Test Report issued under the responsibility of:

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

Report Number. ..... :	1311017002
Date of issue ..... :	2014-01-20
Total number of pages	94
CB Testing Laboratory..... :	Victronic Technology Corporation
Address ..... :	4th Fl. 130, Ln. 235, Baoqiao Rd., Xindian Dist, New Taipei 231, Taiwan.
Applicant's name..... :	EATON CORP
Address ..... :	9650 JERONIMO RD IRVINE CA 92618 UNITED STATES
Manufacturer's name..... :	EATON CORP
Address ..... :	9650 JERONIMO RD IRVINE CA 92618 UNITED STATES
Test specification:	
Standard..... :	IEC 60950-1:2005 (Second Edition) + Am 1:2009
Test procedure ..... :	CB Scheme
Non-standard test method..... :	N/A
Test Report Form No..... :	IEC60950_1C
Test Report Form(s) Originator..... :	SGS Fimko Ltd
Master TRF ..... :	Dated 2012-08

If this Test Report Form is used by non-IECEE members, the IECEE/IEC logo and the reference to the CB Scheme procedure shall be removed.

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

Test item description.....:	Power Distribution System
Trade Mark..... :	Hewlett-Packard or Eaton

Manufacturer ..... :	EATON CORP 9650 JERONIMO RD IRVINE CA 92618 UNITED STATES
Model/Type reference ..... :	Models (Hewlett-Packard) HSTNR-P040-1, HSTNR-P040-2, HSTNR-P041-1, HSTNR-P040-3, HSTNR-P042-1, HSTNR-P042-2, HSTNR-P043-1, HSTNR-P043-2, HSTNR-P044-1, HSTNR-P044-2, HSTNR-P044-3, HSTNR-P045-1, HSTNR-P044-4, HSTNR-P045-2, HSTNR-P045-3, HSTNR-P045-4, HSTNR-P045-5, HSTNR-P045-6, HSTNR-P045-7, HSTNR-P045-8, HSTNR-P045-9, HSTNR-P046-1, HSTNR-P046-2, HSTNR-P046-3, HSTNR-P046-4, HSTNR-P046-5, HSTNR-P046-6, HSTNR-P046-7, HSTNR-P041-1 (Assy 3.6kVA 200-240V 16out WW 22U mPDU), HSTNR-P040-3 (Assy 3.6kVA 200-240V 12out WW 1U mPDU), HSTNR-P042-2 (Assy 7.3kVA 230V 24out INTL 36U mPDU), HSTNR-P043-2 (Assy 7.3kVA 230V 36out INTL 42U mPDU), HSTNR-P044-4 (Assy 11kVA 400V 3Ph 21out INTL 36U mPDU), HSTNR-P045-2 (Assy 22kVA 400V 3Ph 33out INTL 42U mPDU), HSTNR-P045-3 (Assy 11kVA 400V 3Ph 33out INTL 42U mPDU), HSTNR-P045-6 (Assy 22kVA 400V 3Ph 24out INTL 42U mPDU), HSTNR-P046-4 (Assy 22kVA 415V 3Ph 24out INTL POD mPDU), HSTNR-P046-5 (Assy 22kVA 415V 3Ph 18+6out INTL POD mPDU), HSTNR-P046-6 (Assy 43.5kVA 415V 3Ph 24out INTL POD mPDU) Models (Eaton) HMI2MGB4EMB1-C1, HMI4MTB4JDA1-C1, HMI4CCAAABE4-C1, HMI4CCAAABC1-C1, HMI4MTB4JDD5-C1, HMI4CHJ4CDD5-C1, HMI4MXD4JGH6-C1, HMI4CHJ4CDF6-C1, HMI4PCB4JGC5-C1, HMI4PBB4AFA5-C1, HMI4PDB4JFB5-C1, HMI4DKE4JJH6-C1, HMI4DAJ4AGC5-C1, HMI4DHJ4CJJ6-C1, HMI4DAJ4AGH6-C1, HMI4PHD4JJF6-C1, HMI4DKE4JJF6-C1, HMI4DHJ4CJF6-C1, HMI4DHD4GJJ6-C1, HMI4DHD4GJF6-C1, HMI2PJD4HPC6-C1, HMI5DHL2FJGB-C1, HMI5DHL2FJEB-C1, HMI5DML2FJMB-C1, HMI5DHM2DJGB-C1, HMI5DHM2DJEB-C1, HMI5DMM2DJMB-C1, HMI5DML2FJNB-C1 Models EBAxxxxxxxxxxxx, EILxxxxxxxxxxxx, EMIxxxxxxxxxxxx series. See model differences for an explanation of model nomenclature.
Ratings ..... :	HSTNR-P040-1, HMI2MGB4EMB1-C1 Input: 100-120Vac, W+N+PE, 24 A, 50/60 Hz Output: 100-120Vac 16A MAX PER OUTLET 16A MAX PER LOAD SEGMENT 24A MAX TOTAL HSTNR-P040-2, HSTNR-P042-1 HMI4MTB4JDA1-C1 Input: 200-240Vac, 2W+PE, 24 A, 50/60 Hz Output: 200-240Vac 10A MAX PER OUTLET 16A MAX PER LOAD SEGMENT 24A MAX TOTAL HSTNR-P042-1, HMI4MTB4JDD5-C1 Input: 200-240Vac, 2W+PE, 24 A, 50/60 Hz Output: 200-240Vac 10A PER C13; 16A PER C19

16A MAX PER LOAD SEGMENT
24A MAX TOTAL

HSTNR-P041-1, HSTNR-P041-1 (Assy 3.6kVA 200-240V 16out WW 22U mPDU), HSTNR-P040-3, HSTNR-P040-3 (Assy 3.6kVA 200-240V 12out WW 1U mPDU)
HMI4CCAAABE4-C1, HMI4CCAAABC1-C1
Input: 200-240Vac, 2W+PE, 16 A, 50/60 Hz
Output: 200-240Vac
10A MAX PER OUTLET
16A MAX TOTAL

HSTNR-P042-2, HSTNR-P042-2 (Assy 7.3kVA 230V 24out INTL 36U mPDU), HSTNR-P043-2, HSTNR-P043-2 (Assy 7.3kVA 230V 36out INTL 42U mPDU)
HMI4CHJ4CDD5-C1, HMI4CHJ4CDF6-C1
Input: 200-240Vac, W+N+PE, 32 A, 50/60 Hz
Output: 200-240Vac
10A PER C13; 16A PER C19
16A MAX PER LOAD SEGMENT
32A MAX TOTAL

HSTNR-P043-1, HMI4MXD4JGH6-C1
Input: 200-240Vac, 2W+PE, 40 A, 50/60 Hz
Output: 200-240Vac
10A PER C13; 16A PER C19
16A MAX PER LOAD SEGMENT
40A MAX TOTAL

HSTNR-P044-1, HMI4PCB4JGC5-C1
Input: 208Vac, , 3W+PE, 24 A, 50/60 Hz
Output: 200-240Vac
10A PER C13; 16A PER C19
16A MAX PER LOAD SEGMENT
24A MAX PER PHASE

HSTNR-P044-2, HMI4PBB4AFA5-C1
Input: 120/208Vac, Y, 3W+N+PE, 16 A, 50/60 Hz
Output: 120V, 16A PER 5-20
200-240V, 10A PER C13
16A MAX PER LOAD SEGMENT
16A MAX PER PHASE

HSTNR-P044-3, HMI4PDB4JFB5-C1
Input: 120/208Vac, Y, 3W+N+PE, 24 A, 50/60 Hz
Output: 120V, 16A PER 5-20
200-240V; 10A PER C13, 16A PER C19
16A MAX PER LOAD SEGMENT
24A MAX PER PHASE

HSTNR-P045-1, HSTNR-P045-5, HMI4DKE4JJH6-C1, HMI4DKE4JJF6-C1
Input: 208Vac, , 3W+PE, 48 A, 50/60 Hz
Output: 200-240Vac
10A PER C13; 16A PER C19
16A MAX PER LOAD SEGMENT
48A MAX PER PHASE

HSTNR-P044-4, HSTNR-P044-4 (Assy 11kVA 400V 3Ph 21out INTL 36U mPDU), HSTNR-P045-3, HSTNR-P045-3 (Assy 11kVA 400V 3Ph 33out INTL 42U mPDU)

HMI4DAJ4AGC5-C1, HMI4DAJ4AGH6-C1
Input: 200-240 / 346-415Vac, Y, 3W+N+PE, 16 A, 50/60 Hz
Output: 200-240Vac
10A PER C13; 16A PER C19
16A MAX PER LOAD SEGMENT
16A MAX PER PHASE

HSTNR-P045-2, HSTNR-P045-2 (Assy 22kVA 400V 3Ph 33out INTL 42U mPDU), HSTNR-P045-6, HSTNR-P045-6 (Assy 22kVA 400V 3Ph 24out INTL 42U mPDU), HSTNR-P046-5, HSTNR-P046-5 (Assy 22kVA 415V 3Ph 18+6out INTL POD mPDU)
HMI4DHJ4CJJ6-C1, HMI4DHJ4CJF6-C1, HMI5DHM2DJEB-C1
Input: 200-240 / 346-415Vac, Y, 3W+N+PE, 32 A, 50/60 Hz
Output: 200-240Vac
10A PER C13; 16A PER C19
16A MAX PER LOAD SEGMENT
32A MAX PER PHASE

HSTNR-P045-4, HMI4PHD4JJF6-C1
Input: 208Vac, 3W+PE, 40 A, 50/60 Hz
Output: 200-240Vac
10A PER C13; 16A PER C19
16A MAX PER LOAD SEGMENT
40A MAX PER PHASE

HSTNR-P045-7, HSTNR-P045-8, HSTNR-P046-2, HMI4DHD4GJJ6-C1, HMI4DHD4GJF6-C1, HMI5DHL2FJEB-C1
Input: 200-240 / 346-415Vac, Y, 3W+N+PE, 24 A, 50/60 Hz
Output: 200-240Vac
10A PER C13; 16A PER C19
16A MAX PER LOAD SEGMENT
24A MAX PER PHASE

HSTNR-P045-9, HMI2PJD4HPC6-C1
Input: 277/480Vac, Y, 3W+N+PE, 24 A, 50/60 Hz
Output: 277Vac
15A MAX PER OUTLET
16A MAX PER LOAD SEGMENT
24A MAX PER PHASE

HSTNR-P046-1, HMI5DHL2FJGB-C1

Input: 200-240 / 346-415Vac, Y, 3W+N+PE, 24 A, 50/60 Hz
Output: 200-240Vac
10A MAX PER OUTLET
16A MAX PER LOAD SEGMENT
24A MAX PER PHASE

HSTNR-P046-3, HMI5DML2FJMB-C1
Input: 200-240 / 346-415Vac, Y, 3W+N+PE, 48 A, 50/60 Hz
Output: 200-240Vac
16A MAX PER OUTLET
16A MAX PER LOAD SEGMENT
48A MAX PER PHASE

HSTNR-P046-4, HSTNR-P046-4 (Assy 22kVA 415V 3Ph 24out INTL POD mPDU)
HMI5DHM2DJGB-C1
Input: 200-240 / 346-415Vac, Y, 3W+N+PE, 32 A, 50/60 Hz
Output: 200-240Vac
10A MAX PER OUTLET

16A MAX PER LOAD SEGMENT
32A MAX PER PHASE

HSTNR-P046-6, HSTNR-P046-6 (Assy 43.5kVA 415V 3Ph 24out INTL POD mPDU)
HMI5DMM2DJMB-C1
Input: 200-240 / 346-415Vac, Y, 3W+N+PE, 63 A, 50/60 Hz
Output: 200-240Vac
16A MAX PER OUTLET
16A MAX PER LOAD SEGMENT
63A MAX PER PHASE

HSTNR-P046-7, HMI5DML2FJNB-C1
Input: 200-240 / 346-415Vac, Y, 3W+N+PE, 48 A, 50/60 Hz
Output: 200-240Vac
10A MAX PER OUTLET
16A MAX PER LOAD SEGMENT
48A MAX PER PHASE

Two Digit Input Plug Code Ratings:
xxxxMAxxxxxxxxx, xxxxMBxxxxxxxxx
Input: 100-127Vac, 12A, 50/60Hz

xxxxMCxxxxxxxxx, xxxxMDxxxxxxxxx
Input: 100-127Vac, 16A, 50/60Hz

xxxxMGxxxxxxxxx
Input: 100-127Vac, 24A, 50/60Hz

xxxxCAxxxxxxxxx, xxxxCPxxxxxxxxx
Input: 200-240Vac, 10A, 50/60Hz

xxxxMExxxxxxxxx, xxxxMFxxxxxxxxx
Input: 200-240Vac, 12A, 50/60Hz

xxxxMHxxxxxxxxx, xxxxMJxxxxxxxxx, xxxxCCxxxxxxxxx, xxxxCXxxxxxxxxx, xxxxCExxxxxxxxx, xxxxCFxxxxxxxxx
Input: 200-240Vac, 16A, 50/60Hz

xxxxMTxxxxxxxxx
Input: 200-240Vac, 24A, 50/60Hz

xxxxCHxxxxxxxxx, xxxxCJxxxxxxxxx
Input: 200-240Vac, 32A, 50/60Hz

xxxxMXxxxxxxxxx
Input: 200-240Vac, 40A, 50/60Hz

xxxxCKxxxxxxxxx, xxxxCLxxxxxxxxx
Input: 200-240Vac, 48A, 50/60Hz

xxxxNJxxxxxxxxx
Input: 120/240Vac 2W+N+PE, 16A, 50/60Hz

xxxxNTxxxxxxxxx
Input: 120/240Vac 2W+N+PE, 24A, 50/60Hz

xxxxPAxxxxxxxxx
Input: 200-240Vac 3W+PE, 16A, 50/60Hz

xxxxPCxxxxxxxxx

Input: 200-240Vac 3W+PE, 24A, 50/60Hz

xxxxPHxxxxxxxxx
Input: 200-240Vac 3W+PE, 40A, 50/60Hz

xxxxDKxxxxxxxxx, xxxxDLxxxxxxxxx
Input: 200-240Vac 3W+PE, 48A, 50/60Hz

xxxxPBxxxxxxxxx
Input: 120/208Vac 3W+N+PE, 16A, 50/60Hz

xxxxPDxxxxxxxxx
Input: 120/208Vac 3W+N+PE, 24A, 50/60Hz

xxxxDAxxxxxxxxx, xxxxDBxxxxxxxxx
Input: 200-240/346-415Vac 3W+N+PE, 16A, 50/60Hz

xxxxDHxxxxxxxxx, xxxxDJxxxxxxxxx (UL)
Input: 200-240/346-415Vac 3W+N+PE, 24A, 50/60Hz

xxxxPFxxxxxxxxx
Input: 277/480Vac 3W+N+PE, 16A, 50/60Hz

xxxxPJxxxxxxxxx
Input: 277/480Vac 3W+N+PE, 24A, 50/60Hz

xxxxPExxxxxxxxx
Input: 200-240Vac 3W+PE, 35A, 50/60Hz

xxxxDCxxxxxxxxx, xxxxDDxxxxxxxxx
Input: 200-240Vac 3W+PE, 45A, 50/60Hz

xxxxDHxxxxxxxxx, xxxxDJxxxxxxxxx (CB)
Input: 200-240/346-415Vac 3W+N+PE, 32A, 50/60Hz

Outlet Output:

Outlet Type	Output Ratings
IEC C13	UL: 100-240V 15A, CB: 100-240V 10A
IEC C19	UL: 100-240V 16A, CB: 100-240V 16A
NEMA 5-15	100-127V 15A
NEMA L5-15	100-127V 15A
NEMA 5-20	100-127V 16A
NEMA L5-20	100-127V 16A
NEMA L5-30	100-127V 24A
NEMA 6-15	200-240V 15A
NEMA L6-15	200-240V 15A
NEMA 6-20	200-240V 16A
NEMA L6-20	200-240V 16A
NEMA L6-30	200-240V 24A
NEMA L7-15	277V 15A
RF-203P-HP	277V 15A

Note: If the outlet rating listed above is higher than the input rating, then the outlet rating will instead become the input rating.

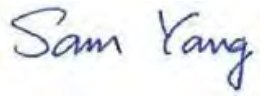
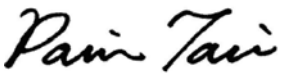
Section Output:
xxxxxxxxhxxxxxxx where h is A
Not Applicable for Single-phase
x MAX PER SECTION for Three-phase where x is the same as the input current rating

xxxxxxxxhxxxxxxx where h is B, C, D, E, F, G, H, J, L
16A MAX PER SECTION
or
16A MAX PER LOAD SEGMENT

xxxxxxxxhxxxxxxx where h is K
16A MAX SECTION A, B
24A MAX SECTION C

Total Output Single-phase:
x MAX TOTAL where x is the same as the input current rating

Total Output Split-phase or Three-phase:
x MAX PER PHASE where x is the same as the input current rating

Testing procedure and testing location:			
☒	**CB Testing Laboratory**:	Victronic Technology Corporation	
Testing location/ address .....:		4th Fl. 130, Ln. 235, Baoqiao Rd., Xindian Dist, New Taipei 231, Taiwan.	
☐	**Associated CB Laboratory:**		
Testing location/ address .....:			
	Tested by (name + signature) .....:	Sam Yang	
	Approved by (name + signature).....:	Pavin Tsai	
☐	Testing procedure: **TMP**		
Testing location/ address .....:			
	Tested by (name + signature) .....:		
	Approved by (name + signature).....:		
☐	Testing procedure: **WMT**		
Testing location/ address .....:			
	Tested by (name + signature) .....:		
	Witnessed by (name + signature) ....:		
	Approved by (name + signature).....:		
☐	Testing procedure: **SMT**		
Testing location/ address .....:			
	Tested by (name + signature) .....:		
	Approved by (name + signature).....:		
	Supervised by (name + signature) ...:		
☐	Testing procedure: **RMT**		
Testing location/ address .....:			
	Tested by (name + signature) .....:		
	Approved by (name + signature).....:		
	Supervised by (name + signature) ...:		

List of Attachments (including a total number of pages in each attachment):

National Differences (50 pages)

Enclosures (58 pages)

Summary of testing:

Unless otherwise indicated, all tests were conducted at Victronic Technology Corporation 4th Fl. 130, Ln. 235, Baoqiao Rd., Xindian Dist, New Taipei 231, Taiwan.

Tests performed (name of test and test clause):	**Testing location:**
1.7.11 - DURABILITY OF MARKING TEST	Victronic Technology Corporation
2.6.3.4, 2.6.1 - PROTECTIVE BONDING TEST II	
3.2.6, 4.2.1, 4.2.7 - STRAIN RELIEF TEST	
4.2.1 - 4.2.4 – STEADY FORCE TESTS	
4.2.5, 4.2.1, PART 22 10.2 - IMPACT TEST	
4.2.7, 4.2.1 - STRESS RELIEF TEST	
4.5.1, 1.4.12, 1.4.13 - HEATING TEST	
5.2.2 - ELECTRIC STRENGTH TEST	
5.3.1 - 5.3.9 - ABNORMAL OPERATION TESTS	

Summary of compliance with National Differences

Argentina**, Australia, Austria**, Belarus**, Belgium**, Brazil**, Bulgaria**, Canada, China, Croatia**, Czech Republic**, Denmark, Finland, France**, Germany, Greece**, Group, Hungary**, India**, Indonesia**, Ireland, Italy**, Japan*, Kenya**, Korea, Malaysia**, Mexico**, Netherlands**, New Zealand*, Norway, Poland**, Portugal**, Romania**, Russian Federation**, Saudi Arabia**, Serbia**, Singapore**, Slovakia**, Slovenia**, South Africa**, Spain, Sweden, Switzerland, Thailand**, Turkey**, Ukraine**, United Arab Emirates**, United Kingdom, Uruguay**, USA

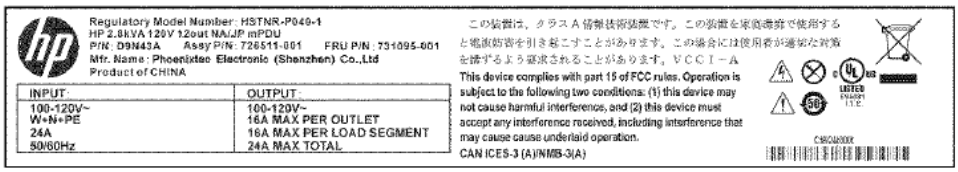
* No national differences to IEC 60950-1:2005 (2nd edition) declared

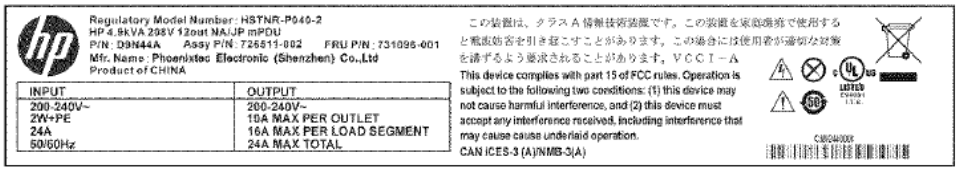
** No national differences to IEC 60950-1:2005 (2nd edition) or IEC 60950-1:2001 (1st edition) declared

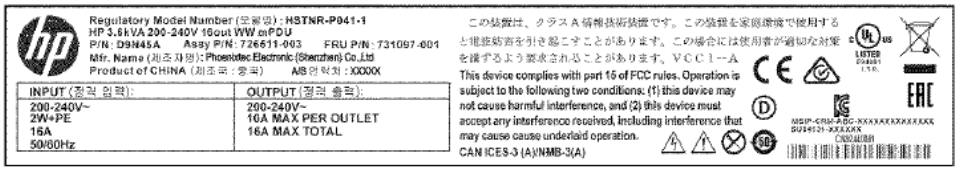
Copy of marking plate

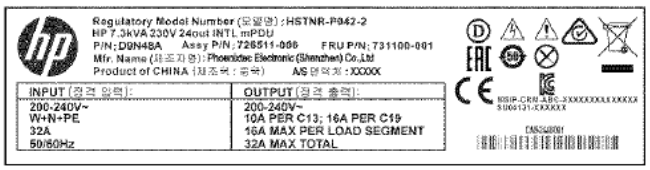
The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

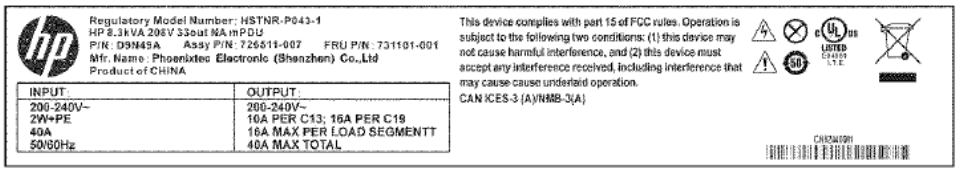
(Additional requirements for markings. See 1.7 NOTE)

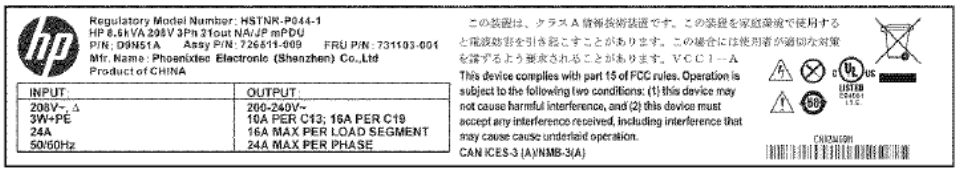


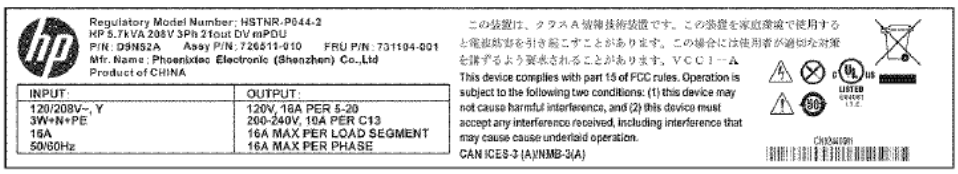


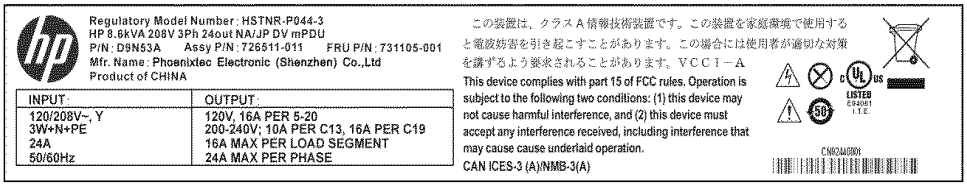








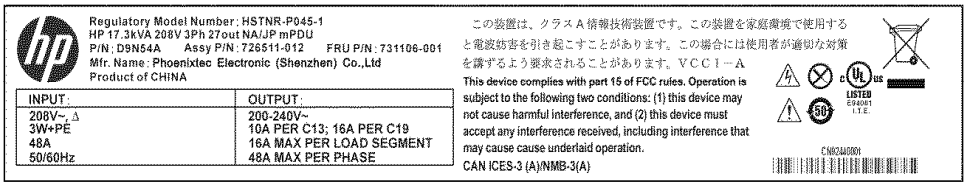



Regulatory Model Number: HSTNR-P044-3
HP 8.6kVA 208V 3Ph 24out NA/JP DV mPDU
P/N: D9N53A Assy P/N: 726511-011 FRU P/N: 731105-001
Mfr. Name: Phoenixtec Electronic (Shenzhen) Co.,Ltd
Product of CHINA

INPUT:	OUTPUT:
120/208V~, Y 3W+N+PE 24A 50/60Hz	120V, 16A PER 5-20 200-240V; 10A PER C13, 16A PER C19 16A MAX PER LOAD SEGMENT 24A MAX PER PHASE

この装置は、クラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。ＶＣＣＩ－Ａ
This device complies with part 15 of FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause cause underlaid operation.
CAN ICES-3 (A)/NMB-3(A)

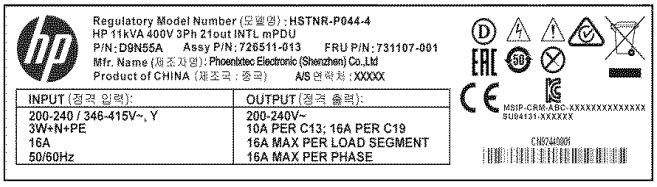
C/N02A40001


Regulatory Model Number: HSTNR-P045-1
HP 17.3kVA 208V 3Ph 27out NA/JP mPDU
P/N: D9N54A Assy P/N: 726511-012 FRU P/N: 731106-001
Mfr. Name: Phoenixtec Electronic (Shenzhen) Co.,Ltd
Product of CHINA

INPUT:	OUTPUT:
208V~, Δ 3W+PE 48A 50/60Hz	200-240V~ 10A PER C13; 16A PER C19 16A MAX PER LOAD SEGMENT 48A MAX PER PHASE

この装置は、クラスＡ情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。ＶＣＣＩ－Ａ
This device complies with part 15 of FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause cause underlaid operation.
CAN ICES-3 (A)/NMB-3(A)

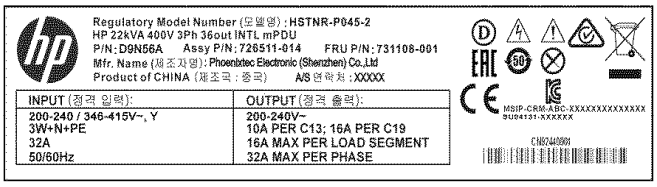
C/N02A40001


Regulatory Model Number (모델명): HSTNR-P044-4
HP 11kVA 400V 3Ph 21out INTL mPDU
P/N: D9N55A Assy P/N: 726511-013 FRU P/N: 731107-001
Mfr. Name (제조자명): Phoenixtec Electronic (Shenzhen) Co.,Ltd
Product of CHINA (제조국 : 중국) A/S 연락처 : XXXXX

INPUT (정격 입력):	OUTPUT (정격 출력):
200-240 / 346-415V~, Y 3W+N+PE 16A 50/60Hz	200-240V~ 10A PER C13; 16A PER C19 16A MAX PER LOAD SEGMENT 16A MAX PER PHASE

MSIP-CRM-ABC-XXXXXXXXXXXXX
SU04131-XXXXXX

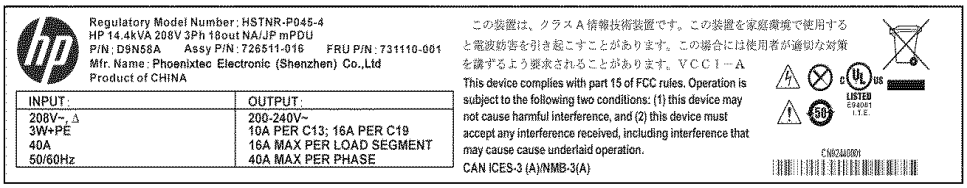
C/N02A40001


Regulatory Model Number (모델명): HSTNR-P045-2
HP 22kVA 400V 3Ph 36out INTL mPDU
P/N: D9N56A Assy P/N: 726511-014 FRU P/N: 731108-001
Mfr. Name (제조자명): Phoenixtec Electronic (Shenzhen) Co.,Ltd
Product of CHINA (제조국 : 중국) A/S 연락처 : XXXXX

INPUT (정격 입력):	OUTPUT (정격 출력):
200-240 / 346-415V~, Y 3W+N+PE 32A 50/60Hz	200-240V~ 10A PER C13; 16A PER C19 16A MAX PER LOAD SEGMENT 32A MAX PER PHASE

MSIP-CRM-ABC-XXXXXXXXXXXXX
SU04131-XXXXXX

C/N02A40001


Regulatory Model Number: HSTNR-P045-4
HP 14.4kVA 208V 3Ph 18out NA/JP mPDU
P/N: D9N58A Assy P/N: 726511-016 FRU P/N: 731110-001
Mfr. Name: Phoenixtec Electronic (Shenzhen) Co.,Ltd
Product of CHINA

INPUT:	OUTPUT:
208V~, Δ 3W+PE 40A 50/60Hz	200-240V~ 10A PER C13; 16A PER C19 16A MAX PER LOAD SEGMENT 40A MAX PER PHASE

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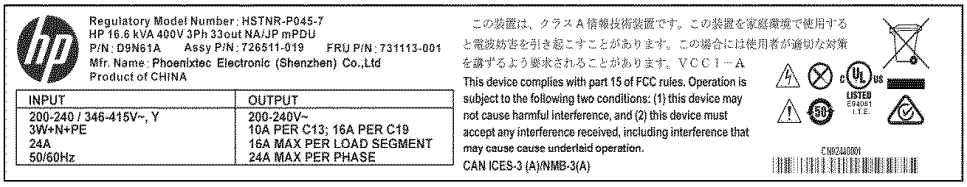
This device complies with part 15 of FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause cause underlaid operation.
CAN ICES-3 (A)/NMB-3(A)

C/N02A40001


Regulatory Model Number: HSTNR-P045-7
HP 16.6 kVA 400V 3Ph 33out NA/JP mPDU
P/N: D9N61A Assy P/N: 726511-019 FRU P/N: 731113-001
Mfr. Name: Phoenixtec Electronic (Shenzhen) Co.,Ltd
Product of CHINA

INPUT	OUTPUT
200-240 / 346-415V~, Y 3W+N+PE 24A 50/60Hz	200-240V~ 10A PER C13; 16A PER C19 16A MAX PER LOAD SEGMENT 24A MAX PER PHASE

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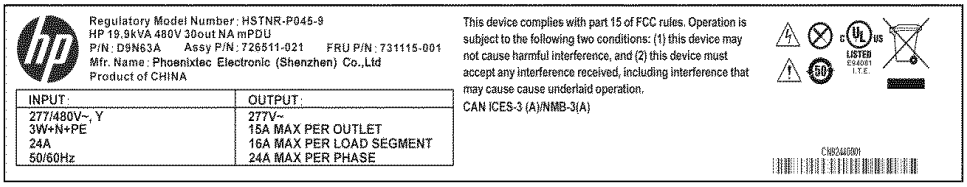
CAN ICES-3 (A)/NMB-3(A)

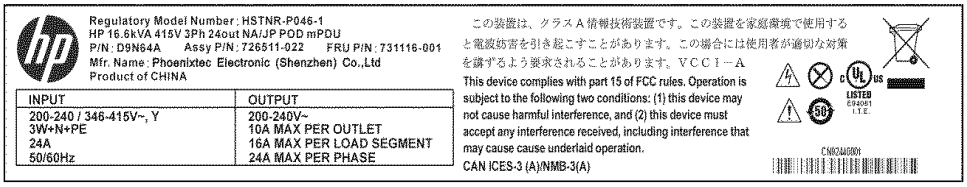
C/N02A40001


Regulatory Model Number: HSTNR-P045-9
HP 19.9kVA 480V 30out NA mPDU
P/N: D9N63A Assy P/N: 726511-021 FRU P/N: 731115-001
Mfr. Name: Phoenixtec Electronic (Shenzhen) Co.,Ltd
Product of CHINA

INPUT:	OUTPUT:
277/480V~, Y 3W+N+PE 24A 50/60Hz	277V~ 15A MAX PER OUTLET 16A MAX PER LOAD SEGMENT 24A MAX PER PHASE

This device complies with part 15 of FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause cause underlaid operation.
CAN ICES-3 (A)/NMB-3(A)

C/N02A40001


Regulatory Model Number: HSTNR-P046-1
HP 16.6kVA 415V 3Ph 24out NA/JP POD mPDU
P/N: D9N64A Assy P/N: 726511-022 FRU P/N: 731116-001
Mfr. Name: Phoenixtec Electronic (Shenzhen) Co.,Ltd
Product of CHINA

INPUT	OUTPUT
200-240 / 346-415V~, Y 3W+N+PE 24A 50/60Hz	200-240V~ 10A MAX PER OUTLET 16A MAX PER LOAD SEGMENT 24A MAX PER PHASE

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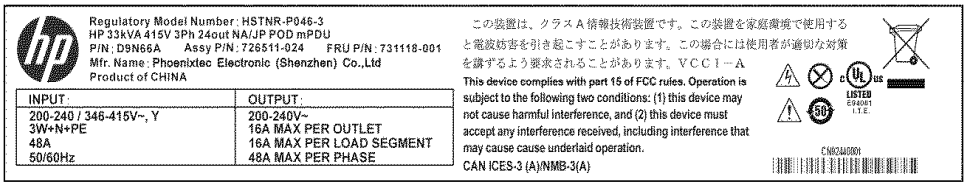
This device complies with part 15 of FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause cause underlaid operation.
CAN ICES-3 (A)/NMB-3(A)

C.N82440001


Regulatory Model Number: HSTNR-P046-3
HP 33kVA 415V 3Ph 24out NA/JP POD mPDU
P/N: D9N66A Assy P/N: 726511-024 FRU P/N: 731118-001
Mfr. Name: Phoenixtec Electronic (Shenzhen) Co.,Ltd
Product of CHINA

INPUT:	OUTPUT:
200-240 / 346-415V~, Y 3W+N+PE 48A 50/60Hz	200-240V~ 16A MAX PER OUTLET 16A MAX PER LOAD SEGMENT 48A MAX PER PHASE

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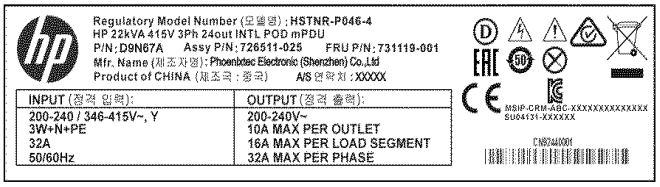
CAN ICES-3 (A)/NMB-3(A)

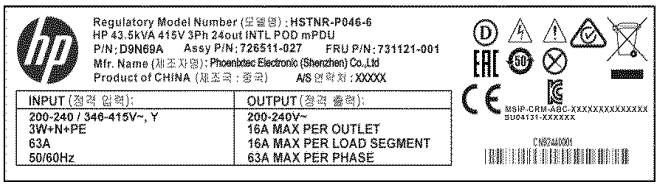
C.N82440001


Regulatory Model Number (모델명): HSTNR-P046-4
HP 22kVA 415V 3Ph 24out INTL POD mPDU
P/N: D9N67A Assy P/N: 726511-025 FRU P/N: 731119-001
Mfr. Name (제조자명): Phoenixtec Electronic (Shenzhen) Co.,Ltd
Product of CHINA (제조국 : 중국) A/S 연락처 : XXXX

INPUT (정격 입력):	OUTPUT (정격 출력):
200-240 / 346-415V~, Y 3W+N+PE 32A 50/60Hz	200-240V~ 10A MAX PER OUTLET 16A MAX PER LOAD SEGMENT 32A MAX PER PHASE

MSIP-CRM-ABC-XXXXXXXXXXXXX
SU04131-XXXXXX

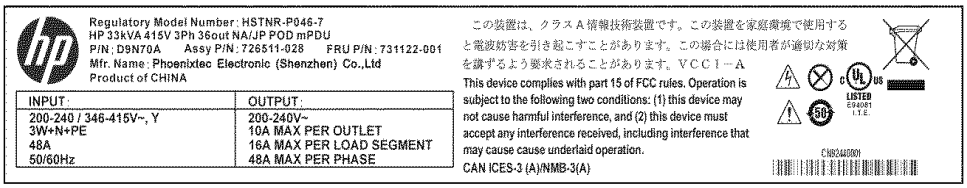
C.N82440001


Regulatory Model Number (모델명): HSTNR-P046-6
HP 43.5kVA 415V 3Ph 24out INTL POD mPDU
P/N: D9N69A Assy P/N: 726511-027 FRU P/N: 731121-001
Mfr. Name (제조자명): Phoenixtec Electronic (Shenzhen) Co.,Ltd
Product of CHINA (제조국 : 중국) A/S 연락처 : XXXX

INPUT (정격 입력):	OUTPUT (정격 출력):
200-240 / 346-415V~, Y 3W+N+PE 63A 50/60Hz	200-240V~ 16A MAX PER OUTLET 16A MAX PER LOAD SEGMENT 63A MAX PER PHASE

MSIP-CRM-ABC-XXXXXXXXXXXXX
SU04131-XXXXXX

C.N82440001


Regulatory Model Number: HSTNR-P046-7
HP 33kVA 415V 3Ph 36out NA/JP POD mPDU
P/N: D9N70A Assy P/N: 726511-028 FRU P/N: 731122-001
Mfr. Name: Phoenixtec Electronic (Shenzhen) Co.,Ltd
Product of CHINA

INPUT:	OUTPUT:
200-240 / 346-415V~, Y 3W+N+PE 48A 50/60Hz	200-240V~ 10A MAX PER OUTLET 16A MAX PER LOAD SEGMENT 48A MAX PER PHASE

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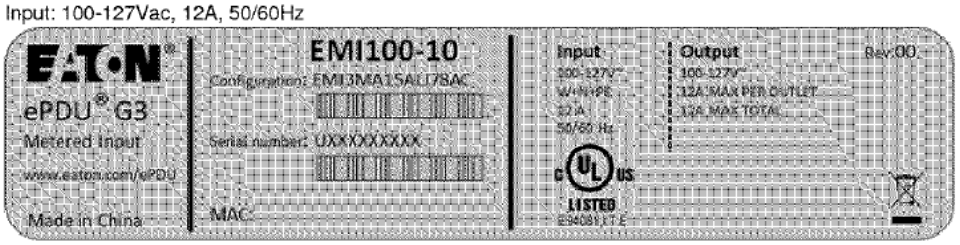
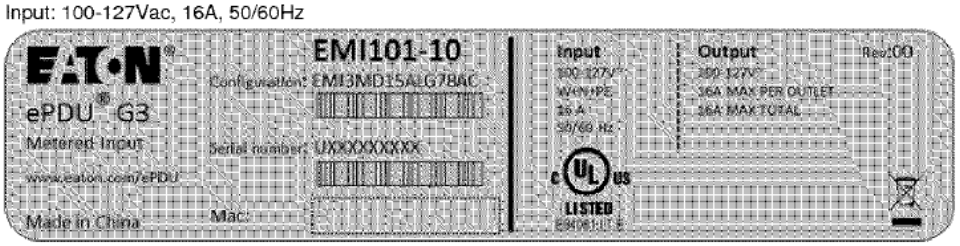
CAN ICES-3 (A)/NMB-3(A)

C.N82440001

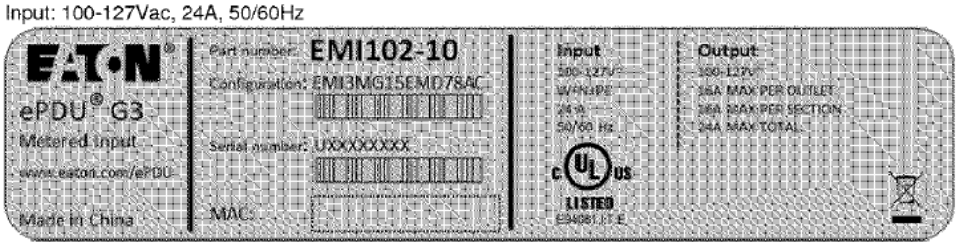
xxxxMAxxxxxxxxx, xxxxMBxxxxxxxxx
Input: 100-127Vac, 12A, 50/60Hz



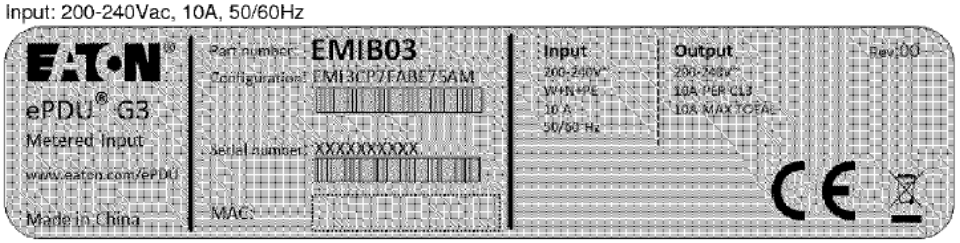
xxxxMCxxxxxxxxx, xxxxMDxxxxxxxxx
Input: 100-127Vac, 16A, 50/60Hz



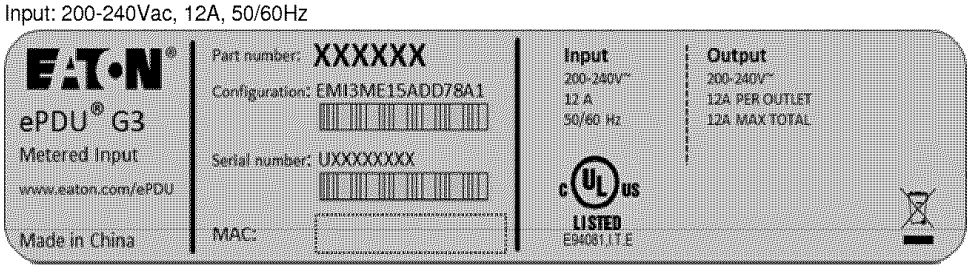
xxxxMGxxxxxxxxx
Input: 100-127Vac, 24A, 50/60Hz



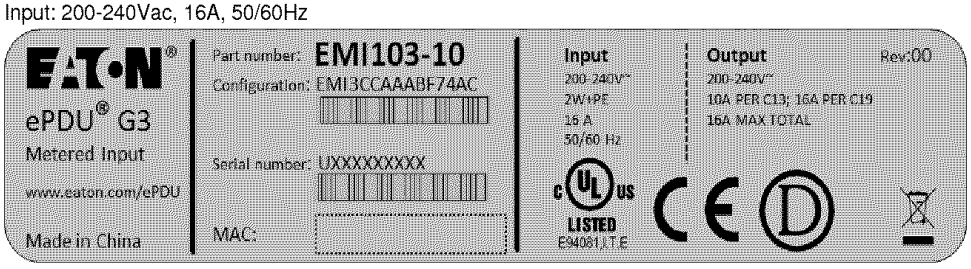
xxxxCAxxxxxxxxx, xxxxCPxxxxxxxxx
Input: 200-240Vac, 10A, 50/60Hz



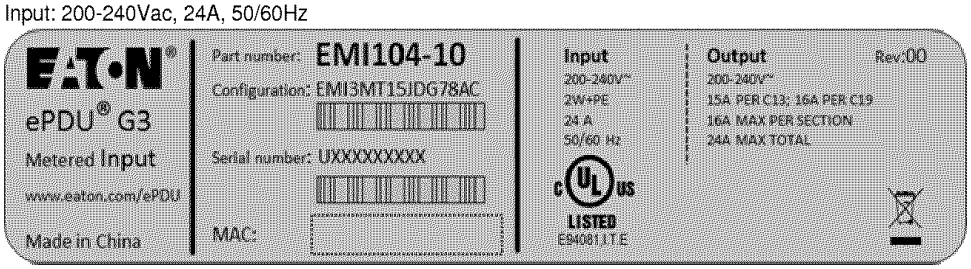
xxxxMExxxxxxxxx, xxxxMFxxxxxxxxx
Input: 200-240Vac, 12A, 50/60Hz



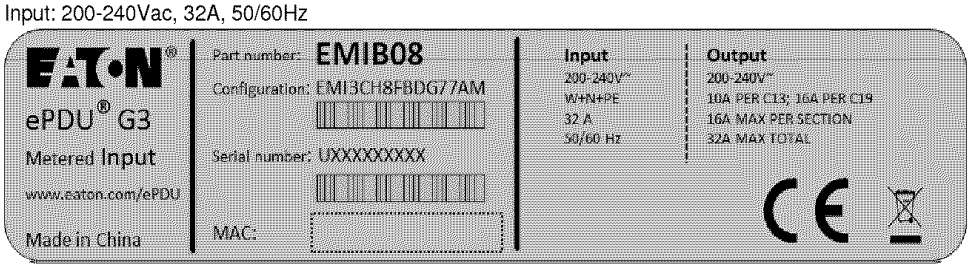
xxxxMHxxxxxxxxx, xxxxMJxxxxxxxxx, xxxxCCxxxxxxxxx, xxxxCXxxxxxxxxx, xxxxCExxxxxxxxx, xxxxCFxxxxxxxxx
Input: 200-240Vac, 16A, 50/60Hz



