Engineering Guide

Intelligent Valve - Onboarding in Building Operator

Minimum requirements:

- Hardware model info: ASE4U10E; HW=2.21.0
- Firmware revision: 03.54.02.10; APP=1.16.2251;
  SVS-300.6.SBC=15.00; ISC=01.00
- Application software version: AAS-20:SU=SiUn;
  APT=HvacFnct34; APTV=2.010; APS=1
- ABT Go 4.0
- ABT Site 4.0
Cyber security disclaimer

Siemens provides a portfolio of products, solutions, systems and services that includes security functions that support the secure operation of plants, systems, machines and networks. In the field of Building Technologies, this includes building automation and control, fire safety, security management as well as physical security systems.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art security concept. Siemens’ portfolio only forms one element of such a concept.

You are responsible for preventing unauthorized access to your plants, systems, machines and networks which should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. Additionally, Siemens’ guidance on appropriate security measures should be taken into account. For additional information, please contact your Siemens sales representative or visit https://www.siemens.com/global/en/home/company/topic-areas/future-of-manufacturing/industrial-security.html.

Siemens’ portfolio undergoes continuous development to make it more secure. Siemens strongly recommends that updates are applied as soon as they are available and that the latest versions are used. Use of versions that are no longer supported, and failure to apply the latest updates may increase your exposure to cyber threats. Siemens strongly recommends to comply with security advisories on the latest security threats, patches and other related measures, published, among others, under https://www.siemens.com/cert/en/cert-security-advisories.htm.
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1 Workflow of Intelligent Valve Cloud Preconditions and Onboarding

This guide focuses on onboarding Intelligent Valve into Siemens Building Operator using the ABT Go mobile application.

It is also possible to set the corresponding settings and perform a firmware update on Intelligent Valve with the ABT Site tool. For information on how to perform these steps, see the documentation in the ABT Site Online Help, which is directly accessible from the tool.

The workflow depicted below shows the three phases of the onboarding process:

1. **On Intelligent Valve:**
   - Connecting Intelligent Valve to an IPv4 network with Internet access. As of this release, Intelligent Valve does not support any HTTP proxies. HTTPS port 443 must be open.
   - Performing a firmware update.
   - Activating the cloud functionality.

2. **In Siemens Building Operator:** Onboarding users by creating a user account and selecting an appropriate subscription model.

3. **In Asset Manager:** Creating a new site and assigning Intelligent Valve to this site.
2 Connecting Intelligent Valve to the Internet with ABT Go

Set up mobile device

1. Scan QR code with your mobile device.
2. Install ABT Go application on your device.
   ✤ Your mobile device is set up and ready to use.

<table>
<thead>
<tr>
<th>Android device</th>
<th>Apple device</th>
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</table>

Power up Intelligent Valve

▷ Intelligent Valve is installed.
▷ Piping system is flushed.
▷ All sensors are connected
▷ Power supply is connected and ready to use.
▷ Valid signal 0…10 V on terminal X1 (cable is connected).
▷ Pump is running.
1. Turn power on.
   ✤ Valve initializes; LED is WHITE for approximately 5 s.
2. Valve is started up.
   ✤ SVC-LED is green (steady with heartbeat).
   ✤ WLAN-LED 🌐 is flashing blue (0.5 s on / 0.5 s off): WLAN is activated but not connected.
   ✤ Valve is ready to use.
Connecting Intelligent Valve to the Internet for the first time

Although not recommended, from firmware version 1.15.1175 onward, it is possible to connect to Intelligent Valve via WLAN Direct. Below, option A for connection is described – however, option B, using a USB cable, is similar. Using options A or B is recommended.

- **Precondition:** User’s mobile phone is connected via WLAN to the same IPv4 network as Intelligent Valve.

<table>
<thead>
<tr>
<th>Option A</th>
<th>Option B</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Option A Diagram" /></td>
<td><img src="image2.png" alt="Option B Diagram" /></td>
</tr>
</tbody>
</table>

1. **Start ABT Go App** [1].
2. **Welcome screen shows your Account** [2.1].
3. **Select Menu** [2.2].
Select **Connection** [3].

