User and installation manual

AMPINEL

ENGLISH: PAGE 1
DEUTSCH: SEITE 33

Current as of March 2026

All information contained in this manual is subject to change without prior notice.
All rights reserved.

Table of contents

1. Preface....4
2. Safety precautions....4
3. Scope of delivery....5
4. Assembly instructions....5
5. Electrical connections....6
5.1. AMPINEL connector overview....6
5.2. Connector "Power in"....6
5.3. Connector "Power out"....7
5.4. Notes for multi rail operation....7
5.5. Connector "USB"....7
5.6. Connector "T1" for temperature sensor....7
5.7. Connector "S1" – signal output for power switch....8
5.8. Connector "S2" – signal output for speed or switching signal....8
6. AMPINEL push button....8
7. aquasuite software....8
7.1. Installation of the aquasuite software....8
7.2. Basic operation....9
7.3. Symbols in the headlines....9
8. Overview pages (aquasuite)....10
8.1. Desktop mode....10
8.2. Creating new overview pages and activating edit mode....10
8.3. Adding new elements....10
8.4. Editing existing elements....11
8.5. Values and names....11
8.6. Detailed data elements....11
8.7. Log data chart....11
8.8. User defined: Images, text, drawing elements....11
8.9. Export and import of overview pages....12
9. Data quick view and data log (aquasuite)....12
9.1. Log settings....13
9.2. Analyze data....13
9.3. Manual data export....14
9.4. Automatic data export....14
10. Device overview and connection quality....15
10.1. Color-coded visualization of contact and cable status....15
10.2. Visualization of currents and balancer intervention....15
10.3. Load test....15
11. Sensor configuration....16
11.1. Hardware sensor "Power"....16
11.2. Hardware sensor "Total current"....16

Aqua Computer GmbH & Co. KG
Gelliehäuser Str. 1, 37130 Gleichen
© 2025-2026

11.3. Hardware sensor “Current deviation”....16
11.4. Hardware temperature sensors 16
11.5. Hardware sensor input voltage (VCC In)....16
11.6. Software sensors....16
12. Display configuration and information pages....18
12.1. Display pages....18
12.2. Display settings....18
13. RGBpx configuration....19
13.1. Create and configure additional LED controllers....19
13.2. Modify existing LED controllers....19
13.3. Modify LED assignments....19
13.4. Duplicate LED controllers....20
13.5. Delete LED controllers....20
14. Alarm management....20
14.1. Alarm levels....20
14.2. Alarm actions....21
14.3. Alarm settings....22
14.4. Alarm log....22
15. Profiles....23
15.1. Manual profile selection....23
15.2. Automatic profile selection....23
15.3. Profile configuration....23
16. System settings AMPINEL....23
16.1. Device information....23
16.2. Factory defaults....24
16.3. Graphics card power limit....24
16.4. Balancer power limit....24
16.5. Time zone, daylight saving time, time format....24
16.6. Firmware update....24
17. Playground (aquasuite)....25
17.1. Input values....25
17.2. Virtual Software Sensors....25
17.3. Output actions....26
17.4. Global profiles....26
17.5. Hotkeys....27
18. aquasuite web....27
18.1. Data export....27
18.2. Data access....28
18.3. Data import....28
19. Basic settings (aquasuite)....28
19.1. Language....28
19.2. Create overview pages....29

19.3. Reorder menu items....29
19.4. Units....29
19.5. Event log....29
19.6. Application start-up....29
19.7. Service administration....29
19.8. Audio and video....30
19.9. Updates and update service....30
19.10. E-mail and MQTT accounts....31
20. Technical details and care instructions....31
20.1. Technical details....31
20.2. Care instructions....31
20.3. Waste disposal....31
20.4. Contact Aqua Computer....31

1. Preface

AMPINEL is a power supply balancer for graphics cards with 12V-2x6 power connector, equally suited for liquid cooled or air cooled graphics cards.
As a balancer, AMPINEL actively regulates the current on the individual rails while also taking heat generation at the connector into account. To do this, AMPINEL determines the quality of the connections through a complex analysis of the measurement data.
AMPINEL is equipped with an OLED display, a button, and multicolor lighting. The data to be shown on the display can be selected in aquasuite. Several alternating views are possible. Currents, voltages, and other AMPINEL measurements are quickly visualized and can assist in troubleshooting the cable.
Considering the fast technical development, we reserve the right to perform alterations to the products at any time. It therefore is possible that your product does not correspond precisely to the descriptions or especially the illustrations in this manual.

2. Safety precautions

The following safety precautions have to be observed at all times:

- Read this manual thoroughly and entirely!
- Save your data onto suitable media before working on your hardware!
- This product is not designed for use in life support appliances, devices, or systems where malfunction of this product can reasonably be expected to result in personal injury. Aqua Computer GmbH & Co. KG customers using or selling this product for use in such application do so at their own risk and agree to fully indemnify Aqua Computer GmbH & Co. KG for any damages resulting from such application!

© 2025-2026

- The device may become very hot reaching temperatures of up to 100 °C during operation. Do not touch the device before checking its temperature and let it cool down for at least five minutes after use.
- **Data loss must be expected if AMPINEL alarm actions are triggered, as individual applications are terminated, the computer or the graphics card are shut down! Do not use AMPINEL if you would rather accept hardware damage than data loss!**

3. Scope of delivery

- One AMPINEL device
- One internal USB cable (replacement part no. 53215)
- Quick start manual

4. Assembly instructions

1. Turn off the PC's power supply unit and disconnect the power cord from the wall outlet.
2. If the graphics card is already connected to a 12V-2x6 power connector of the PSU, disconnect it from the graphics card. This will require releasing the locking mechanism by pressing the tab.
3. Connect the 12V-2x6 power supply line from the PSU to the corresponding "Power in" header of the AMPINEL. Ensure that the connector is fully inserted and secured by the locking mechanism.
4. Connect the supplied USB cable to the corresponding header of the AMPINEL. For details regarding connection to the motherboards, please refer to chapter 5.5.
5. Optional: Connect addition accessories to the AMPINEL, see chapter 5. for details.
6. Insert AMPINEL into the 12V-2x6 connector of the graphics card. Ensure that the connector is fully inserted and secured by the locking mechanism. AMPINEL must not collide with the graphics card, risk of short circuit!
7. Ensure that no forces (pull, push, twist) are transmitted to the connectors and the device via the cables! Adjust the cable routing accordingly.
8. Ensure that AMPINEL does not collide with the PC case. AMPINEL may reach temperatures of up to 100 °C during operation, therefore maintain a distance of at least 2 cm to sensitive components. To ensure adequate cooling, AMPINEL should be mounted so that there is air flow over the heat sink.

