

Schneider Electric Security Notification

Modicon M241 & M251 Logic Controllers

11 May 2021

Overview

Schneider Electric is aware of a vulnerability in its Modicon M241/M251 logic controllers.

The Modicon [M241](#) and [M251](#) are Programmable Logic Controllers for performance-demanding applications.

Failure to apply the remediations provided below may risk a buffer overflow attack, which could result in the unavailability of the controller.

Affected Products and Versions

Modicon M241/M251 logic controllers firmware prior to V5.1.9.1

Vulnerability Details

CVE ID: **CVE-2021-22699**

CVSS v3.0 Base Score 7.5 | High | CVSS:3.0/AV:N/AC:L/PR:N/UI:N/S:U/C:N/I:N/A:H

A *CWE-20: Improper Input Validation* vulnerability exists that could cause denial of service when specific crafted requests are sent to the controller over HTTP.

Remediation

A fix for this vulnerability is available by following the steps below:

1. Update Software -
On the engineering workstation, update to EcoStruxure Machine Expert V2.0 or above:
<https://www.se.com/ww/en/product-range-download/2226-ecostruxure-machine-expert-%28somachine%29/?selected-node-id=14435955187#/software-firmware-tab>
2. Update Firmware -
On Modicon M241/M251 Logic Controllers, update to firmware version V5.1.9.14 or higher available within EcoStruxure Machine Expert V2.0. A reboot is needed.

Customers should use appropriate patching methodologies when applying these patches to their systems. We strongly recommend the use of back-ups and evaluating the impact of these patches in a Test and Development environment or on an offline infrastructure. Contact Schneider Electric's [Customer Care Center](#) if you need assistance removing a patch.

If customers choose not to apply the remediation provided above, they should immediately apply the following mitigations to reduce the risk of exploit:

- Setup network segmentation and configure Modicon M241/M251 firewall to block all unauthorized access to ports TCP 80/443.

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General Security Recommendations

We strongly recommend the following industry cybersecurity best practices.

- Locate control and safety system networks and remote devices behind firewalls and isolate them from the business network.
- Install physical controls so no unauthorized personnel can access your industrial control and safety systems, components, peripheral equipment, and networks.
- Place all controllers in locked cabinets and never leave them in the “Program” mode.
- Never connect programming software to any network other than the network for the devices that it is intended for.
- Scan all methods of mobile data exchange with the isolated network such as CDs, USB drives, etc. before use in the terminals or any node connected to these networks.
- Never allow mobile devices that have connected to any other network besides the intended network to connect to the safety or control networks without proper sanitation.
- Minimize network exposure for all control system devices and systems and ensure that they are not accessible from the Internet.
- When remote access is required, use secure methods, such as Virtual Private Networks (VPNs). Recognize that VPNs may have vulnerabilities and should be updated to the most current version available. Also, understand that VPNs are only as secure as the connected devices.

For more information refer to the Schneider Electric [Recommended Cybersecurity Best Practices](#) document.

Acknowledgements

Schneider Electric recognizes the following researchers for identifying and helping to coordinate a response to this vulnerability:

CVE	Researchers
CVE-2021-22699	Marcin Dudek, Kinga Staszkiwicz, Jakub Suchorab, Joanna Walkiewicz (National Centre for Nuclear Research Poland)

For More Information

This document provides an overview of the identified vulnerability or vulnerabilities and actions required to mitigate. For more details and assistance on how to protect your installation, contact your local Schneider Electric representative or Schneider Electric Industrial Cybersecurity Services: <https://www.se.com/ww/en/work/solutions/cybersecurity/>. These organizations will be fully aware of this situation and can support you through the process.

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For further information related to cybersecurity in Schneider Electric’s products, visit the company’s cybersecurity support portal page:

<https://www.se.com/ww/en/work/support/cybersecurity/overview.jsp>

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We provide **energy and automation digital** solutions for **efficiency and sustainability**. We combine world-leading energy technologies, real-time automation, software and services into integrated solutions for Homes, Buildings, Data Centers, Infrastructure and Industries.

We are committed to unleash the infinite possibilities of an **open, global, innovative community** that is passionate with our **Meaningful Purpose, Inclusive and Empowered** values.

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