



**Project name:** Control Enclosure for the Heating Set Up

File date: 18/03/2024 16:16:26 Report date: 3/18/2024 Checksum: 55fa1e3eee2dbe3ae19f66824e9e19f6

## PR Project name: Control Enclosure for the Heating Set Up

Project file name:	C:\Users\Matheus Hagemann\OneDrive - Liliium\10 Matheus Norberto Hagemann\050 Ongoing projects\2024-02-14 Heating Setup for TR Testing\01 PL Calculation (SISTEMA)\Control Enclosure for the Heating Set Up.ssm
Creation date:	18/03/2024 15:18:17
Project status:	
Project number:	
Project version:	
Authors:	Matheus Hagemann
Project managers:	
Inspectors:	
Dangerous point/machine:	
Documentation:	
Document:	
Version of software:	2.0.8 build 4
Version of standard:	ISO 13849-1:2015, ISO 13849-2:2012
Checksum:	55fa1e3eee2dbe3ae19f66824e9e19f6
Options:	<input checked="" type="checkbox"/> Use DC intermediate levels for calculation of PFHD (more precise) <input type="checkbox"/> 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

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Show device details                      | <input checked="" type="checkbox"/> Show requirements on PL and Category                                  |
| <input checked="" type="checkbox"/> Show documentations on SF, SB, BL and EL | <input checked="" type="checkbox"/> Show parameter documentations on PLr, PL, Category, CCF, MTTFD and DC |
| <input checked="" type="checkbox"/> Show CCF and DC measures in detail       | <input checked="" type="checkbox"/> Show messages   |

### Contained safety functions

**SF** Name: Emergency Stop

Required: PLr d

Reached: PL e

PFHD [1/h]: 7.6E-8

Status: green



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**SF Safety function: Emergency Stop**

Identifier of the Safety function:

Safety function type:

Triggering event:

Reaction and Behaviour on power failure:

Safe state:

Operation mode:

Demand rate:

Running-on time:

Priority:

Documentation:

Document:

*Required Performance Level Safety function*

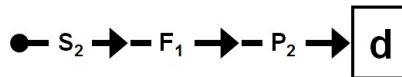
PLr (by risk graph): d

Severity of injury (S): False Serious (normally irreversible) injury or death

Frequency / exposure times to hazard (F): Seldom to less often / exposure time is short

Possibility of avoiding (P): Scarcely possible

Risk graph:



Documentation:

Document:

*Performance Level Safety function*

Reached PL: e PFHD [1/h]: 7.6E-8

*Status / Messages Safety function*

Status: green

**Subsystems (1 / 4)**

**SB Name: PNOZ X2.7P**

Reference designator:

Inventory number:

*Device details Subsystem*

Device Manufacturer: Pilz GmbH & Co KG

Device Identifier: 777306 V1.3

Device group: Überwachung von Not-Halt, Schutztüren, Lichtschranken

Part number: 777306

Revision: 1.3

Function:

Input

Logic

Output

unknown



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**SF Safety function: Emergency Stop**

Use case: Logikfunktion | - | - | Allgemeine Verwendung | -

Description of the use case:

*Documentation Subsystem*

Documentation: Sicherheitsschaltgerät der Familie PNOZ X

Document:

*Performance Level Subsystem*

PL determination: Enter PL/PFHD directly (manufacturer ensures compliance with the requirements of the Category and of the PL)

PL: e Software suitable up to PL: n.a.

Reached PL: e PFHD [1/h]: 2.3E-9

Documentation:

Mission time [a]: 20 Shortest mission time [a]: 20

*Category Subsystem*

Cat.: 4

Category requirements: fulfilled

Requirements of the Category: Since the category is given by the manufacturer he is responsible to satisfy the requirements.

Documentation:

Source (e.g. standard) Category:

File:

*Status / Messages Subsystem*

Status: green

**Subsystems (2 / 4)**

**SB Name: E-Stop Circuit**

Reference designer: 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:



**Project name: Control Enclosure for the Heating Set Up**

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**SF Safety function: Emergency Stop**

*Documentation Subsystem*

Documentation:

Document:

*Performance Level Subsystem*

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

Software suitable up to PL: n.a.

