X-2D2B-DC ArtGate DMX Ethernet Converters User Manual

User Manual
ArtGate
DMX-Ethernet converters
RGS-X-DB-AC, RGS-X-2D2B-AC, RGS-X-DB-DC, RGS-X-2D2B-DC,
RGA-0-DB-AC, RGA-0-2D2B-AC, RGA-0-DB-DC, RGA-0-2D2B-DC,
RGS-X-4D2B-AC, RGS-X-4D2B-DC, RGA-0-4D2B-AC, RGA-0-4D2B-DC, GJP-5-8D5EF
Version 1.04
March 11, 2020

Contents

Specifications

DVX512 interfaces	1, 2, 4, 8 or 16
Supported protocols	DMX512, RDM (E1.20), ArtNet (1,11,111,4), sACN (E1.31, draft, and release), set (v1 and v2) RTTrPL, HTTP, etc.
DMX data refresh rate	44 Hz default, may be changed if necessary
I/O connectors	Depends on the modification
Max current consumption	0.1 A
Setup	web interface, specialized software ArtGate, ArtNet standard tools
Power supply	—90-250 V, 50/60 Hz or Power-over-Ethernet (PoE)
Fuse	0.1 A

General information

a mortgage is the series of full-featured converters for converting network protocols ArtNet and sACN to light fixtures control protocol DMX512. Through their 1, 2, 4, 8, 12 or 16 DMX ports, LAN interface, and Optical port (ArtJet Pro and GigaJet Pro), the devices transmit and receive DMX512 data streams via Ethernet LAN functioning in 10Base-T or 100Base-T mode (100Base-FX in ArtJet Pro, 1000Base-FX in GigaJet Pro).

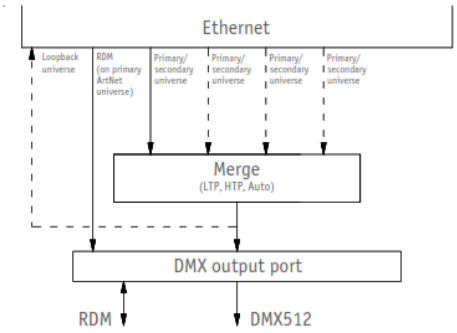
Compatibility with ArtNet and sACN protocols enables the use of ArtGate devices in a network of heterogeneous devices from other manufacturers. As well as the standard broadcast data transfer ArtNet, ArtGate devices also support point-to-point data transfer in the local network or via the Internet. Address settings of the device (name, SubNet, Universe) and network settings (IP address, subnet mask, UDP-port), standard software tools for ArtNet networks, such as DMX Workshop, as well as using the web-based interface.
Web interface allows changing advanced settings of ArtGate devices not covered by the ArtNet standard, such as DMX signal direction and merge mode for each port physical characteristics (timing) of DMX512 signal data stream transmission and reception modes in ArtNet network
In addition, specialized utility software allows advanced users to assign custom MAC addresses to the Ethernet interface of the device and restore the default settings of the device. ArtGate series is powered by AC ~90-250 V, 50/60 Hz, or from Ethernet using the Power-over-Ethernet technology (depends on modification).

Safe operation

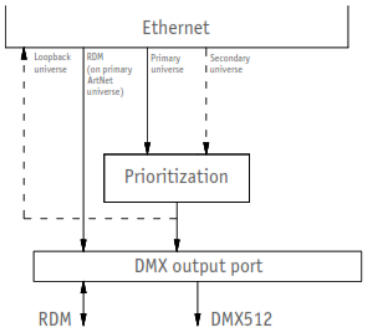
In the installation, operation, preventive maintenance, and repairs of the device, the requirements of the safety rules must be followed.
To ensure the safe and reliable operation of the devices, please observe the following requirements:
Use the device only for its intended purpose;
Do not use devices 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 90-250V

