

Sympholink Information Technology Guide

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Sympholink System Network

The Sympholink System Network is the dedicated Ethernet-based infrastructure that enables primary communication among all Sympholink components. All Sympholink gateways and wireless gateways must be able to communicate with Sympholink services and each other through this network.

If a firewall is deployed, refer to the 'Firewall and Port Requirements' section.

Sympholink Network Components

The Sympholink System Network consists of four types of network-enabled components:

Sympholink Server:

A physical or virtual machine which hosts the Sympholink system. In addition to executing core system functions, Sympholink server also provides:

- BACnet and REST API interfaces for third-party integration
- Storage of all system logs, reports, and trend data
- Regular system backup

Wired/Wireless Gateway

A device which serves as a central communication hub within the Sympholink System Network. Gateways connect to the control equipment via DALI bus or wireless Zigbee protocol. Supported control equipment including but not limit to luminaires, keypads, occupancy sensors, environmental sensors, emergency lights, Zigbee-to-DALI converters, curtain controls, and thermostats etc.

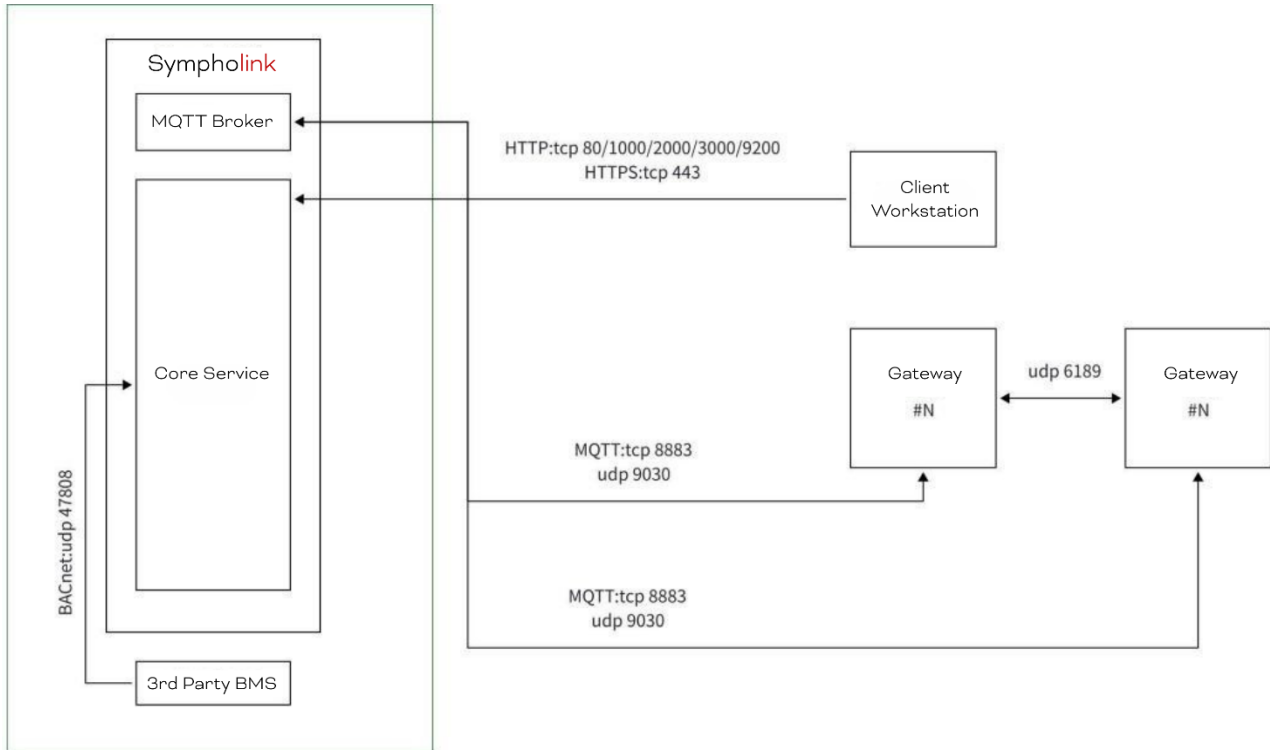
Zigbee Device Commissioning USB Tool

A dongle to be used by installers to integrate Zigbee devices into a designated gateway by searching and commissioning which will significantly improve overall commissioning efficiency.

