



Ref. Certif. No.

SG-OF-12308M1

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST  
CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE)  
CB SCHEMESYSTEME CEI D'ACCEPTATION MUTUELLE DE  
CERTIFICATS D'ESSAIS DES EQUIPEMENTS  
ELECTRIQUES (IECEE) METHODE OC**CB TEST CERTIFICATE**  
**CERTIFICAT D'ESSAI OC**Product  
ProduitVideo recorder  
(NETWORK VIDEO RECORDER)Name and address of the applicant  
Nom et adresse du demandeurSAMSUNG TECHWIN CO., LTD.  
84 Jeongdong-ro, Seongsan-gu  
Changwon-si, Gyeongsangnam-do 641-716, REPUBLIC OF KOREAName and address of the manufacturer  
Nom et adresse du fabricantSAMSUNG TECHWIN CO., LTD.  
84 Jeongdong-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do  
641-716, REPUBLIC OF KOREAName and address of the factory  
Nom et adresse de l'usineSAMSUNG TECHWIN CO., LTD.  
84 Jeongdong-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do  
641-716, REPUBLIC OF KOREA  
For further information please see attachmentRatings and principal characteristics  
Valeurs nominales et caractéristiques principalesRated voltage: 100-240 V a.c.  
Rated frequency: 50/60 Hz  
Rated current: 6-3 A  
Protection class: ITrade mark (if any)  
Marque de fabrique (si elle existe)

SAMSUNG

Model/type Ref.  
Ref. de type

SRN-1673SN, SRN-1673SP

Additional information (if necessary)  
Information complémentaire (si nécessaire)Certificate SG-OF-12308 issued 2015-04-01 is replaced by this version  
due to technical changes. See Test Report for National and Group  
Differences.A sample of the product was tested and found  
to be in conformity with  
Un échantillon de ce produit a été essayé et a été  
considéré conforme à la

IEC 60950-1(ed.2);am1;am2

as shown in the Test Report Ref. No.  
which forms part of this certificate  
comme indiqué dans le Rapport d'essais numéro  
de référence qui constitue une partie de ce  
certificatTÜV SÜD PSB Pte Ltd  
077-2107815-100This CB Test Certificate is issued by the National Certification Body  
Ce Certificat d'essai OC est établi par l'Organisme **National de Certification**Date, 2015-10-07  
CBS 15 10 40676 119

(Havard Lee)



TÜV SÜD PSB Pte Ltd · 1 Science Park Drive · Singapore 118221

PSB Singapore



Ref. Certif. No.

## **CB Certificate Ref. No. SG-OF-12308M1**

### **Additional factory information**

Name and address of the factory  
*Nom et adresse de l'usine*

TIANJIN SAMSUNG TECHWIN OPTO-ELECTRONIC  
CO., LTD  
11 WEILIU RD, MICRO-ELECTRONIC INDUSTRIAL  
PARK, TEDA, TIANJIN, 300385, People's Republic of  
China

Date: 2015-10-07

Signature: ( Havard Lee )



PSB Singapore



Test Report issued under the responsibility of:

NCB TÜV SÜD PSB Pte Ltd  
1 Science Park Drive, 118221 Singapore



**TEST REPORT**  
**IEC 60950-1**  
**Information technology equipment – Safety –**  
**Part 1: General requirements**

**Report Number.** .....: 077-2107815-100

**Date of issue** .....: 2015-10-05

**Total number of pages**.....: 12 pages

**Applicant's name**.....: SAMSUNG TECHWIN CO., LTD. (40676)

**Address** .....: 84 Jeongdong-ro, Seongsan-gu, Changwon-si,  
Gyeongsangnam-do 641-716, REPUBLIC OF KOREA

**Test specification:**

**Standard** .....: IEC 60950-1:2005 (Second Edition) + Am 1:2009 + Am 2:2013

**Test procedure** .....: CB Scheme

**Non-standard test method**.....: N/A

**Test Report Form No**.....: IEC60950\_1F

**Test Report Form(s) Originator**.....: SGS Fimko Ltd

**Master TRF**.....: Dated 2014-02

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**This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.**

**General disclaimer:**

The test results presented in this report relate only to the object tested.

