

PUS-F161-B**-PXV/ PUS-F161-B**-WCS Safe Evaluation Unit

Error List



With regard to the supply of products, the current issue of the following document is applicable:
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1 General Information




1.1 Technical Status

This error list applies to the following PUS evaluation units:

Model number	Description	Hardware/ software revision
PUS-F161-B28-PXV	Secure evaluation unit with PROFINET/ PROFIsafe protocol	11-11-02-07/ 05-00-02-33
PUS-F161-B31-PXV	Secure evaluation unit with EtherCAT/ Safety-over-EtherCAT (FSoE) protocol	11-11-02-07/ 05-01-02-33
PUS-F161-B31-WCS	Secure evaluation unit with EtherCAT/ Safety-over-EtherCAT (FSoE) protocol	11-11-03-07/ 05-01-03-27

1.2 Failure Types

In principle, the PUS evaluation unit distinguishes between the following types of errors:

Type of error	Description	Impact on the system	Reset condition
Fatal error 	Serious exception error caused by program running in the PUS evaluation unit. Cyclical program execution is no longer possible for safety reasons. The last active process is operating the seven-segment display by system A. System B is in stop mode.	All outputs are switched off!	Can be reset by switching the PUS evaluation unit (POR) off/on.
Alarm 	Functional error caused by an external process. Both systems continue to run cyclically and serve all communication interface requirements. Scanning the external process is also maintained.	All outputs are switched off!	Can be reset by a parameterizable input
ECS alarm 	When using the ECS function in the programming interface, the encoder alarm messages are marked with "E" instead of "A."	ECS function block returns "0" as result	Can be reset by a parameterizable input

1.3 Fault Indicator

The error number is run through on the seven-segment display on the front of the module. The error numbers can be displayed in two sequences.

Device without expansion modules:

F, A, or E error number

Device with expansion modules:

F, A, or E 1) error number

1)

Device address

0: Basic module

1: Expansion module with logical address 1

2: Expansion module with logical address 2

1.4 Error Suppression

There are various functions to suppress errors in the system:

- . ICS: Suppresses errors at normal inputs
- . ECS: Suppresses errors at read head interfaces

The error descriptions indicate if an error can be suppressed via one of the used functions.



Warning!

Error suppression

Suppressing an error by a muting function can significantly impair the safety of the application and may only happen after a safety-related assessment of the situation! It is always preferable to correct the cause of an alarm or error.

2 Alarm List

Alarm code	A 1212
Alarm signal	SD card found containing new application program
Cause	A new application program on the inserted SD card can be run. The system is waiting for user confirmation.
Fault clearance	<ul style="list-style-type: none"> Pressing the reset button twice permanently loads the application program onto the device Remove the SD card if you do not want to change the program

Alarm code	A 2101/A 2102
Alarm signal	Receive telegram time-out (address 1)
Cause	Telegram not received from expansion module in time
Fault clearance	<ul style="list-style-type: none"> Check the expansion module configuration Check the expansion module address setting Check the connection to the expansion module Power reset of all connected PUS evaluation units

Alarm code	A 2105/A 2106
Alarm signal	CRC error for send telegram (address 1)
Cause	Defective send telegram
Fault clearance	<ul style="list-style-type: none"> Check the expansion module configuration Check the expansion module address setting Check the connection to the expansion module Power reset of all connected PUS evaluation units

Alarm code	A 2107/A 2108
Alarm signal	CRC error for send telegram
Cause	Defective send telegram
Fault clearance	<ul style="list-style-type: none"> Check the expansion module configuration Check the expansion module address setting Check the connection to the expansion module Power reset of all connected PUS evaluation units

Alarm code	A 2109/A 2110
Alarm signal	CRC error for receive telegram
Cause	Defective receive telegram
Fault clearance	<ul style="list-style-type: none"> Check the expansion module configuration Check the expansion module address setting Check the connection to the expansion module Power reset of all connected PUS evaluation units

Alarm code	A 2111
Alarm signal	Communication time-out with expansion module (address 1)
Cause	Defective installation of expansion module
Fault clearance	<ul style="list-style-type: none"> • Check the expansion module configuration • Check the expansion module address setting • Check the connection to the expansion module • Power reset of all connected PUS evaluation units

Alarm code	A 2113
Alarm signal	Expansion module (address 1) present but not configured
Cause	Defective configuration
Fault clearance	<ul style="list-style-type: none"> • Check the expansion module configuration • Check the expansion module address setting • Check the connection to the expansion module • Power reset of all connected PUS evaluation units

Alarm code	A 2115/A2116
Alarm signal	Expansion module has incorrect logical address
Cause	Defective configuration
Fault clearance	<ul style="list-style-type: none"> • Check the expansion module configuration • Check the expansion module address setting • Check the connection to the expansion module • Power reset of all connected PUS evaluation units

Alarm code	A 2121/A 2122
Alarm signal	Receive telegram time-out (address 2)
Cause	Telegram not received from expansion module in time
Fault clearance	<ul style="list-style-type: none"> • Check the expansion module configuration • Check the expansion module address setting • Check the connection to the expansion module • Power reset of all connected PUS evaluation units

Alarm code	A 2125/A 2126
Alarm signal	CRC error for send telegram (address 2)
Cause	Defective send telegram
Fault clearance	<ul style="list-style-type: none"> • Check the expansion module configuration • Check the expansion module address setting • Check the connection to the expansion module • Power reset of all connected PUS evaluation units

Alarm code	A 2131
Alarm signal	Communication time-out with expansion module (address 2)
Cause	Defective installation of expansion module
Fault clearance	<ul style="list-style-type: none"> • Check the expansion module configuration • Check the expansion module address setting • Check the connection to the expansion module • Power reset of all connected PUS evaluation units

Alarm code	A 2133
Alarm signal	Expansion module (address 2) present but not configured
Cause	Defective configuration
Fault clearance	<ul style="list-style-type: none"> • Check the expansion module configuration • Check the expansion module address setting • Check the connection to the expansion module • Power reset of all connected PUS evaluation units

Alarm code	A 2135/A 2136
Alarm signal	Time-out for reading of functional inputs
Cause	<ul style="list-style-type: none"> • Incorrect configuration • CAN telegram not received within the time-out time
Fault clearance	<ul style="list-style-type: none"> • Check the CAN ID configuration • Check the transfer time (time-out)

Alarm code	A 2301
Alarm signal	Defective CRC during SPI data transfer from COM module
Cause	Defective data transfer External interferences
Fault clearance	<ul style="list-style-type: none"> • Observe the EMC directives • Power reset • Replace the module

Alarm code	A 2303
Alarm signal	COM module SPI data transfer time-out
Cause	Defective data transfer External interferences
Fault clearance	<ul style="list-style-type: none"> • Observe the EMC directives • Power reset • Replace the module

Alarm code	A 2305
Alarm signal	Invalid data length of the received data for the SPI transfer from COM module
Cause	Defective data transfer External interferences
Fault clearance	<ul style="list-style-type: none"> • Observe the EMC directives • Power reset • Replace the module

Alarm code	A 2307
Alarm signal	Invalid ID of the communication processor during the SPI transfer from COM module
Cause	Defective data transfer External interferences
Fault clearance	<ul style="list-style-type: none"> • Observe the EMC directives • Power reset • Replace the module

Alarm code	A 3031/A 3032
Alarm signal	Pulse1 plausibility error at expansion input EAEx.1
Cause	The configured Pulse1 voltage is not present at this input.
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring

Alarm code	A 3033/A 3034
Alarm signal	Pulse2 plausibility error at expansion input EAEx.1
Cause	The configured Pulse2 voltage is not present at this input.
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring

Alarm code	A 3035/A 3036
Alarm signal	Defective 24 V signal at EAEx.1
Cause	No continuous 24 V voltage present at input
Fault clearance	<ul style="list-style-type: none"> • Check the voltage at the digital input! • Check the wiring • Check whether Pulse1 or Pulse2 is present

Alarm code	A 3037/A 3038
Alarm signal	Pulse1 plausibility error at expansion input EAEx.2
Cause	The configured Pulse1 voltage is not present at this input.
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring

Alarm code	A 3039/A 3040
Alarm signal	Pulse2 plausibility error at expansion input EAEx.2
Cause	The configured Pulse2 voltage is not present at this input.
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring

Alarm code	A 3041/A 3042
Alarm signal	Defective 24 V signal at EAEx.2
Cause	No continuous 24 V voltage present at input
Fault clearance	<ul style="list-style-type: none"> • Check the voltage at the digital input! • Check the wiring • Check whether Pulse1 or Pulse2 is present

Alarm code	A 3043/A 3044
Alarm signal	Pulse1 plausibility error at expansion input EAEx.3
Cause	The configured Pulse1 voltage is not present at this input.
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring

Alarm code	A 3045/A 3046
Alarm signal	Pulse2 plausibility error at expansion input EAEx.3
Cause	The configured Pulse2 voltage is not present at this input.
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring

Alarm code	A 3047/A 3048
Alarm signal	Defective 24 V signal at EAEx.3
Cause	No continuous 24 V voltage present at input
Fault clearance	<ul style="list-style-type: none"> • Check the voltage at the digital input! • Check the wiring • Check whether Pulse1 or Pulse2 is present

Alarm code	A 3049/A 3050
Alarm signal	Pulse1 plausibility error at expansion input EAEx.4
Cause	The configured Pulse1 voltage is not present at this input.
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring

Alarm code	A 3051/A 3052
Alarm signal	Pulse2 plausibility error at expansion input EAEx.4
Cause	The configured Pulse12 voltage is not present at this input.
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring

Alarm code	A 3053/A 3054
Alarm signal	Defective 24 V signal at EAEx.4
Cause	No continuous 24 V voltage present at input
Fault clearance	<ul style="list-style-type: none"> • Check the voltage at the digital input! • Check the wiring • Check whether Pulse1 or Pulse2 is present

Alarm code	A 3055/A 3056
Alarm signal	Pulse1 plausibility error at expansion input EAEx.5
Cause	The configured Pulse1 voltage is not present at this input.
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring

Alarm code	A 3057/A 3058
Alarm signal	Pulse2 plausibility error at expansion input EAEx.5
Cause	The configured Pulse2 voltage is not present at this input.
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring

Alarm code	A 3059/A 3060
Alarm signal	Defective 24 V signal at EAEx.5
Cause	No continuous 24 V voltage present at input.
Fault clearance	<ul style="list-style-type: none"> • Check the voltage at the digital input! • Check the wiring • Check whether Pulse1 or Pulse2 is present

Alarm code	A 3061/A 3062
Alarm signal	Pulse1 plausibility error at expansion input EAEx.6
Cause	The configured Pulse1 voltage is not present at this input.
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring

Alarm code	A 3063/A 3064
Alarm signal	Pulse2 plausibility error at expansion input EAEx.6
Cause	The configured Pulse2 voltage is not present at this input.
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring

Alarm code	A 3065/A 3066
Alarm signal	Pulse2 plausibility error at expansion input EAEx.7
Cause	The configured Pulse1 voltage is not present at this input.
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring

Alarm code	A 3067/A 3068
Alarm signal	Pulse1 plausibility error at expansion input EAEx.7
Cause	The configured Pulse1 voltage is not present at this input.
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring

Alarm code	A 3069/A 3070
Alarm signal	Pulse2 plausibility error at expansion input EAEx.7
Cause	The configured Pulse2 voltage is not present at this input.
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring

Alarm code	A 3071/A 3072
Alarm signal	Defective 24 V signal at EAEx.7
Cause	No continuous 24 V voltage present at input.
Fault clearance	<ul style="list-style-type: none"> • Check the voltage at the digital input! • Check the wiring • Check whether Pulse1 or Pulse2 is present

Alarm code	A 3073/A 3074
Alarm signal	Pulse1 plausibility error at expansion input EAEx.8
Cause	The configured Pulse2 voltage is not present at this input.
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring

Alarm code	A 3075/A 3076
Alarm signal	Pulse2 plausibility error at expansion input EAEx.8
Cause	The configured Pulse2 voltage is not present at this input.
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring

Alarm code	A 3077/A 3078
Alarm signal	Defective 24 V signal at EAEx.8
Cause	No continuous 24 V voltage present at input.
Fault clearance	<ul style="list-style-type: none"> • Check the voltage at the digital input! • Check the wiring • Check whether Pulse1 or Pulse2 is present

Alarm code	A 3079/A 3080
Alarm signal	Pulse1 plausibility error at expansion input EAEx.9
Cause	The configured Pulse2 voltage is not present at this input.
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring

Alarm code	A 3081/A 3082
Alarm signal	Pulse2 plausibility error at expansion input EAEx.9
Cause	The configured Pulse2 voltage is not present at this input.
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring

Alarm code	A 3083/A 3084
Alarm signal	Defective 24 V signal at EAEx.9
Cause	No continuous 24 V voltage present at input.
Fault clearance	<ul style="list-style-type: none"> • Check the voltage at the digital input! • Check the wiring • Check whether Pulse1 or Pulse2 is present

Alarm code	A 3085/A 3086
Alarm signal	Pulse1 plausibility error at expansion input EAEx.10
Cause	The configured Pulse2 voltage is not present at this input.
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring

Alarm code	A 3087/A 3088
Alarm signal	Pulse2 plausibility error at expansion input EAEx.10
Cause	The configured Pulse2 voltage is not present at this input.
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring

Alarm code	A 3089/A 3090
Alarm signal	Defective 24 V signal at EAEx.910
Cause	No continuous 24 V voltage present at input.
Fault clearance	<ul style="list-style-type: none"> • Check the voltage at the digital input! • Check the wiring • Check whether Pulse1 or Pulse2 is present

Alarm code	A 3101/A 3102	ICS
Alarm signal	Pulse1 plausibility error at input DI1	
Cause	The configured Pulse1 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3103/A 3104	ICS
Alarm signal	Pulse1 plausibility error at input DI2	
Cause	The configured Pulse1 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3105/A 3106	ICS
Alarm signal	Pulse1 plausibility error at input DI3	
Cause	The configured Pulse1 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3107/A 3108	ICS
Alarm signal	Pulse1 plausibility error at input DI4	
Cause	The configured Pulse1 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3109/A 3110	ICS
Alarm signal	Pulse1 plausibility error at input DI5	
Cause	The configured Pulse1 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3111/A 3112	ICS
Alarm signal	Pulse1 plausibility error at input DI6	
Cause	The configured Pulse1 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3113/A 3114	ICS
Alarm signal	Pulse1 plausibility error at input DI7	
Cause	The configured Pulse1 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3115/A 3116	ICS
Alarm signal	Pulse1 plausibility error at input DI8	
Cause	The configured Pulse1 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3117/A 3118	ICS
Alarm signal	Pulse2 plausibility error at input DI1	
Cause	The configured Pulse2 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3119/A 3120	ICS
Alarm signal	Pulse2 plausibility error at input DI2	
Cause	The configured Pulse2 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3121/A 3122	ICS
Alarm signal	Pulse2 plausibility error at input DI3	
Cause	The configured Pulse2 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3123/A 3124	ICS
Alarm signal	Pulse2 plausibility error at input DI4	
Cause	The configured Pulse2 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3125/A 3126	ICS
Alarm signal	Pulse2 plausibility error at input DI5	
Cause	The configured Pulse2 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3127/A 3128	ICS
Alarm signal	Pulse2 plausibility error at input DI6	
Cause	The configured Pulse2 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3129/A 3130	ICS
Alarm signal	Pulse2 plausibility error at input DI7	
Cause	The configured Pulse2 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3131/A 3132	ICS
Alarm signal	Pulse2 plausibility error at input DI8	
Cause	The configured Pulse2 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3133/A 3134	ICS
Alarm signal	Pulse1 plausibility error at input DI9	
Cause	The configured Pulse1 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3135/A 3136	ICS
Alarm signal	Pulse1 plausibility error at input DI10	
Cause	The configured Pulse1 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3137/A 3138	ICS
Alarm signal	Pulse1 plausibility error at input DI11	
Cause	The configured Pulse1 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3139/A 3140	ICS
Alarm signal	Pulse1 plausibility error at input DI12	
Cause	The configured Pulse1 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3141/A 3142	ICS
Alarm signal	Pulse1 plausibility error at input DI13	
Cause	The configured Pulse1 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3143/A 3144	ICS
Alarm signal	Pulse1 plausibility error at input DI4	
Cause	The configured Pulse1 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3147/A 3148	ICS
Alarm signal	Pulse2 plausibility error at input DI9	
Cause	The configured Pulse2 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3149/A 3150	ICS
Alarm signal	Pulse2 plausibility error at input DI10	
Cause	The configured Pulse2 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3151/A 3152	ICS
Alarm signal	Pulse2 plausibility error at input DI11	
Cause	The configured Pulse2 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3153/A 3154	ICS
Alarm signal	Pulse2 plausibility error at input DI12	
Cause	The configured Pulse2 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3155/A 3156	ICS
Alarm signal	Pulse2 plausibility error at input DI13	
Cause	The configured Pulse2 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3157/A 3158	ICS
Alarm signal	Pulse2 plausibility error at input DI4	
Cause	The configured Pulse2 voltage is not present at the input.	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration of the digital input according to the project planning and circuit diagram • Check the wiring 	

Alarm code	A 3191/A 3192	ICS
Alarm signal	Short-circuit fault at digital inputs	
Cause	Short circuit at the digital inputs within the module	
Fault clearance	<ul style="list-style-type: none"> • Power reset • Check the degree of contamination of the module • Check the external wiring • Replace the module 	

Alarm code	A 3197/A 3198	ICS
Alarm signal	Erroneous OSSD input check	
Cause	OSSD test erroneous	
Fault clearance	<ul style="list-style-type: none"> • Check the 24 V input voltage of all OSSD inputs • Power reset 	

Alarm code	A 3209/A 3210	ECS
Error message	Read head power supply X35 defective.	
Cause	<ul style="list-style-type: none"> • Read head power supply does not match the configured threshold 	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration! • Check the read head power supply • Switch the device on/off. 	

Alarm code	A 3213/A 3214	ECS
Error message	Read head power supply X35 defective.	
Cause	<ul style="list-style-type: none"> • Read head power supply does not match the configured threshold 	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration! • Check the read head power supply • Switch the device on/off. 	

Alarm code	A 3229/A 3230	ECS
Error message	Read head voltage plausibility test erroneous	
Cause	<ul style="list-style-type: none"> • Fluctuating read head voltage value 	
Fault clearance	<ul style="list-style-type: none"> • Check the read head power supply • Check the wiring of the read head power supply • Switch the device on/off 	

Alarm code	A 3301/A 3302	ECS
Alarm signal	Plausibility error for axis 1 speed detection	
Cause	The difference between the two speed sensors is greater than the configured speed cut-off threshold	
Fault clearance	<ul style="list-style-type: none"> • Check the route theory again, taking into consideration the configured settings for the read head. • Check the speed sensor signals • Are all signals connected correctly on the nine-pin read head connector? • Analysis of speed signals via the Scope function • Correct the parameterization of the measuring section (read head resolution, direction of rotation, cut-off threshold, filter) • Check the travel path for speed fluctuations / slippage 	

Alarm code	A 3303/A 3304	ECS
Alarm signal	Plausibility error for axis 1 position detection	
Cause	The difference between the two position signals is greater than the configured incremental cut-off threshold	
Fault clearance	<ul style="list-style-type: none"> • Check the route theory again, taking into consideration the configured settings for the read head. • Check the position sensor signals • Are all signals connected correctly on the nine-pin read head connector? • Analysis of the position signal via the Scope function • Correct the parameterization of the measuring section (read head resolution, direction of rotation, cut-off threshold, filter) 	

