

# Technical Report for Functional Safety

Report No.: 2511183571W-001-L

**Applicant:** Suzhou DEJI Machinery & equipment Co., Ltd  
**Address:** No.58, Shi Jin Lu, Xukou Town, Wuzhong District, Suzhou, Jiangsu, China

**Project Title:** F29 Top Enclosure Auto Filming

**Model No.:** DJC012503046

**Tested Standards:** EN ISO 13849-1:2023, EN ISO 12100:2010, IEC 60204-1:2016

**Conclusion:** In this report, the safety protection functions (include over/deep under-charging voltage, under-discharging voltage, over-charging current, over-discharging current, high and low temperature protection) for F29 Top Enclosure Auto Filming could be used in PL d application according to EN ISO 13849-1:2023.  
Annex C, the safety architecture and performance level meet EN ISO13849-1:2023, detail information of safety functions item see Table 1.

This evaluation report confirms the achievement of the requirements of functional safety based on the following proofs:

- Proof of systematic safety integrity for defined phases of the life cycle
- Proof of the required safety-related parameters (failure rate, MTTF<sub>D</sub>, DC, CCF, PFH)
- Proof of the techniques and measures according to EN ISO 13849-1:2023
- Proofs that processes and methods are established at the manufacturer guaranteeing that unexceptionable processes in terms of risk analysis, design, production, validation, change management and quality management comply with the safety-related standard.

Tested by (name + signature): Franco Zhan

Reviewed by (name + signature): Jack Meng

Date of Issue: 2025-12-4



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**PR Project name: F29 Top Enclosure Auto Filming**

|   |  |
|---|--|
| <b>Date of issue:</b>                                   | 2025-12-4  |
| <b>Total number of pages:</b>                           | 22 pages report  |
| <b>Project number:</b>                                  | 2511183571W-001-L  |
| <b>Name of Testing Laboratory preparing the Report:</b> | Quandaotong (Suzhou) Testing Technologies Co., LTD   |
| <b>Applicant's name:</b>                                | Suzhou DEJI Machinery & equipment Co.,Ltd  |
| <b>Address:</b>   | No.58, Shi Jin Lu, Xukou Town, Wuzhong District, Suzhou  |
| <b>Manufacturer:</b>                                    | Same as applicant  |
| <b>Trade Mark:</b>                                      |   |
| <b>Model/Type reference:</b>                            | DJC012503046   |
| <b>Ratings:</b>   | 220V AC, 50Hz, 6KW   |
| <b>Version of software:</b>                             | SISTEMA: 3.0.2 build 1   |
| <b>Version of standard:</b>                             | ISO 13849-1:2023, ISO 13849-2:2012   |
| <b>Checksum:</b>  | 8bf61ba424134044caf96051b99102cf   |
| <b>Options:</b>   | <input type="checkbox"/> Use DC intermediate levels for calculation of PFH (more precise)<br><input type="checkbox"/> MTTFD capping for category 4 lower from 2500 to 100 years. |
| <b>Status:</b>  |  green  |
| <b>Note:</b>  | There are no warnings listed for this project (or it's subordinate basic elements).  |

**Print options**

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

**Contained safety functions**

SF Name: Emergency Stop

|                        |                      |                           |
|------------------------|----------------------|---------------------------|
| <b>Required: PLr d</b> | <b>Reached: PL d</b> | <b>PFH [1/h]: 1.06E-7</b> |
| <b>Status: green</b>   |                      |                           |

**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 Name: Safety Light Curtain

|                        |                      |                           |                      |
|------------------------|----------------------|---------------------------|----------------------|
| <b>Required: PLr e</b> | <b>Reached: PL e</b> | <b>PFH [1/h]: 9.48E-8</b> | <b>Status: green</b> |
|------------------------|----------------------|---------------------------|----------------------|

**List of documented messages:-**

- No messages known -



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**PR Project name: F29 Top Enclosure Auto Filming**

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

- No devices known -

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**SF** Name: Safety Door Lock

**Required: PLr e**

**Reached: PL e**

**PFH [1/h]: 9.48E-8**

**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 -

---



**SF Safety function: Emergency Stop**

**Identifier of the Safety function:**

|   |   |
|---|---|
| <b>Safety function type:</b>                    | Safety-related stop function initiated by safeguard |
| <b>Triggering event:</b>                        | Push the E-stop button                              |
| <b>Reaction and Behaviour on power failure:</b> | Lead to and keep safety state                       |
| <b>Safe state:</b>                              | Power off servo drive                               |
| <b>Operation mode:</b>                          | Automatic or setting mode                           |
| <b>Interfaces:</b>                              |   |
| <b>Demand rate:</b>                             | one times per day                                   |
| <b>Running-on time:</b>                         | 3 seconds for servo drive                           |
| <b>Priority:</b>                                | Highest   |

