

IEC**IECEE**
CB
SCHEME

Ref. Certif. No.

DE 2-007202

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 OCProduct
Produit

Open Frame Power Supply

Name and address of the applicant
Nom et adresse du demandeurXpiQ Inc.
260 Hopping Brook Road
Holliston, MA 01746, USAName and address of the manufacturer
Nom et adresse du fabricantXpiQ Inc.
260 Hopping Brook Road
Holliston, MA 01746, USAName and address of the factory
Nom et adresse de l'usineFu Hsing Park, Fu Hsing Hsiang
Chang Hua Hsien 506, TaiwanRating and principal characteristics
Valeurs nominales et caractéristiques principales1) AC 100-240V; 47-63Hz; 1.2A; 40W; Class I (for XX = 40);
2) AC 100-240V; 47-63Hz; 1.4A; 60W; Class I (for XX = 60);
for output ratings refer to test report pages 3 to 12Trade mark (if any)
Marque de fabrique (si elle existe)

XPIQ

Model/type Ref.
Ref. de typeACSXXUSYYY
(XX = 40 or 60 to denote the output power; YYY = 03, 05, 09,
12, 15, 24, 36, 48, 034-049, 051-089, 091-119, 121-149,
151-239, 241-359 or 361-479 to denote the output voltage)Additional information (if necessary)
Information complémentaire (si nécessaire)Models differ in model name, input rated current, output
ratings, main transformer and SELV components only.**PUBLICATION****EDITION**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 laIEC 60950-1:2001
for national deviations see test reportAs 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 Certificat

21113769 001

This CB Test Certificate is issued by the National Certification Body
Ce Certificat d'essai OC est établi par l'Organisme National de Certification

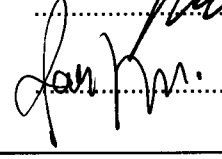
TÜV Rheinland Group

TÜV Rheinland Product Safety GmbH
Am Grauen Stein · D-51105 Köln
Phone + 49 221 806-1400
Fax + 49 221 806-2095
Mail: cert-validity@de.tuv.com
Web: www.tuv.com

Date: 03.06.2004

Signature:

Dipl.-Ing. Harald Beck

TEST REPORT IEC 60950-1 and/or EN 60950-1 Information technology equipment – Safety – Part 1: General requirements	
Report reference No .	: <21113769 001>
Tested by (printed name and signature)	: F. Stöelzel 
Approved by (printed name and signature)	: Ralf Knapp 
Date of issue	: May 24, 2004
Testing Laboratory Name	: TÜV Rheinland Product Safety GmbH
Address	: Am Grauen Stein, Konstantin Wille-Str. 1, Cologne, Germany
Testing location	: CBTL ☒ CCATL ☐ SMT ☐ TMP ☐
Address	: Same as above.
Applicant's Name	: XPiQ Inc.
Address	: 260 Hopping Brook Road, Holliston, MA01746, U.S.A.
Test specification	
Standard	: IEC 60950-1:2001 EN 60950-1:2001 K60950
Test procedure	: CB-scheme
Non-standard test method	: N.A.
Test Report Form No.	: IECEN60950_1B
TRF originator .	: SGS Fimko Ltd
Master TRF	: dated 2003-03
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Test item description	: Open Frame Power Supply
Trademark	: XPiQ trademark
Model and/or type reference	: ACSXXUSYYY (XX=40, 60; YYY=03, 05, 09, 12, 15, 24, 36, 48, 034-049, 051-089, 091-119, 121-149, 151-239, 241-359, or 361-479)
Serial number	: Test samples without serial numbers
Rating(s)	: i/p: AC 100-240V, 47-63Hz, 1.2A for 40W (XX=40) AC 100-240V, 47-63Hz, 1.4A for 60W (XX=60) o/p: See next pages 3-12.

Particulars: test item vs. test requirements

Equipment mobility: Building-in
 Operating condition: Continuous
 Mains supply tolerance (%): -10%, +10%
 Tested for IT power systems: Yes (for Norway)
 IT testing, phase-phase voltage (V): IT, 230V (for Norway)
 Class of equipment: Class I
 Mass of equipment (kg).....: 130g
 Protection against ingress of water: IPX0

Test case verdicts

Test case does not apply to the test object ..: N/A
 Test item does meet the requirement: P(ass)
 Test item does not meet the requirement: F(ail)

Testing

Date of receipt of test item: May, 2004
 Date(s) of performance of test: May, 2004

General remarks

"This report is not valid as a CB Test Report unless appended to a CB Test Certificate issued by a NCB, in accordance with IEC 60950-1:2001".

This report shall not be reproduced except in full without the written approval of the testing laboratory.

The test results presented in this report relate only to the item(s) tested.

"(see remark #)" refers to a remark appended to the report.

"(see Annex #)" refers to an annex appended to the report.

Throughout this report a point is used as the decimal separator.

Procedure deviation:

Argentina, Australia (see Note below), Austria, Belgium, Denmark, Finland, Germany, Greece, Hungary, Israel, Korea, Malaysia, Netherlands, Norway, Poland, Slovenia, Sweden, Switzerland, United Kingdom, United States of America.

Note:

Australia is not included in the list of the countries according to CB Bulletin 105A (May 2003). However, the modified standard IEC 60950-1:2001 was published as AS/NZS 60950.1:2003. Variations as outlined in Annex ZZ of that national standard were not published yet in the latest CB Bulletin but were appended to the section of national differences of this test report.

Manufacturer:

Same as applicant.

Factory:

No. 8-1 Fu Kung Rd., Fu Hsing Park, Fu Hsing Hsiang,
 Chang Hua Hsien 506, Taiwan

Comments:

The equipment models ACSXXUSYYY are series of switching power supply (open-frame built-in type) for the use in information technology equipment. In model name, "XX" could be 40 or 60 to denote the output power, "YYY" could be 03, 05, 09, 12, 15, 24, 36, 48, 034-049, 051-089, 091-119, 121-149, 151-239, 241-359, or 361-479 to denote the output voltage.

All models are similar to each other except for model name, input rated current, output ratings, main transformer and SELV components only.

Unless otherwise specified, all tests were performed on models ACS60US049, ACS60US059, ACS60US075, ACS60US169, ACS60US170, ACS60US329, ACS60US330 and ACS60US48 to represent the other similar models.

Other remarks:

The manufacturer specified maximum ambient temperature as +50°C.

For model ACS60USYYY series					
Model:	DC output rating	Model:	DC output rating	Model:	DC output rating
ACS60US03	3.3 V/ 8 A	ACS60US040	4.0 V/ 8 A	ACS60US047	4.7 V/ 8 A
ACS60US034	3.4 V/ 8 A	ACS60US041	4.1 V/ 8 A	ACS60US048	4.8 V/ 8 A
ACS60US035	3.5 V/ 8 A	ACS60US042	4.2 V/ 8 A	ACS60US049	4.9 V/ 8 A
ACS60US036	3.6 V/ 8 A	ACS60US043	4.3 V/ 8 A	ACS60US05	5.0 V/ 8 A
ACS60US037	3.7 V/ 8 A	ACS60US044	4.4 V/ 8 A	ACS60US051	5.1 V/ 8 A
ACS60US038	3.8 V/ 8 A	ACS60US045	4.5 V/ 8 A	ACS60US052	5.2 V/ 8 A
ACS60US039	3.9 V/ 8 A	ACS60US046	4.6 V/ 8 A	ACS60US053	5.3 V/ 8 A
ACS60US054	5.4 V/ 8 A	ACS60US061	6.1 V/ 8 A	ACS60US068	6.8 V/ 8 A
ACS60US055	5.5 V/ 8 A	ACS60US062	6.2 V/ 8 A	ACS60US069	6.9 V/ 8 A
ACS60US056	5.6 V/ 8 A	ACS60US063	6.3 V/ 8 A	ACS60US070	7.0 V/ 8 A
ACS60US057	5.7 V/ 8 A	ACS60US064	6.4 V/ 8 A	ACS60US071	7.1 V/ 8 A
ACS60US058	5.8 V/ 8 A	ACS60US065	6.5 V/ 8 A	ACS60US072	7.2 V/ 8 A
ACS60US059	5.9 V/ 8 A	ACS60US066	6.6 V/ 8 A	ACS60US073	7.3 V/ 8 A
ACS60US060	6.0 V/ 8 A	ACS60US067	6.7 V/ 8 A	ACS60US074	7.4 V/ 8 A
ACS60US075	7.5 V/ 8 A	ACS60US082	8.2 V/ 7.32 A	ACS60US089	8.9 V/ 6.74 A
ACS60US076	7.6 V/ 7.89 A	ACS60US083	8.3 V/ 7.23 A	ACS60US09	9.0 V/ 6.67 A
ACS60US077	7.7 V/ 7.79 A	ACS60US084	8.4 V/ 7.14 A	ACS60US091	9.1 V/ 6.59 A
ACS60US078	7.8 V/ 7.69 A	ACS60US085	8.5 V/ 7.06 A	ACS60US092	9.2 V/ 6.52 A
ACS60US079	7.9 V/ 7.59 A	ACS60US086	8.6 V/ 6.98 A	ACS60US093	9.3 V/ 6.45 A
ACS60US080	8.0 V/ 7.5 A	ACS60US087	8.7 V/ 6.9 A	ACS60US094	9.4 V/ 6.38 A
ACS60US081	8.1 V/ 7.41 A	ACS60US088	8.8 V/ 6.82 A	ACS60US095	9.5 V/ 6.32 A
ACS60US096	9.6 V/ 6.25 A	ACS60US103	10.3 V/ 5.83 A	ACS60US110	11 V/ 5.45 A
ACS60US097	9.7 V/ 6.19 A	ACS60US104	10.4 V/ 5.77 A	ACS60US111	11.1 V/ 5.41 A

ACS60US098	9.8 V/ 6.12 A	ACS60US105	10.5 V/ 5.71 A	ACS60US112	11.2 V/ 5.36 A
ACS60US099	9.9 V/ 6.06 A	ACS60US106	10.6 V/ 5.66 A	ACS60US113	11.3 V/ 5.31 A
ACS60US100	10 V/ 6 A	ACS60US107	10.7 V/ 5.61 A	ACS60US114	11.4 V/ 5.26 A
ACS60US101	10.1 V/ 5.94 A	ACS60US108	10.8 V/ 5.56 A	ACS60US115	11.5 V/ 5.22 A
ACS60US102	10.2 V/ 5.88 A	ACS60US109	10.9 V/ 5.5 A	ACS60US116	11.6 V/ 5.17 A
ACS60US117	11.7 V/ 5.13 A	ACS60US124	12.4 V/ 4.84 A	ACS60US131	13.1 V/ 4.58 A
ACS60US118	11.8 V/ 5.08 A	ACS60US125	12.5 V/ 4.8 A	ACS60US132	13.2 V/ 4.55 A
ACS60US119	11.9 V/ 5.04 A	ACS60US126	12.6 V/ 4.76 A	ACS60US133	13.3 V/ 4.51 A
ACS60US12	12 V/ 5 A	ACS60US127	12.7 V/ 4.72 A	ACS60US134	13.4 V/ 4.48 A
ACS60US121	12.1 V/ 4.96 A	ACS60US128	12.8 V/ 4.69 A	ACS60US135	13.5 V/ 4.44 A
ACS60US122	12.2 V/ 4.92 A	ACS60US129	12.9 V/ 4.65 A	ACS60US136	13.6 V/ 4.41 A
ACS60US123	12.3 V/ 4.88 A	ACS60US130	13 V/ 4.62 A	ACS60US137	13.7 V/ 4.38 A
ACS60US138	13.8 V/ 4.35 A	ACS60US145	14.5 V/ 4.14 A	ACS60US152	15.2 V/ 3.95 A
ACS60US139	13.9 V/ 4.32 A	ACS60US146	14.6 V/ 4.11 A	ACS60US153	15.3 V/ 3.92 A
ACS60US140	14 V/ 4.29 A	ACS60US147	14.7 V/ 4.08 A	ACS60US154	15.4 V/ 3.9 A
ACS60US141	14.1 V/ 4.26 A	ACS60US148	14.8 V/ 4.05 A	ACS60US155	15.5 V/ 3.87 A
ACS60US142	14.2 V/ 4.23 A	ACS60US149	14.9V/ 4.03 A	ACS60US156	15.6 V/ 3.85 A
ACS60US143	14.3 V/ 4.2 A	ACS60US15	15 V/ 4 A	ACS60US157	15.7 V/ 3.82 A
ACS60US144	14.4 V/ 4.17 A	ACS60US151	15.1 V/ 3.97 A	ACS60US158	15.8 V/ 3.8 A
ACS60US159	15.9 V/ 3.77 A	ACS60US166	16.6 V/ 3.61 A	ACS60US173	17.3 V/ 3.47 A
ACS60US160	16 V/ 3.75 A	ACS60US167	16.7 V/ 3.59 A	ACS60US174	17.4 V/ 3.45 A
ACS60US161	16.1 V/ 3.73 A	ACS60US168	16.8 V/ 3.57 A	ACS60US175	17.5 V/ 3.43 A
ACS60US162	16.2 V/ 3.7 A	ACS60US169	16.9 V/ 3.55 A	ACS60US176	17.6 V/ 3.41 A
ACS60US163	16.3 V/ 3.68 A	ACS60US170	17 V/ 3.53 A	ACS60US177	17.7 V/ 3.39 A
ACS60US164	16.4 V/ 3.66 A	ACS60US171	17.1 V/ 3.51 A	ACS60US178	17.8 V/ 3.37 A
ACS60US165	16.5 V/ 3.64 A	ACS60US172	17.2 V/ 3.49 A	ACS60US179	17.9 V/ 3.35 A
ACS60US180	18 V/ 3.33 A	ACS60US187	18.7 V/ 3.21 A	ACS60US194	19.4 V/ 3.09 A
ACS60US181	18.1 V/ 3.32 A	ACS60US188	18.8 V/ 3.19 A	ACS60US195	19.5 V/ 3.08 A
ACS60US182	18.2 V/ 3.3 A	ACS60US189	18.9 V/ 3.17 A	ACS60US196	19.6 V/ 3.06 A
ACS60US183	18.3 V/ 3.28 A	ACS60US190	19 V/ 3.16 A	ACS60US197	19.7 V/ 3.05 A
ACS60US184	18.4 V/ 3.26 A	ACS60US191	19.1 V/ 3.14 A	ACS60US198	19.8 V/ 3.03 A
ACS60US185	18.5 V/ 3.24 A	ACS60US192	19.2 V/ 3.13 A	ACS60US199	19.9 V/ 3.02 A
ACS60US186	18.6 V/ 3.23 A	ACS60US193	19.3 V/ 3.11 A	ACS60US200	20 V/ 3 A
ACS60US201	20.1 V/ 2.99 A	ACS60US208	20.8 V/ 2.88 A	ACS60US215	21.5 V/ 2.79 A

ACS60US202	20.2 V/ 2.97 A	ACS60US209	20.9 V/ 2.87 A	ACS60US216	21.6 V/ 2.78 A
ACS60US203	20.3 V/ 2.96 A	ACS60US210	21 V/ 2.86 A	ACS60US217	21.7 V/ 2.76 A
ACS60US204	20.4 V/ 2.94 A	ACS60US211	21.1 V/ 2.84 A	ACS60US218	21.8 V/ 2.75 A
ACS60US205	20.5 V/ 2.93 A	ACS60US212	21.2 V/ 2.83 A	ACS60US219	21.9 V/ 2.74 A
ACS60US206	20.6 V/ 2.91 A	ACS60US213	21.3 V/ 2.82 A	ACS60US220	22 V/ 2.73 A
ACS60US207	20.7 V/ 2.9 A	ACS60US214	21.4 V/ 2.8 A	ACS60US221	22.1 V/ 2.71 A
ACS60US222	22.2 V/ 2.7 A	ACS60US229	22.9 V/ 2.62 A	ACS60US236	23.6 V/ 2.54 A
ACS60US223	22.3 V/ 2.69 A	ACS60US230	23 V/ 2.61 A	ACS60US237	23.7 V/ 2.53 A
ACS60US224	22.4 V/ 2.68 A	ACS60US231	23.1 V/ 2.6 A	ACS60US238	23.8 V/ 2.52 A
ACS60US225	22.5 V/ 2.67 A	ACS60US232	23.2 V/ 2.59 A	ACS60US239	23.9 V/ 2.51 A
ACS60US226	22.6 V/ 2.65 A	ACS60US233	23.3 V/ 2.58 A	ACS60US24	24 V/ 2.5 A
ACS60US227	22.7 V/ 2.64 A	ACS60US234	23.4 V/ 2.56 A	ACS60US241	24.1 V/ 2.49 A
ACS60US228	22.8 V/ 2.63 A	ACS60US235	23.5 V/ 2.55 A	ACS60US242	24.2 V/ 2.48 A
ACS60US243	24.3 V/ 2.47 A	ACS60US250	25 V/ 2.4 A	ACS60US257	25.7 V/ 2.33 A
ACS60US244	24.4 V/ 2.46 A	ACS60US251	25.1 V/ 2.39 A	ACS60US258	25.8 V/ 2.33 A
ACS60US245	24.5 V/ 2.45 A	ACS60US252	25.2 V/ 2.38 A	ACS60US259	25.9 V/ 2.32 A
ACS60US246	24.6 V/ 2.44 A	ACS60US253	25.3 V/ 2.37 A	ACS60US260	26 V/ 2.31 A
ACS60US247	24.7 V/ 2.43 A	ACS60US254	25.4 V/ 2.36 A	ACS60US261	26.1 V/ 2.3 A
ACS60US248	24.8 V/ 2.42 A	ACS60US255	25.5 V/ 2.35 A	ACS60US262	26.2 V/ 2.29 A
ACS60US249	24.9 V/ 2.41 A	ACS60US256	25.6 V/ 2.34 A	ACS60US263	26.3 V/ 2.28 A
ACS60US264	26.4 V/ 2.27 A	ACS60US271	27.1 V/ 2.21 A	ACS60US278	27.8 V/ 2.16 A
ACS60US265	26.5 V/ 2.26 A	ACS60US272	27.2 V/ 2.21 A	ACS60US279	27.9 V/ 2.15 A
ACS60US266	26.6 V/ 2.26 A	ACS60US273	27.3 V/ 2.2 A	ACS60US280	28 V/ 2.14 A
ACS60US267	26.7 V/ 2.25 A	ACS60US274	27.4 V/ 2.19 A	ACS60US281	28.1 V/ 2.14 A
ACS60US268	26.8 V/ 2.24 A	ACS60US275	27.5 V/ 2.18 A	ACS60US282	28.2 V/ 2.13 A
ACS60US269	26.9 V/ 2.23 A	ACS60US276	27.6 V/ 2.17 A	ACS60US283	28.3 V/ 2.12 A
ACS60US270	27 V/ 2.22 A	ACS60US277	27.7 V/ 2.17 A	ACS60US284	28.4 V/ 2.11 A
ACS60US285	28.5 V/ 2.11 A	ACS60US292	29.2 V/ 2.05 A	ACS60US299	29.9 V/ 2.01 A
ACS60US286	28.6 V/ 2.1 A	ACS60US293	29.3 V/ 2.05 A	ACS60US300	30 V/ 2 A
ACS60US287	28.7 V/ 2.09 A	ACS60US294	29.4 V/ 2.04 A	ACS60US301	30.1 V/ 1.99 A
ACS60US288	28.8 V/ 2.08 A	ACS60US295	29.5 V/ 2.03 A	ACS60US302	30.2 V/ 1.99 A
ACS60US289	28.9 V/ 2.08 A	ACS60US296	29.6 V/ 2.03 A	ACS60US303	30.3 V/ 1.98 A
ACS60US290	29 V/ 2.07 A	ACS60US297	29.7 V/ 2.02 A	ACS60US304	30.4 V/ 1.97 A
ACS60US291	29.1 V/ 2.06 A	ACS60US298	29.8 V/ 2.01 A	ACS60US305	30.5 V/ 1.97 A
ACS60US306	30.6 V/ 1.96 A	ACS60US313	31.3 V/ 1.92 A	ACS60US320	32 V/ 1.88 A
ACS60US307	30.7 V/ 1.95 A	ACS60US314	31.4 V/ 1.91 A	ACS60US321	32.1 V/ 1.87 A

