



안전인증서 Safety Certificate

안전인증번호: HU10142-18181B
(Certificate No.)

제조업자/수입업자명: Zhonghan Electronics (Shenzhen) Co.,Ltd.
(Manufacturer/importer)

주소: Building A2 in Section A, Building 4,6,7 in Section C, JuYuan Industrial Zone, TangWei Village, FuYong Town, BaoAn Dist., Shenzhen City, Guangdong, China
(Address)

제품명: 직류전원장치
(Product)

기본모델명: FSP040-RHAN3
(Basic Model)

파생모델명 (Series Model):

정격/안전기준상의 모델구분: 100-240 V~, 50-60 Hz, 1.5 A (O/P: 12 Vdc, 3.33 A)
(Rating)

시험기준: K 60950-1(2011-12)
(Standard)

본 인증서는 제조국명: 중국
제조업자명: Zhonghan Electronics (Shenzhen) Co.,Ltd.
제조공장의 주소: Building A2 in Section A, Building 4,6,7 in Section C, JuYuan Industrial Zone, TangWei Village, FuYong Town, BaoAn Dist., Shenzhen City, Guangdong, China
의 제품에만 해당함

「전기용품 및 생활용품 안전관리법 시행규칙」 제9조제2항, 제4항, 제10조제2항 또는 제15조제2항에 따라 안전인증서를 발급합니다.

We issue this Safety Certificate for the above appliances in accordance with the Article 9(2), 9(4), 10(2) or 15(2) of the Enforcement Rule of the Electrical Appliances and Consumer Products Safety Control Act.

2019 년 09 월 10 일
(Year) (Month) (Day)



한국기계전기전자시험연구원 Korea Testing Certification



※ 이 인증서는 「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	<ol style="list-style-type: none"> 1. 전기용품의 안전관리부품 및 재질목록 (List of Critical Components) 2. 기본모델·파생모델의 내용 (Descriptions of the basic and series model) 3. 안전인증의 변경 현황 (Revisions Status) 	
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1. 기본모델 · 파생모델의 내용 (General Descriptions of Certified Products)

1.1 제품의 설명 (Product description)

인증제품의 개요는 다음과 같다.

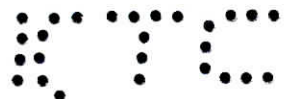
(Information on certified basic model product is as follow)

구분 (Section)	내 용 (Description)
용도 (Normal use)	The apparatus designed to be used for converting AC main voltage to DC low voltage.
내부구조 (Internal construction)	The apparatus consists of Switching transformer, rectifying part etc.
외부구조 (External construction)	Providing with plastic enclosure having min. V-1 flammability and appliance inlet.
기타 (Others)	Class I

1.2 전기용품의 표시: 전기용품 및 생활용품 안전관리법 시행규칙 제20조(안전인증의 표시)에 따라 표시한다.
(Marking of KC Mark: Marking shall comply with the Article 20 of the Enforcement Rule of the Electrical Appliances and Consumer Products Safety Control Act.)

1.3 등록모델 (Registered Models)

구 분 (Class)	모 델 명 및 정 격 (Model / Rating)	기본모델과의 차이점 (Difference between basic model and series model)
기본모델 (Basic model)	FSP040-RHAN3 100-240 V~, 50-60 Hz, 1.5 A (O/P: 12 Vdc, 3.33 A)	



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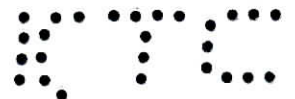
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2. 안전관리 부품 및 재질목록(List of Critical Components)

