

Industrial Control Systems and Medical Vulnerability Advisories Reported by CISA in December 2022

Critical Infrastructure (CI)

Fusion (FS)

Vulnerability (VU)

January 3, 2023 03:13:05 PM, 23-00000112, Version: 1

Executive Summary

- The U.S. Cybersecurity and Infrastructure Security Agency (CISA) maintains the largest public repository specialized in sharing information about industrial control systems (ICS) and medical device-specific vulnerability disclosures.
- In December 2022, CISA published 43 advisories related to vulnerabilities in ICS or medical devices.
- The advisories presented information on 169 Common Vulnerability Enumeration (CVE) IDs from which 13 received a critical Common Vulnerability Scoring System (CVSSv3) score of 9 or higher.

Threat Detail

The U.S. Cybersecurity and Infrastructure Security Agency (CISA) continues to maintain the largest public repository specialized in sharing information about industrial control systems (ICS) and medical device-specific vulnerability disclosures. Organizations relying on cyber physical assets such as operational technologies (OT) can benefit from this information and use it as a component of vulnerability management processes or to gain situational awareness. In this document we present a summary of vulnerabilities reported by CISA during December 2022.

ICS and Medical Vulnerability Disclosure

Mandiant Threat Intelligence extracted all Common Vulnerability Enumeration (CVE) IDs when available from advisories and identified 169 unique values. We include new CVEs and those that were updated to disclose additional information. The most commonly seen CWEs (Common Weakness Enumerations) as reported by CISA were:

- [CWE-20: IMPROPER INPUT VALIDATION](#)
 - MELSEC iQ-R Series Rj71EN71 products with firmware versions prior to "65" and R04/08/16/32/120ENCPU products with Network firmware versions prior to "65" are vulnerable to improper input validation. A remote unauthenticated user could cause a denial-of-service condition on a target product by sending specially crafted packets. A system reset is required to recover from a denial-of-service condition.
- [CWE-200: EXPOSURE OF SENSITIVE INFORMATION TO AN UNAUTHORIZED ACTOR](#)
 - The affected products are vulnerable to an exposure of sensitive information to an unauthorized actor vulnerability by leaking sensitive data in the HTTP Referer.

- [CWE-119: IMPROPER RESTRICTION OF OPERATIONS WITHIN THE BOUNDS OF A MEMORY BUFFER](#)
 - The APDFL[.]dll contains a memory corruption vulnerability while parsing specially crafted PDF files. This could allow an attacker to execute code in the context of the current process. [CVE-2022-3161](#) has been assigned to this vulnerability. A CVSS v3 base score of 7.8 has been calculated; the CVSS vector string is ([CVSS:3.1/AV:L/AC:L/PR:N/UI:R/S:U/C:H/I:H/A:H](#)).
- [CWE-787: OUT-OF-BOUNDS WRITE](#)
 - The affected applications contain an out-of-bounds write past the end of an allocated structure while parsing specially crafted X_B files. This could allow an attacker to execute code in the context of the current process. [CVE-2022-46345](#) has been assigned to this vulnerability. A CVSS v3 base score of 7.8 has been calculated; the CVSS vector string is ([CVSS:3.1/AV:L/AC:L/PR:N/UI:R/S:U/C:H/I:H/A:H](#)).
- [CWE-476: NULL POINTER DEREFERENCE](#)
 - The CGM_NIST_Loader[.]dll contains a null pointer dereference vulnerability while parsing specially crafted CGM files. An attacker could leverage this vulnerability to crash the application, causing denial of service condition.

Of all the advisories, five received a CVSSv3 score of 9 (critical) or higher.

- [ICS Advisory \(ICSA-22-335-02\)](#)
 - Horner Automation Remote Compact Controller
- [ICS Advisory \(ICSA-22-347-02\)](#)
 - Schneider Electric APC Easy UPS Online
- [ICS Advisory \(ICSA-22-347-03\)](#)
 - Contec CONPROSSYS HMI System (CHS)
- [ICS Advisory \(ICSA-22-349-21\)](#)
 - Siemens SCALANCE X-200RNA Switch Devices
- [ICS Advisory \(ICSA-21-012-02\)](#)
 - Siemens SCALANCE X Switches (Update C)

Disclosed Vulnerabilities by Vendor

The following figure shows the number of CVEs that were published in CISA advisories during the month, categorized by vendor and severity level. The vendors are ordered by the total number of vulnerabilities reported.