ACS60US308	30.8 V/ 1.95 A	ACS60US315	31.5 V/ 1.9 A	ACS60US322	32.2 V/ 1.86 A
ACS60US309	30.9 V/ 1.94 A	ACS60US316	31.6 V/ 1.9 A	ACS60US323	32.3 V/ 1.86 A
ACS60US310	31 V/ 1.94 A	ACS60US317	31.7 V/ 1.89 A	ACS60US324	32.4 V/ 1.85 A
ACS60US311	31.1 V/ 1.93 A	ACS60US318	31.8 V/ 1.89 A	ACS60US325	32.5 V/ 1.85 A
ACS60US312	31.2 V/ 1.92 A	ACS60US319	31.9 V/ 1.88 A	ACS60US326	32.6 V/ 1.84 A
ACS60US327	32.7 V/ 1.83A	ACS60US334	33.4 V/ 1.8 A	ACS60US341	34.1 V/ 1.76 A
ACS60US328	32.8 V/ 1.83 A	ACS60US335	33.5 V/ 1.79 A	ACS60US342	34.2 V/ 1.75 A
ACS60US329	32.9 V/ 1.82 A	ACS60US336	33.6 V/ 1.79 A	ACS60US343	34.3 V/ 1.75 A
ACS60US330	33 V/ 1.82 A	ACS60US337	33.7 V/ 1.78 A	ACS60US344	34.4 V/ 1.74 A
ACS60US331	33.1 V/ 1.81 A	ACS60US338	33.8 V/ 1.78 A	ACS60US345	34.5 V/ 1.74 A
ACS60US332	33.2 V/ 1.81 A	ACS60US339	33.9 V/ 1.77 A	ACS60US346	34.6 V/ 1.73 A
ACS60US333	33.3 V/ 1.8 A	ACS60US340	34 V/ 1.76 A	ACS60US347	34.7 V/ 1.73 A
ACS60US348	34.8 V/ 1.72 A	ACS60US355	35.5 V/ 1.69 A	ACS60US362	36.2 V/ 1.66 A
ACS60US349	34.9 V/ 1.72 A	ACS60US356	35.6 V/ 1.69 A	ACS60US363	36.3 V/ 1.65 A
ACS60US350	35 V/ 1.71 A	ACS60US357	35.7 V/ 1.68 A	ACS60US364	36.4 V/ 1.65 A
ACS60US351	35.1 V/ 1.71 A	ACS60US358	35.8 V/ 1.68 A	ACS60US365	36.5 V/ 1.64 A
ACS60US352	35.2 V/ 1.7 A	ACS60US359	35.9 V/ 1.67 A	ACS60US366	36.6 V/ 1.64 A
ACS60US353	35.3 V/ 1.7 A	ACS60US36	36 V/ 1.67 A	ACS60US367	36.7 V/ 1.63 A
ACS60US354	35.4 V/ 1.69 A	ACS60US361	36.1 V/ 1.66 A	ACS60US368	36.8 V/ 1.63 A
ACS60US369	36.9 V/ 1.63A	ACS60US376	37.6 V/ 1.6 A	ACS60US383	38.3 V/ 1.57 A
ACS60US370	37 V/ 1.62 A	ACS60US377	37.7 V/ 1.59 A	ACS60US384	38.4 V/ 1.56 A
ACS60US370	37.1 V/ 1.62 A	ACS60US378	37.8 V/ 1.59 A	ACS60US385	38.5 V/ 1.56 A
ACS60US372	37.2 V/ 1.61 A	ACS60US379	37.9 V/ 1.58 A	ACS60US386	38.6 V/ 1.55 A
ACS60US373	37.3 V/ 1.61 A	ACS60US380	38 V/ 1.58 A	ACS60US387	38.7 V/ 1.55 A
ACS60US374	37.4 V/ 1.6 A	ACS60US381	38.1 V/ 1.57 A	ACS60US388	38.8 V/ 1.55 A
ACS60US375	37.5 V/ 1.6 A	ACS60US382	38.2 V/ 1.57 A	ACS60US389	38.9 V/ 1.54 A
ACS60US390	39 V/ 1.54 A	ACS60US397	39.7 V/ 1.51 A	ACS60US404	40.4 V/ 1.49 A
ACS60US391	39.1 V/ 1.53 A	ACS60US398	39.8 V/ 1.51 A	ACS60US405	40.5 V/ 1.48 A
ACS60US392	39.2 V/ 1.53 A	ACS60US399	39.9 V/ 1.5 A	ACS60US406	40.6 V/ 1.48 A
ACS60US393	39.3 V/ 1.53 A	ACS60US400	40 V/ 1.5 A	ACS60US407	40.7 V/ 1.47 A
ACS60US394	39.4 V/ 1.52 A	ACS60US401	40.1 V/ 1.5 A	ACS60US408	40.8 V/ 1.47 A
ACS60US395	39.5 V/ 1.52 A	ACS60US402	40.2V/ 1.49 A	ACS60US409	40.9 V/ 1.47 A
ACS60US396	39.6 V/ 1.52 A	ACS60US403	40.3 V/ 1.49 A	ACS60US410	41 V/ 1.46 A
ACS60US411	41.1 V/ 1.46A	ACS60US418	41.8 V/ 1.44 A	ACS60US425	42.5 V/ 1.41 A

ACS60US412	41.2 V/ 1.46 A	ACS60US419	41.9 V/ 1.43 A	ACS60US426	42.6 V/ 1.41 A
ACS60US413	41.3 V/ 1.45 A	ACS60US420	42 V/ 1.43 A	ACS60US427	42.7 V/ 1.41 A
ACS60US414	41.4 V/ 1.45 A	ACS60US421	42.1 V/ 1.43 A	ACS60US428	42.8 V/ 1.4 A
ACS60US415	41.5 V/ 1.45 A	ACS60US422	42.2 V/ 1.42 A	ACS60US429	42.9 V/ 1.4 A
ACS60US416	41.6 V/ 1.44 A	ACS60US423	42.3 V/ 1.42 A	ACS60US430	43 V/ 1.4 A
ACS60US417	41.7 V/ 1.44 A	ACS60US424	42.4 V/ 1.42 A	ACS60US431	43.1 V/ 1.39A
ACS60US432	43.2 V/ 1.39 A	ACS60US439	43.9 V/ 1.37 A	ACS60US446	44.6 V/ 1.35 A
ACS60US433	43.3 V/ 1.39 A	ACS60US440	44 V/ 1.36 A	ACS60US447	44.7 V/ 1.34 A
ACS60US434	43.4 V/ 1.38 A	ACS60US441	44.1 V/ 1.36 A	ACS60US448	44.8 V/ 1.34 A
ACS60US435	43.5 V/ 1.38 A	ACS60US442	44.2 V/ 1.36 A	ACS60US449	44.9 V/ 1.34 A
ACS60US436	43.6 V/ 1.38 A	ACS60US443	44.3 V/ 1.35 A	ACS60US450	45 V/ 1.33 A
ACS60US437	43.7 V/ 1.37 A	ACS60US444	44.4 V/ 1.35 A	ACS60US451	45.1 V/ 1.33 A
ACS60US438	43.8 V/ 1.37 A	ACS60US445	44.5 V/ 1.35 A	ACS60US452	45.2 V/ 1.33 A
ACS60US453	45.3 V/ 1.32A	ACS60US460	46 V/ 1.3 A	ACS60US467	46.7 V/ 1.28 A
ACS60US454	45.4 V/ 1.32 A	ACS60US461	46.1 V/ 1.3 A	ACS60US468	46.8 V/ 1.28 A
ACS60US455	45.5 V/ 1.32 A	ACS60US462	46.2 V/ 1.3 A	ACS60US469	46.9 V/ 1.28 A
ACS60US456	45.6 V/ 1.32 A	ACS60US463	46.3 V/ 1.3 A	ACS60US470	47 V/ 1.28 A
ACS60US457	45.7 V/ 1.31 A	ACS60US464	46.4 V/ 1.29 A	ACS60US471	47.1 V/ 1.27 A
ACS60US458	45.8 V/ 1.31 A	ACS60US465	46.5 V/ 1.29 A	ACS60US472	47.2 V/ 1.27 A
ACS60US459	45.9 V/ 1.31 A	ACS60US466	46.6 V/ 1.29 A	ACS60US473	47.3 V/ 1.27A
ACS60US474	47.4 V/ 1.27 A				
ACS60US475	47.5 V/ 1.26 A				
ACS60US476	47.6 V/ 1.26 A				
ACS60US477	47.7 V/ 1.26 A				
ACS60US478	47.8 V/ 1.26 A				
ACS60US479	47.9 V/ 1.25 A				
ACS60US48	48 V/ 1.25 A				
For model ACS40USYYY series					
Model:	DC output rating	Model:	DC output rating	Model:	DC output rating
ACS40US03	3.3 V/ 6 A	ACS40US040	4.0 V/ 6 A	ACS40US047	4.7 V/ 6 A
ACS40US034	3.4 V/ 6 A	ACS40US041	4.1 V/ 6 A	ACS40US048	4.8 V/ 6 A
ACS40US035	3.5 V/ 6 A	ACS40US042	4.2 V/ 6 A	ACS40US049	4.9 V/ 6 A
ACS40US036	3.6 V/ 6 A	ACS40US043	4.3 V/ 6 A	ACS40US05	5.0 V/ 6 A
ACS40US037	3.7 V/ 6 A	ACS40US044	4.4 V/ 6 A	ACS40US051	5.1 V/ 6 A
ACS40US038	3.8 V/ 6 A	ACS40US045	4.5 V/ 6 A	ACS40US052	5.2 V/ 6 A

ACS40US039	3.9 V/ 6 A	ACS40US046	4.6 V/ 6 A	ACS40US053	5.3 V/ 6 A
ACS40US054	5.4 V/ 6 A	ACS40US061	6.1 V/ 6 A	ACS40US068	6.8 V/ 5.88 A
ACS40US055	5.5 V/ 6 A	ACS40US062	6.2 V/ 6 A	ACS40US069	6.9 V/ 5.8 A
ACS40US056	5.6 V/ 6 A	ACS40US063	6.3 V/ 6 A	ACS40US070	7.0 V/ 5.71 A
ACS40US057	5.7 V/ 6 A	ACS40US064	6.4 V/ 6 A	ACS40US071	7.1 V/ 5.63 A
ACS40US058	5.8 V/ 6 A	ACS40US065	6.5 V/ 6 A	ACS40US072	7.2 V/ 5.56 A
ACS40US059	5.9 V/ 6 A	ACS40US066	6.6 V/ 6 A	ACS40US073	7.3 V/ 5.48 A
ACS40US060	6.0 V/ 6 A	ACS40US067	6.7 V/ 6 A	ACS40US074	7.4 V/ 5.41 A
ACS40US075	7.5 V/ 5.33 A	ACS40US082	8.2 V/ 4.88 A	ACS40US089	8.9 V/ 4.49 A
ACS40US076	7.6 V/ 5.26 A	ACS40US083	8.3 V/ 4.82 A	ACS40US09	9.0 V/ 4.44 A
ACS40US077	7.7 V/ 5.19 A	ACS40US084	8.4 V/ 4.76 A	ACS40US091	9.1 V/ 4.4 A
ACS40US078	7.8 V/ 5.13 A	ACS40US085	8.5 V/ 4.71 A	ACS40US092	9.2 V/ 4.35 A
ACS40US079	7.9 V/ 5.06 A	ACS40US086	8.6 V/ 4.65 A	ACS40US093	9.3 V/ 4.3 A
ACS40US080	8.0 V/ 5 A	ACS40US087	8.7 V/ 4.6 A	ACS40US094	9.4 V/ 4.26 A
ACS40US081	8.1 V/ 4.94 A	ACS40US088	8.8 V/ 4.55 A	ACS40US095	9.5 V/ 4.21 A
ACS40US096	9.6 V/ 4.17 A	ACS40US103	10.3 V/ 3.88 A	ACS40US110	11 V/ 3.64 A
ACS40US097	9.7 V/ 4.12 A	ACS40US104	10.4 V/ 3.85 A	ACS40US111	11.1 V/ 3.6 A
ACS40US098	9.8 V/ 4.08 A	ACS40US105	10.5 V/ 3.81 A	ACS40US112	11.2 V/ 3.57 A
ACS40US099	9.9 V/ 4.04 A	ACS40US106	10.6 V/ 3.77 A	ACS40US113	11.3 V/ 3.54 A
ACS40US100	10 V/ 4 A	ACS40US107	10.7 V/ 3.74 A	ACS40US114	11.4 V/ 3.51 A
ACS40US101	10.1 V/ 3.96 A	ACS40US108	10.8 V/ 3.7 A	ACS40US115	11.5 V/ 3.48 A
ACS40US102	10.2 V/ 3.92 A	ACS40US109	10.9 V/ 3.67 A	ACS40US116	11.6 V/ 3.45 A
ACS40US117	11.7 V/ 3.42 A	ACS40US124	12.4 V/ 3.23 A	ACS40US131	13.1 V/ 3.05 A
ACS40US118	11.8 V/ 3.39 A	ACS40US125	12.5 V/ 3.2 A	ACS40US132	13.2 V/ 3.03 A
ACS40US119	11.9 V/ 3.36 A	ACS40US126	12.6 V/ 3.17 A	ACS40US133	13.3 V/ 3.01 A
ACS40US12	12 V/ 3.33 A	ACS40US127	12.7 V/ 3.15 A	ACS40US134	13.4 V/ 2.99 A
ACS40US121	12.1 V/ 3.31 A	ACS40US128	12.8 V/ 3.13 A	ACS40US135	13.5 V/ 2.96 A
ACS40US122	12.2 V/ 3.28 A	ACS40US129	12.9 V/ 3.1 A	ACS40US136	13.6 V/ 2.94 A
ACS40US123	12.3 V/ 3.25 A	ACS40US130	13 V/ 3.08 A	ACS40US137	13.7 V/ 2.92 A
ACS40US138	13.8 V/ 2.9 A	ACS40US145	14.5 V/ 2.76 A	ACS40US152	15.2 V/ 2.63 A
ACS40US139	13.9 V/ 2.88 A	ACS40US146	14.6 V/ 2.74 A	ACS40US153	15.3 V/ 2.61 A
ACS40US140	14 V/ 2.86 A	ACS40US147	14.7 V/ 2.72 A	ACS40US154	15.4 V/ 2.6 A
ACS40US141	14.1 V/ 2.84 A	ACS40US148	14.8 V/ 2.7 A	ACS40US155	15.5 V/ 2.58 A
ACS40US142	14.2 V/ 2.82 A	ACS40US149	14.9V/ 2.68A	ACS40US156	15.6 V/ 2.56 A
ACS40US143	14.3 V/ 2.8 A	ACS40US15	15 V/ 2.67 A	ACS40US157	15.7 V/ 2.55 A
ACS40US144	14.4 V/ 2.78 A	ACS40US151	15.1 V/ 2.65 A	ACS40US158	15.8 V/ 2.53 A