PL requirements: fulfilled

The PL shall be determined by the estimation of the following aspects:

- Behaviour of the safety function under fault conditions (see clause 6) [fulfilled]
- safety-related software according to clause 4.6 or no software included [fulfilled]
- systematic failure (see Annex G) [fulfilled]
- Ability to perform a safety function under expected environmental conditions [fulfilled]

Reached PL: e PFHD [1/h]: 2.5E-8

Documentation:

*Category Subsystem*

Cat.: 3

Category requirements: fulfilled

Requirements of the Category:

- Accordance with relevant standards to withstand the expected influences. [fulfilled]
- Basic safety principles are being used. [fulfilled]
- Well-tried safety principles are being used. [fulfilled]
- A single fault tolerance and reasonable fault detection are given. [fulfilled]
- MTTFD is at least Low or Medium or High. [fulfilled]
- DCavg is at least Low or Medium; [fulfilled]
- The achieved score of the CCF-rating is at least 65. [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

*Diagnostic coverage Subsystem*

DCavg [%]: 99 (High)

*Common cause failure Subsystem*

CCF Points: 80 (fulfilled)



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## SF Safety function: Emergency Stop

CCF Measures:

- Separation / Segregation (15 Points)  
Physical separation between signal paths, for example:
  - separation in wiring/piping;
  - detection of short circuits and open circuits in cables by dynamic test;
  - separate shielding for the signal path of each channel;
  - sufficient clearances and creepage distances on printed-circuit boards.
  
- Design / application / experience (15 Points)  
Protection against over-voltage, over-pressure, over-current, over-temperature, etc.
  
- Design / application / experience (5 Points)  
Components used are well-tried.
  
- Assessment / analysis (5 Points)  
For each part of safety related parts of control system a failure mode and effect analysis has been carried out and its results taken into account to avoid common-cause-failures in the design.
  
- Competence / training (5 Points)  
Training of designers to understand the causes and consequences of common cause failures.
  
- Environmental (25 Points)  
For electrical/electronic systems, prevention of contamination and electromagnetic disturbances (EMC) to protect against common cause failures in accordance with appropriate standards (e.g. IEC 61326–3-1).  
Fluidic systems: filtration of the pressure medium, prevention of dirt intake, drainage of compressed air, e.g. in compliance with the component manufacturers' requirements concerning purity of the pressure medium.  
NOTE For combined fluidic and electric systems, both aspects should be considered.
  
- Environmental (10 Points)  
Other influences  
Consideration of the requirements for immunity to all relevant environmental influences such as, temperature, shock, vibration, humidity (e.g. as specified in relevant standards).

Documentation:

Document:

### Status / Messages Subsystem

Status: green

### Channels / Test channels (1 / 2)

CH Name: Channel 1



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**SF Safety function: Emergency Stop**

MTTFD [a]: 100

**Blocks (1 / 1)**

**BL** Name: SIRIUS Befehls- und Meldegeräte | Not-Aus/Not-Halt Befehlsgerät, drehentriegelt | 3SU1801-0NB10-4HC2

Reference designator:	Inventory number:		
<i>Device details Block</i>			
Device Manufacturer:	SIEMENS AG		
Device Identifier:	SIRIUS Befehls- und Meldegeräte   Not-Aus/Not-Halt Befehlsgerät, drehentriegelt   3SU1801-0NB10-4HC2		
Device group:	SIRIUS Befehls- und Meldegeräte		
Part number: 3SU1801-0NB10-4HC2	Revision:		
Function:	<input checked="" type="checkbox"/> Input	<input type="checkbox"/> Logic	
	<input type="checkbox"/> Output	<input type="checkbox"/> unknown	
Technology:	electronic		
Category:	-		
Use case:	ASIsafe   -   -   -		
Description of the use case:			

