

Severity	Description	Remedy
Fatal	System will not run or will fail	Firmware update urgently required
Error	An error may occur in certain situations which leads to wrong data or system failure	Firmware update required
Minor	A problem may occur in certain situations which leads to wrong diagnostic messages. IO data is still correct.	Firmware update recommended
Info	New feature or a small change e.g. in webserver, no impact on data exchange or diagnostic/alarm messages	No recommendation

Firmware 01.01.11-0003		Issue	ModbusRTU	ModbusTCP	EthernetIP	ProfibusDP	PROFINET PA	9445 PM
Date	05/11/2026							
Feature	Add logfile information if device name changes		X	X	X	X	X	
Bugfix	PM indicates communication error with CPU	48 )						X
	PM will send alarm if output current failes	49 )						X
	CPU indicates failure of socket during runtime	50 )	X	X	X	X	X	
	Webserver shows incorrect PM data	51 )	X	X	X	X	X	
Known Bugs	-							
Remark	-							

Firmware 01.01.10-0009		Issue	ModbusRTU	ModbusTCP	EthernetIP	ProfibusDP	PROFINET PA	9445 PM
Date	10/23/2025							
Feature	-							
Bugfix	Wrong readback status	44 )					X	
	Ethernet IP, CPU Status	43 )			X			
	Startup problem after replacing new socket	6 )	X	X	X	X	X	
	Configuration problem DI solved (counter/ frequency)						X	
	Summary diagnostic bit permanently set	46 )				X		
Known Bugs	9472/, no replacement for 9470/	47 )					X	
Remark	-							

Firmware 01.01.09-0003		Issue	ModbusRTU	ModbusTCP	EthernetIP	ProfibusDP	PROFINET PA	9445 PM
Date 05/28/2025								
Feature	Update protocol stack (V1.29)			X	X	X	X	
	Enable full featured OPC UA server by default		X	X	X	X	X	
Bugfix	Profibus DP diagnosis	41)				X		
	Profibus DP "Missing backup CPU"	42)				X		
	Summary diagnostic bit permanently set	46)					X	
	Error in HART response	31)	X	X	X	X	X	
Known Bugs	Wrong readback status	44)					X	
Remark	-							

Firmware 01.01.08-0003		Issue	ModbusRTU	ModbusTCP	EthernetIP	ProfibusDP	PROFINET PA	9445 PM
Date 02/20/2025								
Feature	Detection of BusRail failure	35)	X	X				
	Status bits indicating redundant PM failure	40)	X	X				
	Automatic counter register	39)	X	X				
	Add "RIO for PA" profil number (ProfileID = 0x5F00)						X	
Bugfix	Backplane telegram timing	38)		X	X	X	X	
	Error in HART response	31)	X	X	X	X	X	
	PM detection after redundancy switch	26)	X	X	X	X	X	
	ModbusRTU Even Parity not working	33)	X	X				
	ModbusRTU reboot after parameter change	32)	X	X				
	Detection of BusRail failure	35)	X	X	X	X	X	
Known Bugs	9469/ Status bit module redundancy	36)	X	X				
	No alarm in configuration error	37)	X	X				
	Profibus DP diagnosis	41)				X		
	Profibus DP "Missing backup CPU"	42)				X		
	Wrong readback status	44)					X	
Remark	-							

Firmware 01.01.07-0001		Issue	ModbusRTU	ModbusTCP	EthernetIP	ProfibusDP	PROFINET PA	9445 PM
Date 10/23/2025								
Feature	Detection of BusRail failure	35)			X	X	X	
	Indicate 9445/ firmware update active	34)	X	X	X	X	X	
Bugfix	Forced redundancy switch with non-redundant CPU	27)	X	X				
Known Bugs	Error in HART response	31)	X	X	X	X	X	
	ModbusRTU Even Parity not working	33)	X					
	ModbusRTU reboot after parameter change	32)	X					
	Profibus DP diagnosis	41)				X		
	Profibus DP "Missing backup CPU"	42)				X		
	Detection of BusRail failure	35)	X	X	X	X	X	
	Wrong readback status	44)					X	
Remark	-							