ACS40US159	15.9 V/ 2.52 A	ACS40US166	16.6 V/ 2.41 A	ACS40US173	17.3 V/ 2.31 A
ACS40US160	16 V/ 2.5 A	ACS40US167	16.7 V/ 2.4 A	ACS40US174	17.4 V/ 2.3 A
ACS40US161	16.1 V/ 2.48 A	ACS40US168	16.8 V/ 2.38 A	ACS40US175	17.5 V/ 2.29 A
ACS40US162	16.2 V/ 2.47 A	ACS40US169	16.9 V/ 2.37 A	ACS40US176	17.6 V/ 2.27 A
ACS40US163	16.3 V/ 2.45 A	ACS40US170	17 V/ 2.35 A	ACS40US177	17.7 V/ 2.26 A
ACS40US164	16.4 V/ 2.44 A	ACS40US171	17.1 V/ 2.34 A	ACS40US178	17.8 V/ 2.25 A
ACS40US165	16.5 V/ 2.42 A	ACS40US172	17.2 V/ 2.33 A	ACS40US179	17.9 V/ 2.23 A
ACS40US180	18 V/ 2.22 A	ACS40US187	18.7 V/ 2.14 A	ACS40US194	19.4 V/ 2.06 A
ACS40US181	18.1 V/ 2.21 A	ACS40US188	18.8 V/ 2.13 A	ACS40US195	19.5 V/ 2.05 A
ACS40US182	18.2 V/ 2.2 A	ACS40US189	18.9 V/ 2.12 A	ACS40US196	19.6 V/ 2.04 A
ACS40US183	18.3 V/ 2.19 A	ACS40US190	19 V/ 2.11 A	ACS40US197	19.7 V/ 2.03 A
ACS40US184	18.4 V/ 2.17 A	ACS40US191	19.1 V/ 2.09 A	ACS40US198	19.8 V/ 2.02 A
ACS40US185	18.5 V/ 2.16 A	ACS40US192	19.2 V/ 2.08 A	ACS40US199	19.9 V/ 2.01 A
ACS40US186	18.6 V/ 2.15 A	ACS40US193	19.3 V/ 2.07 A	ACS40US200	20 V/ 2 A
ACS40US201	20.1 V/ 1.99 A	ACS40US208	20.8 V/ 1.92 A	ACS40US215	21.5 V/ 1.86 A
ACS40US202	20.2 V/ 1.98 A	ACS40US209	20.9 V/ 1.91 A	ACS40US216	21.6 V/ 1.85 A
ACS40US203	20.3 V/ 1.97 A	ACS40US210	21 V/ 1.9 A	ACS40US217	21.7 V/ 1.84 A
ACS40US204	20.4 V/ 1.96 A	ACS40US211	21.1 V/ 1.9 A	ACS40US218	21.8 V/ 1.83 A
ACS40US205	20.5 V/ 1.95 A	ACS40US212	21.2 V/ 1.89 A	ACS40US219	21.9 V/ 1.83 A
ACS40US206	20.6 V/ 1.94 A	ACS40US213	21.3 V/ 1.88 A	ACS40US220	22 V/ 1.82 A
ACS40US207	20.7 V/ 1.93 A	ACS40US214	21.4 V/ 1.87 A	ACS40US221	22.1 V/ 1.81 A
ACS40US222	22.2 V/ 1.8 A	ACS40US229	22.9 V/ 1.75 A	ACS40US236	23.6 V/ 1.69 A
ACS40US223	22.3 V/ 1.79 A	ACS40US230	23 V/ 1.74 A	ACS40US237	23.7 V/ 1.69 A
ACS40US224	22.4 V/ 1.79 A	ACS40US231	23.1 V/ 1.73 A	ACS40US238	23.8 V/ 1.68 A
ACS40US225	22.5 V/ 1.78 A	ACS40US232	23.2 V/ 1.72 A	ACS40US239	23.9 V/ 1.67 A
ACS40US226	22.6 V/ 1.77 A	ACS40US233	23.3 V/ 1.72 A	ACS40US24	24 V/ 1.67 A
ACS40US227	22.7 V/ 1.76 A	ACS40US234	23.4 V/ 1.71 A	ACS40US241	24.1 V/ 1.66 A
ACS40US228	22.8 V/ 1.75 A	ACS40US235	23.5 V/ 1.7 A	ACS40US242	24.2 V/ 1.65 A
ACS40US243	24.3 V/ 1.65 A	ACS40US250	25 V/ 1.6 A	ACS40US257	25.7 V/ 1.56 A
ACS40US244	24.4 V/ 1.64 A	ACS40US251	25.1 V/ 1.59 A	ACS40US258	25.8 V/ 1.55 A
ACS40US245	24.5 V/ 1.63 A	ACS40US252	25.2 V/ 1.59 A	ACS40US259	25.9 V/ 1.55 A
ACS40US246	24.6 V/ 1.63 A	ACS40US253	25.3 V/ 1.58 A	ACS40US260	26 V/ 1.54 A
ACS40US247	24.7 V/ 1.62 A	ACS40US254	25.4 V/ 1.57 A	ACS40US261	26.1 V/ 1.53 A

ACS40US248	24.8 V/ 1.61 A	ACS40US255	25.5 V/ 1.57 A	ACS40US262	26.2 V/ 1.53 A
ACS40US249	24.9 V/ 1.61 A	ACS40US256	25.6 V/ 1.56 A	ACS40US263	26.3 V/ 1.52 A
ACS40US264	26.4 V/ 1.52 A	ACS40US271	27.1 V/ 1.48 A	ACS40US278	27.8 V/ 1.44 A
ACS40US265	26.5 V/ 1.51 A	ACS40US272	27.2 V/ 1.47 A	ACS40US279	27.9 V/ 1.43 A
ACS40US266	26.6 V/ 1.5 A	ACS40US273	27.3 V/ 1.47 A	ACS40US280	28 V/ 1.43 A
ACS40US267	26.7 V/ 1.5 A	ACS40US274	27.4 V/ 1.46 A	ACS40US281	28.1 V/ 1.42 A
ACS40US268	26.8 V/ 1.49 A	ACS40US275	27.5 V/ 1.45 A	ACS40US282	28.2 V/ 1.42 A
ACS40US269	26.9 V/ 1.49 A	ACS40US276	27.6 V/ 1.45 A	ACS40US283	28.3 V/ 1.41 A
ACS40US270	27 V/ 1.48 A	ACS40US277	27.7 V/ 1.44 A	ACS40US284	28.4 V/ 1.41 A
ACS40US285	28.5 V/ 1.4 A	ACS40US292	29.2 V/ 1.37 A	ACS40US299	29.9 V/ 1.34 A
ACS40US286	28.6 V/ 1.4 A	ACS40US293	29.3 V/ 1.37 A	ACS40US300	30 V/ 1.33 A
ACS40US287	28.7 V/ 1.39 A	ACS40US294	29.4 V/ 1.36 A	ACS40US301	30.1 V/ 1.33 A
ACS40US288	28.8 V/ 1.39 A	ACS40US295	29.5 V/ 1.36 A	ACS40US302	30.2 V/ 1.32 A
ACS40US289	28.9 V/ 1.38 A	ACS40US296	29.6 V/ 1.35 A	ACS40US303	30.3 V/ 1.32 A
ACS40US290	29 V/ 1.38 A	ACS40US297	29.7 V/ 1.35 A	ACS40US304	30.4 V/ 1.32 A
ACS40US291	29.1 V/ 1.37 A	ACS40US298	29.8 V/ 1.34 A	ACS40US305	30.5 V/ 1.31 A
ACS40US306	30.6 V/ 1.31 A	ACS40US313	31.3 V/ 1.28 A	ACS40US320	32 V/ 1.25 A
ACS40US307	30.7 V/ 1.3 A	ACS40US314	31.4 V/ 1.27 A	ACS40US321	32.1 V/ 1.25 A
ACS40US308	30.8 V/ 1.3 A	ACS40US315	31.5 V/ 1.27 A	ACS40US322	32.2 V/ 1.24 A
ACS40US309	30.9 V/ 1.29 A	ACS40US316	31.6 V/ 1.27 A	ACS40US323	32.3 V/ 1.24 A
ACS40US310	31 V/ 1.29 A	ACS40US317	31.7 V/ 1.26 A	ACS40US324	32.4 V/ 1.23 A
ACS40US311	31.1 V/ 1.29 A	ACS40US318	31.8 V/ 1.26 A	ACS40US325	32.5 V/ 1.23 A
ACS40US312	31.2 V/ 1.28 A	ACS40US319	31.9 V/ 1.25 A	ACS40US326	32.6 V/ 1.23 A
ACS40US327	32.7 V/ 1.22A	ACS40US334	33.4 V/ 1.2 A	ACS40US341	34.1 V/ 1.17 A
ACS40US328	32.8 V/ 1.22 A	ACS40US335	33.5 V/ 1.19 A	ACS40US342	34.2 V/ 1.17 A
ACS40US329	32.9 V/ 1.22 A	ACS40US336	33.6 V/ 1.19 A	ACS40US343	34.3 V/ 1.17 A
ACS40US330	33 V/ 1.21 A	ACS40US337	33.7 V/ 1.19 A	ACS40US344	34.4 V/ 1.16 A
ACS40US331	33.1 V/ 1.21 A	ACS40US338	33.8 V/ 1.18 A	ACS40US345	34.5 V/ 1.16 A
ACS40US332	33.2 V/ 1.2 A	ACS40US339	33.9 V/ 1.18 A	ACS40US346	34.6 V/ 1.16 A
ACS40US333	33.3 V/ 1.2 A	ACS40US340	34 V/ 1.18 A	ACS40US347	34.7 V/ 1.15 A
ACS40US348	34.8 V/ 1.15 A	ACS40US355	35.5 V/ 1.13 A	ACS40US362	36.2 V/ 1.1 A
ACS40US349	34.9 V/ 1.15 A	ACS40US356	35.6 V/ 1.12 A	ACS40US363	36.3 V/ 1.1 A
ACS40US350	35 V/ 1.14 A	ACS40US357	35.7 V/ 1.12 A	ACS40US364	36.4 V/ 1.1 A
ACS40US351	35.1 V/ 1.14 A	ACS40US358	35.8 V/ 1.12 A	ACS40US365	36.5 V/ 1.1 A
ACS40US352	35.2 V/ 1.14 A	ACS40US359	35.9 V/ 1.11 A	ACS40US366	36.6 V/ 1.09 A
ACS40US353	35.3 V/ 1.13 A	ACS40US36	36 V/ 1.11 A	ACS40US367	36.7 V/ 1.09 A

ACS40US354	35.4 V/ 1.13 A	ACS40US361	36.1 V/ 1.11 A	ACS40US368	36.8 V/ 1.09 A
ACS40US369	36.9 V/ 1.08A	ACS40US376	37.6 V/ 1.06 A	ACS40US383	38.3 V/ 1.04 A
ACS40US370	37 V/ 1.08 A	ACS40US377	37.7 V/ 1.06 A	ACS40US384	38.4 V/ 1.04 A
ACS40US370	37.1 V/ 1.08 A	ACS40US378	37.8 V/ 1.06 A	ACS40US385	38.5 V/ 1.04 A
ACS40US372	37.2 V/ 1.08 A	ACS40US379	37.9 V/ 1.06 A	ACS40US386	38.6 V/ 1.04 A
ACS40US373	37.3 V/ 1.07 A	ACS40US380	38 V/ 1.05 A	ACS40US387	38.7 V/ 1.03 A
ACS40US374	37.4 V/ 1.07A	ACS40US381	38.1 V/ 1.05 A	ACS40US388	38.8 V/ 1.03 A
ACS40US375	37.5 V/ 1.07A	ACS40US382	38.2 V/ 1.05 A	ACS40US389	38.9 V/ 1.03 A
ACS40US390	39 V/ 1.03 A	ACS40US397	39.7 V/ 1.01 A	ACS40US404	40.4 V/ 0.99 A
ACS40US391	39.1 V/ 1.02 A	ACS40US398	39.8 V/ 1.01 A	ACS40US405	40.5 V/ 0.99 A
ACS40US392	39.2 V/ 1.02 A	ACS40US399	39.9 V/ 1 A	ACS40US406	40.6 V/ 0.99 A
ACS40US393	39.3 V/ 1.02 A	ACS40US400	40 V/ 1 A	ACS40US407	40.7 V/ 0.98 A
ACS40US394	39.4 V/ 1.02 A	ACS40US401	40.1 V/ 1 A	ACS40US408	40.8 V/ 0.98 A
ACS40US395	39.5 V/ 1.01 A	ACS40US402	40.2V/ 1 A	ACS40US409	40.9 V/ 0.98 A
ACS40US396	39.6 V/ 1.01 A	ACS40US403	40.3 V/ 0.99 A	ACS40US410	41 V/ 0.98 A
ACS40US411	41.1 V/ 0.97A	ACS40US418	41.8 V/ 0.96 A	ACS40US425	42.5 V/ 0.94 A
ACS40US412	41.2 V/ 0.97 A	ACS40US419	41.9 V/ 0.95 A	ACS40US426	42.6 V/ 0.94 A
ACS40US413	41.3 V/ 0.97 A	ACS40US420	42 V/ 0.95 A	ACS40US427	42.7 V/ 0.94 A
ACS40US414	41.4V/ 0.97 A	ACS40US421	42.1 V/ 0.95 A	ACS40US428	42.8 V/ 0.93 A
ACS40US415	41.5 V/ 0.96 A	ACS40US422	42.2 V/ 0.95 A	ACS40US429	42.9 V/ 0.93 A
ACS40US416	41.6 V/ 0.96 A	ACS40US423	42.3 V/ 0.95 A	ACS40US430	43 V/ 0.93 A
ACS40US417	41.7 V/ 0.96 A	ACS40US424	42.4 V/ 0.94 A	ACS40US431	43.1 V/ 0.93A
ACS40US432	43.2 V/ 0.93 A	ACS40US439	43.9 V/ 0.91 A	ACS40US446	44.6 V/ 0.9 A
ACS40US433	43.3 V/ 0.92 A	ACS40US440	44 V/ 0.91 A	ACS40US447	44.7 V/ 0.89 A
ACS40US434	43.4 V/ 0.92 A	ACS40US441	44.1 V/ 0.91 A	ACS40US448	44.8 V/ 0.89 A
ACS40US435	43.5 V/ 0.92 A	ACS40US442	44.2 V/ 0.9 A	ACS40US449	44.9 V/ 0.89 A
ACS40US436	43.6 V/ 0.92 A	ACS40US443	44.3 V/ 0.9 A	ACS40US450	45 V/ 0.89 A
ACS40US437	43.7 V/ 0.92 A	ACS40US444	44.4 V/ 0.9 A	ACS40US451	45.1 V/ 0.89 A
ACS40US438	43.8 V/ 0.91 A	ACS40US445	44.5 V/ 0.9 A	ACS40US452	45.2 V/ 0.88 A
ACS40US453	45.3 V/ 0.88A	ACS40US460	46 V/ 0.87 A	ACS40US467	46.7 V/ 0.86 A
ACS40US454	45.4 V/ 0.88 A	ACS40US461	46.1 V/ 0.87 A	ACS40US468	46.8 V/ 0.85 A
ACS40US455	45.5 V/ 0.88 A	ACS40US462	46.2 V/ 0.87 A	ACS40US469	46.9 V/ 0.85 A
ACS40US456	45.6 V/ 0.88 A	ACS40US463	46.3 V/ 0.86 A	ACS40US470	47 V/ 0.85 A
ACS40US457	45.7 V/ 0.88 A	ACS40US464	46.4 V/ 0.86 A	ACS40US471	47.1 V/ 0.85 A

ACS40US458	45.8 V/ 0.87 A	ACS40US465	46.5 V/ 0.86 A	ACS40US472	47.2 V/ 0.85 A
ACS40US459	45.9 V/ 0.87 A	ACS40US466	46.6 V/ 0.86 A	ACS40US473	47.3 V/ 0.85A
				ACS40US474	47.4 V/ 0.84 A
				ACS40US475	47.5 V/ 0.84 A
				ACS40US476	47.6 V/ 0.84 A
				ACS40US477	47.7 V/ 0.84 A
				ACS40US478	47.8 V/ 0.84 A
				ACS40US479	47.9 V/ 0.84 A
				ACS40US48	48 V/ 0.83 A

Copy of marking plate(s):





IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
1	GENERAL		P
1.5	Components		P
1.5.1	General	See below.	P
	Comply with IEC 60950 or relevant component standard	Components which were found to affect safety aspects comply with the requirements of this standard or with the safety aspects of the relevant IEC/EN component standards (see appended table 1.5.1).	P
1.5.2	Evaluation and testing of components	Components that are certified to IEC and /or national standards are used correctly within their ratings. Components not covered by IEC standards are tested under the conditions present in the equipment.	P
1.5.3	Thermal controls	No thermal controls.	N
1.5.4	Transformers	Transformers used are suitable for the intended application and comply with the relevant requirements of the standard.	P
1.5.5	Interconnecting cables	No cable provided with the unit. Evaluation shall be made within final system assembly.	N
1.5.6	Capacitors in primary circuits	Between lines: X2 capacitor according to IEC 60384-14:1993 with 21 days damp heat test was used. Between line/neutral and PE: Y2 capacitors according to IEC 60384-14:1993.	P
1.5.7	Double insulation or reinforced insulation bridged by components	See below.	N
1.5.7.1	General		N
1.5.7.2	Bridging capacitors	No bridging capacitors.	N
1.5.7.3	Bridging resistors	No bridging resistors.	N
1.5.7.4	Accessible parts		N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
1.5.8	Components in equipment for IT power systems	Phase to PE designed in according to phase-to-phase working voltage. The Y2 type capacitor used between phase-to-PE are rated accordingly.	P

1.6	Power interface		P
1.6.1	AC power distribution systems	TN power system. IT power system for Norway.	P
1.6.2	Input current	Highest load according to 1.2.2.1 for this equipment is the operation with the maximum specified DC-load. Results see appended table.	P
1.6.3	Voltage limit of hand-held equipment	This appliance is not hand-held equipment.	P
1.6.4	Neutral conductor	The neutral is not identified in the equipment. Basic insulation for rated voltage between earthed parts and primary phases.	P

1.7	Marking and instructions		P
1.7.1	Power rating	See below.	P
	Rated voltage(s) or voltage range(s) (V)	100-240V~	P
	Symbol for nature of supply, for d.c. only.....	AC source	N
	Rated frequency or rated frequency range (Hz) :	47-63Hz	P
	Rated current (mA or A)	1) 1.2A for 40W 2) 1.4A for 60W	P
	Manufacturer's name or trademark or identification mark	XPiQ trade mark	P
	Type/model or type reference	ACSXXUSYYY (XXX=40, 60; YYY=03, 05, 09, 12, 15, 24, 36, 48, 034-049, 051-089, 091-119, 121-149, 151-239, 241-359, or 361-479)	P
	Symbol for Class II equipment only	Class I equipment.	N
	Other symbols	Additional symbols or markings do not give rise to misunderstanding.	P