부품명(회로기호) Components(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 (Technical Data)	인증규격 (Certification)
Plastic Enclosure (Top and Bottom)	LOTTE ADVANCED MATERIALS CO LTD	HN-1064	1.5 mm thick V-0 min., 130 °C min.	UL
Plastic Enclosure (Top and Bottom) (alt)	SABIC INNOVATIVE PLASTICS US L L C	945	1.5 mm thick V-0 min., 120 °C min.	UL
AC Inlet	Tecx-Unions Technology Corp.	TU-301-A, TU-301-AP, TU-301-AP-A TU-301-S, TU-301-SP	10 A, 250 Vac, C14 type	IEC
AC Inlet (alt)	Rong Feng Industrial Co., Ltd.	SS-120, SS-7B	10 A, 250 Vac, C14 type	IEC
AC Inlet (alt)	Solteam Electronics Co., Ltd	ST-01	10 A, 250 Vac, C14 type	IEC
AC Inlet (alt)	Dong IL Technology Ltd.	DAC-11PM	10 A, 250 Vac, C14 type	IEC
AC Inlet (alt)	Zhe Jiang Bei Er Jia Electronic Co., Ltd.	ST-A01-001L, ST-A01-002L, ST-A01-003J, ST-A01-003K	10 A, 250 Vac, C14 type	IEC
AC Inlet (alt)	Canal Electronic Co., Ltd.	KS-101, KS-201, KS-202, KS-303, KS-406	10 A, 250 Vac, C14 type	IEC
AC Inlet (alt)	Rich Bay Co., Ltd.	R-301, R-301SN	10 A, 250 Vac, C14 type	IEC
AC Inlet (alt)	HCR Electronics Co., Ltd.	SK01	10 A, 250 Vac, C14 type	IEC
AC Inlet (alt)	Inalways Corporation	0711-2	10 A, 250 Vac, C14 type	IEC
Fuse (F1)	Ever Island Electric Co Ltd & Walter Electric Co., Ltd.	2010 Series	250 Vac, T3.15 AL	IEC
Fuse (F1) (alt)	Littelfuse, Inc. Wickmann - Werke	392	250 Vac, T3.15 AL	IEC

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부품명 (회로기호) Components(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 (Technical Data)	인증규격 (Certification)
Fuse (F1) (alt)	BEL Fuse Ltd.	RST-series	250 Vac, T3.15 AL	IEC
Fuse (F1) (alt)	Conquer Electronics Co., Ltd.	MST-series	250 Vac, T3.15 AL	IEC
Fuse (F1) (alt)	Cooper Bussmann L L C	SS-5	250 Vac, T3.15 AL	IEC
Varistor (VAR1) (Optional)	Thinking Electronic Industrial Co., Ltd	TVR10471-D, TVR10471-V	300 Vac, 385 Vdc (Flame class of body coating complied with V-0)	IEC
Varistor (VAR1) (Optional) (alt)	Thinking Electronic Industrial Co., Ltd	TVR10621-D, TVR10621-V	395 Vac, 510 Vdc (Flame class of body coating complied with V-0)	IEC
Varistor (VAR1) (Optional) (alt)	Thinking Electronic Industrial Co., Ltd	TVR10561-D, TVR10561-V	350 Vac, 450 Vdc (Flame class of body coating complied with V-0)	IEC
Varistor (VAR1) (Optional) (alt)	Thinking Electronic Industrial Co., Ltd	TVR10681-D, TVR10681-V	420 Vac, 560 Vdc (Flame class of body coating complied with V-0)	IEC
Varistor (VAR1) (Optional) (alt)	Thinking Electronic Industrial Co., Ltd	TVR10751-D, TVR10751-V	465 Vac, 615 Vdc (Flame class of body coating complied with V-0)	IEC
Varistor (VAR1) (Optional) (alt)	Guangxi New Future Information Industry Co., Ltd	10D471K	300 Vac, 385 Vdc (Flame class of body coating complied with V-0)	IEC
Varistor (VAR1) (Optional) (alt)	Guangxi New Future Information Industry Co., Ltd	10D511K	320 Vac, 415 Vdc (Flame class of body coating complied with V-0)	IEC
Varistor (VAR1) (Optional) (alt)	Guangxi New Future Information Industry Co., Ltd	10D561K	350 Vac, 460 Vdc (Flame class of body coating complied with V-0)	IEC
Varistor (VAR1) (Optional) (alt)	Guangxi New Future Information Industry Co., Ltd	10D621K	385 Vac, 505 Vdc (Flame class of body coating complied with V-0)	IEC
Varistor (VAR1) (Optional) (alt)	Guangxi New Future Information Industry Co., Ltd	10D681K	420 Vac, 560 Vdc (Flame class of body coating complied with V-0)	IEC
Varistor (VAR1) (Optional) (alt)	EPCOS OHG	S10K300, S10K300E2, S10K300E2K1	300 Vac, 385 Vdc (Flame class of body coating complied with V-0)	IEC
Varistor (VAR1) (Optional) (alt)	EPCOS OHG	S10K320, S10K320E2, S10K320E2K1	320 Vac, 420 Vdc (Flame class of body coating complied with V-0)	IEC
Varistor (VAR1) (Optional) (alt)	EPCOS OHG	S10K350E2K1	350 Vac, 460 Vdc (Flame class of body coating complied with V-0)	IEC