After confirming that the AMPINEL is correctly installed, you may reconnect the PSU to the wall outlet and start up the computer.

5. Electrical connections

5.1. AMPINEL connector overview

ATTENTION: Completely turn off your power supply or disconnect the mains power cord from the wall outlet before connecting or disconnecting any cables to/from the device!

5.2. Connector "Power in"

Connector for a 12V-2x6 power supply cable from the PSU. The polarity of the connector is determined by its shape. Ensure that the connector is fully inserted and secured by the locking mechanism. Also make sure that no forces (pull, push, twist) are transmitted to the connectors and the device via the cables!
Compatible power levels (coded via Sense wires from the power supply or adapter cable): 300 watts, 450 watts, or 600 watts.

Aqua Computer GmbH & Co. KG
Gelliehäuser Str. 1, 37130 Gleichen
© 2025-2026

5.3. Connector "Power out"

Insert this connector into the 12V-2x6 power supply header of the graphics card. Ensure that the connector is fully inserted and secured by the locking mechanism. AMPINEL must not collide with the graphics card, risk of short circuit!

5.4. Notes for multi rail operation

The balancing functions of the AMPINEL are only available if both the power supply from the computer power supply and the graphics card are designed as single-rail devices. In a multi-rail configuration, the currents are not distributed across the individual lines as expected during balancing. This is detected by AMPINEL and balancing is deactivated. However, the alarm functions of AMPINEL remain available.
You will be notified in the aquasuite if AMPINEL has detected a multi-rail configuration. Some computer power supplies can be switched between multi-rail and single-rail operation or have several 12V-2x6 headers with different rail configurations. If necessary, check the operating instructions for the power supply.

5.5. Connector "USB"

This connector is used for USB communication with a PC. Connect to an internal USB header of your motherboard. Take special care to make sure the pin alignment matches your motherboard!
The corresponding connector on the motherboard is usually a 9 pin connector with two independent USB ports. Both rows of 4/5 pins can be used to connect an USB device. The black wires (GND) are to be connected to the side of the missing pin, see picture with colored pin assignment.

Pin assignment:
Pin 1 +5 V (red)
Pin 2 D- (white)
Pin 3 D+ (green)
Pin 4 GND (black)
Pin 5 not connected

5.6. Connector "T1" for temperature sensor

Connector for a temperature sensor. For monitoring the PSU power cables to the graphics card, using the sensor with order code 53211 is recommended
Compatible sensors:

- Temperature sensor inline G1/4 for VISION (53218)
- Temperature sensor inner/outer thread G1/4 for VISION (53219)
- Temperature sensor G1/4 for VISION (53220)
- Temperature sensor 70 cm for VISION (art. 53211)
- Temperature sensor 5 cm for VISION (art. 53227)

5.7. Connector "S1" – signal output for power switch

This signal output can be connected to the power switch header of the motherboard using an additional specialized cable (53216, not included in delivery).
The function of this output can be configured, see alarm settings in chapter 14. for details.

Pin assignment: Pin 1: open drain max 3.3 V / 5 mA
Pin 2: do not connect!
Pin 3: open drain max 3.3 V / 5 mA

5.8. Connector "S2" – signal output for speed or switching signal

This signal output can be connected to a fan connector using an additional specialized cable (53294, not included in delivery). Alternatively, this output can be used as a switching signal.
The function of this output can be configured, see alarm settings in chapter 14. for details.

Pin assignment: Pin 1: open drain max 3.3 V / 5 mA
Pin 2: do not connect!
Pin 3: open drain max 3.3 V / 5 mA

6. AMPINEL push button

By pressing the button located on the side of the device (next to the illuminated area), the configured display pages can be navigated.
In case of an alarm, the acoustic alarm can be deactivated by pressing the button.
The button can also be used to reset AMPINEL to factory defaults. To do so, press and hold the button while the PC is turned off. Turn the PC on and release the button once content is shown in the display.

7. aquasuite software

The Windows software aquasuite is an extensive software suite and can be used for configuration and monitoring. The software is not required for operation though. All configuration parameters can be saved into the device's memory.
Please note: Depending on the type of product you are using, some features may not be available for your device.

7.1. Installation of the aquasuite software

For configuration and monitoring of our products with USB interface, the aquasuite software is available for download from our website www.aqua-computer.de. You will find the setup program in the support section of the website under Downloads/Software.

© 2025-2026

The setup program checks all connected USB devices for embedded update service periods and offers various aquasuite versions depending on detected devices. If no device with update service for the latest aquasuite version is found, a warning is displayed and older aquasuite versions that do not require an update service purchase can be selected for installation. For installation and update service validation, an internet connection is required.
The latest aquasuite version may also be installed if no suitable update service period has been found in a device. Subsequently, update service may be purchased or an existing key may be entered within the aquasuite. These functions can be accessed in the aquasuite/Updates tab.

7.2. Basic operation

The program window is divided into two main areas. On the left side, a list of "overview pages", data quick view, data logger, device pages, aquasuite web and aquasuite configuration is displayed, the right side shows the details of the currently selected list element. The list can be hidden or restored by clicking the arrow symbol in the upper left corner.
List elements may be minimized or maximized for easier access by clicking the title bar. The title bars may contain various symbols that will be explained in the following chapter.

7.3. Symbols in the headlines

Click the plus symbol in the "Overview pages" headline to create a new overview page.

Clicking the monitor symbol will toggle desktop mode for this overview page. While desktop mode is active, the color of the symbol will change to orange.

