

## Asus Aaeon SRG-4858P User Manual

lot gateway system

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### Summary of Contents for Asus Aaeon SRG-4858P

Page 1 SRG-4858P IoT Gateway System User's Manual 1 Last Updated: August 16, 2021...

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<u>Page 3</u> Acknowledgements All other products' name or trademarks are properties of their respective owners. Microsoft Windows is a registered trademark of Microsoft Corp. • Intel® is a

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<u>Page 4</u> Packing List Before setting up your product, please make sure the following items have been shipped: Item Quantity SRG-4858P • If any of these items are missing or damaged, please contact your distributor or sales representative immediately. Preface...

<u>Page 5</u> About this Document This User's Manual contains all the essential information, such as detailed descriptions and explanations on the product's hardware and software features (if any), its specifications, dimensions, jumper/connector settings/definitions, and driver installation instructions (if any), to facilitate users in setting up their product. Users may refer to the product page at AAEON.com for the latest version of this document.

<u>Page 6</u> Safety Precautions Please read the following safety instructions carefully. It is advised that you keep this manual for future references All cautions and warnings on the device should be noted. All cables and adapters supplied by AAEON are certified and in accordance with the material safety laws and regulations of the country of sale.

<u>Page 7</u> As most electronic components are sensitive to static electrical charge, be sure to ground yourself to prevent static charge when installing the internal components. Use a grounding wrist strap and contain all electronic components in any static-shielded containers. If any of the following situations arises, please the contact our service personnel: Damaged power cord or plug Liquid intrusion to the device iii.

<u>Page 8</u> FCC Statement This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

Page 10 China RoHS Requirement (EN) Hazardous and Toxic Materials List AAEON System QO4-381 Rev.A0 Hazardous or Toxic Materials or Elements Component Name PCB and Components Wires & Connectors for Ext.Connections Chassis CPU & RAM HDD Drive LCD Module Optical Drive Touch Control Module Battery This form is prepared in compliance with the provisions of SJ/T 11364.

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#### Page 13: Chapter 1 - Product Specifications

Chapter 1 Chapter 1 - Product Specifications...

#### Page 14: Specifications

Specifications General ARM Cortex-A8 800 MHz RISC Processor Memory DDR3L 1GB Storage eMMC 8GB OS Support Debian 10 (Buster) RTC Supported Security – Interface Ethernet Ports 2 x Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) USB Ports 1 x USB2.0 (Type A Connector) Serial Ports 10 x RS485 (Terminal Block) Expansion Ports...

Page 15 Physical Characteristics Dimensions 5.67" x 3.94" x 1.73" (144mm x 100mm x 44mm) Weight 512 g Mounting DIN-rail mounting, Wall Mount Environmental Operating Temperature 32°F ~ 140°F (0°C ~ 60°C) Operating Humidity 10% ~ 95% relative humidity, non-condensing Storage Temperature -40°F ~ 176°F (-40°C ~ 80°C) Vibration 2 Grms at IEC

60068-2-64, random wave, 5-500...

#### Page 16: Chapter 2 - Hardware Information

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#### Page 17: Dimensions

Dimensions Chapter 2 - Hardware Information...

#### Page 18: I/O Location

I/O Location Reference Function DC Power Jack Supports DC 9~ 30V input Reset Button Reboots the system Gigabit LaN Port Standard RJ-45 jack for connection to Local Area Network (LAN). Function Status Yellow Active status ON: LAN link is established. OFF: LAN link is not established.

Page 19 Reference Function Debug Port User can log into the gateway's operating system via SSH with debug port (Micro USB connector) USB2.0 Port USB2.0 Type A Connector, supports USB mass storage devices RS-485 Port Dual RS-485 Port RS-485 Port 6 x RS-485 Ports RS-485 Port Dual RS-485 Port Antenna Connector...

#### Page 20: Wireless Hardware Setup

Wireless Hardware Setup The SRG-4858P features both a SIM Card and Mini Card slot for connecting to wireless networks such as 4G. This section details how to install a SIM Card and 4G/LTE module on the mini card slot. 2.3.1 Mini Card Installation Step 1: Remove the six screws securing the top cover.

#### Page 21: Sim Card Installation

2.3.2 SIM Card Installation To install a SIM Card (Micro SIM) simply insert the SIM Card into the slot on the side of the system as shown. Take care to make sure the card is oriented correctly. Chapter 2 – Hardware Information...

#### Page 22: Chapter 3 - Gateway Setup And Configuration

Chapter 3 Chapter 3 – Gateway Setup and Configuration...

#### Page 23: Connecting To System

Connecting to System When connecting a PC or laptop to the SRG-4858P system, it is recommended to use PuTTY with Windows 10. Users can download the software from the PuTTY website. https://www.putty.org/ For Windows 7 or older, users must first set up their PC to recognize the system. The following instructions detail how to set up your PC to connect to the SRG-4858P system by installing the CDC Serial Driver.

Page 24 Step 4: Open PuTTY and use the following settings to connect to the system. Serial Port Settings Baud Rate 115200 bps Parity None Data bits Stop bits Flow Control None Click "Open" to connect with the gateway system. Chapter 3 – Gateway Setup and Configuration...