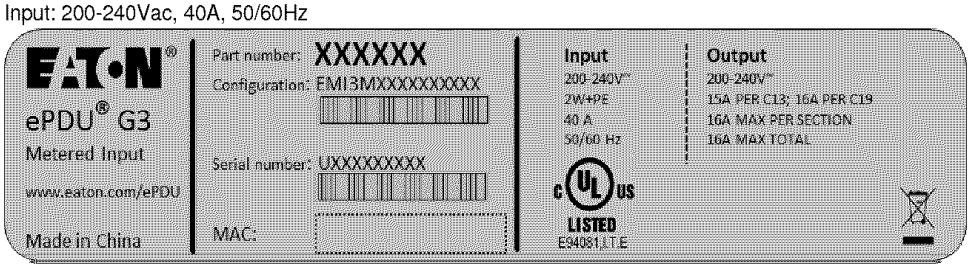
xxxxMTxxxxxxxxx
Input: 200-240Vac, 24A, 50/60Hz



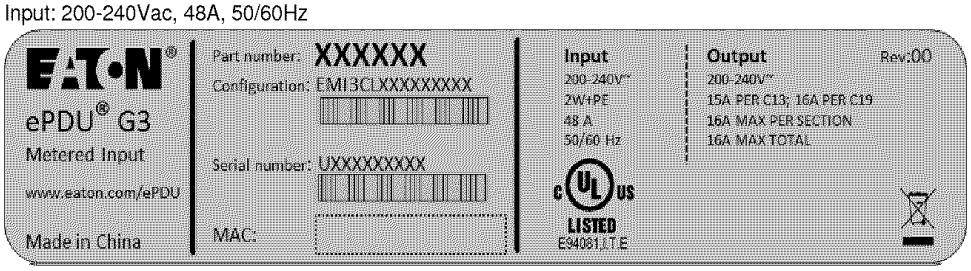
xxxxCHxxxxxxxxx, xxxxCJxxxxxxxxx
Input: 200-240Vac, 32A, 50/60Hz



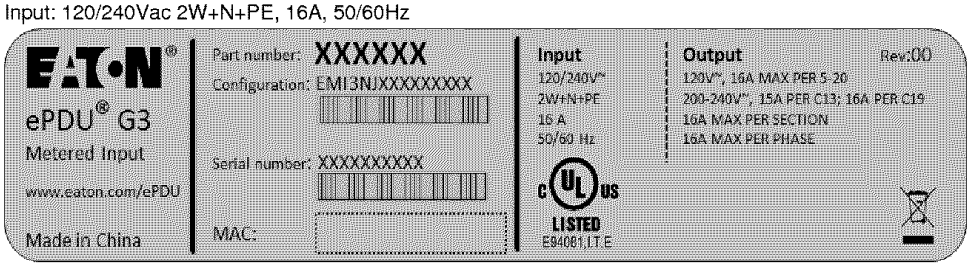
xxxxMXxxxxxxxxx
Input: 200-240Vac, 40A, 50/60Hz



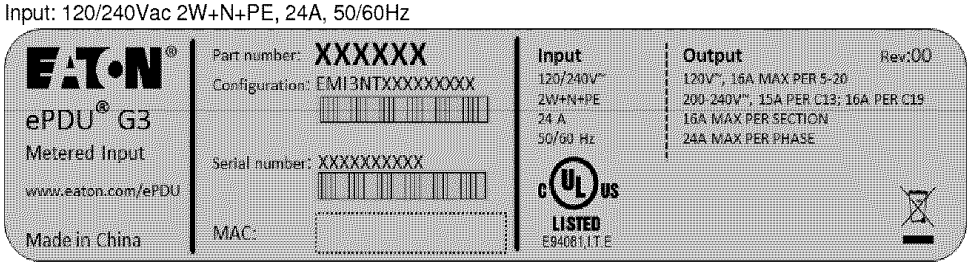
xxxxCKxxxxxxxxx, xxxxCLxxxxxxxxx
Input: 200-240Vac, 48A, 50/60Hz



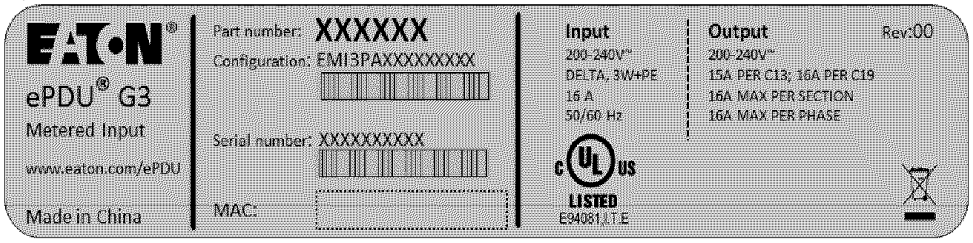
xxxxNJxxxxxxxxx
Input: 120/240Vac 2W+N+PE, 16A, 50/60Hz



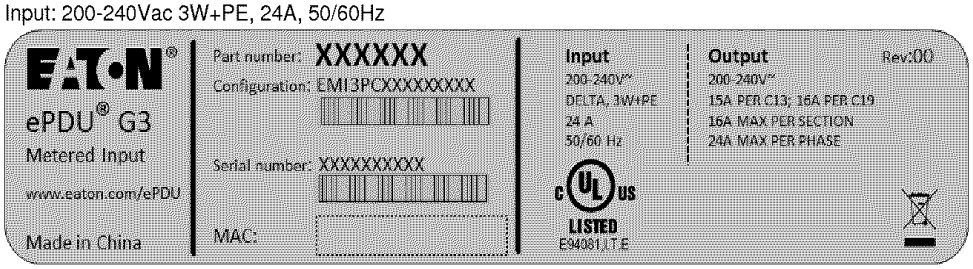
xxxxNTxxxxxxxxx
Input: 120/240Vac 2W+N+PE, 24A, 50/60Hz



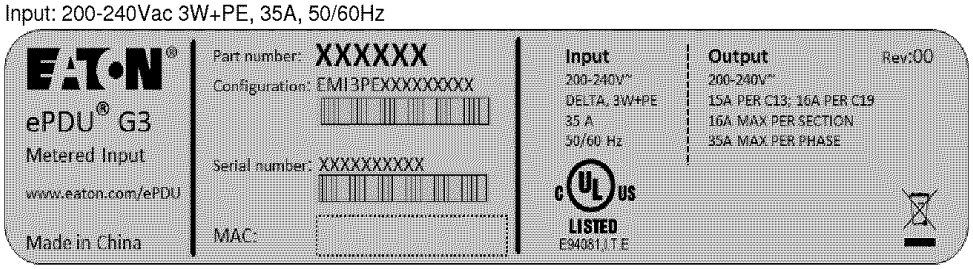
xxxxPAxxxxxxxxx
Input: 200-240Vac 3W+PE, 16A, 50/60Hz



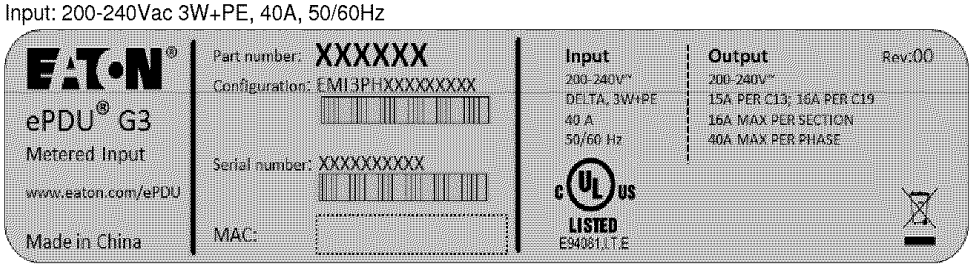
xxxxPCxxxxxxxxx
Input: 200-240Vac 3W+PE, 24A, 50/60Hz



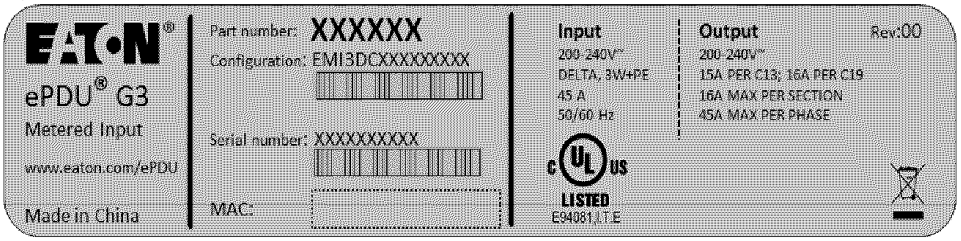
xxxxPExxxxxxxxx
Input: 200-240Vac 3W+PE, 35A, 50/60Hz



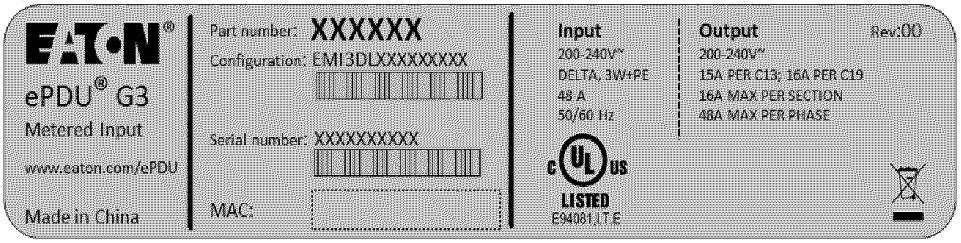
xxxxPHxxxxxxxxx
Input: 200-240Vac 3W+PE, 40A, 50/60Hz



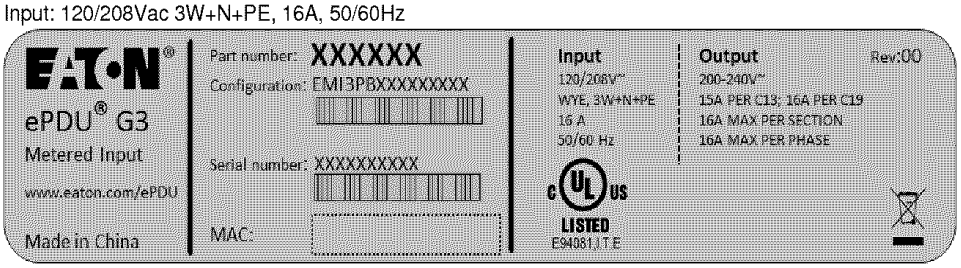
xxxxDCxxxxxxxxx, xxxxDDxxxxxxxxx
Input: 200-240Vac 3W+PE, 45A, 50/60Hz



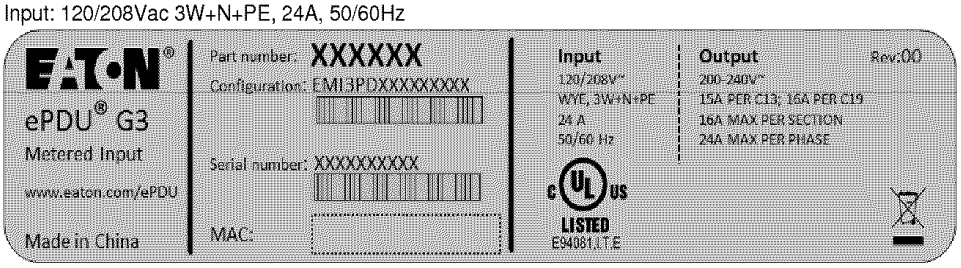
xxxxDKxxxxxxxxx, xxxxDLxxxxxxxxx
Input: 200-240Vac 3W+PE, 48A, 50/60Hz



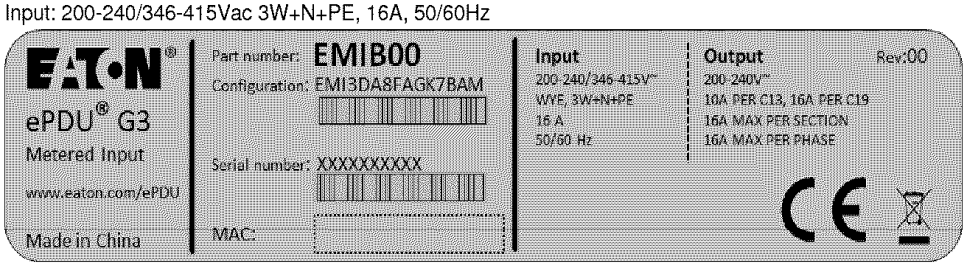
xxxxPBxxxxxxxxx
Input: 120/208Vac 3W+N+PE, 16A, 50/60Hz



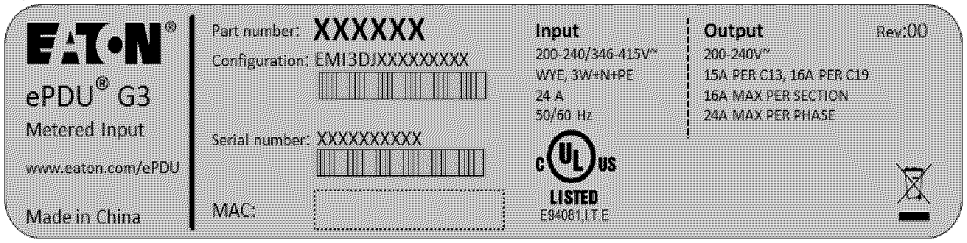
xxxxPDxxxxxxxxx
Input: 120/208Vac 3W+N+PE, 24A, 50/60Hz



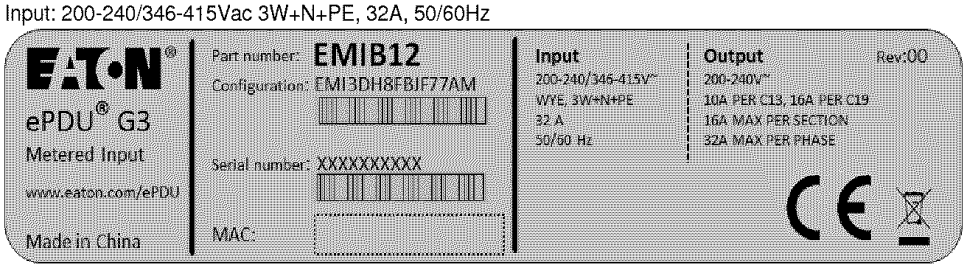
xxxxDAxxxxxxxxx, xxxxDBxxxxxxxxx
Input: 200-240/346-415Vac 3W+N+PE, 16A, 50/60Hz



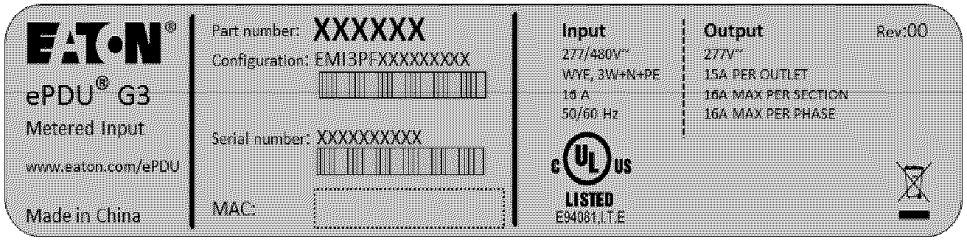
xxxxDHxxxxxxxxx, xxxxDJxxxxxxxxx (UL)
Input: 200-240/346-415Vac 3W+N+PE, 24A, 50/60Hz



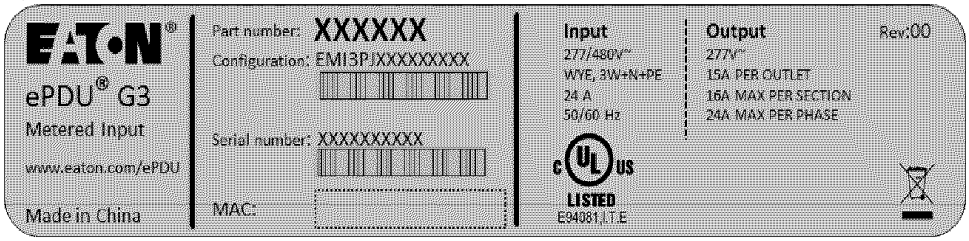
xxxxDHxxxxxxxxx, xxxxDJxxxxxxxxx (CB)
Input: 200-240/346-415Vac 3W+N+PE, 32A, 50/60Hz



xxxxPFxxxxxxxxx
Input: 277/480Vac 3W+N+PE, 16A, 50/60Hz



xxxxPJxxxxxxxxx
Input: 277/480Vac 3W+N+PE, 24A, 50/60Hz



Test item particulars.....:	
Equipment mobility.....:	[] movable [] hand-held [] transportable [X] stationary[] for building-in [] direct plug-in
Connection to the mains.....:	[X] pluggable equipment [X] type A [X] type B [] permanent connection [] detachable power supply cord [] non-detachable power supply cord [] not directly connected to the mains
Operating condition.....:	[X] continuous [] rated operating / resting time:
Access location .....:	[] operator accessible [X] restricted access location
Over voltage category (OVC) .....:	[] OVC I [X] OVC II [] OVC III [] OVC IV [] other:
Mains supply tolerance (%) or absolute mains supply values .....:	+10%, -10%
Tested for IT power systems .....:	[] Yes [X] No
IT testing, phase-phase voltage (V) .....:	N/A
Class of equipment .....:	[X] Class I [] Class II [] Class III [] Not classified
Considered current rating of protective device as part of the building installation (A) .....:	63 A maximum
Pollution degree (PD) .....:	[] PD 1 [X] PD 2 [] PD 3
IP protection class .....:	IP2X
Altitude during operation (m) .....:	up to 3000m
Altitude of test laboratory (m) .....:	38 m
Mass of equipment (kg) .....:	12 kg (POD configuration considered representative)
Possible test case verdicts:	
- test case does not apply to the test object.....:	N/A
- test object does meet the requirement.....:	P (Pass)
- test object does not meet the requirement .....:	F (Fail)
Testing.....:	
Date of receipt of test item.....:	2013-11-18
Date(s) of performance of tests.....:	2013-11-18 to 2013-12-23

General remarks:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.
"(see Enclosure #)" refers to additional information appended to the report.
"(see appended table)" refers to a table appended to the report.

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

Manufacturer's Declaration per sub-clause 6.2.5 of IECEE 02:

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

☒ Yes

☐ Not applicable

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

Name and address of factory (ies) ..... :

1. PHOENIXTEC ELECTRONICS (SHENZHEN) CO LTD
6-7 FL BLDG 19 & BLDG 16
SHATOUJIAO FREE TRADE ZONE
SHENZHEN
GUANGDONG 518081 CHINA

2. PHOENIXTEC ELECTRONICS (SHEN ZHEN) CO LTD
BLDG 16
SHATOUJIAO FREE TRADE ZONE
SHENZHEN
GUANGDONG 518081 CHINA

3. EATON
45 WEATHERS ST
YOUNGSVILLE NC 27596 USA

4. BERRECHID TECHNOLOGIES
Z.I LOT N°2, BD MOUAHIDINE
MA-26100 BERRECHID
MOROCCO

General product information:

Report Summary

All applicable tests according to the referenced standard(s) have been carried out.

- The test report is a reissue of CBTR Ref. No.:
E94081-A44-CB-1 issue date 2013-06-18, with CB certificate No. (DK-33293-UL, DK-33294-UL) issued 2013-06-20.
E94801-A44-CB-1 issue date 2013-06-20, with CB certificate No. (DK-33293-UL, DK-33294-UL) issued 2013-06-20.
1305008001 issue date 2013-07-09, with CB certificate No. (DK-33293-A1-UL, DK-33294-A1-UL) issued 2013-07-10.
1305008001-1307041001 issue date 2013-08-02, with CB certificate No. (DK-33293-A2-UL, DK-33294-A2-UL) issued 2013-08-02 and CB certificate No. DK-33293-A2-M1-UL issued 2013-09-05.
1305008001-1309006001 issue date 2013-09-10, with CB certificate No. (DK-33293-A3-UL, DK-33294 A3-UL) issued 2013-09-10.

- This test report has been amended, due to:
1. Add new models EIL5DHJFAAA71AM, EMI3DA8FAGK7BAM, EMI3TBAAJJD78BC, EMI3DH8FBJF77AM, EMI3PH35KGF78BC, EMI3TAAAJGJ78BC, EMI3PB15AFE78CC, EMI3PE35JGJ78BC, EMI3DD33JJD78BC.
2. Change models number matrix.
3. Add two factories.

Based on the previously conducted testing and the review of product technical documentation (including photos, schematics, circuit), which has been determined the product continues to comply with the standard.

Based on previously conducted testing and the review of product construction, only “Durability Of Marking Test (1.7.11), Protective Bonding Test II (2.6.3.4, 2.6.1), Strain Relief Test (3.2.6, 4.2.1, 4.2.7), Steady Force Tests (4.2.1 - 4.2.4), Impact Test (4.2.5, 4.2.1, Part 22 10.2), Stress Relief Test (4.2.7, 4.2.1), Heating Test (4.5.1, 1.4.12, 1.4.13), Electric Strength Test (5.2.2), Abnormal Operation Tests (5.3.1 - 5.3.9)” tests were deemed necessary.

Product Description
The equipment is a rack mountable, Power Distribution System series.

Model Differences
Model Nomenclature explanation
Model abbcdefghkkmmnn where
a = branding, may be E or H
bb = intelligence level - may be BA, IL, or MI
c = thermal rating may be 2, 3, 4 or 5
de = two digit input plug code. May be MA, MB, MC, MD, ME, MF, MG, MH, MJ, MT, MX, NJ, NT, PA, PB, PC, PD, PE, PF, PH, PJ, CA, CC, CE, CF, CH, CJ, CK, CL, CP, CX, DA, DB, DC, DD, DE, DF, DH, DJ, DK, DL, DM, DN, TA, TB
f = power cable material and retention may be 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, D, E, H, J, L or M
g = variations in power cable length between 1m and 5m
h = circuit breaker type may be A, C, D, E, F, G, H, J, K or L
kk = two digit outlet configuration code. Two digit outlet config code. Refers to any combination of up to three types of outlets (see Diagram 4-0X for details) up to a maximum total socket count of 48.
mm = chassis may be 1 representing 1U configuration, 4 representing 22U configuration, 5 representing 36U configuration, 6 representing 42U configuration, B representing POD configuration or 7x representing a 52x53mm chassis series between 439mm and 1829mm long - see Enclosure Diagram 4-01 for details.
nn = variations in product including presence of MOVs and others that do not affect safety such as color, firmware, mfr plant, or revision, may be alphanumeric, "-" or blank

Model HSTNR-P040-1 is identical to model HMI2MGB4EMB1-C1 except model name.
Model HSTNR-P040-2 is identical to model HMI4MTB4JDA1-C1 except model name.
Model HSTNR-P041-1 and HSTNR-P041-1 (Assy 3.6kVA 200-240V 16out WW 22U mPDU) are identical to model HMI4CCAAABE4-C1 except model name.
Model HSTNR-P040-3 and HSTNR-P040-3 (Assy 3.6kVA 200-240V 12out WW 1U mPDU) are identical to model HMI4CCAAABC1-C1 except model name.
Model HSTNR-P042-1 is identical to model HMI4MTB4JDD5-C1 except model name.
Model HSTNR-P042-2 and HSTNR-P042-2 (Assy 7.3kVA 230V 24out INTL 36U mPDU) are identical to model HMI4CHJ4CDD5-C1 except model name.
Model HSTNR-P043-1 is identical to model HMI4MXD4JGH6-C1 except model name.
Model HSTNR-P043-2 and HSTNR-P043-2 (Assy 7.3kVA 230V 36out INTL 42U mPDU) are identical to model HMI4CHJ4CDF6-C1 except model name.
Model HSTNR-P044-1 is identical to model HMI4PCB4JGC5-C1 except model name.
Model HSTNR-P044-2 is identical to model HMI4PBB4AFA5-C1 except model name.
Model HSTNR-P044-3 is identical to model HMI4PDB4JFB5-C1 except model name.
Model HSTNR-P045-1 is identical to model HMI4DKE4JJH6-C1 except model name.
Model HSTNR-P044-4 and HSTNR-P044-4 (Assy 11kVA 400V 3Ph 21out INTL 36U mPDU) are identical to model HMI4DAJ4AGC5-C1 except model name.
Model HSTNR-P045-2 and HSTNR-P045-2 (Assy 22kVA 400V 3Ph 33out INTL 42U mPDU) are identical to model HMI4DHJ4CJJ6-C1 except model name.
Model HSTNR-P045-3 and HSTNR-P045-3 (Assy 11kVA 400V 3Ph 33out INTL 42U mPDU) are identical to model HMI4DAJ4AGH6-C1 except model name.
Model HSTNR-P045-4 is identical to model HMI4PHD4JJF6-C1 except model name.
Model HSTNR-P045-5 is identical to model HMI4DKE4JJF6-C1 except model name.
Model HSTNR-P045-6 and HSTNR-P045-6 (Assy 22kVA 400V 3Ph 24out INTL 42U mPDU) are identical

to model HMI4DHJ4CJF6-C1 except model name.
Model HSTNR-P045-7 is identical to model HMI4DHD4GJJ6-C1 except model name.
Model HSTNR-P045-8 is identical to model HMI4DHD4GJF6-C1 except model name.
Model HSTNR-P045-9 is identical to model HMI2PJD4HPC6-C1 except model name.
Model HSTNR-P046-1 is identical to model HMI5DHL2FJGB-C1 except model name.
Model HSTNR-P046-2 is identical to model HMI5DHL2FJEB-C1 except model name.
Model HSTNR-P046-3 is identical to model HMI5DML2FJMB-C1 except model name.
Model HSTNR-P046-4 and HSTNR-P046-4 (Assy 22kVA 415V 3Ph 24out INTL POD mPDU) are identical to model HMI5DHM2DJGB-C1 except model name.
Model HSTNR-P046-5 and HSTNR-P046-5 (Assy 22kVA 415V 3Ph 18+6out INTL POD mPDU) are identical to model HMI5DHM2DJEB-C1 except model name.
Model HSTNR-P046-6 and HSTNR-P046-6 (Assy 43.5kVA 415V 3Ph 24out INTL POD mPDU) are identical to model HMI5DMM2DJMB-C1 except model name.
Model HSTNR-P046-7 is identical to model HMI5DML2FJNB-C1 except model name.

Additional Information

The test samples are pre-production with serial number.

The product was investigated to the following additional standards: EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011 (which includes all European national differences, including those specified in this test report).

Some equipment configurations include plugs, cord, and outlets listed in the components table with only national approvals. These components have been tested to the applicable US National standard (UL 62, UL 498 or UL 817), have been evaluated to and comply with all of the applicable requirements of IEC 60950-1, and are used in accordance with their ratings. When used outside of the United States and Canada, configurations with these components are intended for use only in Restricted Access Locations and commercial/industrial sites, not for general over-the-counter sale.

Models HMI2MGB4EMB1-C1, HMI4MTB4JDA1-C1, HMI4CCAAABE4-C1, HMI4MXD4JGH5-C1, HMI4CHJ4CDF5-C1, HMI4PDB4JFB5-C1, HMI4DKE4JJH5-C1, HMI4DHJ4CJJ5-C1, HMI4DHD4GJJ5-C1, HMI2PJD4HPC5-C1, HMI5DML2FJMB-C1, HMI5DHM2DJGB-C1, HMI5DHM2DJEB-C1, HMI5DMM2DJMB-C1, EIL5DHJFAAA71AM, EMI3DA8FAGK7BAM, EMI3TBAAJJD78BC, EMI3DH8FBJF77AM, EMI3PH35KGF78BC, EMI3TAAAJGJ78BC, EMI3PB15AFE78CC, EMI3PE35JGJ78BC, EMI3DD33JJD78BC was used for test purposes and are considered representative of the entire series.

Marking plates attached is considered representative of the entire series.

Technical Considerations

The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturers specification of: See model differences for details, c = thermal rating may be 2, 3, 4 or 5, where 2 = 50°C for UL/CUL and CB, where 3 = 60° for UL and 40°C CB fully-rated and 60° CB with IEC 60320 outlets de-rated to 8A max each, where 4 = 60°C for UL/CUL and 50°C for CB, where 5 = 60°C for UL/CUL and CB.

The means of connection to the mains supply is: Pluggable A or B depends on model., Detachable power cord or Non-detachable power cord depends on model.

The product is intended for use on the following power systems: TN

The equipment disconnect device is considered to be: Plug or Appliance inlet depends on model

The product was investigated to the following additional standards: EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 (which includes all European national differences, including those specified in this test report)

The following circuit locations (with circuit/schematic designation) were investigated as a limited power source (LPS): communication circuit RJ-45 and USB ports

The following are available from the Applicant upon request: Installation (Safety) Instructions / Manual

The power supply in this equipment was: Not investigated. A test report for the power supply may be required when submitting this CB Report to a National Certification Body (NCB) to obtain a national mark.

LEDs provided in the product are considered low power devices: Yes

Abbreviations used in the report:

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

Indicate used abbreviations (if any)

IP - Internal protection operated
CD - Components damaged
NB - No indication of dielectric breakdown
USDI – Unit shut down immediately
NC - Cheesecloth remained intact
NT - Tissue paper remained intact
NCD – No component damage
NH – No hazardous

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	**GENERAL**		Pass
1.5	**Components**		Pass
1.5.1	General		Pass
	Comply with IEC 60950-1 or relevant component standard	(see appended tables 1.5.1)	Pass
1.5.2	Evaluation and testing of components	Certified components are used in accordance with their ratings, certification, and they comply with the applicable parts of this standard. Components, for which no relevant IEC-Standard exist, have been tested under the conditions occurring in the equipment, using applicable parts of IEC 60950-1.	Pass
1.5.3	Thermal controls		N/A
1.5.4	Transformers	Evaluated as part of the certified power supply	N/A
1.5.5	Interconnecting cables	No interconnecting cables provided as part of the equipment.	N/A
1.5.6	Capacitors bridging insulation	Evaluated as part of the certified power supply	N/A
1.5.7	Resistors bridging insulation	Evaluated as part of the certified power supply	N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems		N/A
1.5.9	Surge suppressors		Pass
1.5.9.1	General	Evaluated as part of the certified power supply	N/A
1.5.9.2	Protection of VDRs		Pass
1.5.9.3	Bridging of functional insulation by a VDR		Pass
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A
1.6	**Power interface**		Pass

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.6.1	AC power distribution systems		Pass
1.6.2	Input current	(see appended table 1.6.2)	N/A
1.6.3	Voltage limit of hand-held equipment		N/A
1.6.4	Neutral conductor		Pass
1.7	**Marking and instructions**		Pass
1.7.1	Power rating and identification markings		Pass
1.7.1.1	Power rating marking		Pass
	Multiple mains supply connections.....:		N/A
	Rated voltage(s) or voltage range(s) (V) .....:	Refer to the Rating information at the beginning of this Test Report.	Pass
	Symbol for nature of supply, for d.c. only.....:		N/A
	Rated frequency or rated frequency range (Hz) ...:	Refer to the Rating information at the beginning of this Test Report.	Pass
	Rated current (mA or A) .....:	Refer to the Rating information at the beginning of this Test Report.	Pass
1.7.1.2	Identification markings		Pass
	Manufacturer's name or trade-mark or identification mark .....:	Hewlett-Packard or Eaton	Pass
	Model identification or type reference .....:	Refer to the Model information at the beginning of this Test Report.	Pass
	Symbol for Class II equipment only .....:		N/A
	Other markings and symbols .....:	Additional markings are used and are defined in the installation instructions.	Pass
1.7.2	Safety instructions and marking	Operating/safety instructions made available to the user.	Pass
1.7.2.1	General		Pass
1.7.2.2	Disconnect devices		Pass
1.7.2.3	Overcurrent protective device	An appropriate overcurrent protective device is provided in the equipment.	Pass
1.7.2.4	IT power distribution systems		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.5	Operator access with a tool	No operator access areas require the use of a tool.	N/A
1.2.7.6	Ozone	Equipment does not product ozone.	N/A
1.7.3	Short duty cycles	For continuous use.	N/A
1.7.4	Supply voltage adjustment .....:	Equipment is auto-ranging.	N/A
	Methods and means of adjustment; reference to installation instructions .....:		N/A
1.7.5	Power outlets on the equipment .....:	Outlets are marked with the appropriate rated voltage and current dependent on model, see Model Differences for details	Pass
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) .....:	No fuses are provided.	N/A
1.7.7	Wiring terminals	Units are provided with either an appliance inlet or power cord and plug.	N/A
1.7.7.1	Protective earthing and bonding terminals .....:		N/A
1.7.7.2	Terminals for a.c. mains supply conductors		N/A
1.7.7.3	Terminals for d.c. mains supply conductors		N/A
1.7.8	Controls and indicators		Pass
1.7.8.1	Identification, location and marking .....:	The function of controls affecting safety is obvious regardless of language.	Pass
1.7.8.2	Colours .....:	Only functional indicators use colors.	Pass
1.7.8.3	Symbols according to IEC 60417.....:	The circuit breaker switch is marked with the symbols: "0" and "I" (60417-1-IEC-5007 and IEC-5008).	Pass
1.7.8.4	Markings using figures .....:		N/A
1.7.9	Isolation of multiple power sources .....:		N/A
1.7.10	Thermostats and other regulating devices .....:		N/A
1.7.11	Durability	The marking(s) withstood the required test.	Pass
1.7.12	Removable parts	No marking is located on (a) removable part(s).	N/A
1.7.13	Replaceable batteries .....:	evaluated as part of the certified measurement and communication boards ICM1/3	N/A
	Language(s) .....:		—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.14	Equipment for restricted access locations .....:	The installation instructions indicate use in a RESTRICTED ACCESS LOCATION only.	Pass
2	**PROTECTION FROM HAZARDS**		Pass
2.1	Protection from electric shock and energy hazards		Pass
2.1.1	Protection in operator access areas		N/A
2.1.1.1	Access to energized parts	The equipment is intended for installation in a restricted access area..	N/A
	Test by inspection .....:		N/A
	Test with test finger (Figure 2A) .....:		N/A
	Test with test pin (Figure 2B) .....:		N/A
	Test with test probe (Figure 2C) .....:	No TNV circuits in equipment.	N/A
2.1.1.2	Battery compartments	no batteries	N/A
2.1.1.3	Access to ELV wiring		N/A
	Working voltage (Vpeak or Vrms); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring	No internal wiring accessible to the user.	N/A
2.1.1.5	Energy hazards .....:	Equipment specified for use in a restricted acces s location; see 2.1.3.	N/A
2.1.1.6	Manual controls	The equipment does not contain any knobs, handles, levers, or the like except previously certified protective breakers.	N/A
2.1.1.7	Discharge of capacitors in equipment	covered as part of the previously certified power supply	N/A
	Measured voltage (V); time-constant (s).....:		—
2.1.1.8	Energy hazards – d.c. mains supply		N/A
	a) Capacitor connected to the d.c. mains supply ..:		N/A
	b) Internal battery connected to the d.c. mains supply .....:		N/A
2.1.1.9	Audio amplifiers .....:	no audio amplifiers	N/A
2.1.2	Protection in service access areas	Hazardous bare parts are guarded and unintentional contact with such parts is unlikely during servicing operations involving other parts of the equipment.	Pass

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.1.3	Protection in restricted access locations		Pass
2.2	**SELV circuits**		N/A
2.2.1	General requirements		N/A
2.2.2	Voltages under normal conditions (V) .....:		N/A
2.2.3	Voltages under fault conditions (V) .....:		N/A
2.2.4	Connection of SELV circuits to other circuits .....:		N/A
2.3	**TNV circuits**		N/A
2.3.1	Limits		N/A
	Type of TNV circuits.....:		—
2.3.2	Separation from other circuits and from accessible parts		N/A
2.3.2.1	General requirements		N/A
2.3.2.2	Protection by basic insulation		N/A
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions .....:		N/A
2.3.3	Separation from hazardous voltages		N/A
	Insulation employed .....:		—
2.3.4	Connection of TNV circuits to other circuits		N/A
	Insulation employed .....:		—
2.3.5	Test for operating voltages generated externally		N/A
2.4	**Limited current circuits**		N/A
2.4.1	General requirements		N/A
2.4.2	Limit values		N/A
	Frequency (Hz) .....:		—
	Measured current (mA) .....:		—
	Measured voltage (V).....:		—
	Measured circuit capacitance (nF or µF) .....:		—
2.4.3	Connection of limited current circuits to other circuits		N/A
2.5	**Limited power sources**		N/A
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output under normal operating and single fault condition		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA) .....:		—
	Current rating of overcurrent protective device (A) .:		—
	Use of integrated circuit (IC) current limiters		N/A
2.6	**Provisions for earthing and bonding**		Pass
2.6.1	Protective earthing	Accessible conductive parts are earthed.	Pass
2.6.2	Functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors		Pass
2.6.3.1	General	Equipment employs a non-detachable power supply cord except units that use appliance inlet.	Pass
2.6.3.2	Size of protective earthing conductors	Power supply cord earthing conductor complies with Table 3B.	Pass
	Rated current (A), cross-sectional area (mm^2), AWG.....:	Units rated 63 A max.,minimum 14 AWG provided. (see table 1.5.1)	—
2.6.3.3	Size of protective bonding conductors	Protective bonding conductors evaluated based on 2.6.3.3 and Table 3B.	Pass
	Rated current (A), cross-sectional area (mm^2), AWG.....:	Protective bonding conductors evaluated based on 2.6.3.4 and table 2D	—
	Protective current rating (A), cross-sectional area (mm^2), AWG.....:	With output receptacle rated 10 A max: 1.5 mm², 16 AWG.	—

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min) ..... :	HM14MTB4JDA1-C1, 60 A/ 2 min., 0.09 Voltage Drop. HM15DML2FJMB-C1 120 A/ 4 min., 0.18 Voltage Drop HM15DMM2DJMB-C1 126 A/ 6 min., 0.20 Voltage Drop EIL5DHJFAAA71AM 64 A/ 2 min., 0.019 Voltage Drop EMI3DA8FAGK7BAM 40 A/ 2 min., 0.034 Voltage Drop EMI3TBAAJJD78BC 90 A/ 2 min., 0.083 Voltage Drop The voltage drop did not exceed 2.5 V from any accessible conductive part and earth. Test conducted at the furthest point from internal bonding point. The above models are considered representative of the entire series.	Pass
2.6.3.5	Colour of insulation ..... :	Protective bonding conductors are green with yellow stripe.	Pass
2.6.4	Terminals		Pass
2.6.4.1	General		Pass
2.6.4.2	Protective earthing and bonding terminals	Protective bonding stud complies with Table 3E.	Pass
	Rated current (A), type, nominal thread diameter (mm) ..... :	(see table 1.5.1)	—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		Pass
2.6.5	Integrity of protective earthing		Pass
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors	No switches or overcurrent protective devices in earthing conductors.	Pass

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.5.3	Disconnection of protective earth	Disconnection of the protective earth at one assembly removes connection of HAZARDOUS VOLTAGES from the other assemblies at the same time.	Pass
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance	Complies with Annex J.	Pass
2.6.5.7	Screws for protective bonding	Screws not used for protective bonding.	Pass
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A
2.7	**Overcurrent and earth fault protection in primary circuits**		Pass
2.7.1	Basic requirements	Protective devices are integrated in the equipment except for Pluggable type A units where the outlets and the plug are rated the same and the protection is considered to be provided by the building installation.	Pass
	Instructions when protection relies on building installation		Pass
2.7.2	Faults not simulated in 5.3.7	Equipment employs circuit breakers, see critical components table for details and ratings.	Pass
2.7.3	Short-circuit backup protection	The building installation is considered as providing short-circuit backup protection.	Pass
2.7.4	Number and location of protective devices .....:	One protective device in each phase conductor.	Pass
2.7.5	Protection by several devices	All protective devices are located together.	Pass
2.7.6	Warning to service personnel .....:	No protective device is provided in the neutral conductor.	N/A
2.8	**Safety interlocks**		N/A
2.8.1	General principles		N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Protection against extreme hazard		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches, relays and their related circuits		N/A
2.8.7.1	Separation distances for contact gaps and their related circuits (mm) .....:		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A
2.9	**Electrical insulation**		Pass
2.9.1	Properties of insulating materials	Natural rubber, materials containing asbestos and hygroscopic materials are not used as insulation.	Pass
2.9.2	Humidity conditioning		N/A
	Relative humidity (%), temperature (°C) .....:	covered under previously certified power supply investigation	—
2.9.3	Grade of insulation	Basic and Reinforced Insulation.	Pass
2.9.4	Separation from hazardous voltages		Pass
	Method(s) used .....:	Method 1	—
2.10	**Clearances, creepage distances and distances through insulation**		Pass
2.10.1	General	Pollution degree 2 applicable.	Pass
2.10.1.1	Frequency .....:	50/60 Hz	Pass
2.10.1.2	Pollution degrees .....:	2	Pass
2.10.1.3	Reduced values for functional insulation		N/A
2.10.1.4	Intervening unconnected conductive parts		N/A
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage	ratings of the equipment and working voltage of the previously certified power supply considered	N/A
2.10.2.1	General		N/A
2.10.2.2	RMS working voltage		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.2.3	Peak working voltage		N/A
2.10.3	Clearances	Reference Tables 2.10.3, 2.10.4.	Pass
2.10.3.1	General		Pass
2.10.3.2	Mains transient voltages		Pass
	a) AC mains supply .....:	OVC II	Pass
	b) Earthed d.c. mains supplies .....:		N/A
	c) Unearthed d.c. mains supplies .....:		N/A
	d) Battery operation .....:		N/A
2.10.3.3	Clearances in primary circuits	Reference Tables 2.10.3, 2.10.4.	Pass
2.10.3.4	Clearances in secondary circuits		N/A
2.10.3.5	Clearances in circuits having starting pulses	no starting pulses	N/A
2.10.3.6	Transients from a.c. mains supply .....:	1500 Vpk assumed	Pass
2.10.3.7	Transients from d.c. mains supply .....:		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems .....:		N/A
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply .....:		N/A
	For a d.c. mains supply .....:		N/A
	b) Transients from a telecommunication network :		N/A
2.10.4	Creepage distances	(see appended table 2.10.3 and 2.10.4)	Pass
2.10.4.1	General		Pass
2.10.4.2	Material group and comparative tracking index		Pass
	CTI tests.....:	Material Group IIIb used.	-
2.10.4.3	Minimum creepage distances		Pass
2.10.5	**Solid insulation**	covered under previously certified power supply investigation and measurement and communication PCB investigation.	N/A
2.10.5.1	General		N/A
2.10.5.2	Distances through insulation		N/A
2.10.5.3	Insulating compound as solid insulation		N/A
2.10.5.4	Semiconductor devices		N/A
2.10.5.5.	Cemented joints		N/A
2.10.5.6	Thin sheet material – General		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.5.7	Separable thin sheet material		N/A
	Number of layers (pcs).....:		-
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		-
2.10.5.10	Thin sheet material – alternative test procedure		N/A
	Electric strength test		-
2.10.5.11	Insulation in wound components		N/A
2.10.5.12	Wire in wound components		N/A
	Working voltage .....:		N/A
	a) Basic insulation not under stress .....:		N/A
	b) Basic, supplementary, reinforced insulation .....:		N/A
	c) Compliance with Annex U .....:		N/A
	Two wires in contact inside wound component; angle between 45° and 90° .....:		N/A
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test		-
	Routine test		N/A
2.10.5.14	Additional insulation in wound components		N/A
	Working voltage .....:		N/A
	- Basic insulation not under stress .....:		N/A
	- Supplementary, reinforced insulation .....:		N/A
2.10.6	**Construction of printed boards**	covered under previously certified power supply investigation and I/O comm boards	N/A
2.10.6.1	Uncoated printed boards		N/A
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs) .....:		N/A
2.10.7	**Component external terminations**		N/A
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A
3	**WIRING, CONNECTIONS AND SUPPLY**		Pass
3.1	General		Pass
3.1.1	Current rating and overcurrent protection		Pass
3.1.2	Protection against mechanical damage	The wires are routed away from sharp edges and parts which could damage insulation.	Pass
3.1.3	Securing of internal wiring		Pass
3.1.4	Insulation of conductors	Internal wiring conductors are suitable routed and fixed. The insulation of internal wiring conductors is suitable for the application.	Pass
3.1.5	Beads and ceramic insulators		N/A
3.1.6	Screws for electrical contact pressure	At least 2 full threads are engaged for protective earthing	Pass
3.1.7	Insulating materials in electrical connections	No contact pressure through insulating material.	N/A
3.1.8	Self-tapping and spaced thread screws	Thread-cutting or space thread screws are not used for electrical connections. Machine screws only.	Pass
3.1.9	Termination of conductors		Pass
	10 N pull test		N/A
3.1.10	Sleeving on wiring	The sleeving used as supplementary insulation on internal wiring is retained by positive means.	Pass
3.2	**Connection to a mains supply**		Pass

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Clause	Requirement + Test	Result - Remark	Verdict
3.2.1	Means of connection	Some units are provided with a non-detachable power supply cord. Some units are provided with an appliance inlet. POD chassis are for wiring on site.	Pass
3.2.1.1	Connection to an a.c. mains supply		Pass
3.2.1.2	Connection to a d.c. mains supply	Equipment not for connection to d.c. mains supply.	N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm) .....:		—
3.2.4	Appliance inlets	The appliance inlet complies with IEC 60320. Parts at HAZARDOUS VOLTAGE are not accessible during insertion or removal of the appliance inlet.	Pass
3.2.5	Power supply cords	See Critical Components List.	Pass
3.2.5.1	AC power supply cords		Pass
	Type .....:	See Table 1.5.1.	—
	Rated current (A), cross-sectional area (mm^2), AWG .....:	See Table 1.5.1. dependent upon model and rating	—
3.2.5.2	DC power supply cords	Equipment not for connection to d.c. mains.	N/A
3.2.6	Cord anchorages and strain relief	See Critical Components List.	Pass
	Mass of equipment (kg), pull (N) .....:	12 kg, 100N pull	—