Vendor	Low	Medium	High	Critical
Siemens	13	55	65	9
Rockwell Automation			5	
Schneider Electric			2	2
Horner Automation			2	1
Mitsubishi Electric			2	
Fuji Electric			2	
Contec				1
ARC Informatique		2		
Advantech			1	
AVEVA			1	
Priva			1	
Omron			1	
Delta Industrial Automation			1	
Becton, Dickinson and Company (BD)		1		
ICONICS, Mitsubishi Electric		1		
Prosys OPC		1		

Figure 1: CVE count by vendor

ICS and Medical Vulnerable Products as Reported in December 2022 by CISA

The following table contains a compilation of CVEs reported by CISA for the month of December 2022. Given the structure of CISA advisories, some CVEs may be duplicated if they were seen in multiple advisories.

Advisory	Vendor	Equipment	CVE(s)
ICS Medical Advisory (ICSMA-22-335-01)	Becton, Dickinson and Company (BD)	BodyGuard Pumps	CVE-2022-43557
ICS Advisory (ICSA-22-335-01)	Mitsubishi Electric	MELSEC iQ-R Series	CVE-2022-40265
ICS Advisory (ICSA-22-335-02)	Horner Automation	Remote Compact Controller (RCC) 972	CVE-2022-2640 , CVE-2022-2641 , CVE-2022-2642
ICS Advisory (ICSA-	Advantech	iView	CVE-2022-3323

22-342-01)			
ICS Advisory (ICSA-22-342-02)	AVEVA	InTouch Access Anywhere	CVE-2022-23854
ICS Advisory (ICSA-22-342-03)	Rockwell Automation	CompactLogix, Compact GuardLogix, ControlLogix, and GuardLogix controllers	CVE-2022-3752
ICS Advisory (ICSA-22-347-01)	ICONICS, Mitsubishi Electric	ICONICS Product Suite	CVE-2022-40264
ICS Advisory (ICSA-22-347-02)	Schneider Electric	APC Easy UPS Online	CVE-2022-42970 , CVE-2022-42971 , CVE-2022-42972 , CVE-2022-42973
ICS Advisory (ICSA-22-347-03)	Contec	CONPROSYS HMI System (CHS)	CVE-2022-44456
ICS Advisory (ICSA-22-349-01)	Prosys OPC	UA Simulation Server, UA Modbus Server	CVE-2022-2967
ICS Advisory (ICSA-22-349-02)	Siemens	SCALANCE	CVE-2022-46350 , CVE-2022-46351 , CVE-2022-46352 , CVE-2022-46353 , CVE-2022-46354 , CVE-2022-46355
ICS	Siemens	SIMATIC	CVE-2021-40365 , CVE-2021-44693 , CVE-2021-44694 , CVE-

Advisory (ICSA-22-349-03)		Products, TIM 1531 IRC	2021-44695
ICS Advisory (ICSA-22-349-04)	Siemens	RUGGEDCOM and SCALANCE devices	CVE-2022-34821 , CVE-2022-46140 , CVE-2022-46142 , CVE-2022-46143 , CVE-2022-46144
ICS Advisory (ICSA-22-346-05)	Siemens	PLM Help Server	CVE-2022-44575
ICS Advisory (ICSA-22-349-06)	Siemens	SIMATIC WinCC OA Ultralight Client	CVE-2022-44731
ICS Advisory (ICSA-22-349-07)	Siemens	Simcenter STAR-CCM+	CVE-2022-43517
ICS Advisory (ICSA-22-349-08)	Siemens	Polarion ALM	CVE-2022-46265
ICS Advisory (ICSA-22-349-09)	Siemens	Calibre ICE, Mcenter, SCALANCE X-200RNA switch family, SICAM GridPass, SIMATIC RTLS Locating Manager	CVE-2022-3602 , CVE-2022-3786
ICS	Siemens	APOGEE	CVE-2020-28388