Firmware 01.01.06-0008		Issue	ModbusRTU	ModbusTCP	EthernetIP	ProfibusDP	PROFINET PA	9445 PM
Date 07/30/2024								
Feature	9442/ as Modbus RTU replacement for 9440	25)	X				X	
	9442/, Profibus extended diagnosis	29)				X		
	9445/, PM, no downgrade	28)						X
	9445/, PM information in webserver	30)	X	X	X	X	X	
Bugfix	9468/, 9469/ configuration error in compatible mode	5)	X	X	X	X	X	X
	PM detection after redundancy switch	26)						X
Known Bugs	Forced redundancy switch with non-redundant CPU	27)	X	X				
	Wrong readback status	44)					X	
Remark	-							

Firmware 01.01.05-0000		Issue	ModbusRTU	ModbusTCP	EthernetIP	ProfibusDP	PROFINET PA	9445 PM
Date 03/21/2024								
Feature	New PROFINET stack 2.27.00						X	
Bugfix	MRP and S2 redundancy	8)					X	
	Configuration of I/O modules with signal error	10)					X	
	Output signals initialized after parametrization	11)	X	X	X	X	X	
Known Bugs	I/O module redundancy not working						X	
	IO modules configured in compatible mode	24)					X	
	9468/, 9469/ configuration error in compatible mode	5)	X	X	X	X	X	
	PM detection after redundancy switch	26)	X	X	X	X	X	
	Wrong readback status	44)					X	
Remark	-							

Firmware 01.01.04-0003		Issue	ModbusRTU	ModbusTCP	EthernetIP	ProfibusDP	PROFINET PA	9445 PM
Date 11/15/2023								
Feature	Update protocol stack (V1.27)		X	X	X	X	X	
	Add 2nd Ethernet port	23)	X					
	Indication of protocol and Servicebus address changes	22)	X	X	X	X	X	
	IS1+ Detect V3, Log file download	21)	X	X	X	X	X	
	Support of plant stop alarm parameter	20)	X	X	X	X	X	
	PROFINET device name check	19)					X	
	9462/ add SIL modules	17)	X	X	X	X	X	
	HART FDI over PROFINET						X	
	9442/ as Modbus RTU replacement for 9440	25)	X					
Bugfix	9468/, 9469/ configuration error in compatible mode	5)	X	X	X	X	X	
	Profibus DP parameter written twice	18)				X		
	9442/32 CPU Z1 configuration not possible	4)	X	X	X	X	X	
	9445/ increased telegram errors	16)						X
	MRP and S2 redundancy	8)					X	
	PROFINET robustness increased	15)					X	
	PROFINET UDP concatenation	14)					X	
	PROFINET telegram errors	13)					X	
	9469: show DO value in Webserver		X	X	X	X	X	
Known Bugs	Startup problem after replacing new socket	6)	X	X	X	X	X	
	9482/ configuration in PROFINET	12)					X	
	Output signals initialized after parametrization	11)	X	X	X	X	X	
	Configuration of I/O modules with signal error	10)					X	
Remark	Add all features and bugfixes made since 01.00.25							

Firmware 01.01.03-0001		Issue	ModbusRTU	ModbusTCP	EthernetIP	ProfibusDP	PROFINET PA	9445 PM
Date	05/24/2023							
Feature	-							
Bugfix	9445/ PM current calculation	9)						X
Known Bugs	Startup problem after replacing new socket	6)		X	X	X		
	9442/32 CPU Z1 configuration not possible	4)		X	X			
	9445/ increased telegram errors	16)						X
	MRP and S2 redundancy	8)					X	
Remark	Firmware identical to version 01.00.25, only PM firmware changed							

Firmware 01.01.02-0000		Issue	ModbusRTU	ModbusTCP	EthernetIP	ProfibusDP	PROFINET PA	9445 PM
Date	05/15/2023							
Feature	-							
Bugfix	9445/35 PM firmware update failure	2)						X
Known Bugs	Startup problem after replacing new socket	6)		X	X	X	X	
	9442/32 CPU Z1 configuration not possible	4)		X	X			
	9445/ PM current calculation	9)						X
Remark	Firmware identical to version 01.00.25, only PM firmware changed							

