

flex[®]

Power Modules

Selection Guide

H2-2021

Powering your innovation

About Flex

Flex is the manufacturing partner of choice that helps a diverse customer base design and build products that improve the world. Through the collective strength of a global workforce across 30 countries and responsible, sustainable operations, Flex delivers technology innovation, supply chain, and manufacturing solutions to diverse industries and end markets.

Flex Power Modules

Power Modules (formerly Ericsson Power Modules) is a subsidiary of Flex that predominantly designs and manufactures board-mounted DC/DC conversion products. While many of our products are designed for use in Information and Communication Technology (ICT) applications, during the last few years we have also extended our product portfolio to serve other demanding applications within the Industrial and Transportation markets.

We are headquartered in Stockholm, Sweden, and have design centers in Kalmar, Sweden, and Shanghai, China. Manufacturing is also carried out in our factory in Shanghai. The emphasis is on quality and highly automated production, making the company one of the largest volume manufacturers in the power modules industry, having delivered more than 100 million modules to the world-wide market.

In order to support our customers globally we have a network of Technical Sales people and Field Application Engineers covering the Americas, Asia Pacific, Europe, Middle East and Africa. We also work with an extensive network of channel partners and representatives offering local support for all our customers.

About our products

With more than 40 years of experience and with over 145 registered patents in the area of power solutions, we have achieved many industry innovations in the areas of Distributed Power Architectures, Intermediate Bus Architectures and most recently, Direct Conversion technology, converting directly from 48 V to silicon core voltages as low as 0.5 V. Our products can be summarized as follows, which is also the way this selection guide is structured:

- » Isolated DC/DC converters from 1 W to 2450 W (both digital and analog)
- » Non-Isolated Point-of-Load regulators from 2 A to 120 A (both digital and analog)
- » 48 V to Load Direct conversion products
- » Power Interface Modules (PIM), ATCA compliant
- » Application Specific Products (Industrial, RFPA)
- » Software: Flex Power Designer Software and SMBus Tool
- » Evaluation boards and accessories

Every product design is the result of extensive research and development in power technology, with a broad application and system knowledge and a focus on design for environment and design for manufacturing.

The result is:

- » High efficiency over a wide load range
- » High power density
- » Efficient thermal management
- » Low total cost of ownership over product lifetime
- » Excellent dynamic load performance
- » High MTBF and long lifetime

Let us help you to be successful in your business by choosing an innovative power solution. More information about us can be found on our website: flexpowermodules.com.

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Isolated DC/DC Converters

Our offering of isolated DC/DC converters are designed to support various markets including ICT, Industrial and Transportation/Railway. We also offer a class-leading range of digital DC/DC converters that incorporate a PMBus compliant interface to complement the digital POL (Point of Loads) on offer.

ISOLATED DC/DC CONVERTERS – DIGITAL Eighth Brick



Product examples:

BMR 492 | **NEW**



BMR 457 with baseplate



BMR 457



BMR 454



Isolated DC/DC Converters: Eighth Brick Digital

| V _{out} (V) | V _{in} (V) | V _{out} adjust (V) | I _{out} (A) | P _{out} (W) | η (%) | Dimensions (L x W x H) | Product Reference |
|----------------------|---------------------|-----------------------------|----------------------|----------------------|-------------|---|-----------------------|
| 3.3 | 36-75 | 3.0-6.7 | 40 | 132 | 93.2 | 58.4 x 22.7 x 10.2 mm // 2.3 x 0.89 x 0.4 in. | BMR4540002/003 |
| 5 | 36-75 | 3.0-6.7 | 38 | 190 | 94.5 | 58.4 x 22.7 x 10.2 mm // 2.3 x 0.89 x 0.4 in. | BMR4540002/004 |
| 9 NEW | 40-60 | N/A | 50 | 450 | 96.7 | 58.4 x 22.7 x 13.2 mm // 2.3 x 0.89 x 0.57 in. | BMR4920302/863 |
| 12 | 36-75 | 6.9-13.2 | 22 | 251 | 95.2 | 58.4 x 22.7 x 10.2 mm // 2.3 x 0.89 x 0.4 in. | BMR4570007/013 |
| | 36-75 | 6.9-13.2 | 22 | 264 | 95.2 | 58.4 x 22.7 x 10.2 mm // 2.3 x 0.89 x 0.4 in. | BMR4570004/001 |
| | 40-60 | 6.9-13.2 | 25 | 285 | 95.1 | 58.4 x 22.7 x 10.2 mm // 2.3 x 0.89 x 0.4 in. | BMR4570011/016 |
| | 40-60 | 6.9-13.2 | 25 | 300 | 95.1 | 58.4 x 22.7 x 10.2 mm // 2.3 x 0.89 x 0.4 in. | BMR4570000/002 |
| | 40-60 | N/A | 50 | 600 | 96.7 | 58.4 x 22.7 x 13.2 mm // 2.3 x 0.89 x 0.57 in. | BMR4920302/861 |
| 12.45 | 36-75 | 6.9-13.2 | 22 | 261 | 95.2 | 58.4 x 22.7 x 10.2 mm // 2.3 x 0.89 x 0.4 in. | BMR4570007/014 |
| | 40-60 | 6.9-13.2 | 25 | 296 | 95.1 | 58.4 x 22.7 x 10.2 mm // 2.3 x 0.89 x 0.4 in. | BMR4570011/017 |

Optional baseplated versions are available for all devices.

Product examples:

BMR 491 | NEW



BMR 490



BMR 480



BMR 458



Isolated DC/DC Converters: Quarter Brick Digital

| V_{out} (V) | V_{in} (V) | V_{out} adjust (V) | I_{out_max} (A) | P_{out_max} (W) | η (%) | Dimensions (L x W x H) | Product Reference |
|----------------------------|---------------------------|-----------------------------------|--------------------------------|--------------------------------|--------------|---|--------------------------|
| 3.3 | 36-75 | 3.0-6.7 | 60.0 | 198 | 94.9 | 57.9 x 36.8 x 11.6 mm // 2.28 x 1.45 x 0.46 in. | BMR4530002/003 |
| 5 | 36-75 | 3.0-6.7 | 60.0 | 300 | 96.1 | 57.9 x 36.8 x 11.6 mm // 2.28 x 1.45 x 0.46 in. | BMR4530002/004 |
| 9 | 36-75 | 4.0-13.2 | 35.0 | 315 | 95.3 | 57.9 x 36.8 x 11.3 mm // 2.28 x 1.45 x 0.45 in. | BMR4560004/004 |
| | 36-60 | 4.0-13.2 | 39.0 | 351 | 95.9 | 57.9 x 36.8 x 11.3 mm // 2.28 x 1.45 x 0.45 in. | BMR4560000/003 |
| 10.4 | 40-60 | N/A | 96.2 | 1000 | 97.3 | 58.4 x 36.8 x 14.5 mm // 2.3 x 1.45 x 0.57 in. | BMR4801104/003 |
| | 45-56 | N/A | 96.2 | 1000 | 97.3 | 58.4 x 36.8 x 14.5 mm // 2.3 x 1.45 x 0.57 in. | BMR480 0100/001 |
| 12 | 36-75 | 4.0-13.2 | 35.0 | 400 | 96.4 | 57.9 x 36.8 x 11.3 mm // 2.28 x 1.45 x 0.45 in. | BMR4560007/013 |
| | 36-75 | 4.0-13.2 | 35.0 | 420 | 96.4 | 57.9 x 36.8 x 11.3 mm // 2.28 x 1.45 x 0.45 in. | BMR4560004/001 |
| | 36-75 | 4.0-13.2 | 35.0 | 420 | 96.4 | 57.9 x 36.8 x 11.3 mm // 2.28 x 1.45 x 0.45 in. | BMR4560004/018 |
| | 40-60 | 4.0-13.2 | 39.0 | 445 | 96.8 | 57.9 x 36.8 x 11.3 mm // 2.28 x 1.45 x 0.45 in. | BMR4560011/016 |
| | 40-60 | 4.0-13.2 | 39.0 | 468 | 96.8 | 57.9 x 36.8 x 11.3 mm // 2.28 x 1.45 x 0.45 in. | BMR4560000/002 |
| | 36-75 | 8.0-13.2 | 50.0 | 600 | 96.4 | 57.9 x 36.8 x 11.2 mm // 2.28 x 1.45 x 0.44 in. | BMR4580002/003 |
| | 36-75 | 8.0-13.2 | 50.0 | 600 | 96.4 | 58.4 x 36.8 x 11.2 mm // 2.3 x 1.45 x 0.45 in. | BMR4580032/003* |
| | 40-60 | 8.0-13.2 | 54.2 | 650 | 96.6 | 57.9 x 36.8 x 11.2 mm // 2.28 x 1.45 x 0.44 in. | BMR4580011/002 |
| | 40-60 | 8.0-13.2 | 54.2 | 650 | 96.6 | 58.4 x 36.8 x 11.2 mm // 2.3 x 1.45 x 0.45 in. | BMR4580030/004* |
| | 36-60 | N/A | 69.0 | 800 | 96.4 | 58.4 x 36.8 x 14.5 mm // 2.3 x 1.45 x 0.57 in. | BMR4800113/034 |
| | 40-60 | N/A | 75.0 | 900 | 97.3 | 58.4 x 36.8 x 14.5 mm // 2.3 x 1.45 x 0.57 in. | BMR4800102/002 |
| | 45-60 | N/A | 108.3 | 1300 | 97.3 | 58.4 x 36.8 x 14.5 mm // 2.3 x 1.45 x 0.57 in. | BMR4801106/xxx |
| NEW | 40-60 | 8-13.2 | 108.3 | 1300 | 97.0 | 58.4 x 36.8 x 14 mm // 2.3 x 1.45 x 0.55 in. | BMR4910202/853* |
| NEW | 40-60 | 8-13.2 | 108.3 | 1300 | 97.0 | 58.4 x 36.8 x 14 mm // 2.3 x 1.45 x 0.55 in. | BMR4910203/851** |
| NEW | 48-60 | 8-13.2 | 160 | 1850 | 98.0 | 58.4 x 36.8 x 14 mm // 2.3 x 1.45 x 0.55 in. | BMR4912205/852 |
| NEW | 48-60 | 8-13.2 | 200 | 2400 | 98.0 | 58.4 x 36.8 x 13.4 mm // 2.3 x 1.45 x 0.53 in. | BMR491xx08/857 |
| NEW | 48-60 | 8-13.2 | 205 | 2450 | 98.0 | 58.4 x 36.8 x 14-19 mm // 2.3 x 1.45 x 0.55-0.75 in. | BMR491xx08/857 |
| 12.45 | 36-75 | 4.0-13.2 | 35.0 | 415 | 96.4 | 57.9 x 36.8 x 11.3 mm // 2.28 x 1.45 x 0.45 in. | BMR4560007/014 |
| | 40-60 | 4.0-13.2 | 39.0 | 462 | 96.8 | 57.9 x 36.8 x 11.3 mm // 2.28 x 1.45 x 0.45 in. | BMR4560011/017 |
| | 36-75 | 8.0-13.2 | 50.0 | 600 | 96.4 | 57.9 x 36.8 x 11.2 mm // 2.28 x 1.45 x 0.45 in. | BMR4580002/014 |
| | 36-75 | 8.0-13.2 | 50.0 | 600 | 96.4 | 58.4 x 36.8 x 11.2 mm // 2.3 x 1.45 x 0.45 in. | BMR4580032/014*** |
| | 36-75 | 8.0-13.2 | 50.0 | 615 | 96.4 | 57.9 x 36.8 x 11.2 mm // 2.28 x 1.45 x 0.45 in. | BMR4580002/031*** |
| | 40-60 | 8.0-13.2 | 54.2 | 650 | 96.6 | 57.9 x 36.8 x 11.2 mm // 2.28 x 1.45 x 0.45 in. | BMR4580011/017 |
| | 40-60 | 8.0-13.2 | 54.2 | 665 | 96.6 | 57.9 x 36.8 x 11.2 mm // 2.28 x 1.45 x 0.45 in. | BMR4580011/032 |
| | 40-60 | 8.0-13.2 | 54.2 | 650 | 96.6 | 57.9 x 36.8 x 11.2 mm // 2.28 x 1.45 x 0.45 in. | BMR4580020/018 |
| | 40-60 | 8.0-13.2 | 54.2 | 650 | 96.6 | 58.4 x 36.8 x 11.2 mm // 2.3 x 1.45 x 0.45 in. | BMR4580030/020* |
| 28 | 36-60 | 18.0-32 | 17.9 | 500 | 95.5 | 58.4 x 36.8 x 12.7 mm // 2.3 x 1.45 x 0.5 in. | BMR6830300/200 |