Overview page: Clicking the padlock symbol will unlock or lock this overview page for editing. Device: Device can not be used due to update service problems, see "Updates and update service" for details.

Clicking the gear symbol will access the basic configuration page of the selected list element.

In order to save all settings into a device, click the disk symbol in the headline.

This symbol indicates that communication with this device is not possible at the moment. Check USB connection and power supply of the device if necessary.

8. Overview pages (aquasuite)

Current sensor readings and diagrams from all supported devices can be displayed in overview pages. For each device a pre-configured overview page is automatically generated the first time the device is connected to the PC. These pages can be individually modified and new pages can be created. Within one overview page, data from all connected devices can be accessed.

8.1. Desktop mode

Each overview page can be displayed directly on your desktop. You can enable desktop mode for an overview page by clicking the monitor symbol in the list of overview pages. Desktop mode can only be enabled for one overview page at a time. With desktop mode enabled, elements of the overview page may cover program symbols on your desktop, but mouse clicks are transmitted to underlying desktop symbols.
If a overview page is unlocked for editing while desktop mode is active, the page will be displayed in the aquasuite window for editing and the current desktop will be displayed as background for your convenience.

8.2. Creating new overview pages and activating edit mode

In order to create a new overview page, click the plus symbol in the headline "Overview pages".
Existing overview pages can be unlocked for editing by clicking lock symbol in the page listing.

8.3. Adding new elements

If the currently selected overview page is unlocked for editing, a plus symbol is displayed in the top right corner of the screen. Click the symbol to add a new element to the page and select the desired element from the following list. All available data is displayed in a tree diagram, click the arrow symbols to access individual items.
Confirm your selection by clicking the check symbol in the bottom right corner. The new element will be displayed in the upper left corner and the configuration window is displayed. Configure the element as described in the next chapters.

Aqua Computer GmbH & Co. KG
Gelliehäuser Str. 1, 37130 Gleichen
© 2025-2026

8.4. Editing existing elements

If the currently selected overview page is unlocked for editing, right-clicking an element will access a context menu.
To access the settings of an element, select "Settings" in the context menu or simply double click the element.
If you want to move an element, "drag" this element while holding down the mouse button. Release the mouse button when the element is at the desired position.

8.5. Values and names

If the currently selected overview page is unlocked for editing, right-click an element and select "Settings". You may also double click the element.
Font face, size and color as well as position, decimal places and unit can be configured for individual values.

8.6. Detailed data elements

If the currently selected overview page is unlocked for editing, right-click an element and select "Settings". You may also double click the element. Apart from position, size and color, the style of the element can be selected and configured. The following styles are available:

- Headline only: Compact display as a headline.
- Text: Displays the numerical value in a box with a headline.
- Bar graph: Displays numerical value as well as bar graph.
- Chart: Displays the value in chronological sequence as a chart.
- Gauge: Displays the value as a analog gauge.

All display styles offer extensive configuration options, additionally statistical data such as minimum, maximum and average can be displayed.

8.7. Log data chart

This element can be used to display charts on overview pages. The charts have to be created using the data log functionality of the aquasuite before they become available for overview pages. Please refer to the next chapter for details. Once a chart has been configured, it can be selected from the "Chart selection" list on the "Display" tab of the settings dialog.

8.8. User defined: Images, text, drawing elements

By using user defined controls, simple drawing elements such as circles, rectangles and texts as well as images and more sophisticated elements can be added to an overview page. To do so, add an "User defined" element to an overview page. Switch to the "Display" tab in following dialog box, select the type of element to be

created from the drop down menu and confirm your selection by clicking the "Load preset" button. Depending on the type of element, an additional dialog may appear before the code (XAML, Extensible Application Markup Language) of the new element is displayed in the lower part of the dialog window. You may want to customize the code. By clocking the "Ok" Button, the new control is saved to the overview page.
Step-by-step example to add an image: Select "Image" from the drop down menu and click the "Load preset" button. Select an image file using the following file selection dialog. The code is then displayed in the lower part of the dialog window an can be modified. Save the new control by clicking the "Ok" button. The picture will be displayed on the overview page.
More complex controls such as data bindings and animations are also available but will require some programming experience for configuration.

8.9. Export and import of overview pages

Elements and complete overview pages can exported from the aquasuite and can then be imported either on the same PC or on other PCs. For export as well as import, the overview page must be in edit mode.
To export a complete page, right click a free spot of the page and select "Export page" from the context menu. To export individual elements, select the element or elements, perform a right click and select "Export selected" from the context menu.
For import, right click a free spot of the page and select "Import page" or "Import items"from the context menu. Using "Import page", the current page will be deleted and only the imported page items will be displayed, using "Import items" will add the items from file to the current page without altering the existing items. During import, the elements will be assigned to devices using the following scheme:
If a device with identical serial number is found on the computer, no changes are made.
If no device with identical serial number is found on the computer, the element will be assigned to the first device found of identical type.
When importing complex pages with elements referring to more than one device, it is recommended to edit the device assignment in the file using a text editor prior to importing.

9. Data quick view and data log (aquasuite)

All data currently monitored by the aquasuite can be accessed in the "Data quick view" section. This includes data from connected USB devices as well as hardware data supplied by the Aqua Computer background service. Displayed data may be filtered using the text box next to the magnifier icon, a chart shows the development over a maximum of ten minutes. All data shown here is not stored permanently.

Aqua Computer GmbH & Co. KG
Gelliehäuser Str. 1, 37130 Gleichen
© 2025-2026

In contrast, the “Data log” may be used to selectively and permanently store data from all connected Aqua Computer devices and hardware data supplied by the background service. Logged data can then be analyzed by creating charts or be exported to files. Data is only logged while the aquasuite software is being executed.

9.1. Log settings

The log settings can be accessed by clicking the “Log settings” element below the “Data log” headline in the listing. To log data, create a new log data set by clicking the plus symbol in the upper right corner of the settings window. Enter name, time interval and configure automatic deletion of old data to meet your requirements. You may then add the data sources to log by clicking the plus symbol in the “Data sources” window section. You may add an unlimited number of data sources to each log data set, the total number of log data sets is also unlimited.

