

접 수 번 호 : 25-029050-01-1
(Receipt No.)



안전확인신고 증명서

Confirmation Letter of Declaration

신 고 번 호 : ZU101076-23001B
(Application No.)

신 고 회 사 명 : MEAN WELL (Guangzhou) Electronics Co.,Ltd.
(Applicant)

주 소 : No.11 Jingu South Road, Huadu District, Guangzhou 510890,
(Address) Guangdong, China

제 품 명 : 컴퓨터용 전원공급장치(Switching Power Supply)
(Product)

기 본 모 델 명 : LRS-450-48
(Basic Model)

파 생 모 델 명 : See the attachment 2
(Series Model)

정격/안전기준상의 모델구분 : Input: AC 100-120 V, 10 A, 50/60 Hz; AC 200-240 V,
(Rating) 6 A, 50/60 Hz;Output: DC 48 V, 9.4 A;

안 전 기 준 : KC62368-1(2021-08)
(Standard)

본 확인신고는 제 조 국 명 : 중국

제조업자 명 : MEAN WELL (Guangzhou) Electronics Co.,Ltd.

제조공장의 주소 : No.11 Jingu South Road, Huadu District, Guangzhou 510890, Guangdong, China

의 제품에만 해당함

「전기용품 및 생활용품 안전관리법 시행규칙」 제28조제1항, 같은 조 제3항, 제29조제2항 또는 제34조제2항에 따라 안전확인신고 증명서를 발급합니다.

We issue this Confirmation Letter of Declaration of the Safety Confirmation for the above appliance in accordance with the Article 28(1), 28(3), 29(2) or 34(2) of the Enforcement Rule of the Electrical Appliances and Consumer Products Safety Control Act.

2025 년 05 월 23 일
Year month day

한국산업기술시험원장
KOREA TESTING LABORATORY



※ 이 신고증명서는 「전기용품 및 생활용품 안전관리법」에 따른 제품의 안전성 확인에 한정된 것이며, 그 밖의 다른 법률이 적용되는 제품의 경우에는 해당 법률에 따라 추가로 인증·허가 등을 받아야 합니다.

첨부서류

1. 전기용품의 안전관리부품 및 재질목록(List of Critical Components)(전기용품에 한정한다)
2. 기본모델·파생모델의 내용(Description of the basic and series model)
3. 안전확인신고 내용의 변경 현황(Revisions Status)

안전인증 및 자율안전확인을 받은 자의 유의사항

Notification for recipient (license holder) of Safety Certification and Confirmation Letter of Declaration

1. 본 인증서 또는 신고증명서는 기재된 제조공장에서 생산된 제품으로서 적용된 안전기준에 적합한 경우에 한하여 유효합니다. (This certificate or confirmation letter of declaration is valid only when the product meets the applied safety standard(s) and is manufactured from the manufacturing factory that appears on this certificate.)
2. 안전인증 또는 안전확인 마크는 본래의 의미와 다르게 사용자가 오해를 일으킬 수 있는 방법으로 광고, 카탈로그 등에 사용하면 인증정지 또는 취소의 사유가 됩니다. (Termination or cancellation of the certification may occur if the actual meaning of this safety certification mark(KC-mark) or Confirmation Letter of Declaration mark(KC-mark) is misled to the public by false advertisement on a overstated catalog of the product.)
3. 다음과 같은 사유가 발생할 경우에는 사유가 발생한 날로부터 15일 이내에 안전인증기관에 안전인증 또는 안전확인 변경 신청을 하여 안전인증서 또는 안전확인신고 증명서를 재교부 받아야 합니다. (In case of the following events, this safety certificate or Confirmation Letter of Declaration shall be reapplied within 15 days from the events and reissued for revision.)
 - 1) 제조업자, 수입업자, 주소 등 인증서 기재내용의 변경 (Revision in contents of the certificate such as factory name, importer, factory address, etc)
 - 2) 파생모델의 추가, 변경 또는 삭제 (Adds, changes, or removals of derivative(minor series) model)
 - 3) 안전관리부품의 변경 또는 추가 (Adds or changes in critical components list)
 - 4) 인증서 또는 신고증명서의 분실 또는 훼손 (Losses or damages to this certificate or confirmation letter of declaration)
4. 안전인증 또는 안전확인을 받은 자는 다음 사항을 이행하여야 합니다. (The recipient (license holder) of safety certification (KC-mark) or confirmation letter of declaration shall comply with the followings.)
 - 1) 안전인증표시 등 인증요건의 유지 관리 (Maintaining and managing the marking of safety certification and other certification requirements)
 - ※ 안전인증을 받기 이전 또는 정지, 취소된 이후 생산된 제품에 안전 표시를 하면 법에 의거 처벌을 받게 됨 (It will be punished by the Act if the certification mark is used before the issue(or after suspension or cancellation) of the certification)
 - 2) 자체검사의 실시 및 그 기록관리 (Self Product Verification and record keeping)
 - ※ 안전인증을 받은 자는 제품검사를 철저히 실시하여 제품의 품질이 안전기준에 미달되지 않도록 유의 (Recipients (license holder) of the safety certification (KC-mark) shall conduct products inspection strictly for products to comply with the safety standard.)
5. 안전인증을 받은 자는 전기용품 및 생활용품 안전관리법 제7조 1항 및 동법 시행령 제9조에 의거 2년에 1회 정기검사를 받아야 합니다. (Recipients (license holder) of the safety certification (KC-mark) shall receive routine(regular) factory inspection once every two years according to the Electrical Appliances and Consumer products Safety Control Act article 7(1) and article 9 of Enforcement decree of the same Act.)

(연락처: 인증융합센터, Tel 055-791-3400, 3401)
(Contact point: Certification Evaluation Center Tel: +82 55 791 3400, 3401)

