



Project name: 100501

File date: 13.08.2026 13:12:28 Report date: 13.08.2026 Checksum: cc3a543acb08d1793af2f6646efa225e

PR Project name: 100501

Project file name: C:\Users\jkl\Documents\Projects\20220506-001 SSC Cat1 PLc PUS Cat1 PLc piloted check valve\100501 Sistema Project - Ver3.0.4 - EN.ssm

Creation date: 11.12.2021 03:50:33

Project status:

Project number:

Project version:

Authors: jkl

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

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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 requirements on PL and Category |
| ☒ Show documentations on SF, SB, BL and EL | ☒ Show parameter documentations on PLr, PL, Category, CCF, MTTFD and DC |
| ☐ Show CCF and DC measures in detail | ☒ Show messages |

Contained safety functions

SF Name: SSC, PUS

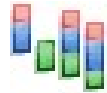
Required: PLr c	Reached: PL c	PFH [1/h]: 1,15E-6	Status: green
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List of documented messages:

- No messages known -

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

- No devices known -



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SF Safety function: SSC, PUS

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

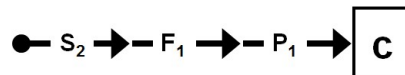
PLr (by risk graph): c

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

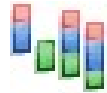
Route for fulfilment
of EMI measures: n/a

Documentation:

Document:

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

Device list:



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SF Safety function: SSC, PUS

Status / Messages Safety function

Status: green

Subsystems (1 / 1)

SB Name: Output

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:

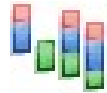
Electromagnetic immunity, EMI (Annex L) Subsystem

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]



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SF Safety function: SSC, PUS

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

Cat.:	1
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Category requirements:	fulfilled
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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)
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Mission time [a]:	20	Shortest mission time [a]:	20
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Status / Messages Subsystem

Status:	green
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Channels / Test channels (1 / 1)**CH** Name: Channel 1

MTTFD [a]: 100

Blocks (1 / 3)**BL** Name: 3/2 Directional control valve

Reference designator:	K1
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Inventory number:

Device details Block

Device Manufacturer:

Device Identifier:

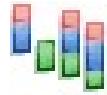
Device group:

Part number:

Revision:

Function:

☐ Input
☒ Output☐ Logic
☐ unknown



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SF Safety function: SSC, PUS

Technology: unknown

Category: -

Use case:

Description of the use case:

Documentation Block

Documentation:

Document:

MTTFD and Mission time Block

MTTFD [a]: 182648,4 (High)

Mission time [a]: 20

Shortest mission time [a]: 20

B10 [cycles]: 10000000

RDF [%]: 50

B10D [cycles]: 20000000

nop [cycles/a]: 1095

Documentation:

Document:

Status / Messages Block

Status: green

Blocks (2 / 3)**BL** Name: Piloted check valve

Reference designator: Q3

Inventory number:

Device details Block

Device Manufacturer:

Device Identifier:

Device group:

Part number:

Revision:

Function:

☐ Input
☒ Output

☐ Logic
☐ unknown

Technology: unknown

Category: -

Use case:



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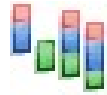
SF Safety function: SSC, PUS**Description of the use case:***Documentation Block***Documentation:****Document:***MTTFD and Mission time Block*

MTTFD [a]:	182648,4 (High)		
Mission time [a]:	20	Shortest mission time [a]:	20
B10 [cycles]:	10000000	RDF [%]:	50
B10D [cycles]:	20000000	nop [cycles/a]:	1095

Documentation:**Document:***Status / Messages Block***Status:** green**Blocks (3 / 3)****BL** Name: Piloted check valve**Reference designator:** Q4**Inventory number:***Device details Block***Device Manufacturer:****Device Identifier:****Device group:****Part number:****Revision:**

Function:	☐ Input	☐ Logic
	☒ Output	☐ unknown

Technology: unknown**Category:** -**Use case:****Description of the use case:***Documentation Block*



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Safety function: SSC, PUS

Documentation:

Document:

MTTFD and Mission time Block

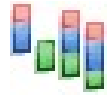
MTTFD [a]:	182648,4 (High)		
Mission time [a]:	20	Shortest mission time [a]:	20
B10 [cycles]:	10000000	RDF [%]:	50
B10D [cycles]:	20000000	nop [cycles/a]:	1095

Documentation:

Document:

Status / Messages Block

Status:	green
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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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German Social Accident Insurance (DGUV)
Glinkastraße 40
D-10117 Berlin

E-mail: info@dguv.de
Internet: www.dguv.de

NOTE

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

CONTACT

Company contact details unknown

Name in block letters

Date, signature

Authors

Authors

Inspectors

Inspectors