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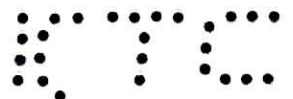
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Varistor (VAR1) (Optional) (alt)	EPCOS OHG	S10K385, S10K385E2, S10K385E2K1	385 Vac, 505 Vdc (Flame class of body coating complied with V-0)	IEC
Varistor (VAR1) (Optional) (alt)	EPCOS OHG	S10K420, S10K420E2, S10K420E2K1	420 Vac, 560 Vdc (Flame class of body coating complied with V-0)	IEC
Varistor (VAR1) (Optional) (alt)	EPCOS OHG	S10K440	440 Vac, 585 Vdc (Flame class of body coating complied with V-0)	IEC
Varistor (VAR1) (Optional) (alt)	EPCOS OHG	S10K460, S10K460E2, S10K460E2K1	460 Vac, 615 Vdc (Flame class of body coating complied with V-0)	IEC
X-Capacitor (CX1) (Optional)	Hua Jung Components Co., Ltd.	MKP	Max. 0.33 μ F, min. 250 Vac	IEC
X-Capacitor (CX1) (Optional) (alt)	Okaya Electric Industries Co., Ltd.	LE(-*)	Max. 0.33 μ F, min. 250 Vac	IEC
X-Capacitor (CX1) (Optional) (alt)	Carli Electronics Co.,Ltd.	MPX	Max. 0.33 μ F, min. 250 Vac	IEC
X-Capacitor (CX1) (Optional) (alt)	Iskra, d d	KNB1530	Max. 0.33 μ F, min. 250 Vac	IEC
X-Capacitor (CX1) (Optional) (alt)	Iskra, d d	KNB1560, KNB1563, KNB1562	Max. 0.33 μ F, min. 250 Vac	IEC
X-Capacitor (CX1) (Optional) (alt)	Shiny Space Enterprise Co., Ltd.	SX1	Max. 0.33 μ F, min. 250 Vac	IEC
X-Capacitor (CX1) (Optional) (alt)	Chiefcon Electronics Co., Ltd.	CKX	Max. 0.33 μ F, min. 250 Vac	IEC
X-Capacitor (CX1) (Optional) (alt)	ZhuHai Sung Ho Electronics Co., Ltd	CMPP	Max. 0.33 μ F, min. 250 Vac	IEC
X-Capacitor (CX1) (Optional) (alt)	Ultra Tech Xiphi Enterprise Co Ltd	HQX	Max. 0.33 μ F, min. 250 Vac	IEC
X-Capacitor (CX1) (Optional) (alt)	Arcotronics	R.49	Max. 0.33 μ F, min. 250 Vac	IEC
X-Capacitor (CX1) (Optional) (alt)	Cheng Tung Industrial Co., Ltd	CTX	Max. 0.33 μ F, min. 250 Vac	IEC
X-Capacitor (CX1) (Optional) (alt)	Pilkor Electronics Co., Ltd	PCX2 337	Max. 0.33 μ F, min. 250 Vac	IEC
Choke (LF1)	FSP/SPI	8LM02656	130 $^{\circ}$ C	-
Choke (LF2)	FSP/SPI	8LE00644	130 $^{\circ}$ C	-