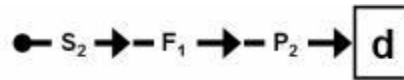
**Documentation:**

**Document:**

*Required Performance Level Safety function*

|  |   |
|--|---|
| <b>PLr (by risk graph):</b>                      | d   |
| <b>Severity of injury (S):</b>                   | Serious (normally irreversible) injury or death |
| <b>Frequency / exposure times to hazard (F):</b> | Seldom to less often / exposure time is short   |
| <b>Possibility of avoiding (P):</b>              | Scarcely possible                               |

**Risk graph:**



**Documentation:**

**Document:**

*Performance Level Safety function*

|                      |                           |
|----------------------|---------------------------|
| <b>Reached PL: d</b> | <b>PFH [1/h]: 1.06E-7</b> |
|----------------------|---------------------------|

*Electromagnetic immunity, EMI (Annex L) Safety function*

|  |     |
|--|-----|
| <b>Route for fulfilment of EMI measures:</b> | n/a |
|--|-----|

**Documentation:**

**Document:**

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

|                     |  |
|---------------------|--|
| <b>Device list:</b> |  |
|---------------------|--|

*Status / Messages Safety function*

|                |       |
|----------------|-------|
| <b>Status:</b> | green |
|----------------|-------|

**Subsystems (1 / 3)**

**SB** Name: E-stop



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**SF Safety function: Emergency Stop**

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**Reference designator: SI0\_0\_1****Inventory number:***Device details Subsystem***Device Manufacturer:**

Schneider

**Device Identifier:****Device group:****Part number: XB2BS542C****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 DC avg

*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]

**Reached PL: e****PFH [1/h]: 4.28E-8****Documentation:***Category Subsystem***Cat.:**

3

**Category requirements:**

fulfilled

**Requirements for the category**

- Accordance with relevant standards to withstand the expected influences. [fulfilled]



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**SF Safety function: Emergency Stop**

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**Requirements for the category**

- 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. [fulfilled]
- Requirement fulfilled because of the assumed limit value accuracy of 5 percentage points. [fulfilled]
- The achieved score of the CCF-rating is at least 65. [fulfilled]

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**Documentation:****Source (e.g. standard) Category:****File:**

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

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*Diagnostic coverage Subsystem***DCavg [%]:** 90 (Medium)

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*Common cause failure Subsystem***CCF Points:** 70 (fulfilled)**CCF Measures:**

- 15 Points | Separation/segregation
- 15 Points | Protection against over-voltage, over-pressure, over-current, over-temperature
- 5 Points | Components used are well-tried
- 25 Points | Prevention of EMI or impurity of fluidic medium
- 10 Points | Other influences

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**Documentation:****Document:**

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*Status / Messages Subsystem***Status:** green

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**Channels / Test channels (1 / 2)****CH** Name: Channel 1

MTTFD [a]: 100

**Blocks (1 / 1)****BL** Name: SI0\_0\_1**Reference designator:** XB2BS542C**Inventory number:***Device details Block***Device Manufacturer:****Device Identifier:****Device group:**



**SF Safety function: Emergency Stop**

**Part number:**

**Revision:**

**Function:**

Input  
 Output

Logic  
 unknown

**Technology:**

electromechanic

**Category:**

-

**Use case:**

**Description of the use case:**

*Documentation Block*

**Documentation:**

**Document:**

*MTTFD and Mission time Block*

**MTTFD [a]: 100 (High)**

**Mission time [a]: 20**

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

**Rate of dangerous failure [FIT]:**

**1141.5 Documentation:**

**Document:**

*Diagnostic coverage Block*

**DC [%]: 90 (Medium)**

**Measure:**

Cross monitoring of input signals with dynamic test if short circuits are not detectable (for multiple I/O)

**Documentation:**

**Document:**

*Status / Messages Block*

**Status:**

green

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

**CH Name:** Channel 2

MTTFD [a]: 100

**Blocks (1 / 1)**

**BL Name:** SI0\_1\_1

**Reference designator:** XB2BS542C

**Inventory number:**

*Device details Block*

**Device Manufacturer:**

**Device Identifier:**

**Device group:**



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**SF Safety function: Emergency Stop**