9.2. Analyze data

Logged data can be visually evaluated as charts. To do so, select “Analyze data” below the “Data log” headline in the listing. The chart will initially be empty, directly below the chart are eight buttons to modify the chart. In the lower section of the window, the chart data can be configured.
To add data to the chart, first select the “Data sources” tab in the chart configuration and select a data set to be displayed. If no data sources are available, you will have to configure the log settings as described in the chapter “Log settings” of this manual. Select the time period to be displayed on the right side of the window and add the data to the chart by clicking the “Add data to chart” button. Repeat this procedure if you want to display more than one data set in the chart.
You may modify the chart using the “Chart setup” and “Data series setup” tabs. Finally, you can use the “Chart manager” tab to save the current chart configuration and to load or delete previously saved configurations. All saved chart configurations will be available on overview pages for the “Log data chart” element.
The currently displayed chart can be edited by using the buttons directly below the chart and may also be saved as an image file. The button corresponding to the currently selected function is highlighted by an orange frame. Please refer to the following list for details on each function:

To save the currently displayed chart as an image file, click the floppy disk symbol and select a name and location in the following dialog.

This function can be used to add horizontal lines to the chart. While this function is activated, simply click into the chart to add a line at the current cursor position.

This function can be used to add vertical lines to the chart. While this function is activated, simply click into the chart to add a line at the current cursor position.

This function can be used to add annotations to the chart. While this function is activated, simply click into the chart to add an annotation at the current cursor position. By clicking into the text box, you may edit the text. You may also drag the little circle beside the text box to move the connecting line to the desired position. Use drag and drop to move existing annotations.

This function can be used to remove horizontal/vertical lines or annotations from the chart. While this function is activated, simply click the element to be removed.

This function can be used to move the visible portion of the chart. Press and hold the mouse button while moving the cursor in the chart to select the position to be displayed, then release the button.

This function can be used to zoom in and out. Use the mouse wheel or select the area to be displayed. You can reset the zoom settings by double-clicking in the chart area.

This function can be used to reload and update the chart.

This function will completely remove the chart.

9.3. Manual data export

Saved data can be exported from the data log into a XML file. To do so, select "Analyze data" below the "Data log" headline in the listing. Select the "Data sources" tab in the chart configuration and select a data set to be exported. If no data sources are available, you will have to configure the log settings as described in the chapter "Log settings" of this manual. Select the time period to be exported on the right side of the window and start the export process by clicking the "Export data" button. Enter a file name and path in the following dialog window.

9.4. Automatic data export

The automatic data export feature can be used to save data from the aquasuite into an XML file on the hard disk or in the RAM ("memory mapped file") in a regular time interval. The automatic data export will always overwrite the previously saved data, so the file always contains only the most recent data set. Select "Automatic data export" below the "Data log" headline in the listing to access the settings screen. Create a new export data set by clicking the plus symbol in the upper right corner of the screen. Enter name, path and time interval to meet your requirements. You may then add the data sources to log by clicking the plus symbol in the "Data sources" window section. You may add an

© 2025-2026

unlimited number of data sources to each export data set, the total number of export data sets is also unlimited.

10. Device overview and connection quality

Select “AMPINEL” from the device list below the “AMPINEL” entry. The device overview shows all important measured values on a single, clearly structured page and visualizes the electrical connection quality.

10.1. Color-coded visualization of contact and cable status

The individual contacts of the connectors are color-coded in the aquasuite to visualize their status. Clicking on one of the contacts opens a window with details about the contact and an explanation of the color codes.
As long as no alarms are triggered, no action is required. Avoid unnecessary plugging and mechanical stress on the connectors, as every movement causes mechanical wear.
The status of a contact may change during operation, for example due to temperature changes under load. The contact status is regularly re-determined by AMPINEL while the current total load exceeds 130 W.

Note: The contact status cannot be determined in a multi-rail configuration of power supply or graphics card! You will be notified in the aquasuite if AMPINEL has detected a multi-rail configuration. Some computer power supplies can be switched between multi-rail and single-rail operation or have several 12V-2x6 headers with different rail configurations. If necessary, check the operating instructions for the power supply.

10.2. Visualization of currents and balancer intervention

The middle section displays the actual currents and the control interventions of the balancer for each line. The lowest resistance value that can be set by the balancer is 5 milliohms.
The lower section contains a diagram that records the current on each line over time.

10.3. Load test

For a meaningful measurement of contact and wire quality, at least 130 W of electrical power must flow through AMPINEL.
A 3D test application is integrated into the aquasuite to generate load on the graphics card. You can access the load test at any time by clicking on the corresponding icon at the top right of the device overview.

As long as the status of the connectors has not yet been determined by AMPINEL, a power-limited version of the load test can be activated using the "Determine status" button. This test ends automatically after approx. 150 seconds.
If the status of the connectors has already been determined, the adjustable version of the load test can be started. A load preset can be defined using a slider.

11. Sensor configuration

Select "Sensors" from the device list below the "AMPINEL" entry. In the upper area, the twenty available sensors are displayed including current data. In the lower area, the currently selected sensor can be configured.

11.1. Hardware sensor "Power"

This sensor provides the total electrical power supplied to the graphics card through AMPINEL.

11.2. Hardware sensor "Total current"

This sensor provides the total current supplied to the graphics card through AMPINEL.

11.3. Hardware sensor "Current deviation"

This sensor provides the difference in current between the line with the lowest and highest load on the AMPINEL.

11.4. Hardware temperature sensors

Four sensors in the list represent the internal temperature sensors of the AMPINEL and the external temperature sensor connector "T1".
The "Temp. In" and Temp. Out" sensors are associated with internal sensors located at the AMPINEL input and output connectors. The "Hotspot" sensor always provides the highest measured value of all internals sensors of the AMPINEL.

11.5. Hardware sensor input voltage (VCC In)

This sensor provides the average value of the input voltages on the six lines.

11.6. Software sensors

The last twelve sensors in the list are software sensors and can be used to transmit sensor data that is not physically available to the AMPINEL from the computer by USB connection.

