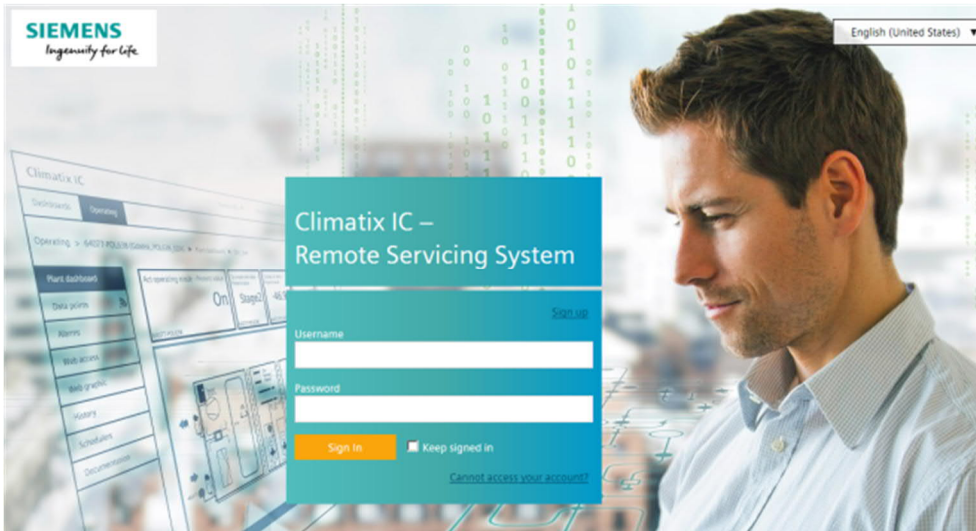


SIEMENS



Climatix IC

Remote Servicing for POL controllers

User Guide – Getting Started

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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>.

Legal note

Legal note concept

This guide includes notes that must be followed to prevent damage to property. Notes dealing only with damage to property use the signal word NOTE and an exclamation point. They are depicted as follows:

!	<i>NOTICE</i>
	Type and source of hazard Consequences in the event the hazard occurs <ul style="list-style-type: none"> • Measures/prohibitions to prevent the hazard

Qualified personnel

Only qualified personnel may commission the device/system. In this regard, qualified personnel have the training and experience necessary to recognize and avoid risks when working with this device/system.

Proper use

The device/system described here may only be used on building technical plants and for the described applications only.

The trouble-free and safe operation of the device/system described here requires proper transportation, correct warehousing, mounting, installation, commissioning, operation, and maintenance.

You must comply with permissible ambient conditions. You must comply with the information provided in the Section "Technical data" and any notes in the associated documentation.

Fuses, switches, wiring and grounding must comply with local safety regulations for electrical installations. Observe all local and currently valid laws and regulations.

Exemption from liability

The content of this document was reviewed to ensure it matches the hardware and firmware described herein. Deviations cannot be precluded, however, so that we cannot guarantee that the document matches in full the actual device/system. The information provided in this document is reviewed on a regular basis and any required corrections are added to the next edition.

Software used

All open source software components used in this solution/service (including copyright owners and license agreements) can be viewed at the following link:

- Go to <https://www.climatixic.com> in the footer on entry "OSS".
- Direct: https://www.climatixic.com/Content/OSS_ClimatixIC.htm

1 About this document

1.1 Getting to know Climatix IC

Videos	
Climatix IC on Youtube	https://www.youtube.com/watch?v=5_NuNjhyHyg
Specific user roles in Climatix IC (Youtube)	https://youtu.be/gtZJ9AwfLe0 (German) https://youtu.be/kiPp014jrZA (English)

2 Climatix IC Remote Servicing

HVAC plants with Climatix controllers can connect to the "Climatix Remote Servicing, Climatix IC".

Climatix IC supports your organization with remote maintenance 24/7, available anywhere to significantly reduce maintenance costs.

2.1 Key benefits

Climatix IC web applications offer:

- Remote access to plant devices worldwide and 24/7
- Plant owners and managers can analyze:
 - Current status
 - History
 - Access to schedules and settings
- Real-time consumption data (currently available as an history export) helps identify "consumption anomalies" that often point to underlying mechanical problems. This permits preventive maintenance.
- Climatix IC web operation simplifies and modernizes operation at all access levels.

Remote maintenance – at any time from any location

HVAC systems often operate a considerable distance from OEM production centers, supplier or service organizations, resulting in high service and travel costs, especially during warranty periods.