Firmware 01.01.01-0000		Issue	ModbusRTU	ModbusTCP	EthernetIP	ProfibusDP	PROFINET PA	9445 PM
Date	05/03/2023							
Feature	-							
Bugfix	9445/35 PM power off in update mode	3)						X
	9445/35 PM temperature measurement	1)						X
Known Bugs	Startup problem after replacing new socket	6)		X	X	X	X	
	9442/32 CPU Z1 configuration not possible	4)		X	X			
	9445/35 PM firmware update failure	2)						X
	MRP and S2 redundancy	8)					X	
Remark	Firmware identical to version 01.00.25, only PM firmware changed							

Firmware 01.01.00-0002		Issue	ModbusRTU	ModbusTCP	EthernetIP	ProfibusDP	PROFINET PA	9445 PM
Date	03/30/2023							
Feature	-							
Bugfix	PM redundancy improved	7)						X
Known Bugs	Startup problem after replacing new socket	6)	X	X	X	X		
	9468/, 9469/ configuration error in compatible mode	5)	X	X	X	X		
	9442/32 CPU Z1 configuration not possible	4)	X	X	X			
	9445/35 PM power off in update mode	3)						X
	9445/35 PM firmware update failure	2)						X
	9445/35 PM temperature measurement	1)						X
Remark	Firmware identical to version 01.00.25, only PM firmware changed							

Firmware 01.00.25		Issue	ModbusRTU	ModbusTCP	EthernetIP	ProfibusDP	PROFINET PA	9445 PM
Date	11/17/2022							
Feature	Password reset, only with socket HW Rev C or later			X	X	X	X	
	Input Status of readback independent of input status						X	
	Switch off red. PM while other PM is in update.							X
	Serial firmware download of redundant PM							X
Bugfix	Improved redundancy switching			X	X	X	X	
	Show DI instead of DO, fix text in Webserver			X	X	X	X	
	Correct display of CPU zone 1			X	X	X	X	
	Add gateway address to UBOOT environment			X	X	X	X	
	Fixed power on problem							X
	Switch off PWR OUT LED if power supply of PM is removed							X
	Correct display of zone 1 PM in webserver							X
Known Bugs	Startup problem after replacing new socket			X	X	X	X	
	9468/, 9469/ configuration error in compatible mode			X	X	X	X	
Remark								

**1 ) 9445/35 PM temperature measurement**

Severity	Fatal	Error	Minor	Info
			<b>X</b>	
Description	Skipped temperature compensation of current measurement PM Z2 9445/35, values in webserver too high. Maintenance alarm of 9445/35 PM could be set.			
Remedy	Update CPU			
Remark	PM Z1 9445/32 are not affected IO values and module error handling not affected			
Added/Fixed	01.01.01			

**2 ) 9445/35 PM firmware update failure**

Severity	Fatal	Error	Minor	Info
		<b>x</b>		
Description	It is not possible to update a CPU from a version earlier than 01.00.25 to 01.01.00 or 01.01.01. PM will switch off power during the update.			
Remedy	To restart PM, see 3)			
Remark	Use firmware 01.01.02 to update a CPU with firmware older than 01.00.25. Starting with 01.01.02 update of PM with older firmware is possible If updated once to firmware 01.01.01 or later, any update is possible.			
Added/Fixed	01.01.02			

**3 ) 9445/35 PM power off in update mode**

Severity	Fatal	Error	Minor	Info
		<b>x</b>		
Description	If PM was interrupted during firmware update, it switches power off. System does not start anymore even after a new power on.			
Remedy	One of the 9445/ need to be in a special operating mode with a constant output voltage. Update CPU to special firmware 99.00.00, follow the instructions "Firmware Update 9445_const_Voltage_V0_2.pdf" included in the firmware update package. Please contact R. STAHL (support.automation@r-stahl.com ) to receive the firmware. PM with 99.00.00 must be downgraded to standard firmware before using as a normal PM.			
Remark	Using firmware 01.01.01 or later, PM does not switch off power. System can finish update.			
Added/Fixed	01.01.01			

