

Network Requirements for Zencontrol

Pre-requisites

- A data run from each controller to a data outlet/switch is required (no looping)
- Terminations for data to be done and plugged into switch before we commission the lighting
- 1x static IP address required per controller, also 3 spare for commissioning
- 1x gateway assigned
- Ports open (see below)

Network Requirements

Required services (WAN/Internet or Local)

The table below lists essential ports and services required for controllers and legacy WiFi emergency monitoring devices to operate correctly. These can be configured within the local network, without necessitating external internet exposure. NTP services can be provided locally using DHCP option 42 or by redirecting ntp.buildinglogin.com to a local NTP server through DNS remapping. Similarly, DNS services can be supplied by the router or a local DNS server, negating the need for direct internet access while ensuring controllers can still access these essential services. It's vital that controllers have access to these specified services for proper functionality. In cases where local services are unavailable, firewall configurations must permit the necessary traffic to pass through to the Internet.

Service	Type	Port	Protocol	Network access	Application Layer	Hostname
Time	Controller	123	UDP	Egress	SNTP	ntp.buildinglogin.com
DNS	Controller	53	UDP	Egress	DNS	N/A

Cloud required controller ports (WAN/Internet)

The table below outlines the essential ports that need to be opened to allow communication between the site's internet connection and the zencontrol cloud infrastructure. These port configurations are only necessary when controllers are set up for cloud connectivity and are not being managed locally through zencontrol onsite software. Enabling these ports ensures seamless integration with zencontrol's cloud-based services for remote management and monitoring.

Service	Type	Port	Protocol	Network access	Application Layer	Hostname
Device Upgrade	Controller	6396	TCP	Egress	MNCP 2.0	fw-download.zencontrol.com
Cloud MNCP	Controller	5113	TCP	Egress	MNCP 2.0 & TLS 1.2 PKI	connect.zencontrol.com

Cloud web portal (Browser)

To enable access to the cloud web portal from the client's network, the following ports and services must be made accessible through the firewall. This configuration is necessary if the customer intends to access the portal using their own network and internet connection, such as from a communications room. Opening these specified ports ensures secure and efficient connectivity to the zencontrol cloud services from within the client's network infrastructure.

Service	Type	Port	Protocol	Network access	Application Layer	Hostname
API Service	Commissioning & monitoring	443	TCP	Egress	TLS 1.2	api.zencontrol.com
Login Service	Commissioning & monitoring	443	TCP	Egress	TLS 1.2	login.zencontrol.com
Web GUI Service	Commissioning & monitoring	443	TCP	Egress	TLS 1.2	cloud.zencontrol.com
File Service	Commissioning & monitoring	443	TCP	Egress	TLS 1.2	file.zencontrol.com
Developer Documentation	Information	443	TCP	Egress	TLS 1.2	developer.zencontrol.com

Service specific controller ports (Local)

The table below lists the local network ports that need to be opened for controllers to effectively communicate with each other and with other devices on the local network. Each entry in the table corresponds to a specific service and may not be universally required. For instance, in most installations where controllers need to interact with each other, firewall rules must be configured to permit this inter-controller communication. Similarly, if BACnet IP is being utilized, the BACnet server should be allowed to connect to the controllers and retrieve information. The necessity of each port depends on the specific requirements and configuration of your installation.

Service	Type	Port	Protocol	Network access	Application Layer	Hostname
Controller to controller MNCP	Controller	5110	TCP/UDP	Ingress/Egress	MNCP 2.0 & TLS 1.2 PSK	N/A
API	Controller	5108	UDP	Ingress	Third Party Interface	N/A
BACnet IP	Controller	User configured default - 47808	UDP	Ingress	BACnet IP	N/A
MQTT	Controller	User configured defaults - 1998 (Std) 8883 (TLS)	TCP	Egress	MQTT	N/A