

Silvair Gateway

Product card

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| 4 April 2023 | SGW-101 rev. 2.2 |
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SILVAIR

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1. Overview

The Silvair Gateway connects Bluetooth mesh networks that have been commissioned using the Silvair Commissioning tools to the Silvair cloud. This allows the scheduling of events and delivery of services based on the data generated by these networks.

1.1 Functions

The Silvair Gateway enables the following functions in the Silvair web app:

- Scheduling (available by default)
 - Scheduling changes in scenes and lighting control scenarios (for example occupancy sensing, daylight harvesting) for specific times or days.
- Energy and occupancy monitoring (additional paid service)
 - Visualizing energy use and occupancy via the Silvair web app.
 - Downloading energy and occupancy via the Silvair web app and cloud-based API.
- Remote monitoring and control (additional paid service)
 - Low-latency monitoring of the status of devices in the network via API.
 - Low-latency control of devices in the network via API.
- System diagnostics
 - Monitoring of the status of Bluetooth mesh networks.
 - Remote troubleshooting of networking issues.

1.2 Features

- Future-proof Linux operating system.
- Simple commissioning using the Silvair Commissioning tools.
- Automatic connection to the Silvair cloud.
- Secure provisioning with secure IDs and encrypted keys.
- High level of hardware and software security (secure boot and encrypted file system can only be accessed with the management platform).
- Automatic security updates.
- Prompt releases of OS updates and fixes to vulnerabilities.
- Low-latency transfer of network, luminaire, and sensor status data to the Silvair cloud.
- Schedule caching.
- Automatic remote firmware updates.
- Display of gateway and network performance metrics (requires the Silvair web app).

1.3 Network requirements

- Silvair Gateway uses DHCP to configure the IP address and DNS servers to resolve hostnames.
- Silvair Gateway requires the local admin to add several hosts and ports to the list of allowed hosts and ports (for more details, see [SGW-102 Silvair Gateway user guide](#)).

2. Technical specifications

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| Features and application | An IoT gateway for the connection, monitoring, and management of Bluetooth mesh networks in commercial building applications via the Internet. Requires networks to have been commissioned using the Silvar Commissioning tools. Uses a LED for status reporting. |
| Capacity and performance | The hardware configuration allows the Silvair Gateway to process up to approximately 450 Bluetooth mesh network messages per second. |
| Project requirements | One Silvair Gateway can serve approximately 200 Bluetooth mesh devices. One Silvair Gateway serves one Area in the Project (as configured in the Silvair Commissioning platform). |
| Security | Secure boot with encrypted operating system Secure communication with the Silvair Cloud over Internet (TLS) Secure communication with devices over qualified Bluetooth mesh |
| Power supply | 4.5–5.5 V DC, 2 A Power over Ethernet 36–57 V DC (IEEE 802.3af) |
| Operating system | Ubuntu Core |
| Processor | i.MX6ULL (Y2), 32-bit ARM 800 MHz |
| Memory | 512 MB DDR3L SDRAM 8GB eMMC |
| Communication protocols | Bluetooth mesh (2.4 GHz Bluetooth Low Energy) Wi-Fi 802.11a/b/g/n/ac (2.4/5 GHz) 4G LTE Cat 1 with 2G/3G (only for Cascade-500-W and Cascade-500-X gateways) |
| Ports | 1 x RJ45 10/100 Ethernet 1 x USB 2.0 Type-A 2 x external dipole antenna, 5 dBi (only for Cascade-500-W and Cascade-500-X gateways) |
| Required ambient temperature | 0°C to 60°C 32°F to 140°F |
| Enclosure dimensions | 127 mm x 127 mm x 30 mm (5 inch x 5 inch x 1.2 inch) |
| Mounting position | Wall or surface mounted. As close to the geometrical center of the lighting network as possible, but as far as possible from potential sources of interference. |
| Certifications | |
| Cascade-500 | FCC / ISED / CE-RED / RCM / MIC (Japan) / WPC / SUTEL / MOC & SII / IMDA / NTC / TRA / UKCA / NCC (Nigeria) / CRA / ICASA / NCC (Taiwan) / ANATEL / CMIIT / SIRIM / ICT (Qatar) / NBTC / MIC (Vietnam) / KCC |
| Cascade-500-A | FCC / ISED / CE-RED / UKCA / RCM |
| Cascade-500-W | FCC / ISED / CE-RED / UKCA / RCM / GCF / PTCRB / AT&T |
| Cascade-500-X | FCC / ISED / CE-RED / UKCA / RCM / In progress: PTCRB / GCF / AT&T |

3. Document revisions

| Revision | Date | Editor | Changes |
|----------|-------------------|--------|--|
| 2.2 | 4 April 2023 | GM | Added information about certifications. |
| 2.1 | 25 October 2022 | GM | Added information about cellular connectivity. |
| 2.0 | 15 September 2022 | GM, ES | Updated Technical specifications and Functions . Added Features . Editorial changes. Implemented Template v.1.2. |
| 1.3 | 26 January 2022 | ES, AS | Updated list of available services. |
| 1.2 | 5 May 2021 | ES, ZZ | Added the Document revision section and made general updates of the document. |

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