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	Certification marks	See the copy of marking plate for details.	N
1.7.2	Safety instructions	Installation instruction with directions to maintain the requirements of IEC 60950-1 with installation in end system. Included are directions regarding the maximum output, the maximum ambient temperature and that the requirements of the IEC 60950-1 must be observed with the installation in the final system.	P
1.7.3	Short duty cycles	Equipment is designed for continuous operation.	N
1.7.4	Supply voltage adjustment	Full range voltage design, no necessary adjustment.	N
	Methods and means of adjustment; reference to installation instructions	Ditto.	N
1.7.5	Power outlets on the equipment	No outlets provided.	N
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)	Fuse marking on PCB near fuse F1: T2A/250V	P
1.7.7	Wiring terminals	See below.	N
1.7.7.1	Protective earthing and bonding terminals	Building-in equipment, to be provided and evaluated in the final system.	N
1.7.7.2	Terminal for a.c. mains supply conductors	Use of primary connector.	N
1.7.7.3	Terminals for d.c. mains supply conductors	No d.c. mains supply.	N
1.7.8	Controls and indicators	See below.	N
1.7.8.1	Identification, location and marking	No indicators, switches or other controls affecting safety.	P
1.7.8.2	Colours	Ditto.	N
1.7.8.3	Symbols according to IEC 60417.....	Marked on PCB with symbol No. 5019 of IEC 60417-1	P
1.7.8.4	Markings using figures	Ditto.	N
1.7.9	Isolation of multiple power sources	Only one supply from the mains.	N
1.7.10	IT power distribution systems	It shall be evaluated when submitted for Norway national approval.	N
1.7.11	Thermostats and other regulating devices	No thermostats provided.	N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
1.7.12	Language(s)	Installation instruction and marking rating are in English. Versions in other languages will be provided when national certificate approval.	—
1.7.13	Durability	The labels were subjected to the permanence of marking test. The labels were rubbed with cloth soaked with water for 15 s and then again for 15 s with the cloth soaked with petroleum spirit. After this test there was no damage to the labels. The marking on the labels did not fade. There was no curling or lifting of the label's edges.	P
1.7.14	Removable parts	No removable parts provided.	N
1.7.15	Replaceable batteries	No batteries provided.	N
	Language(s)		—
1.7.16	Operator access with a tool	Compliance has to be evaluated for the final system.	N
1.7.17	Equipment for restricted access locations	Ditto.	N

2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	See below.	N
2.1.1.1	Access to energized parts	The accessibility of hazardous or ELV are prevented with in the final system. The inspection with test pin and test finger should therefore be conducted with the approval of the end system. Installation instruction requires, that the requirements of the IEC 60950-1 must be observed to the installation.	N
	Test by inspection	Ditto.	N
	Test with test finger	Ditto.	N
	Test with test pin	Ditto.	N
	Test with test probe	No TNV.	N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.1.1.2	Battery compartments	No battery compartment.	N
2.1.1.3	Access to ELV wiring	This equipment is for building-in. Compliance shall be investigated in the final system assembly.	N
	Working voltage (V _{peak} or V _{rms}); minimum distance (mm) through insulation	Ditto.	—
2.1.1.4	Access to hazardous voltage circuit wiring	This equipment is for building-in. Compliance shall be investigated in the final system assembly.	N
2.1.1.5	Energy hazards	Energy does not exceed 240VA between two points in o/p connector of secondary circuit. Results see appended table 2.1.1.5.	P
2.1.1.6	Manual controls	No manual controls.	N
2.1.1.7	Discharge of capacitors in equipment	No risk of electric shock, see below.	P
	Time-constant (s); measured voltage (V)	(see appended table 2.1.1.7)	—
2.1.2	Protection in service access areas	This equipment is for building-in. Compliance shall be investigated in the final system assembly.	N
2.1.3	Protection in restricted access locations	Ditto.	N

2.2	SELV circuits		P
2.2.1	General requirements	See below.	P
2.2.2	Voltages under normal conditions (V)	See appended table 2.2.2.	P
2.2.3	Voltages under fault conditions (V)	See appended table 2.2.3.	P
2.2.3.1	Separation by double insulation or reinforced insulation (method 1)	Method 1 used.	P
2.2.3.2	Separation by earthed screen (method 2)		N
2.2.3.3	Protection by earthing of the SELV circuit (method 3)		N
2.2.4	Connection of SELV circuits to other circuits	See 2.2.2 and 2.2.3. No direct connection between SELV and any primary circuits.	P

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.3	TNV circuits		N
2.3.1	Limits		N
	Type of TNV circuits..... :		—
2.3.2	Separation from other circuits and from accessible parts		N
	Insulation employed :		—
2.3.3	Separation from hazardous voltages		N
	Insulation employed :		—
2.3.4	Connection of TNV circuits to other circuits		N
	Insulation employed :		—
2.3.5	Test for operating voltages generated externally		N

2.4	Limited current circuits		N
2.4.1	General requirements		N
2.4.2	Limit values		N
	Frequency (Hz) :		—
	Measured current (mA) :		—
	Measured voltage (V) :		—
	Measured capacitance (μF) :		—
2.4.3	Connection of limited current circuits to other circuits		N

2.5	Limited power sources		N
	Inherently limited output		N
	Impedance limited output		N
	Overcurrent protective device limited output		N
	Regulating network limited output under normal operating and single fault condition		N
	Regulating network limited output under normal operating conditions and overcurrent protective device limited output under single fault condition		N
	Output voltage (V), output current (A), apparent power (VA) :		—
	Current rating of overcurrent protective device (A)		—

2.6	Provisions for earthing and bonding		P
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IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.6.1	Protective earthing	The equipment is for buiding-in. Compliance shall be evaluated within the final system assembly.	N
2.6.2	Functional earthing	Secondary functional earthing is separated from primary by reinforced or double insulation. PCB is provided with a terminal for functional earthing connection. No functional earthing conductor.	P
2.6.3	Protective earthing and protective bonding conductors	The equipment is for buiding-in. Compliance shall be evaluated within the final system assembly. PCB is provided with a terminal for earthing connection.	N
2.6.3.1	General	The equipment is for buiding-in. Compliance shall be evaluated within the final system assembly.	N
2.6.3.2	Size of protective earthing conductors	Ditto.	N
	Rated current (A), cross-sectional area (mm ²), AWG :	Ditto.	—
2.6.3.3	Size of protective bonding conductors	Ditto.	N
	Rated current (A), cross-sectional area (mm ²), AWG :	Ditto.	—
2.6.3.4	Resistance (Ω) of earthing conductors and their terminations, test current (A) :	Ditto.	N
2.6.3.5	Colour of insulation :	Ditto.	N
2.6.4	Terminals	Ditto.	N
2.6.4.1	General	Ditto.	N
2.6.4.2	Protective earthing and bonding terminals	Ditto.	N
	Rated current (A), type and nominal thread diameter (mm) :	Ditto.	—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors	Ditto.	N
2.6.5	Integrity of protective earthing	Ditto.	N
2.6.5.1	Interconnection of equipment	Ditto.	N
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	Ditto.	N
2.6.5.3	Disconnection of protective earth	Ditto.	N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.6.5.4	Parts that can be removed by an operator	Ditto.	N
2.6.5.5	Parts removed during servicing	Ditto.	N
2.6.5.6	Corrosion resistance	All safety earthing connections in compliance with Annex J.	P
2.6.5.7	Screws for protective bonding	Equipment for building-in. To be evaluated during the final system approval.	N
2.6.5.8	Reliance on telecommunication network or cable distribution system	No TNV.	N

2.7	Overcurrent and earth fault protection in primary circuits		P
2.7.1	Basic requirements	Equipment protection relies on final-system assembly. Final evaluation has to be performed after build in of the equipment. However over current protection is provided by the built-in fuse.	P
	Instructions when protection relies on building installation		N
2.7.2	Faults not covered in 5.3		N
2.7.3	Short-circuit backup protection	Equipment for building-in. To be evaluated during the final system approval.	N
2.7.4	Number and location of protective devices :	Over current protection by one built-in fuse.	P
2.7.5	Protection by several devices	Only one fuse provided.	N
2.7.6	Warning to service personnel :	Equipment for building-in. To be evaluated during the final system approval.	N

2.8	Safety interlocks		N
2.8.1	General principles		N
2.8.2	Protection requirements		N
2.8.3	Inadvertent reactivation		N
2.8.4	Fail-safe operation		N
2.8.5	Moving parts		N
2.8.6	Overriding		N
2.8.7	Switches and relays		N
2.8.7.1	Contact gaps (mm) :		N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.8.7.2	Overload test		N
2.8.7.3	Endurance test		N
2.8.7.4	Electric strength test		N
2.8.8	Mechanical actuators		N

2.9	Electrical insulation		P
2.9.1	Properties of insulating materials	Natural rubber, asbestos or hygroscopic materials are not used.	P
2.9.2	Humidity conditioning	Carried out for 120 hours.	P
	Humidity (%)	93% R.H.	—
	Temperature (°C)	40°C	—
2.9.3	Grade of insulation	Adequate levels of safety insulation were provided and maintained to comply with the requirements of this standard.	P

2.10	Clearances, creepage distances and distances through insulation		P
2.10.1	General	See 2.10.3, 2.10.4 and 2.10.5.	P
2.10.2	Determination of working voltage	- unit was connected to a 240V TN power system. 2.10.10 not applied for. Results see appended table 2.10.2.	P
2.10.3	Clearances	See below.	P
2.10.3.1	General	Alternate method of Annex G was not considered.	P
2.10.3.2	Clearances in primary circuits	See appended table 2.10.3 & 2.10.4.	P
2.10.3.3	Clearances in secondary circuits	Refer to 5.3.4.	N
2.10.3.4	Measurement of transient voltage levels	Alternate Annex G not considered.	N
2.10.4	Creepage distances	See appended table 2.10.3 & 2.10.4.	P
	CTI tests.....	CTI rating for all materials of minimum 100.	—
2.10.5	Solid insulation	See below.	P

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.10.5.1	Minimum distance through insulation	Photocoupler is approved component and provide distance through insulation of 0.4 mm minimum. Details see appended table 2.10.5.	P
2.10.5.2	Thin sheet material	Insulation tapes provided reinforced insulation used in T1.	P
	Number of layers (pcs)	3 layers.	—
	Electric strength test	See appended table 5.2.	—
2.10.5.3	Printed boards	Not applied for.	N
	Distance through insulation		N
	Electric strength test for thin sheet insulating material		—
	Number of layers (pcs)		N
2.10.5.4	Wound components	Certified Triple insulated wire used in T1.	P
	Number of layers (pcs)	Ditto.	P
	Two wires in contact inside wound component; angle between 45° and 90°	Fixed tape and tubing sleeve used in unit.	P
2.10.6	Coated printed boards	No coated printed boards.	N
2.10.6.1	General		N
2.10.6.2	Sample preparation and preliminary inspection		N
2.10.6.3	Thermal cycling		N
2.10.6.4	Thermal ageing (°C)		N
2.10.6.5	Electric strength test		—
2.10.6.6	Abrasion resistance test		N
	Electric strength test		—
2.10.7	Enclosed and sealed parts.....	No hermetically sealed components.	N
	Temperature $T_1 = T_2 + T_{ma} - T_{amb} + 10K$ (°C).....		N
2.10.8	Spacings filled by insulating compound	See 2.10.5.1.	P
	Electric strength test	Ditto.	—
2.10.9	Component external terminations	See appended table 2.10.3 & 2.10.4.	P
2.10.10	Insulation with varying dimensions	No reduction of distances considered.	N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Current rating and overcurrent protection	No internal wires used.	N
3.1.2	Protection against mechanical damage	Ditto.	N
3.1.3	Securing of internal wiring	Ditto.	P
3.1.4	Insulation of conductors	Except for PCB-traces and component connections no uninsulated conductors used.	N
3.1.5	Beads and ceramic insulators	Not used.	N
3.1.6	Screws for electrical contact pressure	No screwed used except for earthing connection which has to be evaluated in final system.	N
3.1.7	Insulating materials in electrical connections	All connections are metal to metal.	N
3.1.8	Self-tapping and spaced thread screws	No self- tapping or spaced thread screws are used.	P
3.1.9	Termination of conductors	Except for PCB-traces and components connections no other conductors used.	P
	10 N pull test	All conductors are reliably secured.	P
3.1.10	Sleeving on wiring	No sleeving used to provide supplementary insulation.	N

3.2	Connection to an a.c. mains supply or a d.c. mains supply <i>Building-in SPS (open frame) with primary input connector, shall be evaluated in the final system assembly.</i>		N
3.2.1	Means of connection		N
3.2.1.1	Connection to an a.c. mains supply	Certified Input connector used.	N
3.2.1.2	Connection to a d.c. mains supply		N
3.2.2	Multiple supply connections		N
3.2.3	Permanently connected equipment		N
	Number of conductors, diameter (mm) of cable and conduits		—
3.2.4	Appliance inlets		N
3.2.5	Power supply cords		N
3.2.5.1	AC power supply cords		N
	Type		—

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Clause	Requirement – Test	Result – Remark	Verdict
	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.5.2	DC power supply cords		N
3.2.6	Cord anchorages and strain relief		N
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage		N
3.2.8	Cord guards		N
	D (mm); test mass (g)		—
	Radius of curvature of cord (mm)		—
3.2.9	Supply wiring space		N

3.3	Wiring terminals for connection of external conductors <i>Building-in type SPS (open frame), shall be evaluated in the final system assembly.</i>		N
3.3.1	Wiring terminals		N
3.3.2	Connection of non-detachable power supply cords		N
3.3.3	Screw terminals		N
3.3.4	Conductor sizes to be connected		N
	Rated current (A), cord/cable type, cross-sectional area (mm ²)		—
3.3.5	Wiring terminal sizes		N
	Rated current (A), type and nominal thread diameter (mm)		—
3.3.6	Wiring terminals design		N
3.3.7	Grouping of wiring terminals		N
3.3.8	Stranded wire		N

3.4	Disconnection from the mains supply <i>Building-in SPS (open frame) with primary input connector, shall be evaluated in the final system assembly.</i>		N
3.4.1	General requirement		N
3.4.2	Disconnect devices		N
3.4.3	Permanently connected equipment		N
3.4.4	Parts which remain energized		N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
3.4.5	Switches in flexible cords		N
3.4.6	Single-phase equipment and d.c. equipment		N
3.4.7	Three-phase equipment		N
3.4.8	Switches as disconnect devices		N
3.4.9	Plugs as disconnect devices		N
3.4.10	Interconnected equipment		N
3.4.11	Multiple power sources		N

3.5	Interconnection of equipment		P
3.5.1	General requirements	See below.	P
3.5.2	Types of interconnection circuits.....:	Interconnection circuits of SELV through secondary connector.	P
3.5.3	ELV circuits as interconnection circuits	No ELV interconnection.	N

4	PHYSICAL REQUIREMENTS		P
4.1	Stability <i>Building-in type SPS, shall be evaluated in the final system assembly.</i>		N
	Angle of 10°		N
	Test: force (N).....:		N

4.2	Mechanical strength		P
4.2.1	General	See below. After tests, unit complies with the requirements of sub-clauses 2.1.1 and 2.10.	P
4.2.2	Steady force test, 10 N	10 N applied to all components other than enclosure.	P
4.2.3	Steady force test, 30 N	Open frame building-in type.	N
4.2.4	Steady force test, 250 N	Ditto.	N
4.2.5	Impact test	Ditto.	N
	Fall test		N
	Swing test		N
4.2.6	Drop test	Open frame building-in type.	N
4.2.7	Stress relief test	Ditto.	N
4.2.8	Cathode ray tubes	No CRT in the unit.	N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	Picture tube separately certified..... :	Ditto.	N
4.2.9	High pressure lamps	No high pressure lamp provided.	N
4.2.10	Wall or ceiling mounted equipment; force (N) ... :	Not wall or ceiling mounted equipment.	N

4.3	Design and construction		P
4.3.1	Edges and corners	It shall be evaluated in the final system assembly.	N
4.3.2	Handles and manual controls; force (N) :	No handles or controls provided.	N
4.3.3	Adjustable controls	Full range voltage design, no controls provided.	N
4.3.4	Securing of parts	Electrical and mechanical parts secured in such a way that they will withstand mechanical stress occurring in normal use.	P
4.3.5	Connection of plugs and sockets	Mis-mating of connectors not possible.	P
4.3.6	Direct plug-in equipment	Not a direct plug-in equipment.	N
	Dimensions (mm) of mains plug for direct plug-in :		N
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N) :		N
4.3.7	Heating elements in earthed equipment	No such elements.	N
4.3.8	Batteries	No batteries.	N
4.3.9	Oil and grease	Insulation in intended use not considered to be exposed to oil or grease.	N
4.3.10	Dust, powders, liquids and gases	Equipment in intended use not considered to be exposed to these.	N
4.3.11	Containers for liquids or gases	No container for liquids or gases provided.	N
4.3.12	Flammable liquids..... :	No flammable liquids provided.	N
	Quantity of liquid (l) :		N
	Flash point (°C) :		N
4.3.13	Radiation; type of radiation :	See below.	N
4.3.13.1	General	No ionizing radiation, UV, laser or LED presents.	N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
4.3.13.2	Ionizing radiation		N
	Measured radiation (pA/kg)		—
	Measured high-voltage (kV)		—
	Measured focus voltage (kV)		—
	CRT markings		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N
	Part, property, retention after test, flammability classification		N
4.3.13.4	Human exposure to ultraviolet (UV) radiation		N
4.3.13.5	Laser (including LEDs)		N
	Laser class		—
4.3.13.6	Other types		N

4.4	Protection against hazardous moving parts <i>No hazardous moving parts.</i>		N
4.4.1	General		N
4.4.2	Protection in operator access areas		N
4.4.3	Protection in restricted access locations		N
4.4.4	Protection in service access areas		N

4.5	Thermal requirements		P
4.5.1	Maximum temperatures	Refer to appended table 4.5.1	P
	Normal load condition per Annex L..... :	See 1.6.2.	P
4.5.2	Resistance to abnormal heat	Phenolic material used is acceptable without test. Other materials see appended table.	P

4.6	Openings in enclosures <i>Building-in type SPS (open frame), shall be evaluated in the final system assembly.</i>		N
4.6.1	Top and side openings		N
	Dimensions (mm)		—
4.6.2	Bottoms of fire enclosures		N
	Construction of the bottom..... :		—
4.6.3	Doors or covers in fire enclosures		N
4.6.4	Openings in transportable equipment		N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
4.6.5	Adhesives for constructional purposes		N
	Conditioning temperature (°C)/time (weeks)..... :		—