**4 ) 9442/32 CPU Z1 configuration not possible**

Severity	Fatal	Error	Minor	Info
			<b>X</b>	
Description	A 9442/32 Z1 CPU can not be configured using DTM.			
Remedy	Update firmware			
Remark	Happens only during commissioning. Does not affect a running system.			
Added/Fixed	01.01.04			

**5 ) 9468/, 9469/ configuration error in compatible mode**

Severity	Fatal	Error	Minor	Info
			<b>X</b>	
Description	9468 / 9469 modules configured as 8 AO + 4/8 HV cause BusRail errors.			
Remedy	Change configuration to 9468 / 9469 Use a configuration without HV or set as 8 AI/AO/ + HV Use original 9466 modules			
Remark	-			
Added/Fixed	01.01.04			

**6 ) Startup problem after replacing new socket**

Severity	Fatal	Error	Minor	Info
		<b>X</b>		
Description	After replacing an existing socket with a new socket in rare cases startup problems occurred with redundant CPUs. Backup CPU will reboot multiple times and restart in firmware mode.			
Remedy	Replace socket with new socket Start system with one CPU on slot 1. Start system with one CPU on slot 2 Restart system with redundant CPUs. The problem only occurs during first startup. Once the system has started correctly with redundant CPUs, the problem no longer occurs.			
Remark	Replacing single items or replacing a socket with a single CPU is not affected			
Added/Fixed	01.01.10			

**7 ) PM redundancy improved**

Severity	Fatal	Error	Minor	Info
		<b>X</b>		
Description	Improved load balancing in redundant mode Add support for new PM Z1 Use constant output voltage while in boot mode Reduce critical time for power drop. PM detects a power failure faster and switches output off. This prevents PM failure if power drops for a short time			
Remedy	-			
Remark	If a redundant PM is switched off it is highly recommended to wait for at least 30 s before turning it back on.			
Added/Fixed	01.01.10			

**8 ) MRP and S2 redundancy**

Severity	Fatal	Error	Minor	Info
		<b>X</b>		
Description	Problem with PROFINET S2 redundancy and MRP not working correctly			
Remedy	Strongly recommended to update to firmware 01.01.04 or later.			
Remark	Error found only if MRP or S2 redundancy is used.			
Added/Fixed	01.01.03			

**9 ) 9445/ PM current calculation**

Severity	Fatal	Error	Minor	Info
			X	
Description	Wrong current calculation in PM Z1. Could result in maintenance alarm if calculated current is too high.			
Remedy	Update firmware			
Remark	Webserver could display a wrong current. No impact on IO signals and IO alarms.			
Added/Fixed	01.01.03			

**10 ) Configuration of I/O modules with signal error**

Severity	Fatal	Error	Minor	Info
		X		
Description	If a PROFINET system starts with module signal error, configuration will not be sent to module. IO modules will not be configured and will not work.			
Remedy	Remove signal errors of IO modules prior to power on.			
Remark	-			
Added/Fixed	01.01.05			

**11 ) Output signals initialized after parametrization**

Severity	Fatal	Error	Minor	Info
			X	
Description	If a new parameter set is received, the output values are initialized. Output signal may drop until overwritten with new output values Input signals are not affected.			
Remedy	Do not change parameter during runtime. Update output values immediately after a parameter set is sent.			
Remark	-			
Added/Fixed	01.01.05			

**12 ) 9482/ configuration in PROFINET**

Severity	Fatal	Error	Minor	Info
			X	
Description	IS1 TIM modules 9482 can not be configured using PROFINET			
Remedy	-			
Remark	Will be detected during commissioning.			
Added/Fixed	01.01.04			

**13 ) PROFINET telegram errors**

Severity	Fatal	Error	Minor	Info
			X	
Description	Fixed PROFINET errors in - read response for RealIdentificationData - diagnosis element ChannelProperties - KeepAlive telegram			
Remedy	-			
Remark	-			
Added/Fixed	01.01.04			