Climatix IC Remote Servicing facilitates diagnostics, optimization of settings, or system upgrades from any location. Even if a visit to the plant does prove necessary, however, the available data enables service engineers to work more efficiently.

Connection – straightforward and effective

Today, most Climatix controllers are equipped with a built-in IP interface. The controller connects automatically to the Climatix IC via this interface.

Web-based – always up to date

Climatix IC operates with standard web browsers that support HTML5. The service engineer logs on via a laptop and directly accesses the plant. No special software or cables required.

2.2 Key functions

Climatix IC includes the following key functions:

- Collects alarms and routes them to the responsible service organization.
- Upgrades to installed plants: Application and firmware enhancements or saving control parameters to the cloud. Everything can be scheduled for specific times.
- Process data analysis permits systematic improvements to plant efficiency.
- The application can be used by any PC or laptop; no additional software required.

3 Requirements

3.1 Technical requirements

The current Climatix controllers are preconfigured to automatically connect to Climatix IC as soon as they are connected to the Internet. First review the following system requirements:

Climatix controller BSP

- POL63x: 10.36 or higher.
- POL68x: 10.36 or higher.

The new POL6x8 and POL69U controllers have the appropriate BSPs from the factory.

Controller loaded with SAPRO application

- Climatix controllers must be loaded with a valid SAPRO application.
- The BSP LED must be green.

SCOPE tool version

The SCOPE tool maps, generates, and uploads to controllers as of VVS 10.32 or higher.

Internet access

- The Ethernet cable must be connected to the controller's IP connection (T-IP).
- The controller requires a direct connection to the Internet, i.e. without proxy.
- Port 443 (https) is open, from the device to the outside on the Internet.
- Port 80 (http) is open, from the device to the outside on the Internet.
- Broadband Internet is recommended for the controller due to the program size.
- It is further important that the Internet connection is stable.

Web browser

The browser must support HTML5.

- The latest versions (as of the publication date) of the following browsers were tested: Google Chrome, Mozilla Firefox, Microsoft Edge, and Safari (based on iOS) by Apple
- Internet Explorer is no longer supported.

3.2 Use of Data Matrix Code

The activation code for your Climatix controller is included in the controller's firmware and can be read there using the SCOPE tool. The activation code is also printed on the actual controller as a DMC.

You can scan the code using a code reader app. The result is a text string.

Example

1PS55396-C488-A100+31PPOL648.80/STD+S160908Z00000000005+23S00-A0-03-EB-01-04+3CAAAAAA-BBBBBB-CCCCC-DDDDD-EEEE

The text string is subdivided into code letters:

- 1P: Siemens stock number (SSN); fixed
- 31P: Siemens device type (ASN); fixed
- S: Date (YYMMDD), series, serial number, variable
- 23S: MAC address (hex); variable
- **3C: Climatix IC activation key; unique device ID**

Conclusion

Your Climatix supports the automation of your business processes, e.g. during sign-up or pre-registration. You no longer need to connect the controller to get its ID.



The data matrix code on the box includes information such as the Siemens device type (ASN) and date of manufacture. The activation code is not included on the box.

4 Preparatory work in SCOPE

4.1 Connect and exchange data

4.1.1 Connect to the Internet (IP)

SCOPE is connected with the target controller: In the "Browser for Data Points", go to "SystemObjects > IP-Config" and check the following member settings.

DHCP

The network configuration is taken from the DHCP server, if available.

Member ID	Member name	Setting
0x0001	DHCP	Active

The DHCP server provides the following information:

- Current controller IP address
- Correct subnet mask
- Gateway IP address, if needed

Fixed IP address

Make the following settings if **no** DHCP server is available:

Member ID	Member name	Setting
0x0001	DHCP	Passive
0x0035	IP	Local controller IP address
0x0036	SubnetMask	Correct subnet mask for the local network
0x0037	Gateway	Gateway IP address or 0.0.0.0, if no Gateway is required
0x0038	PrimaryDNS	Valid DNS server address, e.g. 8.8.8.8 (Public DNS Google). DNS-Server to resolve internet domains
0x0039	SecondaryDNS	Backup for PrimaryDNS