4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame	Use of materials with the required flammability classes.	P
	Method 1, selection and application of components wiring and materials	Ditto.	P
	Method 2, application of all of simulated fault condition tests		N
4.7.2	Conditions for a fire enclosure	See below.	N
4.7.2.1	Parts requiring a fire enclosure	With having the following parts: ▪ components in primary ▪ components in secondary (not supplied by LPS) ▪ components having unenclosed arcing parts at hazardous voltage or energy level The fire enclosure is required. However, this unit is for building-in, therefore the meeting of the requirements has to be evaluated in the final system assembly.	N
4.7.2.2	Parts not requiring a fire enclosure	See 4.7.2.1.	N
4.7.3	Materials		P
4.7.3.1	General	PCB rated accordingly. See appended table 1.5.1 for details.	P
4.7.3.2	Materials for fire enclosures	See 4.7.2.1.	N
4.7.3.3	Materials for components and other parts outside fire enclosures	Open frame building-in type.	N
4.7.3.4	Materials for components and other parts inside fire enclosures	Internal components except small parts are V-2, HF-2 or better.	P
4.7.3.5	Materials for air filter assemblies	No air filter provided.	N
4.7.3.6	Materials used in high-voltage components	No high voltage components provided.	N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		P
5.1.1	General	See sub-clauses 5.1.2 to 5.1.6.	P
5.1.2	Equipment under test (EUT)	EUT has only one mains connection.	P
5.1.3	Test circuit	Equipment of figure 5A used.	P
5.1.4	Application of measuring instrument	Using measuring instrument in annex D.	P
5.1.5	Test procedure	See appended table 5.1.6..	P
5.1.6	Test measurements	Ditto.	P
	Test voltage (V)	Ditto.	—
	Measured touch current (mA)	Ditto.	—
	Max. allowed touch current (mA)	Ditto.	—
	Measured protective conductor current (mA)		—
	Max. allowed protective conductor current (mA) :		—
5.1.7	Equipment with touch current exceeding 3.5 mA		N
5.1.8	Touch currents to and from telecommunication networks and cable distribution systems and from telecommunication networks	No TNV circuit connection.	N
5.1.8.1	Limitation of the touch current to a telecommunication network and a cable distribution system	Ditto.	N
	Test voltage (V)	Ditto.	—
	Measured touch current (mA)	Ditto.	—
	Max. allowed touch current (mA)	Ditto.	—
5.1.8.2	Summation of touch currents from telecommunication networks	Ditto.	N
5.2	Electric strength		P
5.2.1	General	See appended table 5.2.	P
5.2.2	Test procedure	See appended table 5.2.	P
5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	Output overload test, the most unfavourable load tested. (See appended table 5.3).	P

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
5.3.2	Motors	No motors.	N
5.3.3	Transformers	With the shorted o/p of the transformers, no high temperature of the transformer was recorded. Results of the short-circuit tests see appended table 5.3 and Annex C.	P
5.3.4	Functional insulation	Method c). Results see in appended table 5.3.	P
5.3.5	Electromechanical components	No electromechanical component provided.	N
5.3.6	Simulation of faults	Results see appended table 5.3.	P
5.3.7	Unattended equipment	None of the listed components was provided.	N
5.3.8	Compliance criteria for abnormal operating and fault conditions	No fire, no molten metal was emitted. Electric strength test primary → SELV, primary → earth were passed.	P

6	CONNECTION TO TELECOMMUNICATION NETWORKS		N
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N
6.1.1	Protection from hazardous voltages		N
6.1.2	Separation of the telecommunication network from earth		N
6.1.2.1	Requirements		N
	Test voltage (V)		—
	Current in the test circuit (mA)		—
6.1.2.2	Exclusions.....		N

6.2	Protection of equipment users from overvoltages on telecommunication networks		N
6.2.1	Separation requirements		N
6.2.2	Electric strength test procedure		N
6.2.2.1	Impulse test		N
6.2.2.2	Steady-state test		N
6.2.2.3	Compliance criteria		N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
6.3	Protection of the telecommunication wiring system from overheating		N
	Max. output current (A)		—
	Current limiting method.....		—

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N
7.1	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N
7.2	Protection of equipment users from overvoltages on the cable distribution system		N
7.3	Insulation between primary circuits and cable distribution systems		N
7.3.1	General		N
7.3.2	Voltage surge test		N
7.3.3	Impulse test		N

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N
A.1.1	Samples		—
	Wall thickness (mm)		—
A.1.2	Conditioning of samples; temperature (°C).....		N
A.1.3	Mounting of samples.....		N
A.1.4	Test flame (see IEC 60695-11-3)		N
	Flame A, B, C or D		—
A.1.5	Test procedure		N
A.1.6	Compliance criteria		N
	Sample 1 burning time (s).....		—
	Sample 2 burning time (s).....		—
	Sample 3 burning time (s).....		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N
A.2.1	Samples, material		—
	Wall thickness (mm)		—

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
A.2.2	Conditioning of samples		N
A.2.3	Mounting of samples		N
A.2.4	Test flame (see IEC 60695-11-4)		N
	Flame A, B or C		—
A.2.5	Test procedure		N
A.2.6	Compliance criteria		N
	Sample 1 burning time (s).....		—
	Sample 2 burning time (s).....		—
	Sample 3 burning time (s).....		—
A.2.7	Alternative test acc. to IEC 60695-2-2, cl. 4 and 8		N
	Sample 1 burning time (s).....		—
	Sample 2 burning time (s).....		—
	Sample 3 burning time (s).....		—
A.3	Hot flaming oil test (see 4.6.2)		N
A.3.1	Mounting of samples		N
A.3.2	Test procedure		N
A.3.3	Compliance criterion		N

B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N
B.1	General requirements		N
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
B.2	Test conditions		N
B.3	Maximum temperatures		N
B.4	Running overload test		N
B.5	Locked-rotor overload test		N
	Test duration (days)		—
	Electric strength test: test voltage (V)		—
B.6	Running overload test for d.c. motors in secondary circuits		N
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
B.7.1	Test procedure		N
B.7.2	Alternative test procedure; test time (h).....:		N
B.7.3	Electric strength test		N
B.8	Test for motors with capacitors		N
B.9	Test for three-phase motors		N
B.10	Test for series motors		N
	Operating voltage (V) :		—

C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		P
	Position :	T1	—
	Manufacturer :	Refer to appended table 1.5.1.	—
	Type :	Refer to appended table 1.5.1.	—
	Rated values :	Class B	—
	Method of protection :	See appended table C.2.	—
C.1	Overload test	See appended table 5.3.	P
C.2	Insulation	See appended table C.2.	P
	Protection from displacement of windings :	See appended table C.2.	P

D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		P
D.1	Measuring instrument		P
D.2	Alternative measuring instrument		N

E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N
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F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10)		P
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G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N
G.1	Summary of the procedure for determining minimum clearances		N
G.2	Determination of mains transient voltage (V)..... :		N
G.2.1	AC mains supply		N
G.2.2	DC mains supply		N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
G.3	Determination of telecommunication network transient voltage (V)		N
G.4	Determination of required withstand voltage (V) ..		N
G.5	Measurement of transient levels (V)		N
G.6	Determination of minimum clearances		N

H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N
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J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		P
	Metal used		—

K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.7)		N
K.1	Making and breaking capacity		N
K.2	Thermostat reliability; operating voltage (V)		N
K.3	Thermostat endurance test; operating voltage (V)		N
K.4	Temperature limiter endurance; operating voltage (V)		N
K.5	Thermal cut-out reliability		N
K.6	Stability of operation		N

L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.1)		P
L.1	Typewriters		N
L.2	Adding machines and cash registers		N
L.3	Erasers		N
L.4	Pencil sharpeners		N
L.5	Duplicators and copy machines		N
L.6	Motor-operated files		N
L.7	Other business equipment		P

M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N
M.1	Introduction		N
M.2	Method A		N
M.3	Method B		N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
M.3.1	Ringling signal		N
M.3.1.1	Frequency (Hz)		—
M.3.1.2	Voltage (V)		—
M.3.1.3	Cadence; time (s), voltage (V)		—
M.3.1.4	Single fault current (mA)		—
M.3.2	Tripping device and monitoring voltage		N
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N
M.3.2.2	Tripping device		N
M.3.2.3	Monitoring voltage (V)		N
N	ANNEX N, IMPULSE TEST GENERATORS (see 2.10.3.4, 6.2.2.1, 7.3.2 and clause G.5)		N
N.1	ITU-T impulse test generators		N
N.2	IEC 60065 impulse test generator		N
P	ANNEX P, NORMATIVE REFERENCES		P
Q	ANNEX Q, BIBLIOGRAPHY		N
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6)		N
R.2	Reduced clearances (see 2.10.3)		N
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N
S.1	Test equipment		N
S.2	Test procedure		N
S.3	Examples of waveforms during impulse testing		N
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N
			—

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		P
		Certified triple insulation wire used. See appended table 1.5.1.	—

V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		P
V.1	Introduction		P
V.2	TN power distribution systems		P
V.2	TN power systems	Considered.	P
V.3	TT power systems		N
V.4	IT power systems	IT-power system for Norway.	P

W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N
W.1	Touch current from electronic circuits		N
W.1.2	Earthed circuits		N
W.2	Interconnection of several equipments		N
W.2.1	Isolation		N
W.2.2	Common return, isolated from earth		N
W.2.3	Common return, connected to protective earth		N

X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		N
X.1	Determination of maximum input current		N
X.2	Overload test procedure		N

Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N
Y.1	Test apparatus	:	N
Y.2	Mounting of test samples	:	N
Y.3	Carbon-arc light-exposure apparatus	:	N
Y.4	Xenon-arc light exposure apparatus	:	N

IEC 60950-1 / EN 60950-1							
Clause	Requirement – Test				Result – Remark	Verdict	
CENELEC COMMON MODIFICATIONS [C], SPECIAL NATIONAL CONDITIONS [S] AND A-DEVIATIONS (NATIONAL DEVIATIONS) [A] (EN 60950-1:2001, Annex ZB and Annex ZC)						P	
General	C: Delete all the "country" notes in the reference document according to the following list: 1.1.5 Note 2 1.5.8 Note 2 1.6.1 Note 1.7.2 Note 4 1.7.12 Note 2 2.6 Note 2.2.3 Note 2.2.4 Note 2.3.2 Note 2, 7, 8 2.3.3 Note 1, 2 2.3.4 Note 2,3 2.7.1 Note 2.10.3.1 Note 4 3.2.1.1 Note 3.2.3 Note 1, 2 3.2.5.1 Note 2 4.3.6 Note 1,2 4.7.2.2 Note 4.7.3.1 Note 2 6.1.2.1 Note 6.1.2.2 Note 6.2.2 Note 6.2.2.1 Note 2 6.2.2.2 Note 7 Note 4 7.1 Note G2.1 Note 1, 2 Annex H Note 2				Deleted.		P
1.2.4.1	S (DK): Certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.				No power supply cord provided.	N	
1.5.1	A (SE, Ordinance 1990:944 and CH, Ordinance on environmentally hazardous substances SR 814.013, Annex 3.2, Mercury): Add NOTE – Switches containing mercury such as thermostats, relays and level controllers are not allowed.				No such swithes used.	N	
1.5.8	S (NO): Due to the IT power system used (see annex V, Fig. V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).				Complied.	P	
1.7.2	S (FI, NO, SE): CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows:				To be evaluated in final system assembly.	N	
	FI: "Laite on liitettävä suojamaadoitus-koskettimilla varustettuun pistorasiaan"				Ditto.	N	
	NO: "Apparatet må tilkoples jordet stikkontakt"				Ditto.	N	
	SE: "Apparaten skall anslutas till jordat uttag"				Ditto.	N	
	A (DK, Heavy Current Regulations): Supply cords of class I equipment, which is delivered without a plug, must be provided with a visible tag with the following text:				Ditto.	N	

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	Vigtigt! Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket  eller  If essential for the safety of the equipment, the tag must in addition be provided with a diagram which shows the connection of the other conductors, or be provided with the following text: "For tilslutning af de øvrige ledere, se medfølgende installationsvejledning."		
1.7.5	S (DK): Socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For stationary equipment the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.	No socket-outlets provided.	N
1.7.5	A (DK, Heavy Current Regulations): CLASS II EQUIPMENT shall not be fitted with socket-outlets for providing power to other equipment.	Class I equipment.	N
1.7.12	A (DE, Gesetz über technische Arbeitsmittel (Gerätesicherheitsgesetz) [Law on technical labour equipment {Equipment safety law}], of 23rd October 1992, Article 3, 3rd paragraph, 2nd sentence, together with the "Allgemeine Verwaltungsvorschrift zur Durchführung des Zweiten Abschnitts des Gerätesicherheitsgesetzes" [General administrative regulation on the execution of the Second Section of the Equipment safety law], of 10th January 1996, article 2, 4th paragraph item 2): Directions for use with rules to prevent certain hazards for (among others) maintenance of the technical labour equipment, also for imported technical labour equipment shall be written in the German language. NOTE: Of this requirement, rules for use even only by service personnel are not exempted.	It shall be evaluated when submitted for national approval.	N
1.7.15	A (CH, Ordinance on environmentally hazardous substances SR 814.013): Annex 4.10 of SR 814.013 applies for batteries.	No batteries provided.	N
	A (DE, Regulation on protection against hazards by X-ray, of 8th January 1987, Article 5 [Operation of X-ray emission source], clauses 1 to 4): a) A licence is required by those who operate an X-ray emission source.	No X-ray.	N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	b) A licence in accordance with Cl. 1 is not required by those who operate an X-ray emission source on which the electron acceleration voltage does not exceed 20 kV if 1) the local dose rate at a distance of 0,1 m from the surface does not exceed 1 µSv/h and 2) it is adequately indicated on the X-ray emission source that i) X-rays are generated and ii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer. c) A licence in accordance with Cl. 1 is also not required by persons who operate an X-ray emission source on which the electron acceleration voltage exceeds 20 kV if 1) the X-ray emission source has been granted a type approval and 2) it is adequately indicated on the X-ray emission source that i) X-rays are generated ii) the device stipulated by the manufacturer or importer guarantees that the maximum permissible local dose rate in accordance with the type approval is not exceeded and iii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer. d) Furthermore, a licence in accordance with Cl. 1 is also not required by persons who operate X-ray emission sources on which the electron acceleration voltage does not exceed 30 kV if 1) the X-rays are generated only by intrinsically safe CRTs complying with Enclosure III, No. 6, 2) the values stipulated in accordance with Enclosure III, No. 6.2 are limited by technical measures and specified in the device and 3) it is adequately indicated on the X-ray emission source that the X-rays generated are adequately screened by the intrinsically safe CRT.		
2.2.4	S (NO): Requirements according to this annex, 1.7.2 and 6.1.2.1 apply.		N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.3.2	S (NO): Requirements according to this annex, 6.1.2.1 apply.		N
2.3.3 and 2.3.4	S (NO): Requirements according to this annex, 1.7.2 and 6.1.2.1 apply.		N
2.6.3.3	S (GB): The current rating of the circuit shall be taken as 13 A, not 16 A.		N
2.7.1	C: Replace the subclause as follows: <i>Basic requirements</i> To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c): a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.	Replaced.	P
	S (GB): To protect against excessive currents and short-circuits in the PRIMARY CIRCUIT OF DIRECT PLUG-IN EQUIPMENT, protective device shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT.	Not direct plug-in equipment.	N
2.7.2	C: Void.	Void.	N
2.10.2	C: Replace in the first line "(see also 1.4.7)" by "(see also 1.4.8)".	Replaced.	P

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
2.10.3.1	S (NO): Due to the IT power distribution system used (see annex V, Fig. V.7), the A.C. MAINS SUPPLY voltage is considered to be equal to the line-to-line voltage and will remain at 230 V in case of a single earth fault	Considered.	P
3.2.1.1	S (CH): Supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets: SEV 6532-2.1991, Plug type 15, 3P+N+PE 250/400 V, 10 A SEV 6533-2.1991, Plug type 11, L+N 250 V, 10 A SEV 6534-2.1991, Plug type 12, L+N+PE 250 V, 10 A In general, EN 60309 applies for plugs for currents exceeding 10A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998: SEV 5932-2.1998, Plug type 25, 3L+N+PE 230/400 V, 16 A SEV 5933-2.1998, Plug type 21, L+N 250 V, 16 A SEV 5934-2.1998, Plug type 23, L+N+PE 250 V, 16 A	No power supply cord provided.	N
	S (DK): Supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If ply-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.	Ditto.	N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	S (ES): Supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994. Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.	Ditto.	N
	S (GB): Apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 – The Plugs and Socket etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE – 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.	Ditto.	N
	S (IE): Apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 – National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.	Ditto.	N
3.2.3	C: Delete Note 1 and in Table 3A, delete the conduit sizes in parentheses.	Deleted.	N

IEC 60950-1 / EN 60950-1									
Clause	Requirement – Test	Result – Remark	Verdict						
3.2.5.1	C: Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2". In Table 3B, replace the first four lines by the following: <table><tr><td>Up to and including 6</td><td>0,75¹⁾</td></tr><tr><td>Over 6 up to and including 10</td><td>(0,75)²⁾ 1,0</td></tr><tr><td>Over 10 up to and including 16</td><td>(1,0)³⁾ 1,5</td></tr></table> In the Conditions applicable to Table 3B delete the words "in some countries" in condition ¹⁾. In Note 1, applicable to Table 3B, delete the second sentence.	Up to and including 6	0,75 ¹⁾	Over 6 up to and including 10	(0,75) ²⁾ 1,0	Over 10 up to and including 16	(1,0) ³⁾ 1,5	Replaced.	N
Up to and including 6	0,75 ¹⁾								
Over 6 up to and including 10	(0,75) ²⁾ 1,0								
Over 10 up to and including 16	(1,0) ³⁾ 1,5								
3.2.5.1	S (GB): A power supply cord with conductor of 1,25 mm² is allowed for equipment with a rated current over 10 A and up to and including 13 A.	Ditto.	N						
3.3.4	C: In table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: "Over 10 up to and including 16 1,5 to 2,5 1,5 to 4" Delete the fifth line: conductor sizes for 13 to 16 A.	Deleted.	N						
3.3.4	S (GB): The range of conductor sizes of flexible cords to be accepted by terminals for equipment with A RATED CURRENT of over 10 A up to and including 13 A is: - 1,25 mm² to 1,5 mm² nominal cross-sectional area.	Ditto.	N						
4.3.6	S (GB): The torque test is performed using a socket outlet complying with BS 1363 and the plug part OF DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C.	Not a direct plug-in equipment.	N						
	S (IE): DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 – National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.	Ditto.	N						

