SISTEMA - Safety Integrity Software Tool for the Evaluation of Machine

Project name: **100624**

File date: 25.08.2026 07:45:18 Report date: 25.08.2026 Checksum: f07ac1166f5939171f25ad93448ea766

PR Project name: 100624

Project file name:	C:\Users\jkhl\Documents\Projects\20260818-001 SCA Cat 1\100624 Sistema Project - EN.ssm
Creation date:	24.08.2026 12:28:50
Project status:	
Project number:	
Project version:	
Authors:	
Project managers:	
Inspectors:	
Dangerous point/machine:	
Documentation:	
Document:	
Version of software:	3.0.4 build 3
Version of standard:	ISO 13849-1:2023, ISO 13849-2:2012
Checksum:	f07ac1166f5939171f25ad93448ea766
Options:	☑ Use DC intermediate levels for calculation of PFH (more precise) ☐ MTTFD capping for category 4 lower from 2500 to 100 years.
Status:	✔ green
Note:	There are no warnings listed for this project (or it's subordinate basic elements).

Print options

- ☑ Show device details
- ☑ Show documentations on SF, SB, BL and EL
- ☐ Show CCF and DC measures in detail
- ☑ Show requirements on PL and Category
- ☑ Show parameter documentations on PLr, PL, Category, CCF, MTTFD and DC
- ☑ Show messages

Contained safety functions

SF Name: SCA

Required: PLr c **Reached: PL c** **PFH [1/h]: 1,15E-6** **Status: green**

List of documented messages:

- No messages known -

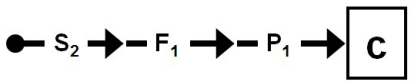
List of devices with a permissible operation time (T10D) of less than 20 years:

- No devices known -

SF Safety function: SCA

Identifier of the Safety function:	
Safety function type:	
Triggering event:	
Reaction and Behaviour on power failure:	
Safe state:	
Operation mode:	
Interfaces:	
Demand rate:	
Running-on time:	
Priority:	
Documentation:	
Document:	

Required Performance Level Safety function

PLr (by risk graph):	c
Severity of injury (S):	Serious (normally irreversible) injury or death
Frequency / exposure times to hazard (F):	Seldom to less often / exposure time is short
Possibility of avoiding (P):	Possible under specific conditions
Risk graph:	
Documentation:	
Document:	

Performance Level Safety function

Reached PL:	c	**PFH [1/h]:**	1,15E-6

Electromagnetic immunity, EMI (Annex L) Safety function

Route for fulfilment of EMI measures:	n/a
Documentation:	
Document:	

List of devices with a permissible operation time (T10D) of less than 20 years:

Device list:

SF Safety function: SCA

Status / Messages Safety function

Status: green

Subsystems (1 / 1)

SB Name: Input

Reference designator:

Inventory number:

Device details Subsystem

Device Manufacturer:

Device Identifier:

Device group:

Part number:
Revision:

Function: ☑ Input ☐ Logic ☐ Output ☐ unknown

Use case:

Description of the use case:

Documentation Subsystem

Documentation:

Document:

Performance Level Subsystem

PL determination: Determine PL/PFH from Category, MTTFD and DCavg

Qualitative aspects (e.g. software, see sections 7, 10.3) Subsystem

Qualitative aspects suitable up to PL: n/a

Documentation:

Document:

Electromagnetic immunity, EMI (Annex L) Subsystem

Route for fulfilment of EMI measures: The fulfilment of the measures for electromagnetic immunity (EMI) was documented in the associated safety function.

PL requirements: fulfilled

The PL shall be determined by the estimation of the following aspects (section 6.1.1):
- Behaviour of the safety function under fault conditions [fulfilled]
- Safety-related software according to clause 7 and Annex J or no software included [fulfilled]
- Systematic failure (see clause 6.1.7 and Annex G) [fulfilled]
- Ability to perform a safety function under expected environmental conditions [fulfilled]

SF Safety function: SCA

Reached PL:	c	**PFH [1/h]:**	1,15E-6

Documentation:

Category Subsystem

Cat.:	1
Category requirements:	fulfilled

Requirements for the category:
- Accordance with relevant standards to withstand the expected influences. [fulfilled]
- Basic safety principles are being used. [fulfilled]
- Well-tried components (clause 6.1.11) are being used. [fulfilled]
- Well-tried safety principles are being used. [fulfilled]
- MTTFD is at least High. [fulfilled]

Documentation:

Source (e.g. standard) Category:

File:

MTTFD and Mission time Subsystem

MTTFD [a]:	100 (High)		
Mission time [a]:	20	**Shortest mission time [a]:**	20

Status / Messages Subsystem

Status:	green

Channels / Test channels (1 / 1)

CH Name: Channel 1

MTTFD [a]: 100

Blocks (1 / 1)

BL Name: Proximity switch

Reference designator: B1

Inventory number:

Device details Block

Device Manufacturer:

Device Identifier:

Device group:

Part number:
Revision:

Function: ☑ Input ☐ Output ☐ Logic ☐ unknown

SF Safety function: SCA

Technology:	unknown
Category:	-
Use case:	
Description of the use case:	

Documentation Block

Documentation:	
Document:	

MTTFD and Mission time Block

MTTFD [a]:	567,3 (High)		
Mission time [a]:	20	**Shortest mission time [a]:**	20
B10 [cycles]:	14910000	**RDF [%]:**	50
B10D [cycles]:	29820000	**nop [cycles/a]:**	525600
Documentation:			
Document:			

Status / Messages Block

Status:	green

EXCLUSION OF LIABILITY

Care has been taken in production of the software SISTEMA, which corresponds to the state of the art. It is made available to users free of charge.

Die Haftung des Institut für Arbeitsschutz der DGUV (IFA) ist damit auf Vorsatz und grobe Fahrlässigkeit (§ 521 BGB) bzw. bei Sach- und Rechtsmängel auf arglistig verschwiegene Fehler beschränkt (523, 524 BGB).

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NOTE

This document is not a complete technical documentation according to EN ISO 13849-1:2023, clause 12.

CONTACT

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