Merging

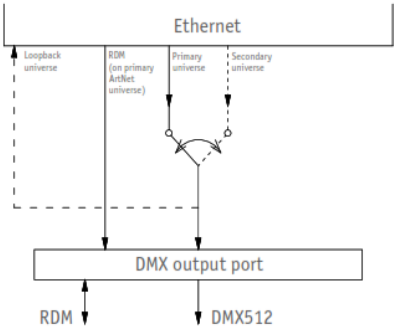
HTTP: highest takes precedence
LTP: latest takes precedence
AUTO: last modified takes precedence – intelligent merging mode
PRIORITY: for sACN streams with a priority tag
BACKUP: primary/secondary universe backup
TRIGGER and X-FADE: dedicated channel / dedicated universe controllable merging
Merging and other output port procedures for different merge modes are shown in Pic2, Pic3, Pic4, and Pic5.



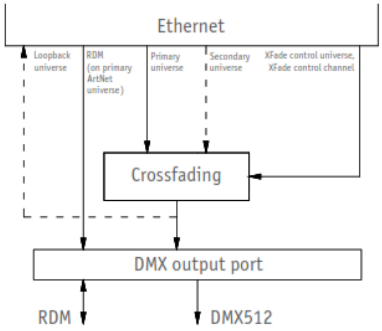
Pic.2 Output port procedures for LTP,HTP, Auto modes



Pic.3 Output port procedures for Priority mode



Pic.4 Output port procedures for Backup mode



Pic.5 Output port procedures for Trigger and XFade modes

Input processing

When configured as input, the DMX port of ArtGate can convert the DMX512 signal to ArtNet, sACN, or another type of universe. Universe type and protocol for input ports are always taken from primary universe settings. The input port can respond to RDM requests. Each port of one device has its own RDM UID.

Standalone merger

ArtGate devices may be used as standalone (without permanent Ethernet connection) mergers. When 2 or more input ports are configured with the same universe protocol/number, DMX streams from them can be merged and outputted to another output port which must have the same protocol/number too to provide such a feature. This configuration may work even if the device is not connected to Ethernet.

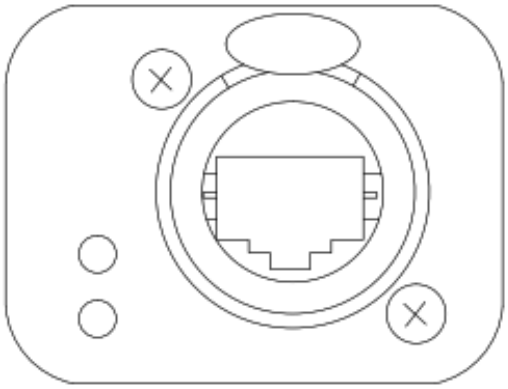
Trigger inputs

Some ArtGate models have trigger features. When the trigger is activated, the static scene stored in non-volatile memory is recalled and set for all DMX ports. A trigger is activated via “dry contact” inputs, which can be configured for working with normally opened and normally closed sensors (smoke sensors, buttons, etc). Each Trigger input can be also configured as an alarm input. When an alarm is activated, the device returns to normal work only after a power cycle or manual reset, not just input deactivation. By default, static scenes for all triggers are “all channels to 100%”. Users can set up the custom scene on all used DMX ports and then capture and save the scene for the necessary trigger.

Connection types

Ethernet connection

The device is connected to the network via RJ-45. All ArtGate devices have two LEDs to indicate the status of the network connection.

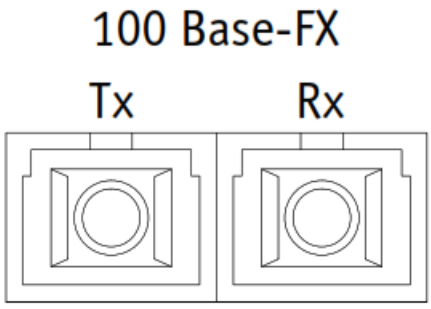


Pic.6 Ethernet connector

If there is no Ethernet connection, both LEDs are off, if the network is connected, one LED is constantly on, the other one flashes when data are transmitted and received over the network. Each device has unique IP and MAC addresses. The device's IP address, subnet mask, and other network parameters can be changed, but even in this case, the device is still available on the original IP address (2. x.x.x) for ping and http requests. Thus, even in case of loss of the new IP address, the device can be accessed on the network using the original IP address through the web interface.