Alarm code	A 3307/A 3308	ECS
Alarm signal	Plausibility error, defective position range of axis 1	
Cause	The current position is outside the configured measurement length	
Fault clearance	<ul style="list-style-type: none"> • Check the route theory against the configured data of the read head setting • Check the position signal, correct the offset where required (read head) • Where required, move to the preset position manually and perform the preset 	

Alarm code	A 3309/A 3310	ECS
Alarm signal	Plausibility error, erroneous speed of axis 1	
Cause	<ul style="list-style-type: none"> • The current speed is outside the configured maximum speed • The drive moves outside the permitted and configured speed range 	
Fault clearance	<ul style="list-style-type: none"> • Check configuration • Analysis of speed via the Scope function • Check the travel path for unevenness / speed fluctuations • Check the read head positions for position jumps 	

Alarm code	A 3313/A 3314	ECS
Error message	SSI sensor error	
Cause	<ul style="list-style-type: none"> Read head jump SSI value too large within a cycle 	
Fault clearance	<ul style="list-style-type: none"> Check the read head wiring Check the read head configuration 	

Alarm code	A 3317/A 3318	ECS
Error message	Plausibility error of the read head tracks (comparison of individual counters – quadrature counters)	
Cause	<ul style="list-style-type: none"> Different counting signals at read head signals A/B Defective component at RS485 read head interface Read head operating outside the read head interface tolerances 	
Fault clearance	<ul style="list-style-type: none"> Check the read head wiring Check the read head configuration Check the levels of the read head signals Check the maximum counting frequency of the read head 	

Alarm code	A 3321/A 3322	ECS
Alarm signal	Plausibility error for axis 2 speed detection	
Cause	The difference between the two speed sensors is greater than the configured speed cut-off threshold	
Fault clearance	<ul style="list-style-type: none"> Check the route theory again, taking into consideration the configured settings for the read head. Check the speed sensor signals Are all signals connected correctly on the nine-pin read head connector? Analysis of speed signals via the Scope function Correct the parameterization of the measuring section (read head resolution, direction of rotation, cut-off threshold, filter) Check the travel path for speed fluctuations / slippage 	

Alarm code	A 3323/A 3324	ECS
Alarm signal	Plausibility error for axis 2 speed detection	
Cause	The difference between the two position signals is greater than the configured incremental cut-off threshold	
Fault clearance	<ul style="list-style-type: none"> Check the route theory against the configured data of the read head setting Check the position signal Are all signals connected correctly on the nine-pin read head connector? Are proximity switches used and are they connected correctly? Analysis of the position signal via the Scope function Correct the parameterization of the measuring section (read head resolution, direction of rotation, cut-off threshold) 	

Alarm code	A 3327/A 3328	ECS
Alarm signal	Plausibility error for axis 2 speed detection	
Cause	The current position is outside the configured measurement length	
Fault clearance	<ul style="list-style-type: none"> • Check the route theory against the configured data of the read head setting • Check the position signal • Check the position signal, correct the offset where required (read head) • Manually approach the read head preset position and implement, if used 	

Alarm code	A 3329/A 3330	ECS
Alarm signal	Plausibility error for axis 2 speed detection	
Cause	<ul style="list-style-type: none"> • The current speed is outside the configured maximum speed • The drive moves outside the permitted and configured speed range 	
Fault clearance	<ul style="list-style-type: none"> • Check configuration • Analysis of speed via the Scope function • Check the travel path for unevenness / speed fluctuations • Check the read head positions for position jumps 	

Alarm code	A 3331/A 3332	ECS
Alarm signal	Configuration error: Axis 2 acceleration	
Cause	Current acceleration is outside the configured acceleration range	
Fault clearance	<ul style="list-style-type: none"> • The drive has exceeded the permitted acceleration range • Check the configuration for maximum speed • Analyze the speed/acceleration curve using SCOPE 	

Alarm code	A 3333/A 3334	ECS
Alarm signal	Plausibility error of SinCos read head	
Cause	Incorrect read head type connected	
Fault clearance	<ul style="list-style-type: none"> • Check the configuration • Check the read head assignment • Record and verify Sin/Cos signals 	

Alarm code	A 3337/A 3338	ECS
Error message	Axis 2 read head defective	
Cause	<ul style="list-style-type: none"> • Track A does not match track B 	
Fault clearance	<ul style="list-style-type: none"> • Check the read head wiring • Check the read head configuration • Record and check signals 	

Alarm code	A 3407/A 3408	ECS
Alarm signal	Differential level of RS485 driver (X35) defective. A3407: TTL track B or SSI CLK A3408: TTL track A or SSI DATA	
Cause	<ul style="list-style-type: none"> No read head connection Incorrect read head type connected 	
Fault clearance	<ul style="list-style-type: none"> Check the read head connection Check the read head wiring 	

Alarm code	A 3409/A 3410	ECS
Alarm signal	Differential level of RS485 driver (X35) defective. A3409: TTL track B or SSI CLK A3410: TTL track A or SSI DATA	
Cause	<ul style="list-style-type: none"> No read head connection Incorrect read head type connected 	
Fault clearance	<ul style="list-style-type: none"> Check the read head connection Check the read head wiring 	

Alarm code	A 3411/A 3412	ECS
Error message	Sine / cosine plausibility error X35/X33	
Cause	<ul style="list-style-type: none"> Plausibility monitoring of the individual tracks defective Incorrect read head type connected 	
Fault clearance	<ul style="list-style-type: none"> Check the read head wiring Sine to cosine track must be linear Too much attenuation of the Sin/Cos levels Interference at Sin/Cos track(s) 	

Alarm code	A 3413/A 3414	ECS
Error message	Sine / cosine plausibility error X35	
Cause	<ul style="list-style-type: none"> Plausibility monitoring of the individual tracks defective 	
Fault clearance	<ul style="list-style-type: none"> Check the read head wiring Sine to cosine track must be linear Too much attenuation of the Sin/Cos levels Interference at Sin/Cos track(s) 	

Alarm code	A 3415/A 3416	ECS
Error message	Proxy counter plausibility error	
Cause	Level monitoring of the proxy counter tracks defective	
Fault clearance	<ul style="list-style-type: none"> Check the proxy counter wiring Check the phase shift of the complementary track Check the maximum counting frequency according to the installation manual 	

Alarm code	A 3417/A 3418	ECS
Error message	CLK number error for SSI listener 1st axis	
Cause	<ul style="list-style-type: none"> Plausibility monitoring of the number of configured CLK signals 	
Fault clearance	<ul style="list-style-type: none"> Check the read head wiring Check the parameterization of the SSI master The number of configured CLK must match the physically present CLK The monoflop time must not fall below 40 μs 	

Alarm code	A 3419/A 3420	ECS
Error message	CLK number error for SSI listener 2nd axis	
Cause	Plausibility monitoring of the number of configured CLK signals	
Fault clearance	<ul style="list-style-type: none"> Check the read head wiring Check the parameterization of the SSI master The number of configured CLK must match the physically present CLK The monoflop time must not fall below 40 μs 	

Alarm code	A 3451/A 3452	ECS
Alarm signal	Defective resolver frequency	
Cause	<ul style="list-style-type: none"> Resolver frequency is outside of the permitted range. Error in the resolver excitation frequency. 	
Fault clearance	<ul style="list-style-type: none"> Check the resolver frequency to see if it is within the permitted range. Check the wiring Power reset 	

Alarm code	A 3453/A 3454	ECS
Error message	Mean value of the reference signal from the resolver is not within the permitted range.	
Cause	<ul style="list-style-type: none"> Mean value of the reference signal from the resolver is not within the permitted range. 	
Fault clearance	<ul style="list-style-type: none"> Check the connected resolver Record and analyze the resolver signals Check the resolver signal level (min./max., variance) Power reset 	

Alarm code	A 3455/A 3456	ECS
Error message	Generic PIC error	
Cause	<ul style="list-style-type: none"> • Hardware error on the extension board • PIC controller reports a generic error 	
Fault clearance	<ul style="list-style-type: none"> • Check the wiring of the expansion card read heads • Check the settings of the reading heads at X35 • Power reset • Replace the module 	

Alarm code	A 3457/A 3458	ECS
Error message	Reference voltage monitoring (U_REF monitoring) of read head interface X35 reports an error	
Cause	<ul style="list-style-type: none"> • Incorrect read head wiring • Hardware error on the extension board 	
Fault clearance	<ul style="list-style-type: none"> • Check the wiring of the expansion card read heads • Check the settings of the reading heads at X35 • Power reset • Replace the module 	

Alarm code	A 3459/A 3460	ECS
Error message	The amplitude/pointer length of sine and cosine signals is outside of the permitted range	
Cause	<ul style="list-style-type: none"> • Incorrect configuration of the read head • Defective connection of the read head • Defective signals from the connected read head • Interference with the read head signals 	
Fault clearance	<ul style="list-style-type: none"> • Check the read head configuration • Check the read head connections • Record the read head signals • Check the EMC regulations • Power reset 	

Alarm code	A 3461/A 3462	ECS
Error message	The PIC reports a general status error, e.g., when establishing a connection or because a process time-out occurred.	
Cause	<ul style="list-style-type: none"> • Defective read head signals • Defective RS485 read head driver 	
Fault clearance	<ul style="list-style-type: none"> • Device power cycle • Check the read head signals at X35 • Check the read head circuit at X35 • Replace the module 	

Alarm code	A 3465/A 3466	ECS
Error message	The quotient made up of arithmetic mean/square mean ratio is outside of the permitted range.	
Cause	<ul style="list-style-type: none"> Defective read head signals Defective RS485 read head driver 	
Fault clearance	<ul style="list-style-type: none"> Check the read head connection Check the read head signals Power cycle Record and analyze the read head signals 	

Alarm code	A 3467/A 3468	ECS
Error message	Establishing the connection between the CPU and PIC has failed.	
Cause	<ul style="list-style-type: none"> Defective hardware of the X35 read head drivers Defective read head signals 	
Fault clearance	<ul style="list-style-type: none"> Check the expansion card Check the input levels at X35 Power cycle Send in the module 	