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|                                                                              |                                                                                                                                |                                                                                      |
|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| <b>Test item description..... :</b>                                          | NETWORK VIDEO RECORDER                                                                                                         |                                                                                      |
| <b>Trade Mark..... :</b>                                                     |                                               |                                                                                      |
| <b>Manufacturer .....</b>                                                    | SAMSUNG TECHWIN CO., LTD. (40676)<br>84 Jeongdong-ro, Seongsan-gu, Changwon-si,<br>Gyeongsangnam-do 641-716, REPUBLIC OF KOREA |                                                                                      |
| <b>Model/Type reference .....</b>                                            | SRN-1673SN, SRN-1673SP                                                                                                         |                                                                                      |
| <b>Ratings .....</b>                                                         | AC 100-240 V~, 50/60 Hz, 6-3 A                                                                                                 |                                                                                      |
| <b>Testing procedure and testing location:</b>                               |                                                                                                                                |                                                                                      |
| <input checked="" type="checkbox"/> <b>CB Testing Laboratory:</b>            | TÜV SÜD Korea Laboratory (TKL)                                                                                                 |                                                                                      |
| Testing location/ address .....                                              | #315 and 316, MARIO Tower, 222-12, Guro-Dong, Guro-Gu, Seoul 152-050, Republic of Korea                                        |                                                                                      |
| <input type="checkbox"/> <b>Associated CB Testing Laboratory:</b>            | N/A                                                                                                                            |                                                                                      |
| Testing location/ address .....                                              | N/A                                                                                                                            |                                                                                      |
| Tested by (name + signature)..... :                                          | Danny Shin                                                                                                                     |   |
| Approved by (name + signature) .....                                         | Martin Kim                                                                                                                     |  |
| <input type="checkbox"/> <b>Testing procedure: TMP/CTF Stage 1:</b>          |                                                                                                                                |                                                                                      |
| Testing location/ address .....                                              | N/A                                                                                                                            |                                                                                      |
| Tested by (name + signature)..... :                                          | N/A                                                                                                                            |                                                                                      |
| Approved by (name + signature) .....                                         | N/A                                                                                                                            |                                                                                      |
| <input type="checkbox"/> <b>Testing procedure: WMT/CTF Stage 2:</b>          |                                                                                                                                |                                                                                      |
| Testing location/ address .....                                              | N/A                                                                                                                            |                                                                                      |
| Tested by (name + signature)..... :                                          | N/A                                                                                                                            |                                                                                      |
| Witnessed by (name + signature) .....                                        | N/A                                                                                                                            |                                                                                      |
| Approved by (name + signature) .....                                         | N/A                                                                                                                            |                                                                                      |
| <input type="checkbox"/> <b>Testing procedure:<br/>SMT/CTF Stage 3 or 4:</b> |                                                                                                                                |                                                                                      |
| Testing location/ address .....                                              | N/A                                                                                                                            |                                                                                      |
| Tested by (name + signature)..... :                                          | N/A                                                                                                                            |                                                                                      |
| Witnessed by (name + signature) .....                                        | N/A                                                                                                                            |                                                                                      |
| Approved by (name + signature) .....                                         | N/A                                                                                                                            |                                                                                      |
| Supervised by (name + signature)..... :                                      | N/A                                                                                                                            |                                                                                      |

|                                                                                                                                                                                  |                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>List of Attachments (including a total number of pages in each attachment):</b>                                                                                               |                                                                                                                                                          |
| Attachment : 2 pages (Photograph)                                                                                                                                                |                                                                                                                                                          |
| <b>Summary of testing:</b>                                                                                                                                                       |                                                                                                                                                          |
| <b>Tests performed (name of test and test clause):</b><br>All clauses                                                                                                            | <b>Testing location:</b><br>TÜV SÜD Korea Laboratory (TKL)<br>#315 and 316, MARIO Tower, 222-12, Guro-Dong,<br>Guro-Gu, Seoul 152-050, Republic of Korea |
| <b>Summary of compliance with National Differences:</b>                                                                                                                          |                                                                                                                                                          |
| List of countries addressed: European group differences and national differences.                                                                                                |                                                                                                                                                          |
| <input checked="" type="checkbox"/> The product fulfils the requirements of the standard IEC 60950-1:2005+A1:2009+A2:2013 and EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013. |                                                                                                                                                          |