Fiber optics connections

Artnet devices are equipped with 100 Mbit fiber optics ports (duplex SC connectors). The fiber optics port works as another network interface, with functionality similar to the Ethernet port. When connected both to fiber optics and ethernet, the device acts as a network switch/media converter.



Pic.7 Fiber optics connectors

DMX connections

XLR 5-pin connectors are used to connect external master and slave devices to DMX ports. If necessary, the device can be equipped with XLR three-pin connectors. Each port on the 2 and 4-port devices has 2 connectors — one M connector and one F connector, which allow the port to pass through the DMX bus. On 8 and 16-port devices and ArtGate Compact, each port has a single connector of type F. Each port is equipped with internal 120 ohms terminator which can be enabled via the web interface.

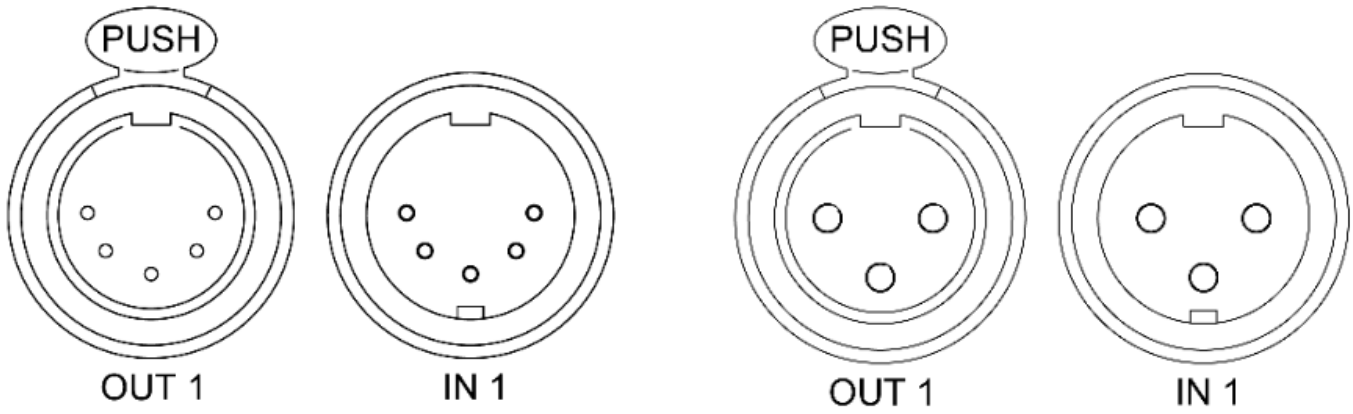


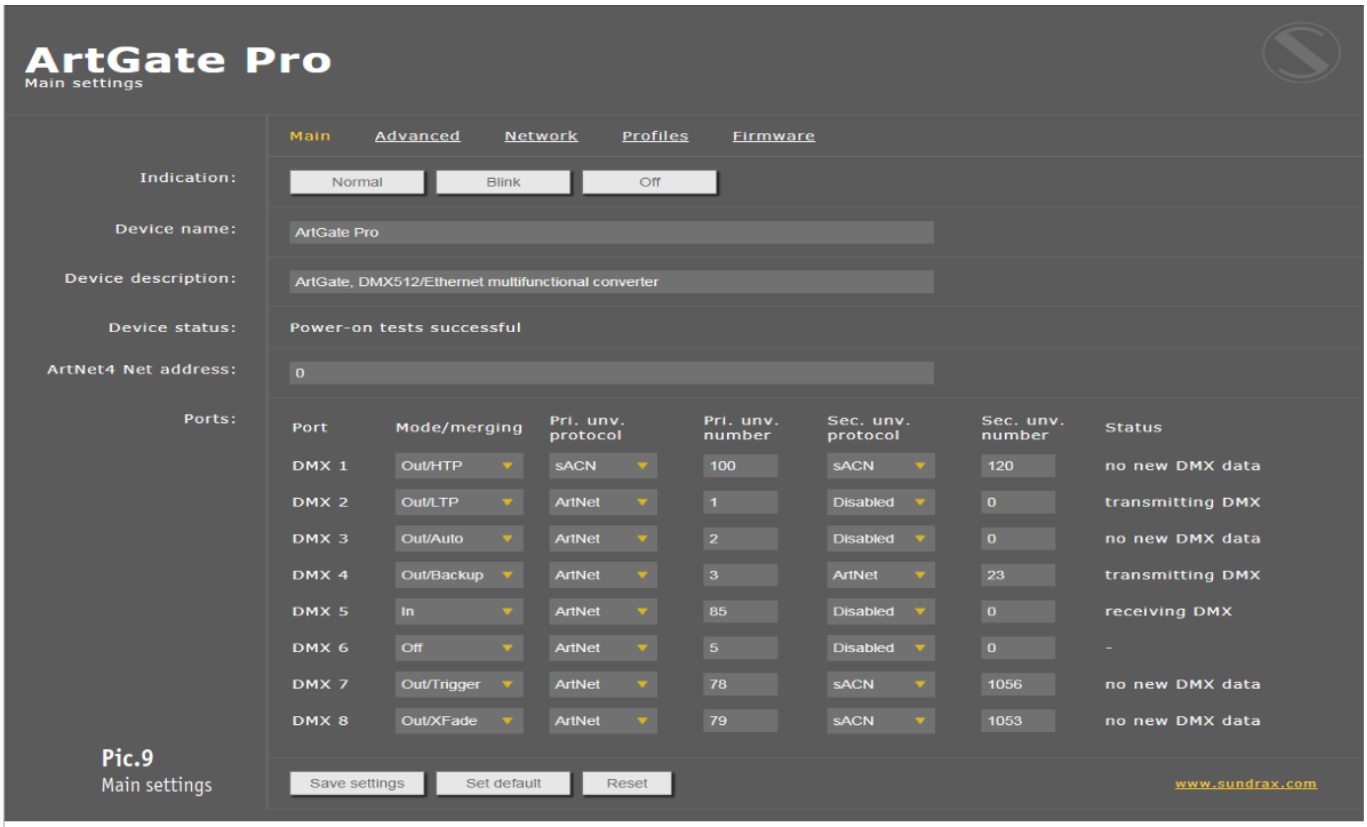
Рис.8 XLR(F) и XLR(M) DMX разъемы (5pins/3pins)

Web interface settings

ArtGate devices support configuring most of their parameters through the Web interface using the HTTP protocol (TCP port 80).

Main settings

To access the settings page enter the IP address of the device to the browser. The main settings page of the ArtGate device will be displayed.



Pic.9
Main settings

Indication Основные наст Normal Blink Off	switching LED indication mode Indication depending on the cu Search mode LEDs are off

