

# UL-EU CERTIFICATE

<b>Certificate No.</b>	UL-EU-01765-M3
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<b>Date of Issue</b>	2024-07-04
<b>Certificate Holder</b>	FLEX ELECTRONICS (SHANGHAI) CO LTD 33 FUHUA ROAD,JIADING DISTRICT SHANGHAI, 201818 CHINA
<b>Production site</b>	FLEX ELECTRONICS (SHANGHAI) CO LTD 33 FUHUA ROAD,JIADING DISTRICT SHANGHAI, 201818 CHINA
<b>Certified Product</b>	DC-DC Converter
<b>Model</b>	1. PKB4318PIOB 2. PKB4418PIOA 3. PKB4418PI* 4. PKB4619PI* See page 2-3 for additional Information
<b>Trademark</b>	
<b>Ratings</b>	(optional) For model PKB4318PIOB: Input: 36-75Vdc, output: 1.2Vdc, 30A See page 3-4 for additional ratings
<b>Tested acc. to</b>	EN 62368-1:2014, EN 62368-1:2014/A11:2017
<b>Test Report No.</b>	OFF-4788962525-A-1-Amendment-3 issued on 2024-07-02
<b>Additional</b>	The report was revised to include technical modifications. This Certificate replaces earlier issued UL-EU certificate No.UL-EU-01765-M2 due to: 1. Delete all spaces between letters of all model names. 2. Change the required withstand voltage of model PKB4413DPIHS from 2000Vdc to 2250Vdc. 3. Update attachments 6-01, 6-02 and 6-03.
<b>Expire date</b>	2026-01-07

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**Certification Manager**  
**Thomas Wilson**  
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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 Testing and Certification Services Service Terms. Only those Products bearing the UL-EU Mark for Europe should be considered as being covered by UL's 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with the Service Agreement including without limitation if the Standard(s) identified on this Certificate is amended or withdrawn prior the expiration date.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:

1. PKB4318PIOB
2. PKB4418PIOA
3. PKB4418PI\*
4. PKB4619PI\*
5. PKB4510PI\*
6. PKB4610PI\*
7. PKB4810PI\*
8. PKB4417PI\*
9. PKB4711PI\*
10. PKB4713PI\*
11. PKB4913PI\*
12. PKB4715PI\*
13. PKB4317YPI\*
14. PKB4717PI\*
15. PKB5610PI\*
16. PKB5711PI\*
17. PKB5713PI\*
18. PKB5410PI\*
19. PKB4110CPI\*
20. PKB4111CPI\*
21. PKB4113CPI\*
22. PKB4718LCPI\*
23. PKB4918HCPI\*
24. PKB4118GCPI\*
25. PKB4513PI\*
26. PKB4318NPI\*
27. PKB4513PINBOVLC
28. PKB4111API\*
29. PKB4910API\*
30. PKB4111ASIOT
31. PKB4518NCPI\*
32. PKB4216CPI\*
33. PKB4111DPI\*
34. PKB4110DPI\*
35. PKB4313DPI\*
36. PKB4211DPI\*
37. PKB4213DPI\*
38. PKB4413DPI\*
39. PKB4313DA\*
40. PKB4413DA\*
41. PKB4217ND\*
42. PKB4313DAPIOA
43. PKB4413DPIHSUALA

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**Certification Body**

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PI in the type designation is replaced by SI for surface mount versions of the above through hole mount models, all models may be followed by any combination of characters representing minor differences that do not affect safety, see model differences for examples of suffixes. See model differences for explanation of the suffix “\*\*”.