□ 첨부 1 : 전기용품의 안전관리부품 및 재질목록
List of Critical Components

부품명(회로기호) Component(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 Rating or Characteristics	인증마크 Tested by
Metal chassis	--	--	Steel or aluminum. Min. 0.5 mm thickness.	--
Terminal block (TB1)	DINKLE ENTERPRISE CO LTD	DT-4*1, DT-4(@201)	Rated 20 A, 300 V, min. 115 °C	UL, TUV
(Alternate)	DINKLE ENTERPRISE CO LTD	DT-45	Rated 25 A, 300 V, min. 105 °C	UL
(Alternate)	DINKLE ENTERPRISE CO LTD	DT-49	Rated 25 A, 300 V, min. 105 °C	UL, VDE
(Alternate)	Switchlab Inc	T14	Rated 25 A, 300 V, min. 140 °C	UL, TUV
(Alternate)	Switchlab Inc	T34	Rated 25 A, 300 V, min. 120 °C	UL
(Alternate)	Switchlab Inc	T44 series	Rated 15 A, 300 V, min. 120 °C	UL, TUV
(Alternate)	CIXI PANS AUTOMATIC CONTROL EQUIPMENT FTY	PT-49(@2)	Rated 25 A, 300 V, min. 105 °C	UL, VDE
(Alternate)	CIXI PANS AUTOMATIC CONTROL EQUIPMENT FTY	PT-4C-25(@2)	Rated 25 A, 300 V, min. 135 °C	UL, VDE
(Alternate)	DEGSON TECHNOLOGY CO.,LTD.	DG46S-B series	Rated 30 A, 300 V, min. 105 °C	UL
Fuse (FS1)	Conquer Electronics Co Ltd	UBM-A, UBM-A series	Rated F16 A, 250 Vac	UL, TUV
(Alternate)	LITTELFUSE INC	216*+, 216016	Rated F16 A, 250 Vac	UL, TUV
Varistor (ZNR1) (Optional)	Thinking Electronic Industrial Co Ltd	TVR10471-V, TVR10511-V, TVR10561-V, TVR14471-V, TVR14511-V, TVR14561-V	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V- 0),105 °C, min 3KV/1.5KA	TUV
(Alternate)	Thinking Electronic Industrial Co., Ltd.	TVR10471-D, TVR14471-D, TVR10511-D, TVR14511-D, TVR10561-D, TVR14561-D	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V- 0),105 °C, min 4KV/2KA	TUV
(Alternate)	Thinking Electronic Industrial Co., Ltd.	TVR14471-M, TVR14511-M, TVR14561-M	Min. 300 Vac, min. 385 Vdc (Flame class of body coating	VDE

부품명(회로기호) Component(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 Rating or Characteristics	인증마크 Tested by
			complied with V-0), 125 °C, min 6KV/3KA	
(Alternate)	Thinking Electronic Industrial Co., Ltd.	TVR14471, TVR14511, TVR14561,	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V- 0),105 °C, min 6KV/3KA	TUV
(Alternate)	Joyin Co., Ltd.	10S471K, 10S511K, 10S561K, 14S471K, 14S511K, 14S561K	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V-0), 85 °C, min 6KV/3KA	VDE
(Alternate)	Joyin Co., Ltd.	10N471K, 10N511K, 10N561K, 14N471K, 14N511K, 14N561K	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V-0), 85 °C, min 3KV/1.5KA	VDE
(Alternate)	Centra Science Corp	CNR-10D471K, CNR-10D511K, CNR-10D561K, CNR-14D471K, CNR-14D511K, CNR-14D561K	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V- 0),105 °C, min 3KV/1.5KA	VDE
(Alternate)	Guangdong Huiwan Electronics Technology Co Ltd	V-471K-10D(E)H, V-471K-14D(E)H, V-471K-20D(E)H	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V-0), 105 °C	VDE
Bleeder resistor (R1, R2)	TZAI YUAN ENTERPRISE CO LTD	SMD	Each rated max. 150 KΩ , min. 1/4 W.	UL
(Alternate)	WALSIN TECHNOLOGY CORP	WF12N	Each rated max. 150 KΩ , min. 1/4 W.	UL
(Alternate)	Ever Ohms Technology Co Ltd	HR1206*****	Each rated max. 150 KΩ , min. 1/4 W.	UL
X-Cap (C1, C2, C10) (Optional)	KEMET ELECTRONICS CORPORATION	R.46	C1,C2:Each rated max. 1.0 uF+/- 20%, C10: rated max. 1.5 uF +/- 20%	ENEC
(Alternate)	TDK (Zhuhai FTZ) Co., Ltd.	B3292#C/D/T/S/H/J3 B3292	C1,C2:Each rated max. 1.0 uF+/- 20%, C10: rated max. 1.5 uF +/- 20%	VDE
(Alternate)	TDK (Zhuhai FTZ) Co., Ltd	B3292	C1,C2:Each rated max. 1.0 uF+/- 20%, C10: rated max.	VDE

부품명(회로기호) Component(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 Rating or Characteristics	인증마크 Tested by
			1.5 uF +/- 20%	
(Alternate)	LIOW GU ELECTRONICS INDUSTRY CO LTD	GS-L	C1,C2:Each rated max. 1.0 uF+/- 20%, C10: rated max. 1.5 uF +/- 20% min. 250 V, 110 °C, X2 type	UL
(Alternate)	Ultra Tech XIPHI ENTERPRISE CO LTD	HQX	C1,C2:Each rated max. 1.0 uF+/- 20%, C10: rated max. 1.5 uF +/- 20%	VDE
(Alternate)	JOEY ELECTRONICS (DONG GUAN) CO LTD	MPX	C1,C2:Each rated max. 1.0 uF+/- 20%, C10: rated max. 1.5 uF +/- 20%	VDE
(Alternate)	CARLI ELECTRONICS CO LTD	MPX	C1,C2:Each rated max. 1.0 uF+/- 20%, C10: rated max. 1.5 uF +/- 20%	VDE
(Alternate)	Hua Jung COMPONENTS CO LTD	MKP	C1,C2:Each rated max. 1.0 uF+/- 20%, C10: rated max. 1.5 uF +/- 20%	ENEC
(Alternate)	Yangzhou Nissei Electronics Co., Ltd.	MP1	C1,C2:Each rated max. 1.0 uF+/- 20%, C10: rated max. 1.5 uF +/- 20%	VDE
Y-Cap (C3, C4, C23, C24) (Optional)	Xiamen Wanming Electronics Co., Ltd.	HJ	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Murata Mfg. Co., Ltd.	KX	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	TDK Corporation	CD	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Walsin Technology Corp.	AH	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Walsin Technology Corp.	AS Series, AS	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	VISHAY Electronic GmbH	VY1 Series	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Guangdong Huiwan Electronics Technology Co., Ltd.	AR	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE

부품명(회로기호) Component(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 Rating or Characteristics	인증마크 Tested by
(Alternate)	Guangdong Huiwan Electronics Technology Co., Ltd.	AB Series	Max. 1000 pF, min. 250 V, 125 °C. Y2 type.	VDE
(Alternate)	Walsin Technology Corp.	AC	Max. 1000 pF, min. 250 V, 125 °C. Y2 type.	VDE
Y-Cap (C30, C31) (Optional)	Xiamen Wanming Electronics Co., Ltd.	HJ	Max. 2200 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Murata Mfg. Co., Ltd.	KX	Max. 2200 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	TDK Corporation	CD	Max. 2200 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Walsin Technology Corp.	AH	Max. 2200 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Walsin Technology Corp.	AS	Max. 2200 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	VISHAY Electronic GmbH	VY1 Series	Max. 2200 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Guangdong Huiwan Electronics Technology Co., Ltd.	AR	Max. 2200 pF, min. 250 V, 125 °C. Y1 type.	VDE
Line choke (LF1) (Optional)	Mean Well	TR-6248	Min. 130 °C	--
Voltage Select Switch (SW1)	RONG FENG INDUSTRIAL CO LTD	RF-1002B	10 A, 250 V 85°C	ENEC
(Alternate)	Solteam Electronics Co Ltd	EV-12, f/b L, f/b-2 or -3	10 A, 250 V 85°C	ENEC
DC Fan	YEN SUN TECHNOLOGY CORP	FD126015HB	Rated 12 Vdc, 0.22 A, min. 24.1 CFM, secured to the top metal chassis by screws, fan leads covered with min. 0.4 mm thick tubing.	TUV
(Alternate)	Guangdong Shenghui Technology Co., Ltd	CHA6012BH- 15D	Rated 12 Vdc, 0.3 A, min. 20.15 CFM, secured to the top metal chassis by screws, fan leads covered with min. 0.4 mm thick tubing.	TUV