**Copy of marking plate:**

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <b>NETWORK VIDEO RECORDER</b><br>MODEL : SRN-1673SN<br>AC 100-240V~ 50/60Hz 6-3A<br>M/C : XXXXXXXXXX Fac. ID : S<br><br>Jan 2010 S/N:XXXX XXXXXXXXXXXXX<br>ETHERNET1 ADD : XX-XX-XX-XX-XX-XX<br>ETHERNET2 ADD : XX-XX-XX-XX-XX-XX<br>SAMSUNG TECHWIN CO., LTD.<br>MADE IN KOREA  | <br>    <b>N5167</b><br>PT03-000594F  |
|  <b>NETWORK VIDEO RECORDER</b><br>MODEL : SRN-1673SP<br>AC 100-240V~ 50/60Hz 6-3A<br>M/C : XXXXXXXXXX Fac. ID : S<br><br>Jan 2010 S/N:XXXX XXXXXXXXXXXXX<br>ETHERNET1 ADD : XX-XX-XX-XX-XX-XX<br>ETHERNET2 ADD : XX-XX-XX-XX-XX-XX<br>SAMSUNG TECHWIN CO., LTD.<br>MADE IN KOREA | <br>    <b>N5167</b><br>PT03-000594F |

| Test item particulars                                                                         |                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Equipment mobility.....                                                                       | <input checked="" type="checkbox"/> movable <input type="checkbox"/> hand-held <input type="checkbox"/> transportable<br><input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in<br><input type="checkbox"/> wall mounted                                                                                               |
| Connection to the mains.....                                                                  | <input checked="" type="checkbox"/> pluggable equipment <input checked="" type="checkbox"/> type A <input type="checkbox"/> type B<br><input type="checkbox"/> permanent connection<br><input checked="" type="checkbox"/> detachable power supply cord<br><input type="checkbox"/> non-detachable power supply cord<br><input type="checkbox"/> not directly connected to the mains |
| Operating condition.....                                                                      | <input checked="" type="checkbox"/> continuous<br><input type="checkbox"/> rated operating / resting time:                                                                                                                                                                                                                                                                           |
| Access location .....                                                                         | <input checked="" type="checkbox"/> operator accessible<br><input type="checkbox"/> restricted access location                                                                                                                                                                                                                                                                       |
| Over voltage category (OVC) .....                                                             | <input type="checkbox"/> OVC I <input checked="" type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV<br><input type="checkbox"/> other:                                                                                                                                                                                                        |
| Mains supply tolerance (%) or absolute mains supply values .....                              | -10 %, +10 %                                                                                                                                                                                                                                                                                                                                                                         |
| Tested for IT power systems .....                                                             | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                                                                                                                                                                                                                                                                                  |
| IT testing, phase-phase voltage (V) .....                                                     | N/A                                                                                                                                                                                                                                                                                                                                                                                  |
| Class of equipment .....                                                                      | <input checked="" type="checkbox"/> Class I <input type="checkbox"/> Class II <input type="checkbox"/> Class III <input type="checkbox"/> Not classified                                                                                                                                                                                                                             |
| Considered current rating of protective device as part of the building installation (A) ..... | 16 A                                                                                                                                                                                                                                                                                                                                                                                 |
| Pollution degree (PD) .....                                                                   | <input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3                                                                                                                                                                                                                                                                                 |
| IP protection class .....                                                                     | IPX0                                                                                                                                                                                                                                                                                                                                                                                 |
| Altitude during operation (m) .....                                                           | Up to 2000 m                                                                                                                                                                                                                                                                                                                                                                         |
| Altitude of test laboratory (m) .....                                                         | 70 m                                                                                                                                                                                                                                                                                                                                                                                 |
| Mass of equipment (kg) .....                                                                  | 7.52 kg                                                                                                                                                                                                                                                                                                                                                                              |

**Possible test case verdicts:**

- test case does not apply to the test object ..... : N/A
- test object does meet the requirement ..... : P (Pass)
- test object does not meet the requirement ..... : F (Fail)

**Testing**

Date of receipt of test item..... : 2015-09-21  
Date (s) of performance of tests..... : 2015-09-23 to 2015-10-02

**General remarks:**

"(See Enclosure #)" refers to additional information appended to the report.  
 "(See appended table)" refers to a table appended to the report.

Throughout this report a ☐ comma / ☒ point is used as the decimal separator.

**Remark 1:** This report is to amend the earlier CB Ref. Cert. No. SG-OF-12308.  
 (Test Report Ref. No.: 077-2107815-000)

**Remark 2: Modifications**

1. Change of manufacture name and type for Lithium Battery. (See appended table)
2. Some minor change of the PCB pattern which related to battery protection component (D57) added.

**Manufacturer's Declaration per sub-clause 4.2.5 of IEC 60950-1:**

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided .....