During installation of the aquasuite, the background service "Aqua Computer Service" is also installed. This service supplies various data from PC components and

Aqua Computer GmbH & Co. KG
Gelliehäuser Str. 1, 37130 Gleichen
© 2025-2026

imported data from aquasuite web, additionally sensor data provided by third party software can be accessed. In order to access third party software data, the third party software has to be correctly installed, configured and running.
Currently, the "Aqua Computer Service" supports data transfer from "HWiNFO" (REALiX, Freeware, www.hwinfo.com) and "AIDA64" (FinalWire Ltd., subject to license fees, www.aida64.com).

In the HWiNFO settings menu, "Shared Memory Support" must be activated and the "Sensor Status" window has to be open:

In the AIDA64 preferences menu, "Enable shared memory" must be activated in the "External Applications" sub-menu:

By clicking the plus symbol labeled "Data source", one of the provided sensors can be assigned to the selected software sensor.
For each software sensor, a scale factor and an offset may be configured for manipulation of the displayed sensor value. Data from third party software regularly requires the scale factor to be adjusted.

12. Display configuration and information pages

Select "Display" from the device list below the "AMPINEL" entry.

12.1. Display pages

A variety of predefined informational pages can be shown on the AMPINEL display. Many display pages can be customized individually. Select the display page to be customized by mouse click to access the configuration options. Depending on page type, texts, data sources, icons and bar graph scale can be modified.

12.2. Display settings

Display brightness and page interval can be adjusted.
As with all OLED displays, the brightness of active pixels will reduce over time. For a homogeneous wear of all pixels, the display can automatically be inverted half

© 2025-2026

of the time. In order to counteract existing wear, the inverted mode can be permanently activated.

13. RGBpx configuration

Select “RGBpx” from the device list below the “AMPINEL” entry.
AMPINEL is equipped with eight LEDs. In case of an alarm, the illumination configuration will be temporarily overridden to visually signal the current alarm level, see chapter 14.
If no RGBpx controllers are assigned, the LEDs will show a bar graph representation of the current total power consumption of the graphics card, scaled from zero to 600 watts.

13.1. Create and configure additional LED controllers

After selecting a RGBpx output, new LED controllers can be added by clicking the plus symbol. Alternatively, use the right mouse button and select “New” from the context menu. Select the desired effect from the superimposed list of available effects. The controller name can be altered from its default as well. Confirm you selection by clicking the check symbol in the lower right corner.
The configuration of the newly added LED controller can be modified in the lower area of the window. Most effects offer extensive customization options such as color selection or speed adjustment. Additionally, many effects can be configured to modify effect parameters depending on current sensor data.
In total, up to two LED controllers can be configured.

13.2. Modify existing LED controllers

Existing LED controllers can be selected by clicking the corresponding color bars, the configuration of the selected controller can then be modified in the lower area of the window.
By clicking the gear symbol, the effect to be displayed can be changed and the controller name can be altered. Confirm you selection by clicking the check symbol in the lower right corner.

13.3. Modify LED assignments

Existing LED controllers can be moved by using “drag&drop”on the corresponding color bars. The position of the color bar defines the position of the effect on the LEDs. Controllers positioned further up in the list have higher priority than controllers further below.
The length of the bar (corresponding to the number of LEDs assigned) can be changed by moving the right/left edge of the color bar.

13.4. Duplicate LED controllers

Select the LED controller(s) to be duplicated and click the duplicate symbol to create new LED controllers using identical configurations. Alternatively, use the right mouse button and select “Duplicate” from the context menu.
These duplicated controllers will initially have configurations identical to the original controllers, but can be modified without affecting the original controllers.
In total, up to two LED controllers can be configured.

13.5. Delete LED controllers

Select the LED controller(s) to be deleted and click the delete symbol to delete the selected controllers. Alternatively, use the right mouse button and select “Delete” from the context menu.

14. Alarm management

Select “Alarms” from the device list below the “AMPINEL” entry.

On the alarm page within the aquasuite, active alarms are highlighted with a red background color. Alarms that have been active at least once since device start-up, but are not active presently, are highlighted with a yellow background color.

14.1. Alarm levels

The AMPINEL alarm management system is divided into eight levels. If no alarm limits are currently exceeded, alarm level zero indicates error-free operation. If alarm limits are exceeded during operation, the first alarm level with the assigned alarm actions is activated after an adjustable delay (factory setting 2 seconds). If alarm limits are still exceeded after a further 10 seconds, the next higher alarm level with the associated alarm actions is activated. This continues until the alarm limits are no longer exceeded or, at the highest alarm level, the power supply to the connected graphics card is completely interrupted.
This step-by-step model ensures that, in the event of an alarm, the strain on connectors, cables, and AMPINEL itself is reduced as gently and effectively as possible.
Alarm levels 1 to 5 can be deactivated individually. Deactivated alarm levels are skipped and the next higher alarm level is activated immediately. The alarm actions of deactivated alarm levels are not executed. In the factory settings, alarm levels 4 and 5 are deactivated because they can only trigger actions with optional accessories. Alarm levels 6 and 7 cannot be deactivated in order to ensure that the graphics card is always switched off in the event of an alarm.
To execute alarm actions (except hotkeys) for alarm levels 1 to 5, a USB connection between the computer and AMPINEL must be established, and the aquasuite

background service must be installed and started. For hotkeys, only a USB connection is required.

In extreme cases, AMPINEL can activate alarm levels 6 or 7 without first triggering the lower alarm levels. In these cases, there is an acute risk of hardware damage, which requires the graphics card to be shut down immediately. This can be triggered by extreme temperatures at the internal temperature sensors of the AMPINEL, extreme currents at individual contacts, or power surges.

14.2. Alarm actions

All alarm levels from alarm level 1 trigger alarm actions. The settings for the alarm buzzer and for signal output "S2" can be adjusted using sliders. The sliders control the alarm level at which the buzzer is activated and up to which alarm level the signal output is still switched on. Each alarm is also accompanied by a corresponding alarm message on the AMPINEL display.
In the event of an alarm, the alarm buzzer can be deactivated by pressing the button on the side of the AMPINEL or by pressing the corresponding button in the aquasuite. Even with the buzzer deactivated, the alarm levels will still be processed as usual and trigger the assigned actions.