부품명(회로기호) Component(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 Rating or Characteristics	인증마크 Tested by
Relay (RY1)	Tyco Electronics (Shenzhen) Co Ltd	OJE-SH- 112HMF, OJE-SS- 112HMF	Rated contact: 10 A, 250 V, Coil: 12 Vdc. 85℃	TUV
(Alternate)	Tyco Electronics (Shenzhen) Co Ltd	OJE-SS-124HM	Rated contact: 10 A, 250 Vac, Coil: 24 Vdc. 85℃	TUV
(Alternate)	XIAMEN HONGFA ELECTROACOUS TIC CO LTD	HF32FV-G/12- HSTF, HF32FV-G/012- HT,	Rated contact: 10 A, 277 V, Coil: 12 Vdc. 85℃	VDE
(Alternate)	Tyco Electronics (Shenzhen) Co Ltd	OJE-SS-112HM2	Rated contact: 10 A/ 250 VAC, Coil: 12 Vdc. 85 ℃	VDE
(Alternate)	XIAMEN HONGFA ELECTROACOUSTIC CO LTD	HF32FV-G/12- HSTF, HF32FV-G/12- HTF	Rated contact: 10 A/ 250 VAC, Coil: 12 Vdc. 85 ℃	VDE
Photo coupler (U3, U4, U5)	LITE-ON Technology Corporation	LTV-817S	Reinforced insulation	VDE
(Alternate)	Vishay Semiconductor GmbH	TCLT1008	Reinforced insulation	VDE
(Alternate)	Everlight Electronics Co., Ltd.	EL817S	Reinforced insulation	VDE
(Alternate)	Lite-On Technology Corporation	LTV-1008	Reinforced insulation	VDE
(Alternate)	CT Micro International Corporation	CT1(X1)1(X2)(X3) V (Y)(Z)-W- (H)(G)	Reinforced insulation	VDE
(Alternate)	CT Micro International Corporation	CT81(X1)(X2)(X3) V (Y)(Z)- (H)(G)	Reinforced insulation	VDE
Transformer (T1) (For models LRS- 450-12)	Mean Well	TF-7111	Class B.	--
Transformer (T1) (For models LRS- 450-15)	Mean Well	TF-7112	Class B.	--
Transformer (T1) (For models LRS- 450-24)	Mean Well	TF-7113	Class B.	--
Transformer (T1) (For models LRS- 450-36)	Mean Well	TF-7114	Class B.	--
Transformer (T1) (For models LRS- 450-48)	Mean Well	TF-7115	Class B.	--

부품명(회로기호) Component(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 Rating or Characteristics	인증마크 Tested by
PWB	Interchangeable	Interchangeable	V-1 or better, min. 130 °C	UL

☐ 유의사항 (Attention) :

1. 안전관리부품은 전기적인 안전에 직접적인 영향을 주는 부품으로서 안전인증기관이 정기공장검사 시 확인 관리 하는 사항입니다. 따라서 상기목록에 기재된 사항을 변경하거나 또는 복수등재를 원하시는 경우는 안전인증기관에 인증변경신청을 하여야 합니다.

As the "Critical components" are parts in directly related with safety, these components shall be checked during a factory inspection by the certification body. In case of applying multiple listing or changing the items above, the certification revision shall be applied.

2. 인증변경신청 없이 임의로 변경하는 경우는, 전기용품 및 생활용품 안전관리법 시행규칙 제 21 조제 1 항 또는 제 38 조제 1 항 규정에 의한 안전인증 취소 혹은 안전확인신고 효력상실 사유가 됨을 유의하시기 바랍니다.

The Safety Certification will be cancelled under the Article 21(1), 38(1) of the Enforcement Rule of the Electrical appliances and Consumer Products Safety Control Act if the contents of the Certification is altered without our authorization.

FP511-04-01

☐ 첨부 2 : 기본모델 · 파생모델의 내용
Description of the basic and series model

파생모델명 Derivative model	기본모델과의 차이점 Differences between the basic and derivative model(s)
LRS-450-12	It is identical to basic model except for model designation, output ratings, transformer (T1), PWB layout, Heat Sink, thermal pad, mylar sheet, metal chassis and some secondary component's rating, secondary circuit diagram. (Output: DC 12 V, 37.5 A)
LRS-450-15	It is identical to basic model except for model designation, output ratings, transformer (T1), PWB layout, Heat Sink, thermal pad, mylar sheet, metal chassis and some secondary component's rating, secondary circuit diagram. (Output: DC 15 V, 30 A)
LRS-450-24	It is identical to basic model except for model designation, output ratings, transformer (T1), PWB layout, Heat Sink, thermal pad, mylar sheet, metal chassis and some secondary component's rating, secondary circuit diagram. (Output: DC 24 V, 18.8 A)
LRS-450-36	It is identical to basic model except for model designation, output ratings, transformer (T1), PWB layout, Heat Sink, thermal pad, mylar sheet, metal chassis and some secondary component's rating, secondary circuit diagram. (Output: DC 36 V, 12.5 A)
제품특기사항 및 시험조건 Remarks & Test conditions	
1. Review Ref. No.: 23-009761-01-2 – DEKRA Ref. No.: 4399203.50 2. Product Description: – Measured Power Consumption: 488.27 W – Insulation Class: Class I – Protection against Ingress of water: IPX0 – Mass of Equipment: Max. 0.85 kg	
☐ 본 제품의 검토내용에 관하여 문의하실 사항이 있으시면 아래 연락처로 문의하시기 바랍니다. 검토담당자 / 연락처 : 인증사업본부 인증융합센터 장 재용 / 055-791-3305 ☐ If you have any question on product review, please contact the person below : Job holder: Certification Business Division, Certification Convergence Center, J.Y.Jang / +82 55 791 3305	

FP511-05-00

□ 첨부 3 : 안전확인신고 내용의 변경 현황
Revisions Status

변경발급 내용 Contents of Certificate Revisions
1st Rev.) Revision as below (24-042546-01-1 : 2024.07.18.) - Addition of alternate component : Relay (RY1) - Modification of component: Fuse (FS1), Bleeder resistor (R1, R2), DC Fan, Y-Cap (C3, C4, C23, C24), Y-Cap (C30, C31) - CB Certificate Ref. No.: DK-125889-M1-UL (UL Solutions (Demko)) - CB Test Report No.: E183223-A6077-CB-1 Amendment 1 (UL-CCIC Company Limited Guangzhou Branch) 2nd Rev.) Revision as below (25-029050-01-1 : 2025.05.23.) - Change the Terminal block (TB1)'s Manufacturer from "NINGBO DEGSON ELECTRICAL CO LTD, model DG46*oo1" to Manufacturer "DEGSON TECHNOLOGY CO.,LTD., model DG46S-B series". - Change the DC fan's Manufacturer from "Zhaoqing Shenghui Electronic Technology Co.,Ltd." to "Guangdong Shenghui Technology Co., Ltd" - CB Certificate Ref, No.: DK-165008-UL (UL Solutions (Demko)) - CB Test Report No.: E183223-A6077-CB-2 (UL-CCIC Company Limited Guangzhou Branch)

FP511-06-00

접 수 번 호 : 24-042546-01-1
(Receipt No.)