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Clause	Requirement + Test	Result - Remark	Verdict
	Longitudinal displacement (mm) .....:	Strain Relief test conducted for all available plug and cord assemblies after Stress Relief test. Following the Strain Relief test, an electric potential test was conducted. There was no indication of breakdown. It was not possible to push the cord back into unit such that parts were damaged or internal parts of the units could be displaced. The cords did not slip in its anchorage. The cord was not displaced by more than 2 mm. There was not strain to internal conductors. See Table 1.5.1 for details.	—
3.2.7	Protection against mechanical damage	Cord not exposed to sharp points or edges.	Pass
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g) .....:		—
	Radius of curvature of cord (mm) .....:		—
3.2.9	Supply wiring space		N/A

3.3	**Wiring terminals for connection of external conductors**		Pass
3.3.1	Wiring terminals		N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm^2) .....:		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm) .....:		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals	All mains supply and earthing terminals in close proximity.	Pass
3.3.8	Stranded wire		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.4	**Disconnection from the mains supply**		Pass
3.4.1	General requirement		Pass
3.4.2	Disconnect devices	Plug of power supply cord is connect device or appliance inlet depending on model.	Pass
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A
3.4.5	Switches in flexible cords	No isolating switch in the cord set.	N/A
3.4.6	Number of poles - single-phase and d.c. equipment	Disconnect device disconnects all poles simultaneously.	Pass
3.4.7	Number of poles - three-phase equipment	Disconnects all phases simultaneously. Disconnects all phases and Neutral simultaneously (IT power systems).	Pass
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices	The required warning is provided in accordance with 1.7.2. but not required for units that utilize an appliance inlet.	Pass
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A
3.5	**Interconnection of equipment**		Pass
3.5.1	General requirements		Pass
3.5.2	Types of interconnection circuits .....:	Interconnection circuits are SELV CIRCUITS.	Pass
3.5.3	ELV circuits as interconnection circuits		N/A
3.5.4	Data ports for additional equipment		Pass
4	**PHYSICAL REQUIREMENTS**		Pass
4.1	Stability		N/A
	Angle of 10°		N/A
	Test force (N) .....:		N/A
4.2	**Mechanical strength**		Pass
4.2.1	General		Pass
	Rack-mounted equipment.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.2.2	Steady force test, 10 N	Complied by inspection.	Pass
4.2.3	Steady force test, 30 N		N/A
4.2.4	Steady force test, 250 N	Enclosure made of substantial steel or extruded aluminium, minimum 1.2 mm thick. During the application of the test force, clearances behind earthed conductive enclosures were not reduced to a level that would result in an energy hazard	Pass
4.2.5	Impact test	It was not possible to access hazardous voltage circuits after application of test. Protective earthing connection was not affected. Cord anchorages and strain reliefs were not damaged. Creepage and clearances were not reduced. There was no dielectric breakdown after test.	Pass
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test; height (mm) .....:		N/A
4.2.7	Stress relief test	Test conducted at 101°C for strain relief test purposes with steel enclosure. Test conducted at 95°C for strain relief purposes using the plastic shark clamp and aluminium enclosure.	Pass
4.2.8	Cathode ray tubes	No CRTs	N/A
	Picture tube separately certified .....:		N/A
4.2.9	High pressure lamps	Ni high pressure lamps	N/A
4.2.10	Wall or ceiling mounted equipment; force (N) .....:	maximum weight = 12 kg (POD enclosure) Force applied 36 kg, which is three times the weight of the equipment. The mounting means did withstand the force applied without breaking or damaging the mounting bracket, its securing means or that portion of the unit to which it was attached.	Pass

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Clause	Requirement + Test	Result - Remark	Verdict
4.2.11	Rotating solid media		N/A
	Test to cover on the door……..:		N/A
4.3	**Design and construction**		Pass
4.3.1	Edges and corners	All edges and corners are judged to be sufficiently well rounded so as not to constitute a hazard.	Pass
4.3.2	Handles and manual controls; force (N) ..... :		N/A
4.3.3	Adjustable controls	no adjustable controls	N/A
4.3.4	Securing of parts		Pass
4.3.5	Connection by plugs and sockets	The equipment does not have any interchangeable plugs/sockets.	Pass
4.3.6	Direct plug-in equipment		N/A
	Torque .....:		—
	Compliance with the relevant mains plug standard .....:		N/A
4.3.7	Heating elements in earthed equipment		N/A
4.3.8	Batteries	No batteries in equipment. Lithium battery cell is part of previously certified communication circuit.	N/A
	- Overcharging of a rechargeable battery		N/A
	- Unintentional charging of a non-rechargeable battery		N/A
	- Reverse charging of a rechargeable battery		N/A
	- Excessive discharging rate for any battery		N/A
4.3.9	Oil and grease	The insulation of the internal wiring is not exposed to oil, grease, etc.	N/A
4.3.10	Dust, powders, liquids and gases	The equipment does not produce dust or employ powders, liquids or gases.	N/A
4.3.11	Containers for liquids or gases		N/A
4.3.12	Flammable liquids .....:		N/A
	Quantity of liquid (l) .....:		N/A
	Flash point (°C) .....:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.13	Radiation	Equipment employs visible indicating LEDs which are functional, assumed Class I, operating in the 400 - 700 nm range. Specification data sheets may be available from the manufacturer upon request.	Pass
4.3.13.1	General		Pass
4.3.13.2	Ionizing radiation		N/A
	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/A
	Part, property, retention after test, flammability classification .....:		N/A
4.3.13.4	Human exposure to ultraviolet (UV) radiation .....:		N/A
4.3.13.5	Lasers (including laser diodes) and LEDs	Equipment employs visible indicating LEDs which are functional, assumed Class I, operating in the 400 - 700 nm range. Specification data sheets may be available from the manufacturer upon request.	Pass
4.3.13.5.1	Lasers (including laser diodes)		N/A
	Laser class .....:		—
4.3.13.5.2	Light emitting diodes (LEDs)		Pass
4.3.13.6	Other types .....:		N/A

4.4	**Protection against hazardous moving parts**		N/A
4.4.1	General		N/A
4.4.2	Protection in operator access areas .....:		N/A
	Household and home/office document/media shredders		N/A
4.4.3	Protection in restricted access locations .....:		N/A
4.4.4	Protection in service access areas		N/A
4.4.5	Protection against moving fan blades		N/A
4.4.5.1	General		N/A
	Not considered to cause pain or injury. a)……..:		N/A
	Is considered to cause pain, not injury. b) ……:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Considered to cause injury. c) ……:		N/A
4.4.5.2	Protection for users		N/A
	Use of symbol or warning ……:		N/A
4.4.5.3	Protection for service persons		N/A
	Use of symbol or warning ……:		N/A

4.5	**Thermal requirements**		Pass
4.5.1	General		Pass
4.5.2	Temperature tests	(see appended table 4.5)	Pass
	Normal load condition per Annex L .....:	Operated in the most unfavorable way of operation given in the operating instructions until steady conditions established.	—
4.5.3	Temperature limits for materials		Pass
4.5.4	Touch temperature limits		Pass
4.5.5	Resistance to abnormal heat .....:	see table 4.5.5	Pass

4.6	**Openings in enclosures**		Pass
4.6.1	Top and side openings	For the POD form factor only (SEE MODEL DIFFERENCES), 4 mm circular openings are provided in several areas. See photos and diagrams for details. Foreign objects entering the enclosure will not contact bare parts at hazardous voltage or energy. (No hazardous parts within 5° projection).	Pass
	Dimensions (mm) .....:	4 mm circular	—
4.6.2	Bottoms of fire enclosures	No openings.	N/A
	Construction of the bottomm, dimensions (mm) ..:	No Openings	—
4.6.3	Doors or covers in fire enclosures	The equipment does not have any doors or covers.	N/A
4.6.4	Openings in transportable equipment	Unit not transportable.	N/A
4.6.4.1	Constructional design measures		N/A
	Dimensions (mm) .....:		—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C), time (weeks).....:		—
4.7	**Resistance to fire**		Pass
4.7.1	Reducing the risk of ignition and spread of flame		Pass
	Method 1, selection and application of components wiring and materials	(see appended table 1.5.1)	Pass
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure		Pass
4.7.2.1	Parts requiring a fire enclosure	A fire enclosure covers all parts.	Pass
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		Pass
4.7.3.1	General	The propagation of fire is minimized through the fire enclosure construction.	Pass
4.7.3.2	Materials for fire enclosures	Metal enclosure.	Pass
4.7.3.3	Materials for components and other parts outside fire enclosures	All parts fully covered by suitable fire enclosure.	Pass
4.7.3.4	Materials for components and other parts inside fire enclosures	Internal wiring is UL Recognized, marked VW-1 or FT-1 and strapped by individual cable ties (where needed).	Pass
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A
5	**ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS**		Pass
5.1	Touch current and protective conductor current		Pass
5.1.1	General		Pass
5.1.2	Configuration of equipment under test (EUT)		Pass
5.1.2.1	Single connection to an a.c. mains supply		Pass
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit	Three phase equipment. Single phase equipment intended for connection to IT, TN, or TT system.	Pass
5.1.4	Application of measuring instrument	Complies with Annex D.	Pass

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.5	Test procedure	See Touch current measurement table.	Pass
5.1.6	Test measurements	See Touch current measurement table.	Pass
	Supply voltage (V) .....:	See Touch current measurement table.	—
	Measured touch current (mA) .....:	See Touch current measurement table.	—
	Max. allowed touch current (mA) .....:	See Touch current measurement table.	—
	Measured protective conductor current (mA) .....:	See Touch current measurement table.	—
	Max. allowed protective conductor current (mA) ..:	See Touch current measurement table.	—
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	General .....:		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks		N/A
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system		N/A
	Supply voltage (V) .....:		—
	Measured touch current (mA) .....:		—
	Max. allowed touch current (mA) .....:		—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports .....:		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A
5.2	**Electric strength**		Pass
5.2.1	General	(see appended table 5.2)	Pass
5.2.2	Test procedure		Pass
5.3	**Abnormal operating and fault conditions**		Pass
5.3.1	Protection against overload and abnormal operation		N/A
5.3.2	Motors		N/A
5.3.3	Transformers		N/A
5.3.4	Functional insulation .....:	Method C.	Pass

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Clause	Requirement + Test	Result - Remark	Verdict
5.3.5	Electromechanical components		N/A
5.3.6	Audio amplifiers in ITE .....:		N/A
5.3.7	Simulation of faults		Pass
5.3.8	Unattended equipment		N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions		Pass
5.3.9.1	During the tests	No fire, emission of molten metal or deformation was noted during the tests.	Pass
5.3.9.2	After the tests	Electric Strength tests performed after abnormal and fault tests.	Pass
6	**CONNECTION TO TELECOMMUNICATION NETWORKS**		N/A
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N/A
6.1.1	Protection from hazardous voltages		N/A
6.1.2	Separation of the telecommunication network from earth		N/A
6.1.2.1	Requirements		N/A
	Supply voltage (V) .....:		—
	Current in the test circuit (mA) .....:		—
6.1.2.2	Exclusions .....:		N/A
6.2	**Protection of equipment users from overvoltages on telecommunication networks**		N/A
6.2.1	Separation requirements		N/A
6.2.2	Electric strength test procedure		N/A
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test		N/A
6.2.2.3	Compliance criteria		N/A
6.3	**Protection of the telecommunication wiring system from overheating**		N/A
	Max. output current (A) .....:		—
	Current limiting method .....:		—
7	**CONNECTION TO CABLE DISTRIBUTION SYSTEMS**		N/A
7.1	General		N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A
A	**ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE**		N/A
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
A.1.1	Samples ..... :		—
	Wall thickness (mm)..... :		—
A.1.2	Conditioning of samples; temperature (°C) ..... :		N/A
A.1.3	Mounting of samples ..... :		N/A
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D ..... :		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		
	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
A.2.1	Samples, material ..... :		—
	Wall thickness (mm)..... :		—
A.2.2	Conditioning of samples; temperature (°C) ..... :		N/A
A.2.3	Mounting of samples ..... :		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C ..... :		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s)..... :		—
	Sample 2 burning time (s)..... :		—
	Sample 3 burning time (s)..... :		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s)..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Sample 2 burning time (s)..... :		—
	Sample 3 burning time (s)..... :		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A
B	**ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)**		N/A
B.1	General requirements		N/A
	Position ..... :		—
	Manufacturer ..... :		—
	Type ..... :		—
	Rated values ..... :		—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days) ..... :		—
	Electric strength test: test voltage (V) ..... :		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V) ..... :		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V) ..... :		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V) ..... :		—
C	**ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)**		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Position .....:		—
	Manufacturer .....:		—
	Type .....:		—
	Rated values .....:		—
	Method of protection .....:		—
C.1	Overload test		N/A
C.2	Insulation		N/A
	Protection from displacement of windings .....:		N/A
D	**ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)**		Pass
D.1	Measuring instrument	Simpson 228 meter used.	Pass
D.2	Alternative measuring instrument		N/A
E	**ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)**		N/A
F	**ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)**		Pass
G	**ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES**		N/A
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply .....:		N/A
G.2.2	Earthed d.c. mains supplies .....:		N/A
G.2.3	Unearthed d.c. mains supplies .....:		N/A
G.2.4	Battery operation .....:		N/A
G.3	Determination of telecommunication network transient voltage (V) .....:		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks ....:		N/A
G.4.2	Transients from telecommunication networks .....:		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A

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	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances .....:		N/A
H	**ANNEX H, IONIZING RADIATION (see 4.3.13)**		N/A
J	**ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)**		Pass
	Metal(s) used .....:	mild steel to steel.	—
K	**ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)**		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V) .....:		N/A
K.3	Thermostat endurance test; operating voltage (V) .....:		N/A
K.4	Temperature limiter endurance; operating voltage (V) .....:		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A
L	**ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)**		Pass
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment	Outlets loaded to rated load.	Pass
M	**ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)**		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz) .....:		—
M.3.1.2	Voltage (V) .....:		—
M.3.1.3	Cadence; time (s), voltage (V) .....:		—

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Clause	Requirement + Test	Result - Remark	Verdict
M.3.1.4	Single fault current (mA) .....:		—
M.3.2	Tripping device and monitoring voltage .....:		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A
M.3.2.3	Monitoring voltage (V) .....:		N/A
N	**ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)**		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
P	**ANNEX P, NORMATIVE REFERENCES**		—
Q	**ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)**		Pass
	a) Preferred climatic categories .....:	-10°C to +85°C, 21 days.	Pass
	b) Maximum continuous voltage .....:	Minimum 275 Vac.	Pass
	c) Pulse current .....:	6kV/3kA.	Pass
R	**ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES**		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	**ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)**		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A
T	**ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)**		N/A
			—
U	**ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)**		N/A
			—
V	**ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)**		Pass

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Clause	Requirement + Test	Result - Remark	Verdict
V.1	Introduction		Pass
V.2	TN power distribution systems		Pass
W	**ANNEX W, SUMMATION OF TOUCH CURRENTS**		N/A
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A
X	**ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)**		N/A
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A
Y	**ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)**		N/A
Y.1	Test apparatus .....:		N/A
Y.2	Mounting of test samples .....:		N/A
Y.3	Carbon-arc light-exposure apparatus .....:		N/A
Y.4	Xenon-arc light exposure apparatus .....:		N/A
Z	**ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)**		N/A
AA	**ANNEX AA, MANDREL TEST (see 2.10.5.8)**		N/A
BB	**ANNEX BB, CHANGES IN THE SECOND EDITION**		—
CC	**ANNEX CC, Evaluation of integrated circuit (IC) current limiters**		N/A
CC.1	General		N/A
CC.2	Test program 1……..:		N/A
CC.3	Test program 2……..:		N/A
DD	**ANNEX DD, Requirements for the mounting means of rack-mounted equipment**		N/A
DD.1	General		N/A
DD.2	Mechanical strength test, variable N……..:		N/A

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DD.3	Mechanical strength test, 250N, including end stops……:		N/A
DD.4	Compliance……:		N/A
EE	**ANNEX EE, Household and home/office document/media shredders**		N/A
EE.1	General		N/A
EE.2	Markings and instructions		N/A
	Use of markings or symbols……:		N/A
	Information of user instructions, maintenance and/or servicing instructions……:		N/A
EE.3	Inadvertent reactivation test……:		N/A
EE.4	Disconnection of power to hazardous moving parts:		N/A
	Use of markings or symbols……:		N/A
EE.5	Protection against hazardous moving parts		N/A
	Test with test finger (Figure 2A) ……:		N/A
	Test with wedge probe (Figure EE1 and EE2) ……:		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

1.5.1	TABLE: List of critical components				Pass
Object/part No.	Manufacturer/ trademark	Type/model	Technical data	Standard (Edition / year)	Mark(s) of conformity[1])
Plug (Inlet) Category/Configurations (de)	Interchangeable	Interchangeable	The use of configurations MA, MB, MC, MD, ME, MF, MG, MH, MJ, MT, MX, NJ, NT, PA, PB, PC, PD, PE, PF, PH, PJ are for Restricted Access Locations and commercial/industrial sites. See model differences for details	--	--
MA or MB	Interchangeable	5-15 or L5-15	Rated for 125 volt, 15 amp, 2 pole, 3 wire	UL1682 or UL817, EN60309-1, EN60309-2	CENELEC or UL
MC or MD	Interchangeable	5-20 or L5-20	Rated for 125 volt, 20 amp, 2 pole, 3 wire	UL1682 or UL817, EN60309-1, EN60309-2	CENELEC or UL
ME or MF	Interchangeable	6-15 or L6-15	Rated for 250 volt, 15 amp, 2 pole, 3 wire	UL1682 or UL817, EN60309-1, EN60309-2	CENELEC or UL
MG	Interchangeable	L5-30	Rated for 125 volt, 30 amp, 2 pole, 3 wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL
MH or MJ	Interchangeable	6-20 or L6-20	Rated for 250 volt, 20 amp, 2 pole, 3 wire	UL1682 or UL817, EN60309-1, EN60309-2	CENELEC or UL
MT	Interchangeable	L6-30	Rated for 250 volt, 30 amp, 2 pole, 3 wire	UL1682 or UL817, EN60309-1, EN60309-2	CENELEC or UL
MX	Interchangeable	CS8265	Rated for 50 Amp, 250 Volt, 3 wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL
NJ	Interchangeable	L14-20	Rated for 120/240 volt, 20 amp, 3 pole, 4 wire	UL1682 or UL817, EN60309-1, EN60309-2	CENELEC or UL

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Clause	Requirement + Test	Result - Remark	Verdict

NT	Interchangeable	L14-30	Rated for 120/240 volt, 30 amp, 3 pole, 4 wire	UL1682 or UL817, EN60309-1, EN60309-2	CENELEC or UL
PA	Interchangeable	L15-20	Rated for 250 volt, 20 amp, 3 pole, 4 wire	UL1682 or UL817, EN60309-1, EN60309-2	CENELEC or UL
PB	Interchangeable	L21-20	Rated for 120/208 volt, 20 amp, 4 pole, 5 wire	UL1682 or UL817, EN60309-1, EN60309-2	CENELEC or UL
PC	Interchangeable	L15-30	Rated for 250 volt, 30 amp, 3 pole, 4 wire	UL1682 or UL817, EN60309-1, EN60309-2	CENELEC or UL
PD	Interchangeable	L21-30	Rated for 120/208 volt, 30 amp, 4 pole, 5 wire	UL1682 or UL817, EN60309-1, EN60309-2	CENELEC or UL
PF	Interchangeable	L22-20	Rated for 277/480 volt, 20 amp, 4 pole, 5 wire	UL1682 or UL817, EN60309-1, EN60309-2	CENELEC or UL
PE, PH	Interchangeable	CS8365	Rated for 50 Amp, 250 Volt, 4 wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL
PJ	Interchangeable	L22-30	Rated for 30 amperes, 277/480 volts, 5 wire	UL1682 or UL817, EN60309-1, EN60309-2	CENELEC or UL
CA	Interchangeable	C14 inlet	Rated for 10 Amp (15A UL), 250 Volt, 3 wire	UL1682 or UL817, EN60309-1, EN60309-2	CENELEC or UL
CP	Interchangeable	C14 plug	Rated for 10 Amp (15A UL), 250 Volt, 3 wire	UL1682 or UL817, EN60309-1, EN60309-2	CENELEC or UL
CC	Rich Bay Rong Feng	R-305SN1 SS-3B C20 inlet	Rated for 16 Amp (20 Amp UL), 250 Volt, 3 wire	UL 498, UL 60320-1, IEC 60320-1	CENELEC or UL
CC, alternate	Interchangeable	C20 inlet	Rated for 16 Amp (20 Amp UL), 250 Volt, 3 wire	UL 498, UL 60320-1, IEC 60320-1	CENELEC or UL
CX	Interchangeable	C20 plug	Rated for 16 Amp (20A UL), 250 Volt, 3 wire	UL 498, UL 60320-2-2, IEC 60320-2-2	CENELEC or UL
CE	Interchangeable	316P6	Rated for 230 Volts, 16 Amps or 20 Amps (UL rating), 2-Pole, 3- Wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL

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Clause	Requirement + Test	Result - Remark	Verdict

CF	Interchangeable	316P6W	Rated for 230 Volts, 16 Amps or 20 Amps (UL rating), 2-Pole, 3- Wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL
CH or CJ	Mennekes Elektrotechnik GMBH & Co KG	160 or 260 or 290	Rated for 230 Volts, 32 Amps or 30 Amps (UL rating), 2-Pole, 3- Wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL
CH or CJ, alternate	Walther Cooper	230306 or 231306 or 239306 or WD332P6-X-B	Rated for 230 Volts, 32 Amps or 30 Amps (UL rating), 2-Pole, 3- Wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL
CH or CJ, alternate	Interchangeable	332P6 or 332P6W or 330P6 or 330P6W	Rated for 230 Volts, 32 Amps or 30 Amps (UL rating), 2-Pole, 3- Wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL
CH or CJ, alternate	Hubbell	C332P6S or C332P6W	Rated for 230 Volts, 32 Amps or 30 Amps (UL rating), 2-Pole, 3- Wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL
CK or CL	Interchangeable	363P6 or 363P6W or 360P6 or 360P6W	Rated for 230 Volts, 63 Amps or 60 Amps (UL rating), 2-Pole, 3- Wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL
DA or DB	Walther Cooper	210 or 211 or 219 or WD516P6-X-B	Rated for 400 Volts, 16 Amps or 20 Amps (UL rating), 4-Pole, 5- Wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL
DA or DB, alternate	Mennekes Elektrotechnik GMBH & Co KG	3 or 13A or 288	Rated for 400 Volts, 16 Amps or 20 Amps (UL rating), 4-Pole, 5- Wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL
DA or DB, alternate	Interchangeable	516P6 or 516P6W or 520P6 or 520P6W	Rated for 400 Volts, 16 Amps or 20 Amps (UL rating), 4-Pole, 5- Wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL
DA or DB, alternate	Hubbell	C516P6S or C516P6W	Rated for 400 Volts, 16 Amps or 20 Amps (UL rating), 4-Pole, 5- Wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL
DH or DJ	Walther Cooper	230 or 231 or 239 or WD532P6-X-B	Rated for 400 Volts, 32 Amps or 30 Amps (UL rating), 4-Pole, 5- Wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL

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DH or DJ, alternate	Mennekes Elektrotechnik GMBH & Co KG	4 or 14A or 300 or 60813	Rated for 400 Volts, 32 Amps or 30 Amps (UL rating), 4-Pole, 5- Wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL
DH or DJ, alternate	Interchangeable	532P6 or 532P6W or 530P6 or 530P6W	Rated for 400 Volts, 32 Amps or 30 Amps (UL rating), 4-Pole, 5- Wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL
DH or DJ, alternate	Hubbell	C532P6S or C532P6W	Rated for 400 Volts, 32 Amps or 30 Amps (UL rating), 4-Pole, 5- Wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL
DC, DK, DD, or DL	Interchangeable	463P9 or 463P9W or 460P9 or 460P9W	Rated 250 Volts, 60 Amps, 3-Pole, 4-Wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL
DM or DN	Walther Cooper	260 or 261 or 269 or WD563P6-X-B	Rated for 400 Volts, 63 Amps, 4-Pole, 5- Wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL
DM or DN, alternate	Mennekes Elektrotechnik GMBH & Co KG	13112 or 13212	Rated for 400 Volts, 63 Amps, 4-Pole, 5- Wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL
DM or DN, alternate	Interchangeable	563P6 or 563P6W or 560P6 or 560P6W	Rated for 400 Volts, 63 Amps (60A UL), 4-Pole, 5- Wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL
DM or DN, alternate	Hubbell	C563P6S or C563P6W	Rated for 400 Volts, 63 Amps (60A UL), 4-Pole, 5- Wire	UL1682, EN60309-1, EN60309-2	CENELEC or UL
Power Cables Category/Configurations (allowable combinations of de)	Interchangeable	Interchangeable	The use of configurations with cable types SJT, SJTOOW, SJOOW, ST, SOOW, W, and DP1P are for Restricted Access Locations and industrial sites. See model differences for details. Minimum 1.0 m, maximum is 4.5 m for the U.S. market.	--	--

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MA, MB, ME, or MF	Interchangeable	Interchangeable	Non-detachable. min. 300 V, min. 90°C; max. 4.5m, min. 1.5 m SJT, SOOW, DP1P 14AWG / 3C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62, UL 498, IEC602277	UL
MC, MD, MH, or MJ	Interchangeable	Interchangeable	Non-detachable. min. 300 V, min. 90°C; max. 4.5m, min. 1.5 m SJT, SOOW, DP1P 12AWG / 3C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62, UL 498, IEC602277	UL
MG or MT	Interchangeable	Interchangeable	Non-detachable. min. 300 V, min. 90°C; max. 4.5m, min. 1.5 m SJT, SOOW, DP1P 10AWG / 3C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62	UL
MX	Interchangeable	Interchangeable	Non-detachable. min. 300 V, min. 90°C; max. 4.5m, min. 1.5 m SJT, SOOW, DP1P 8 AWG / 3C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62	UL

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NJ or PA	Interchangeable	Interchangeable	Non-detachable. min. 300 V, min. 90°C; max. 4.5m, min. 1.5 m SJT, SJTOOW, SJOOW, SOOW, DP1P 12 AWG / 4C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62	UL
PB	Interchangeable	Interchangeable	Non-detachable. min. 300 V, min. 90°C; max. 4.5m, min. 1.5 m SJT, SJTOOW, SJOOW, SOOW, DP1P 12 AWG / 5C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62	UL
NT or PC	Interchangeable	Interchangeable	Non-detachable. min. 300 V, min. 90°C; max. 4.5m, min. 1.5 m SJT, SJTOOW, SJOOW, SOOW, DP1P 10 AWG / 4C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62	UL

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PD	Interchangeable	Interchangeable	Non-detachable. min. 300 V, min. 90°C; max. 4.5m, min. 1.5 m SJT, SOOW, DP1P 10 AWG / 5C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62	UL
PE	Interchangeable	Interchangeable	Non-detachable. 300 V, min. 90°C; max. 4.5m, min. 1.5 m SJT, ST, SOOW 8AWG / 4C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62	UL
PF	Interchangeable	Interchangeable	Non-detachable. 600 V, min. 90°C; max. 4.5m, min. 1.5 m ST, SOOW 12AWG / 5C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62	UL
PH	Interchangeable	Interchangeable	Non-detachable. 600 V, min. 90°C; max. 4.5m, min. 1.5 m ST, SOOW 6AWG / 4C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62	UL

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PJ	Interchangeable	Interchangeable	Non-detachable. 600 V, min. 90°C; max. 4.5m, min. 1.5 m ST, SOOW 10AWG / 5C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62	UL
CP	Interchangeable	Interchangeable	Non-detachable. min. 300 V, min. 90°C; max. 4.5m, min. 1.5 m H03, H05, H07 1mm2 / 3C and/or SJT, SOOW 14AWG / 3C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62, IEC60799	UL, HAR
CH or CJ	Kabtek Lapp Pecso Helukabel	H07RN-F 3X4mm2	Non-detachable. min. 300 V, min. 60°C; max. 4.5m, min. 1.5 m H07 4mm2 / 3C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62, IEC60799	UL, HAR

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CH or CJ, alternate	Interchangeable	Interchangeable	Non-detachable. min. 300 V, min. 90°C; max. 4.5m, min. 1.5 m H03, H05, H07 4mm2 / 3C and/or SOOW 10AWG / 3C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62, IEC60799	UL, HAR
CX, CE, or CF	Well Shin Kabtek Lapp Pecso Helukabel	H07RN-F 3X1.5mm2	Non-detachable. min. 300 V, min. 60°C; max. 4.5m, min. 1.5 m H07 1.5mm2 / 3C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62, IEC60799	UL, HAR
CX, CE, or CF Alternate	Interchangeable	Interchangeable	Non-detachable. min. 300 V, min. 60°C; max. 4.5m, min. 1.5 m H07 1.5mm2 / 3C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62, IEC60799	UL, HAR

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CK or CL	Interchangeable	Interchangeable	Non-detachable. min. 300 V, min. 90°C; max. 4.5m, min. 1.5 m H03, H05, H07 10mm2 / 3C and/or SJT, SOOW 6AWG / 3C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62, IEC60799	UL, HAR
DA or DB	Well Shin Kabtek Lapp Pecso Helukabel	H07RN-F 5X1.5mm2	Non-detachable. min. 300/500 V, min. 60°C; max. 4.5m, min. 1.5 m H07, 1.5mm2 / 5C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62, IEC60799	UL, HAR
DA or DB, alternate	Interchangeable	Interchangeable	Non-detachable. min. 300/500 V, min. 90°C; max. 4.5m, min. 1.5 m SOOW, 12AWG / 5C, and/or H05, H07, 1.5mm2 / 5C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62, IEC60799	UL, HAR

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Clause	Requirement + Test	Result - Remark	Verdict

DC	Interchangeable	Interchangeable	Non-detachable. 600 V, min. 90°C; max. 4.5m, min. 1.5 m ST, SOOW 6AWG / 4C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62	UL, --
DH or DJ	Well Shin Kabtek Lapp Pecso Helukabel	H07RN-F 5X4mm2	Non-detachable. min. 300/500 V, min. 60°C; max. 4.5m, min. 1.5 m Type H07, 4mm2 / 5C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62	UL, HAR
DH or DJ, alternate	Interchangeable	Interchangeable	Non-detachable. min. 300/500 V, min. 90°C; max. 4.5m, min. 1.5 m Type SOOW, or Type W, 10AWG or 8AWG / 5C and/or H05, H07, 4mm2 / 5C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62	UL, HAR
DK or DL	Interchangeable	Interchangeable	Non-detachable. 600 V, min. 90°C; max. 4.5m, min. 1.5 m Type W 6AWG / 4C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62	UL, --

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Clause	Requirement + Test	Result - Remark	Verdict

DM or DN	Well Shin Kabtek Lapp Pecso Helukabel	H07RN-F 5X10mm2	Non-detachable. min. 300/500 V, min. 60°C; max. 4.5m, min. 1.5 m H07 10mm2 / 5C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62, IEC60799	UL, HAR
DM or DN, alternate	Interchangeable	Interchangeable	Non-detachable. min. 300/500 V, min. 90°C; max. 4.5m, min. 1.5 m Type W H05, H07 6AWG / 5C 10mm2 / 5C One end terminates in attachment plug; other end terminates in internal connections.	ANSI/UL62, IEC60799	UL, HAR
Strain Relief, Category/Configurations	Interchangeable	Interchangeable	See Model Differences	--	--
Strain Relief (12.5-18mm diameter) for B, D, H, J	AVC Jacob	MGB25-18 50.021	Suitable for use with 10/3 SJT, 4mm2/3 HAR05, 4mm2/3 HAR07, 12/5 SJT, 10/4 SJT, 10/4 SJTOOW 10/5 SJT, 4mm2/5 HAR05, 4mm2/5 HAR07	UL514A	UL
Strain Relief – alternate (5-10mm diameter) for B, D, H, J	Jacob	50.011	Suitable for use with 1.5mm2/3 HAR, 14/3 SJT	UL514A	UL
Strain Relief – alternate (10-14mm diameter) for B, D, H, J	Jacob	50.016	Suitable for use with 12/3 SJT, 12/3 SJTOOW, 12/4 SJT, 12/4 SJTOOW, 1.5mm2/5 HAR, 4.0mm2/3 HAR, 14/3 SOOW	UL514A	UL

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Clause	Requirement + Test	Result - Remark	Verdict

Strain Relief – alternate (8-14mm diameter) for H, J	AVC	MGB20-14-ST	Suitable for use with 1.5mm2/5 HAR05, 1.5mm2/5 HAR07	UL514A	UL
Strain Relief – alternate (18-25mm) for D	AVC	PGA29-25	Suitable for use with 8/3 SOOW, 8/4 SOOW, 10/5 SOOW	UL514A	UL
Strain Relief – alternate for D, E	Jacob	329M	Suitable for use with 6/4 SOOW, 6/4 W	UL514A	UL
Strain Relief – alternate for L, M	Eaton/Phoenixtec	316-00011	Suitable for use with 8/5 W, 6/5 W, 4mm2/5 HAR, 10mm2/5 HAR	--	--
Strain Relief – alternate for 1, 3, 4, 5, 6, 7, 8, 9	Eaton/Phoenixtec	520-06285 520-06286 520-20801	Suitable for use with all cables with nominal diameter 8-28mm. Plastic rated V-2 or better.	--	--
Strain Relief – alternate for 1, 3, 4, 5, 6, 7, 8, 9 – hole plugs	Eaton/Phoenixtec	520-06287 (no hole) 520-06310 (10mm hole) 520-06311 (14mm hole) 520-40623 (17mm hole 520-40624 (21mm hole) 520-20802 (25mm hole)	Hole plugs to decrease the cable entry opening diameter for various cable sizes	--	--
Strain Relief – alternate for 1, 3, 4, 5, 6, 7, 8, 9 – O-rings (optional)	Interchangeable	Nitrile / N-Buna Rubber, Viton, or Silicone	Width 1.5 – 3mm, inside diameter 6 – 28mm, rated V-2 or better. Used when the hole plug diameter minus the cable diameter is greater than 2mm.	UL94, UL746c	UL
Circuit Breaker Category/Configurations (h)	Interchangeable	Interchangeable	--	--	--
B	Eaton/Heineman n	J Series	Single-pole, IEC 240V, 16A Toggle	IEC 60934	--, CENELEC

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Clause	Requirement + Test	Result - Remark	Verdict

C	Sensata Nader Carling Chinehow	LEG6 series NDB3-50 series B series CVP-TH	Single-pole, UL489 120V, IEC 240V, 16A Toggle	ANSI/UL 489, IEC 60934	UL, VDE or TUV
D	Sensata Nader Carling Chinehow	LEGBX6 series NDB3-50 series B series CVP-TH	Single-pole, UL489 120V, IEC 240V, 16A Rocker	ANSI/UL 489, IEC 60934	UL, VDE or TUV
E	Sensata Nader Carling Chinehow	LEG6 series NDB3-50 series B series CVP-TH	Single-pole, UL489 120V, IEC 240V, 20A Toggle	ANSI/UL 489, IEC 60934	UL, VDE or TUV
F	Sensata Nader Carling Chinehow	LELBX1 series NDB3-100 series C series CVP-FR	Single-pole, UL489 240V, IEC 240V, 20A Rocker	ANSI/UL 489, IEC 60934	UL, VDE or TUV
G	Sensata Nader Carling Chinehow	LEL1 series NDB3-100 C series CVP-FR	Single-pole, UL489 240V, IEC 240V, 20A Toggle	ANSI/UL 489, IEC 60934	UL, VDE or TUV
H	Heinemann Carling	ACF1R series C series	Single-pole, UL489 277V, 20A Rocker	ANSI/UL 489	UL, --
J	Sensata Nader Carling Chinehow	LEG66 series NDB3-50 series B series CVP-TH	Double-pole, UL489 120/240V, IEC 240V, 20A Toggle	ANSI/UL 489, IEC 60934	UL, VDE or TUV
K	Sensata Nader Carling Chinehow	LEG66 series NDB3-50 series B series CVP-TH	Double-pole, UL489 120/240V, IEC 240V, 20A and 30A Toggle	ANSI/UL 489, IEC 60934	UL, VDE or TUV
L	Eaton/Heineman n	J Series	Double-pole, IEC 240V, 16A Toggle	IEC 60934	--, CENELEC
Outlets	Interchangeable	Interchangeable	Up to three types of outlets (see Diagram 4-02 for details) up to a maximum total socket count of 48. The use of configurations with NEMA outlets are for Restricted Access Locations and commercial/industrial sites.	--	--
socket outlet	Rong Feng	SS-3DZ (C19 type)	16A (20A for UL), 250Vac	UL498, IEC 60320-1	UL, TUV

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Clause	Requirement + Test	Result - Remark	Verdict

Socket outlet	Rich Bay	R-306SNK Series (C19 type)	16A (20A for UL), 250Vac	UL498, IEC 60320-1	UL, Demko
socket outlet	Interchangeable	Interchangeable (C19 type)	16A (20A for UL), 250Vac	UL498	UL
Alternate socket outlet	Rong Feng	742A-1P (C13 type)	10A, 250Vac (15 A for UL)	UL498, IEC 60320-1	UL, TUV
Alternate socket outlet	Rich Bay	R-302SNK Series (C13 type)	10A, 250Vac (15A for UL)	UL498, IEC 60320-1	UL, Demko
Alternate socket outlet	Interchangeable	Interchangeable (C13 type)	10A, 250Vac (15 A for UL)	UL498	UL
Alternate socket outlet	Rong Feng	742A-xP where x is 2, 3, 4, 5, or 6 (Ganged C13 type)	10A, 250Vac (15 A for UL)	UL498, IEC 60320-1	UL, TUV
Alternate socket outlet	Rich Bay	R-302Gx series where x is 2, 3, 4, 5 or 6 (Ganged C13 type)	10A, 250Vac (15A for UL)	UL498, IEC 60320-1	UL, Demko
Alternate socket outlet	interchangeable	interchangeable	10A, 250Vac (15 A for UL)	UL498	UL
Alternate socket outlet	Rong Feng	RF-203P-HP	15A, 277Vac	UL498	UL
Alternate socket outlet	Interchangeable	Interchangeable	15A, 277Vac	UL498	UL
Alternate socket outlet	Rong Feng	RF6005 or RF6003 (NEMA 5-20R type)	20A, 125Vac	UL498	UL
Alternate socket outlet	interchangeable	interchangeable	20A, 125Vac	UL498	UL
Alternate socket outlet	Rong Feng	RF6001 (NEMA 5-15R type)	15A, 125Vac	UL498	UL
Alternate socket outlet	Interchangeable	NEMA 5-15R or L5-15R type	15A, 125Vac	UL498	UL
Alternate socket outlet	Interchangeable	NEMA 6-15R or L6-15R type	15A, 250Vac	UL498	UL
Alternate socket outlet	Rong Feng	E-250-NA (NEMA L6-20R type)	20A, 250Vac	UL498	UL
Alternate socket outlet	Interchangeable	NEMA 6-20R or L6-20R type	20A, 250Vac	UL498	UL
Alternate socket outlet	Rong Feng	E-630R-N (NEMA L6-30R type)	30A, 250Vac	UL498	UL
Alternate socket outlet	Interchangeable	NEMA L6-30R type	30A, 250Vac	UL498	UL
Alternate socket outlet	Interchangeable	NEMA L7-15R type	15A, 277Vac	UL498	UL

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Clause	Requirement + Test	Result - Remark	Verdict

Chassis	interchangeable	steel	Typical 1.2mm thick. See below and Enclosure Diagrams 4-01 for details	--	--
mm=1	Interchangeable	1U configuration	Horizontal unit, approximate Height=1U, Depth=150mm		
mm=4	Interchangeable	22U configuration	Vertical unit, approximate Depth=45mm, Length=760mm, Width=52mm		
mm=5	Interchangeable	36U configuration	Vertical unit, approximate Depth=45mm, Length=1423mm, Width=52mm		
mm=6	Interchangeable	42U configuration	Vertical unit, approximate Depth=45mm, Length=1689mm, Width=52mm		
mm=B	Interchangeable	POD configuration	Vertical unit, approximate Depth=91mm, Length=1979mm, Width=44mm		
Chassis – alternate	Interchangeable	Extruded Aluminum	Typical 1.5mm thick. See below and Enclosure Diagrams 4-01 for details	--	--
mm=7x where x is 1-9 or B	Interchangeable	Interchangeable	Vertical unit, approximate Depth=53mm, Width=52mm, Length=439, 700, 862, 902, 1066, 1150, 1604, 1689, 1765, or 1829mm	--	--
Plastic Breaker Box – 2-pole CB (optional)	Eaton/Phoenixtec	520-06281	Snaps into front of chassis. Can be used with 1 2-pole or 1 1-pole CB. Minimum V-1.	UL94, UL746c	UL
Plastic Breaker Box – 1-pole CB (optional)	Eaton/Phoenixtec	520-06282	Snaps into front of chassis. Used with 2 1-pole CBs. Minimum V-1.	UL94, UL746c	UL

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Clause	Requirement + Test	Result - Remark	Verdict

PCB Mounting Clip (optional)	Eaton/Phoenixtec	520-06288	Snaps into inside of chassis. Minimum V-2.	UL94, UL746c	UL
Cable Management Clip (optional)	Eaton	19001LL	Snaps into inside of chassis. Minimum V-2.	UL94, UL746c	UL
Outlet Wiring, soldered between outlets (optional)	Interchangeable	106-99026-00	Tinned copper wire, minimum thickness 2.05 mm (equal to 12 AWG) Tested in unit. See Diagram 4-03 for details	--	--
Outlet Wiring, soldered between outlets (optional), alternate	Interchangeable	106-99029-00	Tinned copper wire, minimum thickness 1.4 mm (equal to 14 AWG) Tested in unit. See Diagram 4-03 for details	--	--
Ventilation openings, POD form factory only	Interchangeable	Interchangeable	See Enclosure Diagrams 4-01 for details. Numerous 4 mm diameter circular ventilation openings on side of the enclosure cover - (Construction is unlikely that objects will enter the openings and created hazards by contacting bare conductive parts - No hazardous parts within 5 degree projection.)	--	--

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Clause	Requirement + Test	Result - Remark	Verdict

Bonding terminal connection for units rated less than or equal to 25 A	Interchangeable	Interchangeable	Min. 1.5mm2 or 14 AWG, green/yellow or green bonding conductor, one end terminates in a Listed closed loop connector. Secured to chassis on a dedicated threaded stud min. 4 mm diameter by nuts and lock-washers; other end terminates in earthing tab of outlet receptacle. Provided with or without symbol IEC60417-5017.	--	--
Bonding terminal connection for units rated less than or equal to 32 A	Interchangeable	Interchangeable	Min. 2.5mm2 or 12 AWG, green/yellow or green bonding conductor, one end terminates in a Listed closed loop connector. Secured to chassis on a dedicated threaded stud min. 4 mm diameter by nuts and lock-washers; other end terminates in earthing tab of outlet receptacle. Provided with or without symbol IEC60417-5017.	--	--

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Clause	Requirement + Test	Result - Remark	Verdict

Bonding terminal connection for units rated less than or equal to 63 A	Interchangeable	Interchangeable	Min. 6.0mm2 or 8 AWG, green/yellow or green bonding conductor, one end terminates in a Listed closed loop connector. Secured to chassis on a dedicated threaded stud min. 6 mm diameter by nuts and lock-washers; other end terminates in earthing tab of outlet receptacle. Provided with or without symbol IEC60417-5017.		
Bonding terminal connection for units with appliance inlet	Interchangeable	Interchangeable	Min. 1.5mm2 or 14 AWG, green/yellow or green bonding conductor, one end terminates in a Listed closed loop connector. Secured to chassis on a dedicated threaded stud min. 3.5 mm diameter by nuts and lock-washers; other end terminates in earthing tab of outlet receptacle. Provided with or without symbol IEC60417-5017.		