**14 ) PROFINET UDP concatenation**

Severity	Fatal	Error	Minor X	Info
Description	UDP telegrams have been concatenated in some cases.			
Remedy	-			
Remark	-			
Added/Fixed	01.01.04			

**15 ) PROFINET robustness increased**

Severity	Fatal	Error	Minor X	Info
Description	New stack is more robust against ARP and UDP burst. Previous stack could crash after ARP or UDP storm.			
Remedy	-			
Remark	-			
Added/Fixed	01.01.04			

**16 ) 9445/ increased telegram errors**

Severity	Fatal	Error	Minor X	Info
Description	Communication between 9442 CPU and 9445 PM has telegram errors. Still communication is possible.			
Remedy	-			
Remark	Error rate will not disturb normal operation.			
Added/Fixed	01.01.04			

**17 ) 9462/ add SIL modules**

Severity	Fatal	Error	Minor	Info X
Description	Add SIL modules to system.			
Remedy	-			
Remark	-			
Added/Fixed	01.01.04			

**18 ) Profibus DP parameter written twice**

Severity	Fatal	Error X	Minor	Info
Description	If a redundant IS1 system is connected to redundant SPS, CPU incorrectly allows a Class 2 Master to acknowledge diagnostics message for Class 1 master. As a result, the Class 1 Master remained unaware of cleared diagnostic conditions, leading to persistent error displays in the automation system.			
Remedy	-			
Remark	Problem could only be reproduced on Kongsberg DCS.			
Added/Fixed	01.01.04			

**19 ) PROFINET device name check**

Severity	Fatal	Error	Minor	Info X
Description	Device names are checked according to the PROFINET specification. The system only accepts correct names. A correct name is essential for proper operation.			
Remedy	-			
Remark	The naming convention applies only to PROFINET devices, but it is used for all protocols.			
Added/Fixed	01.01.04			

**20 ) Support of plant stop alarm parameter**

Severity	Fatal	Error	Minor	Info X
Description	A new parameter was added to change the plant stop parameter from an alarm to a diagnosis.			
Remedy	-			
Remark	A new HW database is required to use parameter with wizard. For PROFINET a new GSD is needed. Default parameter is compatible to older devices.			
Added/Fixed	01.01.04			

**21 ) IS1+ Detect V3, Log file download**

Severity	Fatal	Error	Minor	Info X
Description	With IS1+ Detect V3 it is possible to download the log files and service information as a zip file.			
Remedy	-			
Remark	-			
Added/Fixed	01.01.04			

**22 ) Indication of protocol and Servicebus address changes**

Severity	Fatal	Error	Minor	Info X
Description	If ether protocol switch or Servicebus address switches are changed during runtime the MAINT_LED of the CPU starts flashing. A maintenance bit will indicate the problem too.			
Remedy	Set switch back to the correct position.			
Remark	Neither address nor protocol will be changed during runtime. However, they will be changed on next power on, if switch is not reset to original position.			
Added/Fixed	01.01.04			

**23 ) Add 2nd Ethernet port**

Severity	Fatal	Error	Minor	Info X
Description	Only for ModbusRTU and ProfibusDP. Both Ethernet ports have been activated. Daisy chaining is now possible with all protocols.			
Remedy	-			
Remark	If CPU is in boot mode, only one port is active			
Added/Fixed	01.01.04			

**24 ) IO modules configured in compatible mode**

Severity	Fatal	Error	Minor	Info
			X	
Description	If an IS1+ module was used in compatible mode, e.g. to replace an old IS1 module, PROFINET did not configure module correctly			
Remedy	<ul style="list-style-type: none"> <li>•Reconfigure system us correct (old) IS1 module</li> <li>•Replace IS1 module by compatible IS1+ module</li> </ul>			
Remark	-			
Added/Fixed	01.01.04			

