



Firmware/Software Release Note

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MiCOM S1 AGILE RELEASE: 3.1.0

Software Version 3.1.0 - August 2024

Overview

MiCOM S1 Agile 3.1.0 is a new release of the Tool Suite used for all current GE Grid Solutions MiCOM P40 Agile products and other legacy MiCOM protection IED products.

We strongly recommend installing the latest version as soon as possible, as it will include the latest cybersecurity updates as well as function and product updates.

Previous versions settings files are likely to be compatible, but system files from S1 Agile versions 2.1.4 or older will not support the new MiCOM P40 Agile 5th generation relays. A new system will need to be created, to support the new relays in S1 Agile 3.1.0, or use one created from S1 Agile 3.0 onwards.

New Features

The following enhancements have been added to MiCOM S1 Agile 3.1.0:

- **MiCOM P40 Agile 5th generation support:** Select, connect, set and explore MiCOM's next generation, including configuration of the new P40 Agile 5th gen P64 advanced transformer protection, control and condition monitoring relay.
- **Cybersecurity Updates for MiCOM P40 Agile 5th generation:**
 1. **Audit log:** New Audit log to store security events in the relay. S1 Agile can extract the Audit log when a user is logged in with the SECAUD role. The audit log file is stored as a csv file in the default events folder making it user friendly to open and edit.
 2. **Secure communications:** Secure SSH Ethernet communications between S1 Agile and the P40 5th generation relays with new Ethernet board (Hardware order option U/V/W/Y). Also supports server and client authentication for secure communications.
- **Communications updates for MiCOM P40 Agile 5th generation:**
 1. **Support for MiCOM P40 Agile 5th generation new Ethernet boards:** IED Configurator supports media selection and redundancy configuration for the new Ethernet boards (Hardware order option U/V/W/Y) including configuration of the new RJ45 engineering port.
 2. **Support for IEC 61850 Ed2.1:** Import/Export SCL file via 2007 B4 schema and editable GoCB/RCB names using IED configurator.



Fixes

- **S1 Agile Installation:** S1 Agile will now correctly install the P40U USB drivers upon installation.
- **IED Configurator:** Modified LD names are now correctly being exported in the mcl file.
- **IED Configurator:** GOOSE subscriptions will no longer be lost upon exporting the file to CID and then importing it back to the IED Configurator.
- **IED Configurator:** Exporting an MCL file to SCL will now correctly display the option 2007B.
- **IED Configurator:** IID files will now correctly describe the acronym as “Instantiated IED Description”.
- **PSL Editor:** Virtual Inputs and Outputs are now correctly labelled as Virtual Inputs and Outputs, instead of being referred to as GOOSE Inputs and Outputs.
- **PSL Editor:** Corrected unintended deletion of links when deleting one link for multiple inputs to a gate.
- **PSL Editor:** PSL signals are now correctly labelled when using the Extract Name from the settings file feature on 5th Generation MiCOM IEDs.

How to Install

Installation requirements:

1. **Operating System:** Verified on Microsoft Windows 10 Professional/Enterprise 64 bits and Windows 11 Enterprise 64 bits.
2. **Pre-Installation:** It is mandatory to uninstall existing “ALSTOM” MiCOM S1 Agile, version 1.3.1 or older, and make sure the files are totally removed from the Installation Folder (...\\Alstom Grid\\Micom S1 Agile), if any. It is recommended that newer versions are also uninstalled using Windows program uninstall feature before installing this version.
3. **Post Installation:** Manual restart is necessary to complete the installation. Please install “nmap-7.92-setup.exe” or latest version available from <https://nmap.org/download.html#windows> to support the Redundant Ethernet Configurator.

This installation:

4. Is to be downloaded to your hard disk for later installation by running the .exe file.
5. Will prompt the user to uninstall previous versions of S1 Agile manually. This is applicable only for S1 Agile v1.3.1 or older.
6. Provides the most convenient means of upgrading from the legacy S1 Studio Tool Suite.
7. Retains all existing MiCOM S1 Studio and MiCOM S1 Agile systems, or projects. Those systems can't add MiCOM P40 Agile 5th generation relays but are otherwise compatible.
8. Has two modes:
 - Custom Mode: Installs the features and transfers all installed MiCOM S1 Studio and MiCOM S1 Agile data models with the custom installation to new GE Vernova folder structure (unless the user selects to remove these when prompted during the uninstallation of previous S1 Agile).

- Express Mode: Installs all the features with default configuration and retains data models in ALSTOM folder structure, if S1 Agile v1.3.1 or older version is previously installed. The installation programme can be run again after the express installation to modify data models which will enable a user to transfer existing data models to the new GE Vernova folder structure.
9. Does not require any conversion of existing files.
 10. Can be run multiple times.
 11. Supports silent mode installation.
 12. Installation needs to be run by a user with administrator privileges.
 13. The installation will create files in two main folders, the installation folder which is by default C:\Program Files (x86)\GE\MiCOM S1 Agile and can only be changed in Custom Mode and the database files which are hard coded into C:\ProgramData\GE\MiCOM S1 Agile. If the installation is done in a Virtual Machine the VM will need access to that folder in the main machine or have a virtual equivalent to it.
 14. The installation requires an Internet connection if the PC does not have an updated version of Microsoft .Net Framework 3.5 and 4.0. This can't be packaged with S1 Agile. To obtain the files for a PC not allowed connection to the Internet you will need to download the required files from a PC allowed on the Internet and transfer them across, as stated below:
 - On the PC without Internet connection, type About in the Windows search bar and launch the window.
 - Identify the Windows version, for example, Windows 10 Enterprise version 22H2.
 - On the PC with Internet connection, download the official image for the version from Microsoft site.
 - From this point you have two options:
 - A.** Using just the cab file that contains .Net Framework (cab file is smaller than full image).
 1. Extract the image using an unzip tool into a temporary folder (for example c:\Temp_Extracted).
 2. Obtain microsoft-windows-netfx3-ondemand-package.cab file from location in "c:\Temp_Extracted\sources\sxs".
 3. Transfer the cab file to the PC without internet connection into a temporary folder (for example "c:\Temp_Folder").
 4. Open a command line as administrator by typing CMD in the Windows search bar, right click and select Run as administrator.
 5. Issue the following command: "DISM/Online/Enable-Feature/FeatureName:NetFx3/All/LimitAccess/Source:c:\Temp_Folder".
 - B.** Using the full Windows Image.
 1. Transfer and mount windows image on the PC without Internet connection as d:\
 2. Open a command line as administrator by typing CMD in the Windows search bar, right click and select Run as administrator.
 3. Issue the following command: "DISM/Online/Enable-Feature/FeatureName:NetFx3/All/LimitAccess/Source:d:\sources\sxs".