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|  |   |  |
|--|---|--|
| <b>Part number:</b>                            | <b>Revision:</b>  |  |
| <b>Function:</b>                               | <input checked="" type="checkbox"/> Input<br><input type="checkbox"/> Output                                | <input type="checkbox"/> Logic<br><input type="checkbox"/> unknown |
| <b>Technology:</b>                             | electromechanic   |  |
| <b>Category:</b>                               | -   |  |
| <b>Use case:</b>                               |   |  |
| <b>Description of the use case:</b>            |   |  |
| <i>Documentation Block</i>                     |   |  |
| <b>Documentation:</b>                          |   |  |
| <b>Document:</b>                               |   |  |
| <i>MTTFD and Mission time Block</i>            |   |  |
| <b>MTTFD [a]: 100 (High)</b>                   |   |  |
| <b>Mission time [a]: 20</b>                    | <b>Shortest mission time [a]: 20</b>  |  |
| <b>Rate of dangerous failure [FIT]: 1141.5</b> |   |  |
| <b>Documentation:</b>                          |   |  |
| <b>Document:</b>                               |   |  |
| <i>Diagnostic coverage Block</i>               |   |  |
| <b>DC [%]: 90 (Medium)</b>                     |   |  |
| <b>Measure:</b>                                | Cross monitoring of input signals with dynamic test if short circuits are not detectable (for multiple I/O) |  |
| <b>Documentation:</b>                          |   |  |
| <b>Document:</b>                               |   |  |
| <i>Status / Messages Block</i>                 |   |  |
| <b>Status:</b>                                 | green   |  |

**Subsystems (2 / 3)****SB** Name: Safety PLC

|                                      |   |   |
|--------------------------------------|---|---|
| <b>Reference designator: GC-1000</b> | <b>Inventory number:</b>  |   |
| <i>Device details Subsystem</i>      |   |   |
| <b>Device Manufacturer:</b>          | KEYENCE CORPORATION   |   |
| <b>Device Identifier:</b>            |   |   |
| <b>Device group:</b>                 |   |   |
| <b>Part number: GC-1000</b>          | <b>Revision:</b>  |   |
| <b>Function:</b>                     | <input type="checkbox"/> Input<br><input type="checkbox"/> Output | <input checked="" type="checkbox"/> Logic<br><input type="checkbox"/> unknown |



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**SF Safety function: Emergency Stop**

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**Use case:****Description of the use case:***Documentation Subsystem***Documentation:****Document:***Performance Level Subsystem***PL determination:** Enter PL/PFH directly (manufacturer ensures compliance with the requirements of the Category and of the PL)**PL: e***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** The fulfilment of the measures for electromagnetic immunity (EMI) was documented in the associated safety function.**Reached PL: e****PFH [1/h]: 3.16E-8****Documentation:****Mission time [a]: 20****Shortest mission time [a]: 20***Category Subsystem***Cat.:** 4**Category requirements:** fulfilled**Requirements for 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 (3 / 3)****SB Name:** Safety Relay**Reference designator:** KA15**Inventory number:** *Device details Subsystem*

**SF Safety function: Emergency Stop****Device Manufacturer:** Shenzhen ESPE Technology Co., Ltd.**Device Identifier:****Device group:****Part number: ESRP-2A1B-E****Revision:****Function:** Input  
 Output Logic  
 unknown**Use case:****Description of the use case:***Documentation Subsystem***Documentation:****Document:***Performance Level Subsystem***PL determination:** Enter PL/PFH directly (manufacturer ensures compliance with the requirements of the Category and of the PL)**PL: e***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** The fulfilment of the measures for electromagnetic immunity (EMI) was documented in the associated safety function.**Reached PL: e****PFH [1/h]: 3.16E-8****Documentation:****Mission time [a]: 20****Shortest mission time [a]: 20***Category Subsystem***Cat.:** 4**Category requirements:** fulfilled**Requirements for 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



**SF Safety function: Emergency Stop**

**SF Safety function: Safety Light Curtain**

**Identifier of the Safety function:**

|   |   |
|---|---|
| <b>Safety function type:</b>                    | Safety-related stop function initiated by safeguard |
| <b>Triggering event:</b>                        | People or obstacles block the grating               |
| <b>Reaction and Behaviour on power failure:</b> | Lead to and keep safety state                       |
| <b>Safe state:</b>                              | Power off servo drive                               |
| <b>Operation mode:</b>                          | Automatic or setting mode                           |
| <b>Interfaces:</b>                              |   |
| <b>Demand rate:</b>                             | Three times per year                                |
| <b>Running-on time:</b>                         | 3 seconds for servo drive                           |
| <b>Priority:</b>                                | Highest   |