안전확인신고 증명서

Confirmation Letter of Declaration

신 고 번 호 : ZU101076-23001A
(Application No.)

신 고 회 사 명 : MEAN WELL (Guangzhou) Electronics Co.,Ltd.
(Applicant)

주 소 : No.11 Jingu South Road, Huadu District, Guangzhou 510890,
(Address) Guangdong, China

제 품 명 : 컴퓨터용 전원공급장치(Switching Power Supply)
(Product)

기 본 모 델 명 : LRS-450-48
(Basic Model)

파 생 모 델 명 : See the attachment 2
(Series Model)

정격/안전기준상의 모델구분 : Input: AC 100-120 V, 10 A, 50/60 Hz; AC 200-240 V,
(Rating) 6 A, 50/60 Hz;Output: DC 48 V, 9.4 A;

안 전 기 준 : KC62368-1(2021-08)
(Standard)

본 확인신고는 제 조 국 명 : 중국

제조업자 명 : MEAN WELL (Guangzhou) Electronics Co.,Ltd.

제조공장의 주소 : No.11 Jingu South Road, Huadu District, Guangzhou 510890, Guangdong, China

의 제품에만 해당함

「전기용품 및 생활용품 안전관리법 시행규칙」 제28조제1항, 같은 조 제3항, 제29조제2항 또는 제34조제2항에 따라 안전확인신고 증명서를 발급합니다.

We issue this Confirmation Letter of Declaration of the Safety Confirmation for the above appliance in accordance with the Article 28(1), 28(3), 29(2) or 34(2) of the Enforcement Rule of the Electrical Appliances and Consumer Products Safety Control Act.

2024 년 07 월 18 일
Year month day

한국산업기술시험원
KOREA TESTING LABORATORY



※ 이 신고증명서는 「전기용품 및 생활용품 안전관리법」에 따른 제품의 안전성 확인에 한정된 것이며, 그 밖의 다른 법률이 적용되는 제품의 경우에는 해당 법률에 따라 추가로 인증·허가 등을 받아야 합니다.

첨부서류

1. 전기용품의 안전관리부품 및 재질목록(List of Critical Components)(전기용품에 한정한다)
2. 기본모델·파생모델의 내용(Description of the basic and series model)
3. 안전확인신고 내용의 변경 현황(Revisions Status)

□ 첨부 1 : 전기용품의 안전관리부품 및 재질목록
List of Critical Components

부품명(회로기호) Component(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 Rating or Characteristics	인증마크 Tested by
Metal chassis	--	--	Steel or aluminum. Min. 0.5 mm thickness.	--
Terminal block (TB1)	DINKLE ENTERPRISE CO LTD	DT-4*I, DT-4(@201)	Rated 20 A, 300 V, min. 115 °C	UL, TUV
(Alternate)	DINKLE ENTERPRISE CO LTD	DT-45	Rated 25 A, 300 V, min. 105 °C	UL
(Alternate)	DINKLE ENTERPRISE CO LTD	DT-49	Rated 25 A, 300 V, min. 105 °C	UL, VDE
(Alternate)	Switchlab Inc	T14	Rated 25 A, 300 V, min. 140 °C	UL, TUV
(Alternate)	Switchlab Inc	T34	Rated 25 A, 300 V, min. 120 °C	UL
(Alternate)	Switchlab Inc	T44 series	Rated 15 A, 300 V, min. 120 °C	UL, TUV
(Alternate)	CIXI PANS AUTOMATIC CONTROL EQUIPMENT FTY	PT-49(@2)	Rated 25 A, 300 V, min. 105 °C	UL, VDE
(Alternate)	CIXI PANS AUTOMATIC CONTROL EQUIPMENT FTY	PT-4C-25(@2)	Rated 25 A, 300 V, min. 135 °C	UL, VDE
(Alternate)	NINGBO DEGSON ELECTRICAL CO LTD	DG46*oo1	Rated 30 A, 300 V, min. 105 °C	UL
Fuse (FS1)	Conquer Electronics Co Ltd	UBM-A, UBM-A series	Rated F16 A, 250 Vac	UL, TUV
(Alternate)	LITTELFUSE INC	216*+, 216016	Rated F16 A, 250 Vac	UL, TUV
Varistor (ZNR1) (Optional)	Thinking Electronic Industrial Co Ltd	TVR10471-V, TVR10511-V, TVR10561-V, TVR14471-V, TVR14511-V, TVR14561-V	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V- 0),105 °C, min 3KV/1.5KA	TUV
(Alternate)	Thinking Electronic Industrial Co., Ltd.	TVR10471-D, TVR14471-D, TVR10511-D, TVR14511-D, TVR10561-D, TVR14561-D	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V- 0),105 °C, min 4KV/2KA	TUV
(Alternate)	Thinking Electronic Industrial Co., Ltd.	TVR14471-M, TVR14511-M, TVR14561-M	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V-0),	VDE