This should complete the .Net Framework installation. Now the S1 Agile installer should work fully offline.

- **Registering S1 Agile or any applications contained within it to Windows networks:**

In order to perform these operations, the user needs to have admin rights and the ability to manipulate the Windows firewall records.

1. **For Windows XP:**

Click Start, go to All programs -> Accessories -> Command Prompt and right click on it. Select the option Run As... and pick a user with Administrator rights.

Add a rule to allow S1 Agile to Windows networks:

Issue the command:

```
netsh firewall add allowedprogram mode=ENABLE profile=ALL name=[exception name]
program=[program path]
```

Where exception name is the name used to record the exception in the firewall and program path is the path where Agile.exe is installed, which by default is C:\Program Files\GE\MiCOM S1 Agile\Agile

This procedure can be repeated for any required tools like IED configurator which by default resides in C:\Program Files\GE\MiCOM S1 Agile\IED Configurator or PSL Editor that resides in C:\Program Files\GE\MiCOM S1 Agile\Courier\PSL, etc.

If the user wants to remove S1 Agile from Windows networks:

Issue the command:

```
netsh firewall delete allowedprogram profile=ALL program=[program path]
```

Where program path is the path where the application is installed.

2. **For Windows 7 and newer versions:**

In the Windows search bar, type cmd to find the command prompt application.

Before opening it, right click on the Command prompt application and run as administrator.

Add a rule to allow S1 Agile to Windows networks:

Issue the command:

```
netsh advfirewall firewall add rule action=allow profile=any protocol=any enable=yes
direction=in name=[exception name1] program=[program path]
```

```
netsh advfirewall firewall add rule action=allow profile=any protocol=any enable=yes
direction=out name=[exception name2] program=[program path]
```

Where exception name1 is the name used to record the inbound exception in the firewall, exception name2 is the name used to record the outbound exception in the firewall and program path is the path where Agile.exe is installed, which by default is C:\Program Files (x86)\GE\MiCOM S1 Agile\Agile

This procedure can be repeated for any required tools like IED configurator which by default resides in C:\Program Files (x86)\GE\MiCOM S1 Agile\IED Configurator or PSL Editor that resides in C:\Program Files (x86)\GE\MiCOM S1 Agile\Courier\PSL, etc.

If the user wants to remove S1 Agile from Windows networks:

Issue the command:

```
netsh advfirewall firewall delete rule profile=any name=[exception name]
```

Where exception name is the rule to be removed.

If any of the following standalone tools are on the target computer, it is recommended that they are uninstalled first to avoid potential software conflicts:

- MiCOM ALSTOM Selector
- MiCOM P746 Remote HMI
- MiCOM Topology - Dynamic Synoptic
- P740 File Merger
- User Programmable Curve Tool

It is recommended that the name of Off Page Connectors in PSL files created in versions prior to S1 Agile 3.0 are changed to 16 characters or less before upgrading.

Other Notes

Windows Compatibility:

- MiCOM S1 Agile 3.0.2 is compatible with and verified on Windows 10 Professional and Enterprise and 11 Enterprise (64 bit versions).
- Windows 10/11 compatibility is not verified for WinAEDR2, which is an application used for the automatic retrieval of fault records.
- To ensure that S1 Agile displays correctly using Windows 10/11 it is recommended that a “smaller” (100%) DPI screen size and high resolution is used. This setting can be found in the Control Panel under Appearance and Personalization>Display.
- For correct operation, S1 Agile 3.0.2 requires that the Microsoft .NET Framework 3.5 and 4.0 are both installed and enabled on the target machine.
- If S1 Agile is planned to be used on a Virtual Machine environment it is recommended to set the Ethernet interface of the Virtual Machine as Bridged, otherwise communications to the relays via Ethernet may fail.
- If S1 Agile is planned to be used on a Virtual Machine environment it is recommended to allow full access to the C:\Program data folder.

Computer Security Settings:

- MiCOM S1 Agile uses UDP port 111 for Ethernet communication to devices using Portmap service. For the application to connect via Ethernet correctly this port must not be blocked. The connection between S1 and the relays use dynamically allocated ports typically in the range of 1002-1007 for UDP and 49152–65535 for TCP.

To ensure correct operation, the following security settings are recommended:

- Firewall file exceptions for inbound connections:

[Program Files]\GE\MiCOM S1 Agile\Agile\Agile.exe

[Program Files]\GE\MiCOM S1 Agile\Phasor Terminal\Phasor.exe

[Program Files]\GE\MiCOM S1 Agile\User Programmable Curve Tool\UPCT.exe

For Further Assistance

For questions or further product support, please contact the GE Vernova support team using:

Region	E-mail	Telephone
Global Contact Centre	GA.support@GE.com	+44 1785 250070
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