Alarm code	A 3469/A 3470	ECS
Error message	Resolver_quadrant	
Cause	<ul style="list-style-type: none"> Defective read head signals from the read head 	
Fault clearance	<ul style="list-style-type: none"> Check the read head connection Check the read head signals Power cycle 	

Alarm code	A 3471/A 3472	ECS
Error message	RESOLVER_UENC	
Cause	<ul style="list-style-type: none"> Read head supply voltage is not connected Read head supply voltage is incorrectly parametrized 	
Fault clearance	<ul style="list-style-type: none"> Check the read head supply voltage at terminals X17/X19 Check the configuration of the voltage monitoring of read head X35 Check the read head signals Power cycle 	

Alarm code	A 3473/A 3474	ECS
Error message	TTL/HTL signal defective	
Cause	<ul style="list-style-type: none"> Defective read head signal from the read head 	
Fault clearance	<ul style="list-style-type: none"> Check the read head connection Check the read head signals Power cycle 	

Alarm code	A 3475/A 3476	ECS
Error message	RESOLVER_TRACE Error	
Cause	<ul style="list-style-type: none"> • Read head counter signals are defective 	
Fault clearance	<ul style="list-style-type: none"> • Check the X35 read head connection • Check the read head signals • Check the expansion card • Power cycle 	

Alarm code	A 3477/A 3478	ECS
Error message	SSI clock error	
Cause	<ul style="list-style-type: none"> • Clock plausibility check (clock missing from PIC) • SSI listener receiving defective clock signals) • SSI monoflop time outside of the permitted range 	
Fault clearance	<ul style="list-style-type: none"> • Check the clock signal • Check the cable • Check the SSI Master settings • Record and check the SSI clock signal 	

Alarm code	A 3501/A 3502	ECS
Error message	PXV CRC32 error	
Cause	<ul style="list-style-type: none"> • Error occurred during PXV data transfer from the sensor 	
Fault clearance	<ul style="list-style-type: none"> • Check the read head connection • Check the read head signals • Check the EMC regulations • Replace the read head 	

Alarm code	A 3503/A 3504	ECS
Error message	PXV zero position	
Cause	<ul style="list-style-type: none"> • Too many zero positions received 	
Fault clearance	<ul style="list-style-type: none"> • Check the read head connection • Check the read head signals • Check the EMC regulations • Replace the read head 	

Alarm code	A 3505/A 3506	ECS
Error message	PXV zero position	
Cause	<ul style="list-style-type: none"> • Too many zero positions received 	
Fault clearance	<ul style="list-style-type: none"> • Check the read head connection • Check the read head signals • Check the EMC regulations • Replace the read head 	

Alarm code	A 3507/A 3508	ECS
Error message	PXV color switching defective	
Cause	<ul style="list-style-type: none"> • Unexpected color received 	
Fault clearance	<ul style="list-style-type: none"> • Check the read head connection • Check the read head signals • Check the EMC regulations • Replace the read head 	

Alarm code	A 3511/A 3512	ECS
Error message	WCS: Invalid length	
Cause	<ul style="list-style-type: none"> • Unexpected length of data received 	
Fault clearance	<ul style="list-style-type: none"> • Check the read head connection • Check the read head settings and hardware changeover for the sensor • Check the EMC regulations • Replace the read head 	

Alarm code	A 3513/A 3514	ECS
Error message	WCS: Invalid counter	
Cause	<ul style="list-style-type: none"> • Received data counter invalid (packet loss?) 	
Fault clearance	<ul style="list-style-type: none"> • Check the read head connection • Check the read head settings and hardware changeover for the sensor • Check the EMC regulations • Replace the read head 	

Alarm code	A 3515/A 3516	ECS
Error message	WCS: Invalid checksum	
Cause	<ul style="list-style-type: none"> • Invalid checksum of the received data 	
Fault clearance	<ul style="list-style-type: none"> • Check the read head connection • Check the read head settings and hardware changeover for the sensor • Check the EMC regulations • Replace the read head 	

Alarm code	A 3517/A 3518	ECS
Error message	WCS: Invalid address	
Cause	<ul style="list-style-type: none"> • Address of receive telegram invalid, does not match the configuration 	
Fault clearance	<ul style="list-style-type: none"> • Check the read head connection • Check the read head settings and hardware changeover for the sensor • Check the EMC regulations • Replace the read head 	

Alarm code	A 3519/A 3520	ECS
Error message	WCS: ERR error bit	
Cause	<ul style="list-style-type: none"> The ERR error bit is active; no position was determined. 	
Fault clearance	<ul style="list-style-type: none"> Check the read head connection Check the read head settings and hardware changeover for the sensor Check the sensor mounting on the WCS rail Check possible causes of fault according to the sensor manual. Replace the read head 	

Alarm code	A 3521/A 3522	ECS
Error message	WCS: OUT error bit	
Cause	<ul style="list-style-type: none"> The OUT error bit is active; no position was determined. The sensor is located outside the WCS code rail 	
Fault clearance	<ul style="list-style-type: none"> Check the read head connection Check the read head settings and hardware changeover for the sensor Check the sensor mounting on the WCS rail Check possible causes of fault according to the sensor manual. Replace the read head 	

Alarm code	A 3523/A 3524	ECS
Error message	WCS: DB error bit	
Cause	<ul style="list-style-type: none"> The DB error bit is active The sensor is located outside the WCS code rail The sensor optics are dirty Code rail damaged 	
Fault clearance	<ul style="list-style-type: none"> Check the read head connection Check the read head settings and hardware changeover for the sensor Check the sensor mounting on the WCS rail Check possible causes of fault according to the sensor manual. Replace the read head 	

Alarm code	A 3525/A 3526	ECS
Error message	WCS: Supply voltage falls below the minimum level Note: The supply voltages are monitored in a criss-cross pattern. A3525: WCS sensor B A3526: WCS sensor A	
Cause	<ul style="list-style-type: none"> The sensor supply voltage falls below the minimum level (19.2 V) 	
Fault clearance	<ul style="list-style-type: none"> Check the read head connection Check the read head supply voltage Replace the read head 	

Alarm code	A 3527/A 3528	ECS
Error message	WCS: Supply voltage above the maximum level Note: The supply voltages are monitored in a criss-cross pattern. A3527: WCS sensor B A3528: WCS sensor A	
Cause	<ul style="list-style-type: none"> The sensor supply voltage falls below the maximum level (28.8 V) 	
Fault clearance	<ul style="list-style-type: none"> Check the read head connection Check the read head supply voltage Replace the read head 	

Alarm code	A 3575/A 3576	ECS
Error message	SSI STATUS 1st axis SSI read head	
Cause	<ul style="list-style-type: none"> Evaluation of the 3rd status bit is erroneous 	
Fault clearance	<ul style="list-style-type: none"> Check the read head connection Check the read head signals Check the significance of the corresponding error bit Replace the SSI read head 	

Alarm code	A 3577/A 3578	ECS
Error message	SSI STATUS 1st axis SSI read head	
Cause	<ul style="list-style-type: none"> Evaluation of the 4th status bit is erroneous 	
Fault clearance	<ul style="list-style-type: none"> Check the read head connection Check the read head signals Check the significance of the corresponding error bit Replace the SSI read head 	

Alarm code	A 3579/A 3580	ECS
Error message	SSI STATUS 1st axis SSI read head	
Cause	<ul style="list-style-type: none"> Evaluation of the 5th status bit is erroneous 	
Fault clearance	<ul style="list-style-type: none"> Check the read head connection Check the read head signals Check the significance of the corresponding error bit Replace the SSI read head 	

Alarm code	A 3627/A 3628	ECS
Error message	Error in static test HighSide output 1	
Cause	Defective switching of the output <ul style="list-style-type: none"> • Incorrect wiring (short circuit) • Hardware failure 	
Fault clearance	<ul style="list-style-type: none"> • Check the output wiring (short circuit) 	

Alarm code	A 3629/A 3630	ECS
Error message	Error in static test HighSide output 2	
Cause	Defective switching of the output <ul style="list-style-type: none"> • Incorrect wiring (short circuit) • Hardware failure 	
Fault clearance	<ul style="list-style-type: none"> • Check the output wiring (short circuit) 	

Alarm code	A 3631/A 3632	ECS
Error message	Error in static test HighSide output 3	
Cause	Defective switching of the output <ul style="list-style-type: none"> • Incorrect wiring (short circuit) • Hardware failure 	
Fault clearance	<ul style="list-style-type: none"> • Check the output wiring (short circuit) 	

Alarm code	A 3633/A 3634	ECS
Error message	Error in static test HighSide output 4	
Cause	<ul style="list-style-type: none"> • Incorrect wiring (short circuit) • Hardware failure 	
Fault clearance	<ul style="list-style-type: none"> • Check the output wiring (short circuit) 	

Alarm code	A 3635/A 3636	ECS
Error message	Error in static test Main Switch 1 of HighSide outputs 1 and 2	
Cause	<ul style="list-style-type: none"> • Incorrect wiring (short circuit) • Hardware failure 	
Fault clearance	<ul style="list-style-type: none"> • Check the wiring (short circuit) • Check the hardware 	

Alarm code	A 3635/A 3636	ECS
Error message	Error in static test Main Switch 2 of HighSide outputs 3 and 4	
Cause	<ul style="list-style-type: none"> • Incorrect wiring (short circuit) • Hardware failure 	
Fault clearance	<ul style="list-style-type: none"> • Check the wiring (short circuit) • Check the hardware 	

Alarm code	A 3637/A 3638
Error message	Error in static test Main Switch 2 of HighSide outputs 3 and 4
Cause	<ul style="list-style-type: none"> • Incorrect wiring (short circuit) • Hardware failure
Fault clearance	<ul style="list-style-type: none"> • Check the wiring (short circuit) • Check the hardware

Alarm code	A 3653/A 3654
Error message	Error in dynamic test Main Switch 1 of HighSide outputs 1 and 2
Cause	<ul style="list-style-type: none"> • Incorrect wiring (short circuit) • Hardware failure
Fault clearance	<ul style="list-style-type: none"> • Check the wiring (short circuit) • Check the hardware

