

## Safety Management Systems

R210.6

## Software Change Notice

Version: 1.3





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# 1 Introduction

## 1.1 Safety Management Systems R210.6

consists of

- Safety Builder
- Safety Manager SC solution
- Safety Manager solution

### 1.1.1 Safety Builder

Safety Builder is the common engineering and maintenance platform which configures, loads, and monitors Safety Manager SC controller and Safety Manager Controller.

### 1.1.2 Safety Manager SC solution

Safety Manager SC is part of the Safety Management Systems Product Family.

Safety Manager SC is a highly reliable, high-integrity safety system for safety-critical control applications. As part of Honeywell's Experion Process Knowledge System (EPKS), integrated or in stand-alone applications, Safety Manager SC forms the basis for functional safety, providing protection of persons, plant equipment, and the environment, combined with optimum availability for continuous plant operation. Safety Manager SC offers safety, reliability, and efficiency from its foundations.

Safety Manager SC is a user-programmable, modular, microprocessor-based safety system, which can perform a wide range of critical process control and safety instrumented functions, including:

- High-integrity process control,
- Burner/boiler management systems,
- Process safeguarding and emergency shutdown,
- Fire and gas detection systems, and
- Pipeline monitoring.

Safety Manager SC is a modular, fault tolerant safety system capable of solving the most challenging Emergency Shutdown (ESD) / Safety Instrumented System (SIS) applications in the Process Control industry. Certified by TUV Rheinland, for use in safety applications up to Safety Integrity Level 3 (SIL3), Safety Manager SC is operationally integrated with Experion® and meets the latest cyber security standards, up to ISA Secure level 2.

The Safety Manager SC system offers key features such as:

Small footprint / scalable architecture

Expanded Honeywell LEAP™ and Universal I/O capabilities

Tight operational integration with Distributed Control Systems (DCS) and SCADA platforms

IEC 61131-compliant engineering tool for programming and diagnostics

### 1.1.3 Safety Manager solution

Safety Manager is part of the Safety Management Systems Product Family.

Safety Manager is a highly reliable, high-integrity safety system for safety-critical control applications. As part of Honeywell's Experion Process Knowledge System (EPKS), integrated or in stand-alone applications, Safety Manager forms the basis for functional safety, providing protection of persons, plant equipment, and the environment, combined with optimum availability for continuous plant operation. Safety Manager offers safety, reliability and efficiency form its foundations.

Safety Manager is a user-programmable, modular, microprocessor-based safety system, which can perform a wide range of critical process control and safety instrumented functions, including:

- High-integrity process control,
- Burner/boiler management systems,
- Process safeguarding and emergency shutdown,
- Turbine and compressor control and safeguarding,
- Fire and gas detection systems, and
- Pipeline monitoring.

Safety Manager is a modular, fault tolerant safety system capable of solving the most challenging Emergency Shutdown (ESD) / Safety Instrumented System (SIS) applications in the Process Control industry. Certified by TUV Rheinland, for use in safety applications up to Safety Integrity Level 3 (SIL3), Safety Manager is operationally integrated with Experion® and meets the latest cyber security standards, up to ISA Secure level 1.

## 1.2 About this Document

This document describes the new features, resolved problems, known restrictions and special considerations for Safety Management Systems R210.6 (Safety Builder, Safety Manager SC, Safety Manager).

Please read this document in its entirety prior to installation and use of this software.