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
4.3.13.6	C: Add the following note: NOTE Attention is drawn to 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz. Standards taking into account this recommendation are currently under development.	Added.	N
6.1.2.1	S (FI, NO, SE): Add the following text between the first and second paragraph: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES AND CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition - passes the tests and inspection criteria of 2.10.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.7 shall be performed using 1,5 kV), and - is subject to ROUTING TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2. A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950:2000, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 132400; - the impulse test of 2.5 kV is to be performed	No TNV.	N

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	before the endurance test in EN 132400, in the sequence of tests as described in EN 132400.		
6.1.2.2	S (FI, NO, SE): The exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a service person.	Ditto.	N
7.1	S (FI, NO, SE): Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply with the term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.	Ditto.	N
G.2.1	S (NO): Due to the IT power distribution system used (see annex V, Fig. V.7), the A.C. MAINS SUPPLY voltage is considered to be equal to the line-to-line voltage, and will remain at 230 V in case of a single earth fault.	Annex G not applied for.	N
Annex H	C: Replace the last paragraph of this annex by: At any point 10 cm from the surface of the operator access area, the dose rate shall not exceed 1 µSv/h (0,1 mR/h) (see note). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete Note 2.	Replaced.	N
Annex P	C: Replace the text of this annex by: See annex ZA.	Replaced.	P
Annex Q	C: Replace the title of IEC 61032 by "Protection of persons and equipment by enclosures – Probes for verification". Add the following notes for the standards indicated: IEC 60127 NOTE Harmonized as EN 60127 (Series) (not modified) IEC 60269-2-1 NOTE Harmonized as HD 630.2.1 S4:2000 (modified) IEC 60529 NOTE Harmonized as EN 60529:1991 (not modified) IEC 61032 NOTE Harmonized as EN 61032:1998 (not modified) IEC 61140 NOTE Harmonized as EN 61140:2001 (not modified) ITU-T Recommendation K.31 NOTE in Europe, the suggested document is EN 50083-1.		P

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
Annex ZA	C: NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR RELEVANT EUROPEAN PUBLICATIONS		P
	This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies (including amendments).		
	NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.		
	—	IEC 60050-151	
	—	IEC 60050-195	
	EN 60065:1998 + corr. June 1999	IEC 60065 (mod):1998	
	EN 60073:1996	IEC 60073:1996	
	HD 566 S1:1990	IEC 60085:1984	
	HD 214 S2:1980	IEC 60112:1979	
	HD 611.4.1.S1:1992	IEC 60216-4-1:1990	
	HD 21 ¹⁾ Series	IEC 60227 (mod) Series	
	HD 22 ²⁾ Series	IEC 60245 (mod) Series	
	EN 60309 Series	IEC 60309 Series	
	EN 60317-43:1997	IEC 60317-43:1997	
	EN 60320 Series	IEC 60320 (mod) Series	
	HD 384.3 S2:1995	IEC 60364-3 (mod):1993	
	HD 384.4.41 S2:1996	IEC 60364-4-41 (mod):1992 ³⁾	
	EN 132400:1994 ⁴⁾ + A2:1998 + A3:1998 + A4:2001	IEC 60384-14:1993	
	EN 60417-1	IEC 60417-1	
	HD 625.1 S1:1996 + corr. Nov. 1996	IEC 60664-1 (mod):1992	
	EN 60695-2-2:1994	IEC 60695-2-2:1991	
	EN 60695-2-11:2001	IEC 60695-2-11:2000	
	—	IEC 60695-2-20:1995	
	—	IEC 60695-10-2:1995	
	—	IEC 60695-11-3:2000	
	—	IEC 60695-11-4:2000	
	EN 60695-11-10:1999	IEC 60695-11-10:1999	
	EN 60695-11-20:1999	IEC 60695-11-20:1999	

IEC 60950-1 / EN 60950-1			
Clause	Requirement – Test	Result – Remark	Verdict
	EN 60730-1:2000	IEC 60730-1:1999 (mod)	
	EN 60825-1:1994 + corr. Febr. 1995 + A11:1996 + corr. July 1997	IEC 60825-1:1993	
	EN 60825-2:2000	IEC 60825-2:2000	
	—	IEC 60825-9:1999	
	EN 60851-3:1996	IEC 60851-3:1996	
	EN 60851-5:1996	IEC 60825-5:1996	
	EN 60851-6:1996	IEC 60851-6:1996	
	—	IEC 60885-1:1987	
	EN 60990:1999	IEC 60990:1999	
	—	IEC 61058-1:2000	
	EN 61965:2001	IEC 61965:2000	
	EN ISO 178:1996	ISO 178:1993	
	EN ISO 179 Series	ISO 179 Series	
	EN ISO 180:2000	ISO 180:1993	
	—	ISO 261:1998	
	—	ISO 262:1998	
	EN ISO 527 Series	ISO 527 Series	
	—	ISO 386:1984	
	EN ISO 4892 Series	ISO 4892 Series	
	—	ISO 7000:1989	
	EN ISO 8256:1996	ISO 8256:1990	
	—	ISO 9772:1994	
	EN ISO 9773:1998	ISO 9773:1998	
	—	ITU-T:1988 Recommendation K.17	
	—	ITU-T:2000 Recommendation K.21	
	1) The HD 21 series is related to, but not directly equivalent with the IEC 60227 series 2) The HD 22 series is related to, but not directly equivalent with the IEC 60245 series 3) IEC 60364-4-41:1992 is superseded by IEC 60364-4-41:2001 4) EN 132400, Sectional Specification: Fixed capacitors for electromagnetic interference suppression and connection to the supply mains (Assessment level D), and its amendments are related to, but not directly equivalent to IEC 60384-14		

1.5.1		TABLE: list of critical components				P
Object/part no.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity ^{1.}	
Fuse (F1)	Wickmann	19372	T2A, 250V	IEC 60127-3	VDE, UL	
	ELU	166 000/166 050	T2A, 250V	IEC 60127-3	VDE, UL	
	Bel	MRT	T2A, 250V	IEC 60127-3	VDE, UL	
Bridge diode (BR1)	--	--	min. 600V, 4A	--	--	
Ripple Cap. (C2)	--	--	max. 150µF, 400V, min. 105°C	--	--	
Power MOS (Q1)	--	--	min. 600V, 10A	--	--	
Photocouple (IC2)	Sharp	PC-123	di = 0.4mm	VDE 0884 IEC 60950	VDE, FI, UL	
	Sharp	PC-120	di = 0.4mm	VDE 0884 IEC 60950	VDE, FI, UL	
	Taiwan Liton	LTV 817	di = 0.4mm	VDE 0884 IEC 60950	VDE, FI, UL	
	Toshiba	TLP721	di = 0.4mm	VDE 0884 IEC 60950	VDE, FI, UL	
Transformer (T1) for ACSXXUSYYY (XX=40, 60; YYY=110-169)	Xepex	TR70-1	Class B	applicable parts in IEC 60950-1 and acc. to IEC 60085	accepted by TÜV Rheinland	
For ACSXXUSYYY (XX=40, 60; YYY=170-329)	Xepex	TR70-2	Class B	applicable parts in IEC 60950-1 and acc. to IEC 60085	accepted by TÜV Rheinland	
For ACSXXUSYYY (XX=40, 60; YYY=330-480)	Xepex	TR70-3	Class B	applicable parts in IEC 60950-1 and acc. to IEC 60085	accepted by TÜV Rheinland	
For ACSXXUSYYY (XX=40, 60; YYY=050-059)	Xepex	TR70-4	Class B	applicable parts in IEC 60950-1 and acc. to IEC 60085	accepted by TÜV Rheinland	
For ACSXXUSYYY (XX=40, 60; YYY=033-049)	Xepex	TR70-7	Class B	applicable parts in IEC 60950-1 and acc. to IEC 60085	accepted by TÜV Rheinland	

For ACS40USYYY (YYY=060-109); ACS60USYYY (YYY=060-109)	Xepex	TR70-9	Class B	applicable parts in IEC 60950-1 and acc. to IEC 60085	accepted by TÜV Rheinland
Triple insulation wires used in T1	Totoku	TIW-E	130°C	IEC 60950	TÜV
Line choke (L1)	Milli-Henry	MH99208	105°C	--	--
	Xepex	MCH99128	105°C	--	--
X Cap. (CX1) (optional)	Matsushita	TS	max. 0.47µF, 250V	IEC 60384- 14/1993	VDE, SEV, S, FI, UL
	Matsushita	ECQUG, ECQUL	max. 0.47µF, 250V	IEC 60384- 14/1993	VDE, SEV, S, FI, UL
	EVOX RIFA	PHE840M	max. 0.47µF, 250V	IEC 60384- 14/1993	VDE, SEV, S, FI, UL
	TDK	CS	max. 0.47µF, 250V	IEC 60384- 14/1993	VDE, SEV, S, FI, UL
	Murata	KH	max. 0.47µF, 250V	IEC 60384- 14/1993	VDE, SEV, S, FI, UL
	Pan Overseas	AC	max. 0.47µF, 250V	IEC 60384- 14/1993	VDE, SEV, S, FI, UL
	Aid	MEX	max. 0.47µF, 250V	IEC 60384- 14/1993	VDE, SEV, S, FI, UL
	Arcotronics	1.40.00	max. 0.47µF, 250V	IEC 60384- 14/1993	VDE, SEV, S, FI, UL
	Carli	MPX	max. 0.47µF, 250V	IEC 60384- 14/1993	VDE, SEV, S, FI, UL
	Dain	MPX	max. 0.47µF, 250V	IEC 60384- 14/1993	VDE, SEV, S, FI, UL
	FARAD	FXK	max. 0.47µF, 250V	IEC 60384- 14/1993	VDE, SEV, S, FI, UL
	Hua Jung	MKP	max. 0.47µF, 250V	IEC 60384- 14/1993	VDE, SEV, S, FI, UL
	ISKRA	KNB 1530	max. 0.47µF, 250V	IEC 60384- 14/1993	VDE, SEV, S, FI, UL
	Jenn Fu	MPX	max. 0.47µF, 250V	IEC 60384- 14/1993	VDE, SEV, S, FI, UL
	LCC	DX	max. 0.47µF, 250V	IEC 60384- 14/1993	VDE, SEV, S, FI, UL
	Nitsuko	CFKC, CFJC, CFJH	max. 0.47µF, 250V	IEC 60384- 14/1993	VDE, SEV, S, FI, UL

	Okaya	RE series	max. 0.47µF, 250V	IEC 60384-14/1993	VDE, SEV, S, FI, UL
	Philips	MKP 3361	max. 0.47µF, 250V	IEC 60384-14/1993	VDE, SEV, S, FI, UL
	Philips	PCX2 335	max. 0.47µF, 250V	IEC 60384-14/1993	VDE, SEV, S, FI, UL
	Philips	MKP 336 2	max. 0.47µF, 250V	IEC 60384-14/1993	VDE, SEV, S, FI, UL
	Pilkor	PCX2 335, PCX2 335M	max. 0.47µF, 250V	IEC 60384-14/1993	VDE, SEV, S, FI, UL
	P-Tech	MEX	max. 0.47µF, 250V	IEC 60384-14/1993	VDE, SEV, S, FI, UL
	Shiny Space	SX1	max. 0.47µF, 250V	IEC 60384-14/1993	VDE, SEV, S, FI, UL
	TAE	MPX	max. 0.47µF, 250V	IEC 60384-14/1993	VDE, SEV, S, FI, UL
	Taishing	MPX	max. 0.47µF, 250V	IEC 60384-14/1993	VDE, SEV, S, FI, UL
	Tenta	MEX	max. 0.47µF, 250V	IEC 60384-14/1993	VDE, SEV, S, FI, UL
	UTX	HQX	max. 0.47µF, 250V	IEC 60384-14/1993	VDE, SEV, S, FI, UL
	VISHAY	F1778	max. 0.47µF, 250V	IEC 60384-14/1993	VDE, SEV, S, FI, UL
	Roederstein	F1772	max. 0.47µF, 250V	IEC 60384-14/1993	VDE, SEV, S, FI, UL
Y-Cap (CY1, CY2, CY3)	TDK	CD, CS	max. 4700pF, 250V	IEC 60384-14/ 1993	VDE, S, UL, CSA
	Matsushita	NS-A	max. 4700pF, 250V	IEC 60384-14/ 1993	VDE, S, UL, CSA
	Murata	KX, KH	max. 4700pF, 250V	IEC 60384-14/ 1993	VDE, S, UL, CSA
	Matsushita	TS	max. 4700pF, 250V	IEC 60384-14/ 1993	VDE, S, UL, CSA
	Pan Overseas	AC	max. 4700pF, 250V	IEC 60384-14/ 1993	VDE, S, UL, CSA
Varistor (Z1)	Wujin Thinking	TVR10471K	min. 300Vac	--	UL
	Pan Overseas	PVR-10D471K	min. 300Vac	--	UL
	Sentech	SEN471KD10	min. 300Vac	--	UL

Bleeder Resistor (R1A, R1B, R1C, R1D)	--	--	1M Ω , 1/8W	--	--
PCB	--	--	V-0, min. 130°C	UL 94	UL
Choke (L3)	Milli-Henry	9140001600	120°C	--	--
	Cincon	9140001600	120°C	--	--
Primary Connector	Chyao Shiunn	JS-5001	7A, 250Vac	VDE 0627	TÜV
	Long Chu	H3060, P3060	7A, 250Vac	VDE 0627	TÜV
Note(s):					
1. An asterisk indicates a mark that assures the agreed level of surveillance.					

1.6.2		TABLE: electrical data (in normal conditions)					P
Fuse #	Irated (A)	U (V/Hz)	P (W)	I (mA)	Ifuse (mA)	Condition/status	
Model : ACS60US049							
F1	--	90V/47Hz	52.8	1.03	1.03	maximum output loaded	
F1	--	90V/63Hz	52.8	0.99	0.99	dto.	
F1	1.4	100V/47Hz	52.0	0.94	0.94	dto.	
F1	1.4	100V/63Hz	52.3	0.91	0.91	dto.	
F1	1.4	240V/47Hz	51.2	0.46	0.46	dto.	
F1	1.4	240V/63Hz	51.6	0.45	0.45	dto.	
F1	--	264V/47Hz	51.6	0.43	0.43	dto.	
F1	--	264V/63Hz	51.5	0.42	0.42	dto.	
Model : ACS60US059							
F1	--	90V/47Hz	61.8	1.23	1.23	maximum output loaded	
F1	--	90V/63Hz	61.2	1.17	1.17	dto.	
F1	1.4	100V/47Hz	61.3	1.10	1.10	dto.	
F1	1.4	100V/63Hz	61.2	1.05	1.05	dto.	
F1	1.4	240V/47Hz	59.8	0.53	0.53	dto.	
F1	1.4	240V/63Hz	59.7	0.52	0.52	dto.	
F1	--	264V/47Hz	59.8	0.50	0.50	dto.	
F1	--	264V/63Hz	59.7	0.48	0.48	dto.	
Model : ACS60US075							
F1	--	90V/47Hz	75.3	1.48	1.48	maximum output loaded	

F1	--	90V/63Hz	74.8	1.38	1.38	dto.
F1	1.4	100V/47Hz	74.1	1.34	1.34	dto.
F1	1.4	100V/63Hz	74.2	1.26	1.26	dto.
F1	1.4	240V/47Hz	73.1	0.63	0.63	dto.
F1	1.4	240V/63Hz	73.1	0.60	0.60	dto.
F1	--	264V/47Hz	73.5	0.59	0.59	dto.
F1	--	264V/63Hz	73.2	0.57	0.57	dto.
Model : ACS60US110						
F1	--	90V/47Hz	72.9	1.46	1.46	maximum output loaded
F1	--	90V/63Hz	72.2	1.36	1.36	dto.
F1	1.4	100V/47Hz	72.2	1.31	1.31	dto.
F1	1.4	100V/63Hz	72.0	1.23	1.23	dto.
F1	1.4	240V/47Hz	70.4	0.62	0.62	dto.
F1	1.4	240V/63Hz	70.4	0.61	0.61	dto.
F1	--	264V/47Hz	70.4	0.58	0.58	dto.
F1	--	264V/63Hz	70.4	0.56	0.56	dto.
Model : ACS60US169						
F1	--	90V/47Hz	71.6	1.43	1.43	maximum output loaded
F1	--	90V/63Hz	70.9	1.33	1.33	dto.
F1	1.4	100V/47Hz	71.0	1.28	1.28	dto.
F1	1.4	100V/63Hz	71.0	1.21	1.21	dto.
F1	1.4	240V/47Hz	70.1	0.61	0.61	dto.
F1	1.4	240V/63Hz	70.1	0.59	0.59	dto.
F1	--	264V/47Hz	70.7	0.57	0.57	dto.
F1	--	264V/63Hz	70.6	0.56	0.56	dto.
Model : ACS60US170						
F1	--	90V/47Hz	72.3	1.46	1.46	maximum output loaded
F1	--	90V/63Hz	71.6	1.36	1.36	dto.
F1	1.4	100V/47Hz	71.6	1.31	1.31	dto.
F1	1.4	100V/63Hz	71.4	1.22	1.22	dto.
F1	1.4	240V/47Hz	70.3	0.61	0.61	dto.
F1	1.4	240V/63Hz	70.2	0.59	0.59	dto.
F1	--	264V/47Hz	70.6	0.58	0.58	dto.