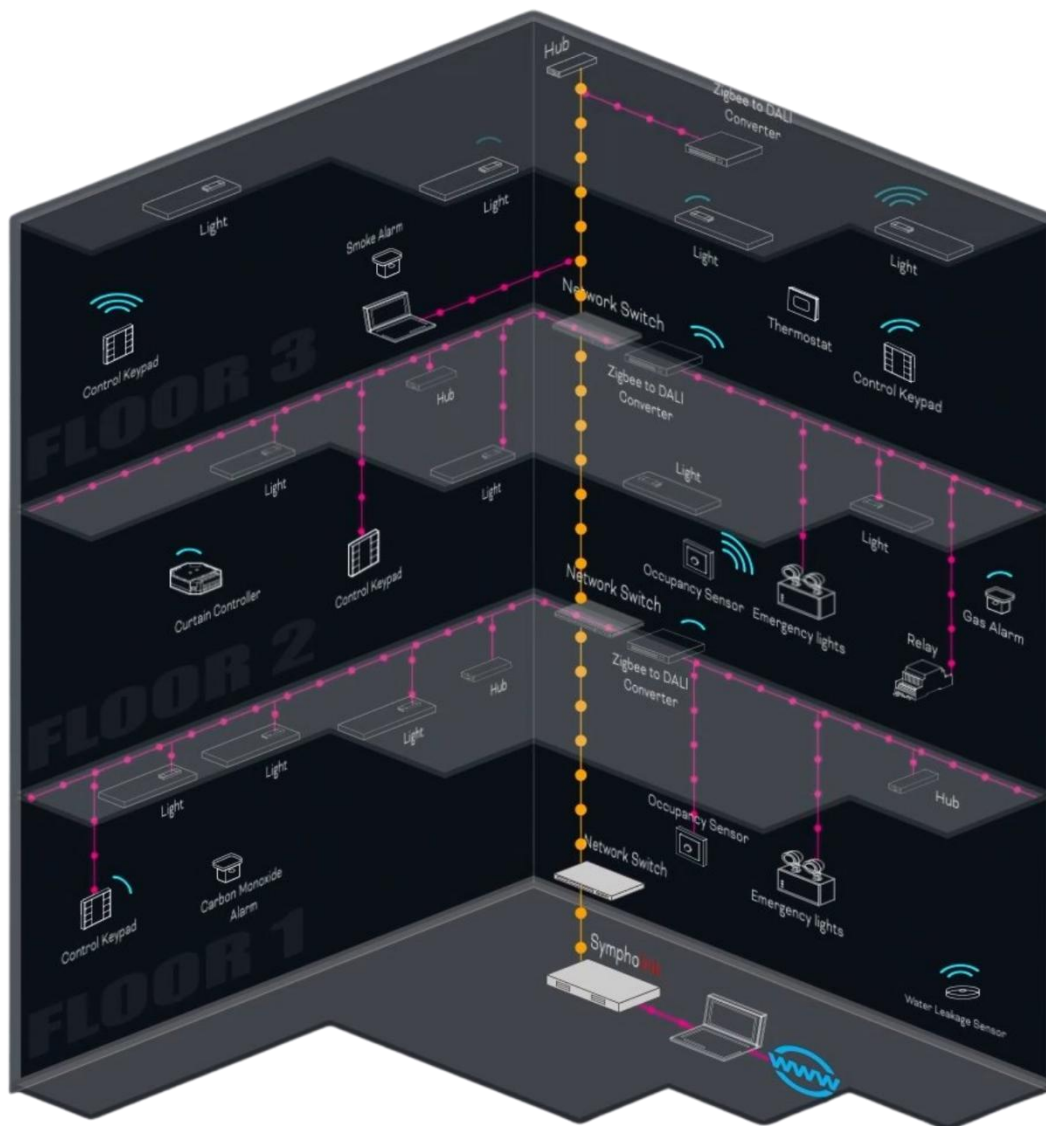
Client Workstation

Any client workstation within the same network as Sympholink server can access the system through a standard web browser by entering server IP address and logging in with the assigned account.