*Documentation Block*

Documentation:	AS-Interface-Gehäuse für Befehlsgeräte 22 mm, rund, Gehäusematerial Kunststoff, Gehäuseoberteil gelb, mit Schutzkragen, 1 Befehlsstelle Kunststoff, A=NOT-HALT-Pilzdrucktaster rot, 40 mm, drehentriegelt, 1Ö, 1Ö, Federzuganschluss, Bodenbefestigung, Durchdringungstechnik oben
Document:	

*MTTFD and Mission time Block*

MTTFD [a]: 1712.3 (High)			
Mission time [a]: 20	Shortest mission time [a]: 20		
B10 [cycles]: 100000	RDF [%]: 20		
B10D [cycles]: 500000	nop [cycles/a]: 2920		
Nop parameter:	Days: 365	Hours: 8	Seconds: 3600
Documentation:			

*Diagnostic coverage Block*

DC [%]: 99 (High)	
Measure:	Cross monitoring of input signals and intermediate results within the logic (L), and temporal and logical software monitor of the program flow and detection of static faults and short circuits (for multiple I/O)



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**SF Safety function: Emergency Stop**

Measure: (Input devices)  
(99 %)

Documentation:

*Status / Messages Block*

Status: green

**Channels / Test channels (2 / 2)**

**CH** Name: Channel 2

MTTFD [a]: 100

**Blocks (1 / 1)**

**BL** Name: SIRIUS Befehls- und Meldegeräte | Not-Aus/Not-Halt Befehlsgerät, drehentriegelt | 3SU1801-0NB10-4HC2

Reference designator: Inventory number:

*Device details Block*

Device Manufacturer: SIEMENS AG

Device Identifier: SIRIUS Befehls- und Meldegeräte | Not-Aus/Not-Halt Befehlsgerät, drehentriegelt | 3SU1801-0NB10-4HC2

Device group: SIRIUS Befehls- und Meldegeräte

Part number: 3SU1801-0NB10-4HC2 Revision:

Function:  Input  Logic  
 Output  unknown

Technology: electronic

Category: -

Use case: ASIsafe | - | - | -

Description of the use case:

*Documentation Block*

Documentation: AS-Interface-Gehäuse für Befehlsgeräte 22 mm, rund, Gehäusematerial Kunststoff, Gehäuseoberteil gelb, mit Schutzkragen, 1 Befehlsstelle Kunststoff, A=NOT-HALT-Pilzdrucktaster rot, 40 mm, drehentriegelt, 1Ö, 1Ö, Federzuganschluss, Bodenbefestigung, Durchdringungstechnik oben

Document:

*MTTFD and Mission time Block*

MTTFD [a]: 1712.3 (High)

Mission time [a]: 20 Shortest mission time [a]: 20

B10 [cycles]: 100000 RDF [%]: 20

B10D [cycles]: 500000 nop [cycles/a]: 2920



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**SF Safety function: Emergency Stop**

Nop parameter: Days: 365 Hours: 8 Seconds: 3600

Documentation:

*Diagnostic coverage Block*

DC [%]: 99 (High)

Measure: Cross monitoring of input signals and intermediate results within the logic (L), and temporal and logical software monitor of the program flow and detection of static faults and short circuits (for multiple I/O) (Input devices) (99 %)

Documentation:

*Status / Messages Block*

Status: green

**Subsystems (3 / 4)**

**SB Name: Output 1 Contactor AC**

Reference designator: Inventory number:

*Device details Subsystem*

Device Manufacturer:

Device Identifier:

Device group:

Part number: Revision:

Function:  Input  Output  Logic  unknown

Use case:

Description of the use case:

*Documentation Subsystem*

Documentation:

Document:

*Performance Level Subsystem*

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

Software suitable up to PL: n.a.