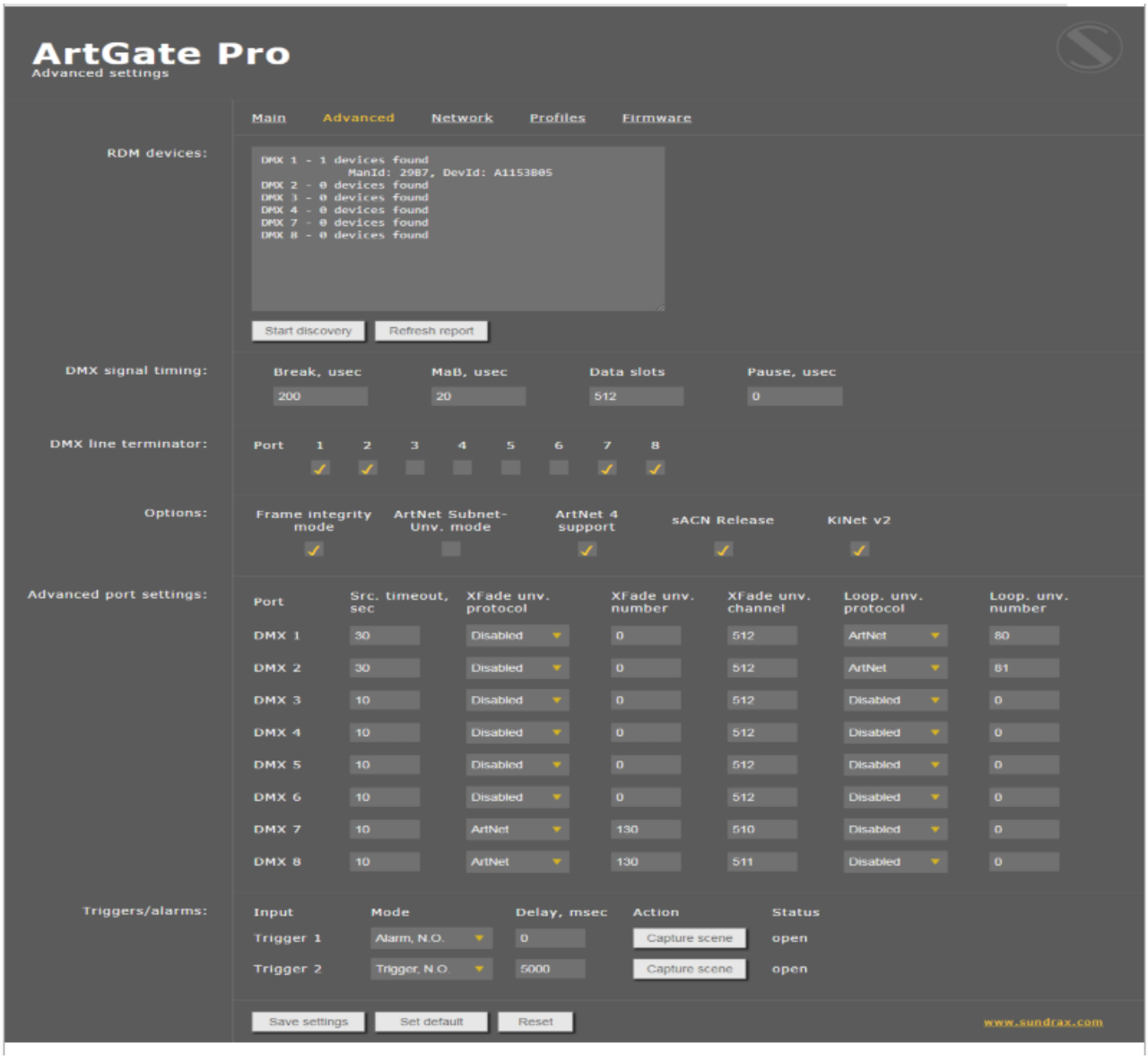
Device name	Editable device name (up to 17
Device description	Editable device description (up
Device status	The current state of the device
ArtNet 4 Net address	Network number (0-127, only fo

Ports	configuration and status for eac
Mode/merging	Port direction and merge mode
Pri. in. protocol	Primary universe protocol
Pri. in. number	Primary universe number
Sec. in. protocol	Secondary universe protocol
Sec. in. number	Secondary universe number
Status	The 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”.**



Pic.10
Advanced settings

RDM devices	RDM devices list, connected to
Start discovery	Searching connected devices
Refresh report	Refresh search/list state detecte

DMX signal timing	sets the parameters of the outpu
Break	from 4 to 1000 µs
MaB	from 4 to 1000 µs
Data slots	1 to 512
Pause	from 0 to 10000 µs
DMX line terminator	enables (selected) or disables (c
Options	between D+ and D- wires of DM
	enable/disable device features.