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Clause	Requirement + Test	Result - Remark	Verdict

Internal Primary Wiring (PRI). Provided when wiring to an IEC C13, RF-203P-HP, NEMA 5-15 or L5-15, NEMA 6-15 or L6-15, or NEMA L7-15 outlet	Interchangeable	Interchangeable	14 AWG, AWM, Style 1015 (FEP, PTFE, PVC, TFE, neoprene, polyimide); marked VW-1. Rated 600 V, 105 ºC Or 1.5mm2, H07V2-K, Rated 450 / 750 V, 105 °C	ANSI/UL 758	UL
Internal Primary Wiring (PRI). Provided when wiring to a IEC C13, IEC C19, NEMA 5-20 or L5-20, NEMA 5-15 or L5-15, NEMA 6-15 or L6-15, NEMA 6-20 or L6-20, or RF-203P-HP outlet	Interchangeable	Interchangeable	12 AWG, AWM, Style 1015 (FEP, PTFE, PVC, TFE, neoprene, polyimide); marked VW-1. Rated 600 V, 105 ºC Or 1.5mm2, H07V2-K, Rated 450 / 750 V, 105 °C	ANSI/UL 758	UL
Internal Primary Wiring (PRI). Provided when wiring to an L6-30R.	Interchangeable	Interchangeable	10 AWG, AWM, Style 1015 (FEP, PTFE, PVC, TFE, neoprene, polymide); marked VW-1.' Rated 600 V, 105 ºC.	ANSI/UL 758	UL
Insulating Tubing/Sleeving	Interchangeable	Interchangeable	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; min. 80°C, 300V	ANSI/UL 224, or ANSI/UL 1441	UL
Quick-Connect Terminals	Interchangeable	Interchangeable	Insulated type; sized to match number of wires, wire size and mating tab.	ANSI/UL 310	UL
Ring terminal.	Interchangeable	Interchangeable	Insulated type, sized to match number of wires, wire size and screw/stud size.	ANSI/UL 486A, 486, or 486-C	UL
Fork terminal	Interchangeable	Interchangeable	Insulated type, sized to match number of wires, wire size and screw/stud size.	ANSI/UL 486A, 486, or 486-C	UL

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Clause	Requirement + Test	Result - Remark	Verdict

Internal power supply, optionally provided	LIANZHENG ELECTRONIC (SHENZHEN) CO., LTD	SPS16-05	One provided for all models 100-277 Vac, 0.3 A, 50/60 Hz Output 5 Vdc, 1.2 A operation ambient 60°C	UL 60950-1, 2nd Ed + Amd 1 IEC60950-1, 2nd Ed +Amd 1	UL, D Mark CB
Internal power supply wiring, optionally provided	Interchangeable	Interchangeable	18-22 AWG, AWM, (FEP, PTFE, PVC, TFE, neoprene, polyimide); marked VW-1. Rated 300 V, 105 ºC.	ANSI/UL 758	UL
Measurement and Communication PCBs. Optionally provided	LIANZHENG ELECTRONIC (SHENZHEN) CO., LTD	ICM1-x or ICM3-x, where x is variation in measurement or SELV circuitry that does not affect safety	ICM3-x, 1-3 provided for three phase units Mains Input CN8, CN14: Single-phase, split-phase, three-phase delta, or three-phase wye, 85-294VAC Line (L1, L2, and L3) to Neutral, 10mA SELV Input CN9, CN10, CN13: 5Vdc or 12Vdc (selected by CN17), 0.2A ICM1-x, One provided for single phase units Mains input CN5: Single-phase 85-294VAC, 10mA SELV Input CN9, CN10, CN13: 5Vdc or 12Vdc (selected by CN17), 0.2A operation ambient 60°C	UL 60950-1, 2nd Ed + Amd 1 IEC60950-1, 2nd Ed +Amd 1	UL, D Mark CB

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Clause	Requirement + Test	Result - Remark	Verdict

Internal wiring provided for Measurement and Communication PCBs. Optionally provided	Interchangeable	Interchangeable	18-22 AWG, AWM, (FEP, PTFE, PVC, TFE, neoprene, polyimide); marked VW-1. Rated 300 V, 105 ºC.	ANSI/UL 758	UL
Current Transformers, optionally provided	Gredmann	SE22-03	Tested in unit. See Diagram 4-04 for details (engineering note - wire length varies from 50-1500 mm)	--	--
Current Transformers, alternate, optionally provided	Shenzhen Click Technology Co., Ltd.	TB2101	Tested in unit. See Diagram 4-05 for details (engineering note - wire length varies from 50-1500 mm)	--	--
Internal wiring provided for Current Transformers, optionally provided	Interchangeable	Interchangeable	22-26 AWG, AWM, Style 1007 (FEP, PTFE, PVC, TFE, neoprene, polyimide); marked VW-1. Rated 300 V, 105 ºC.	ANSI/UL 758	UL
Insulation sheet, located under power supply and Measurement and Communication PCBs	ITW Electronics Components/ Products (Shanghai) Co., Ltd.	GK series	minimum 0.4 thickness, rated V-0, minimum 115°C	UL94	UL
Insulation sheet, located under power supply and Measurement and Communication PCBs, Alternate	Sabic Plastic	FR700(GG1)	minimum 0.4 thickness, rated V-0, minimum 115°C	UL94	UL

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Clause	Requirement + Test	Result - Remark	Verdict

Label	Brady Worldwide	B-483	Secured to steel by adhesive. Thermal transfer white polyester film with permanent rubber adhesive. Suitable for application.	UL969	UL
Alternate- Label	Interchangeable	Interchangeable	Rated max. 125°C and suitable for application to plated, painted, or powder coated steel.	UL969	UL
Varistor, Surge Suppressor, Optional	Thinking Electronic Industrial Co., Ltd.	TVR20621K	≥395VAC	UL1449, IEC61051-2	UL
Varistor, Surge Suppressor Optional, alternate	Thinking Electronic Industrial Co., Ltd.	TVR20621	≥395VAC	UL1449, IEC61051-2	UL
Varistor, Surge Suppressor Optional, alternate	Thinking Electronic Industrial Co., Ltd.	TVR20561	≥350VAC	UL1449, IEC61051-2	UL
Varistor, Surge Suppressor Optional, alternate	JOYIN CO LTD	20N561K	≥350VAC	UL1449, IEC61051-2	UL
Varistor, Surge Suppressor Optional, alternate	JOYIN CO LTD	20N621K	≥395VAC	UL1449, IEC61051-2	UL
Varistor, Surge Suppressor Optional, alternate	CERAMATE TECHNICAL CO LTD	GNR20D621K	≥395VAC	UL1449, IEC61051-2	UL
Varistor, Surge Suppressor Optional, alternate	CERAMATE TECHNICAL CO LTD	GNR20D561K	≥350VAC	UL1449, IEC61051-2	UL
Varistor, Surge Suppressor Optional, alternate	Success Electronics Co., Ltd	SVR20D561K	≥350VAC	UL1449, IEC61051-2	UL
Varistor, Surge Suppressor Optional, alternate	Success Electronics Co., Ltd	SVR20D621K	≥395VAC	UL1449, IEC61051-2	UL

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Clause	Requirement + Test	Result - Remark	Verdict

Terminal Blocks, Optional	Dinkle	PM6N (2, 3, or 4 poles)	500 V, 57 A, 105 ºC, AWG 6 to 20, 1.5 mm² to 6.0 mm². (internal)	UL1059, IEC60947-7, EN60998:2004	UL, VDE
Terminal Blocks, Optional, Alternate	Shenzhen Succeed Electronics Technology Co., LTD (SCED)	TR-16N-01 (2, 3, or 4 poles)	600 V, 85 A, 105 ºC, AWG 4 to 20 (internal)	UL1059	UL
Supplementary information: [1)] Provided evidence ensures the agreed level of compliance. See OD-CB2039.					

1.5.1	TABLE: Opto Electronic Devices	

Manufacturer.....:

Type .....:

Separately tested.....:

Bridging insulation .....:

External creepage distance .....:

Internal creepage distance .....:

Distance through insulation .....:

Tested under the following conditions .....:

Input .....:

Output .....:

supplementary information

1.6.2	TABLE: Electrical data (in normal conditions)					N/A
U (V)	I (A)	Irated (A)	P (W)	Fuse #	Ifuse (A)	Condition/status
--	--	--	--	--	--	--
Supplementary information:						

2.1.1.5 c) 1)	TABLE: max. V, A, VA test	N/A

Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)
--	--	--	--	--

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Clause	Requirement + Test	Result - Remark	Verdict

supplementary information:

2.1.1.5 c) 2)	TABLE: stored energy	N/A

Capacitance C (µF)	Voltage U (V)	Energy E (J)
--	--	--
supplementary information:		

2.2	TABLE: evaluation of voltage limiting components in SELV circuits	N/A

Component (measured between)	max. voltage (V) (normal operation)		Voltage Limiting Components
	V peak	V d.c.	
--	--	--	--

Fault test performed on voltage limiting components	Voltage measured (V) in SELV circuits (V peak or V d.c.)
--	--
supplementary information:	

2.5	TABLE: Limited power sources	N/A

Circuit output tested:						
Note: Measured Uoc (V) with all load circuits disconnected:						
Components	Sample No.	Uoc (V)	I_{sc} (A)		VA	
			Meas.	Limit	Meas.	Limit
--	--	--	--	--	--	--
supplementary information:						
Sc=Short circuit, Oc=Open circuit						

2.10.2	Table: working voltage measurement	N/A

Location	RMS voltage (V)	Peak voltage (V)	Comments
--	--	--	--
supplementary information:			

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Clause	Requirement + Test	Result - Remark	Verdict

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements					Pass
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
Functional:						
--	--	--	--	--	--	--
Basic/supplementary:						
--	--	--	--	--	--	--
Reinforced:						
--	--	--	--	--	--	--
Supplementary information:						

2.10.5	TABLE: Distance through insulation measurements				N/A
Distance through insulation (DTI) at/of:	U peak (V)	U rms (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)
--	--	--	--	--	--
Supplementary information:					

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

4.3.8	TABLE: Batteries								N/A
The tests of 4.3.8 are applicable only when appropriate battery data is not available				--					--
Is it possible to install the battery in a reverse polarity position?				--					--
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
Max. current during normal condition	--	--	--	--	--	--	--	--	--
Max. current during fault condition	--	--	--	--	--	--	--	--	--
Test results:				--					Verdict
- Chemical leaks				--					--
- Explosion of the battery				--					--
- Emission of flame or expulsion of molten metal				--					--
- Electric strength tests of equipment after completion of tests				--					--
Supplementary information:									

4.3.8	TABLE: Batteries	N/A
Battery category.....:	(Lithium, NiMh, NiCad, Lithium Ion …)	
Manufacturer.....:		
Type / model .....:		
Voltage.....:		
Capacity.....:	mAh	
Tested and Certified by (incl. Ref. No.) .....:		
Circuit protection diagram:		

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Clause	Requirement + Test	Result - Remark	Verdict

MARKINGS AND INSTRUCTIONS (1.7.13)	
Location of replaceable battery	--
Language(s) ……:	--
Close to the battery ……:	--
In the servicing instructions ……:	--
In the operating instructions ……:	--

4.5	TABLE: Thermal requirements						
	Supply voltage (V) .....:						—
	Ambient T_{min} (°C) .....:						—
	Ambient T_{max} (°C) .....:						—
Maximum measured temperature T of part/at::		T (°C)					Allowed T_{max} (°C)
Model HM12MGB4EMB1-C1		-	-	-	-	-	-
-		90V	90V	132V	132V	-	-
Ambient		29.8	50	28	50	-	-
Plug External		39.3	59.5	38	60	-	95
PDU external nearest internal power supply		33.9	54.1	32.7	54.7	-	70
PDU internal at primary wiring crimp point		39.9	60.1	38.9	60.9	-	105
Breaker at crimp point		43.6	63.8	43.4	65.4	-	85
Breaker, internal body		48.2	68.4	48.3	70.3	-	85
Outlet at crimp point		40.2	60.4	39.7	61.7	-	75
Outlet body internal (NEMA 5-20)		41.8	62	40.9	62.9	-	75
Internal support for outlet wiring buss		36.6	56.8	36.1	58.1	-	105
Internal wiring for outlet buss		40.2	60.4	39.9	61.9	-	105
TX1 coil (SPS Board)		34.8	55	33.2	55.2	-	110
TX1 coil (DC/DC Board)		35.9	56.1	32.8	54.8	-	90
Model HMI4MTB4JDA1-C1		-	-	-	-	-	-
-		180V	180V	264V	264V	-	-
Ambient		26.6	60	24.8	60	-	-
Plug External		34.1	67.5	34.7	69.9	-	95
PDU external nearest internal power supply		30.7	64.1	29.3	64.5	-	70
PDU internal at primary wiring crimp point		37.9	71.3	36.8	72.0	-	105
Breaker at crimp point		46.1	79.5	45.4	80.6	-	85
Breaker, internal body		42.9	76.3	42.7	77.9	-	85
Outlet at crimp point		31.7	65.1	31.5	66.7	-	70
Outlet body internal (C13)		29.6	63.0	29.4	64.6	-	70
Internal support for outlet wiring buss		37.4	70.8	36.0	71.2	-	105
Internal wiring for outlet buss		43.6	77.0	41.9	77.1	-	105
TX1 coil (SPS Board)		48.1	81.5	48.7	83.9	-	110
TX1 coil (DC/DC Board)		36.3	69.7	34.5	69.7	-	90
Model HMI4CCAAABE4-C1		-	-	-	-	-	-
-		180V	180V	264V	264V	-	-
Ambient		24.2	50.0	28.7	50.0	-	-
Inlet body internal		39.0	64.8	44.0	65.3	-	70
PDU external nearest internal power supply		30.3	56.1	34.4	55.7	-	70
PDU internal at primary wiring crimp point		34.6	60.4	39.2	60.5	-	105

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Clause	Requirement + Test	Result - Remark	Verdict

Outlet at crimp point	38.1	63.9	42.3	63.6	-	70
Outlet body internal (C13)	39.7	65.5	43.6	64.9	-	70
Internal support for outlet wiring buss	33.1	58.9	37.2	58.5	-	105
Internal wiring for outlet buss	37.0	62.8	41.0	62.3	-	105
TX1 coil (SPS Board)	43.0	68.8	48.7	70.0	-	110
TX1 coil (DC/DC Board)	34.4	60.2	38.5	59.8	-	90
Model HMI4MXD4JGH5-C1	-	-	-	-	-	-
-	180V	180V	264V	264V	-	-
Ambient	29.0	60.0	27.8	60.0	-	-
Plug External	40.2	71.2	40.5	72.7	-	95
Plug Internal at wire crimp point	47.7	78.7	48.8	81.0	-	90
PDU external nearest internal power supply	33.4	64.4	35.4	67.6	-	70
PDU internal at primary wiring crimp point	47.5	78.5	52.0	84.2	-	105
Breaker at crimp point	50.5	81.5	49.3	81.5	-	85
Break, internal body	49.3	80.3	48.4	80.6	-	85
Outlet at crimp point	38.2	69.2	37.2	69.4	-	70
Outlet body internal (C19)	36.4	67.4	35.1	67.3	-	70
Outlet body internal (C13)	35.5	66.5	33.9	66.1	-	70
Internal support for outlet wiring buss	40.1	71.1	43.6	75.8	-	105
Internal wiring for outlet buss	31.5	62.5	32.9	65.1	-	105
TX1 coil (SPS Board)	41.4	72.4	44.2	76.4	-	110
TX1 coil (DC/DC Board)	40.2	71.2	42.9	75.1	-	90
Model HMI4CHJ4CDF5-C1	-	-	-	-	-	-
-	180V	180V	264V	264V	-	-
Ambient	27.3	50	29.4	50	-	-
Plug External	30.3	53.0	31.6	52.2	-	95
Plug Internal at wire crimp point	32.7	55.4	34	54.6	-	75
PDU external nearest internal power supply	31.9	54.6	32.9	53.5	-	70
PDU internal at primary wiring crimp point	54.1	76.8	55.2	75.8	-	105
Breaker at crimp point	52.7	75.4	54.1	74.7	-	85
Breaker, internal body	48.5	71.2	49.9	70.5	-	85
Outlet at crimp point	38.7	61.4	40.7	61.3	-	70
Outlet body internal (C19)	39.5	62.2	41.6	62.2	-	70
Outlet body internal (C13)	40.4	63.1	42.5	63.1	-	70
Internal support for outlet wiring buss	40.5	63.2	41.6	62.2	-	105
Internal wiring for outlet buss	31.5	54.2	32.9	53.5	-	105
TX1 coil (SPS Board)	33.9	56.6	35.2	55.8	-	110
TX1 coil (DC/DC Board)	34.6	57.3	36.0	56.6	-	90
Model HMI4PCB4JGC5-C1	-	-	-	-	-	-
-	187.2V	187.2V	228.8V	228.8V	-	-
Ambient	29.8	60	27.1	60	-	-
Plug External	42.8	73	47.2	80.1	-	95
Plug Internal at wire crimp point	38.8	69	41.2	74.1	-	105
PDU external nearest internal power supply	31.3	61.5	30.4	63.3	-	70
PDU internal at primary wiring crimp point	38.8	69	38.3	71.2	-	105
Breaker at crimp point	46.5	76.7	46.4	79.3	-	85
Breaker, internal body	49	79.2	49.1	82	-	85
Outlet at crimp point	36.1	66.3	33.5	66.4	-	70
Outlet body internal (C19)	37.4	67.6	35.4	68.3	-	70
Outlet body internal (C13)	36.5	66.7	34.5	67.4	-	70
Internal support for outlet wiring buss	39.7	69.9	38.3	71.2	-	105
Internal wiring for outlet buss	43.7	73.9	40.9	73.8	-	105
TX1 coil (SPS Board)	40.8	71	4.1	73	-	110

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Clause	Requirement + Test	Result - Remark	Verdict

TX1 coil (DC/DC Board)	40.4	70.6	39.2	72.1	-	90
Model HMI4PDB4JFB5-C1	-	-	-	-	-	-
-	108/187.2V	108/187.2V	132/228.8V	132/228.8V	-	-
Ambient	28	50	27.2	50	-	-
Plug External	47.6	69.6	53.6	76.4	-	95
Plug Internal at wire crimp point	42.5	64.5	44.6	67.4	-	105
PDU external nearest internal power supply	33	55	31.4	54.2	-	70
PDU internal at primary wiring crimp point	47.6	69.6	46.3	69.1	-	105
Breaker at crimp point	57.4	79.4	55.1	77.9	-	85
Breaker, internal body	54.9	76.9	52.6	75.4	-	85
Outlet at crimp point	44.6	66.6	43.6	66.4	-	70
Outlet body internal (C19)	41.3	63.3	39.6	62.4	-	70
Outlet body internal (NEMA 5-20)	44.8	66.8	45.7	68.5	-	75
Outlet body internal (C13)	42.5	64.5	41.7	64.5	-	70
Internal support for outlet wiring buss	37.9	59.9	36.2	59	-	105
Internal wiring for outlet buss	40.5	62.5	39.2	62	-	105
TX1 coil (SPS Board)	42.9	64.9	40.5	63.3	-	110
TX1 coil (DC/DC Board)	41.7	63.7	39.5	62.3	-	90
Model HMI4DKE4JJH5-C1	-	-	-	-	-	-
-	187.2V	187.2V	228.8	228.8	-	-
Ambient	29.9	60	29.2	60	-	-
Plug External	31.4	61.5	32.9	63.7	-	95
Plug Internal at wire crimp point	33.9	64	36.9	67.7	-	90
PDU external nearest internal power supply	31.2	61.3	33.1	63.9	-	70
PDU internal at primary wiring crimp point	37.2	67.3	43	73.8	-	105
Breaker at crimp point	47.9	78	52.2	83	-	85
Breaker, internal body	46.7	76.8	52.7	83.5	-	85
Outlet at crimp point	39.1	69.2	38.2	69	-	70
Outlet body internal (C19)	38.2	68.3	37.1	67.9	-	70
Outlet body internal (C13)	37.1	67.2	36.1	66.9	-	70
Internal support for outlet wiring buss	33.8	63.9	36.1	66.9	-	105
Internal wiring for outlet buss	50.1	80.2	51.5	82.3	-	105
TX1 coil (SPS Board)	36.1	66.2	35.8	66.6	-	110
TX1 coil (DC/DC Board)	35.5	65.6	35.5	66.3	-	90
Model HMI4DHJ4CJJ5-C1	-	-	-	-	-	-
-	180/311.4V	180/311.4V	264/456.5V	264/456.5V	-	-
Ambient	26.6	50	26.4	50	-	-
Plug External	43.1	66.5	40.1	63.7	-	95
Plug Internal at wire crimp point	48.1	71.5	43.9	67.5	-	75
PDU external nearest internal power supply	30	53.4	31.2	54.8	-	70
PDU internal at primary wiring crimp point	43.6	67	44.7	68.3	-	105
Breaker at crimp point	52.8	76.2	54.2	77.8	-	85
Breaker, internal body	49.9	73.3	51.1	74.8	-	85
Outlet at crimp point	38.7	62.1	37.9	61.5	-	70
Outlet body internal (C19)	36.8	60.2	34.7	58.3	-	70
Outlet body internal (C13)	32.4	55.8	33.2	56.8	-	70
Internal support for outlet wiring buss	31.5	54.9	32.1	55.7	-	105
Internal wiring for outlet buss	36	59.4	35.6	59.2	-	105
TX1 coil (SPS Board)	35.4	58.8	36.2	59.8	-	110
TX1 coil (DC/DC Board)	38.7	62.1	40.4	64	-	90
Model HMI4DHD4GJJ5-C1	-	-	-	-	-	-

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Clause	Requirement + Test	Result - Remark	Verdict

-	180/31 1.4V	180/31 1.4V	264/45 6.5V	264/45 6.5V	-	-
Ambient	27.2	60.0	27.3	60.0	-	-
Plug External	31.9	64.7	32.5	65.2	-	95
Plug Internal at wire crimp point	34.6	67.4	35.1	67.8	-	90
PDU external nearest internal power supply	29.7	62.5	30.0	62.7	-	70
PDU internal at primary wiring crimp point	36.2	69.0	37.2	69.9	-	105
Breaker at crimp point	39.6	72.4	40.7	73.4	-	85
Breaker, internal body	41.2	74.0	42.5	75.2	-	85
Outlet at crimp point	35.6	68.4	35.8	68.5	-	70
Outlet body internal (C19)	34.9	67.7	35.2	67.9	-	70
Outlet body internal (C13)	33.9	66.7	34.8	67.5	-	70
Internal support for outlet wiring buss	31.5	64.3	31.8	64.5	-	105
Internal wiring for outlet buss	40.7	73.5	40.8	73.5	-	105
TX1 coil (SPS Board)	37.6	70.4	38.8	71.5	-	110
TX1 coil (DC/DC Board)	34.7	67.5	35.2	67.9	-	90
Model HMI2PJD4HPC5-C1	-	-	-	-	-	-
-	249.3/4 32V	249.3/4 32V	293.62/ 508.8V	293.62/ 508.8V	-	-
Ambient	27.4	60.0	27.4	60.0	-	-
Plug External	40.2	72.8	42.6	75.2	-	95
Plug Internal at wire crimp point	49.3	81.9	53.3	85.9	-	90
PDU external nearest internal power supply	28.5	61.1	28.5	61.1	-	70
PDU internal at primary wiring crimp point	37.0	69.6	37.6	70.2	-	105
Breaker at crimp point	40.3	72.9	41.0	73.6	-	85
Breaker, internal body	44.5	77.1	45.4	78.0	-	85
Outlet at crimp point	38.9	71.5	39.6	72.2	-	105
Outlet body internal	37.4	70.0	38.1	70.7	-	105
Internal support for outlet wiring buss	34.5	67.1	35.0	67.6	-	105
Internal wiring for outlet buss	38.3	70.9	38.9	71.5	-	105
TX1 coil (SPS Board)	45.8	78.4	47.9	80.5	-	110
TX1 coil (DC/DC Board)	41.3	73.9	43.0	75.6	-	90
Model HMI5DML2FJMB-C1	-	-	-	-	-	-
-	180/31 1.4V	180/31 1.4V	264/45 6.5V	264/45 6.5	-	-
Ambient	28.1	60	30.5	60	-	-
Plug External	42.9	74.8	46.8	76.3	-	95
Plug Internal at wire crimp point	40.5	72.4	44.7	74.2	-	75
PDU external nearest internal power supply	32.8	64.7	35.3	64.8	-	70
PDU internal at primary wiring crimp point	37.6	69.5	44.7	74.2	-	105
Breaker at crimp point	42.4	74.3	47.3	76.8	-	85
Breaker, internal body	42.7	74.6	47	76.5	-	85
Outlet at crimp point	32.4	64.3	37.5	67	-	70
Outlet body internal (C19)	34.1	66	39.2	68.7	-	70
Internal support for outlet wiring buss	36.2	68.1	38.6	68.1	-	105
Internal wiring for outlet buss	40.6	72.5	48.3	77.8	-	105
TX1 coil (SPS Board)	42.4	74.3	45.1	74.6	-	110
TX1 coil (DC/DC Board)	38.3	70.2	40.6	70.1	-	90
Model HMI5DHM2DJGB-C1	-	-	-	-	-	-
-	180/31 1.4V	180/31 1.4V	264/45 6.5V	264/45 6.5V	-	-
Ambient	27.7	60	28.6	60	-	-
Plug External	29.4	61.7	35.7	67.1	-	95

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Clause	Requirement + Test	Result - Remark	Verdict

Plug Internal at wire crimp point	31.1	63.4	37.7	69.1	-	75
PDU external nearest internal power supply	30.8	63.1	36.1	67.5	-	70
PDU internal at primary wiring crimp point	51.6	83.9	56.2	87.6	-	105
Breaker at crimp point	45.3	77.6	50.9	82.3	-	85
Breaker, internal body	45.9	78.2	52.2	83.6	-	85
Outlet at crimp point	34.3	66.6	37.2	68.6	-	70
Outlet body internal (C13)	32.6	64.9	36.1	67.5	-	70
Internal support for outlet wiring buss	33.2	65.5	40.4	71.8	-	105
Internal wiring for outlet buss	33.3	65.6	41.1	72.5	-	105
TX1 coil (SPS Board)	33.4	65.7	38.4	69.8	-	110
TX1 coil (DC/DC Board)	38.1	70.4	44.3	75.7	-	90
Model HMI5DHM2DJEB-C1	-	-	-	-	-	-
-	180/311.4V	180/311.4V	264/456.5V	264/456.5V	-	-
Ambient	28.8	60.0	28.8	60.0	-	-
Plug External	31.8	63.0	34.8	66.0	-	95
Plug Internal at wire crimp point	32.0	63.2	35.0	66.2	-	75
PDU external nearest internal power supply	30.6	61.8	36.7	67.9	-	70
PDU internal at primary wiring crimp point	44.5	75.7	50.5	81.7	-	105
Breaker at crimp point	48.8	80.0	51.8	83.0	-	85
Breaker, internal body	45.5	76.7	49.6	80.8	-	85
Outlet at crimp point	33.8	65.0	36.4	67.6	-	70
Outlet body internal (C19)	33.5	64.7	36.9	68.1	-	70
Outlet body internal (C13)	33.6	64.8	36.7	67.9	-	70
Internal support for outlet wiring buss	34.3	65.5	39.9	71.1	-	105
Internal wiring for outlet buss	34.3	65.5	40.7	71.9	-	105
TX1 coil (SPS Board)	37.1	68.3	44.1	75.3	-	110
TX1 coil (DC/DC Board)	41.0	72.2	47.2	78.4	-	90
Model HMI5DMM2DJMB-C1	-	-	-	-	-	-
-	180/311.4V	180/311.4V	264/456.5V	264/456.5V	-	-
Ambient	27.6	60.0	28.7	60.0	-	-
Plug External	58.6	91.0	57.5	88.8	-	95
Plug Internal at wire crimp point	40.6	73.0	39.7	71.0	-	75
PDU external nearest internal power supply	33.4	65.8	35.7	67.0	-	70
PDU internal at primary wiring crimp point	46.2	78.6	52.0	83.3	-	105
Breaker at crimp point	46.8	79.2	50.7	82.0	-	85
Breaker, internal body	49.5	81.9	52.7	84.0	-	85
Outlet at crimp point	35.6	68.0	36.7	68.0	-	70
Outlet body internal (C19)	36.6	69.0	37.7	69.0	-	70
Internal support for outlet wiring buss	37.0	69.4	40.0	71.8	-	105
Internal wiring for outlet buss	35.8	68.2	37.8	69.1	-	105
TX1 coil (SPS Board)	37.6	70.0	46.4	77.7	-	110
TX1 coil (DC/DC Board)	44.1	76.5	46.7	78.0	-	90
Model EMI3PB15AFE78CC	--	--	--	--	--	--
Supply voltage (V) :	108/187.2Vac, Y, 3W+N+PE, 16 A, 50 Hz	108/187.2Vac, Y, 3W+N+PE, 16 A, 60 Hz	108/187.2Vac, Y, 3W+N+PE, 16 A, 50 Hz	108/187.2Vac, Y, 3W+N+PE, 16 A, 60 Hz		
Load Condition	B	B	A	A		

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Clause	Requirement + Test	Result - Remark	Verdict

Input plug enclosure	63.0	62.9	65.0	64.8	--	95
Input wiring crimp point at L6-20 outlet	65.2	65.2	70.5	70.2	--	105
Enclosure internal near loaded outlet, top	62.8	62.7	66.1	65.7	--	ref
Enclosure external near loaded outlet, top	62.1	62.4	65.1	64.3	--	105
Loaded L6-20 internal outlet body next to pin	66.0	66.0	72.9	73.0	--	105
Loaded 5-20 internal outlet body next to pin	68.7	68.4	84.1	83.7	--	105
TX1 coil (SPS Board)	76.9	76.9	78.6	77.3	--	110
TX1 coil (DC/DC Board)	71.4	71.3	73.6	72.4	--	90
Ambient	60.0	60.0	60.0	60.0	--	--
Model EMI3PB15AFE78CC	--	--	--	--	--	--
Supply voltage (V) :	132/228.8Vac, Y, 3W+N+PE, 16 A, 50 Hz	132/228.8Vac, Y, 3W+N+PE, 16 A, 60 Hz	132/228.8Vac, Y, 3W+N+PE, 16 A, 50 Hz	132/228.8Vac, Y, 3W+N+PE, 16 A, 60 Hz	--	--
Load Condition	B	B	A	A	--	--
Input plug enclosure	62.6	63.0	64.4	65.0	--	95
Input wiring crimp point at L6-20 outlet	65.8	66.1	70.2	70.0	--	105
Enclosure internal near loaded outlet, top	63.1	63.4	66.2	65.2	--	ref
Enclosure external near loaded outlet, top	62.4	62.7	64.7	64.2	--	105
Loaded L6-20 internal outlet body next to pin	66.6	67.3	74.0	72.7	--	105
Loaded 5-20 internal outlet body next to pin	68.6	69.2	83.8	80.6	--	105
TX1 coil (SPS Board)	77.9	77.8	77.7	78.2	--	110
TX1 coil (DC/DC Board)	72.3	72.3	72.8	72.4	--	90
Ambient	60.0	60.0	60.0	60.0	--	--
Model EMI3PH35KGF78BC	--	--	--	--	--	--
Supply voltage (V) :	187.2V ac, , 3W+PE, 35 A, 50 Hz	187.2V ac, , 3W+PE, 35 A, 60 Hz	187.2V ac, , 3W+PE, 35 A, 50 Hz	187.2V ac, , 3W+PE, 35 A, 60 Hz	--	--
Load Condition	B	B	A	A	--	--
Input plug enclosure	50.7	50.7	50.4	51.2	--	95
Input wiring crimp point at circuit breaker	67.7	67	66.7	68	--	85
circuit breaker body	68.7	68.1	68.5	68.7	--	85
Input wiring crimp point at L6-30 outlet	60.4	60.2	62.9	58	--	105
Enclosure internal near loaded outlet, top	51.8	51.8	53.2	51.4	--	ref
Enclosure external near loaded outlet, top	48.9	49.2	49.6	48.8	--	105
Loaded L6-30 internal outlet body next to pin	60.7	60.4	63.9	58.8	--	105
Loaded C19 internal outlet body next to pin	52.4	52.2	53.5	51.8	--	70
Loaded C13 internal outlet body next to pin	56.7	56.3	55.8	56.9	--	70
TX1 coil (SPS Board)	67.7	67.4	58.5	59.2	--	110
TX1 coil (DC/DC Board)	59.8	59.6	58.2	59	--	90
Ambient	45	45	45	45	--	--
Model EMI3PH35KGF78BC	--	--	--	--	--	--
Supply voltage (V) :	228.8V ac, , 3W+PE, 35 A, 50 Hz	228.8V ac, , 3W+PE, 35 A, 60 Hz	228.8V ac, , 3W+PE, 35 A, 50 Hz	228.8V ac, , 3W+PE, 35 A, 60 Hz	--	--
Load Condition	B	B	A	A	--	--

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Clause	Requirement + Test	Result - Remark	Verdict

Input plug enclosure	50	50.8	49.9	50.4	--	95
Input wiring crimp point at circuit breaker	64.9	67.3	66.7	67.8	--	85
circuit breaker body	65.4	68.6	68.3	68.7	--	85
Input wiring crimp point at L6-30 outlet	58.6	59	61.8	57.9	--	105
Enclosure internal near loaded outlet, top	51.6	51.7	52.3	51.4	--	ref
Enclosure external near loaded outlet, top	49.1	49.1	48.8	49.2	--	105
Loaded L6-30 internal outlet body next to pin	59.3	59.6	63	58.7	--	105
Loaded C19 internal outlet body next to pin	52	52	52.6	51.8	--	70
Loaded C13 internal outlet body next to pin	55.5	56.6	56	56.6	--	70
TX1 coil (SPS Board)	67.9	68.2	58.3	68.4	--	110
TX1 coil (DC/DC Board)	58.7	59.5	58.1	59.7	--	90
Ambient	45	45	45	45	--	--
Model EMI3DH8FBJF77AM	--	--	--	--	--	--
Supply voltage (V) :	180 / 311.4V ac, Y, 3W+N+PE, 32 A, 50 Hz	180 / 311.4V ac, Y, 3W+N+PE, 32 A, 60 Hz	180 / 311.4V ac, Y, 3W+N+PE, 32 A, 50 Hz	180 / 311.4V ac, Y, 3W+N+PE, 32 A, 60 Hz	--	--
Load Condition	B	B	A	A	--	--
Input plug enclosure	65.4	65.6	80.2	80.6	--	95
Input wiring crimp point at circuit breaker	68.6	69.1	82.0	83.1	--	85
circuit breaker body	69.6	70.2	83.2	83.6	--	85
Enclosure internal near loaded outlet, top	65.2	65.7	69.2	71.2	--	ref
Enclosure external near loaded outlet, top	63.8	64.2	67.5	70.8	--	105
Loaded C19 internal outlet body next to pin	66.7	66.9	67.8	68.2	--	70
Loaded C13 internal outlet body next to pin	66.9	67.3	67.2	66.2	--	70
TX1 coil (SPS Board)	78.0	78.5	78.1	80.7	--	110
TX1 coil (DC/DC Board)	67.3	67.8	72.4	75.0	--	90
Ambient	60.0	60.0	60.0	60.0	--	--
Model EMI3DH8FBJF77AM	--	--	--	--	--	--
Supply voltage (V) :	264 / 456.5V ac, Y, 3W+N+PE, 32 A, 50 Hz	264 / 456.5V ac, Y, 3W+N+PE, 32 A, 60 Hz	264 / 456.5V ac, Y, 3W+N+PE, 32 A, 50 Hz	264 / 456.5V ac, Y, 3W+N+PE, 32 A, 60 Hz	--	--
Load Condition	B	B	A	A	--	--
Input plug enclosure	66.2	65.4	83.2	81.6	--	95
Input wiring crimp point at circuit breaker	70.5	69.1	81.9	81.2	--	85
circuit breaker body	71.7	70.1	82.9	82.2	--	85
Enclosure internal near loaded outlet, top	67.8	65.9	71.9	71.4	--	ref
Enclosure external near loaded outlet, top	66.3	64.4	69.6	69.4	--	105
Loaded C19 internal outlet body next to pin	66.0	65.8	67.9	67.4	--	70
Loaded C13 internal outlet body next to pin	66.4	66.2	66.9	66.4	--	70
TX1 coil (SPS Board)	81.4	79.9	82.5	81.9	--	110
TX1 coil (DC/DC Board)	69.0	67.6	75.7	75.2	--	90
Ambient	60.0	60.0	60.4	60.0	--	--
Model EIL5DHJFAAA71AM	--	--	--	--	--	--

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Clause	Requirement + Test	Result - Remark	Verdict

Supply voltage (V) :	180/311.4 Vac, Y, 3W+N+PE, 32 A, 50 Hz	180/311.4 Vac, Y, 3W+N+PE, 32 A, 60 Hz	264/456.5 Vac, Y, 3W+N+PE, 32 A, 50 Hz	264/456.5 Vac, Y, 3W+N+PE, 32 A, 60 Hz	--	--
Load Condition	A	A	A	A	--	--
Input plug enclosure	86.1	86.3	74.6	79.2	--	95
Input wiring crimp point at splice	84.2	84.0	83.5	83.8	--	85
Enclosure internal above terminal block	76.8	76.8	69.9	71.4	--	ref
Enclosure external above power supply	61.8	62.1	60.8	61.1	--	70
TX1 coil (SPS Board)	93.8	94.4	89.2	90.6	--	110
TX1 coil (DC/DC Board)	89.0	89.0	83.2	86.7	--	90
Ambient	60.0	60.0	60.0	60.0	--	--
Model EBA3DH8FBJQ72AM	--	--	--	--	--	
Supply voltage	180/311.4 Vac, Y, 3W+N+PE, 32 A, 50 Hz	180/311.4 Vac, Y, 3W+N+PE, 32 A, 60 Hz	264/456.5 Vac, Y, 3W+N+PE, 32 A, 50 Hz	264/456.5 Vac, Y, 3W+N+PE, 32 A, 60 Hz	--	
Load	A	A	A	A	--	
Input plug enclosure	59.9	58	58.7	58.5		95
Input wiring crimp point at circuit breaker	64	64.5	64.6	63.8		85
circuit breaker body	63.6	64.6	63.7	63.9		85
Enclosure internal near loaded outlet, top	52.9	51.6	50	49.2		ref
Enclosure external near loaded outlet, top	48.5	47.1	46.2	45.5		105
Loaded C19 internal outlet body next to pin	69.8	68.6	61.7	60.8		70
Loaded C13 internal outlet body next to pin	64.1	62.9	62.3	61.3		70
Ambient	40	40	40	40		--
Model EBA3DH8FBJQ72AM	--	--	--	--	--	
Supply voltage	180/311.4 Vac, Y, 3W+N+PE, 32 A, 50 Hz	180/311.4 Vac, Y, 3W+N+PE, 32 A, 60 Hz	264/456.5 Vac, Y, 3W+N+PE, 32 A, 50 Hz	264/456.5 Vac, Y, 3W+N+PE, 32 A, 60 Hz	--	
Load	B	B	B	B	--	
Input plug enclosure	64.6	64.4	64.7	64.9		95
Input wiring crimp point at circuit breaker	66.8	65.9	66.2	66		85
circuit breaker body	67.9	66.5	67.2	67.2		85
Enclosure internal near loaded outlet, top	64.6	63.9	64	64.2		ref
Enclosure external near loaded outlet, top	63	61.9	62.3	62.1		105
Loaded C19 internal outlet body next to pin	68.1	66.9	67.5	67.4		70
Loaded C13 internal outlet body next to pin	68.8	68.6	68.4	68.1		70
Ambient	60	60	60	60		--
Model EMI3PE35JGJ78BC	--	--	--	--	--	

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Clause	Requirement + Test	Result - Remark	Verdict

Supply voltage	Input: 187.2V ac, , 3W+PE, 35 A, 50 Hz	Input: 187.2V ac, , 3W+PE, 35 A, 60 Hz	Input: 228.8V ac, , 3W+PE, 35 A, 50 Hz	Input: 228.8V ac, , 3W+PE, 35 A, 60 Hz	--	
Load	A	A	A	A	--	
Input wiring crimp point at terminal block	52.3	50.7	53.8	53.8		75
Input wiring crimp point at circuit breaker	61.4	61.6	63	63.1		85
circuit breaker body	62.6	59.1	60.5	60.5		85
Enclosure internal near loaded outlet, top	53.2	50.7	57.2	57.4		ref
Enclosure external near loaded outlet, top	46.7	47.9	52.4	52.6		105
Loaded C19 internal outlet body next to pin	64.8	56.4	68.4	68.6		70
Loaded C13 internal outlet body next to pin	47.5	65.6	48.1	48.1		70
TX1 coil (SPS Board)	48.6	48.9	50.8	50.9		110
TX1 coil (DC/DC Board)	49.5	50.5	51.9	51.9		90
Ambient	40	40	40	40		--
Model EMI3PE35JGJ78BC	--	--	--	--	--	
Supply voltage	Input: 187.2V ac, , 3W+PE, 35 A, 50 Hz	Input: 187.2V ac, , 3W+PE, 35 A, 60 Hz	Input: 228.8V ac, , 3W+PE, 35 A, 50 Hz	Input: 228.8V ac, , 3W+PE, 35 A, 60 Hz	--	
Load	B	B	B	B	--	
Input wiring crimp point at terminal block	67	63.4	66.7	68.2		75
Input wiring crimp point at circuit breaker	69.9	69.5	69.7	69.8		85
circuit breaker body	68.9	68.2	69.2	69.1		85
Enclosure internal near loaded outlet, top	63.6	61.8	64.8	66.8		ref
Enclosure external near loaded outlet, top	62.2	61.5	64	64.3		105
Loaded C19 internal outlet body next to pin	67.7	65	67.1	66.4		70
Loaded C13 internal outlet body next to pin	64.3	63.9	64.7	64.9		70
TX1 coil (SPS Board)	63.1	64.1	65.2	67.4		110
TX1 coil (DC/DC Board)	65.4	63.8	65.6	67.8		90
Ambient	60	60	60	60		--
Model EMI3DD33JJD78BC	--	--	--	--	--	
Supply voltage	Input: 187.2V ac, , 3W+PE, 35 A, 50 Hz	Input: 187.2V ac, , 3W+PE, 35 A, 60 Hz	Input: 228.8V ac, , 3W+PE, 35 A, 50 Hz	Input: 228.8V ac, , 3W+PE, 35 A, 60 Hz	--	
Load	A	A	A	A	--	
Input wiring crimp point at terminal block	41.2	41.1	41.2	43.1		75
Input wiring crimp point at circuit breaker	57.3	57.6	40.9	41		85
circuit breaker body	58.5	59.2	49.4	49.3		85
Enclosure internal near loaded outlet, top	52.7	53.3	45.8	45.6		ref
Enclosure external near loaded outlet, top	44.1	43.5	42.2	42.1		105

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Clause	Requirement + Test	Result - Remark	Verdict

Loaded C19 internal outlet body next to pin	65.1	65.4	51.4	51		70
Loaded C13 internal outlet body next to pin	59.2	58.8	47.4	47.1		70
TX1 coil (SPS Board)	58.9	58.8	56	55.7		110
TX1 coil (DC/DC Board)	54.3	54.3	50.4	49.9		90
Ambient	40	40	40	40		--
Model EMI3DD33JJD78BC	--	--	--	--	--	
Supply voltage	Input: 187.2V ac, , 3W+PE , 35 A, 50 Hz	Input: 187.2V ac, , 3W+PE , 35 A, 60 Hz	Input: 228.8V ac, , 3W+PE , 35 A, 50 Hz	Input: 228.8V ac, , 3W+PE , 35 A, 60 Hz	--	
Load	B	B	B	B	--	
Input wiring crimp point at terminal block	61.4	62.3	60.6	60		75
Input wiring crimp point at circuit breaker	72.8	74.7	72.7	73.8		85
circuit breaker body	75.3	76.1	75.2	74.6		85
Enclosure internal near loaded outlet, top	67.1	65.8	63	65.8		ref
Enclosure external near loaded outlet, top	64.6	63.3	61.9	62.8		105
Loaded C19 internal outlet body next to pin	68.8	68.1	65.9	67.6		70
Loaded C13 internal outlet body next to pin	66.5	65.9	64.1	63.6		70
TX1 coil (SPS Board)	76	74.1	75.5	75.7		110
TX1 coil (DC/DC Board)	69.9	70.8	73.8	70.9		90
Ambient	60	60	60	60		--

Supplementary information:

Temperature T of winding:	t_1 (°C)	R_1 (Ω)	t_2 (°C)	R_2 (Ω)	T (°C)	Allowed T_{max} (°C)	Insulation class
--	--	--	--	--	--	--	--

Supplementary information:

Loading conditions Condition A - load one of each outlet to maximum and then remaining outlets to maximum until rated load is reached, outlets should be next to each other wherever possible. Condition B - Load each outlet to 8 A maximum and then remaining outlets to 8 A maximum until rated load is reached, outlets should be next to each other wherever possible.

Temperatures were revised to maximum allowable ambient for reference. See Technical considerations for allowable series ambient.

4.5.5	TABLE: Ball pressure test of thermoplastic parts		Pass
	Allowed impression diameter (mm) ..... :	≤ 2 mm	—

Part	Test temperature (°C)	Impression diameter (mm)
Connector for C-19, K S Terminals Inc, type 878206	125	1.1

Supplementary information:

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Clause	Requirement + Test	Result - Remark	Verdict

4.7	TABLE: Resistance to fire				Pass
Part	Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence
--	--	--	--	--	--
Supplementary information:					

5.1	TABLE: touch current measurement		
Measured between:	Measured (mA)	Limit (mA)	Comments/conditions
Model HMI2MGB4EMB1-C1	-	-	-
SELV Connector	0.05	0.25	“e” – O; P1 - N
SELV Connector	0.05	0.25	“e” – O; P1 – R
Enclosure (earthed)	0.05	3.5	“e” – O; P1 – N
Enclosure (earthed)	0.05	3.5	“e” – O; P1 - R
Model HMI4MXD4JGH5-C1	-	-	-
SELV Connector	0.135	0.25	“e” – O; P1 - N
SELV Connector	0.135	0.25	“e” – O; P1 – R
Enclosure (earthed)	0.135	3.5	“e” – O; P1 – N
Enclosure (earthed)	0.135	3.5	“e” – O; P1 - R
Supplementary Information: The touch current did not exceed 3.5mA r.m.s with terminal A connected to the earth terminal of the unit with Switch “e” opened.	-	-	-
Model HMI4PDB4JFB5-C1	-	-	-
SELV Connector	0.03	0.25	“e” – O; P1-N; Comp. Dis.: N/A
SELV Connector	0.03	0.25	“e” – O; P1-R; Comp. Dis.: N/A
Enclosure (earthed)	0.03	3.5	“e” – O; P1-N; Comp. Dis.: N/A
Enclosure (earthed)	0.03	3.5	“e” – O; P1-R; Comp. Dis.: N/A
Model HMI2PJD4HPC5-C1	-	-	-
SELV Connector	0.1	0.25	“e” – O; P1-N; Comp. Dis.: N/A
SELV Connector	0.1	0.25	“e” – O; P1-R; Comp. Dis.: N/A
Enclosure (earthed)	0.1	3.5	“e” – O; P1-N; Comp. Dis.: N/A
Enclosure (earthed)	0.1	3.5	“e” – O; P1-R; Comp. Dis.: N/A
Model HMI5DML2FJMB-C1	-	-	-
SELV Connector	0.08	0.25	“e” – O; P1-N; Comp. Dis.: N/A
SELV Connector	0.08	0.25	“e” – O; P1-R; Comp. Dis.: N/A

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Clause	Requirement + Test	Result - Remark	Verdict

Enclosure (earthed)	0.08	3.5	“e” – O; P1-N; Comp. Dis.: N/A
Enclosure (earthed)	0.08	3.5	“e” – O; P1-R; Comp. Dis.: N/A
Supplementary Information: C1 (MOV Board) = 22000 pF. The touch current did not exceed 3.5mA r.m.s with terminal A connected to the earth terminal of the unit with Switch “e” opened.	-	-	-
supplementary information:			

5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests			Pass
Test voltage applied between:		Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No
Functional:				
--		--	--	--
Basic/supplementary:				
Primary to Enclosure		DC	3024	No
Reinforced:				
Primary to SELV connector		DC	4242	No
Supplementary information:				

5.3	TABLE: Fault condition tests						
	Ambient temperature (°C) ..... :						—
	Power source for EUT: Manufacturer, model/type, output rating ..... :						—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation	
Model HMI5DHM2 DJGB-C1	-	-	-	-	-	-	
Ventilation openings	Blocked	240/415	2 hrs.	-	32	NB, NC, NT. Unit operated normally. No hazardous. No component damage. Ambient: 29.1°C TX1 coil (SPS Board): 37.9°C TX1coil (DC/DC Board): 44.9°C	
Model HMI5DHM2 DJEB-C1	-	-	-	-	-	-	

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Clause	Requirement + Test	Result - Remark	Verdict

Ventilation openings	Blocked	240/415	2.5 hrs.	-	32	NB, NC, NT. Unit operated normally. No hazardous. No component damage. Ambient: 28.1°C TX1 coil (SPS Board): 44.0°C TX1coil (DC/DC Board): 47.4°C
Model HMI5DMM2DJMB-C1	-	-	-	-	-	-
Ventilation openings	Blocked	240/415	3 hrs.	-	63	NB, NC, NT. Unit operated normally. No hazardous. No component damage. Ambient: 29.3°C TX1 coil (SPS Board): 48.8°C TX1coil (DC/DC Board): 54.9°C
Model EIL5DHJFAAA71AM	--	--	--	--	--	--
Side ventilation openings	blocked	180/311.4 Vac	2 hr	--	--	Load Condition A NB, NC,NT. Unit operated normally. No hazardous. No component damage. Ambient: 25.1 °C TX1 coil (SPS Board): 61.1 °C TX1 coil (DC/DC Board):63.2 °C
Model EBA3DH8FBJQ72AM	--	--	--	--	--	--
Side ventilation openings	blocked	180/311.4 Vac	2.5 hr	--	--	Load Condition A NB, NC,NT. Unit operated normally. No hazardous. No component damage. Ambient: 26.3 °C Circuit breaker body: 59.6°C
Model EMI3DH8FBJF77AM	--	--	--	--	--	--
Side ventilation openings	blocked	264 / 456.5Vac	2 hr	--	--	Load Condition A NB, NC,NT. Unit operated normally. No hazardous. No component damage. Ambient: 26.0°C TX1 coil (SPS Board): 45.7 °C TX1 coil (DC/DC Board): 45.5 °C

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Clause	Requirement + Test	Result - Remark	Verdict

Supplementary information:

Results Key: IP = Internal protection operated (component indicated) CT = Constant temperatures were obtained TW = Transformer winding opened CD = Components damaged (damaged components indicated) NB = No indication of dielectric breakdown YB = Dielectric breakdown (time and location indicated) NC = Cheesecloth remained intact YC = Cheesecloth charred or flamed NT = Tissue paper remained intact YT = Tissue paper charred or flamed.