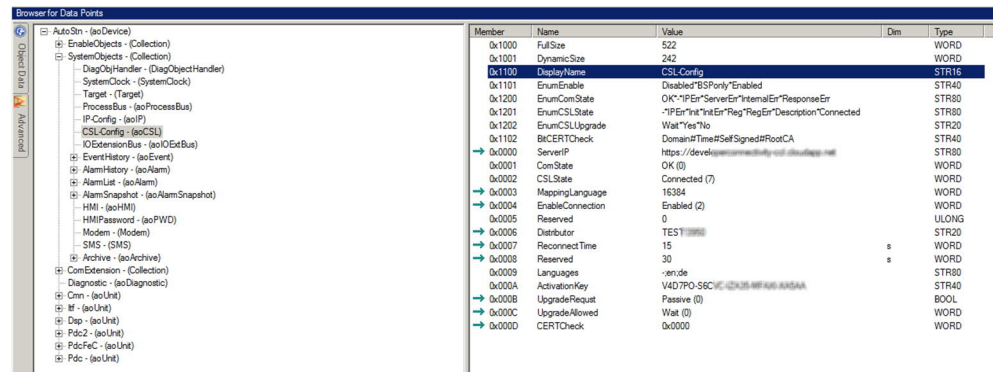
Check success

Both members provide a note on success in this step:

- 0x0003: Link: Must be set to active (1)
- 0x0004: 100MBit: Must be set to active (1)

The next step "Connect to cloud (CSL) [→ 10]", lists all other criteria to ensure the controller communicates with Climatix IC (Cloud).

4.1.2 Connect to cloud (CSL)



Under "SystemObjects > CSL-Config", check the following member settings:

Member ID	Member name	Setting
0x0000	ServerIP	Server URL with the correct connection protocol: https://www.connectivity.ccl-siemens.com
0x0004	EnableConnection	"Switch" for connecting. Is run as the last step.
0x0006	Distributor	The distributor key assigns the controller to the correct tenant.
0x0007	ReconnectTime	Wait in seconds between two connection attempts

Workflow in detail and chronologically

- ▷ You have the distributor information (compare: "Tenants").
 - ▷ SCOPE tool is open and connected to the target controller.
1. In SCOPE, in the "Browser for Data Points", go to "SystemObjects > CSL-Config".
 2. Check the ServerIP: Do not change the default setting
<https://www.connectivity.ccl-siemens.com>.
 3. Enter the distributor key in Distributor. The tenant administrator provides the key.
 4. The "switch" is used for connecting only at the end: Set EnableConnection to Enabled.

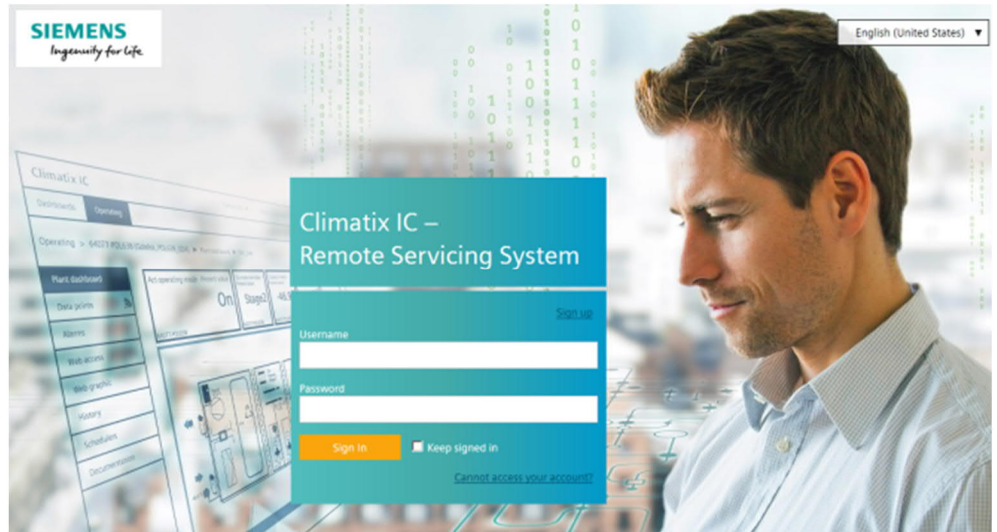
Check success

You can assume, according to the criterion indicated for both members that the controller is communicating with Climatix IC (Cloud):

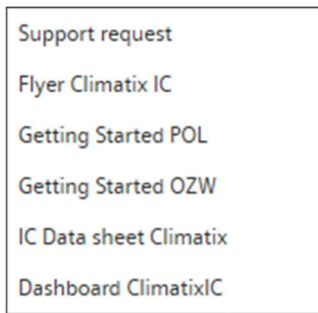
- 0x0001: ComState must be on OK (0)
- 0x0002: CSLState must be on Connected (7)

5 Entering Climatrix IC

Enter the portal at <https://www.climatrixic.com>.