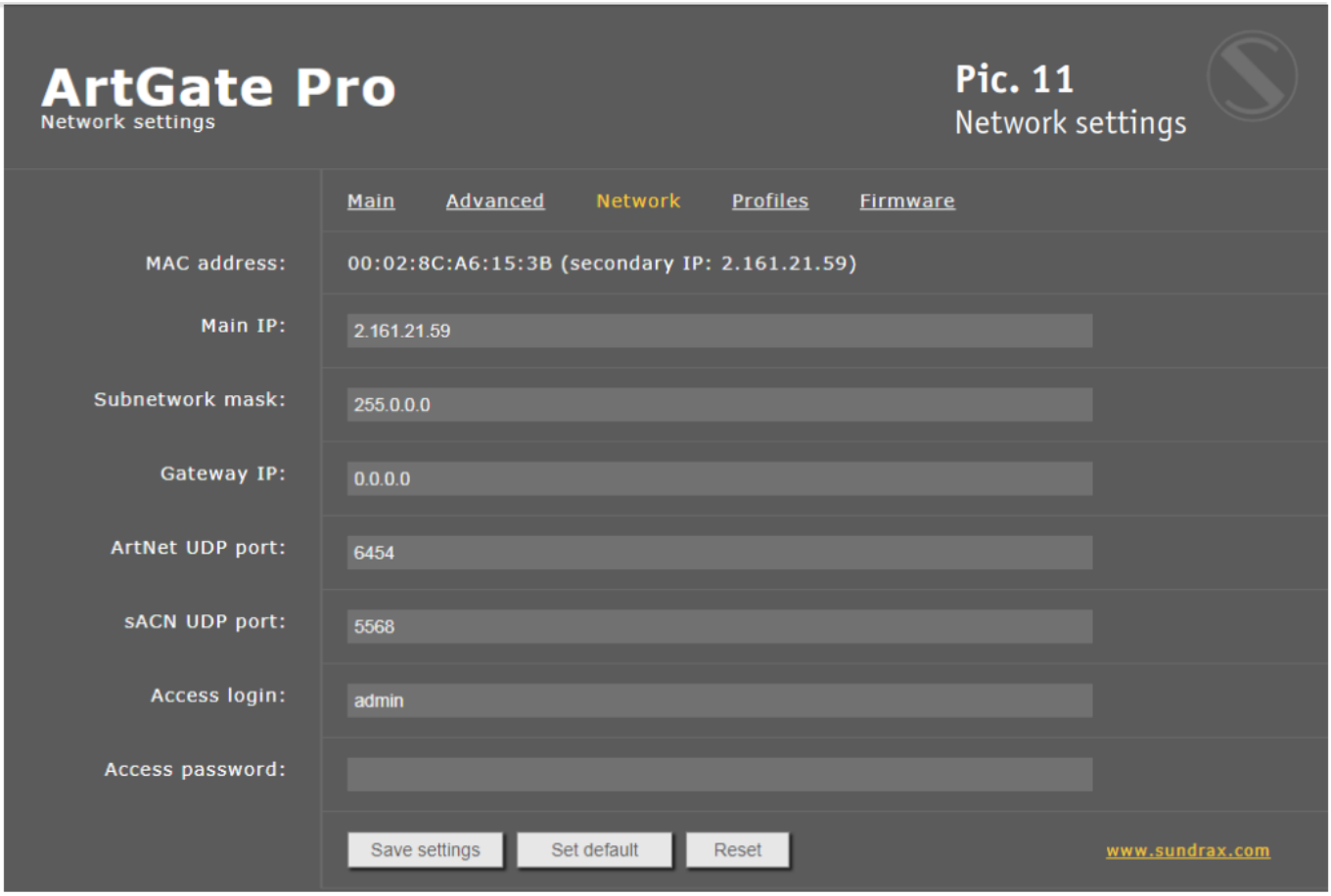
Advanced port settings	settings for advanced features fo
Src. timeout	Universe source timeout, in secc
Trigger/XFade in. protocol	made/Trigger control universe pr
Trigger/XFade in. number	made/Trigger control universe nu
Trigger/XFade control channel	made/Trigger control channel
Loop. in. protocol	Loopback universe protocol
Loop. in. number	Loopback universe number