- ☐ Yes  
☒ Not applicable

**When differences exist; they shall be identified in the General product information section.**

**Name and address of factory (ies) .....** : 1. SAMSUNG TECHWIN CO., LTD. (40676)  
 84 Jeongdong-ro, Seongsan-gu, Changwon-si,  
 Gyeongsangnam-do 641-716, REPUBLIC OF KOREA  
 2. TIANJIN SAMSUNG TECHWIN OPTO-ELECTRONIC CO., LTD. (70297)  
 11 WEILIU RD, MICRO-ELECTRONIC INDUSTRIAL PARK, TEDA, TIANJIN 300385, People's Republic of China

**General product information:**

1. The maximum ambient temperature permitted by the manufacturer (T<sub>ma</sub>): 40 °C
2. Model SRN-1673SN is basic model, which was tested and it was the representative of the other model.
3. Model SRN-1673SP identical to basic model SRN-1673SN except for model designation only.

**Note - Before placing the products in the different countries the manufacturer has to guarantee that:**

1. Operating instructions and warnings are written in an accepted language of the certain country.
2. The equipment is in compliance with the national standards of the certain country.

**Abbreviations used in the report:**

|                                      |             |                            |              |
|--------------------------------------|-------------|----------------------------|--------------|
| - normal conditions                  | <b>N.C.</b> | - single fault conditions  | <b>S.F.C</b> |
| - functional insulation              | <b>OP</b>   | - basic insulation         | <b>BI</b>    |
| - double insulation                  | <b>DI</b>   | - supplementary insulation | <b>SI</b>    |
| - between parts of opposite polarity | <b>BOP</b>  | - reinforced insulation    | <b>RI</b>    |

**Indicate used abbreviations (if any)**



| IEC 60950-1 |                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |
|-------------|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Clause      | Requirement + Test                                     | Result - Remark                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Verdict  |
| <b>1</b>    | <b>GENERAL</b>                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>P</b> |
| <b>1.5</b>  | <b>Components</b>                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>P</b> |
| 1.5.1       | General                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | P        |
|             | Comply with IEC 60950-1 or relevant component standard | (see appended table 1.5.1)                                                                                                                                                                                                                                                                                                                                                                                                                                                               | P        |
| 1.5.2       | Evaluation and testing of components                   | <p>Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard.</p> <p>Components not certified are used in accordance with their ratings and they comply with applicable parts of IEC 60950-1 and the relevant component standard.</p> <p>Components, for which no relevant IEC-standard exists, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 60950-1.</p> | P        |

|            |                                                        |                            |          |
|------------|--------------------------------------------------------|----------------------------|----------|
| <b>4</b>   | <b>PHYSICAL REQUIREMENTS</b>                           |                            | <b>P</b> |
| <b>4.3</b> | <b>Design and construction</b>                         |                            | <b>P</b> |
| 4.3.8      | Batteries                                              | (see appended table 4.3.8) | P        |
|            | - Overcharging of a rechargeable battery               |                            | N/A      |
|            | - Unintentional charging of a non-rechargeable battery |                            | P        |
|            | - Reverse charging of a rechargeable battery           |                            | N/A      |
|            | - Excessive discharging rate for any battery           |                            | P        |

| IEC 60950-1 |                    |                 |         |
|-------------|--------------------|-----------------|---------|
| Clause      | Requirement + Test | Result - Remark | Verdict |