* Active current sharing

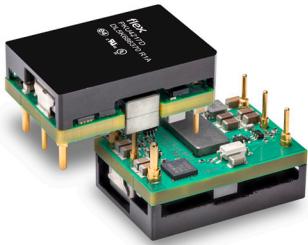
** Droop load sharing

*** Alternative digital pinout

ISOLATED DC/DC CONVERTERS – ANALOG Sixteenth Brick

Product examples:

PKU-D



PKU-A



PKU-E



Isolated DC/DC Converters: Sixteenth Brick Analog

| V_{out} (V) | V_{in} (V) | V_{out} adjust (V) | I_{out} (A) | P_{out} (W) | η (%) | Dimensions (L x W x H) | Product Reference |
|----------------------------|---------------------------|-----------------------------------|----------------------------|----------------------------|--------------|--|--------------------------|
| 3.3 | 18-75 | 3.0-3.7 | 15.0 | 50 | 92 | 33 x 22.9 x 9.4 mm // 1.3 x 0.9 x 0.37 in. | PKU5510E |
| | 36-75 | 2.6-3.6 | 20.0 | 66 | 92 | 33 x 22.9 x 9.4 mm // 1.3 x 0.9 x 0.37 in. | PKU4610E |
| | 36-75 | 2.6-3.7 | 30.3 | 110 | 93.7 | 33 x 22.9 x 11.3 mm // 1.3 x 0.9 x 0.44 in. | PKU4110D |
| 5 | 18-75 | 4.5-5.5 | 10.0 | 50 | 92 | 33 x 22.9 x 9.4 mm // 1.3 x 0.9 x 0.37 in. | PKU5511E |
| | 36-60 | 5.0-6.0 | 12.0 | 60 | 94 | 33 x 22.9 x 8.4 mm // 1.3 x 0.9 x 0.33 in. | PKU4611A |
| | 36-60 | 4.5-5.5 | 15.8 | 71.5 | 93 | 33 x 22.9 x 8.2 mm // 1.3 x 0.9 x 0.32 in. | PKU4717YA |
| | 36-75 | 4.0-5.5 | 27.0 | 150 | 93.6 | 33 x 22.9 x 11.30 mm // 1.3 x 0.9 x 0.44 in. | PKU4111D |
| 5.5 | 18-60 | 5.0-6.0 | 9.0 | 50 | 92 | 33 x 22.9 x 9.4 mm // 1.3 x 0.9 x 0.37 in. | PKU4517VE |
| | 36-60 | 5.5-6.5 | 12.7 | 70 | 94.3 | 33 x 22.9 x 8.2 mm // 1.3 x 0.9 x 0.32 in. | PKU4716VA |
| 6 | 28-60 | 5.5-6.5 | 8.5 | 50 | 90.7 | 33 x 22.9 x 9.4 mm // 1.3 x 0.9 x 0.37 in. | PKU5517VE |
| | 36-60 | 6.0-7.0 | 10.0 | 60 | 94 | 33 x 22.9 x 8.4 mm // 1.3 x 0.9 x 0.33 in. | PKU4617VA |
| 6.5 | 36-75 | 5.2-7.2 | 10.0 | 65 | 89.8 | 33 x 22.9 x 9.4 mm // 1.3 x 0.9 x 0.37 in. | PKU4717E |
| 10.4 | 36-60 | 9.4-10.9 | 25.0 | 260 | 96.1 | 33 x 22.9 x 11.3 mm // 1.3 x 0.9 x 0.44 in. | PKU4217D |
| 12 | 36-75 | 9.6-13.2 | 7.0 | 84 | 90.6 | 33 x 22.9 x 9.6 mm // 1.3 x 0.9 x 0.38 in. | PKU4813C |
| | 36-75 | 9.6-13.2 | 10.0 | 120 | 95.5 | 33 x 22.9 x 11.30 mm // 1.3 x 0.9 x 0.44 in. | PKU4113D |
| | 36-75 | 9.6-13.2V | 17.0 | 204 | 95 | 33 x 22.9 x 11.30 mm // 1.3 x 0.9 x 0.44 in. | PKU4213D |
| NEW | 36-75 | 9.6-13.2V | 8.3 | 100 | 94.5 | 33 x 22.9 x 11.3 mm // 1.3 x 0.9 x 0.44 in. | PKU4913D |
| 15 | 36-75 | 12.0-16.5 | 5.7 | 86 | 91.6 | 33 x 22.9 x 9.6 mm // 1.3 x 0.9 x 0.38 in. | PKU4815C |
| 24 | 28-60 | 19.2-26.4 | 1.8 | 43 | 91.7 | 33 x 22.9 x 9.6 mm // 1.3 x 0.9 x 0.38 in. | PKU4416Z |
| 24/28/30 | 36-75 | 10-33 | 3.3 | 79.2 | 92.9 | 33 x 22.9 x 9.6 mm // 1.3 x 0.9 x 0.38 in | PKU4116C* |
| 55 NEW | 36-60 | 53.4-57.6 | 2.0 | 110 | 92.4 | 33 x 22.9 x 9.8 mm // 1.3 x 0.9 x 0.38 in. | PKU4116HD |

* Default voltage = 30V

ISOLATED DC/DC CONVERTERS – ANALOG Eighth Brick

Product examples:

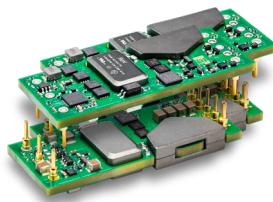
PKB-D with baseplate



PKB-D



PKB-C



Isolated DC/DC Converters: Eighth Brick Analog

| V_{out} (V) | V_{in} (V) | V_{out} adjust (V) | I_{out} (A) | P_{out} (W) | η (%) | Dimensions (L x W x H) | Product Reference |
|----------------------------|---------------------------|-----------------------------------|----------------------------|----------------------------|--------------|--|--------------------------|
| 1 | 36-75 | 0.8-1.1 | 50.0 | 50 | 87.2 | 58.4 x 22.7 x 8.5 mm // 2.3 x 0.9 x 0.34 in. | PKB4518NC |
| 1.2 | 36-75 | 1.0-1.3 | 60.0 | 72 | 87.5 | 58.4 x 22.7 x 8.5 mm // 2.3 x 0.9 x 0.34 in. | PKB4718LC |
| 1.5 | 36-75 | 1.2-1.7 | 60.0 | 90 | 88 | 58.4 x 22.7 x 8.5 mm // 2.3 x 0.90 x 0.34 in. | PKB4918HC |
| 1.8 | 36-75 | 1.4-2.0 | 60.0 | 108 | 89 | 58.4 x 22.7 x 8.5 mm // 2.3 x 0.90 x 0.34 in. | PKB4118GC |
| 3.3 | 36-75 | 2.6-3.6 | 40.0 | 132 | 91 | 58.4 x 22.7 x 8.5 mm // 2.3 x 0.9 x 0.34 in. | PKB4110C |
| | 36-75 | 2.6-3.6 | 40.0 | 132 | 94.7 | 58.4 x 22.7 x 9.6 mm // 2.3 x 0.89 x 0.38 in. | PKB4110D |
| | 36-75 | 2.6-3.6 | 62.0 | 205 | 95.4 | 58.4 x 22.7 x 13.2 mm // 2.3 x 0.9 x 0.52 in. | PKB4210DA |
| 5 | 36-75 | 4.0-5.5 | 28.0 | 140 | 92 | 58.4 x 22.7 x 8.5 mm // 2.3 x 0.90 x 0.34 in. | PKB4111C |
| | 36-75 | 4.0-5.5 | 30.0 | 150 | 94.5 | 58.4 x 22.7 x 9.6 mm // 2.3 x 0.89 x 0.38 in. | PKB4111D |
| | 36-75 | 4.0-5.5 | 40.0 | 200 | 95.3 | 58.4 x 22.7 x 9.6 mm // 2.3 x 0.89 x 0.38 in. | PKB4211D |
| | 36-75 | 4.0-5.5 | 52.0 | 260 | 95.5 | 58.4 x 22.7 x 13.2 mm // 2.3 x 0.9 x 0.52 in. | PKB4211DA |
| 10 | 36-75 | N/A | 25.0 | 250 | 95.7 | 58.4 x 22.7 x 9.6 mm // 2.3 x 0.89 x 0.38 in. | PKB4217ND |
| 12 | 36-75 | 9.6-13.2 | 12.0 | 144 | 92.5 | 58.4 x 22.7 x 8.5 mm // 2.3 x 0.89 x 0.34 in. | PKB4113C |
| | 18-36 | 11.6-12.4 | 20.0 | 240 | 95.5 | 58.4 x 22.7 x 9.6 mm // 2.3 x 0.89 x 0.38 in. | PKB2213D |
| | 40-75 | N/A | 20.0 | 240 | 95.5 | 58.42 x 22.76 x 8.10 mm // 2.3 x 0.90 x 0.32 in. | PKB4204 |
| | 36-75 | N/A | 22.0 | 264 | 95.4 | 58.4 x 22.7 x 9.6 mm // 2.3 x 0.89 x 0.38 in. | PKB4213D |
| | 36-75 | N/A | 25.0 | 300 | 96.2 | 58.4 x 22.7 x 9.6 mm // 2.3 x 0.89 x 0.38 in. | PKB4313D |
| | 36-75 | N/A | 32.5 | 390 | 95.6 | 58.4 x 22.7 x 9.6 mm // 2.3 x 0.89 x 0.38 in. | PKB4313DA |
| | 36-75 | N/A | 34.0 | 408 | 96.2 | 58.4 x 22.7 x 9.6 mm // 2.3 x 0.89 x 0.38 in. | PKB4413DA |
| | 36-60 | N/A | 37.5 | 450 | 96.2 | 58.4 x 22.7 x 9.6 mm // 2.3 x 0.89 x 0.38 in. | PKB4413D |
| 24/28/30 | 36-75 | 15.0-33.0 | 6.7 | 200 | 95 | 58.4 x 22.7 x 8.5 mm // 2.3 x 0.90 x 0.34 in. | PKB4216C* |
| 48/50 | 36-60 | 40.0-55.0 | 5.0 | 250 | 94.5 | 58.4 x 22.7 x 13.2 mm // 2.3 x 0.89 x 0.52 in. | PKB4216HDPIHS |