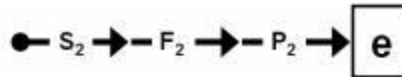
**Documentation:**

**Document:**

*Required Performance Level Safety function*

|  |   |
|--|---|
| <b>PLr (by risk graph):</b>                      | e   |
| <b>Severity of injury (S):</b>                   | Serious (normally irreversible) injury or death |
| <b>Frequency / exposure times to hazard (F):</b> | Frequent to continuous / exposure time is long  |
| <b>Possibility of avoiding (P):</b>              | Scarcely possible                               |

**Risk graph:**



**Documentation:**

**Document:**

*Performance Level Safety function*

|                      |                           |
|----------------------|---------------------------|
| <b>Reached PL: e</b> | <b>PFH [1/h]: 9.48E-8</b> |
|----------------------|---------------------------|

*Electromagnetic immunity, EMI (Annex L) Safety function*

|  |     |
|--|-----|
| <b>Route for fulfilment of EMI measures:</b> | n/a |
| <b>Documentation:</b>                        |     |
| <b>Document:</b>                             |     |

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

|                     |  |
|---------------------|--|
| <b>Device list:</b> |  |
|---------------------|--|

*Status / Messages Safety function*

|                |       |
|----------------|-------|
| <b>Status:</b> | green |
|----------------|-------|



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**Subsystems (1 / 3)**

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**SB** Name: Safety Light Curtain

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**SF Safety function: Safety Light Curtain**

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**Reference designator: SO0\_2****Inventory number:***Device details Subsystem***Device Manufacturer:**

Shenzhen ESPE Technology Co., Ltd.

**Device Identifier:****Device group:****Part number: EFP3210P****Revision:****Function:** Input Logic Output unknown**Use case:****Description of the use case:***Documentation Subsystem***Documentation:****Document:***Performance Level Subsystem***PL determination:**

Enter PL/PFH directly (manufacturer ensures compliance with the requirements of the Category and of the PL)

**PL: e***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.

**Reached PL: e****PFH [1/h]: 3.16E-8****Documentation:****Mission time [a]: 20****Shortest mission time [a]: 20***Category Subsystem***Cat.:**

4

**Category requirements:**

fulfilled

**Requirements for the category**

Since the category is given by the manufacturer he is responsible to satisfy the requirements.

**Documentation:****Source (e.g. standard) Category:**



File:

**SF Safety function: Safety Light Curtain***Status / Messages Subsystem***Status:** green**Subsystems (2 / 3)****SB** Name: Safety PLC**Reference designator:** GC-1000**Inventory number:***Device details Subsystem***Device Manufacturer:** KEYENCE CORPORATION**Device Identifier:****Device group:****Part number:** GC-1000**Revision:****Function:** Input  
 Output Logic  
 unknown**Use case:****Description of the use case:***Documentation Subsystem***Documentation:****Document:***Performance Level Subsystem***PL determination:** Enter PL/PFH directly (manufacturer ensures compliance with the requirements of the Category and of the PL)**PL:** e*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.**Reached PL:** e**PFH [1/h]:** 3.16E-8**Documentation:****Mission time [a]:** 20**Shortest mission time [a]:** 20*Category Subsystem***Cat.:**

4

**SF Safety function: Safety Light Curtain**

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|   |  |
|---|--|
| <b>Category requirements:</b>           | fulfilled  |
| <b>Requirements for the category</b>    | Since the category is given by the manufacturer he is responsible to satisfy the requirements. |
| <b>Documentation:</b>                   |  |
| <b>Source (e.g. standard) Category:</b> |  |
| <b>File:</b>                            |  |
| <i>Status / Messages Subsystem</i>      |  |
| <b>Status:</b>                          | green  |

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**Subsystems (3 / 3)****SB** Name: Safety Relay