| 1.5.1                          | TABLE: List of critical components         |                               |                                                                                                                              |                              |                                            | P |
|--------------------------------|--------------------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------------------------------------|---|
| Object/part No.                | Manufacturer/<br>trademark                 | Type/model                    | Technical data                                                                                                               | Standard (Edition<br>/ year) | Mark(s) of<br>conformity <sup>1</sup><br>) |   |
| Power cord set                 | Longwell                                   | LP-34A<br>H05VV-F<br>LS-60    | 16 A, 250 V~<br>3 x 0.75 mm <sup>2</sup><br>10 A, 250 V~                                                                     | EN 60779                     | FIMKO                                      |   |
| SMPS                           | DELTA<br>ELECTRONICS<br>INC                | DPS-280AB-6 A                 | Input:<br>AC 100-240V~,<br>6.0-3.0 A, 47-63<br>Hz<br>DC output:<br>+12 V, 6 A (Max.) /<br>+55 V, 4 A (Max.)                  | IEC 60950-1                  | TUV-RH                                     |   |
| DC Fan<br>(SMPS)               | Delta<br>Electronics, Inc                  | TAA0412BD                     | DC 12 V, 0.36 A<br>N: 11000 r/min<br>m: 0.01 kg<br>r: 16 mm<br>a): 0.811                                                     | IEC 60950-1                  | Tested in<br>equipment                     |   |
| Hard Disk<br>Drive x 4 ea      | Western Digital<br><br>or equivalent       | WD10PURX<br><br>or equivalent | 5 V d.c., 0.70 A,<br>12 V d.c., 0.55 A<br>or equivalent                                                                      | IEC 60950-1                  | TUV<br>NORD                                |   |
| DC Fan<br>(for Unit)           | Nidec                                      | U60T12MHA7-<br>52             | 12 V d.c., 0.09 A<br>N: 3200 r/min<br>m: 0.04 kg<br>r: 28 mm<br>a): 0.294                                                    | EN 60950-1<br>UL 507         | TUV SUD<br>UL<br>(E91997)                  |   |
| Metal<br>Enclosure<br>(Top)    | Interchangeable                            | Interchangeable               | Steel,Min. 0.8 mm<br>thick.                                                                                                  | IEC 60950-1                  | Tested in<br>equipment                     |   |
| Metal<br>Enclosure<br>(Bottom) | Interchangeable                            | Interchangeable               | Steel,Min. 0.8 mm<br>thick.                                                                                                  | IEC 60950-1                  | Tested in<br>equipment                     |   |
| Front<br>enclosure             | Samsung SDI Co<br>Ltd                      | TH-1100(+)                    | V-0, 80 °C<br>Min. 2.3 mm<br>thickness                                                                                       | IEC 60695-11-10<br>UL 94     | UL                                         |   |
| Lithium<br>Battery             | SHENZHEN<br>GAONENGDA<br>BATTERY CO<br>LTD | CR2032                        | 3.0 Vdc. Max<br>Abnormal<br>Charging Current:<br>10 mA, Protect by<br>Diode and one<br>resistor (rated 1<br>Kohm) in series. | UL 1642                      | UL<br>(MH30114)                            |   |

| IEC 60950-1                                                                                                                                  |                                   |                   |                                                                                                                                           |                                    |                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------------------------------------------|
| Clause                                                                                                                                       | Requirement + Test                |                   | Result - Remark                                                                                                                           |                                    | Verdict                                    |
| Object/part No.                                                                                                                              | Manufacturer/<br>trademark        | Type/model        | Technical data                                                                                                                            | Standard (Edition<br>/ year)       | Mark(s) of<br>conformity <sup>1</sup><br>) |
| <b>(alternate)</b>                                                                                                                           | <b>Interchangeable</b>            | <b>CR2032</b>     | <b>3.0 Vdc. Max<br/>Abnormal<br/>Charging Current:<br/>10 mA, Protect by<br/>Diode and one<br/>resistor (rated 1<br/>Kohm) in series.</b> | <b>UL 1642</b>                     | <b>UL</b>                                  |
| Power<br>Distribution<br>Switch(U11,<br>U12) for USB<br>ports                                                                                | TEXAS<br>INSTRUMENTS<br>INC       | TPS2062           | Voltage Range:<br>2.7-5.5 V d.c.,<br>Maximum<br>Continuous<br>Current: 1 A,<br>Protective Current:<br>5 A                                 | IEC 60950-1<br><br>UL Subject 2367 | NEMKO<br>(NO59537)<br>UL                   |
| Poly<br>switch(F1) for<br>VGA port                                                                                                           | POLYTRONICS<br>TECHNOLOGY<br>CORP | SMD1812P110T<br>F | 8 V d.c., I <sub>h</sub> = 1.1 A                                                                                                          | IEC 60730-1                        | TUV-RH                                     |
| Internal Plastic<br>Part Materials<br>(HDD bracket)                                                                                          | Interchangeable                   | Interchangeable   | Min. 2.3 mm thick,<br>rated Min. V-2, 80<br>°C                                                                                            | IEC 60695-11-10<br>UL 94           | UL                                         |
| PCB                                                                                                                                          | Interchangeable                   | Interchangeable   | Min. V-0, 130 °C<br>Min. 1.7 mm<br>thickness.                                                                                             | UL 796                             | UL                                         |
| supplementary information:                                                                                                                   |                                   |                   |                                                                                                                                           |                                    |                                            |
| <sup>1)</sup> Provided evidence ensures the agreed level of compliance. See OD-CB2039.<br><b>Bolds are adding or alternative components.</b> |                                   |                   |                                                                                                                                           |                                    |                                            |