Advisory (ICSA-22-349-10)		PXC/TALON TC	
ICS Advisory (ICSA-22-349-11)	Siemens	SIPROTEC 5	CVE-2022-45044
ICS Advisory (ICSA-22-349-12)	Siemens	Parasolid	CVE-2022-46345 , CVE-2022-46346 , CVE-2022-46347 , CVE-2022-46348 , CVE-2022-46349
ICS Advisory (ICSA-22-349-13)	Siemens	Mendix Workflow Commons	CVE-2022-46664
ICS Advisory (ICSA-22-349-14)	Siemens	SISCO MMS-EASE third party component	CVE-2015-6574
ICS Advisory (ICSA-22-349-15)	Siemens	Teamcenter Visualization and JT2Go	CVE-2022-3159 , CVE-2022-3160 , CVE-2022-3161
ICS Advisory (ICSA-22-349-16)	Siemens	APOGEE and TALON	CVE-2022-45937
ICS Advisory (ICSA-22-349-17)	Siemens	Mendix Email Connector	CVE-2022-45936
ICS	Siemens	SCALANCE SC-	CVE-2022-25032 , CVE-2022-30065 , CVE-2022-32205 , CVE-

Advisory (ICSA-22-349-18)		600 Family	2022-32206
ICS Advisory (ICSA-22-349-19)	Siemens	SICAM PAS	CVE-2022-43722 , CVE-2022-43723 , CVE-2022-43724
ICS Advisory (ICSA-22-349-20)	Siemens	Teamcenter Visualization and JT2Go	CVE-2022-41278 , CVE-2022-41279 , CVE-2022-41280 , CVE-2022-41283 , CVE-2022-41281 , CVE-2022-41282 , CVE-2022-41284 , CVE-2022-41286 , CVE-2022-45484 , CVE-2022-41285 , CVE-2022-41287 , CVE-2022-41288
ICS Advisory (ICSA-22-349-21)	Siemens	SCALANCE X-200RNA switch devices before V3.2.7	CVE-2003-0190 , CVE-2003-1562 , CVE-2003-0190 , CVE-2015-1791 , CVE-2015-3196 , CVE-2018-15473 , CVE-2014-8176 , CVE-2015-0287 , CVE-2015-0292 , CVE-2015-1789 , CVE-2016-0778 , CVE-2016-2842 , CVE-2016-0799 , CVE-2016-1907 , CVE-2016-2108 , CVE-2016-2176 , CVE-2016-10012 , CVE-2017-3735 , CVE-2015-0207 , CVE-2015-0293 , CVE-2015-1787 , CVE-2015-6563 , CVE-2016-0705 , CVE-2016-0797 , CVE-2016-6302 , CVE-2016-6305 , CVE-2016-6515 , CVE-2015-0208 , CVE-2015-0288 , CVE-2015-0289 , CVE-2015-0290 , CVE-2015-0291 , CVE-2015-1790 , CVE-2015-3194 , CVE-2015-0209 , CVE-2015-0285 , CVE-2015-4000 , CVE-2015-0286 , CVE-2015-1788 , CVE-2015-1792 , CVE-2016-0798 , CVE-2016-2109 , CVE-2016-2179 , CVE-2016-6308 , CVE-2016-8858 , CVE-2015-1794 , CVE-2016-2181 , CVE-2015-3193 , CVE-2015-3195 , CVE-2015-3197 , CVE-2016-0701 , CVE-2016-0702 , CVE-2016-0800 , CVE-2016-0703 , CVE-2016-0800 , CVE-2016-0704 , CVE-2016-0777 , CVE-2016-2107 , CVE-2013-0169 , CVE-2016-2183 , CVE-2016-6210 , CVE-2015-5352 , CVE-2015-5600 , CVE-2015-6564 , CVE-2015-6565 , CVE-2015-8325 , CVE-2016-10010 , CVE-2016-10011 , CVE-2016-0800 , CVE-2016-2182 , CVE-2016-6303 , CVE-2016-1908 , CVE-2016-2105 , CVE-2016-2106 , CVE-2016-2177 , CVE-2019-16905 , CVE-2016-2178 , CVE-2016-2180 , CVE-2016-6306 , CVE-2016-6304 , CVE-2016-6307 , CVE-2016-10009 , CVE-2017-15906 , CVE-2018-20685 , CVE-2019-1552 , CVE-2019-6109 , CVE-2019-6110 , CVE-2019-6111
ICS	Siemens	SCALANCE	CVE-2020-28391 , CVE-2020-28395