**25 ) 9442/ as Modbus RTU replacement for 9440**

Severity	Fatal	Error	Minor	Info
				X
Description	9442 can be used as a replacement for the discontinued IS1 CPM 9440 01.01.04: replacement for single 9440 ModbusRTU CPM 01.01.06: replacement for redundant 9440 ModbusRTU CPM			
Remedy	-			
Remark	9440 does not offer the possibility to configure PM redundancy, PM is included in the CPM. <ul style="list-style-type: none"> <li>•Replacing 9440 with configured CPM redundancy by 9442 CPU</li> <li>-parameter PM redundancy is always set. Two PM are expected.</li> <li>-Replacing system with only 1 PM an alarm is generated.</li> <li>•Replacing single 9440 by 9442 with PM redundancy</li> <li>-A new configuration is needed.</li> <li>-Or a maintenance alarm appears.</li> </ul>			
Added/Fixed	01.01.04: single ModbusRTU CPU only 01.01.06: both, single and redundant ModbusRTU CPUs			

**26 ) PM detection after redundancy switch**

Severity	Fatal	Error	Minor	Info
		X		
Description	After a redundancy switch sometimes redundant PM have not been found. Communication with PM was not possible. Alarm Bit will be set if PM was not detected			
Remedy	System still running, but a real PM failure can not be detected.			
Remark	Recommended to update firmware			
Added/Fixed	01.01.06			

**27 ) Forced redundancy switch with non-redundant CPU**

Severity	Fatal	Error	Minor	Info
		X		
Description	If a single CPU is switched from active to backup using Modbus control register, caused IO data to freeze. Could only be solved by a power on of the CPU.			
Remedy	Starting with firmware 01.01.07 the CPU automatically switches back to active mode after about 1 second.			
Remark	Until switch back to active CPU, IO data freezes for about 1 second.			
Added/Fixed	01.01.07			

**28 ) 9445/, PM, no downgrade**

Severity	Fatal	Error	Minor	Info <b>X</b>
Description	CPU firmware 01.01.06 contains new PM firmware which cannot be downgraded to older version. This avoids that PM are updated to a version which can fail during power on. Error occurs only with redundant 9442/35 (Zone 2, Hw Rev A and B).			
Remedy	-			
Remark	The firmware version of PM can be read with IS1+ Detect V3 and later. Select "IS1+ settings" and "Get Firmware version". Check section "[pm_slot]". [pm_3] version=V 02.00.00 In case of CPU redundancy only the active CPU will show the PM firmware.  PMs started once with a CPU firmware 01.01.06 or later contain firmware 02.00 or later.			
Added/Fixed	01.01.06			

**29 ) 9442/, Profibus extended diagnosis**

Severity	Fatal	Error	Minor	Info <b>X</b>
Description	Add diagnosis information for busrail and backplane.			
Remedy	-			
Remark	For more information see Protocol Manual Profibus DP 3.06 or later.			
Added/Fixed	01.01.06			

**30 ) 9445/, PM information in webserver**

Severity	Fatal	Error	Minor	Info <b>X</b>
Description	Add information of 9445/ PM to webserver. Information was recently located in the "Service" section of the webserver. "Service" section was removed.			
Remedy	-			
Remark	-			
Added/Fixed	01.01.06			

**31 ) Error in HART response**

Severity	Fatal	Error	Minor <b>X</b>	Info
Description	No HART Busy message was sent if HART telegram pending. The HART cmd 106 was not handled correctly. Problems found during test with Thorsis HART Gateway.			
Remedy	-			
Remark	-			
Added/Fixed	01.01.09			

### 32 ) ModbusRTU reboot after parameter change

Severity	Fatal	Error	Minor	Info
		X		
Description	Parameter change was not activated while CPU is running. A reboot is required to activate the changed parameter set			
Remedy	-			
Remark	Firmware update recommended			
Added/Fixed	01.01.08			

### 33 ) ModbusRTU Even Parity not working

Severity	Fatal	Error	Minor	Info
		X		
Description	The mode "Even parity" does not work			
Remedy	-			
Remark	-			
Added/Fixed	01.01.08			

