

## SSA-731916: Multiple Vulnerabilities in CPCI85 Firmware of SICAM A8000 Devices

Publication Date: 2023-06-13  
Last Update: 2023-06-13  
Current Version: V1.0  
CVSS v3.1 Base Score: 7.2

### SUMMARY

The CPCI85 firmware of SICAM A8000 CP-8031 and CP-8050 is affected by multiple vulnerabilities such as authenticated remote command injection, exposure of serial UART interface, and hard coded credentials (for UART login).

Siemens has released updates for the affected products and recommends to update to the latest versions.

### AFFECTED PRODUCTS AND SOLUTION

Affected Product and Versions	Remediation
CP-8031 MASTER MODULE (6MF2803-1AA00): All versions < CPCI85 V05	Update to CPCI85 V05 or later version <a href="https://support.industry.siemens.com/cs/ww/en/view/109804985/">https://support.industry.siemens.com/cs/ww/en/view/109804985/</a>
CP-8050 MASTER MODULE (6MF2805-0AA00): All versions < CPCI85 V05	Update to CPCI85 V05 or later version <a href="https://support.industry.siemens.com/cs/ww/en/view/109804985/">https://support.industry.siemens.com/cs/ww/en/view/109804985/</a>

### WORKAROUNDS AND MITIGATIONS

Product-specific remediations or mitigations can be found in the section [Affected Products and Solution](#). Please follow the [General Security Recommendations](#).

### GENERAL SECURITY RECOMMENDATIONS

Operators of critical power systems (e.g. TSOs or DSOs) worldwide are usually required by regulations to build resilience into the power grids by applying multi-level redundant secondary protection schemes. It is therefore recommended that the operators check whether appropriate resilient protection measures are in place. The risk of cyber incidents impacting the grid's reliability can thus be minimized by virtue of the grid design. Siemens strongly recommends applying the provided security updates using the corresponding tooling and documented procedures made available with the product. If supported by the product, an automated means to apply the security updates across multiple product instances may be used. Siemens strongly recommends prior validation of any security update before being applied, and supervision by trained staff of the update process in the target environment. As a general security measure Siemens strongly recommends to protect network access with appropriate mechanisms (e.g. firewalls, segmentation, VPN). It is advised to configure the environment according to our operational guidelines in order to run the devices in a protected IT environment.

Recommended security guidelines can be found at: <https://www.siemens.com/gridsecurity>

## **PRODUCT DESCRIPTION**

The SICAM A8000 RTUs (Remote Terminal Units) series is a modular device range for telecontrol and automation applications in all areas of energy supply.

## **VULNERABILITY CLASSIFICATION**

The vulnerability classification has been performed by using the CVSS scoring system in version 3.1 (CVSS v3.1) (<https://www.first.org/cvss/>). The CVSS environmental score is specific to the customer's environment and will impact the overall CVSS score. The environmental score should therefore be individually defined by the customer to accomplish final scoring.

An additional classification has been performed using the CWE classification, a community-developed list of common software security weaknesses. This serves as a common language and as a baseline for weakness identification, mitigation, and prevention efforts. A detailed list of CWE classes can be found at: <https://cwe.mitre.org/>.

### **Vulnerability CVE-2023-33919**

The web interface of affected devices is vulnerable to command injection due to missing server side input sanitation. This could allow an authenticated privileged remote attacker to execute arbitrary code with root privileges.

CVSS v3.1 Base Score	7.2
CVSS Vector	<a href="#">CVSS:3.1/AV:N/AC:L/PR:H/UI:N/S:U/C:H/I:H/A:H/E:P/RL:O/RC:C</a>
CWE	CWE-77: Improper Neutralization of Special Elements used in a Command ('Command Injection')

### **Vulnerability CVE-2023-33920**

The affected devices contain the hash of the root password in a hard-coded form, which could be exploited for UART console login to the device. An attacker with direct physical access could exploit this vulnerability.

CVSS v3.1 Base Score	6.8
CVSS Vector	<a href="#">CVSS:3.1/AV:P/AC:L/PR:N/UI:N/S:U/C:H/I:H/A:H/E:P/RL:O/RC:C</a>
CWE	CWE-798: Use of Hard-coded Credentials

### **Vulnerability CVE-2023-33921**

The affected devices contain an exposed UART console login interface. An attacker with direct physical access could try to bruteforce or crack the root password to login to the device.

CVSS v3.1 Base Score	6.8
CVSS Vector	<a href="#">CVSS:3.1/AV:P/AC:L/PR:N/UI:N/S:U/C:H/I:H/A:H/E:P/RL:O/RC:C</a>
CWE	CWE-749: Exposed Dangerous Method or Function

## **ACKNOWLEDGMENTS**

Siemens thanks the following party for its efforts:

- SEC Consult Vulnerability Lab for reporting the vulnerability on behalf of Netz Niederösterreich GmbH, EVN Gruppe

## **ADDITIONAL INFORMATION**

For further inquiries on security vulnerabilities in Siemens products and solutions, please contact the Siemens ProductCERT:

<https://www.siemens.com/cert/advisories>

## **HISTORY DATA**

V1.0 (2023-06-13): Publication Date

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