* Default voltage = 30V

ISOLATED DC/DC CONVERTERS – ANALOG Quarter Brick

Product examples:

PKM-NH



PKM-NH with baseplate



PKM-AD



Isolated DC/DC Converters: Quarter Brick Analog

| V_{out} (V) | V_{in} (V) | V_{out} adjust (V) | I_{out} (A) | P_{out} (W) | η (%) | Dimensions (L x W x H) | Product Reference |
|----------------------------|---------------------------|-----------------------------------|----------------------------|----------------------------|--------------|---|--------------------------|
| 10.8 | 40-60 | N/A | 70.0 | 750 | 97 | 57.9 x 36.8 x 11.4 mm // 2.28 x 1.45 x 0.45 in. | PKM4717BNH |
| | 40-60 | N/A | 70.0 | 756 | 97 | 57.9 x 36.8 x 11.4 mm // 2.28 x 1.45 x 0.45 in. | PKM4717NH |
| | 40-60 | N/A | 80.0 | 864 | 97 | 57.9 x 36.8 x 11.4 mm // 2.28 x 1.45 x 0.45 in. | PKM4817NPIHS |
| 11 | 45-60 | N/A | 80.0 | 800 | 97 | 57.9 x 36.8 x 11.4 mm // 2.28 x 1.45 x 0.45 in. | PKM4817LNH |
| 11.6 | 36-75 | N/A | 50.0 | 580 | 96 | 57.9 x 36.8 x 11.4 mm // 2.28 x 1.45 x 0.45 in. | PKM4613ANH |
| 12 | 40-75 | N/A | 33.0 | 396 | 96.6 | 57.9 x 36.8 x 11.6 mm // 2.28 x 1.45 x 0.46 in. | PKM4304 |
| | 36-75 | N/A | 50.0 | 600 | 96.2 | 57.9 x 36.8 x 11.4 mm // 2.28 x 1.45 x 0.45 in. | PKM4613NH |
| | 40-60 | N/A | 58.3 | 700 | 96.5 | 57.9 x 36.8 x 11.4 mm // 2.28 x 1.45 x 0.45 in. | PKM4713NH |
| 28/30 | 36-75 | 14.0-35.0 | 18.0 | 500 | 95.5 | 58.4 x 36.8 x 12.7 mm // 2.3 x 1.45 x 0.50 in. | PKM4516AD |
| 48/50 | 36-75 | 25.0-55.0 | 10.0 | 500 | 95.1 | 58.4 x 36.8 x 12.7 mm // 2.3 x 1.45 x 0.50 in. | PKM4516HD |

Half Brick

Product example:

PKJ



Isolated DC/DC Converters: Half Brick Analog

| V_{out} (V) | V_{in} (V) | V_{out} adjust (V) | I_{out} (A) | P_{out} (W) | η (%) | Dimensions (L x W x H) | Product Reference |
|----------------------------|---------------------------|-----------------------------------|----------------------------|----------------------------|--------------|---|--------------------------|
| 28/30 | 36-75 | 14-35 | 25.0 | 700 | 96.2 | 61.0 x 57.9 x 12.7 mm // 2.4 x 2.28 x 0.5 in. | PKJ4716A |
| 48/50 | 36-75 | 25-55 | 14.0 | 700 | 95.8 | 61.0 x 57.9 x 12.7 mm // 2.4 x 2.28 x 0.5 in. | PKJ4716H |

Non-isolated DC/DC Converters



Our non-isolated digital converters aimed at ICT applications.

NON-ISOLATED DC/DC CONVERTERS – DIGITAL Quarter Brick

BMR490



Non-isolated DC/DC Converters – Digital

| V _{out} (V) | V _{in} (V) | V _{out} adjust (V) | I _{out} (A) | P _{out} (W) | η (%) | Dimensions (L x W x H) | Product Reference |
|----------------------|---------------------|-----------------------------|----------------------|----------------------|-------|--|-------------------|
| 12 | 40-60 | N/A | 139 | 1300 | 97.7 | 58.4 x 36.8 x 14.5 mm // 2.3 x 1.45 x 0.57 in. | BMR4903317/820 |
| | 40-60 | N/A | 139 | 1300 | 97.7 | 58.4 x 36.8 x 14.5 mm // 2.3 x 1.45 x 0.57 in. | BMR4904318/033* |

* Active current sharing

48V to Load Direct Conversion

Solutions for converting directly from 48V to the core voltages required by the most demanding FPGAs, ASICs, DSPs, CPUs, GPUs and Memories.

Product examples:

BMR482: Main unit | **NEW**



BMR482: Satellite unit | **NEW**



Direct Conversion

| V _{out} (V) | V _{in} (V) | V _{out} min (V) | V _{out} max (V) | I _{out} max (A) | P _{out} (W) | η % | Dimensions (L x W x H) | Product Reference |
|----------------------|---------------------|--------------------------|--------------------------|--------------------------|----------------------|-------------|---|------------------------|
| 1 | 40-60 | 0.5 | 1.4 | 70 | 70 | 91.6 | 27.7 x 12.0 x 14.0 mm // 1.1 x 0.47 x 0.55 in. | BMR4810021/002* |
| | 40-60 | 0.5 | 1.4 | 70 | 70 | 92 | 27.7 x 12.0 x 12.6 mm // 1.1 x 0.47 x 0.5 in. | BMR4810022** |
| 0.8 NEW | 40-60 | 0.5 | 1.35 | 110 | 88 | 91.3 | 30.0 x 12.7 x 16.8 mm // 1.18 x 0.5 x 0.66 in. | BMR4820001/004* |
| | 40-60 | 0.5 | 1.35 | 110 | 88 | 91.3 | 30.0 x 12.7 x 15.4 mm // 1.18 x 0.5 x 0.61 in. | BMR4820002** |

* Main unit ** Satellite unit

Note: One Main unit controls up to 5 Satellite units or up to 6 multi-phase

Point of Load (PoL)

Our Point of Load (PoL) devices are non-isolated DC/DC converters and are available in multiple industry standard footprints including DOSA & POLA for analog solutions, and AMP for digital solutions offering a PMBus interface for easy monitoring, configuration and control, including support from the “Flex Power Designer” engineering design tool.

Point of Load - Digital

Product examples:



BMR 474 | **NEW**



BMR 4690001



BMR 4696001



BMR 461



Point of Load (PoL): Digital

| I _{out} (A) | V _{in} (V) | V _{out} adjust (V) | P _{out} (W) | η (%) | Dimensions (L x W x H) | Product Reference |
|----------------------|---------------------|-----------------------------|----------------------|-------|---|---------------------------|
| 6 | 4.5-14 | 0.6-5.0 | 30 | 95.8 | 12.2 x 12.2 x 8.0 mm // 0.48 x 0.48 x 0.32 in. | BMR4612x01 |
| 12 | 4.5-14 | 0.6-5.0 | 60 | 96 | 12.2 x 12.2 x 8.0 mm // 0.48 x 0.48 x 0.32 in. | BMR4613x01 |
| | 4.5-14 | 0.6-5.0 | 60 | 97.1 | Laydown: 21 x 12.7 x 8.2 mm // 0.83 x 0.5 x 0.32 in. SIP: 20.8 x 7.6 x 15.6 mm // 0.82 x 0.3 x 0.61 in. | BMR462† |
| 15 | 4.5-14 | 0.6-3.3 | 50 | 94.6 | 12.2 x 12.2 x 8.0 mm // 0.48 x 0.48 x 0.32 in. | BMR4615x01 |
| 18 | 4.5-14 | 0.6-1.8 | 36 | 91.6 | 12.2 x 12.2 x 8.0 mm // 0.48 x 0.48 x 0.32 in. | BMR4614x01 |
| 20 | 4.5-14 | 0.6-3.3 | 66 | 97.1 | Laydown: 26.65 x 13.8 x 8.2 mm // 1.01 x 0.54 x 0.32 in. SIP: 26.3 x 7.6 x 15.6 mm // 1.04 x 0.30 x 0.61 in. | BMR463x002, BMR463x006 |
| 25 | 4.5-14 | 0.6-3.3 | 83 | 97.1 | Laydown: 26.65 x 13.8 x 8.2 mm // 1.01 x 0.54 x 0.32 in. SIP: 26.3 x 7.6 x 15.6 mm // 1.04 x 0.30 x 0.61 in. | BMR463x008 |
| | 7.5-14 | 0.6-5.0 (dual) | 100 | 94.3 | 25.4 x 14.5 x 5.8 mm // 1.00 x 0.57 x 0.23 in. | BMR4696001* |
| 40 | 4.5-14 | 0.6-3.3 | 132 | 97.2 | Laydown: 30.85 x 20.0 x 8.2 mm // 1.22 x 0.79 x 0.32 in. SIP: 33.0 x 7.6 x 18.1 mm // 1.30 x 0.30 x 0.71 in. | BMR464x002 |
| | 7.5-14 | 0.6-5.0 (dual) | 200 | 92.6 | 25.4 x 12.7 x 11.6 mm // 1.00 x 0.50 x 0.46 in. | BMR4690000** |
| 50 | 4.5-14 | 0.6-3.3 | 165 | 97.2 | Laydown: 30.85 x 20.0 x 8.2 mm // 1.22 x 0.79 x 0.32 in. SIP: 33.0 x 7.6 x 18.1 mm // 1.30 x 0.30 x 0.71 in. | BMR464x008, BMR464x012 |
| | 7.5-14 | 0.6-5.0 | 100 | 94.3 | 25.4 x 14.5 x 5.8 mm // 1.00 x 0.57 x 0.23 in. | BMR4696001*** |
| 60 | 4.5-14 | 0.6-1.8 | 108 | 93.6 | 25 x 14 x 7.0 mm // 0.98 x 0.55 x 0.28 in. | BMR4668x04 (DLC) |
| | 4.5-14 | 0.6-1.8 | 108 | 93.6 | 25 x 14 x 7.0 mm // 0.98 x 0.55 x 0.28 in. | BMR4668x12 |
| 80 | 7.5-14 | 0.6-5.0 | 200 | 92.6 | 25.4 x 12.7 x 11.6 mm // 1.00 x 0.50 x 0.46 in. | BMR4690000**** |
| 6-15 | 0.6-3.3 | 198 | 95.1 | | 33 x 8.6 x 19 mm // 1.3 x 0.34 x 0.75 in. | BMR474xx01 |
| 120 | 7.5-14 | 0.6-1.8 | 216 | 93.2 | Laydown: 50.8 x 19.05 x 10.4 mm // 2.0 x 0.75 x 0.41 in. SIP: 50.8 x 8.2 x 19.05 mm // 2.0 x 0.32 x 0.75 in. | BMR467x010 |

*Configured as dual output 2x 25A **Configured as dual output 2x 40A ***Configured as single output 50A ****Configured as single output 80A

† Not recommended for new designs

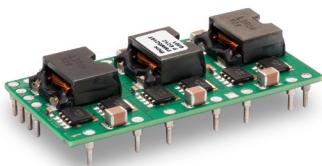
Point of Load - Analog

Product examples:

PNA | NEW



PMM



PME



PMU



Point of Load (PoL): Analog -

| I _{out} (A) | V _{in} (V) | V _{out} adjust (V) | P _{out} (W) | η (%) | Dimensions (L x W x H) | Product Reference |
|----------------------|---------------------|-----------------------------|----------------------|-------------|--|-------------------|
| 4 | 4.5-17 | 0.6-5.5 | 22 | 93.1 | 7.5 x 7.5 x 5.4 mm // 0.29 x 0.29 x 0.21 in. | PMU8218 |
| 6 | 3.05-3.7 | 0.8-2.5 | 15 | 94.7 | 22.1 x 12.6 x 8.5 mm // 0.87 x 0.5 x 0.36 in. | PME4118T |
| | 4.5-5.5 | 0.8-3.6 | 22 | 94.8 | 22.1 x 12.6 x 8.5 mm // 0.87 x 0.5 x 0.36 in. | PME5218T |
| | 10.8-13.2 | 0.6-1.8 | 11 | 84 | 22.1 x 12.6 x 8.5 mm // 0.87 x 0.5 x 0.36 in. | PME8118V |
| | 10.8-13.2 | 0.8-1.8 | 11 | 87.3 | 22.1 x 12.6 x 8.5 mm // 0.87 x 0.5 x 0.36 in. | PME8118T |
| | 10.8-13.2 | 1.2-5.5 | 33 | 89.2 | 22.1 x 12.6 x 8.5 mm // 0.87 x 0.5 x 0.36 in. | PME8318L |
| | 4.5-14 | 0.8-5.5 | 30 | 95.1 | 12.2 x 12.2 x 7.2 mm / 0.48 x 0.48 x 0.28 in. | PMT8318VS |
| | 4.5-17 | 0.6-5.5 | 33 | 92.7 | 7.5 x 7.5 x 5.4 mm // 0.29 x 0.29 x 0.21 in. | PMU8318 |
| NEW | 9-36 | 0.9-5.5 | 33 | 95.5 | 13 x 12.35 x 6.2 mm // 0.51 x 0.49 x 0.24 in. | PNA2405S3S |
| 8 | 4.5-17 | 0.6-5.5 | 44 | 91.9 | 7.5 x 7.5 x 5.4 mm // 0.29 x 0.29 x 0.21 in. | PMU8418 |
| 10 | 3.0-3.7 | 0.8-2.5 | 25 | 94.1 | 25.3 x 15.6 x 9.0 mm // 1.0 x 0.62 x 0.35 in. | PMF4218T |
| | 10.8-13.2 | 0.8-1.8 | 18 | 89.5 | 25.3 x 15.8 x 9.0 mm // 1.0 x 0.62 x 0.35 in. | PMF8118T |
| | 10.8-13.2 | 1.2-5.5 | 55 | 93.1 | 25.3 x 15.8 x 9.0 mm // 1.0 x 0.62 x 0.35 in. | PMF8518L |
| 15 | 3.05-3.7 | 0.8-2.5 | 38 | 94.5 | 34.8 x 15.8 x 9.0 mm // 1.37 x 0.62 x 0.35 in. | PMG4318T |
| | 4.5-5.5 | 0.8-3.6 | 54 | 95.4 | 34.8 x 15.8 x 9.0 mm // 1.37 x 0.62 x 0.35 in. | PMG5518T |
| 16 | 4.5-14.0 | 0.7-5.5 | 88 | 96 | 22.1 x 19.0 x 8.5 mm // 0.87 x 0.75 x 0.34 in. | PMP5818UW † |
| 22 | 3.0-3.7 | 0.8-2.5 | 55 | 93.8 | 38.0 x 22.1 x 9.0 mm // 1.50 x 0.87 x 0.35 in. | PMH4518T |
| | 4.5-5.5 | 0.8-3.6 | 79 | 95.6 | 38.0 x 22.1 x 9.0 mm // 1.50 x 0.87 x 0.35 in. | PMH5718T |
| 26 | 10.8-13.2 | 1.2-5.5 | 143 | 92.2 | 34.8 x 28.5 x 9.0 mm // 1.37 x 1.12 x 0.35 in. | PMJ8118L |
| 30 | 3.0-3.7 | 0.8-2.5 | 75 | 94.5 | 34.8 x 28.5 x 9.0 mm // 1.37 x 1.12 x 0.35 in. | PMJ4718T |
| | 4.5-5.5 | 0.8-3.6 | 108 | 95.5 | 34.8 x 28.5 x 9.0 mm // 1.37 x 1.12 x 0.35 in. | PMJ5918T |
| | 4.5-5.5 | 0.7-3.6 | 108 | 96 | 34.8 x 15.8 x 8.5 mm // 1.37 x 0.62 x 0.34 in. | PMN5118U |
| | 5.5-14.0 | 0.7-3.6 | 108 | 96 | 34.8 x 15.8 x 8.5 mm // 1.37 x 0.62 x 0.34 in. | PMN8118UW |
| 50 | 8-14.0 | 0.8-5.5 | 275 | 94.3 | 52.0 x 26.6 x 9.6 mm // 2.05 x 1.05 x 0.38 in. | PMM8218T |
| | 4.5-14.0 | 0.7-3.6 | 180 | 96 | 38.6 x 25.9 x 10.2 mm // 1.52 x 1.02 x 0.40 in. | PMR5118UW |
| 60 | 3.0-5.5 | 0.8-2.5 | 150.0 | 94 | 51.9 x 26.5 x 9.8 mm // 2.05 x 1.05 x 0.39 in. | PMM4218T |

† Not recommended for new designs

Power Interface Modules (PIM)



Our range of Power Interface Modules (PIM) simplify the design in blade servers based on AdvancedTCA standards and other applications. Offering features such as EMI filtering, hot-swap, dual feed OR-ing, hold-up management, reverse polarity protection and auxiliary power management rails, the PIM can be used for any industrial or ICT application employing a Distributed Power Architecture.

PIM

Product examples:

PIM 4710



PIM 4328



PIM 4106



Power Interface Modules

| I _{out} (A) | V _{in} (V) | V _{out 1} (V) | V _{out 2} (V) | I _{out 2} (A) | V _{out 3} (V) | I _{out 3} (A) | I _{out 4} (A) | P _{out} (W) | η % | Dimensions (L x W x H) | Product Reference |
|----------------------|---------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|----------------------|------|---|-------------------|
| 2.6 | 36-60 | Vin | - | - | - | - | - | 100 | 99.5 | 33.0 x 22.9 x 8.0 mm // 1.3 x 0.9 x 0.32 in. | PIM4106 |
| 5.1 | 36-60 | Vin | - | - | - | - | - | 200 | 99.5 | 33.0 x 22.9 x 8.0 mm // 1.3 x 0.9 x 0.32 in. | PIM4206 |
| 7.7 | 36-60 | Vin | - | - | - | - | - | 300 | 99.5 | 33.0 x 22.9 x 8.0 mm // 1.3 x 0.9 x 0.32 in. | PIM4306 |
| 10.3 | 36-60 | Vin | - | - | - | - | - | 400 | 99.5 | 33.0 x 22.9 x 8.0 mm // 1.3 x 0.9 x 0.32 in. | PIM4406 |
| 10-12 | 36-75 | Vin | 3.6 | 3.3 | 0.15 | 5 | 0.2 | 390-540 | 99 | 57.9 x 36.8 x 13.7 mm // 2.28 x 1.45 x 0.59 in. | PIM4328PD/PDA* |
| 16.5-20 | 36-75 | Vin | 5 | 0.9-7 | - | - | - | 960-1080 | 99.2 | 57.9 x 36.8 x 13.7 mm // 2.28 x 1.45 x 0.59 in. | PIM4820B |
| 16 | 36-75 | Vin | 3.6-7 | 3.3 | - | - | - | 780-1080 | 98.9 | 57.9 x 36.8 x 13.7 mm // 2.28 x 1.45 x 0.59 in. | PIM4610* |
| 20 | 36-75 | Vin | 3.6-7 | 3.3 | - | - | - | 780-1080 | 98.8 | 57.9 x 36.8 x 13.7 mm // 2.28 x 1.45 x 0.59 in. | PIM4710* |

*ATCA compliant

Application Specific Products

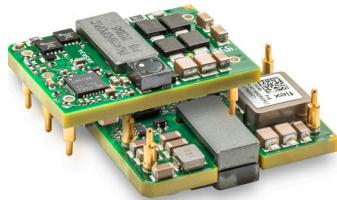
We have a long history of serving the ICT industry with our traditional telecom products but we also offer specific devices that ideally suit the Data Center and RFPA sections of that industry. We are extending our product portfolio to cover other alternate markets, including devices specifically focused on Industrial and Railway/Transportation applications. All our railway products comply with the EN50155 standard.