PL requirements: fulfilled

The PL shall be determined by the estimation of the following aspects:

- Behaviour of the safety function under fault conditions (see clause 6) [fulfilled]
- safety-related software according to clause 4.6 or no software included [fulfilled]
- systematic failure (see Annex G) [fulfilled]



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**SF Safety function: Emergency Stop**

The PL shall be determined by the estimation of the following aspects: - Ability to perform a safety function under expected environmental conditions [fulfilled]

Reached PL: e PFHD [1/h]: 2.5E-8

Documentation:

*Category Subsystem*

Cat.: 3

Category requirements: fulfilled

Requirements of the Category:

- Accordance with relevant standards to withstand the expected influences. [fulfilled]
- Basic safety principles are being used. [fulfilled]
- Well-tried safety principles are being used. [fulfilled]
- A single fault tolerance and reasonable fault detection are given. [fulfilled]
- MTTFD is at least Low or Medium or High. [fulfilled]
- DCavg is at least Low or Medium; [fulfilled]
- The achieved score of the CCF-rating is at least 65. [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

*Diagnostic coverage Subsystem*

DCavg [%]: 99 (High)

*Common cause failure Subsystem*

CCF Points: 80 (fulfilled)

CCF Measures:

- Separation / Segregation (15 Points)  
Physical separation between signal paths, for example:
  - separation in wiring/piping;
  - detection of short circuits and open circuits in cables by dynamic test;
  - separate shielding for the signal path of each channel;
  - sufficient clearances and creepage distances on printed-circuit boards.
- Environmental (25 Points)  
For electrical/electronic systems, prevention of contamination and electromagnetic disturbances (EMC) to protect against common cause failures in accordance with appropriate standards (e.g. IEC 61326–3-1).  
Fluidic systems: filtration of the pressure medium, prevention of dirt intake, drainage of compressed air, e.g. in compliance with the component manufacturers'



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**SF Safety function: Emergency Stop**

CCF Measures:

requirements concerning purity of the pressure medium.  
NOTE For combined fluidic and electric systems, both aspects should be considered.

- Design / application / experience (15 Points)  
Protection against over-voltage, over-pressure, over-current, over-temperature, etc.

- Design / application / experience (5 Points)  
Components used are well-tried.

- Assessment / analysis (5 Points)  
For each part of safety related parts of control system a failure mode and effect analysis has been carried out and its results taken into account to avoid common-cause-failures in the design.

- Competence / training (5 Points)  
Training of designers to understand the causes and consequences of common cause failures.

- Environmental (10 Points)  
Other influences  
Consideration of the requirements for immunity to all relevant environmental influences such as, temperature, shock, vibration, humidity (e.g. as specified in relevant standards).

Documentation:

Document:

*Status / Messages Subsystem*

Status: green

**Channels / Test channels (1 / 2)**

**CH** Name: Channel 1

MTTFD [a]: 100

**Blocks (1 / 1)**

**BL** Name: SIRIUS Schütze / Motorstarter | Leistungsschutz 3RT | 3RT23\*

Reference designator: Inventory number:

*Device details Block*

Device Manufacturer: SIEMENS AG

Device Identifier: SIRIUS Schütze / Motorstarter | Leistungsschutz 3RT | 3RT23\*

Device group: SIRIUS Schütze / Motorstarter

Part number: 3RT23\* Revision:

Function:  Input  Logic  
 Output  unknown

Technology: unknown



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**SF Safety function: Emergency Stop**

Category:	-
Use case:	Standard Use Case
Description of the use case:	
<i>Documentation Block</i>	
Documentation:	SIRIUS LEISTUNGSSCHÜTZ 3RT, 4-POL SCHÜTZ (Der B10-Wert wurde bei 66 % des Strom-Bemessungswerts I <sub>e</sub> und AC-3/400 V ermittelt. Weitere Werte auf Anfrage.
Document:	
<i>MTTFD and Mission time Block</i>	
MTTFD [a]: 781.9 (High)	
Mission time [a]: 20	Shortest mission time [a]: 20
B10 [cycles]: 1000000	RDF [%]: 73
B10D [cycles]: 1369863	nop [cycles/a]: 17520
Nop parameter:	Days: 365 Hours: 8 Seconds: 600
Documentation:	
<i>Diagnostic coverage Block</i>	
DC [%]: 99 (High)	
Measure:	Direct monitoring (e.g. electrical position monitoring of control valves, monitoring of electromechanical devices by mechanically linked contact elements) (Output device) (99 %)
Documentation:	
<i>Status / Messages Block</i>	
Status:	green