Alarm code	A 3655/A 3656
Error message	Error in dynamic test Main Switch 2 of HighSide outputs 3 and 4
Cause	<ul style="list-style-type: none"> • Incorrect wiring (short circuit) • Hardware failure
Fault clearance	<ul style="list-style-type: none"> • Check the wiring (short circuit) • Check the hardware

Alarm code	A 3657/A 3658
Error message	Error in dynamic test HighSide 1
Cause	<ul style="list-style-type: none"> • Incorrect wiring (short circuit) • Hardware failure
Fault clearance	<ul style="list-style-type: none"> • Check the wiring (short circuit) • Check the hardware

Alarm code	A 3659/A 3660
Error message	Error in dynamic test HighSide 2
Cause	<ul style="list-style-type: none"> • Incorrect wiring (short circuit) • Hardware failure
Fault clearance	<ul style="list-style-type: none"> • Check the wiring (short circuit) • Check the hardware

Alarm code	A 3661/A 3662
Error message	Error in dynamic test HighSide 3
Cause	<ul style="list-style-type: none"> • Incorrect wiring (short circuit) • Hardware failure
Fault clearance	<ul style="list-style-type: none"> • Check the wiring (short circuit) • Check the hardware

Alarm code	A 3663/A 3664
Error message	Error in dynamic test HighSide 4
Cause	<ul style="list-style-type: none"> • Incorrect wiring (short circuit) • Hardware failure
Fault clearance	<ul style="list-style-type: none"> • Check the wiring (short circuit) • Check the hardware

Alarm code	A 3801/A 3802
Error message	Defective switching of output EAAx.1
Cause	Short circuit of output with "24 V" or "0 V"
Fault clearance	<ul style="list-style-type: none"> • Check the output wiring on the expansion module • Switch the device on/off

Alarm code	A 3803/A 3804
Error message	Defective switching of output EAAx.2
Cause	Short circuit of output with "24 V" or "0 V"
Fault clearance	<ul style="list-style-type: none"> • Check the output wiring on the expansion module • Switch the device on/off

Alarm code	A 3805/A 3806
Error message	Defective switching of output EAAx.3
Cause	Short circuit of output with "24 V" or "0 V"
Fault clearance	<ul style="list-style-type: none"> • Check the output wiring on the expansion module • Switch the device on/off

Alarm code	A 3807/A 3808
Error message	Defective switching of output EAAx.4
Cause	Short circuit of output with "24 V" or "0 V"
Fault clearance	<ul style="list-style-type: none"> • Check the output wiring on the expansion module • Switch the device on/off

Alarm code	A 3809/A 3810
Error message	Defective switching of output EAAx.5
Cause	Short circuit of output with "24 V" or "0 V"
Fault clearance	<ul style="list-style-type: none"> • Check the output wiring on the expansion module • Switch the device on/off

Alarm code	A 3811/A 3812
Error message	Defective switching of output EAAx.6
Cause	Short circuit of output with "24 V" or "0 V"
Fault clearance	<ul style="list-style-type: none"> • Check the output wiring on the expansion module • Switch the device on/off

Alarm code	A 3813/A 3814
Error message	Defective switching of output EAAx.7
Cause	Short circuit of output with "24 V" or "0 V"
Fault clearance	<ul style="list-style-type: none"> • Check the output wiring on the expansion module • Switch the device on/off

Alarm code	A 3815/A 3816
Error message	Defective switching of output EAAx.8
Cause	Short circuit of output with "24 V" or "0 V"
Fault clearance	<ul style="list-style-type: none"> • Check the output wiring on the expansion module • Switch the device on/off

Alarm code	A 3817/A 3818
Error message	Defective switching of output EAAx.9
Cause	Short circuit of output with "24 V" or "0 V"
Fault clearance	<ul style="list-style-type: none"> • Check the output wiring on the expansion module • Switch the device on/off

Alarm code	A 3819/A 3820
Error message	Defective switching of output EAAx.10
Cause	Short circuit of output with "24 V" or "0 V"
Fault clearance	<ul style="list-style-type: none"> • Check the output wiring on the expansion module • Switch the device on/off

Alarm code	A 4001/A 4002
Alarm signal	Clockwise and counterclockwise rotation monitoring SDI1 activated simultaneously
Cause	Multiple activation; CW (clockwise) and CCW (counterclockwise) inputs on function block SDI1 are active simultaneously.
Fault clearance	<ul style="list-style-type: none"> • Check the logic circuit of the SDI function blocks in the application program • Check the input wiring • Analyze the input and logic signals of the SDI via device diagnostics

Alarm code	A 4003/A 4004
Alarm signal	Clockwise and counterclockwise rotation monitoring SDI2 activated simultaneously
Cause	Multiple activation; CW (clockwise) and CCW (counterclockwise) inputs on function block SDI2 are active simultaneously.
Fault clearance	<ul style="list-style-type: none"> • Check the logic circuit of the SDI function blocks in the application program • Check the input wiring • Analyze the input and logic signals of the SDI via device diagnostics

Alarm code	A 4601/A 4602
Alarm signal	Clockwise and counterclockwise rotation monitoring SLP1 activated simultaneously
Cause	Multiple activation; CW (clockwise) and CCW (counterclockwise) inputs on function block SLP1 are active simultaneously.
Fault clearance	<ul style="list-style-type: none"> • Check the logic circuit of the SLP function blocks in the application program • Check the input wiring • Analyze the input and logic signals of the SLP via device diagnostics

Alarm code	A 4601/A 4602
Alarm signal	Clockwise and counterclockwise rotation monitoring SLP2 activated simultaneously
Cause	Multiple activation; CW (clockwise) and CCW (counterclockwise) inputs on function block SLP2 are active simultaneously.
Fault clearance	<ul style="list-style-type: none"> • Check the logic circuit of the SLP function blocks in the application program • Check the input wiring • Analyze the input and logic signals of the SLP via device diagnostics

Alarm code	A 4605/A 4606
Alarm signal	SLP1 teach-in status error
Cause	SET and QUIT inputs have a defective switching sequence
Fault clearance	<ul style="list-style-type: none"> • Check the configuration • Check the switching sequence

Alarm code	A 4607/A 4608
Alarm signal	SLP2 teach-in status error
Cause	SET and QUIT inputs have a defective switching sequence
Fault clearance	<ul style="list-style-type: none"> • Check the configuration • Check the switching sequence

Alarm code	A 4609/A 4610
Alarm signal	SLP1 teach-in position error
Cause	Teach-in position outside of measuring range
Fault clearance	<ul style="list-style-type: none"> • Check the teach-in position • Adapt the SLP block parameterization to the real conditions

Alarm code	A 4611/A 4612
Alarm signal	SLP2 teach-in position error
Cause	Teach-in position outside of measuring range
Fault clearance	<ul style="list-style-type: none"> • Check the teach-in position • Adapt the SLP block parameterization to the real conditions

Alarm code	A 4613/A 4614
Alarm signal	SLP1 teach-in SOS activation error
Cause	Drive has moved during teach-in (SOS error)
Fault clearance	The drive must be stationary when using the teach-in function Check whether SOS has already been triggered

Alarm code	A 4615/A 4616
Alarm signal	SLP2 teach-in SOS activation error
Cause	Drive has moved during teach-in (SOS error)
Fault clearance	The drive must be stationary when using the teach-in function Check whether SOS has already been triggered

Alarm code	A 4705
Alarm signal	Defective communication with the SD card in "Command" status
Cause	<ul style="list-style-type: none"> • SD card is not inserted correctly • SD card defective • Incompatible SD card type
Fault clearance	<ul style="list-style-type: none"> • Check the SD card • Check the SD card type • Check that the SD card has properly engaged in the slot • Power cycle

Alarm code	A 4706
Alarm signal	Defective communication with the SD card in "Fetch" status
Cause	<ul style="list-style-type: none"> • SD card is not inserted correctly • SD card defective • Incompatible SD card type
Fault clearance	<ul style="list-style-type: none"> • Check the SD card • Check the SD card type • Check that the SD card has properly engaged in the slot • Power cycle

Alarm code	A 4707
Alarm signal	Erroneous reading of the SMF data from the SD card
Cause	<ul style="list-style-type: none"> • SD card defective • Incorrect SD card formatting
Fault clearance	<ul style="list-style-type: none"> • Check the SD card • Send the SMF data to the module again • Check that the SD card has properly engaged in the slot • Power cycle

Alarm code	A 4801/A 4802
Alarm signal	PRF deviation, read head 1
Cause	The PRF comparison was not performed within a valid range.
Fault clearance	<ul style="list-style-type: none"> • Check the physically measured and parameterized PRF positions • Carefully increase the PRF tolerance • Check the contact wiring for the PRF cam

Alarm code	A 4803/A 4804
Alarm signal	PRF deviation, read head 2
Cause	The PRF comparison was not performed within a valid range.
Fault clearance	<ul style="list-style-type: none"> • Check the physically measured and parameterized PRF positions • Carefully increase the PRF tolerance • Check the contact wiring for the PRF cam

Alarm code	A 4901/A 4902
Alarm signal	Clockwise and counterclockwise rotation monitoring SLI1 were activated simultaneously
Cause	Multiple activation; CW (clockwise) and CCW (counterclockwise) inputs on function block SLI2 are active simultaneously.
Fault clearance	<ul style="list-style-type: none"> • Check the logic circuit of the SLI function blocks in the application program • Check the input wiring • Analyze the input and logic signals of the SLI via device diagnostics

Alarm code	A 4903/A 4904
Alarm signal	Clockwise and counterclockwise rotation monitoring SLI2 were activated simultaneously
Cause	Multiple activation; CW (clockwise) and CCW (counterclockwise) inputs on function block SLI2 are active simultaneously.
Fault clearance	<ul style="list-style-type: none"> • Check the logic circuit of the SLI function blocks in the application program • Check the input wiring • Analyze the input and logic signals of the SLI via device diagnostics