**Safety Management Systems R210.6** dated March 2023

### 1.2.1 Revision History

Version	Month	Description
1.3	Feb 2023	Updated list of User Assistance documents
1.2	Jan 2023	Updated Versions
1.1	Jan 2023	Added known issues SMSC-48379, SMSC-48378 & SMSC-48121
1.0	Jan 2023	Initial

## 1.3 Safety Management Systems Status

### STATUS SOFTWARE RELEASES:

R210.6	<p><b>Safety Management Systems R210.6</b> is a maintenance release supporting</p> <ul style="list-style-type: none"><li>• Safety Manager SC – Control Processor solution<ul style="list-style-type: none"><li>○ SCNT01 Control Processor module</li><li>○ RUSIO-3224 Universal Safety IO module</li><li>○ PDIO01 Safety Digital IO module</li><li>○ PUIO01 Safety Universal IO module</li></ul></li><li>• Safety Manager – Control Processor solution<ul style="list-style-type: none"><li>○ QPP-0002, USI-0002, BKM-0001</li><li>○ Chassis IO</li><li>○ RUSIO-3224 Universal Safety IO module</li><li>○ RUSLS-3224 Universal Safety Logic Solver</li></ul></li><li>• Safety Builder is a set of tools to:<ul style="list-style-type: none"><li>○ Configure and build the Safety Manager and Safety Manager SC application files.</li><li>○ Load Controller(s), view diagnostics, view system status data, view application data and live FLDs</li></ul></li></ul>
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### FOR CURRENT USERS:

Safety Management Systems R210.6 is a maintenance release providing

- Elevated/enhanced data security.
- Remote Publish support enabling segregated Experion data publication.
- Common engineering and maintenance platform increasing the usability and security of Safety Manager SC and Safety Manager
- Multiple Safety Builder engineering and maintenance enhancements provide easier engineering and more detailed diagnostics and statistics.
- Feature-based license mechanism providing detailed licensing information and status.
- Improved HART communication robustness for HART enabled devices connected to FC-RUSIO-3224/FC-RUSLS-3224 modules.
- For Safety Manager SC solutions IPsec communication for secure data communications.
- Upgrade from Safety Manager releases
- Migration from FSC releases. (Make sure to consult the Previous Software Change notices of R16x series when migrating)
- One installation program, installing Safety Builder and its supported components.




Latest versions of Safety Management Systems R210.6 Software Change Notice can be found at [process.honeywell.com](http://process.honeywell.com).

After you log in to [process.honeywell.com](http://process.honeywell.com), Click [here](#) or search for "SMSC-MAN" AND "R210.6" including the quotes.

## 1.4 Conventions

The following symbols are used in Safety Management Systems documentation:

---

	<b>Tip</b> This symbol is used for useful, but not essential, suggestions.
	<b>Attention</b> This symbol is used for information that emphasizes or supplements important points
	<b>Caution</b> This symbol warns of important facts on Safety Management Systems behavior or architecture.

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## 2 Getting Started

### 2.1 Supported Hardware

This section describes the supported hardware by Safety Management Systems R210.6

#### 2.1.1 Safety Manager SC Hardware

Safety Management Systems R210.6 supports Safety Manager SC Controller

- FC-SCNT01, SAFETY CONTROLLER SIL3
  - o FC-TCNT11, SC S300 IOTA CNTRL REDUNDANT
- FC-PUIO01, SC SAFETY UIO IOM 24VDC, 32CH
  - o FC-TUIO11, SC IOTA SAFETY UIO REDUNDANT
  - o FC-TUIO51, SC FTA FC-PUIO01 KNIFE, EOL,24VDC,16CH, L
  - o FC-TUIO52, SC FTA FC-PUIO01 KNIFE, EOL,24VDC,16CH, R
- FC-PDIO01, SC SAFETY DIO IOM 24VDC, 32CH
  - o FC-TDIO11, SC IOTA PDIO REDUNDANT
  - o FC-TDIO51, SC SAFETY FTA KNIFE, EOL, 24VDC, 16CH, L
  - o FC-TDIO52, SC SAFETY FTA KNIFE, EOL, 24VDC, 16CH, R
- FC-RUSIO-3224, SM USIO module 32 ch 24Vdc
  - o FC-IOTA-R24, SM Universal Safety IO redundant termination assembly
  - o FC-IOTA-NR24, SM Universal Safety IO non-redundant termination assembly
- UMS (Universal Marshalling Solution) modules are supported by Safety Manager SC
  - o CC-UPTA01 Feedthrough/Disconnect
  - o FC-UIR501 SCA DIGITAL INPUT RELAY 5KOHM
  - o FC-UDI501 Pass thru + 5kOhm
  - o FC-UDIR01 SCA DIGITAL INPUT RELAY
  - o FC-UDOR01 SCA DIGITAL OUTPUT RELAY SIL 3
  - o FC-UDOF01 SCA DIGITAL OUTPUT RELAY SIL 3 F&G
  - o FC-UAIA01 SCA ANALOG INPUT
  - o FC-UAIS01 SCA ANALOG INPUT SINK
  - o FC-UDIN01 SCA DIGITAL INPUT NAMUR
  - o FC-UDNS01 SCA DIGITAL INPUT SAFETY NAMUR
  - o FC-UGDA01 Digital IO IS barrier
  - o FC-UGAI01 Analog Input barrier
  - o FC-UGAO01 Analog Output Barrier