부품명(회로기호) Component(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 Rating or Characteristics	인증마크 Tested by
			125 °C, min 6KV/3KA	
(Alternate)	Thinking Electronic Industrial Co., Ltd.	TVR14471, TVR14511, TVR14561,	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V-0), 105 °C, min 6KV/3KA	TUV
(Alternate)	Joyin Co., Ltd.	10S471K, 10S511K, 10S561K, 14S471K, 14S511K, 14S561K	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V-0), 85 °C, min 6KV/3KA	VDE
(Alternate)	Joyin Co., Ltd.	10N471K, 10N511K, 10N561K, 14N471K, 14N511K, 14N561K	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V-0), 85 °C, min 3KV/1.5KA	VDE
(Alternate)	Centra Science Corp	CNR-10D471K, CNR-10D511K, CNR-10D561K, CNR-14D471K, CNR-14D511K, CNR-14D561K	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V-0), 105 °C, min 3KV/1.5KA	VDE
(Alternate)	Guangdong Huiwan Electronics Technology Co Ltd	V-471K-10D(E)H, V-471K-14D(E)H, V-471K-20D(E)H	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V-0), 105 °C	VDE
Bleeder resistor (R1, R2)	TZAI YUAN ENTERPRISE CO LTD	SMD	Each rated max. 150 KΩ , min. 1/4 W.	UL
(Alternate)	WALSIN TECHNOLOGY CORP	WF12N	Each rated max. 150 KΩ , min. 1/4 W.	UL
(Alternate)	Ever Ohms Technology Co Ltd	HR1206*****	Each rated max. 150 KΩ , min. 1/4 W.	UL
X-Cap (C1, C2, C10) (Optional)	KEMET ELECTRONICS CORPORATION	R.46	C1,C2:Each rated max. 1.0 uF+/- 20%, C10: rated max. 1.5 uF +/- 20%	ENEC
(Alternate)	TDK (Zhuhai FTZ) Co., Ltd.	B3292#C/D/T/S/H/J3 B3292	C1,C2:Each rated max. 1.0 uF+/- 20%, C10: rated max. 1.5 uF +/- 20%	VDE
(Alternate)	TDK (Zhuhai FTZ) Co., Ltd	B3292	C1,C2:Each rated max. 1.0 uF+/- 20%, C10: rated max.	VDE

부품명(회로기호) Component(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 Rating or Characteristics	인증마크 Tested by
			1.5 uF +/- 20%	
(Alternate)	LIOW GU ELECTRONICS INDUSTRY CO LTD	GS-L	C1,C2:Each rated max. 1.0 uF+/- 20%, C10: rated max. 1.5 uF +/- 20% min. 250 V, 110 °C, X2 type	UL
(Alternate)	Ultra Tech XIPHI ENTERPRISE CO LTD	HQX	C1,C2:Each rated max. 1.0 uF+/- 20%, C10: rated max. 1.5 uF +/- 20%	VDE
(Alternate)	JOEY ELECTRONICS (DONG GUAN) CO LTD	MPX	C1,C2:Each rated max. 1.0 uF+/- 20%, C10: rated max. 1.5 uF +/- 20%	VDE
(Alternate)	CARLI ELECTRONICS CO LTD	MPX	C1,C2:Each rated max. 1.0 uF+/- 20%, C10: rated max. 1.5 uF +/- 20%	VDE
(Alternate)	Hua Jung COMPONENTS CO LTD	MKP	C1,C2:Each rated max. 1.0 uF+/- 20%, C10: rated max. 1.5 uF +/- 20%	ENEC
(Alternate)	Yangzhou Nissei Electronics Co., Ltd.	MP1	C1,C2:Each rated max. 1.0 uF+/- 20%, C10: rated max. 1.5 uF +/- 20%	VDE
Y-Cap (C3, C4, C23, C24) (Optional)	Xiamen Wanming Electronics Co., Ltd.	HJ	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Murata Mfg. Co., Ltd.	KX	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	TDK Corporation	CD	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Walsin Technology Corp.	AH	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Walsin Technology Corp.	AS Series, AS	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	VISHAY Electronic GmbH	VY1 Series	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Guangdong Huiwan Electronics Technology Co., Ltd.	AR	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE

부품명(회로기호) Component(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 Rating or Characteristics	인증마크 Tested by
(Alternate)	Guangdong Huiwan Electronics Technology Co., Ltd.	AB Series	Max. 1000 pF, min. 250 V, 125 °C. Y2 type.	VDE
(Alternate)	Walsin Technology Corp.	AC	Max. 1000 pF, min. 250 V, 125 °C. Y2 type.	VDE
Y-Cap (C30, C31) (Optional)	Xiamen Wanming Electronics Co., Ltd.	HJ	Max. 2200 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Murata Mfg. Co., Ltd.	KX	Max. 2200 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	TDK Corporation	CD	Max. 2200 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Walsin Technology Corp.	AH	Max. 2200 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Walsin Technology Corp.	AS	Max. 2200 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	VISHAY Electronic GmbH	VY1 Series	Max. 2200 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Guangdong Huiwan Electronics Technology Co., Ltd.	AR	Max. 2200 pF, min. 250 V, 125 °C. Y1 type.	VDE
Line choke (LF1) (Optional)	Mean Well	TR-6248	Min. 130 °C	--
Voltage Select Switch (SW1)	RONG FENG INDUSTRIAL CO LTD	RF-1002B	10 A, 250 V 85°C	ENEC
(Alternate)	Solteam Electronics Co Ltd	EV-12, f/b L, f/b-2 or -3	10 A, 250 V 85°C	ENEC
DC Fan	YEN SUN TECHNOLOGY CORP	FD126015HB	Rated 12 Vdc, 0.22 A, min. 24.1 CFM, secured to the top metal chassis by screws, fan leads covered with min. 0.4 mm thick tubing.	TUV
(Alternate)	Zhaoqing Shenghui Electronic Technology Co.,Ltd.	CHA6012BH- 15D	Rated 12 Vdc, 0.3 A, min. 20.15 CFM , secured to the top metal chassis by screws, fan leads covered with min. 0.4 mm thick tubing.	TUV

부품명(회로기호) Component(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 Rating or Characteristics	인증마크 Tested by
Relay (RY1)	Tyco Electronics (Shenzhen) Co Ltd	OJE-SH- 112HMF, OJE-SS- 112HMF	Rated contact: 10 A, 250 V, Coil: 12 Vdc. 85℃	TUV
(Alternate)	Tyco Electronics (Shenzhen) Co Ltd	OJE-SS-124HM	Rated contact: 10 A, 250 Vac, Coil: 24 Vdc. 85℃	TUV
(Alternate)	XIAMEN HONGFA ELECTROACOUS TIC CO LTD	HF32FV-G/12- HSTF, HF32FV-G/012- HT,	Rated contact: 10 A, 277 V, Coil: 12 Vdc. 85℃	VDE
(Alternate)	Tyco Electronics (Shenzhen) Co Ltd	OJE-SS-112HM2	Rated contact: 10 A/ 250 VAC, Coil: 12 Vdc. 85 ℃	VDE
(Alternate)	XIAMEN HONGFA ELECTROACOUSTIC CO LTD	HF32FV-G/12- HSTF, HF32FV-G/12-HTF	Rated contact: 10 A/ 250 VAC, Coil: 12 Vdc. 85 ℃	VDE
Photo coupler (U3, U4, U5)	LITE-ON Technology Corporation	LTV-817S	Reinforced insulation	VDE
(Alternate)	Vishay Semiconductor GmbH	TCLT1008	Reinforced insulation	VDE
(Alternate)	Everlight Electronics Co., Ltd.	EL817S	Reinforced insulation	VDE
(Alternate)	Lite-On Technology Corporation	LTV-1008	Reinforced insulation	VDE
(Alternate)	CT Micro International Corporation	CT1(X1)1(X2)(X3) V (Y)(Z)-W- (H)(G)	Reinforced insulation	VDE
(Alternate)	CT Micro International Corporation	CT81(X1)(X2)(X3) V (Y)(Z)- (H)(G)	Reinforced insulation	VDE
Transformer (T1) (For models LRS- 450-12)	Mean Well	TF-7111	Class B.	--
Transformer (T1) (For models LRS- 450-15)	Mean Well	TF-7112	Class B.	--
Transformer (T1) (For models LRS- 450-24)	Mean Well	TF-7113	Class B.	--
Transformer (T1) (For models LRS- 450-36)	Mean Well	TF-7114	Class B.	--
Transformer (T1) (For models LRS- 450-48)	Mean Well	TF-7115	Class B.	--
PWB	Interchangeable	Interchangeable	V-1 or better, min. 130 °C	UL