### 34 ) Indicate 9445/ firmware update active

Severity	Fatal	Error	Minor	Info
		X		
Description	If using PM with firmware < 02.00 an interruption during firmware update could lead to a complete failure of the PM. To indicate to the user that firmware update is still in progress, active CPU flashes LED "PWR", "ERR" and "M/S" LED until all PM have successfully finished firmware update. Additionally, the information is also shown in the Webserver.			
Remedy	Wait until firmware update is finished. A firmware update is also indicated in the PM that is in update mode. Update could take up to 1 minute per PM.			
Remark	PMs started once with a CPU firmware 01.01.06 or later contain firmware 02. 00 or later			
Added/Fixed	01.01.07			

### 35 ) Detection of BusRail failure

Severity	Fatal	Error	Minor	Info
				X
Description	Failure of optocouplers could be the cause for communication failure between CPU and I/O modules. Only active CPU is communication with modules via BusRail. Especially with redundant CPUs such a failure could result in losing the modules if backup CPU has that failure and a redundancy switch is forced by user. To detect such failures a test routine has implemented to test the BusRail communication of the backup CPU during runtime.  01.01.07: added test function to detect a bus rail failure of the backup CPU 01.01.08: added Modbus register to indicate backup CPU BusRail failure			
Remedy	Replace CPU if status bits are set			
Remark	n 01.01.07 if a bus rail failure was detected but not removed if the failure disappeared. Happens only with short EMC disturbance. If optocoupler has a real defect, error will never disappear.			
Added/Fixed	01.01.08			

**36 ) 9469/ Status bit module redundancy**

Severity	Fatal	Error	Minor	Info
		X		
Description	Status bit handling for redundant 9469 modules not correct. If one module is pulled, all signals from remaining module have status BAD, even if all signals are OK.			
Remedy	-			
Remark	-			
Added/Fixed	-			

**37 ) No alarm in configuration error**

Severity	Fatal	Error	Minor	Info
		X		
Description	If an I/O module is in configuration error, the Modbus summary alarm bit in register 29 for that module is not set. The status bits are BAD If the module is removed, the summary alarm bit is set correctly			
Remedy	-			
Remark	Reading information via service bus shows correct alarm message "configuration error"			
Added/Fixed	-			

**38 ) Backplane telegram timing**

Severity	Fatal	Error	Minor	Info
		X		
Description	Due to HW tolerances of optocouplers there have been some CPU combinations which have problems with backplane communication. This does not affect communication of CPU with socket or PM, only the communication between CPUs is affected. This could result in problems with redundancy switch or in synchronizing data, like configuration data between CPU.			
Remedy	Replace one of the CPUs could solve the problem.			
Remark	-			
Added/Fixed	01.01.08			

**39 ) Automatic counter register**

Severity	Fatal	Error	Minor	Info
				X
Description	Add new Modbus connection monitoring register Modbus Reg 12. Register will be incremented each 100 msec. Reading this register allows detection of the problem Modbus still running and communicating, but values are not updated			
Remedy	-			
Remark	See Modbus manual chapter "Connection monitoring register" for more information			
Added/Fixed	01.01.08			

**40 ) Status bits indicating redundant PM failure**

Severity	Fatal	Error	Minor	Info
				X
Description	Add new Modbus register to indicate if redundant PM fails. If a bit is set, PM does not communicate with CPU. This could be due to a complete failure of PM, so check PM			
Remedy	Replace PM if status bit is set			
Remark	-			
Added/Fixed	01.01.08			

**41 ) Profibus DP diagnosis**

Severity	Fatal	Error	Minor	Info
		X		
Description	A diagnosis message could be acknowledged by CPU if Class 2 master polls the diagnosis. Class 1 master will not receive diagnosis message anymore			
Remedy	No workaround.			
Remark	Up to now only with Kongsberg DCS.			
Added/Fixed	01.01.09			

**42 ) Profibus DP “Missing backup CPU”**

Severity	Fatal	Error	Minor	Info
		X		
Description	Backup CPU could indicate “backup CPU missing”. After redundancy switch error will always be active in backup CPU. Error could occur after power on or if backup CPU reboots			
Remedy	Workaround: -Configure system with “CPU redundancy = no” -Configure system with “CPU redundancy = yes” After replacing / rebooting the backup CPU the error can occur again!			
Remark	If alarm bit is set, a real CPU failure could not be detected.			
Added/Fixed	01.01.09			