Alarm code	A 5001/A 5002	ICS
Alarm signal	Test for deactivating digital inputs 1 – 14 defective	
Cause	Inputs are still active after deactivation	
Fault clearance	<ul style="list-style-type: none"> • Check the wiring of digital inputs • Power cycle • Replace the module 	

Alarm code	A 6701/A 6702	ICS
Alarm signal	Timeout error CET	
Cause	Defective input element with time monitoring	
Fault clearance	<ul style="list-style-type: none"> • Check the input element wiring • Check the type and connection of the input element • Input element is defective 	

Alarm code	A 6703/A 6704	ICS
Alarm signal	Timeout error MIT	
Cause	Two-hand operating element with time monitoring defective	
Fault clearance	<ul style="list-style-type: none"> • Check the input element wiring • Check the type and connection of the input element • Input element is defective 	

Alarm code	A 7403/A 7404	
Alarm signal	Overrun/underrun of transfer of process data via F-bus	
Cause	Speed value or position value to be transmitted via F-bus is too large or too small for the configured resolution	
Fault clearance	<ul style="list-style-type: none"> • Speed value too high / too low: Parameterize the 16 bit instead of 8 bit resolution • Position value too high / too low: Parameterize the 24 bit instead of 16 bit resolution or increase the position divider 	

3 Fatal Error List PUS

Fatal error code	F 1001
Error message	Clockwise and counterclockwise rotation monitoring SLI2 were activated simultaneously
Cause	<ul style="list-style-type: none"> • Connection failure when loading the program to the monitoring device. • Transfer of an incorrect / incomplete binary file
Fault clearance	<ul style="list-style-type: none"> • Resend the configuration • Check the tooling cabling • Power cycle

Fatal error code	F 1003
Error message	Configuration data for module software version invalid!
Cause	Module configured with incorrect software version for the programming interface.
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and version of the programming interface • Parameterize the module with the permitted version of the programming interface • Power cycle

Fatal error code	F 1007
Error message	Configured device type does not match the actual device (Device ID)
Cause	<ul style="list-style-type: none"> • An incorrect device type was selected during programming • Binary data of a different device type has been updated to the device
Fault clearance	<ul style="list-style-type: none"> • Select the correct device type prior to programming • Check the required device type according to the hardware requirement

Fatal error code	F 1009
Error message	The configured device variant does not match the actual device
Cause	<ul style="list-style-type: none"> • An incorrect device type was selected during programming • Binary data of a different device type has been updated to the device
Fault clearance	<ul style="list-style-type: none"> • Select the correct device type prior to programming • Check the required device type according to the hardware requirement

Fatal error code	F 1307
Error message	Error deleting configuration data in the flash memory
Cause	-
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and version of the programming interface • Resend the configuration • Power cycle • Replace the device

Fatal error code	F 1311/F 1312
Error message	Error deleting configuration data in the flash memory
Cause	-
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and version of the programming interface • Resend the configuration • Power cycle • Replace the device

Fatal error code	F 1314
Error message	Error deleting configuration data in the flash memory
Cause	-
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and version of the programming interface • Resend the configuration • Power cycle • Replace the device

Fatal error code	F 1330
Error message	I2C bus reports errors while writing to FRAM
Cause	-
Fault clearance	<ul style="list-style-type: none"> • Power cycle • Replace the device

Fatal error code	F 1401/F 1402
Error message	Test counter configuration data CRC
Cause	-
Fault clearance	<ul style="list-style-type: none"> • Power cycle • Replace the device

Fatal error code	F 1403/F 1404
Error message	Invalid CRC of configuration data
Cause	Configuration data was transferred incorrectly
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and version of the programming interface • Recompile the program • Re-transfer the configuration data • Power cycle

Fatal error code	F 1406
Error message	Incorrect startup
Cause	-
Fault clearance	<ul style="list-style-type: none"> • Re-transfer the configuration data • Power cycle • Replace the module

Fatal error code	F 1407/F 1408
Error message	The config identifier is not supported by hardware
Cause	<ul style="list-style-type: none"> • The programming interface does not match the hardware used • An error occurred while transferring the configuration
Fault clearance	<ul style="list-style-type: none"> • Check the programming interface • Check the firmware version and version of the programming interface • Re-transfer the configuration data

Fatal error code	F 1409/F 1410
Error message	Erroneous PRF CRC; There is no PRF data for the configured PRF security function.
Cause	<ul style="list-style-type: none"> • PRF data was not transferred • PRF is still marked as "used" in the configuration • PRF was not correctly applied when importing function plans of older SafePLC versions
Fault clearance	<ul style="list-style-type: none"> • Insert PRF X/Y position tables into function plan, delete inserted position tables, recompile • Re-transfer the configuration (including PRF if used) • Power cycle

Fatal error code	F 1411/F 1412
Error message	Erroneous PDF CRC; There is no PDF data for the configured PDF security function.
Cause	<ul style="list-style-type: none"> PDF data was not transferred PDF is still marked as "used" in the configuration
Fault clearance	<ul style="list-style-type: none"> Re-transfer the configuration, including PDF Power cycle

Fatal error code	F 1501/F 1502
Error message	Test counter CRC firmware data
Cause	-
Fault clearance	<ul style="list-style-type: none"> Power cycle Replace the module

Fatal error code	F 1503/F 1504
Error message	Erroneous CRC firmware data
Cause	-
Fault clearance	<ul style="list-style-type: none"> Power cycle Replace the module

Fatal error code	F 1505/F 1506
Error message	Error sending firmware parameters to CPU B
Cause	-
Fault clearance	<ul style="list-style-type: none"> Power cycle Replace the module

Fatal error code	F 1601/F 1602
Error message	<ul style="list-style-type: none"> Incompatible programming software An error occurred while importing an old function plan into new programming software
Cause	-
Fault clearance	<ul style="list-style-type: none"> Check the firmware version and programming software for compatibility Check the defective blocks in the function plan Delete defective block/defective blocks and insert and parameterize again Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1603/F 1604
Error message	Access data range test erroneous.
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1605/F 1606
Error message	EMU range test erroneous.
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1607/F 1608
Error message	SCA range test erroneous.
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1609/F 1610
Error message	SSX range test erroneus.
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1611/F 1612
Error message	SEL range test erroneus.
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1613/F 1614
Error message	SLP range test erroneus.
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1615/F 1616
Error message	SOS range test erroneous.
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1617/F 1618
Error message	SLS range test erroneous.
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1619/F 1620
Error message	SDI range test erroneous.
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1621/F 1622
Error message	SLI range test erroneous.
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1623/F 1624
Error message	PLC range test erroneous.
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1625/F 1626
Error message	Shut-off channel range test erroneous.
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1627/F 1628
Error message	Outputs range test erroneous.
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1629/F 1630
Error message	Digital inputs range test erroneous.
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1633/F 1634
Error message	Read head type range test erroneous.
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1635/F 1636
Error message	Read head processing range test erroneous.
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1637/F 1638
Error message	Read head position range test erroneous.
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1639/F 1640
Error message	PDM range test erroneous.
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1641/F 1642
Error message	Accumulator circuit range test erroneous.
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1645/F 1646
Error message	Axis management range test erroneous
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1647/F 1648
Error message	Expansion module range test erroneous
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1649/F 1650
Error message	PLC timer range test erroneous
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1651/F 1652
Error message	System range test erroneous
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1653/F 1654
Error message	Connection table range test erroneous
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1655/F 1656
Error message	SAC range test erroneous
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1657/F 1658
Error message	Diagnostic range test erroneous
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code	F 1659/F 1660
Error message	DEM range test erroneous
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used

Fatal error code		F 1661/F 1662
Error message	F-bus range test erroneous	
Cause	<ul style="list-style-type: none"> • Incompatible programming software • An error occurred while importing an old function plan into new programming software 	
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and programming software for compatibility • Check the defective blocks in the function plan • Delete defective block/defective blocks and insert and parameterize again • Import a backup of the function plan with the programming interface originally used 	

Fatal error code		F 1671/F 1672
Error message	PRF void range test	
Cause	No PRF reference table on the device, even though the configuration uses the PRF function.	
Fault clearance	<ul style="list-style-type: none"> • Transferring the PRF table to the device • Insert the X/Y position tables and the PRF function, then delete the inserted PRF blocks and tables (if no PRF is used) • Resend the configuration including PRF data if used 	

Fatal error code		F 1673/F 1674
Error message	PRF sorting range test	
Cause	The entries in the reference table are not in ascending order	
Fault clearance	<ul style="list-style-type: none"> • Check the PRF X/Y tables for ascending order • Resend the configuration and PRF data 	

Fatal error code		F 1675/F 1676
Error message	PRF steps range test	
Cause	The spacing in the reference table is too small. Target: $\text{Table}[n] - \text{Table}[n-1] > \text{position cut-off threshold}$	
Fault clearance	<ul style="list-style-type: none"> • Check the PRF tolerance for the above condition • Resend the configuration and PRF data 	

Fatal error code	F 1677/F 1678
Error message	PRF tolerance range test
Cause	The PRF tolerance threshold is too large. Target: PRF tolerance < position / 2 cut-off threshold
Fault clearance	<ul style="list-style-type: none"> • Check the PRF tolerance for the above condition • Resend the configuration and PRF data

Fatal error code	F 1681/F 1682
Error message	Empty PDF table
Cause	The PDF table is configured, but no data present Target: PRF tolerance < position / 2 cut-off threshold
Fault clearance	<ul style="list-style-type: none"> • Enter data in the PDF table

Fatal error code	F 1683/F 1684
Error message	Incorrect CRC for the PDF table
Cause	PDF table is not up to date.
Fault clearance	<ul style="list-style-type: none"> • Transfer the configuration and PDF table again

Fatal error code	F 2001/F 2002
Error message	CRC of SPI cross communication A-B erroneous
Cause	Defective or interrupted SPI data transfer between the complementary channels
Fault clearance	<ul style="list-style-type: none"> • Check the module wiring • Check the EMC regulations • Power cycle • Replace the module