### 2.1.2 Safety Manager Hardware




































Safety Management Systems R210.6 supports Safety Manager Controller

- QPP-0002, USI-0002, BKM-0001, PSU-240516
  - o CPCHAS-000x
- RUSIO-3224, SM Remote Universal Safe IO module 32 ch 24Vdc  
RUSLS-3224, SM Remote Universal Logic Solver 32 ch 24Vdc
  - o IOTA-R24, SM Universal Safety IO redundant termination assembly
  - o IOTA-NR24, SM Universal Safety IO non-redundant termination assembly
- Safety Manager and FSC IO modules. (see Revision Release List on [TUV website](#))
  - o IOCHAS-0001R/ IOCHAS-0003R, IOCHAS-0001S/ IOCHAS-0003S
  - o IOCHAS-0002R, IOCHAS-0002S

## 2.2 Safety Management Systems functionality support

This paragraph provides overview of the hardware required for main functionalities of Safety Manager SC Controller platform and Safety Manager Controller platform

Following table shows Hardware support regarding redundant/non-redundant Safety Manager (SC) (A.R.T.), FC-SCNT01, Chassis-IO, FC-RUSIO-3224/FC-RUSLS-3224, FC-PDIO01 and FC-PUIO01

Controller	Safety System	Safety Manager		Safety Manager A.R.T.	Safety Manager SC	Safety Manager SC A.R.T.	Safety Manager SC A.R.T.+
	Controller ID	FC-QPP-0002		FC-QPP-0002	FC-SCNT01/ FC-SCNT02	FC-SCNT01/ FC-SCNT02	FC-SCNT01/ FC-SCNT02
	Chassis/OTA	CPCHAS-0001/ CPCHAS-0003		CPCHAS-0002	FC-TCNT11	FC-TCNT11	FC-TCNT11
	Size (Inch)	19" rack/ 4HE	19" rack/ 4HE	19" rack/ 4HE	15"	15"	15"
		Non-Redundant	Redundant	Redundant	Redundant	Redundant	Redundant
							
Chassis IO							
Redundant	19" rack/ 4HE						
Non-Redundant	19" rack/ 4HE						
FC-RUSIO-3224 (Universal Safety IO)							
Redundant	18"						
Non-Redundant	12"						
FC-RUSLS-3224 (Universal Safety Logic Solver)							
Redundant	18"						
Non-Redundant	12"						
FC-PDIO01 (Safety Digital IO)							
Redundant	12"						
Non-Redundant	12"						
FC-PUIO01 (Safety Universal IO)							
Redundant	12"						
Non-Redundant	12"						

Cell Empty : Not supported.