All models' suffix is optional:

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 (PKB 4513 PINBOVLC only)

OA - 1.5 V output voltage (PKB 4418 PIOA only)

OB - 1.2 V output voltage (PKB 4318 PIOB only)

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 UnderVoltage at shut down level

O - Electrical Optional part list

L - Low Profile (means Lower product height)

Z - 3.25mm standoff

UA - Input voltage minimum is 34.5V

## Ratings:

PKB4318PIOB Input: 36-75Vdc output: 1.2Vdc 30A

PKB4418PIOA Input: 36-75Vdc output: 1.5Vdc 30A

PKB4418PI\* Input: 36-75Vdc output: 1.8Vdc 25A

PKB4619PI\* Input: 36-75Vdc output: 2.5Vdc 25A

PKB4510PI\* Input: 36-75Vdc output:3.3 Vdc 15A

PKB4610PI\* Input: 36-75Vdc output:3.3 Vdc 20A

PKB4810PI\* Input: 36-75Vdc output:3.3 Vdc 25A

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PKB4417PI\* Input: 36-60Vdc output:3.6 Vdc 8A  
PKB4711PI\* Input: 36-75Vdc output:5 Vdc 15A  
PKB4713PI\* Input: 36-75Vdc output:12 Vdc 6A  
PKB4913PI\* Input: 38-75 Vdc output:12 7.5A  
PKB4715PI\* Input: 38-75 Vdc output:15 Vdc 5A  
PKB4317YPI\* Input: 36-60Vdc output:3.6 Vdc 9A  
PKB4717PI\* Input: 36-75Vdc output:7.2 Vdc 10.5A  
PKB5610PI\* Input: 18-60 Vdc output: 3.3 Vdc 20A  
PKB5711PI\* Input: 18-60 Vdc output:5 Vdc 15A  
PKB5713PI\* Input: 18-60 Vdc output:12Vdc 6.25A  
PKB5410PI\* Input: 18-62.5Vdc output: 3.3Vdc 12.1A  
PKB4110CPI\* Input: 36-75Vdc output:3.3 Vdc 40A  
PKB4111CPI\* Input: 36-75Vdc output:5.0 Vdc 28A  
PKB4113CPI\* Input: 36-75Vdc output:12 Vdc 12A  
PKB4110DPI\* Input: 36-75Vdc output:3.3 Vdc 40A  
PKB4111DPI\* Input: 36-75Vdc output:5.0 Vdc 30A  
PKB4313DPI\* Input: 36-75Vdc output:12 Vdc 25A  
PKB4718LCPI\* Input: 36-75Vdc output: 1.2Vdc 60A  
PKB4918HCPI\* Input: 36-75Vdc output: 1.5Vdc 60A  
PKB4118GCPI\* Input: 36-75Vdc output: 1.8Vdc 60A  
PKB4513PI\* Input: 36-75Vdc output:12 Vdc 4 A  
PKB4318NPI\* Input: 36-75Vdc output:1 Vdc 30A  
PKB4513PINBOVLC Input: 30-60 Vdc output:12 Vdc 4A  
PKB4111API\* Input: 36-75Vdc output:5 Vdc 125W  
PKB4910API\* Input: 36-75Vdc output:3.3 Vdc 100W  
PKB4111ASIOT Input: 36-75Vdc output:5 Vdc 125W  
PKB4518NCPI\* Input: 36-75Vdc output:1 Vdc 50A  
PKB4216CPI\* Input: 36-75Vdc output:15-33 Vdc 6.6A  
PKB4211DPI\* Input: 36-75Vdc output:5 Vdc 40A  
PKB4213DPI\* Input: 36-75Vdc output:12 Vdc 22A  
PKB4413DPI\* Input: 36-60Vdc output:12 Vdc 450W  
PKB4313DA\* Input: 36-75Vdc output:12Vdc 32.5A 390W  
PKB4413DA\* Input: 36-75Vdc output:12 Vdc 34A 408W  
PKB4217ND\* Input: 36-75Vdc output:10 Vdc 25A  
PKB4313DAPIOA Input: 36-75Vdc output:12Vdc 32.5A  
PKB4413DPIHSUALA Input: 34.5-60 Vdc output:12Vdc 450W

Not Classified  
IPX0

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**Certification Body**

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Denmark

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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 [www.ul.com](http://www.ul.com)

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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.

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**Certification Body**

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