부품명(회로기호) Component(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 Rating or Characteristics	인증마크 Tested by
☐ 유의사항 (Attention) : - 안전관리부품은 전기적인 안전에 직접적인 영향을 주는 부품으로서 안전인증기관이 정기공장검사 시 확인 관리 하는 사항입니다. 따라서 상기목록에 기재된 사항을 변경하거나 또는 복수등재를 원하시는 경우는 안전인증기관에 인증변경신청을 하여야 합니다. <i>As the "Critical components" are parts in directly related with safety, these components shall be checked during a factory inspection by the certification body. In case of applying multiple listing or changing the items above, the certification revision shall be applied.</i> - 인증변경신청 없이 임의로 변경하는 경우는, 전기용품 및 생활용품 안전관리법 시행규칙 제 21 조제 1 항 또는 제 38 조제 1 항 규정에 의한 안전인증 취소 혹은 안전확인신고 효력상실 사유가 됨을 유의하시기 바랍니다. <i>The Safety Certification will be cancelled under the Article 21(1), 38(1) of the Enforcement Rule of the Electrical appliances and Consumer Products Safety Control Act if the contents of the Certification is altered without our authorization.</i>				

FP511-04

□ 첨부 2 : 기본모델 · 파생모델의 내용
Description of the basic and series model

파생모델명 Derivative model	기본모델과의 차이점 Differences between the basic and derivative model(s)
LRS-450-12	It is identical to basic model except for model designation, output ratings, transformer (T1), PWB layout, Heat Sink, thermal pad, mylar sheet, metal chassis and some secondary component's rating, secondary circuit diagram. (Output: DC 12 V, 37.5 A)
LRS-450-15	It is identical to basic model except for model designation, output ratings, transformer (T1), PWB layout, Heat Sink, thermal pad, mylar sheet, metal chassis and some secondary component's rating, secondary circuit diagram. (Output: DC 15 V, 30 A)
LRS-450-24	It is identical to basic model except for model designation, output ratings, transformer (T1), PWB layout, Heat Sink, thermal pad, mylar sheet, metal chassis and some secondary component's rating, secondary circuit diagram. (Output: DC 24 V, 18.8 A)
LRS-450-36	It is identical to basic model except for model designation, output ratings, transformer (T1), PWB layout, Heat Sink, thermal pad, mylar sheet, metal chassis and some secondary component's rating, secondary circuit diagram. (Output: DC 36 V, 12.5 A)
제품특기사항 및 시험조건 Remarks & Test conditions	
1. Review Ref. No.: 23-009761-01-2 - DEKRA Ref. No.: 4399203.50 2. Product Description: - Measured Power Consumption: 488.27 W - Insulation Class: Class I - Protection against Ingress of water: IPX0 - Mass of Equipment: Max. 0.85 kg	
□ 본 제품의 검토내용에 관하여 문의하실 사항이 있으시면 아래 연락처로 문의하시기 바랍니다. 검토담당자 / 연락처 : 인증사업본부 인증융합센터 장 재용 / 055-791-3305 □ If you have any question on product review, please contact the person below : Job holder: Certification Business Division, Certification Convergence Center, J.Y.Jang / +82 55 791 3305	

FP511-05

☐ 첨부 3 : 안전확인신고 내용의 변경 현황
Revisions Status

변경발급 내용 Contents of Certificate Revisions
1 st Rev.) Revision as below (24-042546-01-1 : 2024.07.18.) - Addition of alternate component : Relay (RY1) - Modification of component: Fuse (FS1), Bleeder resistor (R1, R2), DC Fan, Y-Cap (C3, C4, C23, C24), Y-Cap (C30, C31) - CB Certificate Ref. No.: DK-125889-M1-UL (UL Solutions (Demko)) - CB Test Report No.: E183223-A6077-CB-1 Amendment 1 (UL-CCIC Company Limited Guangzhou Branch)

FP511-06

접 수 번 호 : 23-009761-01-1
(Receipt No.)



안전확인신고 증명서

Confirmation Letter of Declaration

신 고 번 호 : ZU101076-23001
(Application No.)

신 고 회 사 명 : MEAN WELL (Guangzhou) Electronics Co.,Ltd.
(Applicant)

주 소 : No.11 Jingu South Road, Huadu District, Guangzhou 510890,
(Address) Guangdong, China

제 품 명 : 컴퓨터용 전원공급장치(Switching Power Supply)
(Product)

기 본 모 델 명 : LRS-450-48
(Basic Model)

파 생 모 델 명 : See the attachment 2
(Series Model)

정격/안전기준상의 모델구분 : Input: AC 100-120 V, 10 A, 50/60 Hz; AC 200-240 V,
(Rating) 6 A, 50/60 Hz;Output: DC 48 V, 9.4 A;

안 전 기 준 : KC62368-1(2021-08)
(Standard)

본 확인신고는 제 조 국 명 : 중국

제조업자 명 : MEAN WELL (Guangzhou) Electronics Co.,Ltd.

제조공장의 주소 : No.11 Jingu South Road, Huadu District, Guangzhou 510890, Guangdong, China

의 제품에만 해당함

「전기용품 및 생활용품 안전관리법 시행규칙」 제28조제1항, 같은 조 제3항, 제29조제2항 또는 제34조제2항에 따라 안전확인신고 증명서를 발급합니다.

We issue this Confirmation Letter of Declaration of the Safety Confirmation for the above appliance in accordance with the Article 28(1), 28(3), 29(2) or 34(2) of the Enforcement Rule of the Electrical Appliances and Consumer Products Safety Control Act.

2023 년 03 월 07 일
Year month day

한국산업기술시험원
KOREA TESTING LABORATORY



※ 이 신고증명서는 「전기용품 및 생활용품 안전관리법」에 따른 제품의 안전성 확인에 한정된 것이며, 그 밖의 다른 법률이 적용되는 제품의 경우에는 해당 법률에 따라 추가로 인증·허가 등을 받아야 합니다.