**Channels / Test channels (2 / 2)**

**CH** Name: Channel 2

MTTFD [a]: 100

**Blocks (1 / 1)**

**BL** Name: SIRIUS Schütze / Motorstarter | Leistungsschutz 3RT | 3RT23\*

Reference designator:	Inventory number:
<i>Device details Block</i>	
Device Manufacturer:	SIEMENS AG
Device Identifier:	SIRIUS Schütze / Motorstarter   Leistungsschutz 3RT   3RT23*
Device group:	SIRIUS Schütze / Motorstarter
Part number: 3RT23*	Revision:



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**SF Safety function: Emergency Stop**

Function:	<input type="checkbox"/> Input	<input type="checkbox"/> Logic
	<input checked="" type="checkbox"/> Output	<input type="checkbox"/> unknown
Technology:	unknown	
Category:	-	
Use case:	Standard Use Case	
Description of the use case:		

*Documentation Block*

Documentation:	SIRIUS LEISTUNGSSCHÜTZ 3RT, 4-POL SCHÜTZ (Der B10-Wert wurde bei 66 % des Strom-Bemessungswerts Ie und AC-3/400 V ermittelt. Weitere Werte auf Anfrage.
Document:	

*MTTFD and Mission time Block*

MTTFD [a]: 781.9 (High)			
Mission time [a]: 20	Shortest mission time [a]: 20		
B10 [cycles]: 1000000	RDF [%]: 73		
B10D [cycles]: 1369863	nop [cycles/a]: 17520		
Nop parameter:	Days: 365	Hours: 8	Seconds: 600
Documentation:			

*Diagnostic coverage Block*

DC [%]: 99 (High)	
Measure:	Direct monitoring (e.g. electrical position monitoring of control valves, monitoring of electromechanical devices by mechanically linked contact elements) (Output device) (99 %)
Documentation:	

*Status / Messages Block*

Status:	green
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**Subsystems (4 / 4)**

**SB Name: Output 2 Contactor DC**

Reference designator:	Inventory number:
<i>Device details Subsystem</i>	
Device Manufacturer:	
Device Identifier:	
Device group:	
Part number:	Revision:



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**SF Safety function: Emergency Stop**

Function:  Input  Output  Logic  unknown

Use case:

Description of the use case:

*Documentation Subsystem*

Documentation:

Document:

*Performance Level Subsystem*

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

Software suitable up to PL: n.a.

PL requirements: fulfilled

The PL shall be determined by the estimation of the following aspects:

- Behaviour of the safety function under fault conditions (see clause 6) [fulfilled]
- safety-related software according to clause 4.6 or no software included [fulfilled]
- systematic failure (see Annex G) [fulfilled]
- Ability to perform a safety function under expected environmental conditions [fulfilled]

Reached PL: e PFHD [1/h]: 2.5E-8

Documentation:

*Category Subsystem*

Cat.: 3

Category requirements: fulfilled

Requirements of the Category:

- Accordance with relevant standards to withstand the expected influences. [fulfilled]
- Basic safety principles are being used. [fulfilled]
- Well-tried safety principles are being used. [fulfilled]
- A single fault tolerance and reasonable fault detection are given. [fulfilled]
- MTTFD is at least Low or Medium or High. [fulfilled]
- DCavg is at least Low or Medium; [fulfilled]
- The achieved score of the CCF-rating is at least 65. [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



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## SF Safety function: Emergency Stop

### *Diagnostic coverage Subsystem*

DCavg [%]: 99 (High)

### *Common cause failure Subsystem*

CCF Points: 70 (fulfilled)

CCF Measures:

- Separation / Segregation (15 Points)  
Physical separation between signal paths, for example:
  - separation in wiring/piping;
  - detection of short circuits and open circuits in cables by dynamic test;
  - separate shielding for the signal path of each channel;
  - sufficient clearances and creepage distances on printed-circuit boards.
- Design / application / experience (15 Points)  
Protection against over-voltage, over-pressure, over-current, over-temperature, etc.
- Design / application / experience (5 Points)  
Components used are well-tried.
- Assessment / analysis (5 Points)  
For each part of safety related parts of control system a failure mode and effect analysis has been carried out and its results taken into account to avoid common-cause-failures in the design.
- Competence / training (5 Points)  
Training of designers to understand the causes and consequences of common cause failures.
- Environmental (25 Points)  
For electrical/electronic systems, prevention of contamination and electromagnetic disturbances (EMC) to protect against common cause failures in accordance with appropriate standards (e.g. IEC 61326-3-1).  
Fluidic systems: filtration of the pressure medium, prevention of dirt intake, drainage of compressed air, e.g. in compliance with the component manufacturers' requirements concerning purity of the pressure medium.  
NOTE For combined fluidic and electric systems, both aspects should be considered.

Documentation:

Document:

### *Status / Messages Subsystem*

Status: green

### **Channels / Test channels (1 / 2)**

CH Name: Channel 1



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**SF Safety function: Emergency Stop**

MTTFD [a]: 100

**Blocks (1 / 1)**

**BL Name: Contactor DC 1 - CS115/10-31-24ET**

Reference designator:	Inventory number:
<i>Device details Block</i>	
Device Manufacturer:	
Device Identifier:	
Device group:	
Part number:	Revision:
Function:	<input type="checkbox"/> Input <input checked="" type="checkbox"/> Output <input type="checkbox"/> Logic <input type="checkbox"/> unknown
Technology:	unknown
Category:	-
Use case:	
Description of the use case:	

*Documentation Block*

Documentation:
Document:

*MTTFD and Mission time Block*

MTTFD [a]: 228.3 (High)			
Mission time [a]: 20	Shortest mission time [a]: 20		
B10 [cycles]: 400000	RDF [%]: 100		
B10D [cycles]: 400000	nop [cycles/a]: 17520		
Nop parameter:	Days: 365	Hours: 8	Seconds: 600
Documentation:			

*Diagnostic coverage Block*

DC [%]: 99 (High)	
Measure:	Direct monitoring (e.g. electrical position monitoring of control valves, monitoring of electromechanical devices by mechanically linked contact elements) (Output device) (99 %)
Documentation:	

*Status / Messages Block*

Status:	green
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**SF Safety function: Emergency Stop**

**Channels / Test channels (2 / 2)**

**CH** Name: Channel 2

MTTFD [a]: 100

**Blocks (1 / 1)**

**BL** Name: Contactor DC 1 - CS115/10-31-24ET

Reference designator:

Inventory number:

*Device details Block*

Device Manufacturer:

Device Identifier:

Device group:

Part number:

Revision:

Function:

Input  
 Output

Logic  
 unknown

Technology:

unknown

Category:

-

Use case:

Description of the use case:

*Documentation Block*

Documentation:

Document:

*MTTFD and Mission time Block*

MTTFD [a]: 228.3 (High)

Mission time [a]: 20

Shortest mission time [a]: 20

B10 [cycles]: 400000

RDF [%]: 100

B10D [cycles]: 400000

nop [cycles/a]: 17520

Nop parameter:

Days: 365

Hours: 8

Seconds: 600

Documentation:

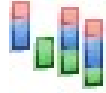
*Diagnostic coverage Block*

DC [%]: 99 (High)

Measure:

Direct monitoring (e.g. electrical position monitoring of control valves, monitoring of electromechanical devices by mechanically linked contact elements)  
(Output device)  
(99 %)

Documentation:



**Project name: Control Enclosure for the Heating Set Up**

File date: 18/03/2024 16:16:26 Report date: 3/18/2024 Checksum: 55fa1e3eee2dbe3ae19f66824e9e19f6

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**SF Safety function: Emergency Stop**

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*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 Software wurde gemäß dem Stand von Wissenschaft und Technik sorgfältig erstellt. Sie wird dem Nutzer unentgeltlich zur Verfügung gestellt.

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

The IFA undertakes to keep its website free of viruses; nevertheless, no guarantee can be given that the software and information provided are virus-free. The user is therefore advised to take appropriate security precautions and to use a virus scanner prior to downloading software, documentation or information.

## **CONTACT**

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Date, signature: \_\_\_\_\_

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