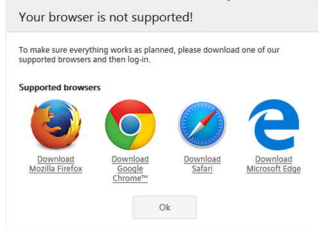


5.1 Assistance on the start page



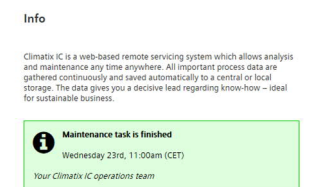
Accessible documentation

- "Support" on the start page provides an introduction.
- The comprehensive help for reading is located at the same location after log in.



Information on unsupported browsers

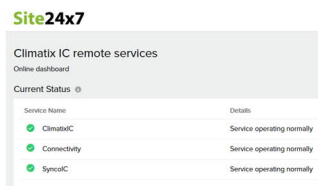
A clear information window indicates when Climatix IC is opened by an unsupported browser.



Central maintenance information from the Climatix IC Operations Team

Maintenance and important improvements are prominently displayed on the start page.

A color code (green, yellow, red) intuitively indicates the relevance of the information. Once logged in, you can access the same information at any time using the Info symbol (upper right). The Info symbol flashes for news.



Climatix IC dashboard

You are investigating an event and want to know whether Climatix IC was online at a specific time? The Climatix IC dashboard provides an objective overview whether services are or were available. You can also subscribe to the RSS feed for the service.



Cookie information

You must confirm the cookie information every 90 days.


Language selection

- Set the language in the portal navigation ribbon to the right.

5.2 Sign in

Sign in

- ▷ You have received an e-mail with an invitation link and temporary password.
- 1. Enter the User name (your e-mail address) and (temporary) password and click "Sign in".
 - ⇒ You are requested to change the password.
- 2. **NOTICE! Read the note below for permissible Climatix IC passwords.** Create a secure password and confirm the new password below it.
- 3. Click "Change password" to confirm the change.
 - ⇒ Your individual password is active and you are now forwarded to an entry mask.

	<p>NOTICE</p>
	<p>Climatix IC accepts the following passwords: A secure password consists of at least 8 characters and includes at least one of the 4 character groups:</p> <ul style="list-style-type: none"> • Latin capital letters (A...Z) • Latin low-case letters (a...z) • Digits (0...9) • Non-alphabetic characters (e.g. !, \$, +,?)

Secure sign in and out

Note the following functions for sign in/out:

- The connection is ended after 30 minutes of inactivity. The web page returns to the sign-in screen.
NOTICE! Only the activity on the first tab is registered when working in multiple browser tabs.
- The user account is locked after 5 attempts with the wrong password.
- The user is notified as soon as a new password is set using the "Forgot password?".
- For security reasons, a new sign in is required after 24 hours of uninterrupted user activity.



NOTICE

Protect passwords

- Do not pass on your user name and password for Climatix IC to just any third party.
- Encrypt e-mails that include the user name and password.

Forgotten password

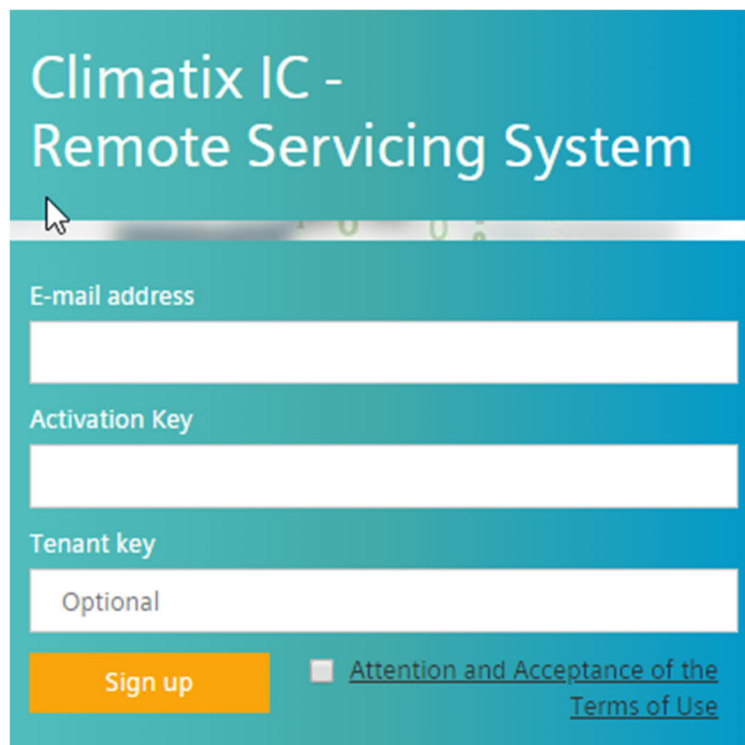
Use the "Forgot password" function if you have forgotten your password and follow the instructions.

