UL-EU CERTIFICATE

Certificate No. Page	UL-EU-02418-A1 1/5
Date of Issue	2024-01-05
Certificate Holder	FLEX ELECTRONICS (SHANGHAI) CO LTD 33 FUHUA ROAD,JIADING DISTRICT SHANGHAI, Shanghai, 201818 CHINA
Production site	FLEX ELECTRONICS (SHANGHAI) CO LTD 33 FUHUA ROAD,JIADING DISTRICT SHANGHAI, SHANGHAI, 201818 CHINA
Certified Product	DC-DC Converter
Model	PKU4217D*, PKU4110D*, PKU4913D*, PKU4317D*, PKU4113D PIHS See page 2 for additional Information
Trademark	flex flex.
Ratings	(optional) For model PKU4213D*, Input: 36-75Vdc, Max.9A, Output: 12Vdc, Max.15A See page 2 for additional ratings
Tested acc. to	EN 62368-1:2014, EN 62368-1:2014/A11:2017
Test Report No.	OFF-4788288629-C-1-Amendment-1 issued on 2024-01-05
Additional	The report was revised to include administrative modifications. This Certificate replaces Certificate No. UL-EU-02418 dated 2023-08-18 due t delete one factory.
Expire date	2024-07-06

Certification Manager Thomas Wilson UL International Demko A/S Borupvang 5A 2750 Ballerup Denmark 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 Certificate, in accordance with the UL-EU Requirements. As specified in the respective appendices below the designated Certificate holder is entitled to use the UL-EU Mark, or its alternative for cables, for the Certified Product manufactured at the production site(s) identified above, in accordance with the UL-EU Mark Service Agreement, including without limitation the UL-EU Mark Service. This Certificate shall remain valid through the expiration date, unless terminated earlier in accordance with the Services service Terms. Only those Products bearing the UL-EU Mark Service. This Certificate shall remain valid through the expiration date, unless terminated earlier in accordance with the Service agreement including without limitation if the Standard(s) identified on this Certificate is amended or withdrawn prior the expiration date.

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Additional Model(s):

Series: PKU4213D⁺, PKU4213D PIHS, PKU4113D⁺, PKU4113D PIHS, PKU4111D⁺, PKU4111D PIHS, PKU4110D⁺, PKU4110D PIHS, PKU4217D PIHS, PKU4217D⁺, PKU4113D PIOLA, PKU4111D PIHSLA, PKU4913D⁺, PKU3913D⁺, PKU4116HD⁺, PKU4105C PILA, PKU4317D⁺

* represents PI or SI may be followed by a combination of the additional suffixes,, see below for each suffix.

All models have suffixes that represent minor differences that do not affect safety.

- All models have one of the following suffixes:
- PI pins for through hole mounting
- SI pins for surface mounting
- PI or SI may be followed by a combination of the following additional suffixes:
- P positive remote control (negative remote control is standard)
- M increased stand-off and height
- LA lead length 3.69 mm (0.145 in.) (5.33 mm (0.210 in.) is standard)
- LB lead length 4.57 mm (0.180 in.) (5.33 mm (0.210 in.) is standard)
- LC lead length 2.79 mm (0.110 in.) (5.33 mm (0.210 in.) is standard)
- LD lead length 2.40 mm (0.094 in.) (5.33 mm (0.210 in.) is standard)
- NB no base plate(PKB-B models only)
- OP optional part list
- HS base plate
- LHS-low base plate
- HV baseplate with wings
- G baseplate with ground pin (HV baseplate only)
- OC custom optimized control loop
- OV 36-60V input voltage
- OA 1.5 V output voltage
- OB 1.2 V output voltage
- LV latching over voltage protection
- LT latching over temperature protection
- LI latching over current protection
- LP latching over temperature and over voltage protection
- LIV latching over current and over voltage protection
- LIT latching over current and over temperature protection
- LPA latching over voltage, over temperature and over current protection
- OT change under voltage at shut down level
- O electrical optional part list
- NT no trim function

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Ratings:

For model PKU4213D PIHS, Input: 36-75Vdc, Max.10A; Output: 12Vdc, Max. 17A; For Model PKU4113D*, and PKU4113D PIHS, Input: 36-75Vdc, Max.7A; Output: 12Vdc, Max. 10A; For Model PKU4111D*, Input: 36-75Vdc, Max.6.5A; Output: 5Vdc, Max.27A; For Model PKU4111D PIHS, Input: 36-75Vdc, Max.7A; Output: 5Vdc, 30A; For Model PKU4110D*, Input: 36-75Vdc, Max.4.5A: Output: 3.3Vdc, Max.30.3A; For Model PKU4110D PIHS, Input: 36-75Vdc, Max.5A; Output: 3.3Vdc, Max. 33.3A For Model PKU4217D PIHS, PKU4217D*, Input: 36-60Vdc, Max.7.5A; Output: 10.4Vdc, 25A For Model PKU4113D PIOLA, Input: 36-75Vdc, Max.7A; Output: 12Vdc, Max.10A For Model PKU4111D PIHSLA, Input: 36-75Vdc, Max.4.5A; Output: 5Vdc, 30A For Model PKU4913D*, Input: 36-75Vdc, Max.3.2A; Output: 12Vdc, 100W For Model PKU3913D*, Input: 30-60Vdc, Max.3.6A; Output: 12Vdc, 100W For Model PKU4116HD*, Input: 36-60Vdc, Max.3.3A, Output: 55Vdc, 2A For Model PKU4105C PILA, Input: 36-75Vdc, Output: 5Vdc, 100W For Model PKU4317D*, Input: 48-60Vdc, Max 7.5A, Output: 12Vdc, 25A IPX0, for building-in

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Certification Mark UL-EU Mark

The UL-EU Mark, as displayed below, shall appear on certified products only. Minimum size is not specified, as long as the Mark is legible. The following is suggested.



The minimum height of the registered trademark symbol ® shall be 1 mm. When the overall diameter of the UL-EU Mark is less than 9.5 mm, the trademark symbol may be omitted if it is not legible to the naked eye.

The UL-EU Mark may appear on a label, nameplate, or may be cast, stamped or molded into the product. When appearing on a label or nameplate, the Manufacturer's name or trademark along with a model number are also required on that same label or nameplate. If cast, stamped or molded, the Certificate Manufacturer's name or trademark and model number shall also appear elsewhere on the product.

All content shall be in accordance with the details provided on this UL-EU Certificate.

PROCUREMENT

The Production site may reproduce the Mark or obtain it from a UL authorized supplier. The list of UL authorized suppliers can be found on UL's online directory at <u>www.ul.com</u>

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Alternate certification Mark for cables

As an alternative to the UL-EU Mark specified above the alternate UL-EU Mark, displayed below, can appear on certified cables only. Minimum size is not specified, as long as the mark is legible. The following is suggested:

(UL)-EU

The alternate UL-EU Mark may be cast, stamped or molded into the cable and continue throughout the length of the cable as specified in the applicable cable standard.

All content shall be in accordance with the details provided on this UL-EU Certificate.