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|  |  |
|--|--|
| <b>Reference designator: KA15</b>  | <b>Inventory number:</b>   |
| <i>Device details Subsystem</i>  |  |
| <b>Device Manufacturer:</b>  | Shenzhen ESPE Technology Co., Ltd.   |
| <b>Device Identifier:</b>  |  |
| <b>Device group:</b>   |  |
| <b>Part number: ESRP-2A1B-E</b>  | <b>Revision:</b>   |
| <b>Function:</b>   | <input type="checkbox"/> Input <input type="checkbox"/> Logic<br><input checked="" type="checkbox"/> Output <input type="checkbox"/> unknown |
| <b>Use case:</b>   |  |
| <b>Description of the use case:</b>  |  |
| <i>Documentation Subsystem</i>   |  |
| <b>Documentation:</b>  |  |
| <b>Document:</b>   |  |
| <i>Performance Level Subsystem</i>   |  |
| <b>PL</b>  | Enter PL/PFH directly (manufacturer ensures compliance with the requirements of the Category and of the PL)                                  |
| <b>PL: e</b>   |  |
| <i>Qualitative aspects (e.g. software, see sections 7, 10.3) Subsystem</i> |  |
| <b>Qualitative aspects suitable up to PL: n/a</b>                          |  |
| <b>Documentation:</b>  |  |
| <b>Document:</b>   |  |
| <i>Electromagnetic immunity, EMI (Annex L) Subsystem</i>                   |  |
| <b>Route for fulfilment of EMI measures:</b>                               | The fulfilment of the measures for electromagnetic immunity (EMI) was documented in the associated safety function.                          |

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**SF Safety function: Safety Light Curtain**

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|   |  |
|---|--|
| <b>Reached PL: e</b>                    | <b>PFH [1/h]: 3.16E-8</b>  |
| <b>Documentation:</b>                   |  |
| <b>Mission time [a]: 20</b>             | <b>Shortest mission time [a]: 20</b>   |
| <i>Category Subsystem</i>               |  |
| <b>Cat.:</b>                            | 4  |
| <b>Category requirements:</b>           | fulfilled  |
| <b>Requirements for the category</b>    | Since the category is given by the manufacturer he is responsible to satisfy the requirements. |
| <b>Documentation:</b>                   |  |
| <b>Source (e.g. standard) Category:</b> |  |
| <b>File:</b>                            |  |
| <i>Status / Messages Subsystem</i>      |  |
| <b>Status:</b>                          | green  |



**SF Safety function: Safety Door Lock**

**Identifier of the Safety function:**

|   |   |
|---|---|
| <b>Safety function type:</b>                    | Safety-related stop function initiated by safeguard |
| <b>Triggering event:</b>                        | open the guard door                                 |
| <b>Reaction and Behaviour on power failure:</b> | Lead to and keep safety state                       |
| <b>Safe state:</b>                              | Power off servo drive                               |
| <b>Operation mode:</b>                          | Automatic or setting mode                           |
| <b>Interfaces:</b>                              |   |
| <b>Demand rate:</b>                             | Three times per year                                |
| <b>Running-on time:</b>                         | 3 seconds for servo drive                           |
| <b>Priority:</b>                                | Highest   |

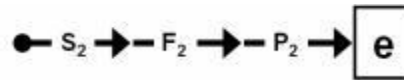
**Documentation:**

**Document:**

*Required Performance Level Safety function*

|  |   |
|--|---|
| <b>PLr (by risk graph):</b>                      | e   |
| <b>Severity of injury (S):</b>                   | Serious (normally irreversible) injury or death |
| <b>Frequency / exposure times to hazard (F):</b> | Frequent to continuous / exposure time is long  |
| <b>Possibility of avoiding (P):</b>              | Scarcely possible                               |

**Risk graph:**



**Documentation:**

**Document:**

*Performance Level Safety function*

|                      |                           |
|----------------------|---------------------------|
| <b>Reached PL: e</b> | <b>PFH [1/h]: 9.48E-8</b> |
|----------------------|---------------------------|

*Electromagnetic immunity, EMI (Annex L) Safety function*

|  |     |
|--|-----|
| <b>Route for fulfilment of EMI measures:</b> | n/a |
|--|-----|

**Documentation:**

**Document:**

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

|                     |  |
|---------------------|--|
| <b>Device list:</b> |  |
|---------------------|--|

*Status / Messages Safety function*

|                |       |
|----------------|-------|
| <b>Status:</b> | green |
|----------------|-------|

**Subsystems (1 / 3)**

**SB** Name: Safety Switch



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**SF Safety function: Safety Door Lock**

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**Reference designator: S10\_10****Inventory number:***Device details Subsystem***Device Manufacturer:**

Shenzhen ESPE Technology Co., Ltd.