C.2	**TABLE: transformers**						N/A
Loc.	Tested insulation	Working voltage peak / V (2.10.2)	Working voltage rms / V (2.10.2)	Required electric strength (5.2)	Required clearance / mm (2.10.3)	Required creepage distance / mm (2.10.4)	Required distance thr. insul. (2.10.5)
--		--	--	--	--	--	--
Loc.	Tested insulation			Test voltage/ V	Measured clearance / mm	Measured creepage dist./ mm	Measured distance thr. insul. / mm; number of layers
--	--			--	--	--	--
supplementary information:							

C.2	**TABLE: transformers**	N/A
Transformer		

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

NATIONAL DIFFERENCES

Australia - Differences to IEC 60950-1:2005

Appendix ZZ (normative)
Variations to IEC 60950-1:2005 (2nd Ed.) for application in Australia and New Zealand

ZZ.1 Introduction

This Appendix sets out variations and additional requirements to cover issues which have not been addressed by the International Standard. These variations indicate national variations for purposes of the IECEE CB System and will be published in the IECEE CB Bulletin.

ZZ.2 Variations

The following variations apply to the source text:

1.2	Insert the following between 'person, service' and 'range, rated frequency': POTENTIAL IGNITION SOURCE 1.2.12		Pass
1.2.12.201	Insert a new Clause 1.2.12.201 after Clause 1.2.12.15 as follows: **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.		Pass
1.5.1	1. Add the following to the end of the first paragraph: 'or the relevant Australian/New Zealand Standard.' 2. In NOTE 1, add the following after the word 'standard': 'or an Australian/New Zealand Standard'		Pass
1.5.2	Add the following to the end of the first and third dash items: 'or the relevant Australian/New Zealand Standard'		N/A
3.2.5.1	Modify Table 3B as follows: 1. Delete the first four rows and replace with the following:		N/A

RATED CURRENT OF EQUIPMENT (A)	**Minimum conductor sizes**	
	Nominal cross-sectional area mm^2	**AWG or Kcmil (cross-sectional area in mm^2)**

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Clause	Requirement + Test	Result - Remark	Verdict

			See note 2		
	Over 0.2 up to and including 3	0,5 a)	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) b) 1,00	16 [1,3]		
	Over 10 up to and including 16	(1,0) c) 1,5	14 [2]		
	2. Delete NOTE 1. 3. Delete Footnote a and replace with the following: a 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 appliance, 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).				N/A
4.1.201	Insert a new Clause 4.1.201 after Clause 4.1 as follows: **4.1.201 Display devices used for television purposes** Display devices which may be used for television purposes, with a mass of 7 kg or more, shall comply with the requirements for stability and mechanical hazards, including the additional stability requirements for television receivers, specified in AS/NZS 60065.				N/A
4.3.6	Delete the third paragraph and replace with the following: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flatpin 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.				N/A
4.3.13.5	Add the following to the end of the first paragraph: ', or AS/NZS 2211.1'.				N/A
4.7	Add the following paragraph: 'For alternate tests refer to Clause 4.7.201.'				N/A
4.7.201	Insert a new Clause 4.7.201 after Clause 4.7.3.6 as follows: **4.7.201 Resistance to fire – Alternative tests** **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 from inside the apparatus, or the following: (a) Components that are contained in an enclosure having a flammability category of V-0 according to AS/NZS 60695.11.10 and having openings only for the connecting wires filling the openings completely, and for ventilation not exceeding 1mm in width regardless of length. (b) The following parts which would contribute				N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	negligible fuel to a fire: - small mechanical parts, the mass of which does not exceed 4g, such as mounting parts, gears, cams, belts and bearings; - small electrical components, such as capacitors with a volume not exceeding 1,750 mm^3, integrated circuits, transistors and optocoupler packages, if these components are mounted on material of flammability category V-1, or better, according to AS/NZS 60695.11.10. 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 the fire from one part to another. Compliance shall be checked by the tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5. For the base material of printed boards, compliance shall be 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	**Testing of non-metallic materials** Parts of non-metallic material shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be 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 material classified at least FH-3 according to ISO 9772 provided that the sample tested was not thicker than the relevant part.		N/A
4.7.201.3	**Testing of insulating materials** Parts of insulating material supporting POTENTIAL IGNITION SOURCES shall be subject to the glow-wire test of AS/NZS 60695.2.11 which shall be 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.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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 60695.11.5 with the following modifications:		
	Clause of AS/NZS 4695.11.5 / **Change** 9 Test procedure 9.2 Application of needleflame: Replace the first paragraph 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. If possible the flame shall be applied at least 10 mm from a corner Replace the second paragraph with: The duration of application of the test flame shall be 30 s ±1 s. 9.3 Number of test specimens: Replace with: 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 withstand the test. 11 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 AS/NZS 60695.11.10, provided that the sample tested was not thicker than the relevant part.		N/A
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 shall be made on all parts of non-metallic material which are within a distance of 50		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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 be tested. NOTE 1: If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirements 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 burning or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirements 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.		
4.7.201.5	**Testing of printed boards** The base material of printed boards shall be subjected to the needle-flame test of Clause 4.7.201.3. The flame shall be applied to the edge of the board where the heat sink effect is lowest when the board is 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 from 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 V-1 or better according to AS/NZS 60695.11.10, or the printed boards are protected by an enclosure meeting the flammability category V-0 according to AS/NZS 60695.11.10, or made of metal, having openings only for connecting wires which fill the openings 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 of printed boards supporting spark gaps which provides protection against overvoltages, is of flammability category V-0 according to AS/NZS 60695.11.10 or the printed boards are contained in a metal enclosure, having openings only for connecting		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	wires which fill the openings completely. Compliance shall be 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	For Australia only, delete the first paragraph and Note, and replace with the following: In Australia only, compliance with 6.2.2 shall be checked by the tests of both 6.2.2.1 and 6.2.2.2.		N/A
6.2.2.1	For Australia only, delete the first paragraph including the Notes, and replace with the following: In Australia only, the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator reference 1 of Table N.1. The interval between successive impulses is 60 s and the initial voltage, U_c, is: (i) for 6.2.1 a): 7,0 kV for hand-held telephones and for headsets and 2,5 kV for other equipment; and (ii) for 6.2.1 b) and 6.2.1 c): 1,5 kV. NOTE 201: The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202: The value of 2.5 kV for 6.2.1 a) was chosen to ensure the adequacy of the insulation concerned and does not necessarily simulate likely overvoltages.		N/A
6.2.2.2	For Australia only, delete the second paragraph including the Note, and replace with the following: In Australia only, the a.c. test voltage is: (i) for 6.2.1 a): 3 kV; and (ii) for 6.2.1 b) and 6.2.1 c): 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.		N/A
7.3	Add the following before the first paragraph: Equipment providing functions that fall only within the scope of AS/NZS 60065 and that incorporate a PSTN interface, are not required to comply with this Clause where the only ports provided on the equipment, in addition to a coaxial cable connection and a PSTN interface, are audio or video ports and analogue or data ports not intended to be used for telecommunications purposes.		N/A
Annex P	Add the following Normative References: AS/NZS 3191, Electric flexible cords AS/NZS 3112, Approval and test specification—Plugs and socket-outlets		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
Index	1. Insert the following between 'asbestos, not to be used as insulation' and 'attitude see orientation': AS/NZS 2211.1.....4.3.13.5 AS/NZS 3112.....4.3.6 AS/NZS 3191..... 3.2.5.1 (Table 3B) AS/NZS 60064.....4.1.201 AS/NZS 60695.2.11..... 4.7.201.2, 4.7.201.3 AS/NZS 60695.11.10..... 4.7.201.1, 4.7.201.5 AS/NZS 60695.11.5.....4.7.201.3 2. Insert the following between 'positive temperature coefficient (PTC) device' and 'powder': potential ignition source 1.2.201, 4.7.201.3, 4.7.201.5		N/A

ATTACHMENT TO TEST REPORT IEC 60950-1
CHINA NATIONAL DIFFERENCES

Information technology equipment Safety – Part 1: General requirements

Differences according to ..... : GB 4943.1--2011

Attachment Form No. ..... : CN_ND_IEC60950_1A

Attachment Originator..... : CQC

Master Attachment ..... : Date 2012-10

	China National Differences		
1.5. 2	Add a note behind the first dashed paragraph. Note: A component used shall comply with related requirements corresponding altitude of 5000m.		N/A
1.7	Add a paragraph before the last paragraph: The required marking and instruction should be given in normative Chinese unless otherwise specified.		N/A
1.7.1	Amend dashed paragraph at the fifth paragraph : The RATED VOLTAGE should be 220V (single phase) or 380V (three-phases) for single rated voltage, for RATED VOLTAGE RANGE, it should cover 220V or 380V (three-phases), for multiple RATED VOLTAGES, one of them should be 220V or 380V (three-phases) and set on 220V or 380V (three-phases) when manufactured. And the RATED FREQUENCY or RATED FREQUENCY RANGE should be 50Hz or include 50Hz.		N/A
1.7.2.1	Add requirements of warning for equipment intended to be used at altitude not exceeding 2000m or at non-tropical climate regions: For equipment intended to be used at altitude not exceeding 2000m, a warning label containing the following or a similar appropriate wording, or a symbol as in annex DD shall fixed to the equipment		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	at readily visible place. "Only used at altitude not exceeding 2000m."  For equipment intended to be used in not-tropical climate regions, a warning label containing the following or a similar appropriate wording, or a symbol as in annex DD shall fixed to the equipment at readily visible place. "Only used in not-tropical climate regions."  If only the symbol used, the explanation of the symbol shall be contained in the instruction manual. The above statements shall be given in a language acceptable to the regions where the apparatus is intended to be used.		
2.7.1	Amended the first paragraph as: Protection in PRIMARY CIRCUITS against overcurrent short-circuits and earth faults shall be provided as an integral part of the equipment except special provisions. And the protective device shall meet the requirement of Clause 5.3. Delete note of Clause 2.7.1.		N/A
2.9.2	First section of Clause 2.9.2 amended as two sections: Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 120 h in a cabinet or room containing air with ambient temperature 40±2℃ and a relative humidity of (93±3)%. During this conditioning the component or subassembly is not energized. For equipment not to be operated at tropical climatic conditions, Where required by 2.9.1, 2.10.8.3, 2.10.10 or 2.10.11, humidity conditioning is conducted for 48 h in a cabinet or room containing air with a relative humidity of (93±3) %. The temperature of the air, at all places where samples can be located, is maintained within 2 °C of any convenient value between 20 °C and 30 °C such that condensation does not occur. Due to pretreatment of equipment operated at high altitude area is humidity conditioning withstand hot shock, specific requirements are to be considered. Add note: For equipment to be operated at 2000 m - 5000m above sea level, assessment and requirement of humidity conditioning for Insulation material properties are considered.		N/A
2.10.3.1	Amend the third paragraph of Clause 2.10.3.1 to be: These requirements apply for equipment to be operated up to 2000 m above sea level. For		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	equipment to be operated at more than 2000 m above sea level and up to 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of IEC 60664-1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.		
2.10.3.3& 2.10.3.4	Add "(applicable for altitude up to 2000m)" in header of Table 2K、2L and 2M.		N/A
2.10.3.4	Add a new section above Table 2K and in Clause 2.10.3.4: Minimum CLEARANCES determined by above rules apply for equipment to be operated up to 2000m above sea level. For equipment operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1（ IEC 60664-1）. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of GB/T16935.1.		N/A
3.2.1.1	Add a paragraph before the last paragraph: Plugs connected to AC mains supply shall comply with GB 1002 or GB 1003 or GB/T 11918 as applicable.		N/A
4.2.8	Clause 4.2.8 cathode ray tubes quoted Clause 18 of GB8898-2011. Delete note of Clause 4.2.8.		N/A
Annex E	Amend last section: For comparison of winding temperatures determined by the resistance method of this annex with the temperature limits of Table 4B, 35 °C shall be added to the calculated temperature rise. Add note: for equipment not to be operated at tropical climatic conditions, 25 °C shall be added to the calculated temperature rise to compare with the temperature of Table 4B.		N/A
Annex G.6	Change the second section of Clause G.6 to be: For equipment to be operated at 2000 m - 5000m above sea level, the minimum CLEARANCE shall be multiplied by the factor 1.48 corresponding altitude of 5000m given in Table A.2 of GB/T16935.1. For equipment to be operated at more than 5000 m above sea level, the minimum CLEARANCE shall be multiplied by the factor given in Table A.2 of IEC 60664-1. Linear interpolation is permitted between the nearest two		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	points in Table A.2. The calculated minimum CLEARANCE using this multiplication factor shall be rounded up to the next higher 0,1 mm increment.		
Annex DD (normative)	Added annex DD: Instructions for the new safety warning labels.  DD.1 Altitude warning label Meaning of the label: Evaluation for apparatus only based on altitude not exceeding 2000m, therefor it's the only operating condition applied for the equipment .There may be some potential safety hazard if the equipment is used at altitude above 2000m.  DD.2 Climate warning label Meaning of the label: Evaluation for apparatus only based on temperate climate condition, therefor it's the only operating condition applied for the equipment .There may be some potential safety hazard if the equipment is used in tropical climate region.		N/A
Annex EE (informative)	Added annex EE: Illustration relative to safety explanation in normative Chinese、Tibetan、Mongolian、Zhuang Language and Uighur.		N/A

	Special national conditions		
1.1.2	GB4943.1-2011 applies to equipment used at altitudes not exceeding 5000m above sea level, primarily in regions with moderate or tropical climates. Revise the third dashed paragraph of 1.1.2 as: ——equipment intended to be used in vehicles, on board ships or aircraft, at altitudes greater than 5000m;		N/A
1.4.5	Amend the second paragraph by the following: If the equipment is intended for direct connection to an AC mains supply, the tolerances on RATED VOLTAGE shall be taken as +10% and -10%.		N/A
1.4.12.1	Tma: The maximum ambient temperature permitted by the manufacturer's specification, or 35 °C, whichever is greater. Add note 1: For equipment not to be operated at tropical climatic conditions, Tma is the maximum ambient temperature permitted by the manufacturer's specification, or 25 °C, whichever is greater. Add note 2: For equipment to be operated at 2000m-5000m above sea leave, its temperature test conditions and temperature limits are under consideration.		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Ireland - Differences to IEC 60950-1:2005 (Second Edition)			
3.2.1.1	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.		N/A
4.3.6	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.		N/A
Norway - Differences to IEC 60950-1:2005 (Second Edition)			
1.5.7.1	Resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.2. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.		N/A
1.5.8	Due to the IT power system used (see annex V, figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).		Pass
1.5.9.4	The third dashed sentence is applicable only to equipment as defined by this annex, 6.1.2.2	No TNV circuit.	N/A
1.7.2.1	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 shall be: "Apparatet må tilkoples jordet stikkontakt"	See client's Declaration Letter.	Pass
1.7.2.1	In Norway, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer. The user manual shall then have the following or similar information in Norwegian and Swedish		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	language respectively, depending on in what country the equipment is intended to be used in: "Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing - and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)." NOTE: In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): "Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr - og er tilkoplet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel-TV nettet."		
2.2.4	Requirements according to this annex, 1.7.2.1, 6.1.2.1 and 6.1.2.2 apply.	No TNV circuits in equipment.	N/A
2.3.2	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.	No TNV circuits in equipment.	N/A
2.3.4	Requirements according to this annex, 1.7.2.1, 6.1.2.1 and 6.1.2.2 apply.	No TNV circuits in equipment.	N/A
2.10.5.13	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
5.1.7.1	Touch current measurement results exceeding 3,5 mA r.m.s are permitted only for the following equipment: - Stationary pluggable equipment Type A that: (1) is intended to be used in a Restricted Access Location where equipotential bonding has been applied, for example, in a telecommunication centre; and (2) has provision for a permanently connected protective earthing conductor; and (3) is provided with instructions for the installation of that conductor by a service person; - Stationary pluggable equipment Type B - Stationary permanently connected equipment		N/A
6.1.2.1	Add the following text between the first and second paragraph of the compliance clause: 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	Equipment does not connect to TNV circuits.	N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE 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 60950-1:2006, 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 before the endurance test in EN 132400, in the sequence of tests as described in EN 132400.		
6.1.2.2	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.		N/A
7.2	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.		N/A
7.3	Refer to EN 60728-11:2005 for installation conditions		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
Spain - Differences to IEC 60950-1:2005 (Second Edition)			
3.2.1.1	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.		Pass
Switzerland - Differences to IEC 60950-1:2005 (Second Edition)			
1.5.1	Switches containing mercury such as thermostats, relays and level controllers are not allowed.		N/A
1.7.13	Annex 2.15 of SR 814.81 applies for batteries containing cadmium and mercury.		N/A
3.2	Supply cords of portable electrical appliances having a rated current not exceeding 10 A shall be provided with a plug complying with IEC 60884-1 (3rd Ed.) + Amd. 1, SEV 1011 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 Supply cords of portable electrical appliances having a rated current not exceeding 16 A shall be provided with a plug complying with IEC 60884-1 (3rd Ed.) + Amd. 1, SEV 1011 and one of the following dimension sheets: SEV 5932-2.1998, Plug Type 25, 3P+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	See client's Declaration Letter.	Pass

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

ATTACHMENT TO TEST REPORT IEC 60950-1
U.S.A NATIONAL DIFFERENCES

Information technology equipment – Safety –

Part 1: General requirements

Differences according to ..... : UL 60950-1-07

Attachment Form No. ..... : US_ND_IEC60950_1C
Attachment Originator ..... : TÜV SÜD Product Service GmbH
Master Attachment ..... : Date (2012-08)

	Special national conditions		
1.1.1	All equipment is to be designed to allow installation 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.	Equipment in compliance with IEC 60950-1. Overall acceptance has to be evaluated during the national approval process.	Pass
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.		Pass
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.		Pass
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 CEC/NEC.		N/A
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC are required to have special construction features and identification markings.		N/A
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.		N/A
	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		N/A
	- if it is part of a range that extends into the Table 2 "Normal Operating Conditions."		N/A
	A voltage rating is not to be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."		N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC are marked with the voltage rating and “Class 2” or equivalent.		N/A
	- Marking is located adjacent to the terminals		N/A
	- Marking is visible during wiring		N/A
2.5	Fuse providing Class 2, Limited Power Source, or TNV current limiting is not operator-accessible unless it is not interchangeable.		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.3.3	Modify first column on Table 2D to “Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration.”		N/A
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is provided for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.		N/A
	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, provided with special transformer overcurrent protection.		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains is in accordance with the NEC/CEC.		N/A
3.2.1	Attachment plugs of power supply cords are rated not less than 125 per cent of the rated current of the equipment.		N/A
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 comply with special earthing, wiring, marking and installation instruction requirements.		N/A
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.		N/A
3.2.5	Power supply cords are no longer than 4.5 m in length.		N/A
	Minimum cord length is 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement.		N/A
	Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
3.2.9	Permanently connected equipment have a suitable wiring compartment and wire bending space.		N/A
3.3	Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0.		N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm2).		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are		N/A
	- rated 125 per cent of the equipment rating, and		N/A
	- are specially marked when specified (1.7.7).		N/A
3.3.5	Revise first column of Table 3E to “Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration.”		N/A
3.4.2	Motor control devices are provided for cord-connected equipment with a motor if the equipment is rated more than 12 A,		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	- or if the motor has a nominal voltage rating greater than 120 V		N/A
	- or is rated more than 1/3 hp (locked rotor current over 43 A)		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position.		N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the computer room remote power-off circuit.		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.		N/A
4.3.13.5	Equipment with lasers meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.		N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m3 (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m2 (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less.		N/A
	For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N/A
Annex H	Equipment that produces ionizing radiation complies with U.S. Code of Federal Regulations, 21 CFR 1020 (and the Canadian Radiation Emitting Devices Act, REDR C1370).		N/A
	Other National Differences		
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements.	EUT in compliance with requirements of IEC 60950-1. Overall acceptance shall be evaluated during national approval.	Pass
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply.		N/A
	This maximum operating voltage includes consideration of the battery charging “float voltage” associated with the intended supply system, regardless of the marked power rating of the equipment.		N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 Vpeak or 60 Vd.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 mA d.c.		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	under normal operating conditions.		
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.		N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.		N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more reduce the risk of injury due to the implosion of the CRT.		N/A
4.3.2	Equipment with handles complies with special loading tests.		N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals comply with a special touch current measurement tests.		N/A
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are overloaded.		N/A
	During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary		N/A
6.4	Equipment intended for connection to telecommunication network outside plant cable is protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.		N/A
Annex EE	Articulated accessibility probe (Fig EE.3) is used for assessing accessibility to document/media shredders instead of the Figure 2A test finger.		N/A
Annex M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear comply with special acoustic pressure requirements.		N/A

ATTACHMENT TO TEST REPORT IEC 60950-1
CANADA NATIONAL DIFFERENCES

Information technology equipment – Safety –

Part 1: General requirements

Differences according to ..... : CAN/CSA-C22.2 NO. 60950-1A-07

Attachment Form No. ..... : CA_ND_IEC60950_1C
Attachment Originator..... : TÜV SÜD Product Service GmbH
Master Attachment..... : Date (2012-08)

	Special national conditions		
1.1.1	All equipment is to be designed to allow installation	EUT in compliance with	Pass

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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.	requirements of IEC 60950-1. Overall acceptance shall be evaluated during national approval.	
	Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.		Pass
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.		Pass
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 CEC/NEC.		N/A
	For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC are required to have special construction features and identification markings.		N/A
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.		N/A
	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		N/A
	- if it is part of a range that extends into the Table 2 "Normal Operating Conditions."		N/A
	A voltage rating is not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."		N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC are marked with the voltage rating and “Class 2” or equivalent.		N/A
	- Marking is located adjacent to the terminals		N/A
	- Marking is visible during wiring		N/A
2.5	Fuse providing Class 2, Limited Power Source, or TNV current limiting is not operator-accessible unless it is not interchangeable.		N/A
2.6.3.3	Modify first column on Table 2D to “Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration.”		N/A
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is provided for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable.		N/A
	Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more,		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	provided with special transformer overcurrent protection.		
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains is in accordance with the NEC/CEC.		N/A
3.2.1	Attachment plugs of power supply cords are rated not less than 125 percent of the rated current of the equipment.		N/A
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 comply with special earthing, wiring, marking and installation instruction requirements.		N/A
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.		N/A
3.2.5	Power supply cords are no longer than 4.5 m in length.		N/A
	Minimum cord length is 1.5 m, with certain constructions such as external power supplies allowed to consider both input and output cord lengths into the requirement.		N/A
	Flexible power supply cords are compatible with Article 400 of the NEC, and Tables 11 and 12 of the CEC.		N/A
3.2.9	Permanently connected equipment have a suitable wiring compartment and wire bending space.		N/A
3.3	Wiring terminals and associated spacings for field wiring connections comply with CSA C22.2 No. 0.		N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm2).		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are suitable for Canadian/US wire gauge sizes, are		N/A
	- rated 125 percent of the equipment rating, and		N/A
	- are specially marked when specified (1.7.7).		N/A
3.3.5	Revise first column of Table 3E to “Smaller of the RATED CURRENT of the equipment or the PROTECTIVE CURRENT RATING of the circuit under consideration.”		N/A
3.4.2	Motor control devices are provided for cord-connected equipment with a motor if the equipment is rated more than 12 A,		N/A
	- or if the motor has a nominal voltage rating greater than 120 V		N/A
	- or is rated more than 1/3 hp (locked rotor current over 43 A)		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers have the "on" position indicated by the handle in the up position.		N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes have a battery disconnect means that may be connected to the computer room remote		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	power-off circuit.		
4.3.12	The maximum quantity of flammable liquid stored in equipment complies with NFPA 30.		N/A
4.3.13.5	Equipment with lasers meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.		N/A
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m^3 (27 cu ft) have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m^2 (10 sq ft) or a single dimension greater than 1.8 m (6 ft) have a flame spread rating of 50 or less.		N/A
	For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N/A
Annex H	Equipment that produces ionizing radiation comply with the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations, 21 CFR 1020, as applicable.		N/A
	Other National Differences		
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements.	EUT in compliance with requirements of IEC 60950-1. Overall acceptance shall be evaluated during national approval.	Pass
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply.		N/A
	This maximum operating voltage includes consideration of the battery charging “float voltage” associated with the intended supply system, regardless of the marked power rating of the equipment.		N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 Vpeak or 60 Vd.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 mA d.c. under normal operating conditions.		N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.		N/A
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.		N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more reduce the risk of injury due to		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	the implosion of the CRT.		
4.3.2	Equipment with handles complies with special loading tests.		N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals comply with a special touch current measurement tests.		N/A
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are overloaded.		N/A
	During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary		N/A
6.4	Equipment intended for connection to telecommunication network outside plant cable is protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.		N/A
Annex EE	Articulated accessibility probe (Fig EE.3) is used for assessing accessibility to document/media shredders instead of the Figure 2A test finger.		N/A
M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear comply with special acoustic pressure requirements.		N/A

ATTACHMENT TO TEST REPORT IEC 60950-1
EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

Information technology equipment – Safety –

Part 1: General requirements

Differences according to..... EN 60950-1:2006/A11:2009/A1:2010/A12:2011

Attachment Form No. ..... EU_GD_IEC60950_1C_II
Attachment Originator ..... SGS Fimko Ltd
Master Attachment ..... Date 2011-08

EN 60950-1:2006/A11:2009/A1:2010/A12:2011 – CENELEC COMMON MODIFICATIONS

IEC 60950-1, GROUP DIFFERENCES (CENELEC common modifications EN)			
Clause	Requirement + Test	Result - Remark	Verdict
Contents	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions		Pass
General	Delete all the “country” notes in the reference document (IEC 60950-1:2005)		Pass

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	according to the following list: 1.4.8 Note 2 1.5.1 Note 2 & 3 1.5.7.1 Note 1.5.8 Note 2 1.5.9.4 Note 1.7.2.1 Note 4, 5 & 6 2.2.3 Note 2.2.4 Note 2.3.2 Note 2.3.2.1 Note 2 2.3.4 Note 2 2.6.3.3 Note 2 & 3 2.7.1 Note 2.10.3.2 Note 2 2.10.5.13 Note 3 3.2.1.1 Note 3.2.4 Note 3. 2.5.1 Note 2 4.3.6 Note 1 & 2 4.7 Note 4 4.7.2.2 Note 4.7.3.1Note 2 5.1.7.1 Note 3 & 4 5.3.7 Note 1 6 Note 2 & 5 6.1.2.1 Note 2 6.1.2.2 Note 6.2.2 Note 6.2.2.1 Note 2 6.2.2.2 Note 7.1 Note 3 7.2 Note 7.3 Note 1 & 2 G.2.1 Note 2 Annex H Note 2		
General (A1:2010)	Delete all the “country” notes in the reference document (IEC 60950-1:2005/A1:2010) according to the following list: 1.5.7.1 Note 6.1.2.1 Note 2 6.2.2.1 Note 2 EE.3 Note		Pass
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for “one package equipment”, and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.		N/A
(A12:2011)	In EN 60950-1:2006/A12:2011 Delete the addition of 1.3.Z1 / EN 60950-1:2006 Delete the definition 1.2.3.Z1 / EN 60950-1:2006 /A1:2010		N/A
1.5.1	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC		Pass
1.7.2.1 (A1:2010)	In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss.		N/A
1.7.2.1 (A12.2011)	In EN 60950-1:2006/A12:2011 Delete NOTE Z1 and the addition for Portable Sound System. Add the following clause and annex to the existing		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	standard and amendments.		
	Zx Protection against excessive sound pressure from personal music players		N/A
	Zx.1 General This sub-clause specifies requirements for protection against excessive sound pressure from personal music players that are closely coupled to the ear. It also specifies requirements for earphones and headphones intended for use with personal music players. A personal music player is a portable equipment for personal use, that: is designed to allow the user to listen to recorded or broadcast sound or video; and primarily uses headphones or earphones that can be worn in or on or around the ears; and allows the user to walk around while in use. NOTE 1 Examples are hand-held or body-worn portable CD players, MP3 audio players, mobile phones with MP3 type features, PDA's or similar equipment. A personal music player and earphones or headphones intended to be used with personal music players shall comply with the requirements of this sub-clause. The requirements in this sub-clause are valid for music or video mode only. The requirements do not apply: while the personal music player is connected to an external amplifier; or while the headphones or earphones are not used. NOTE 2 An external amplifier is an amplifier which is not part of the personal music player or the listening device, but which is intended to play the music as a standalone music player. The requirements do not apply to: hearing aid equipment and professional equipment; NOTE 3 Professional equipment is equipment sold through special sales channels. All products sold through normal electronics stores are considered not to be professional equipment.		N/A
	analogue personal music players (personal music players without any kind of digital processing of the sound signal) that are brought to the market before the end of 2015. NOTE 4 This exemption has been allowed because this technology is falling out of use and it is expected that within a few years it will no longer exist. This exemption will not be extended to other technologies. For equipment which is clearly designed or intended for use by young children, the limits of EN 71-1 apply.		N/A
	Zx.2 Equipment requirements No safety provision is required for equipment that		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	complies with the following: equipment provided as a package (personal music player with its listening device), where the acoustic output $L_{Aeq,T}$ is ≤ 85 dBA measured while playing the fixed "programme simulation noise" as described in EN 50332-1; and a personal music player provided with an analogue electrical output socket for a listening device, where the electrical output is ≤ 27 mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" as described in EN 50332-1. NOTE 1 Wherever the term acoustic output is used in this clause, the 30 s A-weighted equivalent sound pressure level $L_{Aeq,T}$ is meant. See also Zx.5 and Annex Zx. All other equipment shall: a) protect the user from unintentional acoustic outputs exceeding those mentioned above; and b) have a standard acoustic output level not exceeding those mentioned above, and automatically return to an output level not exceeding those mentioned above when the power is switched off; and		
	c) provide a means to actively inform the user of the increased sound pressure when the equipment is operated with an acoustic output exceeding those mentioned above. Any means used shall be acknowledged by the user before activating a mode of operation which allows for an acoustic output exceeding those mentioned above. The acknowledgement does not need to be repeated more than once every 20 h of cumulative listening time; and NOTE 2 Examples of means include visual or audible signals. Action from the user is always required. NOTE 3 The 20 h listening time is the accumulative listening time, independent how often and how long the personal music player has been switched off. d) have a warning as specified in Zx.3; and e) not exceed the following: 1) equipment provided as a package (player with Its listening device), the acoustic output shall be ≤ 100 dBA measured while playing the fixed "programme simulation noise" described in EN 50332-1; and 2) a personal music player provided with an analogue electrical output socket for a listening device, the electrical output shall be ≤ 150 mV measured as described in EN 50332-2, while playing the fixed "programme simulation noise" described in EN 50332-1. For music where the average sound pressure (long term $L_{Aeq,T}$) measured over the duration of the song is lower than the average produced by the programme simulation noise, the warning does not		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. In this case T becomes the duration of the song. NOTE 4 Classical music typically has an average sound pressure (long term $L_{Aeq,T}$) which is much lower than the average programme simulation noise. Therefore, if the player is capable to analyse the song and compare it with the programme simulation noise, the warning does not need to be given as long as the average sound pressure of the song is below the basic limit of 85 dBA. For example, if the player is set with the programme simulation noise to 85 dBA, but the average music level of the song is only 65 dBA, there is no need to give a warning or ask an acknowledgement as long as the average sound level of the song is not above the basic limit of 85 dBA.		
	Zx.3 Warning The warning shall be placed on the equipment, or on the packaging, or in the instruction manual and shall consist of the following: the symbol of Figure 1 with a minimum height of 5 mm; and the following wording, or similar: "To prevent possible hearing damage, do not listen at high volume levels for long periods."  **Figure 1 – Warning label (IEC 60417-6044)** Alternatively, the entire warning may be given through the equipment display during use, when the user is asked to acknowledge activation of the higher level.		N/A
	Zx.4 Requirements for listening devices (headphones and earphones)		N/A
	Zx.4.1 Wired listening devices with analogue input With 94 dBA sound pressure output $L_{Aeq,T}$, the input voltage of the fixed "programme simulation noise" described in EN 50332-2 shall be ≥ 75 mV. This requirement is applicable in any mode where the headphones can operate (active or passive), including any available setting (for example built-in volume level control). NOTE The values of 94 dBA – 75 mV correspond with 85dBA – 27 mV and 100 dBA – 150 mV.		N/A
	Zx.4.2 Wired listening devices with digital input With any playing device playing the fixed "programme simulation noise" described in EN 50332-1 (and respecting the digital interface		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	standards, where a digital interface standard exists that specifies the equivalent acoustic level), the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. This requirement is applicable in any mode where the headphones can operate, including any available setting (for example built-in volume level control, additional sound feature like equalization, etc.). NOTE An example of a wired listening device with digital input is a USB headphone.		
	Zx.4.3 Wireless listening devices In wireless mode: with any playing and transmitting device playing the fixed programme simulation noise described in EN 50332-1; and respecting the wireless transmission standards, where an air interface standard exists that specifies the equivalent acoustic level; and with volume and sound settings in the listening device (for example built-in volume level control, additional sound feature like equalization, etc.) set to the combination of positions that maximize the measured acoustic output for the abovementioned programme simulation noise, the acoustic output $L_{Aeq,T}$ of the listening device shall be ≤ 100 dBA. NOTE An example of a wireless listening device is a Bluetooth headphone.		N/A
	Zx.5 Measurement methods Measurements shall be made in accordance with EN 50332-1 or EN 50332-2 as applicable. Unless stated otherwise, the time interval T shall be 30 s. NOTE Test method for wireless equipment provided without listening device should be defined.		N/A
2.7.1	Replace the subclause as follows: Basic requirements 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;		Pass
	c) it is permitted for PLUGGABLE EQUIPMENT		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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.		
2.7.2	This subclause has been declared 'void'.		N/A
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N/A
3.2.5.1	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: Up to and including 6 | 0,75 [a] | Over 6 up to and including 10| (0,75) [b] 1,0 | Over 10 up to and including 16| (1,0) [c] 1,5 | In the conditions applicable to Table 3B delete the words "in some countries" in condition [a]. In NOTE 1, applicable to Table 3B, delete the second sentence.		N/A
3.3.4	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		N/A
4.3.13.6 (A1:2010)	Replace the existing NOTE by the following: NOTE Z1 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, and 2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artifical optical radiation).		N/A
	Standards taking into account mentioned Recommendation and Directive which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A
Annex H	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).		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete NOTE 2.		
Bibliography	Additional EN standards.		—

ZA	**NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS**	—

ZB ANNEX (normative) **SPECIAL NATIONAL CONDITIONS (EN)**			
Clause	Requirement + Test	Result - Remark	Verdict
1.2.4.1	In **Denmark**, 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.		N/A
1.2.13.14	In **Norway** and **Sweden**, for requirements see 1.7.2.1 and 7.3 of this annex.		N/A
1.5.7.1	In **Finland, Norway** and **Sweden**, resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.		N/A
1.5.8	In **Norway**, due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N/A
1.5.9.4	In **Finland**, **Norway** and **Sweden**, the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.		N/A
1.7.2.1	In **Finland**, **Norway** and **Sweden**, 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: In Finland: "Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan" In Norway: “Apparatet må tilkoples jordet stikkontakt” In Sweden: “Apparaten skall anslutas till jordat uttag” In **Norway** and **Sweden**, the screen of the cable distribution system is normally not earthed at the		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11).”		
	NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will also be accepted in Norway): “Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet.” Translation to Swedish: ”Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet.”		N/A
1.7.5	In **Denmark**, 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.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	For **CLASS II EQUIPMENT** the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.		
2.2.4	In **Norway**, for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.2	In **Finland**, **Norway** and **Sweden** there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.3.4	In **Norway**, for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.		N/A
2.6.3.3	In the **United Kingdom**, the current rating of the circuit shall be taken as 13 A, not 16 A.		N/A
2.7.1	In the **United Kingdom**, to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		N/A
2.10.5.13	In **Finland**, **Norway** and **Sweden**, there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N/A
3.2.1.1	In **Switzerland**, 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 10 A. 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, 16A SEV 5934-2.1998: Plug Type 23, L+N+PE 250 V, 16 A		N/A
3.2.1.1	In **Denmark**, supply cords of single-phase equipment having a rated current not exceeding13 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		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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 poly-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.		
3.2.1.1	In **Spain**, 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.		N/A
3.2.1.1	In the **United Kingdom**, 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 Sockets 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.		N/A
3.2.1.1	In **Ireland**, 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.		N/A
3.2.4	In **Switzerland**, for requirements see 3.2.1.1 of this annex.		N/A
3.2.5.1	In the **United Kingdom**, 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.		N/A
3.3.4	In the **United Kingdom**, the range of conductor sizes of flexible cords to be accepted by terminals		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm^2 to 1,5 mm^2 nominal cross-sectional area.		
4.3.6	In the **United Kingdom**, the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 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, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A
4.3.6	In **Ireland**, 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.		N/A
5.1.7.1	In **Finland**, **Norway** and **Sweden** TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N/A
6.1.2.1 (A1:2010)	In **Finland**, **Norway** and **Sweden**, add the following text between the first and second paragraph of the compliance clause: 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.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Alternatively for components, there is no distance through insulation requirements 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 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV.		
	It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b). It is permitted to bridge this insulation with a capacitor complying with EN 60384-14:2005, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 60384-14: - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		N/A
6.1.2.2	In **Finland**, **Norway** and **Sweden**, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, 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.		N/A
7.2	In **Finland**, **Norway** and **Sweden**, for requirements see 6.1.2.1 and 6.1.2.2 of this annex. The term TELECOMMUNICATION NETWORK in		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		
7.3	In **Norway** and **Sweden**, for requirements see 1.2.13.14 and 1.7.2.1 of this annex.		N/A
7.3	In **Norway**, for installation conditions see EN 60728-11:2005.		N/A

Denmark - Differences to IEC 60950-1:2005 (2nd Edition); Am 1:2009			
1.2.4.1	In Denmark, certain types of Class I appliances (see sub-clause 3.2.1.1) may be provided with plug not establishing earthing continuity when inserted into Danish socket-outlets.		N/A
1.7.5	In Denmark, 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.		N/A
1.7.5	For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a. (Heavy Current Regulations, Section 107-2-D1)		N/A
3.2.1.1	Supply cord 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 contact 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 poly-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.		N/A

Finland - Differences to IEC 60950-1:2005 (2nd Edition); Am 1:2009			
1.5.7.1	Resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.2. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.		N/A
1.5.9.4	The third dashed sentence is applicable only to equipment as defined by this annex, 6.1.2.2		N/A
1.7.2.1	Class I Pluggable Equipment Type A intended for		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	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 shall be: "Laite on liitettävä suojakosketinpistorasiaan"		
2.3.2	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
2.10.5.13	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
5.1.7.1	Touch current measurement results exceeding 3,5 mA r.m.s are permitted only for the following equipment: - Stationary pluggable equipment Type A that: (1) is intended to be used in a Restricted Access Location where equipotential bonding has been applied, for example, in a telecommunication centre; and (2) has provision for a permanently connected protective earthing conductor; and (3) is provided with instructions for the installation of that conductor by a service person; - Stationary pluggable equipment Type B - Stationary permanently connected equipment		N/A
6.1.2.1	Add the following text between the first and second paragraph of the compliance clause: 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. Alternatively for components, 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 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b).		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 60384-14; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		
6.1.2.2	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 center, 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.		N/A
7.2	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.		N/A

Germany - Differences to IEC 60950-1:2005 (2nd Edition); Am 1:2009			
Annex ZC, cl. 1.7.2.1	According to GPSG, section 2, clause 4: If certain rules on the use, supplementation or maintenance of an item of technical work equipment or ready-to-use commodity must be observed in order to guarantee safety and health, instructions for use in German must be supplied when it is brought into circulation.		N/A

Group - Differences to IEC 60950-1:2005 (2nd Edition); Am 1:2009			
1.3.Z1	Exposure to excessive sound pressure - The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	methodology and limit considerations - Part 1: General method for “one package equipment”, and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.		
1.5.1	Add the following NOTE Z1: The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC		Pass
1.7.2.1	In addition, for a PORTABLE SOUND SYSTEM, the instructions shall include a warning that excessive sound pressure from earphones and headphones can cause hearing loss.		N/A
2.7.1	Replace the subclause as follows: Basic requirements 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.		N/A
2.7.2	Void		N/A
3.2.3	Delete the NOTE and conduit sizes in parentheses in Table 3A.		N/A
3.2.5.1	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-F" In table 3B, replace the first four lines by the following: Up to and including 6 0.75 a)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	Over 6 up to and including 10 0.75 b) 1.0 Over 10 up to and including 16 1.0 c) 1.5 In the conditions applicable to table 3B, delete the words "in some countries" in condition a). In Note 1, applicable Table 3B, to delete the second sentence.		
3.3.4	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 by 4" Delete the fifth line: conductor sizes for 13 to 16A.		N/A
4.3.13.6	Add the following NOTE Z1: 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 and 2006/25/EC: Directive on the minimum health and safety requirements regarding the exposure of workers to risks arising from physical agents (artificial optical radiation). Standards taking into account this Recommendation which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.		N/A
H	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.		N/A

Korea - Differences to IEC 60950-1:2005 (2nd Edition); Am 1:2009			
1.5.101	Plugs for the connection of the apparatus to the mains supply shall comply with the Korean requirement (KSC 8305)		N/A
8	EMC - The apparatus shall comply with the relevant CISPR standards.		N/A

Sweden - Differences to IEC 60950-1:2005 (2nd Edition); Am 1:2009			
1.5.1	(Ordinance (1990:944)) Add NOTE: Switches containing mercury are not permitted.		N/A
1.5.7.1	Resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.2. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.		N/A
1.5.9.4	The third dashed sentence is applicable only to		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	equipment as defined by this annex, 6.1.2.2.		
1.7.2.1	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 shall be: "Apparaten skall anslutas till jordat uttag".		N/A
1.7.2.1	In Sweden, the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: "Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing - and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)." NOTE: In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Swedish: "Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet."		N/A
2.3.2	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
2.10.5.13	Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply.		N/A
5.1.7.1	Touch current measurement results exceeding 3,5 mA r.m.s are permitted only for the following		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	equipment: - Stationary pluggable equipment Type A that: (1) is intended to be used in a Restricted Access Location where equipotential bonding has been applied, for example, in a telecommunication centre; and (2) has provision for a permanently connected protective earthing conductor; and (3) is provided with instructions for the installation of that conductor by a service person; - Stationary pluggable equipment Type B - Stationary permanently connected equipment.		
6.1.2.1	“Add the following text between the first and second paragraph of the compliance clause: 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. N/A Alternatively for components, 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 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with an optocoupler complying with 2.10.5.4 b). It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2. A capacitor classified Y3 according to EN 60384-14:2005, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 60384-14, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 60384-14; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 60384-14, in the sequence of tests as described in EN 60384-14.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.2	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.		N/A
7.2	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.		N/A
7.3	There are many buildings where the screen of the coaxial cable is not normally connected to the earth in the building installation.		N/A

United Kingdom - Differences to IEC 60950-1:2005 (2nd Edition); Am 1:2009			
2.6.3.3	The current rating of the circuit shall be taken as 13 A, not 16 A.		N/A
2.7.1	To protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		N/A
3.2.1.1	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 1786: 1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE: "Standard plug" is defined in SI 1786: 1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
3.2.5.1	A power supply cord with conductor of 1.25 mm² is allowed for equipment with a rated current over 10A and up to and including 13A.		N/A
3.3.4	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.		N/A
4.3.6	The torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	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, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		