## 2.2.1 Safety Manager SC Controller functionality support

Feature	Safety Manager Systems Release		Hardware required			
	From	To	IOTA + Control Processor	Earth Leakage Detection	IOTA + Universal IO	IOTA + Digital IO
Redundant Safety Manager SC	R200.1	---	FC-TCNT11 + 2 X FC-SCNT01			
Experion Scada	R200.1	---	FC-TCNT11 + 2 X FC-SCNT01			
SafeNet	R200.1	---	FC-TCNT11 + 2 X FC-SCNT01			
Modbus slave	R200.1	---	FC-TCNT11 + 2 X FC-SCNT01			
Modbus Master	R201.1	---	FC-TCNT11 + 2 X FC-SCNT01			
Experion CDA/FTE support	R200.1	---	FC-TCNT11 + 2 X FC-SCNT01			
SafeNet: Safety Manager to Safety Manager SC	R201.1	---	FC-TCNT11 + 2 X FC-SCNT01			
Redundant FC-RUSIO-3224	R200.1	---	FC-TCNT11 + 2 X FC-SCNT01		FC-IOTA-R24 + 2 X FC-RUSIO-3224	
Non Redundant FC-RUSIO-3224	R210.1	---	FC-TCNT11 + 2 X FC-SCNT01		FC-IOTA-NR24 + FC-RUSIO-3224	
FC-RUSIO-3224 Earth Leakage Detection	R200.1	---	FC-TCNT11 + 2 X FC-SCNT01	FC-TELD-0001	FC-IOTA-R24 + 2 X FC-RUSIO-3224 or FC-IOTA-NR24 + FC-RUSIO-3224	
HART Handheld	R200.1	---	FC-TCNT11 + 2 X FC-SCNT01			
Low Latency SOE / FC-RUSIO-3224	R200.1	---	FC-TCNT11 + 2 X FC-SCNT01		FC-IOTA-R24 + 2 X FC-RUSIO-3224 or FC-IOTA-NR24 + FC-RUSIO-3224	
HART Pass thru / FC-RUSIO-3224	R200.1	---	FC-TCNT11 + 2 X FC-SCNT01		FC-IOTA-R24 + 2 X FC-RUSIO-3224 or FC-IOTA-NR24 + FC-RUSIO-3224	
Redundant FC-PDIO01	R200.2	---	FC-TCNT11 + 2 X FC-SCNT01			FC-TDIO11 + 2 X FC-PDIO01 2 X FC-SIC<20/10><Lx> 2 X (FC-TDIO51 OR FC-TDIO52)
Non Redundant FC-PDIO01	R210.1	---	FC-TCNT11 + 2 X FC-SCNT01			FC-TDIO11 + 1 X FC-PDIO01 2 X FC-SIC<20/10><Lx> 2 X (FC-TDIO51 OR FC-TDIO52)
Low Latency SOE / FC-PDIO01	R201.1	---	FC-TCNT11 + 2 X FC-SCNT01			FC-TDIO11 + 2 OR 1 FC-PDIO01
ART+ / FC-PDIO01	R210.1	---	FC-TCNT11 + 2 X FC-SCNT01			FC-TDIO11 + 2 FC-PDIO01
Redundant FC-PUIO01	R210.1	---	FC-TCNT11 + 2 X FC-SCNT01		FC-TUIO11 + 2 X FC-PUIO01	
Non Redundant FC-PUIO01	R210.1	---	FC-TCNT11 + 2 X FC-SCNT01		FC-TUIO11 + 1 X FC-PUIO01	
FC-PUIO01 Earth Leakage Detection	R210.1	---	FC-TCNT11 + 2 X FC-SCNT01	FC-TELD-0001	FC-TUIO11 + 2 OR 1 FC-PUIO01	
HART Pass thru / FC-PUIO01	R210.1	---	FC-TCNT11 + 2 X FC-SCNT01		FC-TUIO11 + 2 OR 1 FC-PUIO01	
A.R.T.+ / FC-PUIO01	R210.1	---	FC-TCNT11 + 2 X FC-SCNT01		FC-TUIO11 + 2 FC-PUIO01	
Low Latency SOE / FC-PUIO01	R210.1	---	FC-TCNT11 + 2 X FC-SCNT01		FC-TUIO11 + 2 OR 1 FC-PUIO01	
UMS / FC-RUSIO-3224	R210.1	---	FC-TCNT11 + 2 X FC-SCNT01		FC-IOTA-R24 + 2 X FC-RUSIO-3224 2 X CC-SICC1011/<Ly> + UMS	
UMS / FC-PDIO01	R210.1	---	FC-TCNT11 + 2 X FC-SCNT01			FC-TDIO11 + 2 OR 1 FC-PDIO01 + 2 X FC-SIC5<Lx> + UMS
UMS / FC-PUIO01	R210.1	---	FC-TCNT11 + 2 X FC-SCNT01		FC-TUIO11 + 2 OR 1 X FC-PUIO01 2 X FC-SIC5<Lx> + UMS	
IO Ring support / FC-PUIO01	R211.1	---	FC-TCNT11 + 2 X FC-SCNT01		FC-TUIO11 + 2 X FC-PUIO01	