Switch to **Network** [4.1].
Select **Connect** [4.2].

Device list may be empty.
Select **Discover** [5].

Device appears in list.
Switch to device by selecting it.
Enter role [7.1]:
- **Administrator**: Full access
- **Specialist**: Balancing, control functions, configuration
- **Installer**: Balancing
Enter password [7.2].
- Initial password for all roles: OneBT

First login requires a password change.
Password rules:
- 8 characters
- 1 number
- 1 special character
- 1 capital letter

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**Remember your password!**

**Resetting the password resets ALL settings.**
3 Configuring Network in ABT Go

In order to connect your Intelligent Valve device to the cloud, your IPv4 network must fulfill certain requirements:

- As of this release, Intelligent Valve does not support any HTTP proxies.
- HTTPS port 443 must be open.
- Intelligent Valve supports both DHCP and static IP mode.
  - DNS IP entry must be set explicitly either to the same IP address as the "IP default gateway" or to the address of the specific DNS server if applicable.

Select **Configuration** [1].

Select **Configure network node** [2].
Select **Device name** [3] to change it.

The device name should not contain:

- letters with diacritical marks like ä, à, á, ñ
- special characters like €, £, ¥

Error message is always

“Device name must be between 1 and 80 characters” – even for using a disallowed character.

- Select **Device instance number** [4] to enter BACnet device instance number.
Select Ethernet settings to adjust them:

- [5.1]: Enable (IP) DHCP
- [5.2]: IP address
- [5.3]: IP subnet mask
- [5.4]: IP default gateway

After configuration, ABT Go returns to device list and discovery is necessary [7].

Configuring the network node requires a device restart.
Startup time approximately 45 s.
During the restart, the device will close.
4 Updating Firmware

Update in ABT Site
For documentation of firmware update through ABT Site, see ABT Site Online Help, or Intelligent Valve, Engineering and Commissioning in Desigo [A6V11572317]. Documents can be downloaded at the following Internet address: https://siemens.com/bt/download.

Update in ABT Go
1. Send the software file to an e-mail account accessible from your mobile phone.
2. Open the e-mail on your smartphone and double-click the software file.
   - The e-mail program will save the file into the correct app folder.
   - Android: It is possible that the automated saving is blocked by the security settings of the e-mail program on Android phones (this is likely when using Siemens Nine Work). In this case, save the file manually to the following folder: My Files > Internal storage > Android > data > com.siemens.abtgo > files > ABTGo > Firmware
3. Power on Intelligent Valve Controller ASE4U10E.
4. Connect to the Internet (Connecting Intelligent Valve to the Internet with ABT Go [➙ 5]).
5. Log in to device.
6. Perform update in the ABT Go app.
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<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><img src="Image_97x480_to_253x732" alt="Image" /> Select Configuration [1].</td>
</tr>
<tr>
<td>2</td>
<td><img src="Image_345x480_to_501x732" alt="Image" /> Select Update Software [2].</td>
</tr>
<tr>
<td>3</td>
<td>Select the software version you need from the software list.</td>
</tr>
<tr>
<td>4</td>
<td>Startup time approximately 30 s. Duration approximately 8 min.</td>
</tr>
</tbody>
</table>

Updating the software will take a few minutes. During this process, the device is out of order, the control function of the Intelligent Valve is stopped and the valve will close.
**Update process will start.**

1. Backing up all parameters.
2. Loading software.
3. Restoring stored parameters to updated device.

All settings such as Network Node Configuration, Volume Flow Limitations, etc. remain the same as before.