첨부서류

1. 전기용품의 안전관리부품 및 재질목록(List of Critical Components)(전기용품에 한정한다)
2. 기본모델·파생모델의 내용(Description of the basic and series model)
3. 안전확인신고 내용의 변경 현황(Revisions Status)

□ 첨부 1 : 전기용품의 안전관리부품 및 재질목록
List of Critical Components

부품명(회로기호) Component(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 Rating or Characteristics	인증마크 Tested by
Metal chassis	--	--	Steel or aluminum. Min. 0.5 mm thickness.	--
Terminal block (TB1)	DINKLE ENTERPRISE CO LTD	DT-4*, DT-4(@201)	Rated 20 A, 300 V, min. 115 °C	UL, TUV
(Alternate)	DINKLE ENTERPRISE CO LTD	DT-45	Rated 25 A, 300 V, min. 105 °C	UL
(Alternate)	DINKLE ENTERPRISE CO LTD	DT-49	Rated 25 A, 300 V, min. 105 °C	UL, VDE
(Alternate)	Switchlab Inc	T14	Rated 25 A, 300 V, min. 140 °C	UL, TUV
(Alternate)	Switchlab Inc	T34	Rated 25 A, 300 V, min. 120 °C	UL
(Alternate)	Switchlab Inc	T44 series	Rated 15 A, 300 V, min. 120 °C	UL, TUV
(Alternate)	CIXI PANS AUTOMATIC CONTROL EQUIPMENT FTY	PT-49(@2)	Rated 25 A, 300 V, min. 105 °C	UL, VDE
(Alternate)	CIXI PANS AUTOMATIC CONTROL EQUIPMENT FTY	PT-4C-25(@2)	Rated 25 A, 300 V, min. 135 °C	UL, VDE
(Alternate)	NINGBO DEGSON ELECTRICAL CO LTD	DG46*oo1	Rated 30 A, 300 V, min. 105 °C	UL
Fuse (FS1)	Conquer Electronics Co Ltd	UBM-A, UBM-A series	Rated F16 AH, 250 Vac	UL, TUV
(Alternate)	LITTELFUSE INC	216*+, 216016	Rated F16 AH, 250 Vac	UL, TUV
Varistor (ZNR1) (Optional)	Thinking Electronic Industrial Co Ltd	TVR10471-V, TVR10511-V, TVR10561-V, TVR14471-V, TVR14511-V, TVR14561-V	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V-0), 105 °C, min 3KV/1.5KA	TUV
(Alternate)	Thinking Electronic Industrial Co., Ltd.	TVR10471-D, TVR14471-D, TVR10511-D, TVR14511-D, TVR10561-D, TVR14561-D	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V-0), 105 °C, min 4KV/2KA	TUV

부품명(회로기호) Component(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 Rating or Characteristics	인증마크 Tested by
(Alternate)	Thinking Electronic Industrial Co., Ltd.	TVR14471-M, TVR14511-M, TVR14561-M	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V-0), 125 °C, min 6KV/3KA	VDE
(Alternate)	Thinking Electronic Industrial Co., Ltd.	TVR14471, TVR14511, TVR14561,	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V-0), 105 °C, min 6KV/3KA	TUV
(Alternate)	Joyin Co., Ltd.	10S471K, 10S511K, 10S561K, 14S471K, 14S511K, 14S561K	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V-0), 85 °C, min 6KV/3KA	VDE
(Alternate)	Joyin Co., Ltd.	10N471K, 10N511K, 10N561K, 14N471K, 14N511K, 14N561K	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V-0), 85 °C, min 3KV/1.5KA	VDE
(Alternate)	Centra Science Corp	CNR-10D471K, CNR-10D511K, CNR-10D561K, CNR-14D471K, CNR-14D511K, CNR-14D561K	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V-0), 105 °C, min 3KV/1.5KA	VDE
(Alternate)	Guangdong Huiwan Electronics Technology Co Ltd	V-471K-10D(E)H, V-471K-14D(E)H, V-471K-20D(E)H	Min. 300 Vac, min. 385 Vdc (Flame class of body coating complied with V-0), 105 °C	VDE
Bleeder resistor (R1, R2)	TZAI YUAN ENTERPRISE CO LTD	SMD	Each rated max. 150 KΩ , min. 1/4 W.	UL
(Alternate)	WALSIN TECHNOLOGY CORP	WF12N	Each rated max. 150 KΩ , min. 1/4 W.	UL
(Alternate)	Ever Ohms Technology Co Ltd	HR1M*****	Each rated max. 150 KΩ , min. 1/4 W.	UL
X-Cap (C1, C2, C10) (Optional)	KEMET ELECTRONICS CORPORATION	R.46	C1,C2:Each rated max. 1.0 uF+/- 20%, C10: rated max. 1.5 uF +/- 20%	ENEC

부품명(회로기호) Component(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 Rating or Characteristics	인증마크 Tested by
(Alternate)	TDK (Zhuhai FTZ) Co., Ltd.	B3292#C/D/T/S/H/J3 B3292	C1,C2:Each rated max. 1.0 uF+/-20%, C10: rated max. 1.5 uF +/-20%	VDE
(Alternate)	TDK (Zhuhai FTZ) Co., Ltd	B3292	C1,C2:Each rated max. 1.0 uF+/-20%, C10: rated max. 1.5 uF +/-20%	VDE
(Alternate)	LIOW GU ELECTRONICS INDUSTRY CO LTD	GS-L	C1,C2:Each rated max. 1.0 uF+/-20%, C10: rated max. 1.5 uF +/-20% min. 250 V, 110 °C, X2 type	UL
(Alternate)	Ultra Tech XIPHI ENTERPRISE CO LTD	HQX	C1,C2:Each rated max. 1.0 uF+/-20%, C10: rated max. 1.5 uF +/-20%	VDE
(Alternate)	JOEY ELECTRONICS (DONG GUAN) CO LTD	MPX	C1,C2:Each rated max. 1.0 uF+/-20%, C10: rated max. 1.5 uF +/-20%	VDE
(Alternate)	CARLI ELECTRONICS CO LTD	MPX	C1,C2:Each rated max. 1.0 uF+/-20%, C10: rated max. 1.5 uF +/-20%	VDE
(Alternate)	Hua Jung COMPONENTS CO LTD	MKP	C1,C2:Each rated max. 1.0 uF+/-20%, C10: rated max. 1.5 uF +/-20%	ENEC
(Alternate)	Yangzhou Nissei Electronics Co., Ltd.	MP1	C1,C2:Each rated max. 1.0 uF+/-20%, C10: rated max. 1.5 uF +/-20%	VDE
Y-Cap (C3, C4, C23, C24) (Optional)	Xiamen Wanming Electronics Co., Ltd.	HJ	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Murata Mfg. Co., Ltd.	KX	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE

부품명(회로기호) Component(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 Rating or Characteristics	인증마크 Tested by
(Alternate)	TDK Corporation	CD	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Walsin Technology Corp.	AH	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Walsin Technology Corp.	AS Series, AS	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	VISHAY Electronic GmbH	VY1 Series	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Guangdong Huiwan Electronics Technology Co., Ltd.	AR	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Guangdong Huiwan Electronics Technology Co., Ltd.	AB Series	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Walsin Technology Corp.	AC	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Xiamen Wanming Electronics Co., Ltd.	HJ	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Murata Mfg. Co., Ltd.	KX	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	TDK Corporation	CD	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Walsin Technology Corp.	AH	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Walsin Technology Corp.	AS	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	VISHAY Electronic GmbH	VY1 Series	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
(Alternate)	Guangdong Huiwan Electronics Technology Co., Ltd.	AR	Max. 1000 pF, min. 250 V, 125 °C. Y1 type.	VDE
Line choke (LF1) (Optional)	Mean Well	TR-6248	Min. 130 °C	--

부품명(회로기호) Component(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 Rating or Characteristics	인증마크 Tested by
Voltage Select Switch (SW1)	RONG FENG INDUSTRIAL CO LTD	RF-1002B	10 A, 250 V 85℃	ENEC
(Alternate)	Solteam Electronics Co Ltd	EV-12, f/b L, f/b-2 or -3	10 A, 250 V 85℃	ENEC
DC Fan	YEN SUN TECHNOLOGY CORP	FD126015HB	Rated 12 Vdc, 0.22 A, min. 24.1 CFM, secured to the top metal chassis by screws, fan leads covered with min. 0.4 mm thick tubing.	TUV
(Alternate)	Zhaoqing Shenghui Electronic Technology Co.,Ltd.	CHA6012BH-15D	Rated 12 Vdc, 0.3 A, min. 22.39 CFM, secured to the top metal chassis by screws, fan leads covered with min. 0.4 mm thick tubing.	TUV
Relay (RY1)	Tyco Electronics (Shenzhen) Co Ltd	OJE-SH-112HMF, OJE-SS-112HMF	Rated contact: 10 A, 250 V, Coil: 12 Vdc. 85℃	TUV
(Alternate)	Tyco Electronics (Shenzhen) Co Ltd	OJE-SS-124HM	Rated contact: 10 A, 250 Vac, Coil: 24 Vdc. 85℃	TUV
(Alternate)	XIAMEN HONGFA ELECTROACOUSTIC CO LTD	HF32FV-G/12-HSTF, HF32FV-G/012-HT,	Rated contact: 10 A, 277 V, Coil: 12 Vdc. 85℃	VDE
Photo coupler (U3, U4, U5)	LITE-ON Technology Corporation	LTV-817S	Reinforced insulation	VDE
(Alternate)	Vishay Semiconductor GmbH	TCLT1008	Reinforced insulation	VDE
(Alternate)	Everlight Electronics Co., Ltd.	EL817S	Reinforced insulation	VDE
(Alternate)	Lite-On Technology Corporation	LTV-1008	Reinforced insulation	VDE
(Alternate)	CT Micro International Corporation	CT1(X1)1(X2)(X3) V (Y)(Z)-W-(H)(G)	Reinforced insulation	VDE
(Alternate)	CT Micro International Corporation	CT81(X1)(X2)(X3) V (Y)(Z)- (H)(G)	Reinforced insulation	VDE

부품명(회로기호) Component(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 Rating or Characteristics	인증마크 Tested by
Transformer (T1) (For models LRS-450-12)	Mean Well	TF-7111	Class B.	--
Transformer (T1) (For models LRS-450-15)	Mean Well	TF-7112	Class B.	--
Transformer (T1) (For models LRS-450-24)	Mean Well	TF-7113	Class B.	--
Transformer (T1) (For models LRS-450-36)	Mean Well	TF-7114	Class B.	--
Transformer (T1) (For models LRS-450-48)	Mean Well	TF-7115	Class B.	--
PWB	Interchangeable	Interchangeable	V-1 or better, min. 130 °C	UL

☐ 유의사항 (Attention) :

1. 안전관리부품은 전기적인 안전에 직접적인 영향을 주는 부품으로서 안전인증기관이 정기공장검사 시 확인 관리 하는 사항입니다. 따라서 상기목록에 기재된 사항을 변경하거나 또는 복수등재를 원하시는 경우는 안전인증기관에 인증변경신청을 하여야 합니다.

As the "Critical components" are parts in directly related with safety, these components shall be checked during a factory inspection by the certification body. In case of applying multiple listing or changing the items above, the certification revision shall be applied.

2. 인증변경신청 없이 임의로 변경하는 경우는, 전기용품 및 생활용품 안전관리법 시행규칙 제 21 조제 1 항 또는 제 38 조제 1 항 규정에 의한 안전인증 취소 혹은 안전확인신고 효력상실 사유가 됨을 유의하시기 바랍니다.

The Safety Certification will be cancelled under the Article 21(1), 38(1) of the Enforcement Rule of the Electrical appliances and Consumer Products Safety Control Act if the contents of the Certification is altered without our authorization.

□ 첨부 2 : 기본모델 · 파생모델의 내용
Description of the basic and series model

파생모델명 Derivative model	기본모델과의 차이점 Differences between the basic and derivative model(s)
LRS-450-12	It is identical to basic model except for model designation, output ratings, transformer (T1), PWB layout, Heat Sink, thermal pad, mylar sheet, metal chassis and some secondary component's rating, secondary circuit diagram. (Output: DC 12 V, 37.5 A)
LRS-450-15	It is identical to basic model except for model designation, output ratings, transformer (T1), PWB layout, Heat Sink, thermal pad, mylar sheet, metal chassis and some secondary component's rating, secondary circuit diagram. (Output: DC 15 V, 30 A)
LRS-450-24	It is identical to basic model except for model designation, output ratings, transformer (T1), PWB layout, Heat Sink, thermal pad, mylar sheet, metal chassis and some secondary component's rating, secondary circuit diagram. (Output: DC 24 V, 18.8 A)
LRS-450-36	It is identical to basic model except for model designation, output ratings, transformer (T1), PWB layout, Heat Sink, thermal pad, mylar sheet, metal chassis and some secondary component's rating, secondary circuit diagram. (Output: DC 36 V, 12.5 A)
제품특기사항 및 시험조건 Remarks & Test conditions	
1. Review Ref. No.: 23-009761-01-2 - DEKRA Ref. No.: 4399203.50 2. Product Description: - Measured Power Consumption: 488.27 W - Insulation Class: Class I - Protection against Ingress of water: IPX0 - Mass of Equipment: Max. 0.85 kg	
□ 본 제품의 검토내용에 관하여 의문사항이 있으시면 아래 연락처로 문의하시기 바랍니다. 검토 담당자 : 고객지원본부 인증융합평가센터 장 재용 / 02-8601-137 □ If you have any question on product review, please contact the person below : Job holder: Customer Support Division, Certification Convergence Evaluation Center, J.Y. Jang / +82 2 860-1137	

FP511-05

☐ 첨부 3 : 안전확인신고 내용의 변경 현황
Revisions Status

변경발급 내용 Contents of Certificate Revisions
Not applicable

FP511-06