

SSA-865156: Denial-of-Service Vulnerability in SINAMICS PERFECT HARMONY GH180 Fieldbus Network

Publication Date: 2019-05-14
Last Update: 2019-05-14
Current Version: V1.0
CVSS v3.0 Base Score: 7.5

SUMMARY

SINAMICS PERFECT HARMONY GH180 Drives NXG I and NXG II control contains a denial-of-service vulnerability within the Parameter Read/Write over Fieldbus network functionality. An attacker with access to the field bus network could cause a Denial-of-Service condition by sending specially crafted packets. By default, Parameter Read/Write over Fieldbus network is disabled, and this functionality must be specifically enabled to expose this vulnerability.

AFFECTED PRODUCTS AND SOLUTION

Affected Product and Versions	Remediation
SINAMICS PERFECT HARMONY GH180 with NXG I control, MLFBs: 6SR2...-, 6SR3...-, 6SR4...-: All Versions with option G21, G22, G23, G26, G28, G31, G32, G38, G43 or G46	Upgrade to NXGpro control Please contact customer service to obtain and install the upgrade.
SINAMICS PERFECT HARMONY GH180 with NXG II control, MLFBs: 6SR2...-, 6SR3...-, 6SR4...-: All Versions with option G21, G22, G23, G26, G28, G31, G32, G38, G43 or G46	Upgrade to NXGpro control Please contact customer service to obtain and install the upgrade.

WORKAROUNDS AND MITIGATIONS

Siemens has identified the following specific workarounds and mitigations that customers can apply to reduce the risk:

- Disable the Fieldbus Parameter Read/Write functionality
- Apply cell protection concept and implement Defense-in-Depth

GENERAL SECURITY RECOMMENDATIONS

As a general security measure, Siemens strongly recommends to protect network access to devices with appropriate mechanisms. In order to operate the devices in a protected IT environment, Siemens recommends to configure the environment according to Siemens' operational guidelines for Industrial Security ([Download](#)), and to follow the recommendations in the product manuals.

Additional information on Industrial Security by Siemens can be found at: <https://www.siemens.com/industrialsecurity>

PRODUCT DESCRIPTION

The SINAMICS Perfect Harmony GH180 medium voltage converter family is used to control a wide variety of medium voltage converters or inverters in different applications.

VULNERABILITY CLASSIFICATION

The vulnerability classification has been performed by using the CVSS scoring system in version 3.0 (CVSS v3.0) (<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.

Vulnerability CVE-2019-6574

An improperly configured Parameter Read/Write execution via Field bus network may cause the controller to restart.

The vulnerability could be exploited by an attacker with network access to the device. Successful exploitation requires no privileges and no user interaction. An attacker could use the vulnerability to compromise the availability of the affected system.

At the time of advisory publication no public exploitation of this security vulnerability was known.

CVSS v3.0 Base Score	7.5
CVSS Vector	CVSS:3.0/AV:N/AC:L/PR:N/UI:N/S:U/C:N/I:N/A:H/E:P/RL:W/RC:C

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 (2019-05-14): Publication Date

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