	JAPAN- Differences to IEC 60950-1:2001 (First Edition) (National differences to IEC 60950-1:2005 do not exist)		
1.2.4.1	Add the following new notes. Note: Even if the equipment is designed as Class I, the equipment is regarded as Class 0I equipment when 2-pin adaptor with earthing lead wire or cord set having 2-pin plug with earthing lead wire is provided or recommended.		N/A
1.2.4.3A	Add the following new clause. 1.2.4.3A CLASS 0I EQUIPMENT Equipment having attachment plug without earthing blade, where protection against electric shock is achieved by: - using BASIC INSULATION, and - providing externally an earth terminal or a lead wire for earthing in order to connect those conductive parts that might assume a HAZARDOUS VOLTAGES in the event of BASIC INSULATION fault to the PROTECTIVE EARTHING CONDUCTOR in the building wiring. NOTE – Class 0I equipment may have a part constructed with Double Insulation or Reinforced Insulation. circuit.		N/A
1.3.2	Add the following notes after first paragraph: Note 1 Transportable or similar equipment that are relocated frequently for intended usage should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel. Note 2 Considering wiring circumstance in Japan, equipment intended to be installed where the provision for earthing connection is unlikely should not be designed as Class I or Class 0I equipment unless it is intended to be installed by service personnel.		N/A
1.5.1	Replace the first paragraph with the follows: Where safety is involved, components shall comply either with the requirements of this		N/A

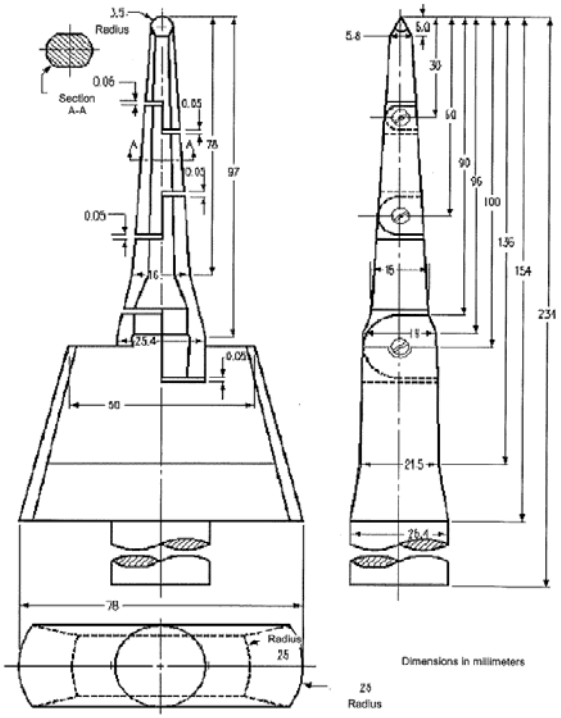
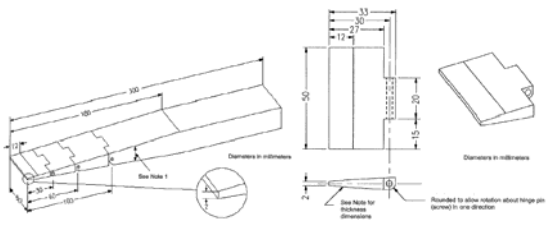
IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	standard, with the safety aspects of the relevant JIS component standard, or IEC component standards in case there is no applicable JIS component standard is available. However, a component that falls within the scope of METI Ministerial ordinance No. 85 is properly used in accordance with its marked ratings, requirements of 1.5.4, 2.8.7 and 3.2.5 apply, and in addition, a cord connector of power supply cord set mating with appliance inlet complying with the standard sheet of IEC 60320-1, shall comply with relevant standard sheet of IEC 60320-1. Replace Note 1 with the following: Note 1 A JIS or an IEC component standard is considered relevant only if the component in question clearly falls within its scope.		
1.5.2	Replace first sentence in the first dashed paragraph with the following: - a component that has been demonstrated to comply with a JIS component standard harmonized with the relevant IEC component standard, or where such JIS component standard is not available, a component that has been demonstrated to comply with the relevant IEC component standard shall be checked for correct application and use in accordance with its rating. Add a note after the first dashed paragraph as follows: Note 1 See 1.7.5A when Type C.14 appliance coupler rated 10 A per IEC 60320-1 is used with an equipment rated not more than 125 V and rated more than 10 A. Replace first sentence in the third dashed paragraph as follows: - where no relevant IEC component standard or JIS component standard harmonized with the relevant IEC component standard exists, or where components are used in circuits not in accordance with their specified rating, the components shall be tested under the conditions occurring in the equipment.		N/A
1.7.1	Replace fifth dashed parapgaph with the following: - manufacturer’s or responsible company’s name		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	or trade-mark or identification mark;		
1.7.5A	Add the following new clause. after 1.7.5 1.7.5A Appliance Coupler If appliance coupler according to IEC60320-1, C.14(rated current: 10A)is used in equipment whose rated voltage is less than 125V and rated current is over 10A, the following instruction or equivalent shall be described in the user instruction. “ Use only designated cord set attached in this equipment”		N/A
1.7.12	Replace first sentence with the following: Instructions and equipment marking related to safety shall be in Japanese..		N/A
1.7.17A	Add the following new clause. after 1.7.17 1.7.17A Marking for CLASS 0I EQUIPMENT For CLASS 0I EQUIPMENT, the following instruction shall be marked on the visible place of the mains plug or the main body: “Provide an earthing connection” Moreover, for CLASS 0I EQUIPMENT, the following or equivalent instruction shall be indicated on the visible place of the main body or written in the operating instructions: “Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains.”		N/A
2.6.3.2	Add the following after 1st paragraph. This also applies to the conductor of lead wire for protective earthing of CLASS 0I EQUIPMENT.		N/A
2.6.4.2	Replace 1st paragraph with the following. Equipment required to have protective earthing shall have a main protective earthing terminal. For equipment with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance inlet is regarded as the main protective earthing terminal except for CLASS 0I EQUIPMENT providing separate main protective earthing terminal other than appliance inlet.		N/A
2.6.5.4	Replace 1st sentence with the following. Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	than the supply connections in each of the following:		
2.6.5.8A	Add the following new clause. after 2.6.5.8A 2.6.5.8A Earthing of CLASS 0I EQUIPMENT Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150V. For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip. CLASS 0I EQUIPMENT shall be provided with an earthing terminal or lead wire for earthing in the external location where easily visible.		N/A
3.2.3	Add the following after Table 3A: Table 3A applies when cables complying JIS C 3662 or JIS C 3663 are used. In case of other cables, cable entries shall be so designed that a conduit suitable for the cable used can be fitted.		N/A
3.2.5.1	Add the following to the last of first dashed paragraph. Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance.. Add the following to the last of second dashed paragraph. Or mains cords shall be of the sheathed type complying with Appendix 1 of Article 1 of the Ministerial Ordinance on stipulating technical requirements for the Electrical Appliance.. Delete 1) in Table 3B.		N/A
3.3.4	Add the following note to Table 3D: Note For cables other than those complying with JIS C 3662 or JIS C 3663, terminals shall be suitable for the size of the intended cables.		N/A
3.3.7	Add the following after the first sentence: This requirement is not applicable to the external earting terminal of Class 0I equipment.		N/A
4.3.4	Add the following after the first sentence: This requirement also applies to those connections in Class 0I equipment, where CLEARANCE or CREEPAGE DISTANCES over BASIC INSULATION would be reduced to less than the values specified in 2.10.		N/A
5.1.3	Add a note after the first paragraph as follows: Note – Attention should be drawn to that majority of three-phase power system in Japan is of delta connection, and therefore, in that case, test is		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	conducted using the test circuit from IEC 60990, figure 13.		
5.1.6	Replace Table 5A. as follows <table><tr><th>Type of equipment</th><th>Terminal A of measuring instrument connected to:</th><th>Maximum TOUCH CURRENT mA r.m.s. 1)</th><th>Maximum PROTECTIVE CONDUCTOR CURRENT</th></tr><tr><td>ALL equipment</td><td>ALL equipment Accessible parts and circuits not connected to protective earth</td><td>0,25</td><td>-</td></tr><tr><td>HAND-HELD</td><td rowspan="4">Equipment main protective earthing terminal (if any) CLASS I EQUIPMENT</td><td>0,75</td><td>-</td></tr><tr><td>MOVABLE (other than HAND_HELD, but including TRANSPORTABLE EQUIPMENT</td><td>3,5</td><td>-</td></tr><tr><td>STATIONARY, PLUGGABLE TYPE A</td><td>3,5</td><td>-</td></tr><tr><td>ALL other STATIONARY EQUIPMENT - not subject to the conditions of 5.1.7 - subject to the conditions of 5.1.7</td><td>3.5 -</td><td>- 5 % of input current</td></tr><tr><td>HAND-HELD</td><td rowspan="2">Equipment main protective earthing terminal (if any) CLASS 0I EQUIPMENT</td><td>0,5</td><td>-</td></tr><tr><td>Others</td><td>1.0</td><td>-</td></tr><tr><td colspan="4">1) If peak values of TOUCH-CURRENT are measured, the maximum values obtained by multiplying the r.m.s. values by 1,414.</td></tr></table>		N/A
7.2	Add the following after the paragraph: However, the separation requirements and tests of 6.2.1 a), b) and c) do not apply to a CABLE DISTRIBUTION SYSTEM if all of the following apply: − the circuit under consideration is a TNV-1 CIRCUIT; and – the common or earthed side of the circuit is connected to the screen of the coaxial cable and to all accessible parts and circuits (SELV, accessible metal parts and LIMITED CURRENT CIRCUITS, if any); and – the screen of the coaxial cable is intended to be connected to earth in the building installation.		N/A
W.1	Replace second and third sentence in the first paragraph with the following: This distinction between earthed and unearthed (floating) circuit is not the same as between CLASS I EQUIMENT, CLASS 0I EQUIPMENT and CLASS II EQUIPMENT. Floating circuits can exist in CLASS I EQUIPMENT or CLASS 0I EQUIPMENT and earthed circuits in CLASS II EQUIPMENT.		N/A
Annex JA	Add a new annex JA with the following contents. Annex JA (normative) Document shredding machines Document shredding machines shall also comply with the requirements of this annex except those of STATIONARY EQUIPMENT used by connecting directly to an AC MAINS SUPPLY of three-phase 200V or more. **JA.1 Markings and instructions** The symbol  (JIS S 0101:2000, 6.2.4) and the following		N/A

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	precautions for use shall be marked on readily visible part adjacent to document feed opening. The marking shall be clearly legible, permanent, and easily discernible; - that use by an infants/children may cause a hazard of injury etc.; - that a hand can be drawn into the mechanical section for shredding when touching the document-slot; - that clothing can be drawn into the mechanical section for shredding when touching the document-slot; - that hairs can be drawn into the mechanical section for shredding when touching the document-slot; - in case of equipment incorporating a commutator motor, that equipment may catch fire or explode by spraying of flammable gas. **JA.2 Inadvertent reactivation** Any safety interlock that can be operated by means of the test finger, Figure JA.1, is considered to be likely to cause inadvertent reactivation of the hazard. Compliance is checked by inspection and, where necessary, by a test with the test finger, Figure JA.1 **JA.3 Disconnection from the mains supply** Document shredding machines shall incorporate an isolating switch complying with sub-clause 3.4.2 as the device disconnecting the power of hazardous moving parts. For this switch, two-position (single-use) switch or multi-position (multifunction) switch (e.g., slide switch) may be used. If two-position switch, the positions for "ON" and "OFF" shall be indicated in accordance with sub-clause 1.7.8. If multi-position switch, the position for "OFF" shall be indicated in accordance with sub-clause 1.7.8 and other positions shall be indicated with proper terms or symbols. Compliance is checked by inspection **JA.4 Protection against hazardous moving parts** Any warning shall not be used instead of the structure for preventing access to hazardous moving parts. Document shredding machines shall comply with the following requirements. Insert the test finger, Figure JA.1, into all		

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict
	openings in MECHANICAL ENCLOSURES without applying appreciable force. It shall not be possible to touch hazardous moving parts with the test finger. This consideration applies to all sides of MECHANICAL ENCLOSURES when the equipment is mounted as intended . Before testing with the test finger, remove the parts detachable without a tool. Insert the wedge-probe, Figure JA.2, into the document-slot. And, against all directions of openings, if straight-cutting type, a force of 45 N shall apply to the probe, and 90 N if cross-cutting type. In this case, the weight of the probe is to be factored into the overall applied force. Before testing with the wedge-probe, remove the parts detachable without a tool. It shall not be possible to touch any hazardous moving parts, including the shredding roller or the mechanical section for shedding, with the probe.  **Figure JA.1 Test finger**  **(Details of the tip of wedge)**		

IEC 60950_1C ATTACHMENT			
Clause	Requirement + Test	Result - Remark	Verdict

Distance from the tip (mm)	Thickness of probe (mm)
0	2
12	4
180	24

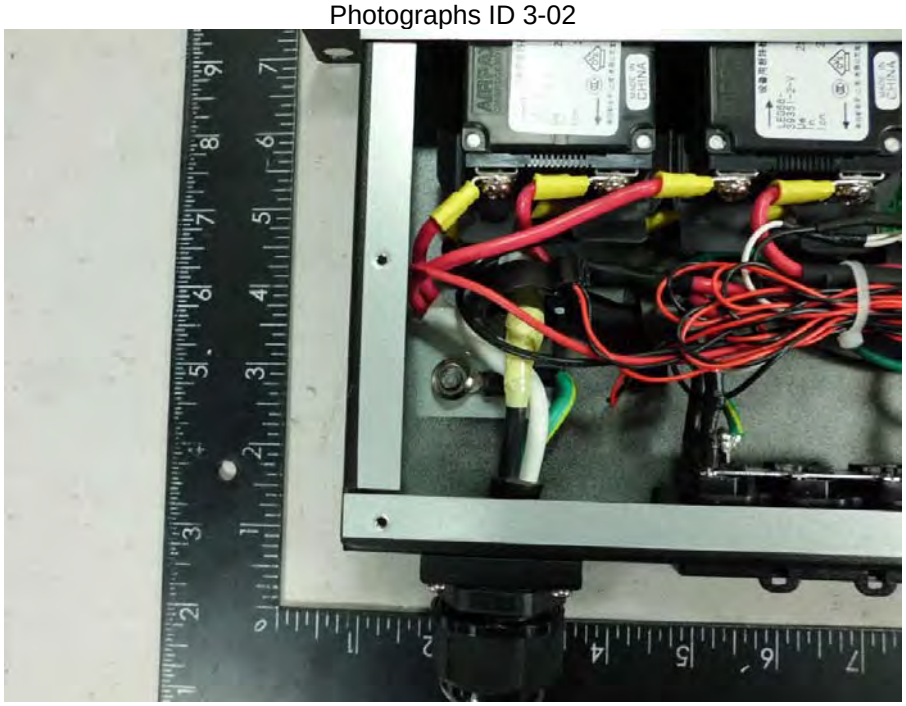
Note 1 - The thickness of the probe varies linearly, with slope changes at the respective points shown in the table.
Note 2 –The allowable dimensional tolerance of the probe is +/- 0.127 mm.
Figure JA.2 Wedge-probe

Enclosure

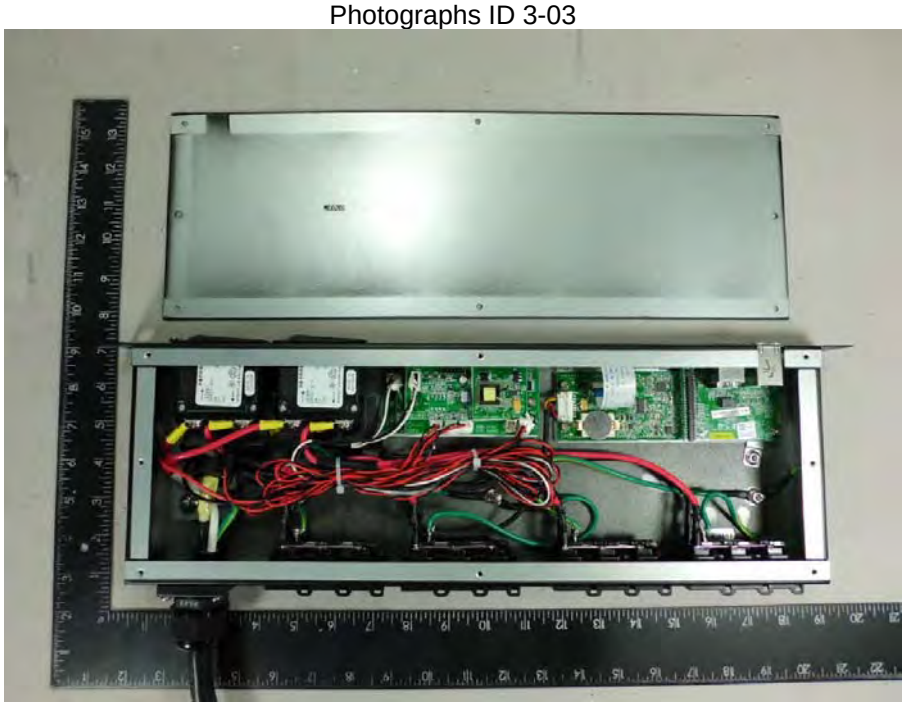
Supplement Id	Description
3-01	Overall View unit with appliance inlet
3-02	internal view showing ground, internal wiring, output bus bar
3-03	internal view showing power supply, measurement pcb and communication pcb
3-04	Overall view, IU example
3-05	Overall view, 22U example
3-06	Overall view, 42U example
4-01	Chassis mechanical drawings
4-02	Chassiss mechanical drawings #2
4-03	Outlet wiring
4-04	Current Transformer specification
4-05	Current Transformer specification, alternate
4-06	Strain Reliefs, end caps and cable clamps
4-07	Breaker boxes
7-01	Additional test result table
7-02	Manufacturer’s declaration letter
8-01	License Circuit breakers
8-02	Outlets
8-03	Internal power supply certificate
8-04	internal measurement and communication board certificate

Photographs ID 3-01

Photographs ID 3-02



Photographs ID 3-03

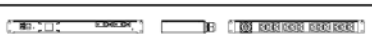


Photographs ID 3-04

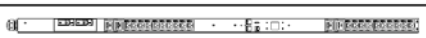
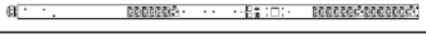
Photographs ID 3-05

Photographs ID 3-06

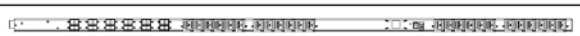
Diagrams ID 4-01

ITEMS	HP GLANDORE 1U OUTLINE DRAWING
MI 1	
MI 2	
MI 4	

ITEMS	HP GLANDORE 22U OUTLINE DRAWING (H :760 mm)
MI 3	

ITEMS	HP GLANDORE 36U OUTLINE DRAWING (H:1423.4 mm)
MI 5	
MI 6	
MI 12	
MI 13	
MI 15	
MI 17	

ITEMS	HP GLANDORE 42U OUTLINE DRAWING (H:1689.4 mm)
MI 7	
MI 8	
MI 16	
MI 18	
MI 19	
MI 20	
MI 21	
MI 22	
MI 23	
MI 24	
MI 25	

ITEMS	HP GLANDORE POD OUTLINE DRAWING (H:1979.2 mm)
MI 31	
MI 32	
MI 33	
MI 34	
MI 35	
MI 36	
MI 37	

Diagrams ID 4-02

Diagrams ID 4-03

深圳市鹏毅钜科技有限公司

Shen Zhen Pang Ngai Kui Technology CO.,LTD

样品承認書

SPECIFICATION FOR APPROVAL

客戶名稱:
CUSTOMER: 信瑞

客戶料號:
CUSTOMER P/O: 106-99026-00

品名規格:
SPECIFICATION: Φ2.05镀锡铜线

送樣數量:
SAMPLE Q'TY 2M

送樣日期:
DATE OF ISSUE: 2012-2-24

文件編号:
DRAW.NO: PYJ-SAD1202017

客戶承認章

客户簽核		
批准	审核	确认

批准	确认	制作
崔俱鑫 2/24		刘小飞

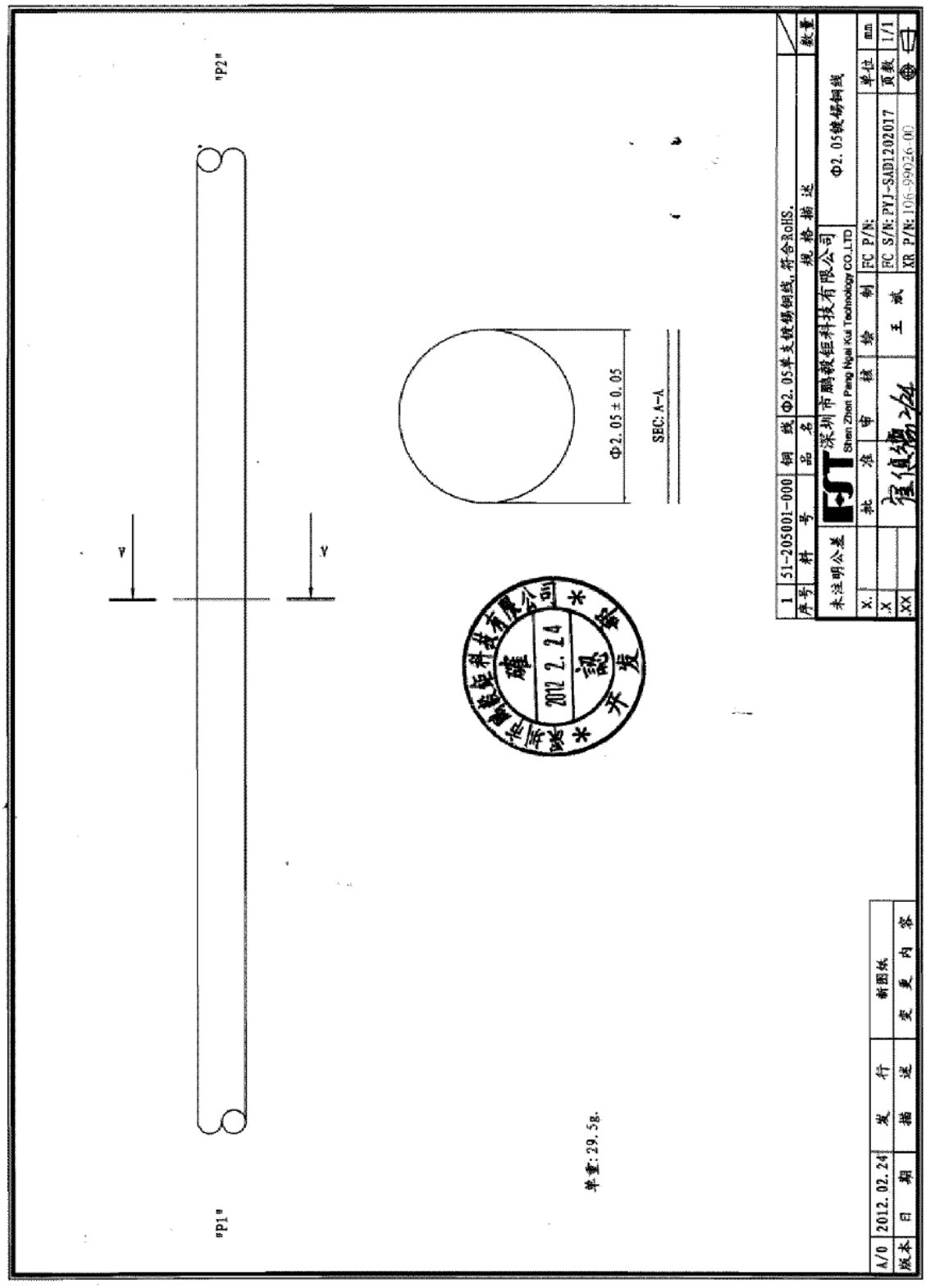
公司地址(Add): 深圳市寶安區龍華鎮獅頭嶺工業區建輝路杉香華工業園

E-mail: pang_ngai@yahoo.com.cn

電話(Tel):0755-27746199 27747199 27746266

傳真(Fax):0755-27749266

Diagrams ID 4-03



Diagrams ID 4-03

First Article Inspection Report

Submit Date提交日期: 2012年2月24日

Part No. 料号:	106-99026-00	Part Name 品名:	SM-3P TO XH-3P, L=500mm	Drawing No. 图纸编号:	PYJ-SAD1202017

Supplier Name 供应商名称:	深圳市鹏毅实业有限公司	Supplier Code供应商代号:	1001534	Rev.版本:	A0

Supplier Address供应商地址:
广东省深圳市宝安区龙华镇三联工业区第二、三、四、八栋

Reason for First Article Inspection提交的原因:
☑ Initial Submitt新材料承认 ☐ Mold Change重新开模 ☐ Engineering Change工程变更 ☐ Other其他:_____

Item	Description	Request		Acceptable		Comments
		Yes	N/A	Yes	No	
1	Product Specification产品规格书	✓				
2	Drawings图纸	✓				
3	Full Dimension Result全尺寸检验报告	✓				
4	Function Testing Report电气/功能测试报告					
5	Appearance Inspection Report产品外观检验报告					
6	Environment Test Report环境特性测试					
7	Special Certificate Documents特殊规格要求证明书 e.g. UL/CSA/VDE/CNS/JIS...					
8	GP certificate GP文件					进入绿色供应链资讯管理系统提供
9	Bill of Material材料清单					
10	Raw Material Inspection Report原材料材质证明					
11	Process Flow Diagram过程流程图					
12	WI(work instruction)作业指导书					
13	Packaged per Specification包装规范					
14	Initial Process Study初始过程能力分析					
15	Other Requirements其它要求					

Comments备注:

Supplier Authorized Signature供应商签名:	崔侦德	Title职务:	产品工程师	Date日期:	2012年2月24日
(For Customer Use Only仅限于客户填写) FAI Status FAI零件批准状态: ☐ Approval 批准 ☐ Reject 拒收		Customer Signature: 客户签名:		Date日期:	

TC-QAW-31-02

Diagrams ID 4-03

深 圳 市 鹏 毅 实 业 有 限 公 司

样 品 检 验 报 告

SAMPLE INSPECTION REPORT

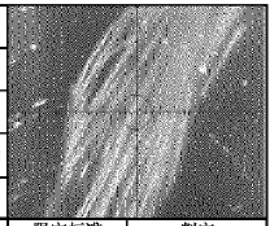
日期: 2012 年 02 月 24 日 编号:

客户 CUSTOMER	信瑞	料号 CUSTOMER P/N	106-

Diagrams ID 4-03

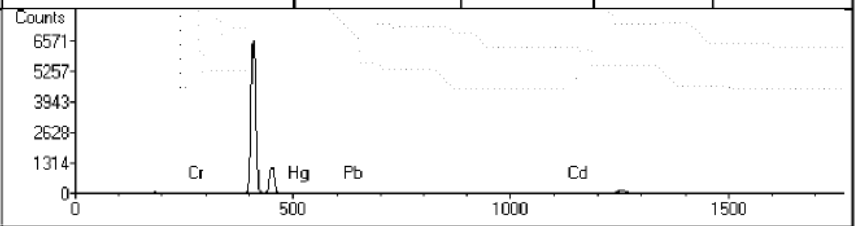
深圳市鹏毅实业有限公司

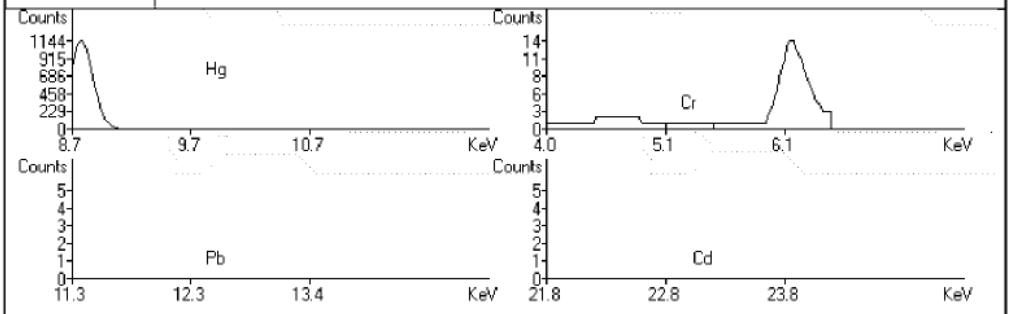
全分析报告
Total Analysis Report

样品名称 Sample Name	铜丝	测量时间 Test Time	200		
供应商 Supplier		管压 Voltage	45		
操作员 Operator	喻承承	管流 Current	600		
测量日期 Test Date	2012-2-22	工作曲线 WorkCurve	BRASS & ZINC		
批号 Lot No.		仪器型号 Mode	EDX 2800		

元素 Element	强度 Intensity	含量(ppm) Content(ppm)	误差(ppm) Error(ppm)	限定标准 Limits	判定 Results
Hg	0.00000000	ND		1000	Pass
Cr	0.00000000	ND		1000	Pass
Pb	0.00000000	ND		1000	Pass
Cd	-0.00001322	ND		100	Pass

谱图 Element of drawing





注： ND代表含量小于等于2ppm

X荧光仪器分析测得的数据为表面测试

Cr,Br为测得该元素的总含量，如果其显示超标并不代表VI价Cr和PBB，PBDE超标。

Br的含量需小于700ppm，Cl的含量需小于900ppm，且Br和Cl之和需小于1500ppm。

结论：合格

审核：	崔侦德	测试员	喻承承	日期	2012-2-22

Diagrams ID 4-03

FST

深圳市鵬毅鉅科技有限公司
Shen Zhen Pang Ngai Kui Technology CO.,LTD

样品承認書
SPECIFICATION FOR APPROVAL

客戶名稱:
CUSTOMER: 信瑞

客戶料號:
CUSTOMER P/O:

品名規格:
SPECIFICATION: Φ1.40镀锡铜线

送樣數量:
SAMPLE Q'TY 1m

送樣日期:
DATE OF ISSUE: 2013-3-26

文件編號:
DRAW.NO: PYJ-SAD1303063

客戶承認章 2013.3.26 廠商承認章

客户簽核		
批准	审核	确认

内部簽核		
批准	确认	制作
[illegible] 3/26	[illegible] 3/26	刘小飞

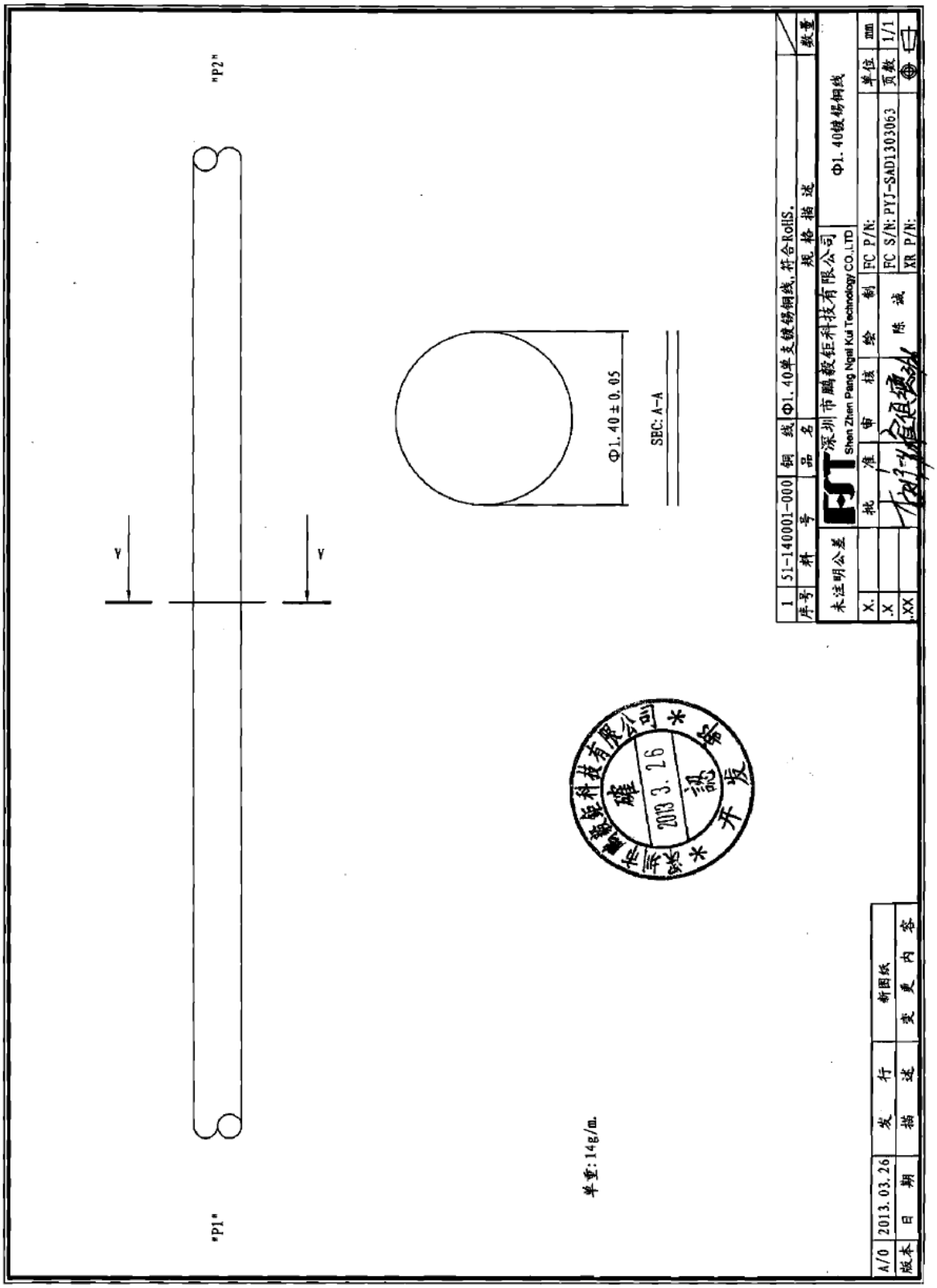
公司地址(Add): 深圳市寶安區龍華鎮獅頭嶺工業區建輝路
彬香華工業園

E-mail: pang_ngai@yahoo.com.cn

電話(Tel):0755-27746199 27747199 27746266

傳真(Fax):0755-27749266

Diagrams ID 4-03



Diagrams ID 4-03

EATON PART SUBMISSION WARRANT

Part Name: Φ1.40镀锡铜线		Part Number:	
Safety and/or Government Regulation ☑ Yes ☐ No	Engineering Drawing Change Level:	NA	Dated: NA
Additional Engineering Changes			Dated:
Shown on Drawing No.:PYJ-SAD1303063	PPAP Number:		Weight:14g
Checking Aid No.:NA	Engineering Change Level:		Dated:

SUPPLIER MANUFACTURING INFORMATION

Supplier Name & Supplier Code
深圳市鹏毅钜科技有限公司

Street Address
深圳市宝安区龙华镇狮头领工业区彬香华工业园

City / State / Postal Code / Country
广东省深圳市宝安区龙华镇

SUBMISSION INFORMATION

☑ Dimensional ☐ Materials/Functional ☐ Appearance

Customer Name/Division Eaton

Buyer/Buyer Code 信瑞电子

Application NO

Note: Does this part contain any restricted or reportable substances ☐ Yes ☑ No
Are plastic parts identified with appropriate ISO marking codes ☐ Yes ☑ No ☐ N/A

REASON FOR SUBMISSION

☑ Initial Submission
☐ Engineering Change(s)
☐ Tooling: Transfer, Replacement, Refurbishment, or additional
☐ Correction of Discrepancy
☐ Tooling Inactive > than 1 year
☐ Change to Optional Construction or Material
☐ Sub-Supplier or Material Source Change
☐ Change in Part Processing
☐ Parts Produced at Additional Location
☐ Other - Please Specify

REQUESTED SUBMISSION LEVEL

*****See PPAP_Submission_Checklist tab within this file for Submission Requirements.*****

SUBMISSION RESULTS (CHECK ALL THAT APPLY)

The results for ☑ dimensional measurements
☐ material and functional tests
☐ appearance criteria
☐ statistical process package

These results meet all drawing and specification requirements: ☑ Yes ☐ No
(If "No" - Explanation Required)
Mold / Cavity / Production Process

DECLARATION

I hereby affirm that the samples represented by this certification are representative of our parts, have been made to the applicable customer drawings and specifications, and are made from the specified materials on regular production tooling with no operations other than the regular production process. I also certify that documented evidence of such compliance is on file and available for review. In addition I certify that the PPAP Submission checklist has been completed and submitted with this package.

EXPLANATION / COMMENTS: NA

Print Name:	Title:engineer	Phone No.:	FAX No.
Supplier authorized Signature:			

2013.3.26

FOR CUSTOMER USE ONLY (IF APPLICABLE)

Part Warrant Disposition: ☐ Full Approval ☐ Rejected ☐ Interim Approval

Part Functional Approval: ☐ Approved ☐ Waived

Customer Name ______ Customer Signature ______ Date ______

Diagrams ID 4-03

深 圳 市 鹏 毅 实 业 有 限 公 司

样 品 检 验 报 告

SAMPLE INSPECTION REPORT

日期: 2013 年 03 月 26 日 编号:

客户 CUSTOMER	信瑞	料号 CUSTOMER P/N		品名规格 PART NAME ATION	Φ1.40 镀锡铜线
样品单号 Sample NO.	PVJ-SAD130363	样品数量 SAMPLE QTY	/	合格数量 PASSED QTY	/	不合格数量 REJECTQTY	0

检查项目 CHECK ITEM	规格 SPECIFICATION	检查结果 STATUS OF CHECK	判定 JUDG
BOM	Φ1.40 镀锡铜线, 符合 RoHS。	Φ1.40 镀锡铜线, 符合 RoHS。	合格

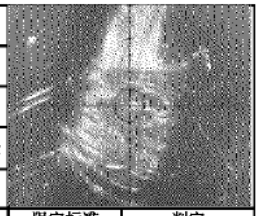
NO	检验项目 INSPECH		检查标准 SPECIFIC ATION	DATA 测定值 1	2	3	4	5	检验方法/设备 NSPECTIONWAY	判定 JUDG
1	尺寸	导体数量	1	1	1	1	1	1	目测	合格
		导体直径	1.40±0.05	1.40	1.395	1.39	1.405	1.406	千分尺	合格
2	外观检验	1								
		2								
		3								
		4								
3	电性测试	1	电气测试 100%导通	OK					万用表	合格
		2								
4	机械性能测试	1								
		2								
5	包装	1								

最终判定 FINAL RESULT	☑ 合格 PASS
备注:	

核准 APPROVED BY	胡忠红	审核 CHECKDE BY	胡霞	检验员 INSPECTOR	李的满

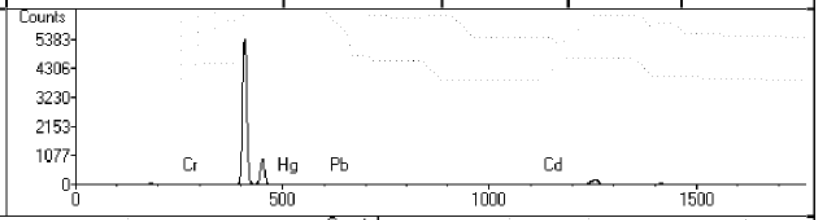
Diagrams ID 4-03

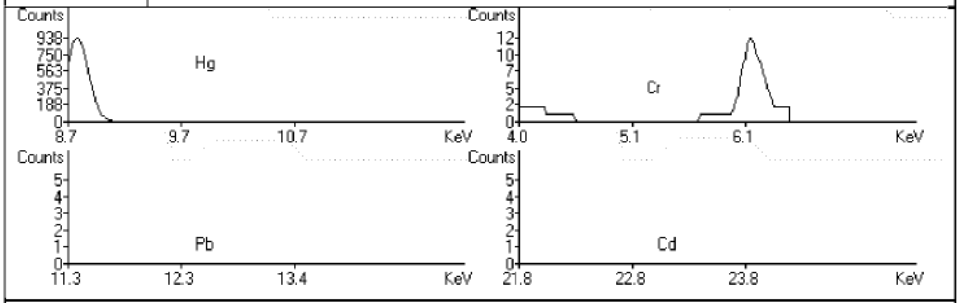
全分析报告
Total Analysis Report

样品名称 Sample Name	镀锡铜丝	测量时间 Test Time	200		
供应商 Supplier		管压 Voltage	45		
操作员 Operator	王婷	管流 Current	600		
测量日期 Test Date	2013-3-15	工作曲线 WorkCurve	BRASS & ZINC		
批号 Lot No.		仪器型号 Mode	EDX 2800		

元素 Element	强度 Intensity	含量(ppm) Content(ppm)	误差(ppm) Error(ppm)	限定标准 Limits	判定 Results
Hg	0.00000000	ND		1000	Pass
Cr	0.00000000	ND		1000	Pass
Pb	0.00000000	ND		1000	Pass
Cd	-0.00001682	ND		100	Pass

谱图 Element of drawing





注： ND代表含量小于等于2ppm

X荧光仪器分析测得的数据为表面测试

Cr,Br为测得该元素的总含量，如果其显示超标并不代表VI价Cr和PBB，PBDE超标。

Br的含量需小于700ppm，Cl的含量需小于900ppm，且Br和Cl之和需小于1500ppm。

结论：合格

审核：	崔侦德	测试员	王婷	日期	2013-3-15

Diagrams ID 4-04

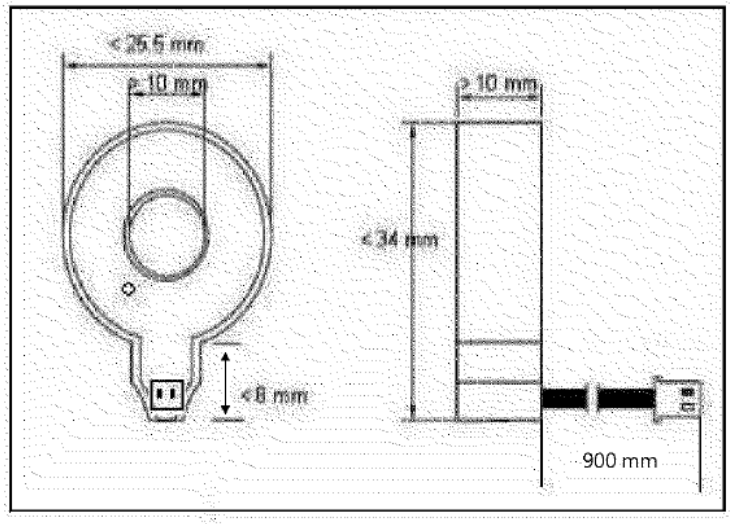
Gredmann Taiwan Ltd. 台灣格雷蒙股份有限公司
Tel: 02-2719-3456 (20線)
Fax: 02-2716-5500, 2716-5522
105台北市民權東路三段170號9樓之2

SPECIFICATION

Current Transformer	Customer:	Date:2012.11.08	
Part Number: SE03-900 mm	Customer P/N:	version:	1

Dimensional Data:

Note: dimensions in mm.



Electrical Data:

Turns ratio = (1):1000	$U_{p,eff}$ = 1.5 kV, 2 s
R_{Cu2} = 33 ±10%Ω	ambient temperature: -40°C ..+70°C
I_{max} = 60 A	storage temperature: -40°C...+85°C
R_B = 20 Ω	L = 45 H +/- 30% @ 50Hz

Compoent	Manufacturer	Material	Note	UL File No
Core	ELECMAT	Amorphous		
Wire	GREAT TEOFLON INDUSTRIAL	TRW(B) 37AWG	130℃	E211989
Case	LAIFANG ELECTRONIC	PBT4036G	Flame Class V-0	E139063
Connector	XINYU ELECTRONIC	2P 1007,26#		
Heat-Shrinkable	GUANGZHOU KAIHENG	VW-1,Φ4.5mm	125℃,600V	E214175
Epoxy	WELLS ELECTRONIC	EPOXY 9002GA/B-SYD		E222812

Created: *Harry W.* 2012.4.30	Approved: *William G.* 2012.4.30	Released: *Henry K.* *2012.4.30*

Note: Gredmann reserves the right to change specification data as required without notice.

Diagrams ID 4-05

RoHS Compliant

客 户 CUSTOMER: EATON

SPECIFICATION FOR APPROVAL

可立克编号 CLICK P/N: TB2101-***	规格书编号/版本 DOCUMENT NO./Rev.: 13****00
客户型号 CUSTOMER P/N: 080-20646-00 (SE22-03-900 mm)	日期 DATE: 2013-5-21
品 名 DESCRIPTION: CT 50A(65A max.) 1:1000 ACCURACY 0.5% Rb=1.8 Ohm or 2.6 Ohm	安规标准 SAFETY STANDARD:

确认后签名，并返回一份。
PLEASE RETURN TO US COPY OF "SPECIFICATION FOR APPROVAL"WITH YOUR APPROVED SIGNATURES.