Lx = In decimeters Ly = in meters

	NOT supported		Unsupported Hardware by Safety Manager SC			
	From	To	IOTA + Control Processor	Earth Leakage Detection	Safety Universal IO/ Universal Logic solver	Safety Digital IO
Safety Manager SC	R200	---			FC-RUSLS-3224	

	Discontinued		Hardware Discontinued			
	From	To	IOTA + Control Processor	Earth Leakage Detection	Safety Universal IO/ Universal Logic solver	Safety Digital IO
Safety Manager SC	2022-Q4	---	FC-SCNT01			

## 2.2.2 Safety Manager Controller functionality support

BASE		Hardware required						
		Chassis	Control Processor	Communication	Earth Leakage Detection	Universal Safety IO	Universal Logic Solver	
Safety Manager	R100	FS-CPCHAS-0001 FS-IOCHAS-0001R FS-IOCHAS-0001S	FC-QPP-0001	FC-USI-0001	10310			
Feature	Extra	Extra Hardware requirement compared to BASE						
	From	To	Chassis	Control Processor	Communication	Earth Leakage Detection	Universal Safety IO	
Power infrastructure improvement	R100		FS-CPCHAS-0003 FS-IOCHAS-0003R FS-IOCHAS-0003S					
SafeNet	R110							
High performance Processor	R130			FC-QPP-0002				
Universal Safety Interface (FC-USI-0001)	R100	<R160			FC-USI-0001			
Universal Safety Interface (FC-USI-0002)	R100				FC-USI-0002			
Universal Safety Interface (FE-USI-0002)	R130				FE-USI-0002			
Universal Safety Interface (FX-USI-0002)	R140				FX-USI-0002			
Redundant Universal Safety IO	R140	R145		FC-QPP-0002			FC-IOTA-R24 + 2X FC-RUSIO-3224	
Redundant Universal Safety IO	R150			FC-QPP-0002			FC-IOTA-R24 + 2X FC-RUSIO-3224	
Experion CDA/FTE support	R150			FC-QPP-0002	FC-USI-0002, FE-USI-0002 or FX-USI-0002			
Advanced Redundancy Technique	R150		FS-CPCHAS-0002 FS-IOCHAS-0002R FS-IOCHAS-0002S	FC-QPP-0002				
Universal Safety Logic Solver (Localized Safeguarding)	R150	<R200		FC-QPP-0002			FC-IOTA-R24 + 2X FC-RUSLS-3224	
Non Redundant Universal Safety IO	R150			FC-QPP-0002			FC-IOTA-NR24 + FC-RUSIO-3224 FC-IOTA-NR24 + FC-RUSLS-3224	
HART Pass thru	R150			FC-QPP-0002		FC-IOTA-NR24 + FC-RUSIO-3224 or FC-IOTA-R24 + 2X FC-RUSIO-3224	FC-IOTA-NR24 + FC-RUSLS-3224 or FC-IOTA-R24 + 2X FC-RUSLS-3224	
Low latency SOE	R150			FC-QPP-0002		FC-IOTA-NR24 + FC-RUSIO-3224 or FC-IOTA-R24 + 2X FC-RUSIO-3224	FC-IOTA-NR24 + FC-RUSLS-3224 or FC-IOTA-R24 + 2X FC-RUSLS-3224	
Modbus Master TCP	R150			FC-QPP-0002	FC-USI-0002, FE-USI-0002 or FX-USI-0002			
HART Handheld	R152			FC-QPP-0002		FC-IOTA-NR24 + FC-RUSIO-3224 or FC-IOTA-R24 + 2X FC-RUSIO-3224	FC-IOTA-NR24 + FC-RUSLS-3224 or FC-IOTA-R24 + 2X FC-RUSLS-3224	
USIO/USLS Earth Leakage Detection	R153.3			FC-QPP-0002		FC-TELD-0001	FC-IOTA-NR24 + FC-RUSIO-3224 or FC-IOTA-R24 + 2X FC-RUSIO-3224 FC-IOTA-NR24 + FC-RUSLS-3224 or FC-IOTA-R24 + 2X FC-RUSLS-3224	
EUCN	R160.1b			FC-QPP-0002	FE-USI-0002 or FX-USI-0002			
FSC to SM Migration	R160			FC-QPP-0002	FC-USI-0002, FE-USI-0002 or FX-USI-0002			
SafeNet : SM-FSC	R161			FC-QPP-0002	FC-USI-0002, FE-USI-0002 or FX-USI-0002			
AutoCom SIL 2 protocol	R162			FC-QPP-0002	FC-USI-0002, FE-USI-0002 or FX-USI-0002			