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부품명(회로기호) Components(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 (Technical Data)	인증규격 (Certification)
Transformer (T1)	FSP/SPI	8TV00410	Class B	-
Triple Insulation Wire (of T1)	DAH JIN TECHNOLOGY CO LTD	TLW-BB	130 ℃	VDE
Bobbin (of T1)	Sumitomo Bakelite Co., Ltd	PM-9630, PM-9823, PM-9750	V-0, min. 150 ℃, phenolic, min. 0.51 mm thickness	UL
Bobbin (of T1) (alt)	Chang Chun Plastics co., ltd.	T200HF	V-0, min. 150 ℃, phenolic, min. 0.51 mm thickness	UL
Transformer (T1) (alt)	FSP/SPI	8TV00409	Class B	-
Triple Insulation Wire (of T1)	Furukawa Electric Co., ltd.	TEX-E	130 ℃	VDE
Bobbin (of T1)	Sumitomo Bakelite Co., Ltd.	PM-9630, PM-9823, PM-9750	V-0, min. 150 ℃, phenolic, min. 0.51 mm thickness	UL
Transformer (T1) (alt)	FSP/SPI	8TV00479	Class B	-
Triple Insulation Wire for T1)	DAH JIN TECHNOLOGY CO LTD	TLW-BB	130 ℃	VDE
Bobbin/Cover used in T1	Sumitomo Bakelite Co., Ltd.	PM-9630, PM-9823, PM-9750	V-0, min. 150℃, phenolic, min. 0.51mm thickness	UL
Bobbin/Cover used in T1 (alt)	Chang Chun Plastics co., ltd.	T200HF	V-0, min. 150℃, phenolic, min. 0.51mm thickness	UL
Bridging-Capacitor (CY1) (Y1 type) (Optional)	Walsin Technology Corp	AH	Max. 1500 pF, min. 250 V, Y1 type	IEC
Bridging-Capacitor (CY1) (Y1 type) (Optional) (alt)	TDK Corporation	CD	Max. 1500 pF, min. 250 V, Y1 type	IEC
Bridging-Capacitor (CY1) (Y1 type) (Optional) (alt)	Murata Mfg Co., Ltd.	KX, RA	Max. 1500 pF, min. 250 V, Y1 type	IEC
Bridging-Capacitor (CY1) (Y1 type) (Optional) (alt)	Success Electronics Co., Ltd	SB, SE, SF	Max. 1500 pF, min. 250 V, Y1 type	IEC

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부품명(회로기호) Components(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 (Technical Data)	인증규격 (Certification)
Bridging-Capacitor (CY1) (Y1 type) (Optional) (alt)	TDK Corporation	CD (miniature series)	Max. 1500 pF, min. 250 V, Y1 type	IEC
Photo Coupler (PC1)	Cosmo Electronics Corp	KT10XX (XX=00-ZZ)	Dti= 0.7 mm	IEC
Photo Coupler (PC1) (alt)	Everlight Electronics Co., Ltd.	EL1018	Dti= 0.4 mm	IEC
Photo Coupler (PC1) (alt)	Lite-On Technology Corporation	LTV-1008	Dti= 0.4 mm	IEC
Photo Coupler (PC1) (alt)	Lite-On Technology Corp	LTV-817, LTV-817M	Dti= 0.6 mm	IEC
Photo Coupler (PC1) (alt)	Vishay Semiconductor Gmbh	TCET1103	Dti= 0.5 mm	IEC
Photo Coupler (PC1) (alt)	Vishay Semiconductor Gmbh	TCET1108, TCET1109	Dti= 0.5 mm	IEC
Photo Coupler (PC1) (alt)	Vishay Semiconductor Gmbh	TCET1103G, TCET1104G, TCET1108G, TCET1109G, TCET1114G	Dti= 0.5 mm	IEC
Photo Coupler (PC1) (alt)	Vishay Semiconductor Gmbh	SFH617A-..	Dti= 0.6 mm	IEC
Photo Coupler (PC1) (alt)	Renesas Electronics Corporation	PS2561-1, PS2561AL1-1	Dti= 0.4 mm	IEC
Photo Coupler (PC1) (alt)	Renesas Electronics Corporation	PS2561BL1-1, PS2561D-1	Dti= 0.4 mm	IEC
Photo Coupler (PC1) (alt)	Renesas Electronics Corporation	PS2561DL1-1	Dti= 0.4 mm	IEC
Photo Coupler (PC1) (alt)	Sharp Corp. Electronic Components Group	PC123	Dti= 0.4 mm	IEC
Photo Coupler (PC1) (alt)	Cosmo Electronics Corp.	K1010	Dti= 0.5 mm	IEC
Photo Coupler (PC1) (alt)	Everlight Electronics Co., Ltd.	EL817.	Dti= 0.5 mm	IEC