**43 ) Ethernet IP, CPU Status**

Severity	Fatal	Error	Minor	Info
		X		
Description	CPU status is not updated.			
Remedy	-			
Remark	-			
Added/Fixed	01.01.10			

**44 ) Wrong readback status**

Severity	Fatal	Error	Minor	Info
			X	
Description	CPU sends BAD status after application ready for a few milliseconds. With 01.01.4 problem did not occur			
Remedy	Ignore first status values			
Remark	-			
Added/Fixed	01.01.10			

**45 ) 9468/, fix parameter “freeze last value”**

Severity	Fatal	Error	Minor	Info
			X	
Description	parameter “freeze last value” was used with 9468/ modules did not work			
Remedy	-			
Remark	-			
Added/Fixed	01.01.09			

**46 ) Summary diagnostic bit permanently set**

Severity	Fatal	Error	Minor	Info
				X
Description	If CPU is started with multiple errors, summary status bit could be permanently set. CPU indicates an error even if all errors are removed. This could happen during startup or during normal operation if multiple module errors occur at the same time.			
Remedy	Power On can solve the problem, but if errors are not removed, problem could occur again			
Remark	The error handling is not affected, only the status bit is still set. Module and signal errors are still handled correctly			
Added/Fixed	01.01.10			

**47 ) 9472/, no replacement for 9470/**

Severity	Fatal	Error	Minor	Info
		x		
Description	9472/ can not be used as a replacement for 9470/.			
Remedy	Use old 9470/ modules if available or change PROFINET configuration			
Remark	This applies only for PROFINET PA. Other protocols are not affected.			
Added/Fixed				

**48 ) PM indicates communication error with CPU**

Severity	Fatal	Error	Minor	Info
		X		
Description	If communication between PM and CPU fails the PM indicates this by switching blue maintenance LED on.			
Remedy	Try once: Remove and replug PM once. Tighten the screws. If problem still occurs, replace PM.			
Remark	Even if not communicating PM still can deliver energy. But in redundant systems the power balancing does not work.			
Added/Fixed	01.01.11			

**49 ) PM will send alarm if output current failes**

Severity	Fatal	Error	Minor	Info
	<b>X</b>			
Description	In some rare cases the PM does not supply energy. But it still communicates with CPU. In systems with redundant PMs a failure of the other PM will shut down the system. With new FW the PM will indicate the state by switching off the PWR OUT LED. CPU ERR LED will flash. Alarm will be shown in protocol and Webserver			
Remedy	Try once: Remove and replug PM once. Tighten the screws. If problem still occurs, replace PM.			
Remark	Only occurs in system with PM redundancy. Using PM 9445/35 (Z2) with HW Rev A or Rev B, the low current detection does not work.			
Added/Fixed	01.01.11			

**50 ) CPU indicates failure of socket during runtime**

Severity	Fatal	Error	Minor	Info
				<b>X</b>
Description	If communication to socket fails during runtime, CPU sets error flag and flashes MAINT LED. The system continues to run until it is restarted (powered on, reset, etc.). Changes (configuration or IP addresses) are not stored in socket and will not be available after reset / power on. If CPU is restarted (power on, reset...) and communication with socket is not possible, it will not run.			
Remedy	-			
Remark	It is highly recommended to exchange socket.			
Added/Fixed	01.01.11			

**51 ) Webserver shows incorrect PM data**

Severity	Fatal	Error	Minor	Info
			<b>X</b>	
Description	If redundant PM are used and mounted on slot 2 and 3, the information of slot 2 is not displayed. This is always true for PM on a socket with 3 slots. If a single PM is used on slot 2 the PM data is not shown if PM redundancy is configured.			
Remedy	If using a socket with 4 slots. Move the PM to slot 3 and 4. For problem with single PM, change parameter to "PM redundancy = no"			
Remark				
Added/Fixed	01.01.11			