	"√"	CUSTOMER'S SIGNATURE	NOTE
FULL APPROVED			
CONDITIONAL APPROVED			
REJECTED			

CLICK 可立克（香港）国际贸易有限公司
CLICK INTERNATIONAL (HONG KONG) TRADING CO., LTD
香港九龙长沙湾长裕街11号定丰中心17楼1707室
Flat 1707, 17/F Sterling Centre 11, Cheung Yue Street, Cheung Sha Wan, Kowloon, Hong Kong
TEL:00852-27854822
FAX:00852-27447808
E-mail:sales@clickele.com
Http://www.clickele.com

CLICK 深圳可立克科技股份有限公司
SHENZHEN CLICK TECHNOLOGY CO., LTD
深圳市宝安区福永镇桥头村正中工业园7栋
Buiding7, ZhengZhong Industrial Zone, QiaoTou Town FuYong Country, BaoAn District, ShenZhen, P.R.C
TEL:86-755-29918117 29918067
FAX:86-755-29918005
E-mail:sales@clickele.com
Http://www.clickele.com

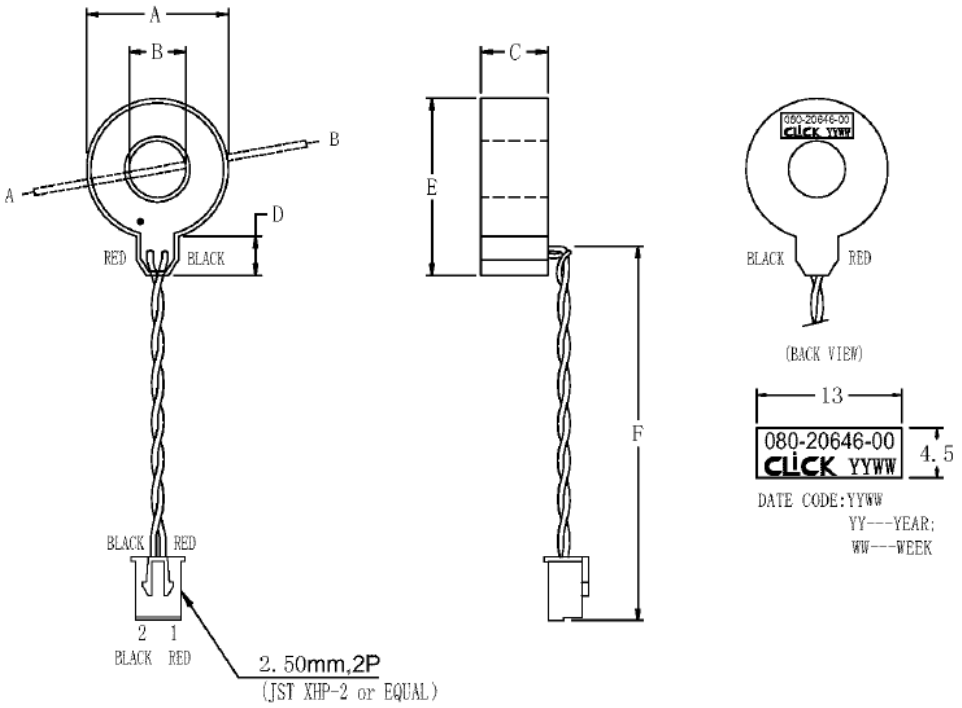
C2-027B-F15

Diagrams ID 4-05

CUSTOMER	EATON	CLICK P/N	TB2101-***

OUTLINE DIMENSION: (UNIT:mm)

RoHS Compliant



DIMENSION(UNIT:mm):

A	B	C	D	E	F
25.5 ±0.5	10.2 ±0.2	11.0 ±0.5	8 MAX	34 MAX	900 ±15

	DRAWN BY	CHECKED BY	APPROVED BY	CUSTOMER P/N	
CLICK 深圳可立克科技股份有限公司 SHENZHEN CLICK TECHNOLOGY CO.,LTD	M.G.L			DOCUMENT NO./Rev.	13****00
				DATE	2013-5-21
				SHEET_OF_	1 / 2

C2-027B-F15

Diagrams ID 4-05

CUSTOMER	EATON	CLICK P/N	TB2101-***

RoHS Compliant

WINDING SEQUENCE:

WDG	TERMINALS	WIRE GAUGE	TURNS (Ts)	DC RESISTNACE (AT 25℃)
N1	RED(1)-BLACK(2)	MW-28C 0.13mm	1000	32 ohm ±10%

ELECTRICAL CHARACTERISTICS:

ITEM	TECHNICAL DATA	TEST CONDITION & INSTRUMENT
ACCURACY	0.5% or BETTER	INPUT CURRENT: 0.4A ~ 65A 50/60Hz (A-B), Rb=1.8 Ohm or 2.6 Ohm, AT 85° C MAX.

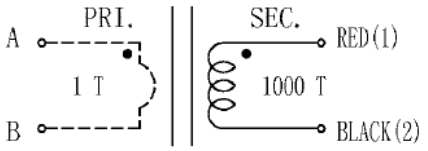
ACCURACY	RATED PRI. CURRENT (50A) * % CURRENT ERROR ±%						RATED PRI. CURRENT (50A) * % PHASE DISPLACEMENT ±(')					STANDARD (REF.)
	0.8	5	20	100	120	130	5	20	100	120	130	1, GB1208-2006 or 2, IEC60044-1:2003
0.5% or BETTER	0.5	0.5	0.5	0.5	0.5	0.5	90	45	30	30	30	

HI-POT TEST	PRI TO SEC	1500VAC/50Hz 5mA 2 SEC.	CS2672C

MATERIAL LIST:

NO.	DESCRIPTON	MATERIAL	MANUFACTURER/SUPPLIER
1	CORE	FE-BASED NANO-MICROLITE RIBBON SIZE:OD21*ID15*HT6mm	CATECH (CHINA AMORPHOUS TECHNOLOGY CO., LTD) OR EQUIVALENT
2	MAGNET WIRE	TYPE :UEWE (MW-28C) UL FILE:E85640 THERMAL RATING : 130℃	TAI-I ELECTRIC WIRE & CABLE CO LTD OR EQUIVALENT
3	LEAD WIRE	UL1007 26AWG, RED, BLACK UL FILE:E211048	QIFURUI ELECTRONICS CO OR EQUIVALENT
4	CASE	MATERIAL:PBT FR530 FILE NO.:E41938 UL RATING:94V-0	E I DUPONT DE NEMOURS & CO INC
		MATERIAL:PBT 4115 / 4130 FILE NO.:E59481 UL RATING:94V-0	CHANG CHUN PLASTICS CO LTD
5	EPOXY	TYPE:9002GA/B-SY UL FILE:E229633 UL RATING:94V-0	WELLS ELECTRONIC MATERIAL (GUANGZHOU) CO LTD OR EQUIVALENT

SCHEMATIC:



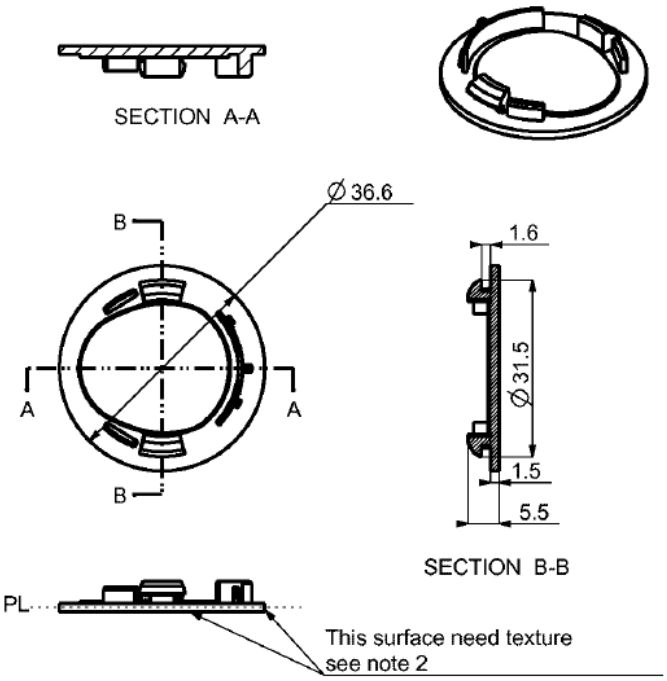
1, RATED PRI. CURRENT: 50A(65A max.)
2, TURNS RATIO = (1):1000
3, ACCURACY: 0.5% or BETTER
4, Rb=1.8 Ohm or 2.6 Ohm

• INDICATES LIKE POLARITY

深圳可立克科技股份有限公司 SHENZHEN CLICK TECHNOLOGY CO., LTD	DRAWN BY	CHECKED BY	APPROVED BY	CUSTOMER P/N	
	M.G.L			DOCUMENT NO./Rev.	13****00
				DATE	2013-5-21
				SHEET_OF_	2 / 2

C2-027B-F15

Diagrams ID 4-06

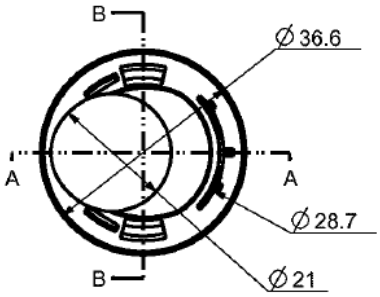


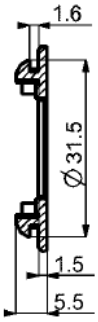
NOTE:
1.Material: ABS,CHIMEI 765A, UL 94V-0, Color is black.
2.Texture:YS9294B
3.This drawing shows overall/critial dimension only,
Refer to the Pro/E model for features and positions.
4.Surface have no sink marks, no knit line
and other appearance shortcoming, surfaces should
smooth.

METRIC THIRD PROJECTION	EATON CORPORATION				
DIMENSIONS ARE IN MILLIMETERS AFTER PLATING, DIMENSIONS AND TOLERANCES IN ACCORDANCE WITH ASME Y14.5M-1994. SEE NOTES FOR TOLERANCES.					
DESCRIPTION: COVER PLATE PDU/EATON ABSVO D36.6					
ORIGINATED: Feng	2013-08-20	ECO:	NAME:	REVISION:	SIZE: A4
MODIFIED: NA					SCALE:
CHECKED: Elon	2013-08-20	DOCUMENT TYPE	520-06287	STATE:	1.000
SAFETY: NA		PRO-E DRAWING			SHEET:
APPROVED: Ali Zhu	2013-08-20				1 OF 1

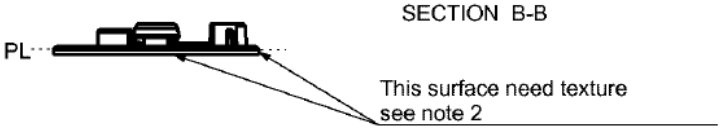
Diagrams ID 4-06

SECTION A-A





SECTION B-B



NOTE:
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2.Texture:YS9294B
3.This drawing shows overall/critial dimension only,
Refer to the Pro/E model for features and positions.
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and other appearance shortcoming, surfaces should
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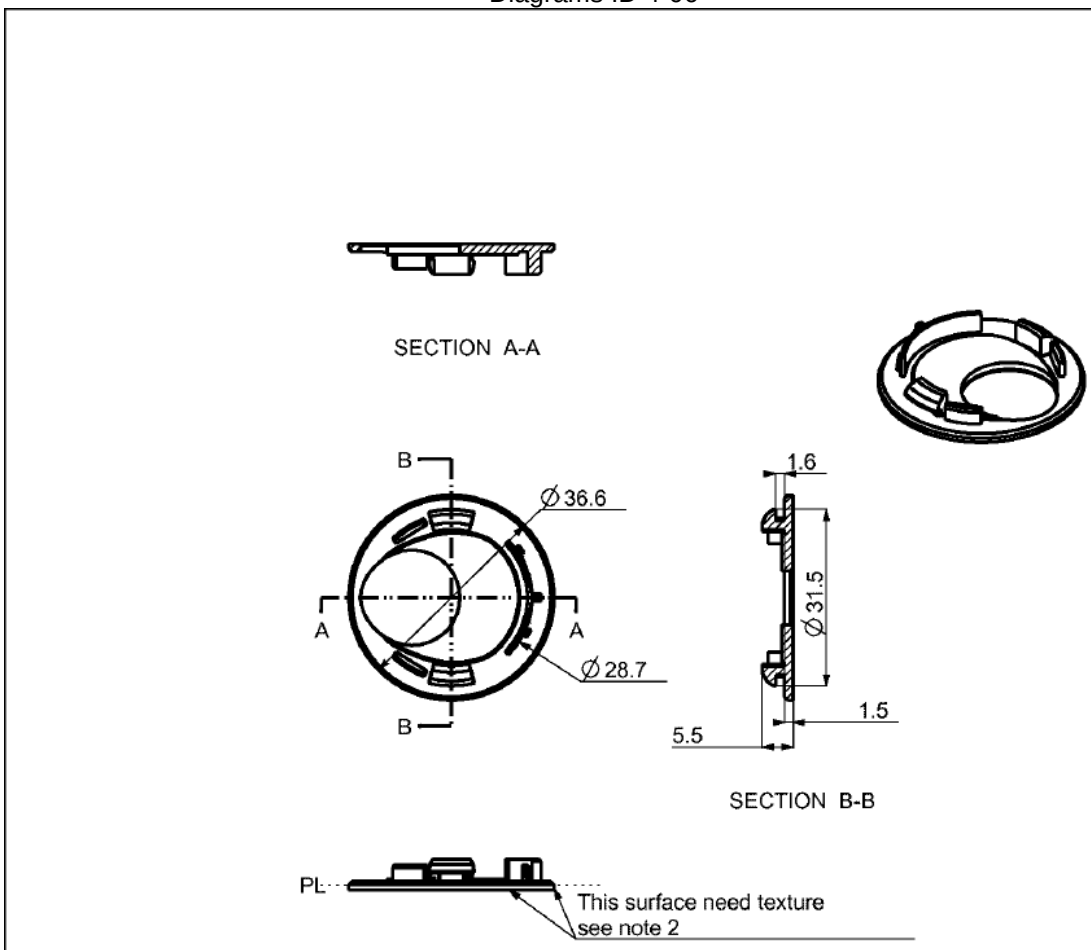
METRIC (THIRD PROJECTION)	EATON CORPORATION				
DIMENSIONS ARE IN MILLIMETERS AFTER PLATING, DIMENSIONS AND TOLERANCES IN ACCORDANCE WITH ASME Y14.5M-1994. SEE NOTES FOR TOLERANCES.					
DESCRIPTION: COVER PLATE SHARK/ETNBR ABSVO D21					
ORIGINATED: Feng	2013-10-30	ECO:	NAME:	REVISION:	SIZE: A4
MODIFIED: NA					SCALE:
CHECKED: Elon	2013-10-30	DOCUMENT TYPE	520-40624	STATE:	1.000
SAFETY: NA		PRO-E DRAWING			SHEET:
APPROVED: Ali Zhu	2013-10-30				1 OF 1

Diagrams ID 4-06



NOTE:
1.Material: ABS,CHIMEI 765A, UL 94V-0, Color is black.
2.Texture:YS9294B
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Refer to the Pro/E model for features and positions.
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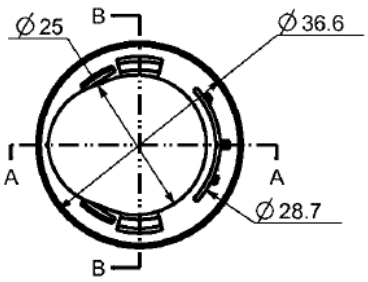
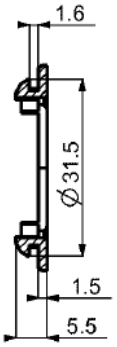
DIMENSIONS ARE IN MILLIMETERS AFTER PLATING, DIMENSIONS AND TOLERANCES IN ACCORDANCE WITH ASME Y14.5M-1994. SEE NOTES FOR TOLERANCES.					
DESCRIPTION: COVER PLATE SHARK/ETNBR ABSVO D17					
ORIGINATED: Feng	2013-10-30	ECO:	NAME:	REVISION:	SIZE: A4
MODIFIED: NA					SCALE:
CHECKED: Elon	2013-10-30	DOCUMENT TYPE	520-40623	STATE:	1.000
SAFETY: NA		PRO-E DRAWING			SHEET:
APPROVED: Ali Zhu	2013-10-30				1 OF 1

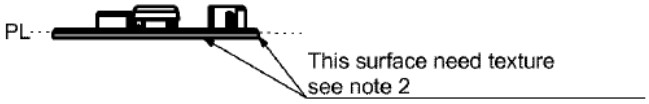
Diagrams ID 4-06

SECTION A-A





SECTION B-B



NOTE:
1.Material: ABS,CHIMEI 765A, UL 94V-0, Color is black.
2.Texture:YS9294B
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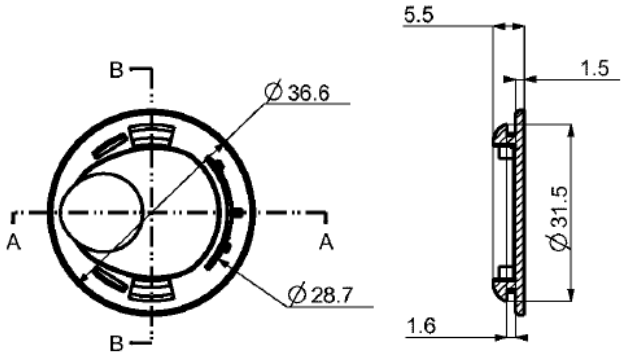
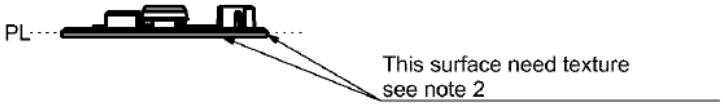
METRIC (THIRD PROJECTION)	EATON CORPORATION				
DIMENSIONS ARE IN MILLIMETERS AFTER PLATING, DIMENSIONS AND TOLERANCES IN ACCORDANCE WITH ASME Y14.5M-1994. SEE NOTES FOR TOLERANCES.					
DESCRIPTION: COVER PLATE SHARK/ETNBR ABSVO D25					
ORIGINATED: Feng	2013-10-30	ECO:	NAME:	REVISION:	SIZE: A4
MODIFIED: NA					SCALE:
CHECKED: Elon	2013-10-30	DOCUMENT TYPE	520-20802	STATE:	1.000
SAFETY: NA		PRO-E DRAWING			SHEET:
APPROVED: Ali Zhu	2013-10-30				1 OF 1

Diagrams ID 4-06

SECTION A-A



SECTION B-B



NOTE:
1.Material: ABS,CHIMEI 765A, UL 94V-0, Color is black.
2.Texture:YS9294B
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METRIC (THIRD PROJECTION)	EATON CORPORATION				
DIMENSIONS ARE IN MILLIMETERS AFTER PLATING, DIMENSIONS AND TOLERANCES IN ACCORDANCE WITH ASME Y14.5M-1994. SEE NOTES FOR TOLERANCES.					
DESCRIPTION: COVER PLATE SHARK/ETNBR ABSVO D14					
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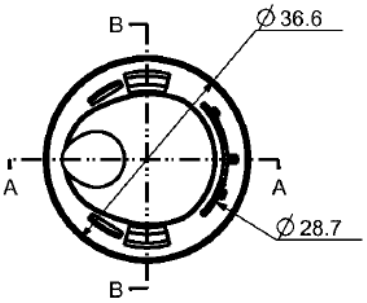
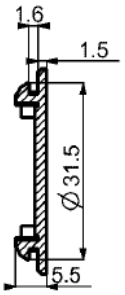
MODIFIED: NA					SCALE:
CHECKED: Elon	2013-08-20	DOCUMENT TYPE	520-06311	STATE:	1.000
SAFETY: NA		PRO-E DRAWING			SHEET:
APPROVED: Ali Zhu	2013-08-20				1 OF 1

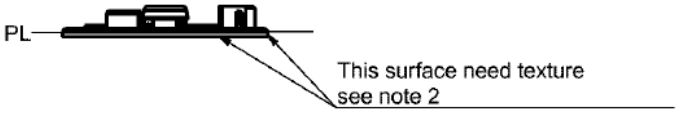
Diagrams ID 4-06

SECTION A-A





SECTION B-B



NOTE:
1.Material: ABS,CHIMEI 765A, UL 94V-0, Color is black.
2.Texture:YS9294B
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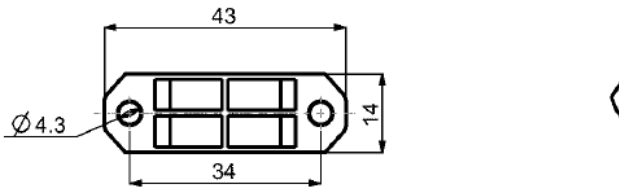
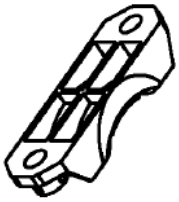
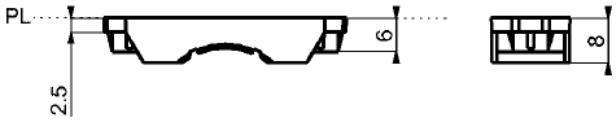
METRIC (THIRD PROJECTION)	EATON CORPORATION				
DIMENSIONS ARE IN MILLIMETERS AFTER PLATING, DIMENSIONS AND TOLERANCES IN ACCORDANCE WITH ASME Y14.5M-1994. SEE NOTES FOR TOLERANCES.					
DESCRIPTION: COVER PLATE SHARK/ETNBR ABSVO D10					
ORIGINATED: Feng	2013-10-30	ECO:	NAME:	REVISION:	SIZE: A4
MODIFIED: NA					SCALE:
CHECKED: Elon	2013-10-30	DOCUMENT TYPE	520-06310	STATE:	1.000
SAFETY: NA		PRO-E DRAWING			SHEET:
APPROVED: Ali Zhu	2013-10-30				1 OF 1

Diagrams ID 4-06





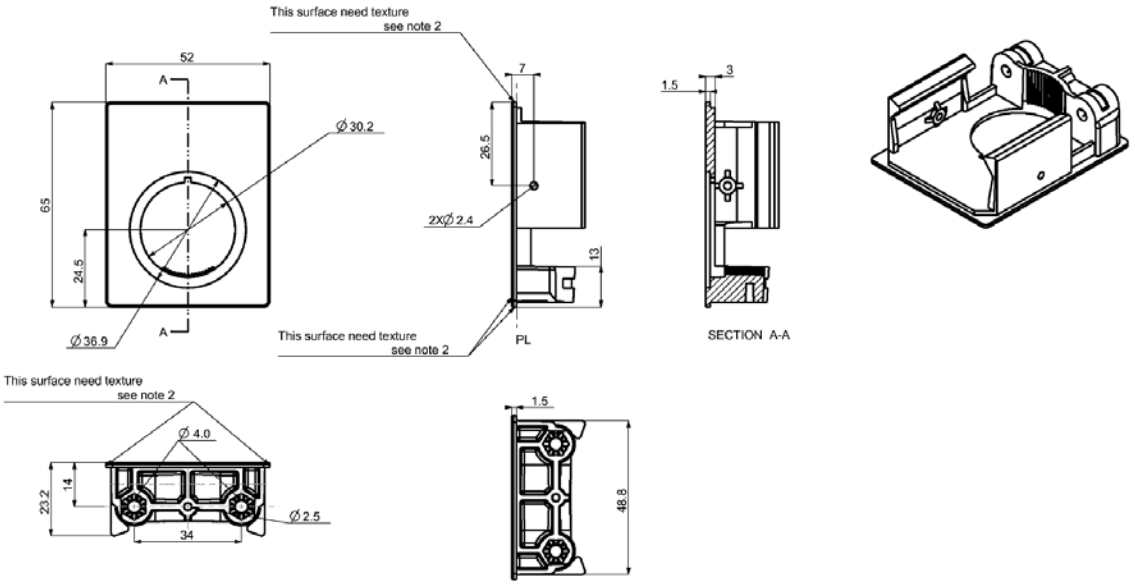


SECTION A-A

NOTE:
1.Material:Nylon,Dupont 73G30, with 30% glass fiber, UL 94 V-2.
2.This drawing shows overall/critial dimension only,
Refer to the Pro/E model for features and positions.
3.Surface have no sink marks, no knit line
and other appearance shortcoming, surfaces should
smooth.

METRIC (THIRD PROJECTION)	EATON CORPORATION				
DIMENSIONS ARE IN MILLIMETERS AFTER PLATING, DIMENSIONS AND TOLERANCES IN ACCORDANCE WITH ASME Y14.5M-1994. SEE NOTES FOR TOLERANCES.					
DESCRIPTION: HOLDER PDU/EATON NYLON 43X14X8					
ORIGINATED: Feng	2013-08-20	ECO:	NAME:	REVISION:	SIZE: A4
MODIFIED: NA					SCALE:
CHECKED: Elon	2013-08-20	DOCUMENT TYPE	520-20801	STATE:	1.000
SAFETY: NA		PRO-E DRAWING			SHEET:
APPROVED: Ali Zhu	2013-08-20				1 OF 1

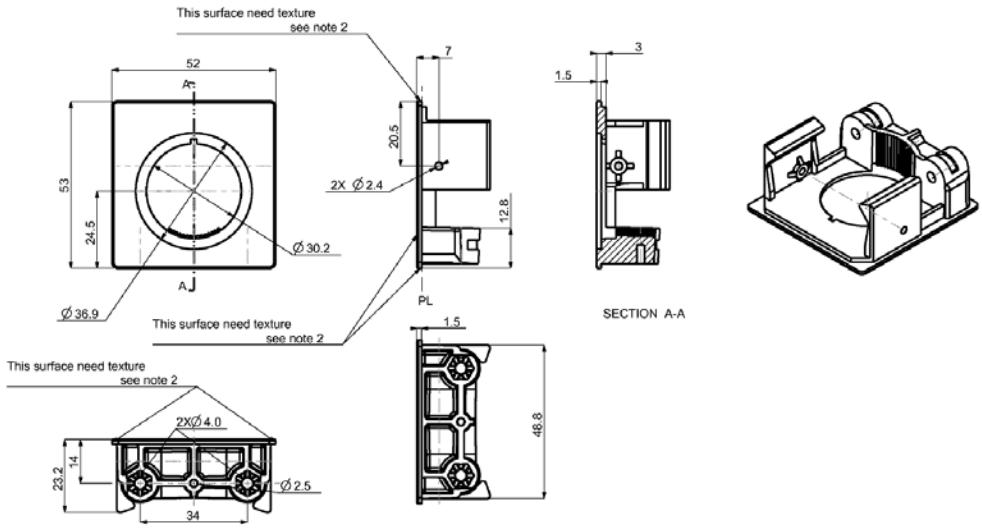
Diagrams ID 4-06



NOTE:
1.Material: ABS, CHIMEI 765A, UL 94V-0, Color is black.
2.Texture: YS9294B
3.This drawing shows overall/critial dimension only, Refer to the Pro/E model for features and positions.
4.Surface have no sink marks, no knit line and other appearance shortcoming, surfaces should smooth.

METRIC		EATON CORPORATION			
DESCRIPTION: COVER PLATE PDU/EATON ABSVO 52X65X22.5					
ORIGINATED: Feng	2013-08-20	ECO:	NAME:	REVISION:	SIZE: A3
VERIFIED: NA					SCALE: 1.000
CHECKED: Eton	2013-08-20	DOCUMENT TYPE:	520-06286	STATE:	
MFG'G: NA		PRO-E DRAWING			SHEET: 1 OF 1
APPROVED: Ali Zhu	2013-08-20				

Diagrams ID 4-06

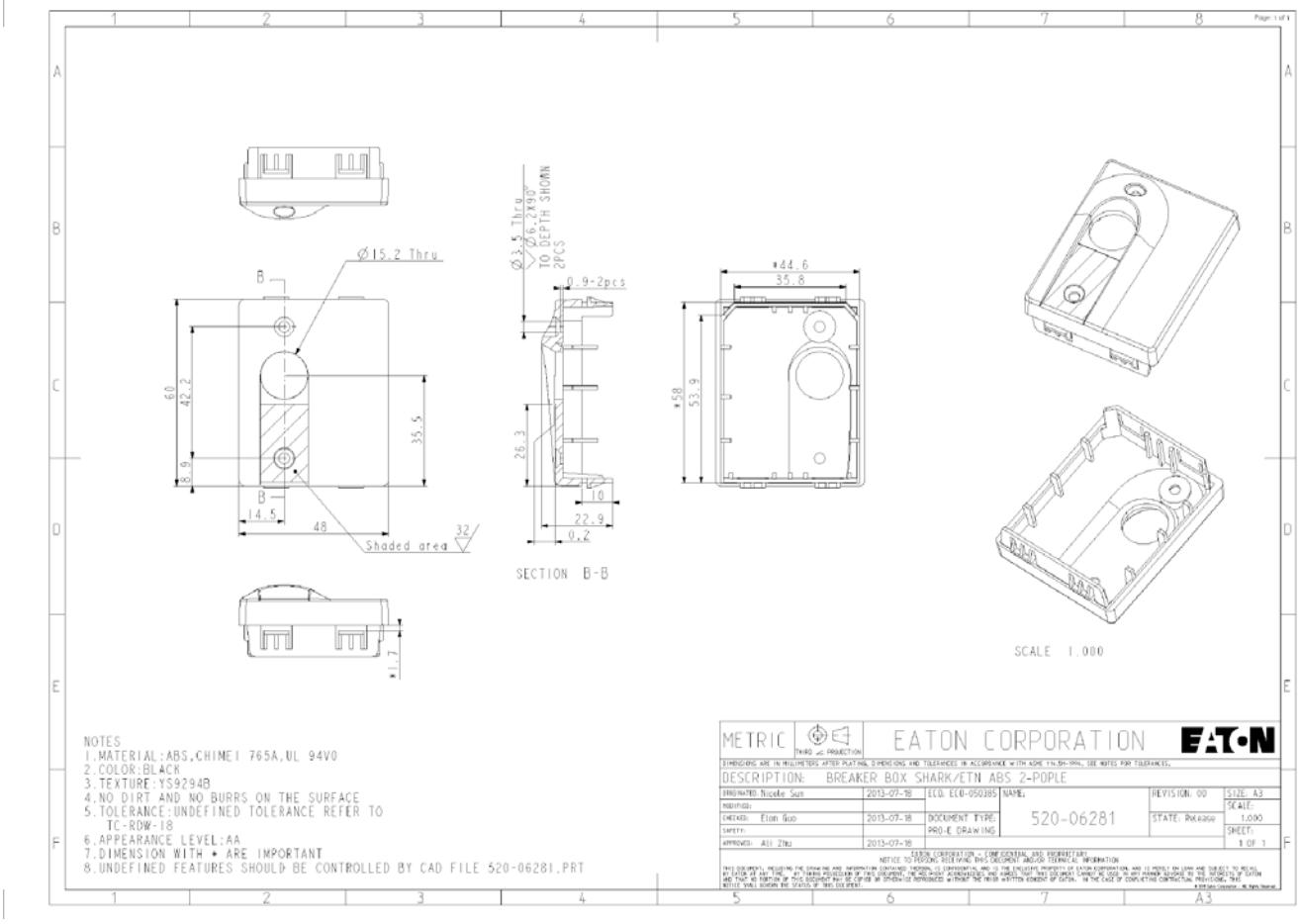


NOTE:
1.Material: ABS, CHIMEI 765A, UL 94V-0, Color is black.
2.Texture:YS9294B
3.This drawing shows overall/critial dimension only, Refer to the Pro/E model for features and positions.
4.Surface have no sink marks, no knit line and other appearance shortcoming, surfaces should smooth.

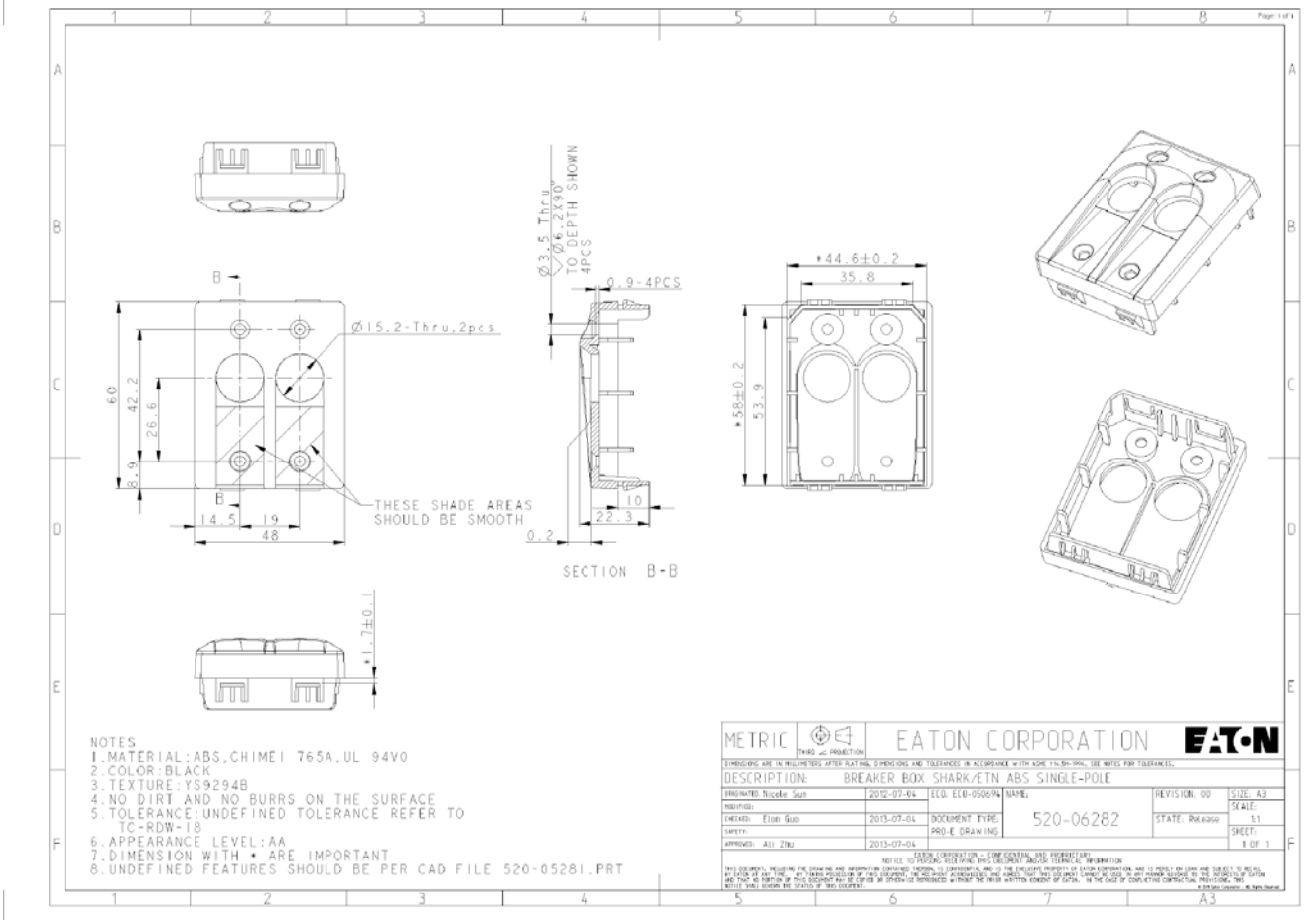
METRIC		EATON CORPORATION			
DESCRIPTION: COVER PLATE PDU/EATON ABSVO 52X53X22.5					
ORIGINATED: Feng	2013-08-20	ECO:	NAME:	REVISION:	SIZE: A3
MODIFIED: NA					SCALE:
CHECKED: Eton	2013-08-20	DOCUMENT TYPE:	520-06285	STATE:	1.000
MFG'G: NA		PRO-E DRAWING			SHEET:
APPROVED: Ali Zhu	2013-08-20				1 OF 1

EATON CORPORATION CONFIDENTIAL AND PROPRIETARY
NOTICE TO PERSONS RECEIVING THIS DOCUMENT AND/OR TECHNICAL INFORMATION:

Diagrams ID 4-07



Diagrams ID 4-07



Miscellaneous ID 7-01

Table 2.1.1.7	Capacitance Discharge Test				N/A
Measurement Locations	Fuse In/Out	Switch Position	Vo (V pk)	37% Vo (V pk)	Vtc (V pk)
--	--	--	--	--	--
Note(s): X-Capacitor rated: Bleeder resister rated:					

Table 2.4.2	Limited Current Circuit Measurements				N/A
Fault	Volts Peak	Volts dc	mAp	MA,dc	Frequency kHz
Result Part I					
--	--	--	--	--	--
Note(s):					
Result Part II					
Location		Fault	Voltage	µF	µC	mJ
User Part	To					
--	--	--	--	--	--	--
Note(s):						

Table 2.6.3.4	Earthing Test		Pass
Accessible Conductive Part	Current (Amps)	Voltage Drop (Volts)	Resistance (Ohm)
EIL5DHJFAAA71AM Smallest form factor, no breakers Accessible Conductive Part is Enclosure	32A X 2= 64A	0.019	0.3
EMI3DA8FAGK7BAM Largest form factor Accessible Conductive Part is Enclosure	40 A	0.034	0.8
EMI3TBAAJJD78BC Highest current Accessible Conductive Part is Enclosure	45A X2 = 90A	0.083	0.9
Note(s): Test duration: 2 min.			

Table 5.1.6	Touch Current Test				N/A
Terminal A (Switch “s”) of Measuring Instrument Connected to:	Switch “e” Position	Test Voltage (V)	Touch Current (mA r.m.s.)			
			Polarity P1/Primary Switch Condition			
			Normal/On	Normal/Off	Reverse/On	Reverse/Off
--	--	--	--	--	--	--
Note(s): Capacitor rated: ____ pF.						

Miscellaneous ID 7-02

9650 JERONIMO RD IRVINE, CA 92618 United States

Subject: Manufacturer's declaration letter

Name and address of the Manufacturer:	EATON CORP 9650 JERONIMO RD IRVINE CA 92618 UNITED STATES
Name and address of the Factories:	1. PHOENIXTEC ELECTRONICS (SHENZHEN) CO LTD 6-7 FL BLDG 19 & BLDG 16 SHATOUJIAO FREE TRADE ZONE SHENZHEN GUANGDONG 518081 CHINA 2. PHOENIXTEC ELECTRONICS (SHEN ZHEN) CO LTD BLDG 16 SHATOUJIAO FREE TRADE ZONE SHENZHEN GUANGDONG 518081 CHINA USA 3. EATON 45 WEATHERS ST YOUNGSVILLE NC 27596 4. BERRECHID TECHNOLOGIES Z.I LOT N2, BD MOUAHIDINE MA-26100 BERRECHID MOROCCO

This form is to acknowledge that the above information has been reviewed and the material has been found to be accurate as stated. This is also to record client's confirmation that above factories manufacture product(s) that are equal to those submitted for testing and certification. (Refer to IECEE 02, Sub-clause 6.2.5: "When the application covers more than one factory, the address of each factory shall be stated in the CB Test Certificate and the NCB shall take steps to ensure that the products from all the factories are equal. That shall be confirmed in the Test Report.")

Signed: Wilson Wu Dated: 2014.1.13

Licenses ID 8-01

Zertifikat ***Certificate***

TÜVRheinland®

Zertifikat Nr. *Certificate No.* R 50173256

Blatt *Page* 0001

Ihr Zeichen *Client Reference* Y.J.

Unser Zeichen *Our Reference* ZC10-WCJ- 14704475 001

Ausstellungsdatum *Date of Issue (day/mo/yr)* 13.05.2011

Genehmigungsinhaber *License Holder*
Zhejiang Chinchow Technology
Co., Ltd.
17 Jingfa Rd.
Cihu Industrial Zone, Ouhai
Wenzhou, Zhejiang Province 325014
P.R. China

Fertigungsstätte *Manufacturing Plant*
Zhejiang Chinchow Technology
Co., Ltd.
17 Jingfa Rd.
Cihu Industrial Zone, Ouhai
Wenzhou, Zhejiang Province 325014
P.R. China

Prüfzeichen *Test Mark*

www.tuv.com ID 2000009000
BAUART GEPRÜFT
TYPE APPROVED

Geprüft nach *Tested acc. to*
EN 60934:2001+A1

Zertifiziertes Produkt (Geräteidentifikation)
Certified Product (Product Identification)

Lizenzentgelte - Einheit
License Fee - Unit

Gerätesschutzschalter (Circuit-breaker for Equipment)

Type Designation	: CVP-FR (Chinchow)			5
Rated Current (In)	: 0.5-100A			
Number of Poles	: 1/2-pole	1/2-pole	3/4 pole	
Rated Operation Voltage	: DC 60V	AC 240/400V	AC 400V	
Rated Frequency	: 50/60Hz			
Rated Switching Capacity	: 4In	6In	6In	
Rated Insulation Voltage	: 400V			
Rated Impulse Voltage	: 2.5kV			
Method of Operation	: S type			
Mode of Tripping	: Hydraulic-magnetic			
Rated Short Circuit Capacity				
For DC ratings	: 6000A			
For AC ratings	: 6000A			
Pollution Degree	: 2			

The labelling requirements acc. to EU Directive 2001/95 have to be observed for distribution within the EEA.

5

ANLAGE (Appendix): 1

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.
This certificate is based on our Testing and Certification Regulation and states the conformity of the product with the standards and testing requirements as indicated above. Any additional requirements in countries where the product is going to be marketed have to be considered additionally. The manufacturing of the certified product is subject to surveillance.

Zertifizierungsstelle

Dr.-Ing. T. Keiler

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg
Tel.: (+49/221)8 06 - 13 71 e-mail: cert-validity@de.tuv.com
Fax: (+49/221)8 06 - 39 35 http://www.tuv.com/safety

Licenses ID 8-01

Zertifikat ***Certificate***

TÜVRheinland®

Zertifikat Nr. *Certificate No.*	**Blatt** *Page*
R 72103448	0001

Ihr Zeichen *Client Reference*	**Unser Zeichen** *Our Reference*	**Ausstellungsdatum**	*Date of Issue (day/mo/yr)*
John A. Lach	-JAK- 30380370 003	13.12.2010	

Genehmigungsinhaber *License Holder*
Carling Technologies, Inc.
60 Johnson Avenue
Plainville CT 06062-1156
USA

Fertigungsstätte *Manufacturing Plant*
Carling Technologies, Inc.
60 Johnson Avenue
Plainville CT 06062-1156
USA

Prüfzeichen *Test Mark*

www.tuv.com ID 2500000000 TÜVRheinland® • BAUART GEPRÜFT • TYPE APPROVED

Geprüft nach *Tested acc. to*
EN 60934:2001+A1

Zertifiziertes Produkt (Geräteidentifikation) *Certified Product* *(Product Identification)*

Lizenzentgelte - Einheit *License Fee - Unit*

Circuit Breaker Circuit Breaker for Equipment

Model Designation: 1) A Series: Ad1-d2-d3-d4-d5-d6-d7
2) B Series: Bd1-d2-d3-d4-d5-d6-d7 7
(see Appendix (Constr. Data Form) for details)

AC Ratings:		
Rated Operational Voltage Ue:	AC 250V AC 120/240V	AC 240/415V
Rated Current In:	0,1A-50A	0,1A-30A
Rated Frequency:	50/60Hz	50/60Hz
Rated Switching Capacity:	AC 6 x In	AC 6 x In
Rated Short Circuit Capacity Icn:		
1)(d7=E,J),2)	AC 1500A	1)(d7=E,J),2) AC 1500A
1)(d7=P)	AC 3000A	1)(d7=P) -
Rated Conditional Short Circuit Current Category PC1 Incl:	AC 5000A	AC 3000A
SCPD: Fuse	63A Type gL	63A Type gL
SCPD: Circuit Breaker	100A Type C	63A Type C
Rated Insulation Voltage Ui:	250V	415V

contd.

7

ANLAGE (Appendix): 1, 1-12

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.
This certificate is based on our Testing and Certification Regulation and states the conformity of the product with the standards and testing requirements as indicated above. Any additional requirements in countries where the product is going to be marketed have to be considered additionally. The manufacturing of the certified product is subject to surveillance.

Zertifizierungsstelle

TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90431 Nürnberg
Tel.: +49 221 806-1371 e-mail: cert-validity@de.tuv.com
Fax: +49 221 806-3935 http://www.tuv.com/safety

Dipl.-Ing. M. Glagla

Licenses ID 8-01

Zertifikat ***Certificate***

TÜVRheinland

Zertifikat Nr. *Certificate No.*	**Blatt** *Page*
R 72103448	0002

Ihr Zeichen *Client Reference*	**Unser Zeichen** *Our Reference*	**Ausstellungsdatum**	*Date of Issue (day/mo/yr)*
John A. Lach	-JAK- 30380370 003	13.12.2010	

Genehmigungsinhaber *License Holder*
Carling Technologies, Inc.
60 Johnson Avenue
Plainville CT 06062-1156
USA

Fertigungsstätte *Manufacturing Plant*
Carlingswitch Manufacturing
(Zhongshan) Co., Ltd.
Wuguishan Town
Changmingshui Administration Dist.

Zhongshan City, Guangdong
China

Prüfzeichen *Test Mark*

www.tuv.com TÜVRheinland ID 2000000000 • BAUART GEPRÜFT • TYPE APPROVED

Geprüft nach *Tested acc. to*
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Zertifiziertes Produkt (Geräteidentifikation)
Certified Product *(Product Identification)*

Lizenzentgelte - Einheit
License Fee - Unit

Circuit Breaker Circuit Breaker for Equipment

contd.

DC Ratings:

Rated Operational Voltage Ue:	1) (d7=E,J)DC 80V;(d7=P)DC 65V 2) DC 80V	
Rated Current In:	0,1A-50A	0,1A-50A
Rated Switching Capacity:	DC 4 x In	DC 4 x In
Rated Short Circuit Capacity Icn:	DC 1500A	DC 3000A
Rated Conditional Short Circuit Current Category PC1 Icn1:	DC 3000A	DC 5000A
SCPD: Fuse	100A Type gL	63A Type gL
SCPD: Circuit Breaker	-	100A Type C
Rated Insulation Voltage Ui:	250V	250V

Additional Manufacturing Plant: see above (K750328)
contd.