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부품명(회로기호) Components(Part no.)	제조사(상표명) Manufacturer(Brand)	모델명(형식) Model(Type)	정격 또는 특성 (Technical Data)	인증규격 (Certification)
Bleeder resistor (R1, R2, R17, R10)	Interchangeable	Interchangeable	Max. 3 Mohm, min. 1/4 W	-
Bridge Diode (BD1)	Interchangeable	Interchangeable	Min. 2 A, min. 600 V	-
Electrolytic capacitor (EC1)	Interchangeable	Interchangeable	82-100 μ F, 400 V min., 105 $^{\circ}$ C min.	-
Current Resistor (R11)	Interchangeable	Interchangeable	Min. 0.27 ohm, min. 2 W	-
PCB	Interchangeable	Interchangeable	V-0 or better, 130 $^{\circ}$ C min.	UL
Bridging Resistors (R18, R19, R20, R21, R22)	TA-I	TRM-120S006F	SMD type,15 Mohm, 1/4W, Distance between terminals: 2.0mm (each one)	-
Bridging Resistors (R18, R19, R20, R21, R22) (alt)	Interchangeable	Interchangeable	SMD type,15 Mohm, 1/4W, Distance between terminals: 2.0mm min.(each one)	-

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3. 전기용품안전인증의 변경현황(Status of Certificate Revisions)

일자(Date)	발급현황(Status of issues)
	변경내용(Modification of Contents)
2018/08/17	기본모델(Basic Model)
2019/09/10	부품(Component Alternated/Modified)

4. 기타(Carefully Informed Note)

- 1) 안전관리부품 및 재질목록에 기재된 사항은 안전에 직접적인 영향을 주는 부분이므로 내용을 변경 또는 복수등재를 원하는 경우 안전인증변경신청 또는 안전확인변경신고를 하여야 합니다. 안전인증변경신청 또는 안전확인변경신고를 하지 않고 임의로 변경하는 경우에는 전기용품 및 생활용품 안전관리법에 따라 행정조치 될 수 있습니다.
The certificate holder should apply for a revision of the certificate if the registered critical components are to be changed, modified or alternated. Should the contents of Certificate are altered without the application for the modification, the administrative measures can occur according to the Electrical Appliances and Consumer Products Safety Control Act.
- 2) 정기검사(시료채취포함)를 거부, 방해 또는 기피하는 경우에는 전기용품 및 생활용품 안전관리법 제11조에 따라 안전인증이 취소될 수 있습니다.
If Follow-up Factory Inspection, including sampling representative model by 11 categories of the certified product at factory-site for re-testing, should not has been arranged by Certificate holder, Safety Certification(KC Mark) may be withdrawn according to the Article 11 of the Electrical Appliances and Consumer Products Safety Control Act.
- 3) 공장주소(전화번호포함), 대표자, 상호 및 부품변경, 신고인정보 등 안전인증 또는 안전확인신고의 내용이 변경되었을 때, 안전인증변경신청 또는 안전확인변경신고를 하지 않을 경우에는 전기용품 및 생활용품 안전관리법에 따라 행정조치 될 수 있습니다.
Should a factory address, president name, manufacturer name and critical component are altered without the application for the modification, the administrative measures can occur according to the Electrical Appliances and Customer Products Safety Control Act.
- 4) 조건부 인증사항 (Conditional certification items):