Triggers/alarm input	(for ArtGates equipped with Trigg
Mode	ger/Sensor input
Delay, ms	Operating mode (disabled, trigge
Status	Delay for triggering in millisecon
Action	Current status of input (open, clo
	Save the current state of all DM

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”.

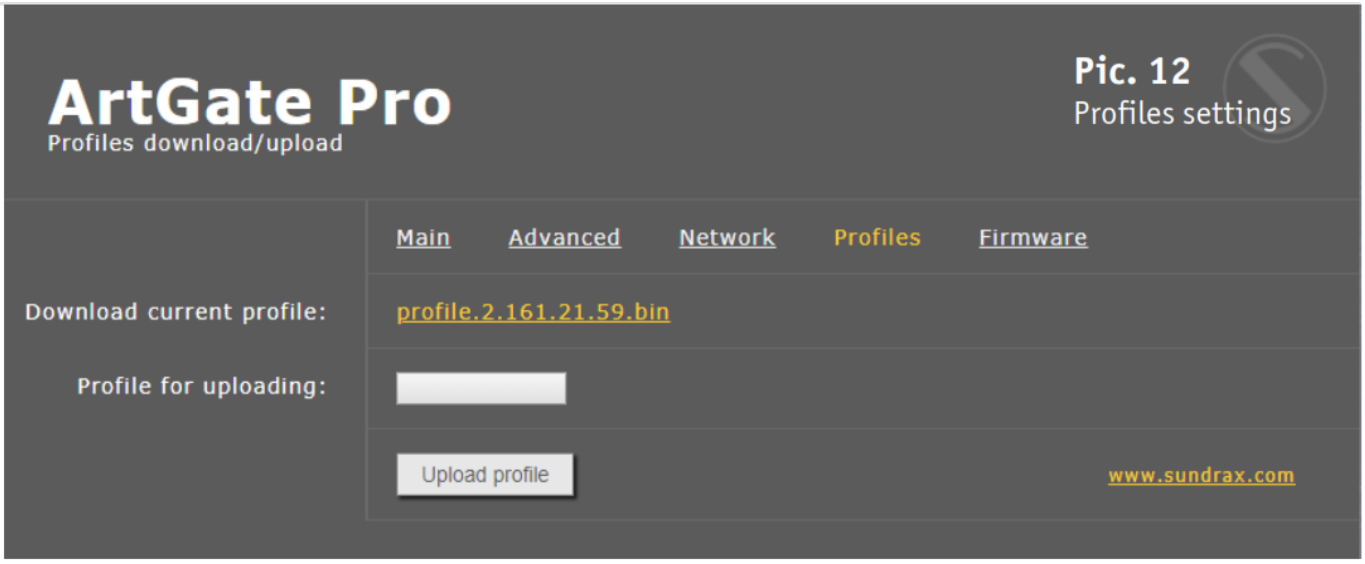


MAC address	Hardware address and secor
Main IP	Set the main network addres
Subnetwork mask	Set the mask of the IP-subne
Gateway IP address	Set the network address of th
Art-Net UDP port	(if the ability to operate via th
sACN UDP port	Set the UDP-port for the ArtN
Access login/password	Set the UDP-port for the sAC
	Login and password for acce
	If a password is empty, authe