F1	--	264V/63Hz	70.4	0.56	0.56	dto.
Model : ACS60US329						
F1	--	90V/47Hz	70.4	1.41	1.41	maximum output loaded
F1	--	90V/63Hz	69.6	1.32	1.32	dto.
F1	1.4	100V/47Hz	69.9	1.27	1.27	dto.
F1	1.4	100V/63Hz	69.7	1.19	1.19	dto.
F1	1.4	240V/47Hz	68.6	0.60	0.60	dto.
F1	1.4	240V/63Hz	68.6	0.58	0.58	dto.
F1	--	264V/47Hz	68.5	0.56	0.56	dto.
F1	--	264V/63Hz	68.2	0.54	0.54	dto.
Model : ACS60US330						
F1	--	90V/47Hz	71.8	1.44	1.44	maximum output loaded
F1	--	90V/63Hz	71.1	1.35	1.35	dto.
F1	1.4	100V/47Hz	71.2	1.29	1.29	dto.
F1	1.4	100V/63Hz	71.3	1.21	1.21	dto.
F1	1.4	240V/47Hz	71.0	0.61	0.61	dto.
F1	1.4	240V/63Hz	71.0	0.59	0.59	dto.
F1	--	264V/47Hz	71.5	0.58	0.58	dto.
F1	--	264V/63Hz	71.4	0.56	0.56	dto.
Model : ACS60US48						
F1	--	90V/47Hz	70.2	1.41	1.41	maximum output loaded
F1	--	90V/63Hz	69.7	1.32	1.32	dto.
F1	1.4	100V/47Hz	69.7	1.26	1.26	dto.
F1	1.4	100V/63Hz	69.9	1.19	1.19	dto.
F1	1.4	240V/47Hz	68.9	0.59	0.59	dto.
F1	1.4	240V/63Hz	68.9	0.57	0.57	dto.
F1	--	264V/47Hz	69.9	0.57	0.57	dto.
F1	--	264V/63Hz	69.8	0.55	0.55	dto.
Note(s):						

2.1.1.5	TABLE: max. V, A, VA test					P
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)		

Model : ACS60US049				
4.9	8	4.9	16.63	44.74
Model : ACS60US059				
5.9	8	5.9	14.94	56.76
Model : ACS60US075				
7.5	8	7.5	16.48	77.07
Model : ACS60US110				
11.0	5.45	11.0	12.40	90.73
Model : ACS60US169				
16.9	3.55	16.9	15.82	112.10
Model : ACS60US170				
17.0	3.53	17.0	8.76	93.58
Model : ACS60US329				
32.9	1.82	32.9	7.32	110.45
Model : ACS60US330				
33.0	1.82	33.0	3.83	103.40
Model : ACS60US48				
48.0	1.25	48.1	4.35	159.94
Note(s): Supply Voltage: 240V, 63Hz				

2.1.1.7	TABLE: discharge test				P
Condition	τ calculated (s)	τ measured (s)	t u→ 0V (s)	Comments	
System on (L→N)	0.47	0.30	--	Vo=380V of 37%Vo=140.6V, measured voltage after 1 sec=0V.	
Overall capacity : 0.47μF (CX1=0.47μF)					
Discharge resistor : 1MΩ (R1A=R1B=R1C=R1D=1MΩ)					

2.2.2	TABLE: Hazardous voltage measurement				P
Transformer	Location	max. Voltage		Voltage Limitation Component	
		V peak	V d.c.		
T1	Pin 10/11 → DC RTN	19.8	--	For model ACS60US049	
T1	Pin 10/11 → DC RTN	19.4	--	For model ACS60US059	

T1	Pin 10/11 → DC RTN	19.4	--	For model ACS60US075
T1	Pin 10/11 → DC RTN	38.8	--	For model ACS60US110
T1	Pin 10/11 → DC RTN	39.6	--	For model ACS60US169
T1	Pin 10/11 → DC RTN	63.2	--	For model ACS60US170
		--	18.6	After D5
T1	Pin 10/11 → DC RTN	63.2	--	For model ACS60US329
		--	33.6	After D5
T1	Pin 10/11 → DC RTN	164	--	For model ACS60US330
		--	33.6	After D5
T1	Pin 10/11 → DC RTN	172	--	For model ACS60US48
		--	49.6	After D5
Note(s): Supply Voltage: 240V, 63Hz				

2.2.3	TABLE: SEL voltage measurement		P
Location		Voltage measured (V)	Comments
Pin 10/11 → DC RTN		0.6 Vdc	D5 Short (for model ACS60US170)
Pin 10/11 → DC RTN		0 Vp	D5 Short (for model ACS60US329)
Pin 10/11 → DC RTN		0 Vp	D5 Short (for model ACS60US330)
Pin 10/11 → DC RTN		0 Vp	D5 Short (for model ACS60US48)
Note(s): Supply Voltage: 240V, 63Hz			

2.6.3.4	TABLE: ground continue test		N
Location		Resistance measured (mΩ)	Comments
Note(s):			

2.10.2	Table: working voltage measurement			P
Location		RMS voltage (V)	Peak voltage (V)	Comments

Model : ACS60US049			
T1 pin 3 to T1 pin 8/9 (GND)	218	416	
T1 pin 3 to T1 pin 10/11	216	384	
T1 pin 4 to T1 pin 8/9 (GND)	212	352	
T1 pin 4 to T1 pin 10/11	204	368	
T1 pin 5 to T1 pin 8/9 (GND)	215	352	
T1 pin 5 to T1 pin 10/11	209	368	
T1 pin 6 to T1 pin 8/9 (GND)	274	752	*
T1 pin 6 to T1 pin 10/11	264	720	
IC2 pin 3 to pin 1	218	368	
IC2 pin 3 to pin 2	222	368	
IC2 pin 4 to pin 1	211	368	
IC2 pin 4 to pin 2	214	352	
Model : ACS60US059			
T1 pin 3 to T1 pin 8/9 (GND)	208	372	
T1 pin 3 to T1 pin 10/11	209	352	
T1 pin 4 to T1 pin 8/9 (GND)	222	348	
T1 pin 4 to T1 pin 10/11	217	364	
T1 pin 5 to T1 pin 8/9 (GND)	213	336	
T1 pin 5 to T1 pin 10/11	208	344	
T1 pin 6 to T1 pin 8/9 (GND)	289	888	*
T1 pin 6 to T1 pin 10/11	279	856	
IC2 pin 3 to pin 1	210	344	
IC2 pin 3 to pin 2	209	340	
IC2 pin 4 to pin 1	208	336	
IC2 pin 4 to pin 2	206	336	
Model : ACS60US075			
T1 pin 3 to T1 pin 8/9 (GND)	177	368	
T1 pin 3 to T1 pin 10/11	174	320	
T1 pin 4 to T1 pin 8/9 (GND)	167	288	
T1 pin 4 to T1 pin 10/11	167	328	
T1 pin 5 to T1 pin 8/9 (GND)	175	296	
T1 pin 5 to T1 pin 10/11	175	304	

T1 pin 6 to T1 pin 8/9 (GND)	225	624	*
T1 pin 6 to T1 pin 10/11	213	640	*
IC2 pin 3 to pin 1	176	304	
IC2 pin 3 to pin 2	176	296	
IC2 pin 4 to pin 1	174	304	
IC2 pin 4 to pin 2	174	304	
Model : ACS60US110			
T1 pin 3 to T1 pin 8/9 (GND)	216	384	
T1 pin 3 to T1 pin 10/11	214	364	
T1 pin 4 to T1 pin 8/9 (GND)	216	340	
T1 pin 4 to T1 pin 10/11	211	376	
T1 pin 5 to T1 pin 8/9 (GND)	216	348	
T1 pin 5 to T1 pin 10/11	216	368	
T1 pin 6 to T1 pin 8/9 (GND)	291	656	*
T1 pin 6 to T1 pin 10/11	278	616	
IC2 pin 3 to pin 1	221	356	
IC2 pin 3 to pin 2	220	356	
IC2 pin 4 to pin 1	219	352	
IC2 pin 4 to pin 2	218	352	
Model : ACS60US169			
T1 pin 3 to T1 pin 8/9 (GND)	216	384	
T1 pin 3 to T1 pin 10/11	214	372	
T1 pin 4 to T1 pin 8/9 (GND)	210	340	
T1 pin 4 to T1 pin 10/11	211	376	
T1 pin 5 to T1 pin 8/9 (GND)	215	344	
T1 pin 5 to T1 pin 10/11	216	376	
T1 pin 6 to T1 pin 8/9 (GND)	300	704	*
T1 pin 6 to T1 pin 10/11	284	680	
IC2 pin 3 to pin 1	226	360	
IC2 pin 3 to pin 2	225	364	
IC2 pin 4 to pin 1	222	250	
IC2 pin 4 to pin 2	222	356	

Model : ACS60US170			
T1 pin 3 to T1 pin 8/9 (GND)	217	384	
T1 pin 3 to T1 pin 10/11	215	372	
T1 pin 4 to T1 pin 8/9 (GND)	209	340	
T1 pin 4 to T1 pin 10/11	210	400	
T1 pin 5 to T1 pin 8/9 (GND)	216	348	
T1 pin 5 to T1 pin 10/11	216	384	
T1 pin 6 to T1 pin 8/9 (GND)	280	656	*
T1 pin 6 to T1 pin 10/11	263	632	
IC2 pin 3 to pin 1	226	364	
IC2 pin 3 to pin 2	226	364	
IC2 pin 4 to pin 1	223	360	
IC2 pin 4 to pin 2	223	360	
Model : ACS60US329			
T1 pin 3 to T1 pin 8/9 (GND)	217	384	
T1 pin 3 to T1 pin 10/11	215	364	
T1 pin 4 to T1 pin 8/9 (GND)	211	340	
T1 pin 4 to T1 pin 10/11	205	408	
T1 pin 5 to T1 pin 8/9 (GND)	216	348	
T1 pin 5 to T1 pin 10/11	219	412	
T1 pin 6 to T1 pin 8/9 (GND)	311	768	*
T1 pin 6 to T1 pin 10/11	283	712	
IC2 pin 3 to pin 1	226	360	
IC2 pin 3 to pin 2	226	364	
IC2 pin 4 to pin 1	224	360	
IC2 pin 4 to pin 2	223	360	
Model : ACS60US330			
T1 pin 3 to T1 pin 8/9 (GND)	208	392	
T1 pin 3 to T1 pin 10/11	207	368	
T1 pin 4 to T1 pin 8/9 (GND)	224	360	
T1 pin 4 to T1 pin 10/11	228	520	
T1 pin 5 to T1 pin 8/9 (GND)	216	344	
T1 pin 5 to T1 pin 10/11	232	440	

T1 pin 6 to T1 pin 8/9 (GND)	269	584	*
T1 pin 6 to T1 pin 10/11	232	472	
IC2 pin 3 to pin 1	234	376	
IC2 pin 3 to pin 2	232	376	
IC2 pin 4 to pin 1	231	368	
IC2 pin 4 to pin 2	226	368	
Model : ACS60US48			
T1 pin 3 to T1 pin 8/9 (GND)	217	396	
T1 pin 3 to T1 pin 10/11	211	416	
T1 pin 4 to T1 pin 8/9 (GND)	215	340	
T1 pin 4 to T1 pin 10/11	231	528	
T1 pin 5 to T1 pin 8/9 (GND)	216	348	
T1 pin 5 to T1 pin 10/11	222	464	
T1 pin 6 to T1 pin 8/9 (GND)	289	568	*
T1 pin 6 to T1 pin 10/11	243	448	
IC2 pin 3 to pin 1	226	368	
IC2 pin 3 to pin 2	226	368	
IC2 pin 4 to pin 1	225	368	
IC2 pin 4 to pin 2	224	368	
Note(s): Supply Voltage: 240V, 63Hz An asterisk indicates the highest measured working voltage.			

2.10.3 and 2.10.4	TABLE: clearance and creepage distance measurements					P
Clearance cl and creepage distance dcr at/of:	Up (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required dcr (mm)	dcr (mm)
primary components (with 10N) → secondary components (with 10N)	420	250	4.0	↓	5.0	↓
- C3 → VR1				8.0		8.0
- C4 → HS2				8.5		8.5
primary → earthed trace (under CY3, CY4)	420	250	2.0	5.5	2.5	5.5

pri. → sec. traces	420	250	4.0	↓	5.0	↓
- under IC2				7.0		7.0
- C3 → VR1				7.7		7.7
Note(s): 1. Functional insulation shorted, see sub-clause 5.3.4. 2. Glued components (safety relevant): C3. 3. There are two layers insulation tape wrapped on the bottom core of T1. 4. There are two layers insulation tape wrapped around of T1.						

2.10.5	TABLE: distance through insulation measurements				P
Distance through insulation di at/of:		U r.m.s. (V)	Test voltage (V)	Required di (mm)	di (mm)
photo coupler (reinforced insulation)		250	3000	0.4	approved comp.
Note(s): Approved components used. For details refer to table 1.5.1.					

4.5.1	TABLE: maximum temperatures			P
	test voltage (V)	100V-10%/240V+10%		—
	t1 (°C)	--		—
	t2 (°C)	--		—
Maximum temperature T of part/at:		T (°C)		allowed T _{max} (°C)
Model : ACS60US049				
1. PCB under TH1		76.4	64.6	130
2. L1 coil		76.4	71.7	105
3. PCB under BR1		79.2	76.2	130
4. C2 body		78.2	80	105
5. HS1 body		87.2	94.7	130 (PCB)
6. T1 coil		94.8	96.3	110
7. T1 core		93.5	95.5	110
8. HS2 body		96.5	93.3	130 (PCB)
9. L3 coil		101.4	98.3	120
10. Ambient		50.2	50.1	--
Model : ACS60US059				
1. PCB under TH1		76.6	63.2	130

2. L1 coil	66.1	59.8	105
3. PCB under BR1	69.8	62.4	130
4. C2 body	67.6	66.4	105
5. HS1 body	63.9	60.6	130
6. T1 coil	79.8	79.7	110
7. T1 core	80.2	80.4	110
8. HS2 body	84.1	83.3	130
9. L3 coil	79.9	78.7	120
10. Ambient	50.2	50.1	--
Model : ACS60US075			
1. PCB under TH1	75.7	63.4	130
2. L1 coil	87.2	76.1	105
3. PCB under BR1	87.4	85.5	130
4. C2 body	82.4	80.8	105
5. HS1 body	93.6	101.1	130
6. T1 coil	82.6	81.2	110
7. T1 core	85.1	82.8	110
8. HS2 body	91.1	88.8	130
9. L3 coil	86.7	84.5	120
10. Ambient	50	50	--
Note: Values recorded are recalculated to Tma based on actual ambient during testing of 49.8°C/49.7°C			
Model : ACS60US110			
1. PCB under TH1	94	72.8	130
2. L1 coil	93.3	75.8	105
3. PCB under BR1	87	77.1	130
4. C2 body	98.1	93.1	105
5. HS1 body	106.5	101.1	130
6. T1 coil	103.8	101.8	110
7. T1 core	106.7	106.8	110
8. HS2 body	103.8	103.8	130
9. L3 coil	115.4	104.9	120
10. Ambient	50	50	--
Note: Values recorded are recalculated to Tma based on actual ambient during testing of 28.5°C/30.2°C			

Model : ACS60US169			
1. PCB under TH1	97.9	73.9	130
2. L1 coil	96.9	75.9	105
3. PCB under BR1	94.8	75.4	130
4. C2 body	98.3	89.4	105
5. HS1 body	104.4	84.9	130
6. T1 coil	101.2	96.2	110
7. T1 core	100.7	98.3	110
8. HS2 body	95.5	90.6	130
9. L3 coil	95	89.1	120
10. Ambient	50	50	--
Note: Values recorded are recalculated to Tma based on actual ambient during testing of 28.5°C/30.2°C			
Model : ACS60US170			
1. PCB under TH1	85.9	66.9	130
2. L1 coil	81	66.1	105
3. PCB under BR1	79.3	66.4	130
4. C2 body	77.7	72.5	105
5. HS1 body	82.1	69.6	130
6. T1 coil	83.5	80.4	110
7. T1 core	89.4	88	110
8. HS2 body	89.2	86.9	130
9. L3 coil	80.4	78.3	120
10. Ambient	50	50	--
Note: Values recorded are recalculated to Tma based on actual ambient during testing of 49.6°C/49.7°C			
Model : ACS60US329			
1. PCB under TH1	97.8	77.6	130
2. L1 coil	97.9	84.2	105
3. PCB under BR1	84.1	78.7	130
4. C2 body	98.5	97	105
5. HS1 body	103.7	102.6	130
6. T1 coil	101.3	103.3	110
7. T1 core	97.6	101.2	110
8. HS2 body	90.6	92.3	130

9. L3 coil			89.9	91.6	120	
10. Ambient			50	50	--	
Note: Values recorded are recalculated based on actual ambient during testing of 27.6°C/27.9°C						
Model : ACS60US330						
1. PCB under TH1			85.5	69.3	130	
2. L1 coil			87.2	76.1	105	
3. PCB under BR1			82.2	81	130	
4. C2 body			85.2	85.6	105	
5. HS1 body			100	115.7	130	
6. T1 coil			90.7	91.7	110	
7. T1 core			87.5	90	110	
8. HS2 body			75.5	76	130	
9. L3 coil			72.2	73	120	
10. Ambient			50	50	--	
Note: Values recorded are recalculated to Tma based on actual ambient during testing of 49.6°C/49.7°C						
Model : ACS60US48						
1. PCB under TH1			94.9	73.9	130	
2. L1 coil			97.7	77.5	105	
3. PCB under BR1			80.5	71	130	
4. C2 body			95.2	91	105	
5. HS1 body			106.8	99	130	
6. T1 coil			98.2	97.4	110	
7. T1 core			93.7	95.4	110	
8. HS2 body			85.7	84.2	130	
9. L3 coil			83.4	81.9	120	
10. Ambient			50	50	--	
Note: Values recorded are recalculated to Tma based on actual ambient during testing of 28.0°C/28.1°C						
Temperature T of winding:		R ₁ (Ω)	R ₂ (Ω)	T (°C)	allowed T _{max} (°C)	insulation class

Note(s):

1. The temperatures were measured under worst normal mode defined in 1.2.2.1 and as described in sub-clause 1.6.2 and at voltages as described above.