Radio Frequency Power Amplifier

We have a wide offering of DC/DC converters aimed at Radio Frequency Power Amplifier (RFPA and microwave) applications in the telecom market segment. They are particularly designed for the 5G rollout which is accelerating in the world.

Product examples:

PKU-D | **NEW**



PKM-D



PKJ



PKB-D



Application specific products: RFPA

| V _{out} (V) | V _{in} (V) | V _{out} adjust (V) | I _{out} (A) | P _{out} (W) | η % | Dimensions (L x W x H) | Product Reference |
|----------------------|---------------------|-----------------------------|----------------------|----------------------|-------------|---|-------------------|
| 24 | 28-60 | 19.2-26.4 | 1.8 | 43 | 91.7 | 33.0 x 22.9 x 9.6 mm // 1.3 x 0.9 x 0.38 in. | PKU4416Z |
| 24/28/30 | 36-75 | 10.0-33.0 | 3.3 | 100 | 92.9 | 33.0 x 22.9 x 9.6 mm // 1.3 x 0.9 x 0.38 in. | PKU4116C* |
| | 36-75 | 15.0-33.0 | 6.7 | 200 | 95 | 58.4 x 22.7 x 8.5 mm // 2.3 x 0.9 x 0.34 in. | PKB4216C* |
| | 36-75 | 14.0-35.0 | 18.0 | 504 | 95.5 | 58.4 x 36.8 x 12.7 mm // 2.3 x 1.45 x 0.5 in. | PKM4516AD |
| | 36-75 | 14.0-35.0 | 25.0 | 700 | 96.2 | 61.0 x 57.9 x 12.7 mm // 2.4 x 2.28 x 0.5 in. | PKJ4716A |
| 48/50 | 36-60 | 40.0-55.0 | 5.0 | 250 | 94.5 | 58.4 x 22.7 x 13.2 mm // 2.3 x 0.89 x 0.52 in. | PKB4216HDPIHS |
| | 36-75 | 25.0-55.0 | 10.0 | 500 | 95.1 | 58.4 x 36.8 x 12.7 mm // 2.3 x 1.45 x 0.5 in. | PKM4516HD |
| | 36-75 | 25.0-55.0 | 14.0 | 700 | 95.8 | 61.0 x 57.9 x 12.7 mm // 2.4 x 2.28 x 0.5 in. | PKJ4716H |
| 55 NEW | 36-60 | 53.4-57.6 | 2.0 | 110 | 92.4 | 33 x 22.9 x 9.8 mm // 1.3 x 0.9 x 0.38 in. | PKU4116HD |

*Default output voltage = 30V

Product examples:

BMR685 | **NEW**



BMR683



Application specific products: RFPA digital

| V _{out} (V) | V _{in} (V) | V _{out} adjust (V) | I _{out} (A) | P _{out} (W) | η % | Dimensions (L x W x H) | Product Reference |
|----------------------|---------------------|-----------------------------|----------------------|----------------------|-------------|--|-----------------------|
| 28 | 36-60 | 18-32 | 17.9 | 500 | 95.2 | 58.4 x 36.8 x 12.7 mm // 2.3 x 1.45 x 0.5 in. | BMR6830300/200 |
| 50 NEW | 36-75 | 25-55 | 26.0 | 1300 | 97.2 | 61.0 x 57.9 x 12.7 mm // 2.4 x 2.28 x 0.5 in. | BMR6853300/001 |

Industrial and Railway

Product examples:

PKJ-W | NEW



PKM-W



PKE



PKE-A



Application Specific Products: Industrial and Railway

| V_{out1} (V) | V_{in} (V) | I_{out1} (A) | V_{out2} (V) | I_{out2} (A) | P_{out} (W) | η % | Dimensions (L x W x H) | Product Reference |
|-----------------------------|---------------------------|-----------------------------|-----------------------------|-----------------------------|----------------------------|------------|---|--------------------------|
| 3.3 | 18-36 | 2.0 | - | - | 7 | 82 | 47.8 x 28.1 x 8.0 mm // 1.88 x 1.11 x 0.32 in. | PKR2610A |
| | 9-36 | 4.5 | - | - | 15 | 88.2 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE3210 |
| | 18-75 | 4.5 | - | - | 15 | 87.8 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE5210 |
| | 9-36 | 7.0 | - | - | 23 | 88 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE3310 |
| | 18-75 | 7.0 | - | - | 23 | 89 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE5310 |
| | 9-75 | 10 | | | 33 | 91 | 50.8 x 25.4 x 11.9mm // 2.0 x 1.0 x 0.47 in. | PKE 8410A |
| | 9-36 | 15 | | | 50 | 88 | 35.3 x 25 x 10.4 mm // 1.39 x 0.984 x 0.41 in. | PKU 3510S |
| | 18-75 | 15.0 | - | - | 50 | 92 | 33.02 x 22.86 x 9.4 mm // 1.3 x 0.9 x 0.37 in. | PKU5510E |
| | 18-75 | 15.0 | - | - | 50 | 88 | 35.3 x 25 x 10.4 mm // 1.39 x 0.984 x 0.41 in. | PKU5510S |
| | 12-160 | 15.0 | - | - | 50 | 86 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7510W |
| 5 | 9-36 | 0.5 | - | - | 3 | 82 | 31.8 x 20.3 x 10.7 mm // 1.25 x 0.80 x 0.42 in. | PKV3211 |
| | 18-72 | 0.5 | - | - | 3 | 82 | 31.8 x 20.3 x 10.7 mm // 1.25 x 0.80 x 0.42 in. | PKV5211 |
| | 18-36 | 2.0 | - | - | 10 | 85 | 47.8 x 28.1 x 8.0 mm // 1.88 x 1.11 x 0.32 in. | PKR2111A |
| | 9-36 | 3.0 | - | - | 15 | 88 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE3211 |
| | 18-75 | 3.0 | - | - | 15 | 84.3 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE5211 |
| | 36-75 | 3.0 | - | - | 15 | 83.5 | 47.8 x 28.1 x 8.0 mm // 1.88 x 1.11 x 0.32 in. | PKR4211A† |
| | 9-36 | 6.0 | - | - | 30 | 90 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE3311 |
| | 18-75 | 6.0 | - | - | 30 | 91 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE5311 |
| | 43-160 | 6.0 | - | - | 30 | 91 | 50.8 x 25.4 x 11.9 mm // 2.0 x 1.0 x 0.47 in. | PKE7311A |
| | 9-75 | 8.0 | - | - | 40 | 89 | 50.8 x 25.4 x 11.9 mm // 2.0 x 1.0 x 0.47 in. | PKE8411A |
| | 9-36 | 10.0 | - | - | 50 | 90 | 35.3 x 25 x 10.4 mm // 1.39 x 0.984 x 0.41 in. | PKU3511S |
| | 18-75 | 10.0 | - | - | 50 | 92 | 33.02 x 22.86 x 9.4 mm // 1.3 x 0.9 x 0.37 in. | PKU5511E |
| | 18-75 | 10.0 | - | - | 50 | 89 | 35.3 x 25 x 10.4 mm // 1.39 x 0.984 x 0.41 in. | PKU5511S |
| | 60-160 | 20.0 | - | - | 100 | 85 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7511W |
| | 12-160 | 10.0 | - | - | 50 | 89 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7511W |
| | 14-160 | 20.0 | - | - | 100 | 87 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7111W |
| | 9-36 | 0.3 | -5 | 0.3 | 3 | 82 | 31.8 x 20.3 x 10.7 m // 1.25 x 0.80 x 0.42 in. | PKV3222* |
| | 18-72 | 0.3 | -5 | 0.3 | 3 | 82 | 31.8 x 20.3 x 10.7 mm // 1.25 x 0.80 x 0.42 in. | PKV5222* |