TÜV Rheinland LGA Products GmbH TÜVRheinland Zertifizierungsstelle

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.
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Zertifizierungsstelle

TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90431 Nürnberg
Tel.: +49 221 806-1371 e-mail: cert-validity@de.tuv.com
Fax: +49 221 806-3935 http://www.tuv.com/safety

Dipl.-Ing. M. Glagla

Licenses ID 8-01

Zertifikat ***Certificate***

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Zertifikat Nr. *Certificate No.*	**Blatt** *Page*
R 72103448	0003

Ihr Zeichen *Client Reference*	**Unser Zeichen** *Our Reference*	**Ausstellungsdatum**	*Date of Issue (day/mo/yr)*
John A. Lach	-JAK- 30380370 003	13.12.2010	

Genehmigungsinhaber *License Holder*
Carling Technologies, Inc.
60 Johnson Avenue
Plainville CT 06062-1156
USA

Fertigungsstätte *Manufacturing Plant*
Interruptores de Mexico, SA de CV
Carretera a La Paz, Km. 1
Matehuala, San Luis Potosi
Mexico

Prüfzeichen *Test Mark*

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Zertifiziertes Produkt (Geräteidentifikation) *Certified Product* *(Product Identification)*

Lizenzentgelte - Einheit *License Fee - Unit*

Circuit Breaker Circuit Breaker for Equipment

contd.
Additional Ratings and Information for all Models:

Electrical Endurance:	6000 Cycles
Number of Poles:	1-6
Number of Protected Poles:	1-6
Mode of Tripping CBE:	MO; HM
Mode of Tripping CBE-switch:	X; Y
Degree of Trip-Free Behavior:	Positively Trip-Free
Method of Operation:	S-type; R-type
Operating Characteristic:	see Appendix
Voltage Release:	see Appendix
Pollution Degree:	2
Overvoltage Category:	II

Method of Mounting: Panel-mounting Type; Flush Type
Mounting Position: Dependent; Vertical Mounting Surface

Additional Manufacturing Plant: see above (K718046)
contd.

TÜV Rheinland LGA Products GmbH TÜVRheinland® Zertifizierungsstelle

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.
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Zertifikat ***Certificate***

TÜVRheinland®

Zertifikat Nr. *Certificate No.*
R 72103448

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0004

Ihr Zeichen *Client Reference*	**Unser Zeichen** *Our Reference*	**Ausstellungsdatum**	*Date of Issue (day/mo/yr)*
John A. Lach	-JAK- 30380370 003	13.12.2010	

Genehmigungsinhaber *License Holder*
Carling Technologies, Inc.
60 Johnson Avenue
Plainville CT 06062-1156
USA

Fertigungsstätte *Manufacturing Plant*
Carling Technologies, Inc.
60 Johnson Avenue
Plainville CT 06062-1156
USA

Prüfzeichen *Test Mark*

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Zertifiziertes Produkt (Geräteidentifikation)
Certified Product ***(Product Identification)***

Lizenzentgelte - Einheit
License Fee - Unit

Circuit Breaker Circuit Breaker for Equipment

Additional Ratings and Information for all Models (contd.)
Protection Against Electric Shock: II (to operating mean)
For use in Class I or
Class II equipment
Method of Connection: see Appendix
Ambient Air Temperature: -5°C/+40°C
Electrical Performance:
- For general use, including inductive cicuits
(Ue = AC 120/240V; AC 250V)
- For use in essentially resistive circuits only
(Ue = AC 240/415V; DC 65V; DC 80V)

Suitability for Isolation: not suitable for Isolation
Auxillary Switch:
Type: DB1;DB2 DB3
Rated Operational Voltage/
Rated Current: AC 125V; 1A AC 125V; 0,1A
DC 80V; 0,5A DC 80V; 0,1A
Special Remarks: Replaces Certificate R72040875.

TÜV Rheinland LGA Products GmbH TÜVRheinland Zertifizierungsstelle

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.
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TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90431 Nürnberg
Tel.: +49 221 806-1371 e-mail: cert-validity@de.tuv.com
Fax: +49 221 806-3935 http://www.tuv.com/safety

Dipl.-Ing. M. Glagla

Licenses ID 8-01

Zertifikat ***Certificate***

TÜVRheinland

Zertifikat Nr. *Certificate No.*	Blatt *Page*
R 50022310	0001

Ihr Zeichen *Client Reference*	Unser Zeichen *Our Reference*	Ausstellungsdatum	*Date of Issue (day/month/yr)*
Y.J.	ZC10 WCC 14705925 001	13.05.2011	

Genehmigungsinhaber *License Holder*
Zhejiang Chinchow Technology
Co., Ltd.
17 Jingfa Rd.
Cixi Industrial Zone, Ouhai
Wenzhou, Zhejiang Province 325014
P.R. China

Fertigungsstätte *Manufacturing Plant*
Zhejiang Chinchow Technology
Co., Ltd.
17 Jingfa Rd.
Cixi Industrial Zone, Ouhai
Wenzhou, Zhejiang Province 325014
P.R. China

Prüfzeichen *Test Mark*

GEPRÜFT
TYPE APPROVED

Geprüft nach *Tested acc. to*
EN 60934:20014A1

Zertifiziertes Produkt (Geräteidentifikation) *Certified Product* (*Product Identification*)

Lizenzentgelte - Einheit *License Fee - Unit*

Geräteschutzschalter (Circuit-breaker for Equipment)

Type Designation	: CVP YH (Chinchow)			5
Rated Current (In)	: 0.5-50A			
Number of Poles	: 1/2-pole	1/2-pole	3/4-pole	
Rated Operation Voltage	: DC 80V	AC 240/400V	AC 400V	
Rated Frequency	: 50/60Hz			
Rated Switching Capacity	: 4In	6In	6In	
Rated Insulation voltage	: 400V			
Rated Impulse Voltage	: 2.5kV			
Method of Operation	: S type			
Mode of Tripping	: Hydraulic-magnetic			
Rated Short Circuit Capacity				
For DC ratings	: 5000A			
For AC ratings	: 5000A			
Pollution Degree	: 2			

The labelling requirements acc. to EU Directive 2001/95
have to be observed for distribution within the EEA.

ANLAGE (Appendix): 1

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich berücksichtigt werden. Die Herstellung des geprüften Produktes wird überwacht.
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TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg
Tel.: (+49/2218 06 - 12 71 e-mail cer-validity@de.tuv.com
Fax: (+49/2218 06 - 89 35 http://www.tuv.com/safety

Zertifizierungsstelle

Dr.-Ing. T. Keiter

Licenses ID 8-01

- Zweitschrift (Copy) -

Zertifikat ***Certificate***

TÜV

Zertifikat Nr. *Certificate No.*	Blatt *Page*
R 72041016	0001

Ihr Zeichen *Client Reference*	Unser Zeichen *Our Reference*	Ausstellungsdatum *Date of Issue (day/mo/yr)*
John A. Lach	-JAK- 09871200 008	19.04.2004

Genehmigungsinhaber *License Holder*
Carling Technologies, Inc.
60 Johnson Avenue
Plainville CT 06062-1156
USA

Fertigungsstätte *Manufacturing Plant*
Carling Technologies, Inc.
60 Johnson Avenue
Plainville CT 06062-1156
USA

Prüfzeichen *Test Mark*

BAUART GEPRÜFT
TYPE APPROVED
TÜV Rheinland Product Safety

Geprüft nach *Tested acc. to*
EN 60934:2001

Zertifiziertes Produkt (Geräteidentifikation) *Certified Product (Product Identification)*		Lizenzentgelte - Einheit *License Fee - Unit*
Geräteschutzschalter Circuit Breaker for Equipment		
Model Designation: 1) C...E; 2) C...J; C...R; C...U		7
Rated Operational Voltage Ue:	AC 250V	AC 415V (3ph)
Rated Current In:	1) 0,1A-70A 2) 0,1A-100A	0,1A-30A
Rated Frequency:	50/60Hz	50/60Hz
Rated Switching Capacity:	AC 6 x In	AC 6 x In
Rated Short Circuit Capacity Inc:	1) AC 1500A 2) AC 5000A	AC 1500A
Rated Conditional Short Circuit Current Category PC1 Inc1:	1) AC 3000A 2) AC 5000A	AC 3000A
SCPD: Fuse 1)	125A Type gL/gG	63A Type gL/gG
SCPD: Circuit Breaker 2)	-	
Rated Insulation Voltage Ui:	250V	415V

continued on page 2

7

ANLAGE (Appendix): 1, Pg. 1-7

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.
Das Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht.
This certificate is based on our Testing and Certification Regulation. The product fulfils above mentioned requirements, the production is subject to surveillance.

Zertifizierungsstelle

TÜV Rheinland Product Safety GmbH, Am Grauen Stein, D-51105 Köln
Tel.: (+49/221)8 06 - 13 71 e-mail: cert-validity@de.tuv.com
Fax: (+49/221)8 06 - 39 35 http://www.tuv.com/safety

Dipl.-Ing. M. Raap

Inh. = 710657 / Deb. = 710657 / Fert. = 710657

Licenses ID 8-01

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Zertifikat Nr. *Certificate No.*	Blatt *Page*
R 72041016	0002

Ihr Zeichen *Client Reference*	Unser Zeichen *Our Reference*	Ausstellungsdatum *Date of Issue (day/mo/yr)*
John A. Lach	-JAK- 09871200 008	19.04.2004

Genehmigungsinhaber *License Holder*
Carling Technologies, Inc.
60 Johnson Avenue
Plainville CT 06062-1156
USA

Fertigungsstätte *Manufacturing Plant*
Interruptores de Mexico, SA de CV
Carretera Matehuala
LaPaz Km 1, Matehuala
San Luis Potosi
Mexico

Prüfzeichen *Test Mark*

BAUART GEPRÜFT
TYPE APPROVED
TÜV Rheinland Product Safety

Geprüft nach *Tested acc. to*
EN 60934:2001

Zertifiziertes Produkt (Geräteidentifikation) *Certified Product (Product Identification)*

Lizenzentgelte - Einheit *License Fee - Unit*

Geräteschutzschalter Circuit Breaker for Equipment

Model Designation: 1) C...E; 2) C...J; C...R; C...U

Rated Operational Voltage Ue:	2) AC 250V (3ph)
Rated Current In:	0,1A-100A
Rated Frequency:	50/60Hz
Rated Switching Capacity:	AC 6 x In
Rated Short Circuit Capacity Inc:	AC 5000A
Rated Conditional Short Circuit Current Category PC1 Incl:	AC 5000A
SCPD:	-
Rated Insulation Voltage Ui:	250V

Additional Manufacturing Plant: see above (K718046)

continued on page 3

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde. Das Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht. This certificate is based on our Testing and Certification Regulation. The product fulfils above mentioned requirements, the production is subject to surveillance.

Zertifizierungsstelle

TÜV Rheinland Product Safety GmbH, Am Grauen Stein, D-51105 Köln
Tel.: (+49/221)8 06 - 13 71 e-mail: cert-validity@de.tuv.com
Fax: (+49/221)8 06 - 39 35 http://www.tuv.com/safety

Dipl.-Ing. M. Raap

Inh. = 710657 / Deb. = 710657 / Fert. = 718046

Licenses ID 8-01

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Zertifikat ***Certificate***

TÜV

Zertifikat Nr. *Certificate No.*	Blatt *Page*
R 72041016	0003

Ihr Zeichen *Client Reference*	Unser Zeichen *Our Reference*	Ausstellungsdatum *Date of Issue (day/mo/yr)*
John A. Lach	-JAK- 09871200 008	19.04.2004

Genehmigungsinhaber *License Holder*
Carling Technologies, Inc.
60 Johnson Avenue
Plainville CT 06062-1156
USA

Fertigungsstätte *Manufacturing Plant*
Carlingswitch Manufacturing
(Zhongshan) Co., Ltd.
Wuguishan Town
Changmingshui Administration Dist.

Zhongshan City, Guangdong
China

Prüfzeichen *Test Mark*

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TÜV Rheinland Product Safety
TYPE APPROVED

Geprüft nach *Tested acc. to*
EN 60934:2001

Zertifiziertes Produkt (Geräteidentifikation) *Certified Product (Product Identification)*

Lizenzentgelte - Einheit *License Fee - Unit*

Geräteschutzschalter Circuit Breaker for Equipment

Model Designation: 1) C...E; 2) C...J; C...R; C...U

Rated Operational Voltage Ue:		DC 80V	2) DC 125V
Rated Current In:		1) 0,1A-70A	1,0A-60A
		2) 0,1A-100A	
Rated Switching Capacity:		DC 4 x In	DC 4 x In
Rated Short Circuit Capacity Inc:		1) DC 1500A	DC 5000A
		2) DC 5000A	
Rated Conditional Short Circuit Current Category PC1 Incl:		DC 5000A	DC 5000A
SCPD: Fuse	1)	125A Type gL/gG	-
SCPD:	2)	-	-
Rated Insulation Voltage Ui:		250V	250V

Additional Manufacturing Plant: see above (K750328)
continued on page 4

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.
Das Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht.
This certificate is based on our Testing and Certification Regulation. The product fulfills above mentioned requirements, the production is subject to surveillance.

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Tel.: (+49/221)8 06 - 13 71 e-mail: certs-validity@de.tuv.com
Fax. (+49/221)8 06 - 39 35 http://www.tuv.com/safety

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Zertifikat Nr. *Certificate No.*	Blatt *Page*
R 72041016	0004

Ihr Zeichen *Client Reference*	Unser Zeichen *Our Reference*	Ausstellungsdatum	*Date of Issue (day/mo/yr)*
John A. Lach	-JAK- 09871200 008	19.04.2004	

Genehmigungsinhaber *License Holder*
Carling Technologies, Inc.
60 Johnson Avenue
Plainville CT 06062-1156
USA

Fertigungsstätte *Manufacturing Plant*
Carlingswitch Manufacturing
(Zhongshan) Co., Ltd.
Wuguishan Town
Changmingshui Administration Dist.

Zhongshan City, Guangdong
China

Prüfzeichen *Test Mark*

BAUART GEPRÜFT
TÜV Rheinland Product Safety
TYPE APPROVED

Geprüft nach *Tested acc. to*
EN 60934:2001

Zertifiziertes Produkt (Geräteidentifikation) *Certified Product (Product Identification)*

Lizenzentgelte - Einheit *License Fee - Unit*

Geräteschutzschalter Circuit Breaker for Equipment

Additional Ratings and Information for all Models:

Electrical Endurance:	6000 cycles
Number of Poles:	1-6 (handle); 1-3 (rocker)
Number of Protected Poles:	1-6 (handle); 1-3 (rocker)
Mode of Tripping CBE:	MO; HM
Mode of Tripping CBE-switch:	X; Y
Degree of Trip-Free Behavior:	Positively Trip-Free
Method of Operation:	S-type; R-type
Operating Characteristic:	see attachment
Voltage Release:	see attachment
Pollution Degree:	2
Overvoltage Category:	II

Method of Mounting: Panel-mounting Type; Flush Type
Mounting Position: Dependant; Vertical Mounting Surface

continued on page 5

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.
Das Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht.
This certificate is based on our Testing and Certification Regulation. The product fulfills above mentioned requirements, the production is subject to surveillance.

Zertifizierungsstelle

TÜV Rheinland Product Safety GmbH, Am Grauen Stein, D-51105 Köln
Tel.: (+49/221)8 06 - 13 71 e-mail: cert-validity@de.tuv.com
Fax: (+49/221)8 06 - 39 35 http://www.tuv.com/safety

Dipl.-Ing. M. Raap

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Zertifikat Nr. *Certificate No.*	Blatt *Page*
R 72041016	0005

Ihr Zeichen *Client Reference*	Unser Zeichen *Our Reference*	Ausstellungsdatum *Date of Issue (day/mo/yr)*
John A. Lach	-JAK- 09871200 008	19.04.2004

Genehmigungsinhaber *License Holder*
Carling Technologies, Inc.
60 Johnson Avenue
Plainville CT 06062-1156
USA

Fertigungsstätte *Manufacturing Plant*
Carlingswitch Manufacturing
(Zhongshan) Co., Ltd.
Wuguishan Town
Changmingshui Administration Dist.

Zhongshan City, Guangdong
China

Prüfzeichen *Test Mark*

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TÜV Rheinland Product Safety

Geprüft nach *Tested acc. to*
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Zertifiziertes Produkt (Geräteidentifikation) *Certified Product (Product Identification)*

Lizenzentgelte - Einheit *License Fee - Unit*

Geräteschutzschalter Circuit Breaker for Equipment

Additional Ratings and Information for all Models (cont.)
Protection Against Electric Shock: II (to operating mean)
For use in Class I or
Class II equipment
Method of Connection: see attachment
Ambient Air Temperature: -5°C/+40°C
Electrical Performance:
For general use, including inductive circuits

Auxillary Switch:		
Type:	DB1;DB2	DB3
Rated Operational Voltage/ Rated Current:	AC 125V; 1A DC 80V; 0,5A	AC 125V; 0,1A DC 80V; 0,1A

continued on page 6

TÜV

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.
Das Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht.
This certificate is based on our Testing and Certification Regulation. The product fulfills above mentioned requirements, the production is subject to surveillance.

Zertifizierungsstelle

TÜV Rheinland Product Safety GmbH, Am Grauen Stein, D-51105 Köln
Tel.: (+49/221)8 06 - 13 71 e-mail: cert-validity@de.tuv.com
Fax: (+49/221)8 06 - 39 35 http://www.tuv.com/safety

Dipl.-Ing. M. Raap

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Zertifikat Nr. *Certificate No.*	Blatt *Page*
R 72041016	0006

Ihr Zeichen *Client Reference*	Unser Zeichen *Our Reference*	Ausstellungsdatum	*Date of Issue (day/mo/yr)*
John A. Lach	-JAK- 09871200 008	19.04.2004	

Genehmigungsinhaber *License Holder*
Carling Technologies, Inc.
60 Johnson Avenue
Plainville CT 06062-1156
USA

Fertigungsstätte *Manufacturing Plant*
Carlingswitch Manufacturing
(Zhongshan) Co., Ltd.
Wuguishan Town
Changmingshui Administration Dist.

Zhongshan City, Guangdong
China

Prüfzeichen *Test Mark*

BAUART GEPRÜFT
TYPE APPROVED
TÜV Rheinland Product Safety

Geprüft nach *Tested acc. to*
EN 60934:2001

Zertifiziertes Produkt (Geräteidentifikation) *Certified Product* *(Product Identification)*

Lizenzentgelte - Einheit *License Fee - Unit*

Geräteschutzschalter Circuit Breaker for Equipment

Motor Operator (optional):

Type:	RB
Rated Operational Voltage:	12V or 20-40V or 41-80V
Electrical Endurance:	6000 cycles
Protection Against Electric Shock:	II (to operating mean) For use in Class I or Class II equipment

Other Supplementary Ratings and Information: see attachment

Special Remarks: Replaces Certificate R9871054.

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.
Das Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht.
This certificate is based on our Testing and Certification Regulation. The product fulfills above mentioned requirements, the production is subject to surveillance.

Zertifizierungsstelle

Dipl.-Ing. M. Raap

TÜV **Rheinland Product Safety GmbH, Am Grauen Stein, D-51105 Köln**
Tel.: (+49/221)8 06 - 13 71 e-mail: cert-validity@de.tuv.com
Fax: (+49/221)8 06 - 39 35 http://www.tuv.com/safety

Inh. = 710657 / Deb. = 710657 / Fert. = 750328

Licenses ID 8-01

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Zertifikat ***Certificate***

TÜV

Zertifikat Nr. *Certificate No.*	Blatt *Page*
R 72041016	0007

Ihr Zeichen *Client Reference*	Unser Zeichen *Our Reference*	Ausstellungsdatum	*Date of Issue (day/mo/yr)*
John A. Lach	-JAK- 09871200 010	11.05.2005	

Genehmigungsinhaber *License Holder*
Carling Technologies, Inc.
60 Johnson Avenue
Plainville CT 06062-1156
USA

Fertigungsstätte *Manufacturing Plant*
Carling Technologies, Inc.
60 Johnson Avenue
Plainville CT 06062-1156
USA

Prüfzeichen *Test Mark*

TÜV Rheinland Product Safety | BAUART GEPRÜFT | TYPE APPROVED

Geprüft nach *Tested acc. to*
EN 60934:2001

Zertifiziertes Produkt (Geräteidentifikation) *Certified Product* *(Product Identification)*

Lizenzentgelte - Einheit *License Fee - Unit*

Geräteschutzschalter Circuit Breaker for Equipment

Addition for Models C...J, C...R, C...U :

Rated Operational Voltage Ue:	DC 250V
Rated Current In:	0,1A - 50,0A
Rated Switching Capacity:	DC 4 x In
Rated Short Circuit Capacity Icn:	DC 5000A
Rated Insulation Voltage Ui:	250V
Electrical Endurance:	6000 cycles
Number of Poles:	2-6
Number of Protected Poles:	2, 4 or 6

Other Supplementary Ratings and Information:
see attachment (Constructional Data Forms)

ANLAGE (Appendix): 1, 1-5

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde.
Das Produkt entspricht den o.g. Anforderungen, die Herstellung wird überwacht.
This certificate is based on our Testing and Certification Regulation. The product fulfills above mentioned requirements, the production is subject to surveillance.

Zertifizierungsstelle

Dipl.-Ing. M. Raap

TÜV Rheinland Product Safety GmbH, Am Grauen Stein, D-51105 Köln
Tel.: (+49/221)8 06 - 13 71 e-mail: cert-validity@de.tuv.com
Fax: (+49/221)8 06 - 39 35 http://www.tuv.com/safety

Inh. = 710657 / Deb. = 710657 / Pert. = 710657

Licenses ID 8-01

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Zertifikat *Certificate*

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Zertifikat Nr. *Certificate No.*
R 72041016

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0008

Ihr Zeichen *Client Reference*	Unser Zeichen *Our Reference*	Ausstellungsdatum *Date of Issue (day/mo/yr)*
John A. Lach	-JAK- 09871200 011	06.12.2011

Genehmigungsinhaber *License Holder*
Carling Technologies, Inc.
60 Johnson Avenue
Plainville CT 06062
USA

Fertigungsstätte *Manufacturing Plant*
Carlingswitch Manufacturing
(Zhongshan) Co., Ltd.
Wuguishan Town
Changmingshui Administration Dist.
Zhongshan City, Guangdong
China

Prüfzeichen *Test Mark*

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Geprüft nach *Tested acc. to*
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Zertifiziertes Produkt (Geräteidentifikation) *Certified Product (Product Identification)*

Lizenzentgelte - Einheit *License Fee - Unit*

Circuit Breaker Circuit Breaker for Equipment

Change:
Upgrade of standard for all previous models: see above

Addition:
Suitability for isolation: not suitable for isolation
(applies to all CBE)

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.
This certificate is based on our Testing and Certification Regulation and states the conformity of the product with the standards and testing requirements as indicated above. Any additional requirements in countries where the product is going to be marketed have to be considered additionally. The manufacturing of the certified product is subject to surveillance.

Zertifizierungsstelle

Dipl.-Ing. M. Glagla

TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90431 Nürnberg
Tel.: +49 221 806-1371 e-mail: cert-validity@de.tuv.com
Fax: +49 221 806-3935 http://www.tuv.com/safety

Inn. = 720657 / Deb. = 730657 / Fert. = 750328

Licenses ID 8-01

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Zertifikat *Certificate*

TÜVRheinland

Zertifikat Nr. *Certificate No.*	Blatt *Page*
R 72041016	0009

Ihr Zeichen *Client Reference*	Unser Zeichen *Our Reference*	Ausstellungsdatum *Date of Issue* (day/mo/yr)
John A. Lach	-JAK- 03871200 012	12.12.2011

Genehmigungsinhaber *License Holder*
Carling Technologies, Inc.
60 Johnson Avenue
Plainville CT 06062
USA

Fertigungsstätte *Manufacturing Plant*
Carlingswitch Manufacturing
(Zhongshan) Co., Ltd
Wuguishan Town
Changmingshui Administration Dist.
Zhongshan City, Guangdong
China

Prüfzeichen *Test Mark*

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Zertifiziertes Produkt (Geräteidentifikation) *Certified Product (Product Identification)*

Lizenzentgelte - Einheit *License Fee - Unit*

Circuit Breaker Circuit Breaker for Equipment

Addition:
Model Designation: C series CBE (C#E/J/R/7 Series):
 Cd1-d2-d3 d4 d5 d6-d7
 (d1: Decision 1, d2: Decision 2, d3: Decision 3,
 d4: Decision 4, d5: Decision 5, d6: Decision 6,
 d7: Decision 7)
 see Appendix (Constr. Data Form)
Rated Operational Voltage Ue: DC 80V
Rated Current In: 1) 100-200A (parallel pole unit consisting of 2 poles, d1=#2)
 2) 200-250A (parallel pole unit consisting of 3 poles d1=#3)
Rated Switching Capacity: DC 4 x In
Rated Short Circuit Capacity Icn: 5000A
Rated Conditional Short Circuit Current
 Performance Category PC1) Inc1: 5000A
SCPD: not required (Inc1=Icn)
Rated Insulation Voltage Ui: 125V contd.

ANLAGE (Appendix): 1, 1-13

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.
This certificate is based on our Testing and Certification Regulations and states the conformity of the product with the standards and testing requirements as indicated above. Any additional requirements in countries where the product is going to be marketed have to be considered additionally. The manufacturing of the certified product is subject to surveillance.

Zertifizierungsstelle

Dipl.-Ing. M. Glagla

TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90431 Nürnberg
Tel.: +49 221 806-1371 e-mail: cert-validity@de.tuv.com
Fax: +49 221 806-3935 http://www.tuv.com/safety

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Zertifikat ***Certificate***

TÜVRheinland

Zertifikat Nr. *Certificate No.* R 72041016

Blatt *Page* 0010

Ihr Zeichen *Client Reference* John A. Lach

Unser Zeichen *Our Reference* -JAK- 09871200 012

Ausstellungsdatum *Date of Issue (day/mo/yr)* 12.12.2011

Genehmigungsinhaber *License Holder*
Carling Technologies, Inc.
60 Johnson Avenue
Plainville CT 06062
USA

Fertigungsstätte *Manufacturing Plant*
Carlingswitch Manufacturing
(Zhongshan) Co., Ltd.
Nuguishan Town
Changmingshui Administration Dist.
Zhongshan City, Guangdong
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Prüfzeichen *Test Mark*

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EN 60934:2001-A1

Zertifiziertes Produkt (Geräteidentifikation) *Certified Product (Product Identification)*

Lizenzentgelte - Einheit *License Fee - Unit*

Circuit Breaker Circuit Breaker for Equipment

cont.

Electrical endurance: 6000 Cycles

Number of Poles of Parallel Pole Unit: 1

Number of Protected Poles of Parallel Pole Unit:
2 (d1=#2), 3 (d1=#2),
3 (for E-type CBE only)

Mode of Tripping: MO, HM, X (E-type CBE only)

Operating Characteristic: D1, D2, D4, D5

Electrical Performance: For use in essentially resistive circuits only

Other Supplementary Ratings and Information:
see Appendix (Consec. Data Form)

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich beachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.
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Zertifizierungsstelle

Dipl.-Ing. M. Glagla

TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90431 Nürnberg
Tel. +49 221 806 1371 e-mail: cert-validity@de.tuv.com
Fax +49 221 806-3935 http://www.tuv.com/safety

Inh. = 710657 / Dec. = 710657 / Fert. = 750220

Licenses ID 8-02

ENEC LICENCE

Licence No. ENEC-00717
Page 1/3
Date of Issue 2013-10-08

Licence Holder	RICH BAY (FO GANG) HARDWARE ELECTRONIC CO LTD SOUTH TOWN INDUSTRIAL AREA FOGANG QINGYUAN, 511600 GUANGDONG China
Production site	RICH BAY (FO GANG) HARDWARE ELECTRONIC CO LTD SOUTH TOWN INDUSTRIAL AREA FOGANG QINGYUAN, 511600 GUANGDONG China
Certification Mark	See Annex 1
Certified Product	Appliance outlet
Model	R-302G Series See Page 2
Trademark	RICH BAY

Rated Voltage / Frequency	250Vac
Rated Current / Power	10A
Insulation Class	-
Degree of protection (IP)	-
Tested acc. to	EN 60320-1:2001/A1:2007, EN 60320-1:2001, EN 60320-2-2:1998
Test Report No.	R01005-13 issued on 2013-09-27
Additional	For class I equipment Standard Sheet: F (IEC/EN 60320-2-2)

Certification Manager
Jan-Erik Storgaard

This it to certify that representative sample(s) of the Product described herein ("Certified Product") have been investigated and found in compliance with the Standard(s) indicated on this Licence. In accordance with the ENEC Requirements. The Designated Licence holder is entitled to use the ENEC in Mark (as shown in annex 1) for the Certified Product manufactured at the production site(s) identified above in accordance with the ENEC Mark Service Agreement including without limitation the ENEC Mark Testing and Certification Services Service Terms. Only those Products bearing the ENEC Mark should be considered as being covered by UL's ENEC Mark Service. This Licence shall remain valid unless terminated earlier in accordance with the Service Agreement including without limitation if the Standard identified on this Certificate is amended or withdrawn prior the Date of Withdrawal of overlining Standard(s).

Certification Body UL International Demko A/S, Borupvang 5A, DK-2750 Ballerup, Denmark, Tel. +45 44 85 65 65, info.dk@ul.com www.ul-europe.com

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ENEC LICENCE

Licence No. ENEC-00717
Page 2/3
Date of Issue 2013-10-08

Model Details:
R-302G Series followed by 2, 3, 4 or 6, followed by K, followed by (, followed by B20, followed by 0, 1 or 2, followed by), followed by 15, 18 or 20.

Certification Body

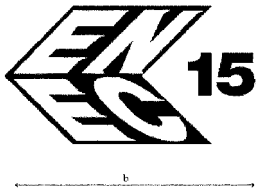
This is to certify that representative sample(s) of the Product described herein ("Certified Product") have been investigated and found in compliance with the Standard(s) indicated on this License, in accordance with the ENEC Requirements. The Designated License holder is entitled to use the ENEC TA Mark (as shown in annex 1) for the Certified Product manufactured at the production site(s) identified above in accordance with the ENEC Mark Service Agreement including without limitation the ENEC Mark Testing and Certification Services Scanner Terms. Only these Products bearing the ENEC Mark should be considered as being covered by UL's ENEC Mark Scheme. This License shall remain valid unless terminated earlier in accordance with the Service Agreement including without limitation if the Standard identified on this Certificate is amended or withdrawn prior the Date of Withdrawal of conflicting Standard(s).

Licenses ID 8-02

Annex 1 to Licence No.

ENEC-00717

Annex of the form of the Mark



* Identification number of the Certification Body

Size of the mark:

The size of the mark may be reduced on the condition that it remains legible and that the ratio b/a=1,7 is kept

Certification Body

This is to certify that representative sample(s) of the Product described herein ("Certified Product") have been investigated and found in compliance with the Standard(s) indicated on this License, in accordance with the ENEC Requirements. The Designated Licensee listed is entitled to use the ENEC TS Mark (as shown in annex 1) for the Certified Product manufactured at the production site(s) identified above in accordance with the ENEC Mark Service Agreement including without limitation the ENEC Mark Testing and Certification Services Annex Terms. Only Panic Products bearing the ENEC Mark should be considered as being covered by UL's ENEC Mark Service. This License shall remain valid unless suspended earlier in accordance with the Service Agreement including without limitation if the Standard identified on this Certificate is amended or withdrawn prior the Date of Withdrawal of conflicting Standard(s).

Licenses ID 8-03

IEC IECEE CB SCHEME

Ref. Certif. No.

DK-33198-UL

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS D'ESSAIS DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE **CERTIFICAT D'ESSAI OC**

Product Produit	AC-DC Power Supply
Name and address of the applicant Nom et adresse du demandeur	LIANZHENG ELECTRONIC (SHENZHEN) CO LTD 4 LIUFANG RD BLK 67, BAO'AN SHENZHEN GUANGDONG 518132 CHINA
Name and address of the manufacturer Nom et adresse du fabricant	LIANZHENG ELECTRONIC (SHENZHEN) CO LTD 4 LIUFANG RD BLK 67, BAO'AN SHENZHEN GUANGDONG 518132 CHINA
Name and address of the factory Nom et adresse de l'usine *Note: When more than one factory, please report on page 2* *Note: Lorsque il y plus d'une usine, veuillez utiliser la 2ème page*	PHOENIXTEC ELECTRONICS (SHENZHEN) CO LTD 6-7 FL BLDG 19 & BLDG 16, SHATOUJIAO FREE TRADE ZONE, SHENZHEN, GUANGDONG 518081 CHINA ☐ Additional Information on page 2
Ratings and principal characteristics Valeurs nominales et caractéristiques principales	100-277 Vac, 0.3 A, 50/60 Hz Output 5 Vdc, 1.2 A
Trademark (if any) Marque de fabrique (si elle existe)	EATON
Type of Manufacturer's Testing Laboratories used Type de programme du laboratoire d'essais constructeur	
Model / Type Ref. Ref. De type	SPS16-05
Additional information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire,, peuvent être indiqués sur la 2ème page	Additionally evaluated to EN 60950-1:2006/A11:2009/A1:2010/A12: 2011; National Differences specified in the CB Test Report. ☐ Additional Information on page 2
A sample of the product was tested and found to be in conformity with Un échantillon de ce produit a été essayé et a été considéré conforme à la	IEC 60950-1(ed.2), IEC 60950-1(ed.2):am1
As shown in the Test Report Ref. No. which forms part of this Certificate Comme indiqué dans le Rapport d'essais numéro de référence qui constitue partie de ce Certificat	E313799-A5-CB-1 issued on 2013-06-10

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

☐ UL (US), 333 Pfingsten Rd IL 60062, Northbrook, USA
☒ UL (Demko), Borupvang 5A DK-2750 Ballerup, DENMARK
☐ UL (JP), Marunouchi Trust Tower Main Building 6F, 1-8-3 Marunouchi, Chiyoda-ku, Tokyo 100-0005, JAPAN
☐ UL (CA), 7 Underwriters Road, Toronto, M1R 3B4 Ontario, CANADA

For full legal entity names see www.ul.com/ncbnames

Date: 2013-06-10 Signature: Jan-Erik Storgaard

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Licenses ID 8-04

IEC IECEE CB SCHEME

Ref. Certif. No. **DK-33224-UL**

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS D'ESSAIS DES EQUIPEMENTS ELECTRIQUES (IECEE) METHODE OC

CB TEST CERTIFICATE — CERTIFICAT D'ESSAI OC

Product Produit	Monitoring and Measurement module
Name and address of the applicant Nom et adresse du demandeur	LIANZHENG ELECTRONIC (SHENZHEN) CO LTD 4 LIUFANG RD BLK 67, BAO'AN SHENZHEN GUANGDONG 518132 CHINA
Name and address of the manufacturer Nom et adresse du fabricant	LIANZHENG ELECTRONIC (SHENZHEN) CO LTD 4 LIUFANG RD BLK 67, BAO'AN SHENZHEN GUANGDONG 518132 CHINA
Name and address of the factory Nom et adresse de l'usine Note: When more than one factory, please report on page 2 Note: Lorsque il y plus d'une usine, veuillez utiliser la 2ème page	PHOENIXTEC ELECTRONICS (SHENZHEN) CO LTD 6-7 FL BLDG 19 & BLDG 16, SHATOUJIAO FREE TRADE ZONE, SHENZHEN GUANGDONG 518081 CHINA ☐ Additional Information on page 2
Ratings and principal characteristics Valeurs nominales et caractéristiques principales	See Page 2
Trademark (if any) Marque de fabrique (si elle existe)	EATON EATON
Type of Manufacturer's Testing Laboratories used Type de programme du laboratoire d'essais constructeur	
Model / Type Ref. Ref. De type	ICM1-x, ICM3-x See Page 2
Additional information (if necessary may also be reported on page 2) Les informations complémentaires (si nécessaire,, peuvent être indiqués sur la 2ème page	Additionally evaluated to EN 60950-1:2006/A11:2009/A1:2010/A12: 2011; National Differences specified in the CB Test Report. ☐ Additional Information on page 2
A sample of the product was tested and found to be in conformity with Un échantillon de ce produit a été essayé et a été considéré conforme à la	IEC 60950-1(ed.2), IEC 60950-1(ed.2);am1
As shown in the Test Report Ref. No. which forms part of this Certificate Comme indiqué dans le Rapport d'essais numéro de référence qui constitue partie de ce Certificat	E313799-A6-CB-1 issued on 2013-06-10, E313799-A6-CB-1 issued on 2013-06-12, E313799-A6-CB-1 issued on 2013-06-13

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

UL

☐ UL (US), 333 Pfingsten Rd IL 60062, Northbrook, USA
☒ UL (Demko), Borupvang 5A DK 2750 Ballerup, DENMARK
☐ UL (JP), Marunouchi Trust Tower Main Building 6F, 1-8-3 Marunouchi, Chiyoda-ku, Tokyo 100-0005, JAPAN
☐ UL (CA), 7 Underwriters Road, Toronto M1R 3B4 Ontario, CANADA

For full legal entity names see www.ul.com/ncbnames

Date: 2013-06-13

Signature: [signature]

Jan-Erik Storgaard

Licenses ID 8-04

	Ref. Certif. No.
	DK-33224-UL

Model Details:
ICM1-x,ICM3-x Where x is variation in measurement or SELV circuitry that does not affect safety.

Ratings:
(not required, unit is for building into OEM)
ICM3-x
Mains Input CN8, CN14: Single-phase, split-phase, three-phase delta, or three-phase wye, 85-294VAC Line (L1, L2, and L3) to Neutral, 10mA
Input CN9, CN10, CN13: 5Vdc or 12Vdc, 0.2A
ICM1-x
Mains Input CN5: Single-phase 85-294VAC, 10mA
Input CN9, CN10, CN13: 5Vdc or 12Vdc, 0.2A

Additional information (if necessary)
Information complémentaire (si nécessaire)

☐ ☐ UL (NE, 333 Pfingsten Rd IL 60062, Northbrook, USA
☐ ☒ UL (Demko), Borupvang 5A DK 2750 Ballerup, DENMARK
☐ ☐ UL (JP), Meiji-yasuda Trust Tower Main Building 6F, 1-8-3 Marunouchi, Chiyoda-ku, Tokyo 100-0005, JAPAN
☐ ☐ UL (CA), 7 Underwriters Road, Toronto, M1R 3B4 Ontario, CANADA

For full legal entity names see www.ul.com/ncbnames

Date: 2013-06-13

Signature: Jan Erik Storgaard

Jan-Erik Storgaard

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Declaration of Conformity

Manufacturer,
Eaton Industries France
110 rue Blaise Pascal
38330 Montbonnot Saint Martin
France

declare under our sole responsibility that product family,

Eaton ePDU G3

Models listed on page 2 and 3,

Product Description : Power Distribution System

provided that it is installed, maintained and used in the application intended for, with respect to the relevant manufacturers instructions, installation standards and "good engineering practices",

complies with the provisions of Council directive(s):

2006/95/EC	*LVD - Low Voltage Directive*
2004/108/EC	*EMC - Electromagnetic Compatibility*
2011/65/EU	*RoHS - Restriction of Hazardous Substances*

CE mark affixed on the product in 2014,

based on compliance with European standards:

Information technology equipment
EN 60950-1:2006 / A11:2009 / A1:2010 / A12:2011 Safety – Part 1: General requirements
EN 55022:2010 Radio disturbance characteristics – Limits and methods of measurement
EN 55024:2010 Immunity characteristics – Limits and methods of measurement

Electromagnetic compatibility (EMC)
EN 61000-6-2:2005 Part 6-2:Generic standards – Immunity for industrial environments
EN 61000-6-4:2007+A1:2011 Part 6-4:Generic standards – Emission standard for industrial environments

RoHS - Restriction of Hazardous Substances
EN 50581 : 2012 - Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

Date : 27/02/2015

Powering Business Worldwide

Nicolas Samman
Engineering Director

Types within the range

Familly :	*Part :*	*Description :*
Eaton ePDU G3 Basic	EBAB00	EPDU BA 0U (309 16A 3P)C13x36:C19x6
	EBAB01	EPDU BA 0U (309 32A 3P)C13x3:C19x6
	EBAB02	EPDU BA 0U (C14 10A 1P)C13x8
	EBAB03	EPDU BA 0U (C14 10A 1P)C13x16
	EBAB04	EPDU BA 0U (309 16A 1P)C13x20:C19x4
	EBAB05	EPDU BA 0U (309 32A 1P)C13x20:C19x4
	EBAB11	EPDU BA 0U (309 32A 3P)C19x6
	EBAB19	EPDU BA 0U (C14 10A 1P)C13x12
	EBAB21	EPDU BA 0U (C20 16A 1P)C13x16
	EBAB22	EPDU BA 0U (C20 16A 1P)C13x20:C19x4
	EBAB27	EPDU BA 0U (2xC20 16A 1P)C13x24:C19x8
	EBAxxx	EPDU BA 0U *(other Eaton approved configuration)*
Eaton ePDU G3 Metered Input	EMIB03	EPDU MI 0U (C14 10A 1P)C13x16
	EMIB04	EPDU MI 0U (309 16A 1P)C13x20:C19x4
	EMIB05	EPDU MI 0U (309 32A 1P)C13x20:C19x4
	EMIB11	EPDU MI 0U (309 32A 3P)C19x6
	EMIB06	EPDU MI 0U (309 32A 1P)C13x12:C19x4
	EMIB07	EPDU MI 0U (309 32A 3P)C19x12:C13x6
	EMIB08	EPDU MI 0U (309 32A 1P)C13x36:C19x6
	EMIB09	EPDU MI 0U (C20 16A 1P)C13x18:C19x2
	EMIB10	EPDU MI 0U (309 16A 1P)C13x18:C19x2
	EMIB00	EPDU MI 0U (309 16A 3P)C13x36:C19x6
	EMIB34	EPDU MI 0U (309 32A 3P)C13x30:C19x12
	EMIB16	EPDU MI 0U (309 32A 1P)C13x20:C19x2:UKx2
	EMIB17	EPDU MI 0U (309 32A 1P)C13x20:C19x2:FRx2
	EMIB18	EPDU MI 0U (309 32A 1P)C13x20:C19x2:GEx2
	EMIB12	EPDU MI 0U (309 32A 3P)C13x12:C19x12
	EMIxxx	EPDU MI 0U *(other Eaton approved configuration)*

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Types within the range

Eaton ePDU G3 In-Line Metered	EILB13	EPDU IL 0U (309 16A 1P)309 16A 1Px1
	EILB14	EPDU IL 0U (309 32A 1P)309 32A 1Px1
	EILB15	EPDU IL 0U (309 32A 3P)309 32A 3Px1
	EILB24	EPDU IL 0U (2x309 16A 1P)309 16A 1Px2
	EILB25	EPDU IL 0U (2x309 32A 1P)309 32A 1Px2
	EILB26	EPDU IL 0U (2x309 32A 3P)309 32A 3Px2
	EILxxx	EPDU IL 0U *(other Eaton approved configuration)*
Eaton ePDU G3 Switched	ESWB03	EPDU SW 0U (C14 10A 1P)C13x16
	ESWB05	EPDU SW 0U (309 32A 1P)C13x20:C19x4
	ESWB20	EPDU SW 0U (309 16A 3P)C13x21:C19x3
	ESWB22	EPDU SW 0U (C20 16A 1P)C13x20:C19x4
	ESWB04	EPDU SW 0U (309 16A 1P)C13x20:C19x4
	ESWB23	EPDU SW 0U (309 16A 1P)C13x7:C19x1
	ESWB16	EPDU SW 0U (309 32A 1P)C13x20:C19x2:UKx2
	ESWB17	EPDU SW 0U (309 32A 1P)C13x20:C19x2:FRx2
	ESWB18	EPDU SW 0U (309 32A 1P)C13x20:C19x2:GEx2
	ESWxxx	EPDU SW 0U *(other Eaton approved configuration)*
Eaton ePDU G3 Managed	EMAB03	EPDU MA 0U (C14 10A 1P)C13x16
	EMAB05	EPDU MA 0U (309 32A 1P)C13x20:C19x4
	EMAB20	EPDU MA 0U (309 16A 3P)C13x21:C19x3
	EMAB22	EPDU MA 0U (C20 16A 1P)C13x20:C19x4
	EMAB04	EPDU MA 0U (309 16A 1P)C13x20:C19x4
	EMAB16	EPDU MA 0U (309 32A 1P)C13x20:C19x2:UKx2
	EMAB17	EPDU MA 0U (309 32A 1P)C13x20:C19x2:FRx2
	EMAB18	EPDU MA 0U (309 32A 1P)C13x20:C19x2:GEx2
	EMAB33	EPDU MA 0U (309 32A 3P)C13x18:C19x6
	EMAxxx	EPDU MA 0U *(other Eaton approved configuration)*
Eaton ePDU G3 Metered Output	EMOB05	EPDU MO 0U (309 32A 1P)C13x20:C19x4
	EMOB20	EPDU MO 0U (309 16A 3P)C13x21:C19x3
	EMOB03	EPDU MO 0U (C14 10A 1P)C13x16
	EMOB16	EPDU MO 0U (309 32A 1P)C13x20:C19x2:UKx2
	EMOB17	EPDU MO 0U (309 32A 1P)C13x20:C19x2:FRx2
	EMOB18	EPDU MO 0U (309 32A 1P)C13x20:C19x2:GEx2
	EMOB22	EPDU MO 0U (C20 16A 1P)C13x20:C19x4
	EMOB04	EPDU MO 0U (309 16A 1P)C13x20:C19x4
	EMOxxx	EPDU MO 0U *(other Eaton approved configuration)*

Powering Business Worldwide

Declaration of Origin

We,
Eaton Industries France SAS
110 rue Blaise Pascal
38330 Montbonnot Saint Martin
France

declare that products within the families,

Eaton ePDU

PW312BA0UC07, PW322BA0UC56, PW322BA0UC57,
PW107BA0UC08, PW102MI0UB95, PW104MI0UB96, PW104MI0UB97,
PW107MI0UB88, PW312MI0UC07, PW107MI0UC60, PW104MI0UD02,
PW104MI0UD03, PW107MI0UC08, PW322MI0UD04, PW104IM0UC05
PW107IM0UC04, PW107IM0UB81, PW115MI0UB80, PW322IM0UC17,
PW344IM0UC18, PW103MI0UC62, PW102MI0UC63, PW104MI0UC64,
PW107MI0UC65, PW104MI0UC66, PW104MI0UC72, PW102MI0UC73,
PW104MI0UC74, PW107MI0UC75 , PW104MI0UC76, PW104MI0UC82,
PW102MI0UC83, PW104MI0UC84, PW107MI0UC85, PW104MI0UC86.

Eaton ePDU G3

EMABxx, EMIBxx, EMOBxx, ESWBxx, EBABxx ,EILBxx

are manufactured in **Morocco**

March 12th 2015

Julien MELOT
Certification Manager

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