Device Communication Diagram



3D Overview System Diagram



Port Requirements

Port	Protocol	Function	Source	Destination
8883	TCP	MQTT communication	Gateway	MQTT Broker
80, 1000, 2000, 3000, 9200	TCP (HTTP)	Service operations	Web Client	Sympholink System
443	TCP (HTTPS)	Service operations (SSL)	Web Client	Sympholink System
9030	UDP	Device discovery	Sympholink System	Gateway
4780	UDP	BACnet service	Third-party BACnet device or system	Sympholink System
6189	UDP	Data transmission	Gateway	Gateway

Sympholink Server Configuration Requirements

Minimum System Requirements

Operating System:

- Windows 10 Professional
- Windows 11 Home / Professional / Enterprise
- Windows Server 2016 / 2019

Memory: 16 GB RAM (32 GB RAM recommended)

Storage: 1 TB HDD

Processor: Intel® Core™ i5-1240P, 1.70 GHz

Minimum Network Requirements

Local Area Network (LAN): 100 Mbps bandwidth

Recommended Client Browser Resolution

Width: 1920 pixels

Height: 1080 pixels

Aspect Ratio: 16:9

Sympholink Components and Services

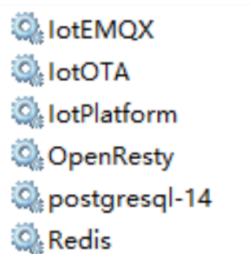
Third-Party Components

Sympholink requires support from several third-party services which are bundled within the installation package. This will automatically be deployed during Sympholink setup.

Service	Version	Function
JDK	OpenJDK 21	Required to run Sympholink services
PostgreSQL	14.18	System database
EMQX	5.3.2	Communication channel between Sympholink system and gateways
Nginx	1.27	Web server
Redis	5.0.10	Caching service

Sympholink System Processes

Sympholink is built based on a microservices architecture; therefore, it requires the following system processes to be running for full system functionality:



Suspended	Auto
Running	Auto
Running	Auto
Running	Auto
Running	Auto
Running	Auto

Sympholink (IoTPlatform) is monitored and run by Windows system process; therefore, in the event of system failure, this system process will automatically restart once system restarts. Note that Sympholink may take a short while to initialize during startup.

Sympholink Installation Notes

Firewall Requirements

Windows Security

- <
- ≡
- Home
- Virus & threat protection
- Account protection
- Firewall & network protection**
- App & browser control
- Device security
- Device performance & health
- Family options
- Protection history

Settings

Firewall & network protection

Who and what can access your networks.

 Microsoft Defender Firewall is using settings that may make your device unsafe.

Restoring default settings will remove all Windows Defender Firewall settings that you have configured for all network locations. This might cause some apps to stop working.

Restore settings

 **Domain network (active)**

Firewall is off.

Turn on

 **Private network**

Firewall is off.

Turn on

Windows Firewall must be disabled to ensure proper installation and operation of the Sympholink system. If antivirus software is running, it must also be disabled during installation.

IP Address Configuration

Edit IP settings

Manual

IPv4

☒ On

IP address

10.10.100.2

Subnet mask

255.255.255.0

Gateway

Preferred DNS

DNS over HTTPS

Off

Alternate DNS

Save Cancel

The Sympholink System Network uses a fixed subnet: 10.10.100.XXX. If the current network configuration is outside this range, update the settings as follows:

- IP Address: 10.10.100.2 (Note: Sympholink server address cannot be 10.10.100.100.)
- Subnet Mask: 255.255.255.0