† Not recommended for new designs

*dual output

Application Specific Products: Industrial and Railway | Continued

| V_{out1} (V) | V_{in} (V) | I_{out1} (A) | V_{out2} (V) | I_{out2} (A) | P_{out} (W) | η % | Dimensions (L x W x H) | Product Reference |
|-----------------------------|---------------------------|-----------------------------|-----------------------------|-----------------------------|----------------------------|-------------|--|--------------------------|
| 12 | 9-36 | 0.3 | - | - | 3 | 82 | 31.8 x 20.3 x 10.7 mm // 1.25 x 0.80 x 0.42 in. | PKV3313 |
| | 18-36 | 1.0 | - | - | 12 | 87.5 | 47.8 x 28.1 x 8.0 mm // 1.88 x 1.11 x 0.32 in. | PKR2113A |
| | 9-36 | 1.3 | - | - | 15 | 89 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE3213 |
| | 18-75 | 1.3 | - | - | 15 | 90 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE5213 |
| | 9-36 | 2.5 | - | - | 30 | 92 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE3313 |
| | 18-75 | 2.5 | - | - | 30 | 91 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE5313 |
| | 43-160 | 2.5 | - | - | 30 | 90 | 50.8 x 25.4 x 11.9 mm // 2.0 x 1.0 x 0.47 in. | PKE7313A |
| | 9-75 | 3.3 | - | - | 40 | 91 | 50.8 x 25.4 x 11.9mm // 2.0 x 1.0 x 0.47 in. | PKE8413A |
| | 9-36 | 4.2 | - | - | 50 | 88 | 35.3 x 25 x 10.4 mm // 1.39 x 0.984 x 0.41 in. | PKU3513S |
| | 18-75 | 4.2 | - | - | 50 | 91.7 | 33.02 x 22.86 x 9.4 mm // 1.3 x 0.9 x 0.37 in. | PKU5513E |
| | 18-75 | 4.2 | - | - | 50 | 88 | 35.3 x 25 x 10.4 mm // 1.39 x 0.984 x 0.41 in. | PKU5513S |
| | 12-160 | 4.2 | - | - | 50 | 90.5 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7513W |
| | 14-160 | 8.4 | - | - | 100 | 89 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7113W |
| | 60-160 | 8.3 | - | - | 100 | 87 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7113A |
| | 60-160 | 12.5 | - | - | 150 | 89 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7213A |
| NEW | 14-160 | 16.7 | - | - | 200 | 90 | 57.91 x 61.0 x 12.7 mm // 2.28 x 2.4 x 0.5 in. | PKJ7213W |
| | 60-160 | 16.8 | - | - | 200 | 90.4 | 57.91 x 61.0 x 12.7 mm // 2.28 x 2.4 x 0.5 in. | PKJ7213 |
| | 18-36 | 20.0 | - | - | 240 | 95 | 58.4 x 22.7 x 9.6 mm // 2.3 x 0.9 x 0.38 in. | PKB2213D |
| | 60-160 | 25.0 | - | - | 300 | 92.5 | 57.91 x 61.0 x 12.7 mm // 2.28 x 2.4 x 0.5 in. | PKJ7313 |
| | 9-36 | 0.1 | -12 | 0.1 | 3 | 82 | 31.8 x 20.3 x 10.7 mm // 1.25 x 0.80 x 0.42 in. | PKV3321* |
| | 18-72 | 0.1 | -12 | 0.1 | 3 | 82 | 31.8 x 20.3 x 10.7 mm // 1.25 x 0.80 x 0.42 in. | PKV5321* |
| | 18-36 | 0.6 | -12 | 0.6 | 15 | 86.6 | 47.8 x 28.1 x 8.0 mm // 1.88 x 1.11 x 0.32 in. | PKR2221A* |
| | 9-36 | 0.6 | -12 | 0.6 | 15 | 90 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE3221* |
| | 18-75 | 0.6 | -12 | 0.6 | 15 | 89 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE5221* |
| | 13.8 | 12-160 | 3.6 | - | 50 | 90.5 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7517KW |
| NEW | 14-160 | 7.3 | - | - | 100 | 90 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7117KW |
| | 14-160 | 14.5 | - | - | 200 | 90 | 57.91 x 61.0 x 12.7 mm // 2.28 x 2.4 x 0.5 in. | PKJ7217KW |
| | 60-160 | 14.5 | - | - | 200 | 93.1 | 57.91 x 61.0 x 12.7 mm // 2.28 x 2.4 x 0.5 in. | PKJ7217K |
| | 60-160 | 21.7 | - | - | 300 | 92.7 | 57.91 x 61.0 x 12.7 mm // 2.28 x 2.4 x 0.5 in. | PKJ7317K |
| | 15 | 9-36 | 0.2 | - | 3 | 82 | 31.8 x 20.3 x 10.7 mm // 1.25 x 0.80 x 0.4 in. | PKV3315 |
| NEW | 18-72 | 0.2 | - | - | 3 | 82 | 31.8 x 20.3 x 10.7 mm // 1.25 x 0.80 x 0.42 in. | PKV5315 |
| | 9-36 | 1.0 | - | - | 15 | 88.8 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE3215 |
| | 18-75 | 1.0 | - | - | 15 | 90 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE5215 |
| | 9-36 | 2.0 | - | - | 30 | 92 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.4 in. | PKE3315 |
| | 18-75 | 2.0 | - | - | 30 | 91 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE5315 |
| | 43-160 | 2.0 | - | - | 30 | 91 | 50.8 x 25.4 x 11.9 mm // 2.0 x 1.0 x 0.47 in. | PKE7315A |
| | 9-75 | 2.7 | - | - | 40 | 91 | 50.8 x 25.4 x 11.9mm // 2.0 x 1.0 x 0.47 in. | PKE8415A |
| | 9-36 | 3.4 | - | - | 50 | 89 | 35.3 x 25 x 10.4 mm // 1.39 x 0.984 x 0.41 in. | PKU3515S |
| | 18-75 | 3.4 | - | - | 50 | 89 | 35.3 x 25 x 10.4 mm // 1.39 x 0.984 x 0.41 in. | PKU5515S |
| | 12-160 | 3.4 | - | - | 50 | 90 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7515W |
| | 14-160 | 6.7 | - | - | 100 | 92 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7116ZW |
| | 60-160 | 6.6 | - | - | 100 | 87 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7115W |
| | 60-160 | 10.0 | - | - | 150 | 89 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7215A |
| | 14-160 | 13.3 | - | - | 200 | 90 | 57.91 x 61.0 x 12.7 mm // 2.28 x 2.4 x 0.5 in. | PKJ7215W |
| | 60-160 | 13.5 | - | - | 200 | 90.1 | 57.91 x 61.0 x 12.7 mm // 2.28 x 2.4 x 0.5 in. | PKJ7215 |
| | 60-160 | 20.0 | - | - | 300 | 92.4 | 57.91 x 61.0 x 12.7 mm // 2.28 x 2.4 x 0.5 in. | PKJ7315 |
| | 9-36 | 0.1 | -15 | 0.1 | 15 | 80 | 31.8 x 20.3 x 10.7 mm // 1.25 x 0.80 x 0.42 in. | PKV3325* |
| | 18-72 | 0.1 | -15 | 0.1 | 3 | 82 | 31.8 x 20.3 x 10.7 mm // 1.25 x 0.80 x 0.42 in. | PKV5325* |
| | 9-36 | 0.5 | -15 | 0.5 | 15 | 89 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE3225* |
| | 18-75 | 0.5 | -15 | 0.5 | 15 | 89 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in | PKE5225* |

*Dual output

Application Specific Products: Industrial and Railway | Continued

| V_{out1} (V) | V_{in} (V) | I_{out1} (A) | V_{out2} (V) | I_{out2} (A) | P_{out} (W) | η % | Dimensions (L x W x H) | Product Reference |
|-----------------------------|---------------------------|-----------------------------|-----------------------------|-----------------------------|----------------------------|------------|--|--------------------------|
| 24 | 9-36 | 1.3 | - | - | 30 | 90 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE3316Z |
| | 18-75 | 1.3 | - | - | 30 | 92 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE5316Z |
| | 43-160 | 1.3 | - | - | 30 | 90 | 50.8 x 25.4 x 11.4 mm // 2.0 x 1.0 x 0.45 in. | PKE7316ZA |
| | 9-36 | 2.1 | - | - | 50 | 90 | 35.3 x 25 x 10.4 mm // 1.39 x 0.984 x 0.41 in. | PKU3516ZS |
| | 18-75 | 2.1 | - | - | 50 | 90 | 35.3 x 25 x 10.4 mm // 1.39 x 0.984 x 0.41 in. | PKU5516ZS |
| | 12-160 | 2.1 | - | - | 50 | 90 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7516ZW |
| | 14-160 | 4.2 | - | - | 100 | 90 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7116ZW |
| | 60-160 | 4.2 | - | - | 100 | 87 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7116ZA |
| | 60-160 | 6.3 | - | - | 150 | 87 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7216ZA |
| NEW | 14-160 | 8.3 | - | - | 200 | 90 | 57.91 x 61.0 x 12.7 mm // 2.28 x 2.4 x 0.5 in. | PKJ7216ZW |
| | 60-160 | 8.4 | - | - | 200 | 91.3 | 57.91 x 61.0 x 12.7 mm // 2.28 x 2.4 x 0.5 in. | PKJ7216Z |
| | 60-160 | 12.5 | - | - | 300 | 90.6 | 57.91 x 61.0 x 12.7 mm // 2.28 x 2.4 x 0.5 in. | PKJ7316Z |
| 48 | 9-36 | 0.6 | - | - | 30 | 92 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE3316J |
| | 18-75 | 0.6 | - | - | 30 | 91 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE5316J |
| | 43-160 | 0.6 | - | - | 30 | 91 | 50.8 x 25.4 x 11.9 mm // 2.0 x 1.0 x 0.47 in. | PKJ7316JA |
| | 12-160 | 1.1 | - | - | 50 | 90 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7516JW |
| | 14-160 | 2.1 | - | - | 100 | 91 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7116JW |
| | 66-160 | 2.0 | - | - | 100 | 87 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.50 in. | PKJ7116JA |
| NEW | 60-160 | 3.1 | - | - | 150 | 89 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7216JA |
| | 14-160 | 4.2 | - | - | 200 | 90 | 61 x 57.9 x 12.7 mm // 2.4 x 3.3 x 0.5 in. | PKJ7216JW |
| 54 | 9-36 | 0.5 | - | - | 25 | 91 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE3316H |
| | 18-75 | 0.5 | - | - | 25 | 90 | 25.4 x 25.4 x 10.8 mm // 1.0 x 1.0 x 0.43 in. | PKE5316H |
| | 12-160 | 1 | - | - | 50 | 90 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7516HW |
| | 14-160 | 1.9 | - | - | 100 | 91 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7116HW |
| | 60-160 | 1.9 | - | - | 100 | 90 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7116HA |
| | 60-160 | 2.8 | - | - | 150 | 89 | 57.91 x 36.8 x 12.7 mm // 2.28 x 1.45 x 0.5 in. | PKM7216HA |
| NEW | 14-160 | 3.7 | - | - | 200 | 90 | 57.91 x 61.0 x 12.7 mm // 2.28 x 2.4 x 0.5 in. | PKJ7216HW |
| | 60-160 | 4.2 | - | - | 200 | 92.5 | 57.91 x 61.0 x 12.7 mm // 2.28 x 2.4 x 0.5 in. | PKJ7216H |
| | 60-160 | 6.3 | - | - | 300 | 92.6 | 57.91 x 61.0 x 12.7 mm // 2.28 x 2.4 x 0.5 in. | PKJ7316H |

Miniature Industrial Power Supplies

We are introducing miniature power modules in SIP4, SIP7 and SMD industry standard form factors. These are encapsulated devices, offering high isolation levels up to 6kV, high MTBF (mean time before failures) figures up to 17Mhrs and features such as short circuit protection as standard.