	NOT supported		Unsupported Hardware by Safety Manager					
	From	To	Chassis	Control Processor	Communication	Earth Leakage Detection	Safety Universal IO	Universal Logic solver
Safety Manager	R146	R146					FC-IOTA-NR24 + FC-RUSIO-3224 or FC-IOTA-R24 + 2X FC-RUSIO-3224	FC-IOTA-NR24 + FC-RUSLS-3224 or FC-IOTA-R24 + 2X FC-RUSLS-3224
Safety Manager	R160	---		FC-QPP-0001	FC-USI-0001			

	Discontinued		Hardware Discontinued					
	From	To	Chassis	Control Processor	Communication	Earth Leakage Detection	Safety Universal IO	Universal Logic solver
Safety Manager	2012-Q1	---		FC-QPP-0001				
Safety Manager	2014-Q2	---			FC-USI-0001 FC-USI-0002			
Safety Manager	2019-Q3	---			FE-USI-0002			
Safety Manager	2019-Q4	---	FS-IOCHAS-0001R FS-IOCHAS-0001S					
Safety Manager	2020-Q2	---	FS-CPCHAS-0001					

## 4.5 Safety Manager SC FC-RUSIO-3224 firmware

Following table indicates anomalies resolved for **Safety Manager SC FC-RUSIO-3224 firmware**