Advisory (ICSA-21-012-02)		X200, X200IRT, X300	
ICS Advisory (ICSA-20-014-03)	Siemens	SCALANCE X Switches	CVE-2019-13933
ICS Advisory (ICSA-20-042-07)	Siemens	SCALANCE X switches	CVE-2019-13924
ICS Advisory (ICSA-22-069-01)	Siemens	RUGGEDCOM Devices	CVE-2021-37209
ICS Advisory (ICSA-22-356-01)	Priva	TopControl Suite	CVE-2022-3010
ICS Advisory (ICSA-22-356-02)	Rockwell Automation	Studio 5000 Logix Emulate	CVE-2022-3156
ICS Advisory (ICSA-22-356-03)	Mitsubishi Electric	MELSEC iQ-R, iQ-L Series and MELIPC Series	CVE-2022-33324
ICS Advisory (ICSA-22-356-04)	Omron	CX-Programmer	CVE-2022-43509
ICS	Fuji Electric	Tellus Lite V-	CVE-2022-3087 , CVE-2022-3085

Advisory (ICSA-22-354-01)		Simulator	
ICS Advisory (ICSA-22-354-02)	Rockwell Automation	GuardLogix, ControlLogix, Compact Logix, and Compact GaurdLogix controllers	CVE-2022-3157
ICS Advisory (ICSA-22-354-03)	ARC Informatique	PcVue	CVE-2022-4312 , CVE-2022-4311
ICS Advisory (ICSA-22-354-04)	Rockwell Automation	MicroLogix 1100 and 1400	CVE-2022-46670 , CVE-2022-3166
ICS Advisory (ICSA-22-354-05)	Delta Industrial Automation	4G Router DX-3021	CVE-2022-4616

Table 1: CISA advisories for December 2022

[Please rate this product by taking a short four question survey.](#)

First Version Publish Date

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Threat Intelligence Tags

Affected Industries

- Aerospace & Defense
- Automotive
- Chemicals & Materials
- Construction & Engineering
- Energy & Utilities
- Healthcare
- High Tech/Software/Hardware/Services

- Manufacturing
- Oil & Gas
- Pharmaceuticals
- Technology
- Telecommunications
- Transportation

Affected Systems

- Third Party Services
- Users/Application and Software
- Equipment Under Control
- Industrial Internet of Things
- Industrial Network Protocols
- Operations Management

Intended Effects

- Degradation
- Disruption
- Interference with ICS

Tactics, Techniques And Procedures (TTPs)

- Exploit Development
- Malware Research and Development

Version Information

Version:1, January 3, 2023 03:13:05 PM

Common Vulnerabilities and Exposures

CVE ID:	<p>CVE-2022-46348(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2022-3085(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2015-0209(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2016-2108(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2016-10012(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2022-46351(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2016-2182(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2022-3166(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2016-0798(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2016-0777(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2022-46345(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2016-2842(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2016-8858(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2013-0169(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2022-46670(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2022-46354(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2015-6563(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2020-28395(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2022-2640(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2015-5352(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2022-46142(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2022-41287(CVE Description)Mandiant Vulnerability Analysis</p> <p>CVE-2016-6303(CVE Description)Mandiant Vulnerability Analysis</p>
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CVE-2016-2107([CVE Description](#))Mandiant Vulnerability Analysis
CVE-2022-46350([CVE Description](#))Mandiant Vulnerability Analysis
CVE-2019-6111([CVE Description](#))Mandiant Vulnerability Analysis
CVE-2015-8325([CVE Description](#))Mandiant Vulnerability Analysis
CVE-2022-46355([CVE Description](#))Mandiant Vulnerability Analysis
CVE-2015-3194([CVE Description](#))Mandiant Vulnerability Analysis
CVE-2022-46353([CVE Description](#))Mandiant Vulnerability Analysis
CVE-2022-43724([CVE Description](#))Mandiant Vulnerability Analysis
CVE-2021-40365([CVE Description](#))Mandiant Vulnerability Analysis
CVE-2022-3160([CVE Description](#))Mandiant Vulnerability Analysis
CVE-2022-41285([CVE Description](#))Mandiant Vulnerability Analysis
CVE-2022-3602([CVE Description](#))Mandiant Vulnerability Analysis
CVE-2016-10011([CVE Description](#))Mandiant Vulnerability Analysis
CVE-2022-40264([CVE Description](#))Mandiant Vulnerability Analysis
CVE-2015-1787([CVE Description](#))Mandiant Vulnerability Analysis
CVE-2016-6304([CVE Description](#))Mandiant Vulnerability Analysis

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