Additional alarm actions are also assigned to each alarm level:

Alarm level 1: A pop-up message is displayed on the screen by the background service.

Alarm level 2: The background service terminates all applications that generate high GPU load.

Alarm level 3: The background service sends a signal to the operating system to shut down immediately.

Alarm level 4: Signal output "S1" is activated for one second to trigger a shutdown of the operating system via the power button. Additional accessory (item 53216) required.

Alarm level 5: Signal output "S1" is activated for eight seconds to trigger immediate shutdown (BIOS/UEFI) via the power button. Additional accessory (item 53216) required.

Alarm level 6: The Sense signal to the graphics card is disabled to trigger the graphics card to turn off. This alarm level can only be reset by turning off the computer.

Alarm level 7: The power supply to the graphics card via AMPINEL is cut off. This alarm level can only be reset by turning off the computer.

Data loss must be expected for all alarm actions from alarm level 2 onwards, as individual applications are terminated and the entire computer or graphics card is switched off! Do not use AMPINEL if you would rather accept hardware damage than data loss!

Hotkeys can also be defined for each alarm level, which are sent directly from AMPINEL to the operating system via USB keyboard command upon reaching the alarm level. The hotkeys can therefore also be used with other operating systems; only the configuration needs to be carried out via the aquasuite.

14.3. Alarm settings

Most alarm limits are hard-coded in AMPINEL's firmware and cannot be changed in order to prevent damage to the best possible extent.

The alarm delay defines a time delay between exceeding an alarm limit and triggering the first alarm level. The factory setting for the delay is two seconds, so that short-term overshoots, for example due to sudden load changes, do not trigger an alarm. The alarm is displayed in aquasuite even before the set delay has elapsed, but does not trigger a change in the alarm level. In extreme cases, AMPINEL can activate alarm levels 6 or 7 directly without observing the set alarm delay and without first triggering the lower alarm levels. In these cases, there is an acute risk of hardware damage, which requires the graphics card to be shut down immediately.

The signal output S2 supports two operating modes. In “Speed signal” mode, an artificial fan speed signal is generated and deactivated once the alarm level set using the slider described above is reached. For monitoring purposes, the “S2” terminal can be connected to a compatible fan terminal using a suitable connection cable (item 53294). In “Switch permanently” mode, the output is switched on or off according to the alarm level, enabling the alarm to be forwarded to devices that can evaluate a switching signal.

For the external temperature sensor input T1, alarm evaluation can be activated and the alarm limit can be set. Only activate alarm evaluation if a compatible temperature sensor is connected to terminal T1, otherwise an alarm will always be triggered. Alarm evaluation is therefore deactivated in the factory settings.

The alarm limit can be set for the alarm evaluation of the current deviation between the line with the lowest and highest load. An alarm is only triggered if the set total current is exceeded at the same time.

14.4. Alarm log

The alarm log displays the most recently activated alarm levels in chronological order. Clicking on an entry will display detailed information about the operating status of the AMPINEL when the alarm was triggered in the right-hand window area.

Aqua Computer GmbH & Co. KG
Gelliehäuser Str. 1, 37130 Gleichen
© 2025-2026

The last alarm is stored in the non-volatile device memory of the AMPINEL. If the computer is shut down in an emergency, this enables error analysis after the computer is restarted. This alarm is displayed in the alarm log under the heading "Last alarm."
In addition, the alarm log displays the last ten changes to the alarm level since the system was started. This part of the log is reset when the computer is shut down.
The timestamps of the individual log entries only show correct values if the current time has already been transferred to the device by the background service via USB connection before the alarm level change.

15. Profiles

Select "Profiles" from the device list below the "AMPINEL" entry.
The profile management can be used to to save four configurations as profiles and activate them manually or automatically. Profile management is a software feature of the aquasuite and requires a USB connection to the AMPINEL.

15.1. Manual profile selection

Select the profile to be activated by clicking the corresponding button.

15.2. Automatic profile selection

Profiles can be activated automatically using the global profiles feature of the aquasuite, see chapter 17.4. for details.

15.3. Profile configuration

The current configuration can be saved in one of the four profiles clicking the corresponding button. Saved profiles are not updated automatically in case of configuration changes.

16. System settings AMPINEL

Select "System" from the device list below the "AMPINEL" entry.

16.1. Device information

The details displayed here might be required when you contact our service for support. You may enter a "Device description" for easier identification, this text will be displayed in the device list and in the data quick view.

16.2. Factory defaults

Click the button "Reset device to factory defaults" in the aquasuite for a complete reset of all settings. You will have to completely reconfigure the device after resetting it to factory defaults!

16.3. Graphics card power limit

The maximum power capability reported by the power supply unit via the Sense lines can be reduced by AMPINEL to put the graphics card into a more economical operating mode. AMPINEL supports power levels of 600 watts and 450 watts.
If the connected graphics card does not support reduced power operation and does not output an image, the setting can be reset by loading the AMPINEL factory settings. To do this, press and hold the button on the side of the AMPINEL while it is switched off and switch on the PC. Release the button as soon as content is displayed on the screen.

16.4. Balancer power limit

The AMPINEL balancer can be limited within its control range of 0-100%. This may be useful in individual cases to reduce heat generation at the AMPINEL.
If you only want to use the alarm functions in the event of an alarm and do not want to use balancing, you can configure the control range to 0%.

16.5. Time zone, daylight saving time, time format

Adjust the time zone setting to reflect the deviation of the local time from UTC in hours. You may also choose to use automatic daylight saving time adjustment and your preferred time format.

16.6. Firmware update

The most up to date firmware for all supported devices is always included in the current version of the aquasuite software. The button " Update firmware now" will start the update process for the device firmware.
Please note: During the firmware update, no alarm monitoring or balancing will take place! Before updating the firmware, close all applications that cause load on the graphics card! The firmware update is blocked if an output power of more than 150 watts is measured.
During the firmware update process, do not disconnect the device from the PC and do not power down the PC!
After updating the firmware, shut down the computer completely and wait a few seconds before turning it back on. Otherwise, incomplete initialization may result in incorrect readings being displayed.
The device must be reconfigured the next time the software is started.