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

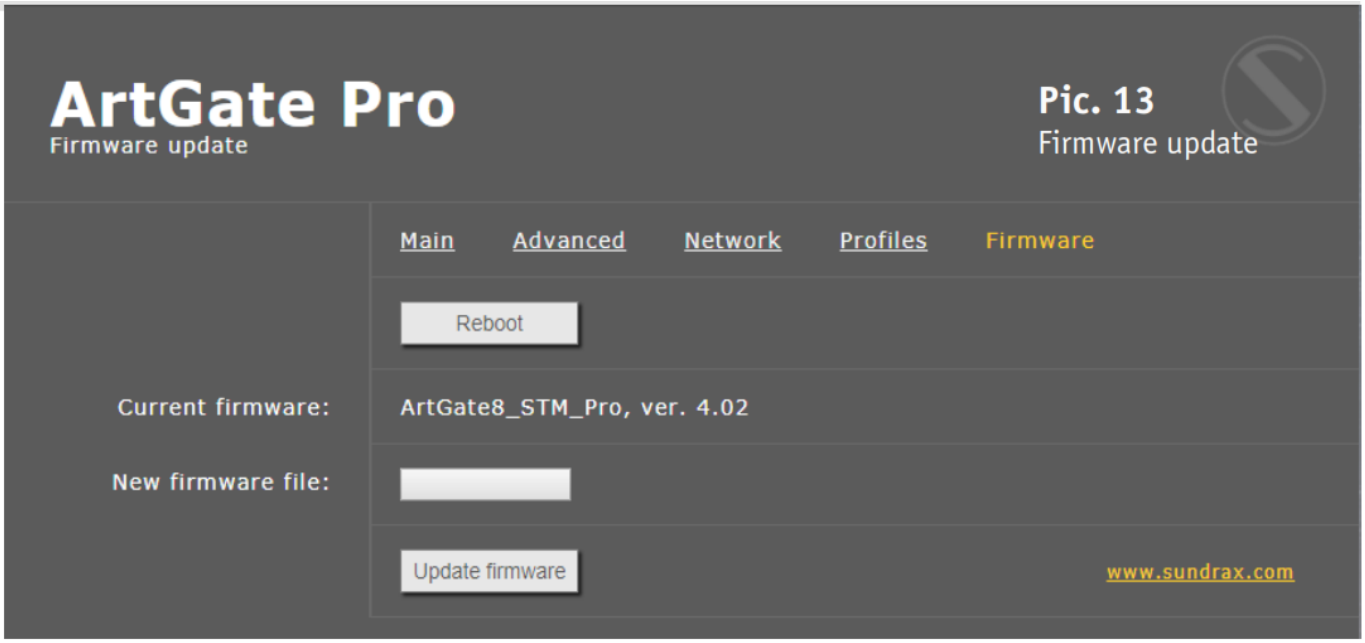
For profile operations, click on the link «Profiles».



Download current profile Profile for uploading Upload profile	Download the current setting Select the file of the previous To upload the selected profile

Firmware update

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



Reboot Current firmware New firmware file Update firmware	Device reboot button Current firmware name a Select firmware file to upl Upload the selected firmw

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

Technical maintenance

Maintenance, search, and troubleshooting should be performed by service personnel. The device should be free

from dirt, dents, and connecting cables, and wires must be intact and securely fastened.

Notes

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Please send all your warranty-related questions to **support@sundrax.com**
All Sunday products are covered by a 36 monthly warranty.
Bidirectional DMX<->ArtNet/sACN converter, splitter, booster, intelligent merger ArtGate Pro

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Documents / Resources

	**SUNDRAX electronics RGS-X-2D2B-DC ArtGate DMX Ethernet Converters** [pdf] User Manual RGS-X-DB-AC, RGS-X-2D2B-AC, RGS-X-DB-DC, RGS-X-2D2B-DC, ArtGate DMX Ethernet Converters, RGS-X-2D2B-DC ArtGate DMX Ethernet Converters, DMX Ethernet Converters, Ethernet Converters, Converters

References

- **Sundrax Electronics - Professional Lighting Management**