Fatal error code	F 2005
Error message	Time-out during cyclical cross communication
Cause	Defective or interrupted SPI data transfer between the complementary channels
Fault clearance	<ul style="list-style-type: none"> • Check the module wiring • Check the EMC regulations • Power cycle • Replace the module

Fatal error code	F 2007
Error message	Time-out during syncing to system B
Cause	Defective or interrupted SPI data transfer between the complementary channels
Fault clearance	<ul style="list-style-type: none"> • Check the module wiring • Check the EMC regulations • Power cycle • Replace the module

Fatal error code	F 2009
Error message	Time-out during syncing to system B
Cause	Defective or interrupted SPI data transfer between the complementary channels
Fault rectification	<ul style="list-style-type: none"> • Check the module wiring • Check the EMC regulations • Power cycle • Replace the module

Fatal error code	F 2011
Error message	Time-out during synchronization for cycle start
Cause	-
Fault rectification	<ul style="list-style-type: none"> • Check the module wiring • Check the EMC regulations • Power cycle • Replace the module

Fatal error code	F 3001/F 3002
Error message	Ticker sync error
Cause	-
Fault rectification	<ul style="list-style-type: none"> • Check the module wiring • Check the EMC regulations • Power cycle • Replace the module

Fatal error code	F 3201/F 3202
Error message	2.5 V processor voltage is outside of the defined range
Cause	<ul style="list-style-type: none"> • Supply voltage to the module is incorrect! • Component fault on the module
Fault rectification	<ul style="list-style-type: none"> • Check the device supply voltage! • Check the module output wiring • Switch the device on/off.

Fatal error code	F 3203
Error message	24 V supply voltage of module defective.
Cause	<ul style="list-style-type: none"> Supply voltage to the module is incorrect! Component fault on the module
Fault rectification	<ul style="list-style-type: none"> Check the device supply voltage! Check the module output wiring Switch the device on/off.

Fatal error code	F 3204
Error message	Internal 5.7 V supply voltage defective.
Cause	<ul style="list-style-type: none"> Supply voltage to the module is incorrect! Component fault on the module
Fault rectification	<ul style="list-style-type: none"> Check the device supply voltage! Check the module output wiring Switch the device on/off.

Fatal error code	F 3217/F 3218
Error message	Internal 5 V supply voltage defective.
Cause	<ul style="list-style-type: none"> Supply voltage to the module is incorrect! Component fault on the module
Fault rectification	<ul style="list-style-type: none"> Check the device supply voltage! Check the module output wiring Switch the device on/off.

Fatal error code	F 3603/F 3604
Error message	Defective switching of K1 relay
Cause	Activation of the internal relays defective
Fault rectification	<ul style="list-style-type: none"> Check the output circuit at the module Check the module environmental conditions Switch the device on/off Replace the module

Fatal error code	F 3605/F 3606
Error message	Defective switching of K2 relay
Cause	Activation of the internal relays defective
Fault rectification	<ul style="list-style-type: none"> Check the output circuit at the module Check the module environmental conditions Switch the device on/off Replace the module

Fatal error code	F 3609
Error message	Defective switching of the "0 V" DO1_L driver
Cause	Output switching state defective
Fault rectification	<ul style="list-style-type: none"> • Check the output circuit at the module • Check the wiring for a short circuit • Switch the device on/off • Replace the module

Fatal error code	F 3610
Error message	Defective switching of the "24 V" DO1_H driver
Cause	Output switching state defective
Fault rectification	<ul style="list-style-type: none"> • Check the output circuit at the module • Check the wiring for a short circuit • Switch the device on/off • Replace the module

Fatal error code	F 3611
Error message	Defective switching of the "0 V" DO2_L driver
Cause	Output switching state defective
Fault rectification	<ul style="list-style-type: none"> • Check the output circuit at the module • Check the wiring for a short circuit • Switch the device on/off • Replace the module

Fatal error code	F 3612
Error message	Defective switching of the "24 V" DO2_H driver
Cause	Output switching state defective
Fault rectification	<ul style="list-style-type: none"> • Check the output circuit at the module • Check the wiring for a short circuit • Switch the device on/off • Replace the module

Fatal error code	F 3613
Error message	Defective testing of the "0 V" DO1_L driver
Cause	Short circuit of output with "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the output circuit at the module • Check the wiring for a short circuit • Switch the device on/off • Replace the module

Fatal error code	F 3614
Error message	Defective testing of the "24 V" DO1_H driver
Cause	Short circuit of output with "24 V"
Fault rectification	<ul style="list-style-type: none"> • Check the output circuit at the module • Check the wiring for a short circuit • Switch the device on/off • Replace the module

Fatal error code	F 3615
Error message	Defective testing of the "0 V" DO2_L driver
Cause	Short circuit of output with "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the output circuit at the module • Check the wiring for a short circuit • Switch the device on/off • Replace the module

Fatal error code	F 3616
Error message	Defective testing of the "24 V" DO2_H driver
Cause	Short circuit of output with "24 V"
Fault rectification	<ul style="list-style-type: none"> • Check the output circuit at the module • Check the wiring for a short circuit • Switch the device on/off • Replace the module

Fatal error code	F 3617
Error message	Defective switching of the DO1_L power switch
Cause	Defective output wiring
Fault rectification	<ul style="list-style-type: none"> • Check the output circuit at the module • Check the wiring for a short circuit • Switch the device on/off • Replace the module

Fatal error code	F 3618
Error message	Defective switching of the DO1_H power switch
Cause	Defective output wiring
Fault rectification	<ul style="list-style-type: none"> • Check the output circuit at the module • Check the wiring for a short circuit • Switch the device on/off • Replace the module

Fatal error code	F 3619
Error message	Defective switching of the DO2_L power switch
Cause	Defective output wiring
Fault rectification	<ul style="list-style-type: none"> • Check the output circuit at the module • Check the wiring for a short circuit • Switch the device on/off • Replace the module

Fatal error code	F 3620
Error message	Defective switching of the DO2_H power switch
Cause	Defective output wiring
Fault rectification	<ul style="list-style-type: none"> • Check the output circuit at the module • Check the wiring for a short circuit • Switch the device on/off • Replace the module

Fatal error code	F 3621
Error message	Defective switching of the AK1 relay normally closed/normally open contact
Cause	Defective output wiring
Fault rectification	<ul style="list-style-type: none"> • Check the output circuit at the module • Check the wiring for a short circuit • Switch the device on/off • Replace the module

Fatal error code	F 3622
Error message	Defective switching of the AK2 relay normally closed/normally open contact
Cause	Defective output wiring
Fault rectification	<ul style="list-style-type: none"> • Check the output circuit at the module • Check the wiring for a short circuit • Switch the device on/off • Replace the module

Fatal error code	F 3623
Error message	Defective switching of the main switch for the outputs
Cause	<ul style="list-style-type: none"> • Defective module wiring • Short circuit
Fault rectification	<ul style="list-style-type: none"> • Check the output circuit at the module • Check the module voltage supply • Check the wiring for a short circuit • Switch the device on/off • Replace the module

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Fatal error code	F 3625/F 3626
Error message	Defective switching of the main switch for the outputs
Cause	<ul style="list-style-type: none"> Defective module wiring Short circuit
Fault rectification	<ul style="list-style-type: none"> Check the output circuit at the module Check the module voltage supply Check the wiring for a short circuit Switch the device on/off Replace the module

Fatal error code	F 3665/F 3666
Error message	Error, static test Loss of Ground HighSide 2
Cause	<ul style="list-style-type: none"> Incorrect wiring (short circuit) Hardware failure
Fault rectification	<ul style="list-style-type: none"> Check the wiring (short circuit) Check the hardware

Fatal error code	F 3667/F 3668
Error message	Error, static test Loss of Ground HighSide 4
Cause	<ul style="list-style-type: none"> Incorrect wiring (short circuit) Hardware failure
Fault rectification	<ul style="list-style-type: none"> Check the wiring (short circuit) Check the hardware

Fatal error code	F 3669/F 3670
Error message	Error, dynamic test Loss of Ground HighSide 2
Cause	<ul style="list-style-type: none"> Incorrect wiring (short circuit) Hardware failure
Fault rectification	<ul style="list-style-type: none"> Check the wiring (short circuit) Check the hardware

Fatal error code	F 3671/F 3672
Error message	Error, dynamic test Loss of Ground HighSide 4
Cause	<ul style="list-style-type: none"> Incorrect wiring (short circuit) Hardware failure
Fault rectification	<ul style="list-style-type: none"> Check the wiring (short circuit) Check the hardware

Fatal error code	F 3701/F 3702
Error message	Error when comparing the System A – System B process images
Cause	-
Fault rectification	<ul style="list-style-type: none"> • Check the EMC regulations • Switch the device on/off • Replace the module

Fatal error code	F 3821/F3822
Error message	Defective switching of output EAAx.1
Cause	Short circuit of output with "24 V" or "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the expansion module output circuit • Check the wiring for short circuit • Switch the device on/off

Fatal error code	F 3823/F 3824
Error message	Defective switching of output EAAx.2
Cause	Short circuit of output with "24 V" or "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the expansion module output circuit • Check the wiring for short circuit • Switch the device on/off

Fatal error code	F 3825/F3826
Error message	Defective switching of output EAAx.3
Cause	Short circuit of output with "24 V" or "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the expansion module output circuit • Check the wiring for short circuit • Switch the device on/off

Fatal error code	F 3827/F3828
Error message	Defective switching of output EAAx.4
Cause	Short circuit of output with "24 V" or "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the expansion module output circuit • Check the wiring for short circuit • Switch the device on/off

Fatal error code	F 3829/F3830
Error message	Defective switching of output EAAx.5
Cause	Short circuit of output with "24 V" or "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the expansion module output circuit • Check the wiring for short circuit • Switch the device on/off

Fatal error code	F 3831/F3832
Error message	Defective switching of output EAAx.6
Cause	Short circuit of output with "24 V" or "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the expansion module output circuit • Check the wiring for short circuit • Switch the device on/off

