



Asus AAEON SPG-M041 User Manual

lot gateway system

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IoT Gateway System

User's Manual

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Summary of Contents for Asus AAEON SPG-M041

[Page 1](#) SPG-M041 IoT Gateway System User's Manual 1 Last Updated: July 4, 2022...

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[Page 3](#) 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

Page 15 Communication Interface 10/100Mbps, Auto-sensing MDI/MDIX, RJ45 x 2 Ethernet 1.5 KV Magnetic Isolation Protection Terminal Block x 2 Serial Ports RS232, 3W-RS485, 2W-RS485 (software Serial Standards selectable) 300 ~ 921.6kbps Serial Baud Rate (Data Rate) Data Bits

7, 8 Parity Odd, Even, None Stop bits 1, 2...

[Page 16](#) < + 5 V Low Input Voltage +10 ~ +30 V High Input Voltage Wet Contact, Dry Contact Sensor Type On: Short to GND Dry Contact Off: Open On: 10 ~ 30 VDC Wet Contact (DI To COM) Off: 0 ~ 3 VDC Reverse Polarity Protection Individual Channel Diagnostic 1.5 kV...

[Page 17](#) Physical & Environmental Power Ports Terminal Block x 1 (Dual DC Power Inputs for Power Redundancy) Power Supply Rated Voltage 12 / 24 VDC Power Supply Voltage Range 9.6 ~ 31.2 VDC Input Current 12V/2.29W, 24V/3.14W Reverse Polarity Protection Voltage Variation Protection Mechanical Enclosure Metallic Casing...

[Page 18: Chapter 2 - Hardware Information](#)

Chapter 2 Chapter 2 - Hardware Information...

[Page 19: Dimensions](#)

Dimensions Chapter 2 - Hardware Information...

[Page 20: I/O Location](#)

I/O Location Please refer to the table below for the system's I/O layout so that you can configure your application Label Interface Connection Type Description Connectivity for local network or LAN 1 RJ-45 internet access Connectivity for local network or LAN 2 RJ-45 internet access...

[Page 21: Led Indicators](#)

Note: For internet access, please ensure device obtains IP address via DHCP service from upper-level gateway/router. LED Indicators Color Definitions Off: Power is not fed to device Green Fast blinking: Device is in operation Green: Wireless strength >75% Green/ Amber: Wireless strength 50 ~ 75% Amber Amber blinking: Wireless strength 25 ~ 50% OFF: Wireless strength <25%...

[Page 22](#) No data activity on the serial interface Green Data transmission on the serial interface S1 (Serial 2) Data reception on the serial interface No data activity on the serial interface Yellow On: incoming signal is transmitted to the port DI0 (Digital Input) No signal is sent to the port.

[Page 23: Chapter 3 - Gateway Setup And Configuration](#)

Chapter 3 Chapter 3 - Gateway Setup and Configuration...

[Page 24: System Test And Initialization](#)

System Test and Initialization This chapter describes guidelines of the physical interfaces in SPG-M041. • Please review the guidelines before installing the device. Ensure cabling is away from sources of electrical noise. Radios, power lines, • and fluorescent lighting fixtures can interference with the device's performance.

[Page 25: Serial Connection](#)

3.1.1 Serial Connection PG-M041 provides serial RS-485/RS-232 ports x 2, which are software-definable, users may setup type of communication interface (RS-232, 3-wire RS-485 or 2-wire RS-485) on serial port 1 & 2 to meet the application demands. Location of serial ports x 2 on SPG-M041: •...

[Page 26](#) Note: Maximum cable length: 100 meters (328 ft.) for 10/100BaseT. Chapter 3 - Gateway Setup and Configuration...

[Page 27: Digital Input \(DI\) Connection](#)

3.1.3 Digital Input (DI) Connection SPG-M041 integrates a 4-channel digital input (DI) module. SPG-M-41 accepts 4 ~ 20V input voltage from most PLC, gateway or other signaling devices, which makes it more versatile in industrial applications. Location of 4 channel digital input on SPG-M041: •...

[Page 28: Relay Output Connection](#)

Wiring scheme of 4 channel digital input: • Dry Contact Wet Contact 3.1.4 Relay Output Connection SPG-M041 integrates single-channel relay output interface. Relay interface on SPG-

M041 is ideal for low-power switching applications, such as ON/OFF control, event trigger, and it is safety value setting compliant. •...

[Page 29: Wwan Module Installation](#)

3.1.5 WWAN Module Installation Before starting WWAN access on SPG-M041, please remove the upper case of the SPG-M041. After opening the cover, refer to the block diagram below to find the position of WWAN module. Install the WWAN module, and fix antennas to the reserved antenna holes in the casing.

[Page 30: Sim Installation](#)

3.1.6 SIM Installation SPG-M041 has two SIM slots. SIM 1: Nano SIM (4FF) / Chip SIM (MFF2), and SIM 2: Nano SIM (4FF). The SIM slot locations are allocated at the rear of the product. Location of SIM card slot x 2 on SPG-M041: •...

[Page 31: Microsd Card Installation \(Without Cover\)](#)

3.1.7 MicroSD Card Installation (Without Cover) The SPG-M041 provides a micro SD card slot to support features that log and store data. Note: Only the FAT32 file system is supported. Note: Before Installing a microSD Card, it is recommended to format the microSD card to FAT32 to ensure proper file read/write access.

[Page 32: Connecting Power Supply](#)

Connecting Power Supply Position cables with care. Do not position cables in places where they • may be trampled or compressed by objects placed on them. Make sure that power-points and plugs are in good condition before • using them. Do not overload the power-points or plugs.

[Page 33](#) Label Interface Connector Type Description Reboot: Use a pointed object to press Reset Push button reset button to reboot. Terminal block Negative pole of power input 1 Terminal block Positive pole of power input 1 Terminal block Negative pole of power input 2 Terminal block Positive pole of power input 2 Ground...

[Page 34: Reset Button](#)

Note: Wire gauge for the terminal block should be in the range from 12 to 24 AWG. Note: The SPG-M041 can be powered by using the same DC source for power redundancy feature. A secondary power supply unit can be applied to IIoT gateway for power redundancy to reduce network downtime as well as preventing chaos brought by power loss.

[Page 35: Installation And Mounting](#)

Reset console driver (new) installation: Connect administration computer and IoT gateway console port (micro USB • port) with micro USB data cable Disconnect power source from device and use a pointed object to press and • hold Reset button Feed power to device and release Reset button. •...

[Page 36: Din Rail Mounting](#)

3.4.1 DIN Rail Mounting The DIN rail mount option is the quickest installation option. Additionally, it optimizes the use of rail space. The metal DIN rail kit is secured to the rear of the SPG-M041. The device can be mounted onto a standard 1.37" (35mm) x 0.3" (7.5mm) sized DIN rail. The device can be mounted vertically or horizontally.

[Page 37](#) Ensure the DIN rail is inserted behind the spring mechanism, and hook the DIN rail securely, as shown in the illustration. Note: To prevent damage to the DIN rail clip or the DIN rail, do not install the DIN rail under or in front of the spring mechanism on the DIN rail clip.

[Page 38](#) Removing the DIN-Rail Mount Turn off/disconnect power from the IIoT gateway and disconnect all cables and connectors from the front panel of the SPG-M041. Push down on the top of the DIN rail clip lift with finger. As the clip releases, lift the bottom of the SPG-M041, as shown in the following illustration.