| IEC 60950-1 |                    |                 |         |
|-------------|--------------------|-----------------|---------|
| Clause      | Requirement + Test | Result - Remark | Verdict |

|                                                                                       |                            |               |                         |                        |                                                                      |               |               |                   |               |
|---------------------------------------------------------------------------------------|----------------------------|---------------|-------------------------|------------------------|----------------------------------------------------------------------|---------------|---------------|-------------------|---------------|
| 4.3.8                                                                                 | TABLE: Batteries           |               |                         |                        |                                                                      |               |               |                   | P             |
| The tests of 4.3.8 are applicable only when appropriate battery data is not available |                            |               |                         |                        | Appropriate battery data is available.<br>(see appended table 1.5.1) |               |               |                   | P             |
| Is it possible to install the battery in a reverse polarity position?                 |                            |               |                         |                        | No                                                                   |               |               |                   | N/A           |
|                                                                                       | Non-rechargeable batteries |               |                         | Rechargeable batteries |                                                                      |               |               |                   |               |
|                                                                                       | Discharging                |               | Un-intentional charging | Charging               |                                                                      | Discharging   |               | Reversed charging |               |
|                                                                                       | Meas. current              | Manuf. Specs. |                         | Meas. current          | Manuf. Specs.                                                        | Meas. current | Manuf. Specs. | Meas. current     | Manuf. Specs. |
| Max. current during normal condition                                                  | 0 mA                       | 10 mA         | N/A                     | N/A                    | N/A                                                                  | N/A           | N/A           | N/A               | N/A           |
| Max. current during fault condition                                                   | 3 mA <sup>1)</sup>         | 10 mA         | N/A                     | N/A                    | N/A                                                                  | N/A           | N/A           | N/A               | N/A           |
|                                                                                       |                            |               |                         |                        |                                                                      |               |               |                   |               |
| Test results:                                                                         |                            |               |                         |                        |                                                                      |               |               |                   | Verdict       |
| - Chemical leaks                                                                      |                            |               |                         |                        | No chemical leaks occurred.                                          |               |               |                   | P             |
| - Explosion of the battery                                                            |                            |               |                         |                        | No explosion occurred.                                               |               |               |                   | P             |
| - Emission of flame or expulsion of molten metal                                      |                            |               |                         |                        | No emission of flame or expulsion of molten metal.                   |               |               |                   | P             |
| - Electric strength tests of equipment after completion of tests                      |                            |               |                         |                        | No breakdown.                                                        |               |               |                   | P             |
| supplementary information:                                                            |                            |               |                         |                        |                                                                      |               |               |                   |               |
| <sup>1)</sup> Fault condition 1 : D57 short                                           |                            |               |                         |                        |                                                                      |               |               |                   |               |

|                                                                            |                  |   |
|----------------------------------------------------------------------------|------------------|---|
| 4.3.8                                                                      | TABLE: Batteries | P |
| Battery category .....: lithium/manganese dioxide coin cells               |                  |   |
| Manufacturer.....: (see appended table 1.5.1)                              |                  |   |
| Type / model.....: (see appended table 1.5.1)                              |                  |   |
| Voltage.....: (see appended table 1.5.1)                                   |                  |   |
| Capacity.....: (see appended table 1.5.1)                                  |                  |   |
| Tested and Certified by (incl. Ref. No.) .....: (see appended table 1.5.1) |                  |   |
| Circuit protection diagram:                                                |                  |   |



| IEC 60950-1 |                    |                 |         |
|-------------|--------------------|-----------------|---------|
| Clause      | Requirement + Test | Result - Remark | Verdict |

**List of test equipment used:**

A completed list of used test equipment shall be provided in the Test Reports when a Manufacturer Testing Laboratory according to TMP/CTF stage 1 or WMT/CTF stage 2 procedure has been used.

| Clause                                                                                                    | Measurement / testing | Testing / measuring equipment / material used | Range used | Calibration date |
|-----------------------------------------------------------------------------------------------------------|-----------------------|-----------------------------------------------|------------|------------------|
|                                                                                                           |                       |                                               |            |                  |
| Supplementary information:<br>No listing of test equipment used necessary for chosen CBTL test procedure. |                       |                                               |            |                  |

## Attachment - Photograph

### Internal View



**Attachment - Photograph****Main board top view****Main board bottom view**