Aqua Computer GmbH & Co. KG
Gelliehäuser Str. 1, 37130 Gleichen
© 2025-2026

If errors occur during the firmware update, the connection to the device is interrupted, or the PC is turned off, the firmware in the device may subsequently be invalid. In this case, the device display will remain dark and AMPINEL will emit an audible alarm one minute after startup, which cannot be deactivated. In this mode, the firmware can be transferred to the device again, but all control and monitoring functions are disabled! If the firmware update fails again, switch off the PC completely. Disconnect the PC from the power supply and wait for about one minute. Switch the PC back on and initiate the firmware update again.

17. Playground (aquasuite)

Click the entry "Playground" to configure Virtual Software Sensors, global profile management and hotkeys.

17.1. Input values

Input values defined in this section can be manipulated by individually configured control elements, for example sliders or buttons.

Create a new input value by clicking the plus symbol in the upper right corner of the "Input values" window and configure the properties as desired. A name, an icon, a unit, a range of values as well as a initial value can be assigned to each input value. This new input value will then be available to be displayed on overview pages and in the quick view section and can be used as a data source for software sensors and virtual software sensors.
In the lower area of the window, control elements can be created and configured to manipulate the input value. These preconfigured control elements can then be used for overview pages or in the system tray.

17.2. Virtual Software Sensors

Virtual Software Sensors can be used for extensive yet easy to use adaptation and calculation of sensor values using mathematical and logical functions as well as filters.

Create a new Virtual Software Sensor by clicking the plus symbol in the upper right corner of the "Virtual Software Sensors" window. Each Virtual Software Sensor always has an "Out" element which will provide the resulting sensor value. In the settings dialog of this element, the name and unit of the sensor can be configured.
You can now add data sources and function blocks to the lower area of the sensor window and connect inputs and outputs of the blocks with lines. Connect the output of the last function block with the "Out" element.
The resulting virtual sensor can be used within the aquasuite software, for example for overview pages, additionally it may be transmitted via USB connection to connected devices that feature software sensors.

The following (very simple) example calculates the average out of two temperatures:

Virtual software sensors are updated once per second and re-calculated with the numbers valid in that particular moment. When using fast changing input values, extreme values can therefore either be used or ignored for the calculation. No smoothing or averaging is taking place.

17.3. Output actions

While the virtual software sensors are used as a value within the aquasuite, output actions configured in this section are used to trigger events. Various notification events including emails and MQTT messages are available. Additionally, external programs can be started.

Create a new output action by clicking the plus symbol in the upper right corner of the "Output actions" window and configure the properties as desired. Each output action always has an "Output" element which represents the event itself. In the settings dialog of this element, the event to be executed can be selected and configured.

You can now add data sources and function blocks to the lower area of the window and connect inputs and outputs of the blocks with lines. Connect the output of the last function block with the "Output" element. The event will be executed when the input of the "Output" element reaches a value greater than zero.

Output actions are updated once per second and re-calculated with the numbers valid in that particular moment. When using fast changing input values, extreme values can therefore either be used or ignored for the calculation. No smoothing or averaging is taking place. Example: If thresholds are exceeded for very short periods of time lasting less than one second, the action can be executed or not be executed seemingly at random, depending on whether the thresholds is exceeded in the exact moment the calculation is performed.

17.4. Global profiles

The global profile management can be used to conveniently change settings in multiple devices simultaneously and activate desktop pages. Individual actions can be defined for each of the four profiles, switching between profiles can either be done manually or automatically depending on configurable rules.

Aqua Computer GmbH & Co. KG
Gelliehäuser Str. 1, 37130 Gleichen
© 2025-2026

In order to use this feature, set up profiles within the individual device configurations first. These profiles can then be activated using the global profile management. Not every type of device supports profiles.
Buttons in the upper window area can be used to switch between global profiles. Alternatively, the profile icon in the title bar of the aquasuite window or a profile icon in the system tray may be used.
Example use cases: Switching of LED illumination settings depending on current time of day or modification of fan settings when a graphics application is launched.
Notice for profile activation depending on running applications: During configuration of the respective rule in the aquasuite, the application to be configured must already be running. The application selection within the aquasuite will always show currently running applications and processes only.

17.5. Hotkeys

Hotkeys are key combinations that will be processed system-wide and can activate global profiles or desktop pages. The configured key combinations will be registered in the operating system and be processed by the background service. If the configured actions only use the profile management, the aquasuite does not have to be running for hotkeys to be operational; if desktop pages are used, the aquasuite must be running.
Do not use key combinations for this function that are required by other applications.

18. aquasuite web

Click the entry “aquasuite web” to publish data on the internet or import data from the internet. The server for this service is operated by Aqua Computer and provided for use with the aquasuite, without warranty for error free operation or permanent availability. Aqua Computer reserves the right to limit or cancel this service at any time.

18.1. Data export

To publish data, create a new export data set by clicking the plus symbol in the upper right corner of the “Data export” window. The name of the data set may be modified to meet your requirements. You may then add the data sources to export by clicking the plus symbol in the “Data sources” window section. By clicking the gear symbol, the name of the corresponding value can be changed. Up to 30 data sources can be added to each export data set, the total number of export data sets is limited to 10. All selected values will be transmitted to the Aqua Computer server by the Aqua Computer background service approximately every 15 seconds, even after closing the aquasuite.

Notice regarding data security: All data contained in the configured export data sets is transmitted to the Aqua Computer server with transport security. The server stores the data set in volatile memory until a new data set is received or until 10 minutes have passed. Data received is not permanently stored, data is also not correlated to IP addresses or other personal data. Data on the server may be accessed by anyone without restrictions, furthermore automatic data collection and recording through third parties is possible. Use the data export feature for data that you want to publish publicly and are allowed to do so only.

18.2. Data access

Published data can be obtained from the Aqua Computer server in various formats. Generally, the "access key" is required to access data.