PAR #	*Abstract	Release
SMSC-8105	Channel fault diagnostics (EC91) gets reported for the devices like Smoke/heat detector that has alarm range at 24.3mA. no issues when the devices are within normal operation range. Issue is predominantly seen during the RUSIO-3224 module replacement with Smoke/Heat detector in the alarm range at/above 24.3mA. Since it only reports on the redundant module fault reaction for the point is not applied	R210.4
SMSC-43418	FDM drops off connection with devices connected SMSC FC-RUSIO-3224	R210.4
1-CKZ0ZNB	AI signals operated at a current of 24.3 – 25 mA may report a spurious EC91.	R210.2
1-C1HTY4T	The synchronization of the AI value and the AI loop statuses could be out of synchronization when an FC-TELD-0001 is present in an application with USIO modules. In case (one of) the AI loop statuses are used in the FLD's to generate an automatic override on a logic function it may have happened that this override does not work as intended as the AI loop status is activated up to 2 cycles later as expected.	R210.2
1-C9PRZ7B	Specific output loads on FC-RUSIO-3224/FC-RUSLS-3224 of Safety Manager releases R153.6 to R154.2, R162.1 to R162.4 and specific output loads on FC-RUSIO-3224 of Safety Manager SC releases R200.1 to R210.1, may result in EC56 followed by EC116 being reported on one or both USIO modules. An EC62 can be reported for DO channel in case an Earth Fault occurs on that DO channel when it has a load < 10mA and the number of channels being monitored by the ELD is > 50. EC251 will also be reported in this situation	R210.2
1-C9XNS6T	Specific output loads on FC-RUSIO-3224/FC-RUSLS-3224 of Safety Manager releases and specific output loads on FC-RUSIO-3224 of Safety Manager SC releases R200.1 to R210.1 may result in EC62 and EC56 followed by EC116 being reported on one or both USIO modules.	R210.2
1-B9VNAS1	Safety Manager CDA got stuck in the EPKS alarm summary. The starting point is that one or more points are in alarm condition. When the alarm limits or open / short set point limits are changed in such a way that the previous limits are in the new operating range, then the alarms would not recover. The workaround was to get the point above the new limits and then let it recover.	R210.2
1-BWG78QK	A specific hardware fault on USIO input channel used for DI-LM signal, having a status Low can result in a one cycle duration activation of that DI-LM signal to status High.	R210.2

## 4.6 Safety Manager FC-RUSIO-3224 firmware

Following table indicates anomalies resolved for **Safety Manager FC-RUSIO-3224/FC-RUSLS-3224 firmware**

PAR #	*Abstract	Release
1-D3KJ8BS	For AO channels on USIO modules the fault reaction has been updated in case of an Open Loop.	R210.6 (R163.1)
1-DNZ1U61	Application of a forced analog input channel may incorrectly use the field value for one application cycle for Safety Manager with Universal Safety IO (USIO) module type FC-RUSIO-3224 or FC-RUSLS-3224 which include earth fault detector module type FC-TELD-0001. (PN2021-11A)	R210.6 (R163.1)
1-BWG78QK	A specific hardware fault on USIO input channel used for DI-LM signal, having a status Low can result in a one cycle duration activation of that DI-LM signal to status High.	R210.3 (R162.5)
1-CT50VCH	Using the GM relay GMID5096S it could happen that an unexpected EC62 was reported for the channel when the DO channel was in the off state. If the EC62 was not detected at the same by a redundant module setup it could be followed by an EC96/EC116 on the module that reported EC62.	R210.3 (R162.5)
1-B9VNAS1	The starting point is that one or more points are in alarm condition. When the alarm limits or open / short set point limits are changed in such a way that the previous limits are in the new operating range, then the alarms would not recover. The workaround was to get the point above the new limits and then let it recover.	R210.3 (R162.5)
1-C1HTY4T	The synchronization of the AI value and the AI loop statuses could be out of synchronization when an FC-TELD-0001 is present in an application with USIO modules. In case (one of) the AI loop statuses are used in the FLD's to generate an automatic override on a logic function it may have happened that this override does not work as intended as the AI loop status is activated up to 2 cycles later as expected.	R210.3 (R162.5)
1-C9PRZ7B	Specific output loads on releases > R153.6 and < R154.3 and > R162.1 and < R162.5 may result in EC56 followed by EC116 being reported on one or both USIO modules.  An EC62 can be reported for DO channel in case an Earth Fault occurs on that DO channel when it has a load < 10mA and the number of channels being monitored by the ELD is > 50. EC251 will also be reported in this situation	R210.3 (R162.5)
1-CKZ0ZNB	AI signals operated at a current of 24.3 – 25 mA may report a spurious EC91.	R210.3 (R162.5)
1-C9XNS6T	Specific output loads on releases < R154.3 and R160.1 – R162.4 may result in EC62 and EC56 followed by EC116 being reported on one or both USIO modules.	R210.3 (R162.5)