4.5.2	TABLE: ball pressure test of thermoplastic parts			P
	allowed impression diameter (mm): ≤ 2 mm			—
Part		Test temperature (°C)	Impression diameter (mm)	
Bobbin material of L1 (SUMITOMO, E4008L)		125	0.9	
Note(s):				

5.1.6	TABLE: touch current measurement				P
Condition	L→ terminal A (mA)	N → terminal A (mA)	Limit (mA)	Comments	
System on	0.95	0.42	3.5	To earth (PCB bonding terminal) with switch “e” open	
Input voltage : 264 Vac					
Input frequency : 60 Hz					
Overall capacity: CY1=CY2=CY3=4700pF					

5.2	TABLE: electric strength tests and impulse tests			P
Test voltage applied between:		Test voltage (V)	Breakdown	
Primary to secondary		DC 4242V	No	
Primary to earth		DC 3231V	No	
T1 Primary to secondary		DC 4242V	No	
T1 Secondary to core		DC 4242V	No	
Two layers of insulation tape used in T1		AC 3000V	No	
Note(s):				

5.3	TABLE: fault condition tests			P
	ambient temperature (°C)	25, if not otherwise specified.		—
	model/type of power supply	--		—
	manufacturer of power supply	--		—
	rated markings of power supply	--		—

No.	Component no.	Fault	Test voltage (V)	Test time	Fuse no.	Fuse current (A)	Result
Model : ACS60US049							
1	Output Connector	s-c	240V	1hr	F1	0.45A→0.11A	Unit shut down, T1 coil=112.9°C, no hazards.
2	Output Connector	o-l	240V	9hrs	F1	0.45A→0.53A → 0.37 A	Overloaded to 10.4A, unit shut down, T1 coil=112.9°C, no hazards.
Model : ACS60US059							
3	Output Connector	s-c	240V	1hr	F1	0.56A→0.16A	Unit shut down, T1 coil=94.9°C, no hazards.
4	Output Connector	o-l	240V	5hrs	F1	0.45A→0.57A → 0.35A	Overloaded to 8.8A, unit shut down, T1 coil=135.5°C, no hazards.
Model : ACS60US075							
5	Output Connector	s-c	240V	1hr	F1	0.62A→0.27A	Normal operation, T1 coil=127.7°C, no hazards.
6	Output Connector	o-l	240V	9hrs	F1	0.55A→0.7A→ 0.35A	Overloaded to 8.8A, unit shut down, T1 coil=137.5°C, no hazards.
Model : ACS60US110							
7	Output Connector	s-c	240V	2.5hr	F1	0.61A→0.31A →0A	Fuse opened, T1 coil=150.2°C, no hazards.
8	Output Connector	o-l	240V	5hrs 50 mins	F1	0.59A→0.68A → 0.28A	Overloaded to 6.6A, unit shut down, T1 coil=132.3°C, no hazards.
Model : ACS60US169							
9	Output Connector	s-c	240V	30min	F1	0.60A→0.41A → 0A	Fuse opened, Q1, R8, R10, R11, D2, R20 damaged, T1 coil=153.6°C, no hazards.
10	Output Connector	o-l	240V	5hrs 40 mins	F1	0.58A→0.63A → 0A	Overloaded to 4.3A, Fuse opened, Q1, R7, R10, R11 damaged, T1 coil=129.3°C, no hazards.
Model : ACS60US170							
11	Output Connector	s-c	240V	10min	F1	0.63A→0A	Fuse opened, Q1, R10, R11, IC1, R8 damaged, T1 coil=120.7°C, no hazards.
12	Output Connector	o-l	240V	5hrs 20 mins	F1	0.6A→0.69A→ 0A	Overloaded to 4.3A, Fuse opened, Q1, R7, R10, R11 damaged, T1 coil=152.1°C, no hazards.

Model : ACS60US329							
13	Output Connector	s-c	240V	1hr	F1	0.6A→0.12A	Unit shut down, T1 coil=89.6°C, no hazards.
14	Output Connector	o-l	240V	5hrs 30 mins	F1	0.61A→0.81A → 0A	Overloaded to 2.7A, Fuse opened, Q1, R7, R10, R11 damaged, T1 coil=131.1°C, no hazards.
Model : ACS60US330							
15	Output Connector	s-c	240V	1s	F1	0.58A→0A	Fuse opened immediately, Q1, R10, R11 damaged, no hazards.
16	Output Connector	o-l	240V	5hrs	F1	0.61A→0.69A → 0A	Overloaded to 2.2A, Fuse opened, Q1, R7, R10, R11 damaged, T1 coil=115.9°C, no hazards.
Model : ACS60US48							
17	Output Connector	s-c	240V	1s	F1	0.6A→0A	Fuse opened immediately, Q1, R10, R11, D3, R12, IC1, D6 damaged, no hazards.
18	Output Connector	o-l	240V	9hrs 30 min	F1	0.59A→0.8A→0A	Overloaded to 1.85A, Fuse opened, Q1, R7, R10, R11 damaged, T1 coil=147.4°C, no hazards.
For All Models							
19	T1 (pin 8/9~pin 10/11)	s-c	240V	1hr	F1	0.46A→0.11A	Unit shut down, T1 coil= 52.3°C, no hazards.
20	D5	s-c	240V	1hr	F1	0.46A→0.09A	Unit shut down, T1 coil= 54.7°C, no hazards.
21	IC2 (pin1)	dis.	240V	1hr	F1	0.45A→0.04A	Unit shut down, T1 coil= 59.1°C, no hazards.
22	IC2 (pin3~pin4)	s-c	240V	1hr	F1	0.45A→0.05A	Unit shut down, T1 coil= 48.2°C, no hazards.
23	T1 (pin3~pin5)	s-c	240V	1hr	F1	0.44A→0.07A	Unit shut down, T1 coil= 53.8°C, no hazards.
24	Q1 (G-S)	s-c	240V	1hr	F1	0.46A→0.05A	Unit shut down, T1 coil= 47.6°C, no hazards.
25	IC1 (pin6~pin7)	s-c	240V	1s	F1	0.44A→0A	Fuse opened immediately, IC1, D3, R12, Q1, R10, R11 damaged, no hazards.

26	IC1 (pin5~pin6)	s-c	240V	1hr	F1	0.46A→0.05A	Unit shut down, T1 coil= 50.6°C, no hazards.
27	Q1 (G-D)	s-c	240V	1s	F1	0.45A→0A	Fuse opened immediately, Q1, R10, R12, D3, IC1 damaged, no hazards.
28	Q1 (D-S)	s-c	240V	1s	F1	0.44A→0A	Fuse opened immediately, R10, R11 damaged, no hazards.
29	C2	s-c	240V	1s	F1	0.45A→0A	Fuse opened immediately, no hazards.
30	BR1	s-c	240V	1s	F1	0.45A→0A	Fuse opened immediately, no hazards.

Note(s):

- 1) For fuse open condition, same result came out for each source of fuse used.
- 2) In fault column, where s-c=short-circuited, o-l=overloaded.

C.2	Safety isolation transformer	P
Construction details:		
Transformer part name: T1		
Manufacturer: See appended table 1.5.1		
Type: See appended table 1.5.1		
All types are identical in construction except for turns and gauge of N2.		
Recurring peak voltage	888V 0-p	
Required clearance for reinforced insulation (from table 2H and 2J)	4.0mm + 1.4mm	
Effective voltage rms	311V	
Required creepage distance for reinforced insulation (from table 2L)	6.6mm	
Measured min. creepage distance		
Location	inside (mm)	outside (mm)
Primary to secondary	(triple insulation wire used)	9.2
Primary to core	%	%

Secondary to core	(triple insulation wire used)	9.2
Primary to primary	%	%
Measured min. clearances		
Location	inside (mm)	outside (mm)
Primary to secondary	(triple insuation wire used)	6.8
Primary to core	%	%
Secondary to core	(triple insuation wire used)	6.8
Primary to primary	%	%
Construction: Concentric windings on type PQ-2620 bobbin, one layer insulation tape between primary and secondary windings. Winding ends additionally fixed with tape and tubing, outer winding is primary. Core is considered to be primary. Secondary wires are used triple insulation wires.		
Pin numbers		
Prim.	4→2→6, 5→3	
Sec.	8/9→10/11	
Bobbin		
Material	HITACHI, phenolic type CP-J-8800	
Thickness	min. 0.8mm	
Electric strength test		
With AC 3000V after humidity treatment		
Result	Pass	

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	Korean National Differences according to CB Bulletin, No. 105A, May 2003 (IEC Publication 60950-1:2001)		P
EXPLANATION FOR ABBREVIATIONS P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.			
1.5.101	Addition: Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305).	No plug provided.	N
7	Addition: EMC The apparatus shall comply with the relevant CISPR standards.	To be evaluated when submitted for national approval.	N

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
APPENDIX	US National Differences according to CB Bulletin, No. 105A, May 2003 (UL 60950-1) (IEC Publication 60950-1:2001)		P
Special National Conditions			
1.1.1	All equipment is to be designed to allow installations in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	Unit was evaluated according to IEC 60950-1. The requirements have to be checked during national approval.	N
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.		N
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g. DP, CL2) specified in the NEC. For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the NEC are required to have special construction features and identification markings.	No power cord provided. For the interconnection output cable to be evaluated during the national approval.	N
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extends into the Table 2 “Normal Operating Conditions.” Likewise, a voltage rating shall not be lower than the specified “Normal Operating Conditions,” unless it is part of a range that extends into the “Normal Operating Conditions.”	Single phase.	N
2.5	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.	Not applied for.	N

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets, receptacles and medium-base or smaller lampholders if the supply branch circuit protection is not suitable. Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require transformer overcurrent protection.	No standard supply outlets.	N
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC/CEC.	No power cord provided.	N
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.	No power cord provided.	N
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.	Not permanently connected equipment.	N
3.2.5	Power supply cords are required to be no longer than 4.5 m in length. Flexible power supply cords are required to be compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.	No power cord provided.	N
3.2.9	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.	Not permanently connected equipment.	N
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0.	Neither wiring terminals nor associated spacings.	N
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).	No wire binding screws.	N
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for U.S./Canadian wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified (1.7.7).	No terminals for permanent wiring.	N
3.4.2	Motor control devices are required for cord-connected equipment with a motor if the equipment is rated more than 12A, or if the motor has a nominal voltage rating greater than 120V, or is rated more than 1/3 hp (locked rotor current over 43 A)	No motor control devices.	N

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
3.4.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.	No such switch.	N
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.	No battery.	N
4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.	No flammable liquid.	N
4.3.13	Equipment with lasers is required to meet Code of Federal Regulations 21 CFR 1040 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No laser.	N
4.7	For computer room applications, automated information storage systems with combustible media greater than 27 cubic feet are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.	Not automated information storage systems.	N
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² or a single dimension greater than 1.8 m are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.	No such enclosure.	N
Annex H	Equipment that produces ionizing radiation is required to comply with the Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).	No ionizing radiation.	N
Other differences			
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. These components include: attachment plugs, battery packs (rechargeable type, used with transportable equipment), cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, enclosures (outdoor), flexible cords	Components are UL approved, see component list 1.5.1.	P

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
	and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, surge suppressors, switches (including interlock switches), thermal cutoffs, thermostats, multi-layer transformer winding wire, tubing, wire connectors, and wire and cables.		
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V _{d.c.} , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mAd.c. under normal operating conditions.	No TNV.	N
2.3.2	In the event of a single fault, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.		N
2.6.3.4	When subject to impedance testing, protective earthing and bonding are required to be subjected to the additional test conditions specified.	To be evaluated in final system assembly.	N
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, writing, marking and installation instruction requirements.		N
4.2.8.1	Enclosures around CRTs with a face diameter of 160mm or more are required to reduce the risk of injury due to the implosion of the CRT.	No CRT.	N
4.3.2	Equipment with handles is required to comply with special loading tests.	No handle.	N
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.	No TNV.	N
6.2.1	Enamel coating on winding wire not considered electrical separation unless subjected to special investigation.	No TNV.	N

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
6.4	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.	No TNV.	N
6.5	Equipment connected to a telecommunications network and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure tests.	No TNV.	N
M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.	No TNV.	N

National Differences				
Clause	Requirement – Test		Result – Remark	Verdict
APPENDIX	Australian National Differences according to AS/NZS 60950.1:2003 (IEC Publication 60950-1:2001)			P
EXPLANATION FOR ABBREVIATIONS P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.				
Annex ZZ Variations				
1.2	Between the definitions for "Person, service" and "Range, rated frequency" insert the following: Potential ignition source 1.2.12.201		Inserted.	N
1.2.12.15	After the definition of 1.2.12.15, add the following: 1.2.12.201 Potential ignition source: Possible fault which can start a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s. current under normal operating conditions exceeds 15 VA. Such a faulty contact or interruption in an electrical connection includes those which may occur in conductive patterns on printed boards. NOTE 201: An electronic protection circuit may be used to prevent such a fault from becoming a potential ignition source. NOTE 202: This definition is from AS/NZS 60065:2003.		Added.	P
1.5.1	Add the following to the end of first paragraph: "or the relevant Australian/New Zealand Standard."		Added.	P
1.5.2	Add the following to the end of first and third dash items: "or the relevant Australian/New Zealand Standard."		Added.	P
2.1	Delete the Note.		Deleted.	N
3.2.3	Delete Note 2.		Deleted.	N
3.2.5	Modify Table 3B as follows:		Replaced.	N
	Rated current of equipment A	Nominal cross-sectional area mm ²		

National Differences				
Clause	Requirement – Test		Result – Remark	Verdict
	Over 0.2 up to and including 3	0.5 ¹⁾	18 [0.8]	
	Over 3 up to and including 7.5	0.75	16 [1.3]	
	Over 7.5 up to and including 10	(0.75) ²⁾ 1.00	16 [1.3]	
	Over 10 up to and including 16	(1.0) ³⁾ 1.5	14 [2]	
	Replace footnote 1) with the following: 1) This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliances, and the entry to the plug does not exceed 2 m (0.5 mm ² three-core supply flexible cords are not permitted; see AS/NZS 3191). Delete Note 1.			
4.3.6	Replace paragraph three with: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112, shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.		Not a direct plug-in equipment.	N
4.3.13.5	Add the following to the end of the first paragraph: ", or AS/NZS 2211.1"		Added.	N
4.7	Add the following paragraph: For alternative tests refer to clause 4.7.201.		Added.	N
4.7.201	Add the following after clause 4.7.3.6: 4.7.201 Resistance to fire - Alternative tests		Added.	N
4.7.201.1	General Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames originating from inside the apparatus, or the following: (a) Components that are contained in an			N

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
	enclosure having a flammability category of FV-0 according to AS/NSZ 4695.707 and having openings only for the connecting wires filling the openings completely, and for the ventilation not exceeding 1 mm in width regardless of the length. (b) The following parts which would contribute negligible fuel to a fire: - small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings; - small electrical components, such as capacitors with a volume not exceeding 1750 mm³, integrated circuits, transistors and optocoupler packages, if these components are mounted on material flammability category FV-1 or better according to AS/NZS 4695.707 NOTE - In considering how to minimize propagation of fire and what “small parts” are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating fire from one part to another. Compliance is checked by tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5. For the base materials of printed boards, compliance is checked by the test of 4.7.201.5. The tests shall be carried out on parts of non-metallic material, which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation, as they would be in normal use. These tests are not carried out on internal wiring.		
4.7.201.2	Parts of non-metallic material are subjected to glow wire test of AS/NZS 4695.2.11, which is carried out at 550 °C. Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of materials classified at least FH-3 according to ISO 9772 provided that the sample was not thicker than the relevant part.		N

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
4.7.201.3	Testing of insulating materials Parts of insulating materials supporting potential ignition sources shall be subject to the glow-wire test of AN/NZS 4695.2.11, which is carried out at 750 °C. The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection. NOTE - Contacts in components such as switch contacts are considered to be connections. For parts, which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested. The needle-flame test shall be made in accordance with AS/NZS 4695.2.2 with the following modifications: 5 Severities Replace with: The duration of application of the test flame shall be 30 s ± 1 s. 8 Test procedure 8.2 Modification: Replace the first sentence with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. 8.4 Modification: The first paragraph does not apply. Addition: If possible, the flame shall be applied at least 10 mm from a corner. 8.5 Replacement: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall then withstand the test.		N

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
	10 Evaluation of test results Replace with: The duration of burning (t_b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s. The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to IEC 60695-11-10, provided that the sample tested was not thicker than the relevant part.		
4.7.201.4	Testing in the event of non-extinguishing material If parts, other than enclosures, do not withstand the glow-wire tests of 4.7.201.3, by failure to extinguish within 30 s after the removal of the glow-wire tip, the needle-flame test detailed in 4.7.201.3 is made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not to be tested. NOTE 1 - If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirement of clause 4.7.201 without the need for consequential testing. NOTE 2 - If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burring or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirement of clause 4.7.201 without the need for consequential testing. NOTE 3 - Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting in contact with or in close proximity to connections.		N
4.7.201.5	Testing of printed boards The base material of printed boards is subjected to needle-flame test to Clause 4.7.201.3. The flame is applied to the edge of the board where the heat sink effect is lowest when the board is		N

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
	positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm for a potential ignition source. The test is not carried out if the – - Printed board does not carry any potential ignition source; - Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category FV-1 or better according to AS/NZS 4695.707, or the printed boards are protected by an enclosure meeting the flammability category FV-0 according to AS/NZS 4695.707, or made of metal, having openings only for connecting wires which fill the opening completely, or - Base material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material printed boards supporting spark gaps which provide protection against overvoltages, is of flammability category FV-0 according to AS/NSZ 4695.707 or the printed boards are contained in a metal enclosure, having openings only for connecting wires fill the openings completely. Compliance is determined using the smallest thickness of the material. NOTE - Available apparent power is the maximum apparent power, which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximise the apparent power for more than 2 min when the circuit supplied is disconnected.		
6.2.2	Add the following after the first paragraph: In Australia (this variation does not apply in New Zealand), compliance with 6.2.2 is checked by the tests of both 6.2.2.1 and 6.2.2.2. Delete the note.	No TNV.	N

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
6.2.2.1	Delete Note 2. Add the following after the first paragraph: In Australia (this variation does not apply in New Zealand), the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator of annex N for 10/700 μs impulses. The interval between successive impulses is 60 s and the initial voltage, U_c, is: - for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and - for 6.2.1b) and 6.2.1c): 1.5 kV. NOTE 201 - The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202 – The 2.5 kV impulse for 6.2.1 a) was chosen to ensure adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.	No TNV.	N
6.2.2.2	Delete the note. Add the following after the second paragraph: In Australia (this variation does not apply in New Zealand), the a.c. test voltage is: - for 6.2.1a): 3 kV; and - for 6.2.1b) and 6.2.1c): 1.5 kV. NOTE 201 – Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 – The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.	No TNV.	N
Annex P	Add the following Normative References to Annex P: IEC 60065, Audio, Video and similar electronic apparatus - Safety requirements AS/NZS 3112, Approval and test specification - Plugs and socket-outlets AS/NZS 3191, Approval and test specification - Electric flexible cords	Added.	N

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
	AS/NZS 4695.707, Fire hazard testing of electrotechnical products - Methods of test for the determination of the flammability of solid electrical insulating materials when exposed to an igniting source		