Reset your password

E-mail address

Reset password

5.3 Sign up - Register a plant



The screenshot shows a web form titled "Climatix IC - Remote Servicing System". The form has a teal header with the title in white. Below the header, there are three input fields: "E-mail address", "Activation Key", and "Tenant key". The "Tenant key" field has the word "Optional" inside it. At the bottom left is an orange "Sign up" button. To the right of the button is a checkbox followed by the text "Attention and Acceptance of the Terms of Use", where "Terms of Use" is a blue underlined link.

As a rule, you are invited by e-mail the first time you contact Climatix IC, in other words, you follow the workflow as described under "Sign in".

Registration is a process that combines multiple steps:

- First time log in by a new user without an invitation by a higher role
- Plant activation using a valid activation key
- The new users are added to the plant with the user role Owner
- Optional: Direct moving of the plant to a sub-tenant area

6 Climatix IC portal security

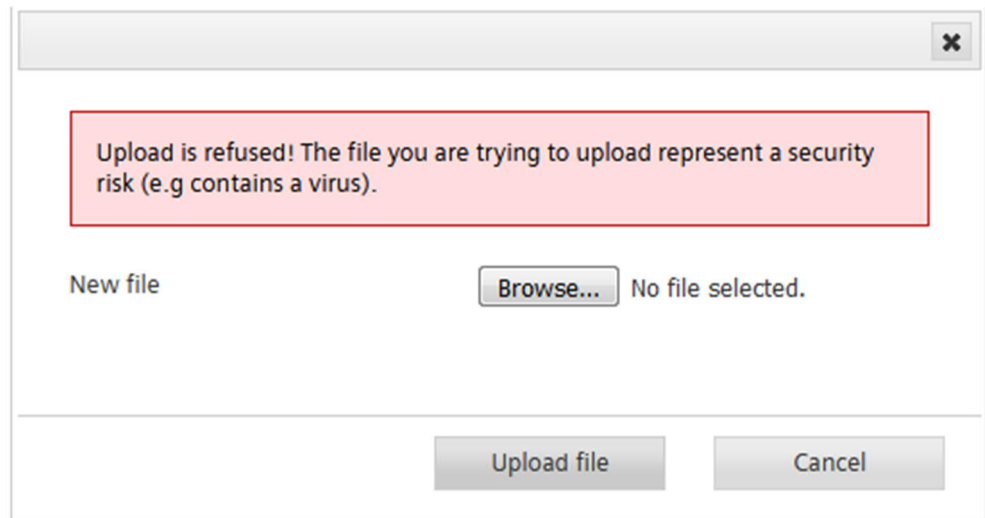
6.1 Climatix IC

The portal provides thorough security, e.g. data security, security data storage, and reliable data transportation.

- All connections are encrypted (HTTPS) to prevent tapping into the line and man-in-the-middle attacks.
- Data security as per EU Data Privacy Chapter 5
- Geo-redundant data storage from northern Europe (primary) to western Europe (secondary).

Virus scan

Uploaded files are scanned for viruses.



6.2 Climatix controller

The Climatix controller is not suitable for connecting directly to the Internet; it must be connected via a Firewall. This type of router typically has a firewall.

The firewall must be configured to permit only outgoing connections. Incoming connections must be suppressed.

7 Support

Extranet registration

Register for the OEM extranet and access exclusive information and resources:
<http://www.siemens.com/buildingtechnologies-oem>.

Support on technical problems

Please adhere to the following sequence on support issues:

1. Contact the supplier of the device or plant.
2. If unknown, Siemens provides the following tools:
 - Own information via the Download Center:
<http://www.downloads.siemens.com>.
 - Own information via the Service and Support Portal
<https://support.industry.siemens.com>.
 - Submit a support request:
<http://www.siemens.com/automation/support-request>.

Climatix IC status page

Neutral and objectively reported online state of Climatix IC:
<https://status.climatixic.com>.

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