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 Date                10.12.2019

## Firmware update release 1.0.2 for SSC600 1.0

### Scope

Firmware update release 1.0.2 is for the following product:

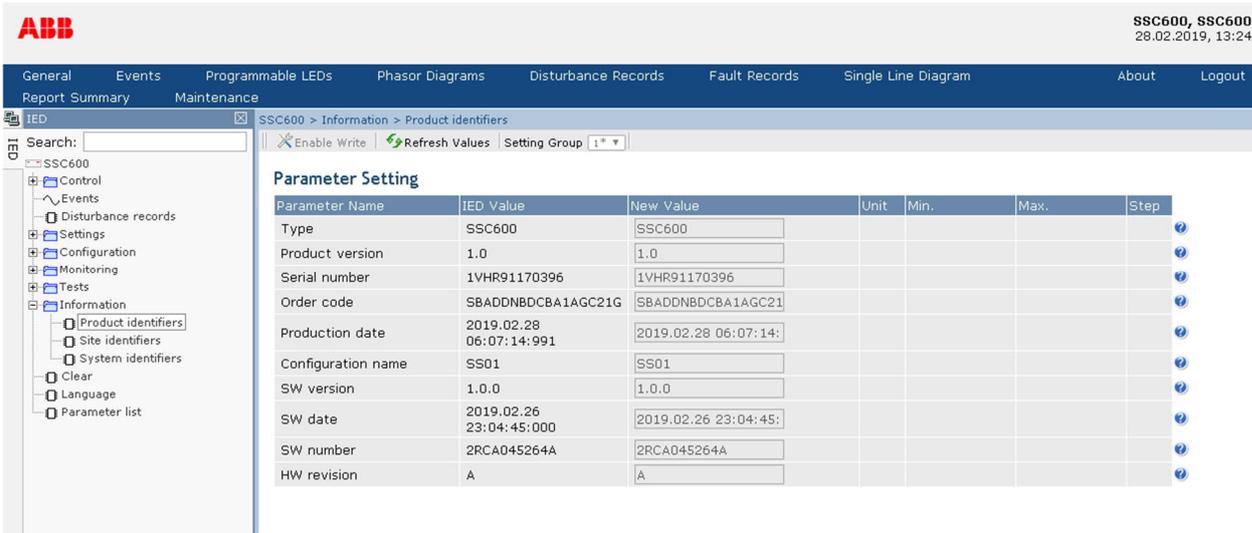
- SSC600 1.0

To verify that the firmware update applies to the product version, ensure that the last two characters of the order code on the human-machine interface (WHMI) match the corresponding characters of the order code in Fig. 1.

SBAxxxxxxxxxxxx1G  


Fig 1. Order code of the SSC600 protection relays

To identify the current firmware revision of the SSC600, please refer to Fig. 2.



The screenshot shows the ABB WHMI interface for the SSC600 product. The 'Parameter Setting' table is displayed, showing various parameters and their values. The 'Order code' parameter is highlighted, showing the value 'SBADDNBDCBA1AGC21G'.

Parameter Name	IED Value	New Value	Unit	Min.	Max.	Step
Type	SSC600	SSC600				
Product version	1.0	1.0				
Serial number	1VHR91170396	1VHR91170396				
Order code	SBADDNBDCBA1AGC21G	SBADDNBDCBA1AGC21				
Production date	2019.02.28 06:07:14:991	2019.02.28 06:07:14:				
Configuration name	SS01	SS01				
SW version	1.0.0	1.0.0				
SW date	2019.02.26 23:04:45:000	2019.02.26 23:04:45:				
SW number	2RCA045264A	2RCA045264A				
HW revision	A	A				

Fig. 2 Current firmware revision of the SSC600 product

## Implemented usability improvement

The firmware update release includes usability improvement but introduces no new functionality. Firmware updates are cumulative.

The following improvement has been implemented:<sup>1</sup>

### Firmware update release 1.0.2:

#### Communication

- Enforced Extended Master Secret sessions in TLS communication. Microsoft changed how TLS communication works in Windows which resulted in failing communication from PCM600 to SSC600. Firmware update 1.0.2 resolves the communication issue. Please see the additional update procedure from the last chapter of this document.

#### Operation

- Enabled clearing of disturbance recordings with ENGINEER rights.

#### HMI

- Enabled usage of select buttons on WHMI with multiple SPCGAC instances.

#### Protection

- Harmonized the “Intermittent EF” Operation mode in MFADPSDE to work similarly as INTRPTEF. Previously these functions had minor behaviour difference during post-fault oscillation.

### Firmware update release 1.0.1:

#### Supervision

- Improved time synchronization monitoring with additional time synchronization master source reporting. Valid time synchronization source can be found in GNRLTMS1.TmSyn.

#### Communication

- DHCP service is now enabled in Local port (LAN1) and Remote port (LAN2). This means that SSC600 can give a dynamic IP for the clients which connects to these ports to avoid client side communication configuration.

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<sup>1</sup> The relay firmware update may also include some minor usability improvements not listed in this note.

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- Combined Process Bus mode support added for network equipment having small MTU.

### **Engineering**

- Firmware update is not anymore dependant on the physical disk order. This enables future robustness with multiple disk setups while doing firmware update.
- Software date parameter was not shown correctly on PCM600 or WHMI. Improved the parameter formatting to avoid misleading values.

### **HMI**

- Added better visibility to bay device configuration backups with an additional Maintenance view in the WHMI. Maintenance view can be used to backup and restore the configurations of attached 615/620/640 devices.

### **Update procedure**

Firmware updates represent an integral part of ABB's life cycle management of distribution protection and control relays. The updates ensure optimized usability throughout the relay's entire life cycle by offering the latest improvements. The ideal time for a firmware update would be during periodical testing or a maintenance break.

All SSC600 1.0 (1G) product deliveries dispatched later than December 13, 2019 include the stated relay firmware update 1.0.2. Process of updating the latest firmware to the SSC600 can be found in the Engineering Manual Chapter 4.6 "IED Update".

Please note that ABB will not be liable for any direct or indirect costs related to the firmware update procedure. The update procedure shall be performed at the sole responsibility of the possessor of the devices.

#### **Additional update procedure from 1.0 and 1.0.1**

This additional guidance applies for SSC600 1.0 and 1.0.1 firmware versions. If your SSC600 firmware version is 1.0.2 or newer, follow the normal Update procedure instead of this guidance.

FTPS connection from PCM600 does not work on Windows systems that have October 2019 security patches applied. More information about the update can be found from <https://support.microsoft.com/en-us/help/4528489>.

To overcome this problem, it's required to use a 3rd party FTPS client to upload the firmware upgrade package to the SSC600 device. For example, WinSCP can be used as the FTPS client.

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1. Configure FTP client to use the FTP over TLS connection (e.g. WinSCP: Encryption = "TLS/SSL Explicit encryption")
2. Login to the SSC600 device with ADMINISTRATOR credentials. By default, the credentials are: Username: "ADMINISTRATOR", Password: "remote0004".
3. Upload the firmware upgrade package with name "image.raucb" to the FTPS root directory.
4. Start PCM600 and open "SSC600 Device Management" and finish the firmware upgrade. The system will detect that the firmware upgrade file has been uploaded to the system and will continue the upgrade from that point onwards. Wait until the SSC600 device updates itself.