<u>Page 25</u> Step 5: You will see the login prompt once the host PC successfully connects to the gateway. Default login information is: Username: aaeon Password: aaeon Chapter 3 – Gateway Setup and Configuration...

#### Page 26: User Account Management

User Account Management This section details how to manage user accounts on the system. Add User Account Command Line:  $\checkmark$  \$ sudo useradd -m -G sudo -s /bin/bash USERACCOUNT USERACCOUNT -> Account name you want to add Return (test3 is the account name in this example):  $\checkmark$ ...

#### Page 27: Network Settings

Network Settings This section details how to check and setup the network settings. 3.3.1 Check IP Settings: Check the IP setting by entering the following command into Terminal/Command Line: \$ nmcli con show NETWORKPROFILE NETWORKPROFILE refers to one of the system's network connections as follows: NETWORKPROFILE Port/Hardware Ethernet0...

#### Page 28: Set Static Ip

3.3.2 Set Static IP Step 1: Enter edit mode with the following command: \$ nmcli con edit NETWORKPROFILE See table in 3.3.1 for NETWORKPROFILE values Command should return the following (Ethernet0 used in this example): Step 2: Edit the IP Address with the following commands: \$ nmcli>...

#### Page 29: Set Dynamic Ip

3.3.3 Set Dynamic IP Step 1: Enter edit mode with the following command: \$ nmcli con edit NETWORKPROFILE See table in 3.3.1 for NETWORKPROFILE values Command should return the following (Ethernet0 used in this example): Step 2: Edit the IP address with the following commands: \$ nmcli>...

#### Page 30: Cellular Network Settings

Cellular Network Settings This section details how to check and manage the cellular network settings. 3.4.1 Check Cellular Module Status Step 1: To check the status of the cellular module, enter the following command: \$ mmcli -m 0 The system should output the following: Chapter 3 -...

#### Page 31: Dial Up Cellular Module

3.4.2 Dial Up Cellular Module Step 1: Follow the steps in the previous section to check the cellular module status. The system should return a state of "registered" under Status if the module is ready to use. If there is an issue, the state will show "failed" along with a failed reason such as "sim missing".

#### Page 32: Wi-Fi And Bluetooth Network Settings

Wi-Fi and Bluetooth Network Settings This section details how to check and setup Wi-Fi and Bluetooth wireless networks. 3.5.1 Scan for Wi-Fi Access Points To scan for Wi-Fi access points, enter the following command: \$ nmcli dev wifi The system will return a list of Wi-Fi networks with their name, signal strength and security type.

#### Page 33: Disconnect From Wi-Fi Access Point

3.5.3 Disconnect from Wi-Fi Access Point To disconnect from a Wi-Fi network, enter the following command: \$ sudo nmcli con down id 'SSID' SSID is the name of the network you want to disconnect from The system will return the following if successful: 3.5.4 Check Wi-Fi Connection Status To check the status of a Wi-Fi connection, enter the following command:...

#### Page 34: Enter Bluetooth Control Panel

3.5.5 Enter Bluetooth Control Panel Before managing Bluetooth settings, you must first enter the Bluetooth Control Panel with the following command: \$ sudo bluetoothctl The system will return the following: 3.5.6 Scan for Bluetooth Device To scan for a Bluetooth Device, enter the following commands: \$ power on This command turns on the Bluetooth module \$ scan on...

#### Page 35: Pair Bluetooth Device

3.5.7 Pair Bluetooth Device To pair a Bluetooth Device, enter the following command while in the control panel: \$ pair MAC\_ID MAC\_ID is the MAC address of the device you wish to connect to. This example is connecting to device E8:6F:38:83:CF:10 3.5.8 Check Pared Bluetooth Devices To check which Bluetooth devices are paired with the system, use the command:...

#### Page 36: System Management

System Management This section details how to check the OS version, storage device status, shutdown the system and set the date and time. 3.6.1 Check OS Version To check which OS version the system is running, enter the command: \$ cat /etc/os-release The system will return the OS information: Chapter 3 -...

#### Page 37: Check Storage Status

3.6.2 Check Storage Status To check the status of the system storage, enter the following command: \$ df -h The system will return a list of storage devices, capacity and usage 3.6.3 Shut Down the System To force the system to shut down, use following command. Note, you may need to enter the user password.

#### Page 38: Set Date And Time

3.6.4 Set Date and Time Step 1: Check current date and time by issuing the following command: \$ timedatectl The system will return the current system clock settings Step 2: Change the date and time by issuing the following command: \$ date MMDDhhmmYYYY Command uses the following formatting: MM -...

#### Page 39: I/O Management

I/O Management This section details how to operate the programable I/O functions; GPIO and RS-485 2-wire connectors. 3.7.1 Control GPIO (LEDs) To control the GPIO manually, issue the following commands, this example uses led1: GPIO On:  $\$  echo 1 > /sys/class/leds/srt3352:led1/brightness GPIO Off:  $\$  echo 0 >...

#### Page 40: Rs-485 2-Wire Pin Definition

3.7.2 RS-485 2-wire Pin Definition System Reference Pins /dev/ttyS5 (COM2) Pins 1-3 /dev/ttyS4 (COM1) Pins 4-6 COM1 Definition COM2 Definition Chapter 3 – Gateway Setup and Configuration...