In addition to access through any internet browser and importing data into the aquasuite, data is also available in JSON format and compatible to Circonus. Furthermore, the server generates banner images in two different sizes from the transmitted data, suitable to be included in forums signatures. The code required for the Aqua Computer forums is provided for your convenience.

18.3. Data import

To import a data set from the Aqua Computer server, the "access key" of the data set is required. The access key can be found in the aquasuite on the computer providing the data in the "Data access" section.
Create a new import entry by clicking the plus symbol in the upper right corner of the "Data import" window. Enter the access key of the data set to be imported. Up to 10 data sets (each containing up to 30 values) can be configured.
In order to verify that data is being imported, use the "Data quick view" feature in the aquasuite. Navigate to "Data from Aqua Computer service", then "aquasuite web". For each imported data set, you should find an entry with the name of the data set containing the individual values. It may take a few seconds before imported data is displayed.

19. Basic settings (aquasuite)

Click the entry "Settings" below the headline "aquasuite" to access basic settings for language, units and start-up of the software.

19.1. Language

Select a language from the drop down menu. After changing the language setting, the software will have to be restarted.

Aqua Computer GmbH & Co. KG
Gelliehäuser Str. 1, 37130 Gleichen
© 2025-2026

19.2. Create overview pages

After activating the “Generate device overview pages”, new overview pages with default settings will be created for all devices.

19.3. Reorder menu items

The order in which overview pages and devices are displayed in the list can be adjusted to you preference. Activate the reorder mode by clicking the “Edit menu order” button or by clicking and holding one of the elements for a few seconds. Sort the list items by clicking the arrow symbols and exit the reorder mode by clicking the check symbol on the right side of the window when done.

19.4. Units

Select the units to be used for temperature and flow values from the drop down menus. After changing these settings, the software will have to be restarted.

19.5. Event log

Events from various parts of the aquasuite can be saved to text files. Use the buttons to view the files either internally in the aquasuite or with an external program.

19.6. Application start-up

You may customize start-up behavior to suit your preferences. You may also select to hide the task bar symbol of the software when minimized.

19.7. Service administration

The background service configures special USB settings for all connected Aqua Computer devices, provides hardware data, software sensors, profile management, aquasuite web and Playground and should therefore always be active.
The hardware monitoring features of the background service can be disabled for specific categories if errors occur. Especially when using hardware monitoring software of different manufacturers at the same time, conflicts can occur when accessing data. Deactivate the hardware monitoring feature of the aquasuite or parts of it in this case.
When maintenance mode is activated, all optional modules of the background service are deactivated. This is useful in case of erroneous settings in the Playground, in particular if a system shutdown is configured and triggers too often. Therefore, in default configuration maintenance mode is automatically enabled if the computer is shut down three times by this feature (recommended setting).

19.8. Audio and video

The background service can analyze audio and video data and provide it to connected devices. Both functions can be enabled and disabled separately.

Notices for video analysis: Screen content preventing analysis by DRM or similar methods cannot be analyzed. If a graphics card is configured for variable refresh rate or a modified refresh rate, video analysis may fail; please deactivate this function in the graphics settings of the operating system if necessary.

19.9. Updates and update service

For software activation, all aquasuite versions starting with version 2017 require an active update service for the initial release date of the respective version. Update service periods are generally assigned to individual devices, brand-new devices automatically contain update service for a specific period depending on the type of the device. For software activation, at least one device in the computer must contain a corresponding update service period that includes the release date of this software version. If a valid update service period is detected for at least one device, all devices connected to the computer can be used with this version. It is not mandatory that each device has a corresponding update service period. For update service validation, the aquasuite requires an internet connection.

After successful validation, a file containing current data is stored on the computer. A re-validation is performed only if a new software version (update) is installed or upon connection of new devices. New devices can not be used prior to re-validation, even if other devices with corresponding update service periods are connected at the same time.

To purchase update service, please use the "Buy" button, which will open a website with current prices and payment options.

If you have received a key for update service with a device or bought one separately, you may enter the key after clicking the "Register" button. Select a currently connected USB device from the list for update service assignment. After clicking the "Register key" button, the update service period is permanently assigned to the selected device and stored on the Aqua Computer update server. The key will

Aqua Computer GmbH & Co. KG
Gelliehäuser Str. 1, 37130 Gleichen
© 2025-2026

not have to be re-entered after re-installation of the software or transfer of the device to another computer, but transferring the update service period to another device is not possible.

During update service validation and software activation, device serial numbers and a calculated computer ID are transmitted to and stored on the update server. No further personal information such as IP addresses are stored.

19.10. E-mail and MQTT accounts

Accounts for sending e-mail or MQTT messages can be configured. These accounts can then be used to send messages in the "Outputs" section of the Playground.

20. Technical details and care instructions

20.1. Technical details

Dimensions:	approx. 72 x 75 x 30 mm
Power supply:	12 V DC ±5 %
Maximum power output:	650 W
Nominal current per rail:	9.2 A
Maximum power dissipation:	6 W, short term 15 W
Ambient temperature range:	15 to 45 °C (noncondensing)
Temperature AMPINEL:	max. 90 °C
Acoustical alarm:	Buzzer, approx. 85 dB
Illumination:	8 digitally addressed RGB LEDs
Display:	OLED, 128x64 pixels

20.2. Care instructions

Use a dry and soft cloth for cleaning. All electronic components and headers must not get in contact with coolant or water!

20.3. Waste disposal

This device has to be disposed of as electronic waste. Please check your local regulations for disposal of electronic waste.

20.4. Contact Aqua Computer

We are always happy to answer questions regarding our products and to receive feedback. For answers on frequently asked questions, please also check our website www.aqua-computer.de. You might also want to visit our forums and discuss our products with experienced moderators and thousands of members – available 24/7. To get in direct contact with our customer support team, we offer several options:

Email: support@aqua-computer.de
Postal address: Aqua Computer GmbH & Co. KG
Gelliehäuser Str. 1
37130 Gleichen
Germany
Tel: +49 (0) 5508 9749290 (9-16 h CET, German and English language)

© 2025-2026