**Operation > Info** shows the upgraded software version.
## 5 Activating Cloud Connection

1. Select **Configuration** [1].

2. Select **Cloud configuration** [2].

3. Expand the pop-up menu by clicking on the arrow [4].

### Activating Cloud Connection

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
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<tbody>
<tr>
<td>5</td>
<td>Choose <strong>Yes</strong> [5] to enable cloud connectivity.</td>
</tr>
<tr>
<td>6</td>
<td>Scroll down to <strong>Command</strong> [6] and tap twice to expand the pop-up menu.</td>
</tr>
<tr>
<td>7</td>
<td>Select <strong>Activate</strong> [7] to establish a connection.</td>
</tr>
<tr>
<td>8</td>
<td>After a few minutes, once the connection to the cloud is active, the Communication LED on top of the Intelligent Valve controller [8] will start to blink purple. Please note if WLAN Direct is on, this LED will be blue, and need to turn WLAN Direct off first in order to see whether the cloud connection has been established.</td>
</tr>
</tbody>
</table>
6 Claiming Intelligent Valve in Building Operator

Smart Infrastructure Building Products is driving the digitalization of buildings to the next level and is introducing a new family of software products and services, by leveraging state of the art internet technologies, like cloud computing, IoT, edge computing and big data analytics.

Building Operator is a cloud-based software service for remote monitoring of a fleet of sites. It is made for companies providing maintenance and service for buildings. It will enable the service providers to offer a new range of digital services for their clients, such as remote operational assistance, corrective maintenance and troubleshooting.

Users of this software service get an overview of the connected building facilities to be serviced. The user can see the site status, can view the state of the HVAC applications on data point level, can command individual data points and view the stored history of a data point.

For all details, including market segmentation, target customers, target use cases, please refer to the Facts as published in November (EN: 48E002BC, DE: 48D002BC) or the Building Operator Intranet.

For comprehensive documentation on the Building Operator, see:
- Building Operator User Guide [A6V11881696]
- Building Operator Discovery Engineering Guide [A6V11881627]
- Building Operator Cyber Security Guideline [A6V11852371]

Documents can be downloaded at the following Internet address: http://siemens.com/bt/download.
6.1 Signing up

To log in to the Building Operator application for the first time, complete the following steps:

2. Select **Log In/Sign Up** on the landing page.

3. Select the **Sign Up** tab and complete the fields to create a Siemens ID. Select **Sign Up** to confirm. Keep this tab in the browser open.
4. Check your inbox for an email from Siemens ID. Select **Confirm my account** in the email.

5. Navigate back to the initial tab and select **Continue**.
6.2 Choosing a subscription type

Once you’ve logged in to the Building Operator application for the first time, you need to select a subscription plan. For more details on each subscription plan, please see the Product and Service Datasheet [A6V11913114].

To select a subscription:

1. Select **Start Now** to start a Free Trial or **Activate Now** to activate the Standard subscription.

2. If you click **Start Now**:
   - Enter the information in the **Company** and **Address** fields provided.
   - Select the checkbox below, then **Continue** to proceed.
   - In the Review section, review the information you just entered. Select **Activate** to activate your free trial.
3. If you select **Activate Now** to activate a Standard subscription:
   - Enter your Entitlement ID in the field provided. Select **Continue** to proceed.
   - Enter the company information in the fields provided. Select **Continue**.
   - Select the products you want to activate. Select **Continue**.
   - Review the information and select **Activate** when ready.

4. After successfully activating one of the subscription options, you will be redirected to an empty page with no registered sites.
6.3 Creating a new site

In order to onboard Intelligent Valve to a new or existing site, switch from Building Operator to Asset Manager.

1. Select **App Switcher** in the top left corner.
2. Select **Asset Manager**.

If you have not already created a site in Asset Manager, follow the steps below.

In Asset Manager:

1. You can add a site in two ways:
   - To add a site through the **Overview** tab, select Sites.
To add a site through the **Sites** tab, select **Add**.

2. Fill in the fields on the ensuing form appropriately. Select **Add**.

The **Address** field will automatically suggest addresses. Selecting a suggested address will automatically populate the **Time Zone** field. If you enter in an address manually, the time zone will need to be entered in manually.
6.4 Claiming Intelligent Valve and adding it to a site

To add a device to a site, follow the steps below.

1. In Asset Manager:
   - In the **Sites** tab, select the site where you want to add your device.

2. Select **Add**.
3. Enter the device activation key and select **Validate**.
4. Confirm the details of your device and select Add.

5. After successfully onboarding Intelligent Valve, use App Switcher to return to Building Operator.
6. In Building Operator, the newly created site appears. By clicking on it, navigate to Intelligent Valve onboarded through Asset Manager.