Fixed Ratio SMD

Product examples:

PUB2405S2M



PUB2405S1M



Miniature industrial power supplies: fixed ratio SMD / 1 W power and 3 kV isolation

| V _{in} (V) | V _{out1} (V) | I _{out1} (A) | V _{out2} (V) | I _{out2} (A) | P _{out} (W) | η % | Dimensions (L x W x H) | Product Reference |
|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|-----|---|-------------------|
| 5 | 5 | 0.2 | - | - | 1.0 | 76 | 12.7 x 11.2 x 6.6 mm // 0.5 x 0.44 x 0.26 in. | PUB0505S1M |
| 12 | 5 | 0.2 | - | - | 1.0 | 81 | 12.7 x 11.2 x 6.6 mm // 0.5 x 0.44 x 0.26 in. | PUB1205S1M |
| 24 | 5 | 0.2 | - | - | 1.0 | 75 | 12.7 x 11.2 x 6.6 mm // 0.5 x 0.44 x 0.26 in. | PUB2405S1M |

Miniature industrial power supplies: fixed ratio SMD / 2 W power and 3 kV isolation

| V _{in} (V) | V _{out1} (V) | I _{out1} (A) | V _{out2} (V) | I _{out2} (A) | P _{out} (W) | η % | Dimensions (L x W x H) | Product Reference |
|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|------|---|-------------------|
| 5 | 5 | 0.4 | - | - | 2 | 78.8 | 12.7 x 11.2 x 8.0 mm // 0.5 x 0.44 x 0.32 in. | PUB0505S2M |
| 12 | 5 | 0.4 | - | - | 2 | 80 | 12.7 x 11.2 x 8.0 mm // 0.5 x 0.44 x 0.32 in. | PUB1205S2M |
| 24 | 5 | 0.4 | - | - | 2 | 82.6 | 12.7 x 11.2 x 8.0 mm // 0.5 x 0.44 x 0.32 in. | PUB2405S2M |
| | 12 | 0.4 | - | - | 2 | 86.5 | 12.7 x 11.2 x 8.0 mm // 0.5 x 0.44 x 0.32 in. | PUB2412S2M |
| | 5 | 0.2 | -5 | 0.2 | 2 | 83 | 15.2 x 11.2 x 8.0 mm // 0.6 x 0.44 x 0.32 in. | PUB2405D2M* |

*dual output

Fixed Ratio SIP4

Product example:

PUA1205S1A



Miniature industrial power supplies: fixed ratio SIP4 / 1V power and 2 kV isolation

| V _{in} (V) | V _{out1} (V) | I _{out1} (A) | V _{out2} (V) | I _{out2} (A) | P _{out} (W) | η % | Dimensions (L x W x H) | Product Reference |
|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|-----|--|-------------------|
| 3.3 | 3.3 | 0.3 | - | - | 1 | 75 | 11.6 x 6.0 x 10.2 mm // 0.46 x 0.24 x 0.40 in. | PUA0303S1A |
| | 5 | 0.2 | - | - | 1 | 76 | 11.6 x 6.0 x 10.2 mm // 0.46 x 0.24 x 0.40 in. | PUA0305S1A |
| | 12 | 0.08 | - | - | 1 | 77 | 11.6 x 6.0 x 10.2 mm // 0.46 x 0.24 x 0.40 in. | PUA0312S1A |
| 5 | 3.3 | 0.3 | - | - | 1 | 74 | 11.6 x 6.0 x 10.2 mm // 0.46 x 0.24 x 0.40 in. | PUA0503S1A |

| V_{in} (V) | V_{out1} (V) | I_{out1} (A) | V_{out2} (V) | I_{out2} (A) | P_{out} (W) | η % | Dimensions (L x W x H) | Product Reference |
|---------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|----------------------------|------------|--|--------------------------|
| 5 | 5 | 0.2 | - | - | 1 | 78 | 11.6 x 6.0 x 10.2 mm // 0.46 x 0.24 x 0.40 in. | PUA0505S1A |
| | 12 | 0.08 | - | - | 1 | 78 | 11.6 x 6.0 x 10.2 mm // 0.46 x 0.24 x 0.40 in. | PUA0512S1A |
| 12 | 3.3 | 0.3 | - | - | 1 | 79 | 11.6 x 6.0 x 10.2 mm // 0.46 x 0.24 x 0.40 in. | PUA1203S1A |
| | 5 | 0.2 | - | - | 1 | 82 | 11.6 x 6.0 x 10.2 mm // 0.46 x 0.24 x 0.40 in. | PUA1205S1A |
| | 12 | 0.08 | - | - | 1 | 80 | 11.6 x 6.0 x 10.2 mm // 0.46 x 0.24 x 0.40 in. | PUA1212S1A |
| 24 | 3.3 | 0.3 | - | - | 1 | 78 | 11.6 x 6.0 x 10.2 mm // 0.46 x 0.24 x 0.40 in. | PUA2403S1A |
| | 5 | 0.2 | - | - | 1 | 79 | 11.6 x 6.0 x 10.2 mm // 0.46 x 0.24 x 0.40 in. | PUA2405S1A |
| | 12 | 0.08 | - | - | 1 | 80 | 11.6 x 6.0 x 10.2 mm // 0.46 x 0.24 x 0.40 in. | PUA2412S1A |
| | 15 | 0.07 | - | - | 1 | 84 | 11.6 x 6.0 x 10.2 mm // 0.46 x 0.24 x 0.40 in. | PUA2415S1A |

Fixed Ratio SIP7

Product examples:

PUC1205S2B

PUB1205S1B

PUB1205S2B

PUC1203S1B



Miniature industrial power supplies: fixed ratio SIP 7 / 1 W power and 4 kV isolation

| V _{in} (V) | V _{out1} (V) | I _{out1} (A) | V _{out2} (V) | I _{out2} (A) | P _{out} (W) | Eff % | Dimensions (L x W x H) | Product Reference |
|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------|-------|--|----------------------|
| 3.3 | 3.3 | 0.3 | | | 1 | 75 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB0303S1B |
| | 5 | 0.2 | | | 1 | 78 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB0305S1B |
| | 12 | 0.08 | | | 1 | 77 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB0312S1B |
| | 12 | 0.04 | -12 | 0.04 | 1 | 80 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB0312D1B* |
| 5 | 3.3 | 0.3 | | | 1 | 74 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB0503S1B |
| | 5 | 0.2 | | | 1 | 79 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB0505S1B |
| | 12 | 0.08 | | | 1 | 78 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB0512S1B |
| | 12 | 0.04 | -12 | 0.04 | 1 | 80 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB0512D1B* |
| 12 | 3.3 | 0.3 | | | 1 | 79 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB1203S1B |
| | 5 | 0.2 | | | 1 | 82 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB1205S1B |
| | 12 | 0.08 | | | 1 | 80 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB1212S1B |
| | 12 | 0.04 | -12 | 0.04 | 1 | 80 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB1212D1B* |
| | 15 | 0.03 | -9 | 0.06 | 1 | 81 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB121509D1B* |
| 15 NEW | 5 | 0.2 | | | 1 | 80 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB1505S1B |
| 24 NEW | 3.3 | 0.3 | | | 1 | 78 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB2403S1B |
| | 5 | 0.2 | | | 1 | 79 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB2405S1B |
| | 12 | 0.08 | | | 1 | 79 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB2412S1B |
| | 12 | 0.08 | -12 | 0.04 | 1 | 83 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB2412D1B* |
| | 15 | 0.03 | -3 | 0.17 | 1 | 76 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB241503D1B* |
| | 15 | 0.03 | -15 | 0.03 | 1 | 81 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB2415D1B* |
| | 15 | 0.03 | -9 | 0.06 | 1 | 79 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB241509D1B* |

*Dual output

Miniature industrial power supplies: fixed ratio SIP 7 / 2 W power and 4 kV isolation

| V_{in} (V) | V_{out1} (V) | I_{out1} (A) | V_{out2} (V) | I_{out2} (A) | P_{out} (W) | η % | Dimensions (L x W x H) | Product Reference |
|---------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|----------------------------|------------|---|--------------------------|
| 3.3 | 3.3 | 0.6 | | | 2 | 77 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB0303S2B |
| | 5 | 0.4 | | | 2 | 78 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB0305S2B |
| | 12 | 0.17 | | | 2 | 84 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB0312S2B |
| | 12 | 0.08 | -12 | 0.08 | 2 | 84 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB0312D2B* |
| 5 | 5 | 0.4 | | | 2 | 79 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB0505S2B |
| | 12 | 0.17 | | | 2 | 83 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in | PUB0512S2B |
| | 12 | 0.08 | -12 | 0.08 | 2 | 84 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB0512D2B* |
| | 15 | 0.07 | -9 | 0.11 | 2 | 82 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB051509D2B* |
| 12 | 3.3 | 0.6 | | | 2 | 78 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in | PUB1203S2B |
| | 5 | 0.4 | | | 2 | 79 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB1205S2B |
| | 12 | 0.17 | | | 2 | 85 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB1212S2B |
| | 12 | 0.08 | -12 | 0.08 | 2 | 80 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB1212D2B* |
| | 15 | 0.07 | -9 | 0.11 | 2 | 78 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB121509D2B* |
| 24 | 3.3 | 0.6 | | | 2 | 79 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB2403S2B |
| | 5 | 0.4 | | | 2 | 84 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB2405S2B |
| | 12 | 0.17 | | | 2 | 86 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB2412S2B |
| | 12 | 0.08 | -12 | 0.08 | 2 | 83 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB2412D2B* |
| | 15 | 0.07 | -15 | 0.07 | 2 | 84 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB2415D2B* |
| | 15 | 0.07 | -9 | 0.11 | 2 | 81 | 19.7 x 7.1 x 10.2 mm // 0.77 x 0.28 x 0.4 in. | PUB241509D2B* |

*Dual output

Miniature industrial power supplies: fixed ratio SIP 7 / 1 W power and 6 kV isolation

| V_{in} (V) | V_{out1} (V) | I_{out1} (A) | V_{out2} (V) | I_{out2} (A) | P_{out} (W) | η % | Dimensions (L x W x H) | Product Reference |
|---------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|----------------------------|------------|---|--------------------------|
| 5 | 3.3 | 0.3 | | | 1 | 77 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC0503S1B |
| | 5 | 0.2 | | | 1 | 77 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC0505S1B |
| | 12 | 0.08 | | | 1 | 78 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC0512S1B |
| | 5 | 0.1 | -5 | 0.1 | 1 | 77 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC0505D1B* |
| | 12 | 0.04 | -12 | 0.04 | 1 | 78 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC0512D1B* |
| 12 | 3.3 | 0.3 | | | 1 | 77 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC1203S1B |
| | 5 | 0.2 | | | 1 | 80 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC1205S1B |
| | 12 | 0.08 | | | 1 | 80 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC1212S1B |
| | 12 | 0.04 | -12 | 0.04 | 1 | 80 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC1212D1B* |
| 15 NEW | 5 | 0.2 | | | 1 | 80 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC1505S1B |