Fatal error code	F 3833/F3834
Error message	Defective switching of output EAAx.7
Cause	Short circuit of output with "24 V" or "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the expansion module output circuit • Check the wiring for short circuit • Switch the device on/off

Fatal error code	F 3835/F 3836
Error message	Defective switching of output EAAx.8
Cause	Short circuit of output with "24 V" or "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the expansion module output circuit • Check the wiring for short circuit • Switch the device on/off

Fatal error code	F 3837/F3838
Error message	Defective switching of output EAAx.9
Cause	Short circuit of output with "24 V" or "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the expansion module output circuit • Check the wiring for short circuit • Switch the device on/off

Fatal error code	F 3839/F3840
Error message	Defective switching of output EAAx.10
Cause	Short circuit of output with "24 V" or "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the expansion module output circuit • Check the wiring for short circuit • Switch the device on/off

Fatal error code	F 3841/F 3842
Error message	Defective testing of output EAAx.1
Cause	Short circuit of output with "24 V" or "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the expansion module output circuit • Check the wiring for short circuit • Switch the device on/off

Fatal error code	F 3843/F 3844
Error message	Defective testing of output EAAx.2
Cause	Short circuit of output with "24 V" or "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the expansion module output circuit • Check the wiring for short circuit • Switch the device on/off

Fatal error code	F 3845/F 3846
Error message	Defective testing of output EAAx.3
Cause	Short circuit of output with "24 V" or "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the expansion module output circuit • Check the wiring for short circuit • Switch the device on/off

Fatal error code	F 3847/F 3848
Error message	Defective testing of output EAAx.4
Cause	Short circuit of output with "24 V" or "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the expansion module output circuit • Check the wiring for short circuit • Switch the device on/off

Fatal error code	F 3849/F 3850
Error message	Defective testing of output EAAx.5
Cause	Short circuit of output with "24 V" or "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the expansion module output circuit • Check the wiring for short circuit • Switch the device on/off

Fatal error code	F 3851/F 3852
Error message	Defective testing of output EAAx.6
Cause	Short circuit of output with "24 V" or "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the expansion module output circuit • Check the wiring for short circuit • Switch the device on/off

Fatal error code	F 3853/F 3854
Error message	Defective testing of output EAAx.7
Cause	Short circuit of output with "24 V" or "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the expansion module output circuit • Check the wiring for short circuit • Switch the device on/off

Fatal error code	F 3855/F 3856
Error message	Defective testing of output EAAx.8
Cause	Short circuit of output with "24 V" or "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the expansion module output circuit • Check the wiring for short circuit • Switch the device on/off

Fatal error code	F 3857/F 3858
Error message	Defective testing of output EAAx.9
Cause	Short circuit of output with "24 V" or "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the expansion module output circuit • Check the wiring for short circuit • Switch the device on/off

Fatal error code	F 3859/F 3860
Error message	Defective testing of output EAAx.10
Cause	Short circuit of output with "24 V" or "0 V"
Fault rectification	<ul style="list-style-type: none"> • Check the expansion module output circuit • Check the wiring for short circuit • Switch the device on/off

Fatal error code	F 3873/3874
Error message	Defective switching of the Power Main Switch 2 for the expansion module outputs
Cause	-
Fault rectification	<ul style="list-style-type: none"> • Check the expansion module output circuit • Check the wiring for short circuit • Switch the device on/off • Replace the module

Fatal error code	F 3891/3892
Error message	Defective switching of Power Main Switch 1 for the expansion module outputs
Cause	-
Fault rectification	<ul style="list-style-type: none"> • Check the output wiring at the module • Check the wiring for short circuit • Switch the device on/off • Replace the module

Fatal error code	F 3893/3894
Error message	Defective switching of the Power Main Switch 2 for the expansion module outputs
Cause	-
Fault rectification	<ul style="list-style-type: none"> • Check the output wiring at the module • Check the wiring for short circuit • Switch the device on/off • Replace the module

Fatal error code	F 4501/F 4502
Error message	Incorrect calculation of the SSX deceleration ramp
Cause	Calculating the brake curve would result in overrun. Defective configuration
Fault rectification	<ul style="list-style-type: none"> • Check the theory of the measuring section and the deceleration section • Check the SSX configuration • Contact the manufacturer

Fatal error code	F 4701/F 4702
Error message	Defective SMF CRC
Cause	The CRC entered for the SMF data on the SD card does not match the calculated CRC
Fault rectification	<ul style="list-style-type: none"> • Send the SMF data and configuration data to the module again • Check the SD card • Power cycle

Fatal error code	F 6801/F 6802
Error message	Invalid PLC Op code
Cause	-
Fault rectification	<ul style="list-style-type: none"> • Check the firmware version and the programming interface version for compatibility • Resend the configuration • Power cycle

Fatal error code	F 6803/F 6804
Error message	PLC processing
Cause	-
Fault rectification	<ul style="list-style-type: none"> • Check the firmware version and the programming interface version for compatibility • Resend the configuration • Power cycle

Fatal error code	F 6805/F 6806
Error message	PLC STL
Cause	-
Fault rectification	<ul style="list-style-type: none"> • Check the firmware version and the programming interface version for compatibility • Resend the configuration • Power cycle

Fatal error code	F 6807/F 6808
Error message	PLC timer overrun/underrun
Cause	<ul style="list-style-type: none"> • Incompatible version of the programming interface • One or more PLC timer values are not a multiple of the cycle time (8 ms)
Fault rectification	<ul style="list-style-type: none"> • Check the firmware version and the programming interface version for compatibility • Adapt the PLC timer settings • Resend the configuration • Power cycle

Fatal error code	F 6809/F 6810
Error message	Erroneous CRC of a PLC macro
Cause	-
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and the programming interface version for compatibility • Resend the configuration • Power cycle

Fatal error code	F 6811/F 6812
Error message	Invalid termination of a PLC macro
Cause	-
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and the programming interface version for compatibility • Resend the configuration • Power cycle

Fatal error code	F 6813/F 6814
Error message	PLC kernel reports fatal error; PLC processing not fully completed
Cause	-
Fault clearance	<ul style="list-style-type: none"> • Check the firmware version and the programming interface version for compatibility • Resend the configuration • Power cycle

Fatal error code	F 7001/F 7002
Error message	FSoE stack reports fatal error
Cause	Error occurred during FSoE data processing
Fault clearance	<ul style="list-style-type: none"> • Check the FSoE Master settings • Check the bus module connectivity • Power cycle

Fatal error code	F 7429/F 7430
Error message	Inconsistent logical PROFIsafe program run counter
Cause	-
Fault clearance	<ul style="list-style-type: none"> • Resend configuration to device • Check the module's fieldbus connectivity • Power cycle

Fatal error code	F 8205/F 8206
Error message	Maximum system runtime exceeded
Cause	Complete processing of the parameterized configuration would exceed the cycle time
Fault clearance	<ul style="list-style-type: none"> • Reduce the PLC instructions used by simplifying the PLC program • Remove unnecessary blocks from the function plan • Power cycle

Fatal error code	F 8207/F 8208
Error message	Logical program run counter exceeds the maximum level
Cause	-
Fault clearance	<ul style="list-style-type: none"> • Resend configuration to device • Power cycle

Fatal error code	F 8213/F 8214
Error message	Interrupt runtime exceeded
Cause	-
Fault clearance	<ul style="list-style-type: none"> • Resend configuration to device • Power cycle

Fatal error code	F 8221/F 8222
Error message	Maximum run time of the complementary channel has been exceeded
Cause	Complete processing of the parameterized configuration would exceed the cycle time
Fault clearance	<ul style="list-style-type: none"> • Reduce the PLC instructions used by simplifying the PLC program • Remove unnecessary blocks from the function plan • Power cycle

Fatal error code	F 8223/F 8224
Error message	Inconsistent logical Interrupt program run counter
Cause	-
Fault clearance	<ul style="list-style-type: none"> • Resend configuration to device • Power cycle

Fatal error code	F 8225
Error message	Ticker sync error
Cause	<ul style="list-style-type: none"> Runtime exceeded Communication error with expansion modules
Fault clearance	<ul style="list-style-type: none"> Check the connection of the back panel bus connectors Reduce the PLC instructions used by simplifying the PLC program Remove unnecessary blocks from the function plan Power cycle

Fatal error code	F 8227/F 8228
Error message	Maximum Interrupt run time of the complementary channel has been exceeded
Cause	Complete processing of the parameterized configuration would exceed the cycle time
Fault clearance	<ul style="list-style-type: none"> Reduce the PLC instructions used by simplifying the PLC program Remove unnecessary blocks from the function plan Power cycle

Fatal error code	F 9001/F 9002
Error message	CPU self-tests failed
Cause	-
Fault clearance	<ul style="list-style-type: none"> Observe the EMC directives Power cycle Replace the device

Fatal error code	F 9007/F 9008
Error message	CPU RAM test failed
Cause	-
Fault clearance	<ul style="list-style-type: none"> Observe EMC directives Power cycle Replace the device

Fatal error code	F 9009/F 9010
Error message	Firmware CRC mismatch
Cause	-
Fault clearance	<ul style="list-style-type: none"> Power cycle Replace the device

Fatal error code	F 9011/F 9012
Error message	Internal stack tests failed
Cause	-
Fault clearance	<ul style="list-style-type: none"> • Power cycle • Replace the device

Fatal error code	F 9013/F 9014
Error message	NVRAM tests failed
Cause	-
Fault clearance	<ul style="list-style-type: none"> • Power cycle • Replace the device

Fatal error code	F 9015/F 9016
Error message	Internal RAM test failed
Cause	-
Fault clearance	<ul style="list-style-type: none"> • Power cycle • Replace the device

Fatal error code	F 9017/F 9018
Error message	Register test of the CPU failed
Cause	-
Fault clearance	<ul style="list-style-type: none"> • Power cycle • Replace the device

Fatal error code	F 9019/F 9020
Error message	Switch default
Cause	-
Fault clearance	<ul style="list-style-type: none"> • Power cycle • Replace the device

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