**Device Identifier:****Device group:****Part number: SLR11-110P-3****Revision:****Function:** Input  
 Output Logic  
 unknown**Use case:****Description of the use case:***Documentation Subsystem***Documentation:****Document:***Performance Level Subsystem***PL determination:**

Enter PL/PFH directly (manufacturer ensures compliance with the requirements of the Category and of the PL)

**PL: e***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.

**Reached PL: e****PFH [1/h]: 3.16E-8****Documentation:****Mission time [a]: 20****Shortest mission time [a]: 20***Category Subsystem***Cat.:**

4

**Category requirements:**

fulfilled

**Requirements for the category**

Since the category is given by the manufacturer he is responsible to satisfy the requirements.

**Documentation:****Source (e.g. standard) Category:****File:**



**SF Safety function: Safety Door Lock**

*Status / Messages Subsystem*

**Status:** green

**Subsystems (2 / 3)**

**SB** Name: Safety PLC

**Reference designator:** GC-1000

**Inventory number:**

*Device details Subsystem*

**Device Manufacturer:** KEYENCE CORPORATION

**Device Identifier:**

**Device group:**

**Part number:** GC-1000

**Revision:**

**Function:**

Input  
 Output

Logic  
 unknown

**Use case:**

**Description of the use case:**

*Documentation Subsystem*

**Documentation:**

**Document:**

*Performance Level Subsystem*

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

**PL:** e

*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.

**Reached PL:** e

**PFH [1/h]:** 3.16E-8

**Documentation:**

**Mission time [a]:** 20

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

*Category Subsystem*

**Cat.:** 4

**SF Safety function: Safety Door Lock**

|   |  |
|---|--|
| <b>Category requirements:</b>           | fulfilled  |
| <b>Requirements for the category</b>    | Since the category is given by the manufacturer he is responsible to satisfy the requirements. |
| <b>Documentation:</b>                   |  |
| <b>Source (e.g. standard) Category:</b> |  |
| <b>File:</b>                            |  |
| <i>Status / Messages Subsystem</i>      |  |
| <b>Status:</b>                          | green  |

**Subsystems (3 / 3)****SB** Name: Safety Relay

|  |   |  |
|--|---|--|
| <b>Reference designator: KA15</b>  | <b>Inventory number:</b>  |  |
| <i>Device details Subsystem</i>  |   |  |
| <b>Device Manufacturer:</b>  | Shenzhen ESPE Technology Co., Ltd.  |  |
| <b>Device Identifier:</b>  |   |  |
| <b>Device group:</b>   |   |  |
| <b>Part number: ESRP-2A1B-E</b>  | <b>Revision:</b>  |  |
| <b>Function:</b>   | <input type="checkbox"/> Input<br><input checked="" type="checkbox"/> Output  | <input type="checkbox"/> Logic<br><input type="checkbox"/> unknown |
| <b>Use case:</b>   |   |  |
| <b>Description of the use case:</b>  |   |  |
| <i>Documentation Subsystem</i>   |   |  |
| <b>Documentation:</b>  |   |  |
| <b>Document:</b>   |   |  |
| <i>Performance Level Subsystem</i>   |   |  |
| <b>PL:</b>   | Enter PL/PFH directly (manufacturer ensures compliance with the requirements of the Category and of the PL)         |  |
| <b>PL: e</b>   |   |  |
| <i>Qualitative aspects (e.g. software, see sections 7, 10.3) Subsystem</i> |   |  |
| <b>Qualitative aspects suitable up to PL: n/a</b>                          |   |  |
| <b>Documentation:</b>  |   |  |
| <b>Document:</b>   |   |  |
| <i>Electromagnetic immunity, EMI (Annex L) Subsystem</i>                   |   |  |
| <b>Route for fulfilment of EMI measures:</b>                               | The fulfilment of the measures for electromagnetic immunity (EMI) was documented in the associated safety function. |  |



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**SF Safety function: Safety Door Lock**

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**Reached PL: e****PFH [1/h]: 3.16E-8****Documentation:****Mission time [a]: 20****Shortest mission time [a]: 20***Category Subsystem***Cat.:** 4**Category requirements:** fulfilled**Requirements for 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

**ATTACHMENT 1: Photos**

Photo 1



Photo 2



Photo 3





Photo 4



Photo 5





Photo 6



\*\*\*\*\*END OF REPORT\*\*\*\*\*