*Dual output

Miniature industrial power supplies: fixed ratio SIP 7 / 1 W and 6 kV isolation | continued

| V_{in} (V) | V_{out1} (V) | I_{out1} (A) | V_{out2} (V) | I_{out2} (A) | P_{out} (W) | η % | Dimensions (L x W x H) | Product Reference |
|---------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|----------------------------|------------|---|--------------------------|
| 24 | 3.3 | 0.3 | | | 1 | 75 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC2403S1B |
| | 5 | 0.2 | | | 1 | 78 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC2405S1B |
| | 12 | 0.08 | | | 1 | 80 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC2412S1B |
| | 5 | 0.1 | -5 | 0.1 | 1 | 77 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC2405D1B* |
| NEW | 12 | 0.08 | -12 | 0.04 | 1 | 80 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC2412D1B* |
| | 15 | 0.07 | | | 1 | 80 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC2415S1B |
| | 15 | 0.03 | -15 | 0.03 | 1 | 80 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC2415D1B* |

*Dual output

Minature industrial power supplies: fixed ratio SIP 7/ 2 W power and 6 kV isolation

| V_{in} (V) | V_{out1} (V) | I_{out1} (A) | V_{out2} (V) | I_{out2} (A) | P_{out} (W) | η % | Dimensions (L x W x H) | Product Reference |
|---------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|----------------------------|------------|--|--------------------------|
| 5 | 3.3 | 0.6 | | | 2 | 77 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC0503S2B |
| | 5 | 0.4 | | | 2 | 79 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC0505S2B |
| | 12 | 0.17 | | | 2 | 83 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC0512S2B |
| | 12 | 0.08 | -12 | 0.08 | 2 | 82 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC0512D2B* |
| 12 | 3.3 | 0.6 | | | 2 | 77 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC1203S2B |
| | 5 | 0.4 | | | 2 | 80 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC1205S2B |
| | 12 | 0.17 | | | 2 | 84 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC1212S2B |
| | 5 | 0.2 | -5 | 0.2 | 2 | 82 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC1205D2B* |
| | 12 | 0.08 | -12 | 0.08 | 2 | 83 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC1212D2B* |
| 24 | 3.3 | 0.6 | | | 2 | 79 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC2403S2B |
| | 5 | 0.4 | | | 2 | 81 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC2405S2B |
| | 12 | 0.17 | | | 2 | 85 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC2412S2B |
| | 5 | 0.2 | -5 | 0.2 | 2 | 82 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC2405D2B* |
| | 12 | 0.08 | -12 | 0.08 | 2 | 85 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC2412D2B* |
| | 15 | 0.07 | -15 | 0.07 | 2 | 84 | 19.7 x 7.1 x 11.5 mm // 0.77 x 0.28 x 0.45 in. | PUC2415D2B |

*Dual output

Software

Flex Power Modules offers internally developed software tools, which help our customers optimize, sketch and simulate their power systems.

Flex Power Designer

FLEX Power Designer Software is used to sketch and simulate future power systems as well as to configure and monitor your existing digital power system. We recently introduced the capability to import Xilinx Power Estimator files for some of the latest FPGAs available from Xilinx.

The software is available as a free download from our homepage www.flexpowerdesigner.com

SMBus/PMBus Tool

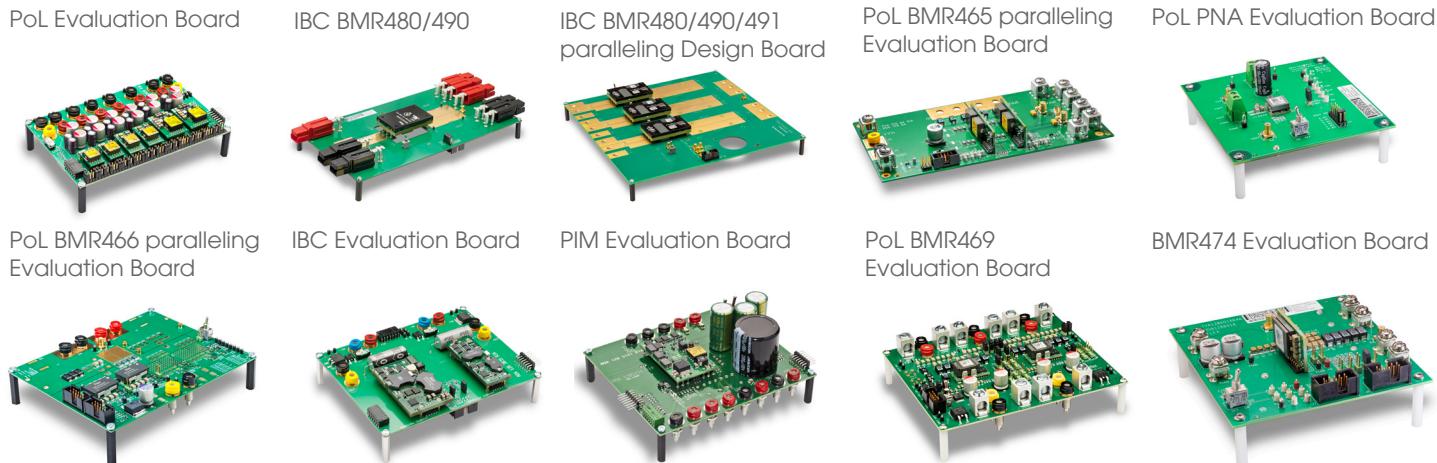
SMBUS tool is a production tool which is used to perform module configuration in a production environment.



Evaluation Boards + Accessories

Evaluation boards and accessories include test boards and other useful tools for customer evaluation of our power modules.

Evaluation Boards



Evaluation Boards

| Name | Product Reference | Product | General Info |
|--|----------------------------|---|--|
| PoL Evaluation Board | ROA1283836 | PoL Design Board | This board can host: 2xBMR464 or 2xBMR451 2xBMR463 or 2xBMR450 2xBMR462 |
| PoL SIP Evaluation Board | ROA1285068 | PoL Design Board for SIP version | This board can host: 3xBMR464, 3xBMR463, 2xBMR462 |
| PoL BMR461 Evaluation Board | ROA17026 | PoL BMR461 3001 Simple Evaluation Board (small sized board) | This board can host: BMR4613001 |
| | ROA17026/2 | PoL BMR461 2001 Simple Evaluation Board (small sized board) | BMR4612001 |
| | ROA17026/3 | PoL BMR461 4001 Simple Evaluation Board (small sized board) | BMR4614001 |
| PoL BMR465 Paralleling Evaluation Board | ROA17064 | PoL Design Board for paralleling configuration, BMR465 | This board can host: 2xBMR465 or 2xBMR467 in parallel |
| PoL BMR466 Paralleling Evaluation Board | ROA17044/2B ROA17044/4B | PoL Design Board for paralleling configuration, BMR466 | This board can host: 2 x BMR4668004 in parallel 4 x BMR4668012 in parallel |
| IBC Evaluation Board | ROA1283835 | IBC Design Board | This board can host: 2xBMR453, 2xBMR454, 2xBMR456, 2xBMR457 or 2xBMR458 |
| PIM Evaluation Board | ROA1285151 | PIM Design Board | This board can host: PIM 4820B, PIM 4328PD or PIM 4328PDA |
| PoL BMR469 Evaluation Board | ROA170111 ROA170111/1 | PoL BMR4690000 Design Board PoL BMR4696001 Design Board | This board can host: 1xBMR4690000 module with dual-output configuration (2x40 A) and 1x BMR4690000 module with single-output configuration (80 A) 1xBMR4696001 module with dual-output configuration (2x25 A) and 1x BMR4696001 module with single-output configuration (50 A) |

Evaluation Boards | Continued

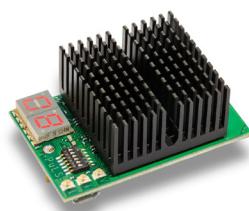
| Name | Product Reference | Product | General Info |
|--|---|--|---|
| PoL PMU8318 Evaluation Board | ROA170163 | PMU8318 Design Board | This board can host: 1 PMU8318 |
| IBC BMR480/490/491 Evaluation Board | ROA170019 ROA170032 | BMR480/490/491 Design Board BMR480/490/491 paralleling Design Board | This board can host: 1 x BMR480 or 1 x BMR490 or 1x BMR491 3x BMR480 or 3 x BMR490 or 3x BMR491 in parallel |
| PoL PMU8000 Evaluation Board | ROA170163 ROA170163/2 ROA170163/4 | PMU8318 Design Board PMU8218 Design Board PMU8418 Design Board | This board can host: 1x PMU8318 1x PMU8218 1x PMU8418 |
| Dicon BMR 481 Evaluation Board | ROA170014/3 | BMR 481 Design Board | This board can host: 1 x BMR481 main module + 5 x BMR481 satellite modules |
| PoL PNA Evaluation Board | ROA170288 | PNA Design Board | 1 x PNA2405S3S module |
| PoL BMR474 Evaluation Board | ROA1286016 | BMR474 Design Board | 1 x BMR4742001 module |
| Dicon BMR482 Evaluation Board | ROA170050/3 | BMR 482 Design Board | 1 x BMR482 main module + 5 x BMR482 Satellite modules |

Accessories

USB-PMBus adapter and cable



Electronic Load



Accessories

| Accessory | Product Reference | Product |
|------------------------------------|-------------------|---------------------------------------|
| USB-PMBus Adapter and Cable | FAB8020785 | USB-PMBus Adapter and cable |
| Electronic Load | ROA1285552 | Electronic Loads with PMBus interface |

For more information, please visit flexpowermodules.com.

Headquarter/ EMEA

Flex Power Modules
Box 86 SE-164 94 Kista, Sweden

Email: pm.info@flex.com

Web: flexpowermodules.com

LinkedIn: linkedin.com/showcase/flex-power-modules/

Flex Power Designer: flexpowerdesigner.com

APAC

Flex Power Modules
33 Fuhua Road, Jiading District
Shanghai, China 201818

Americas

Flex Power Modules
6201 America Center Drive
San Jose, CA 95002, USA



For more information, please visit www.flex.com or follow us on Twitter @flexintl

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