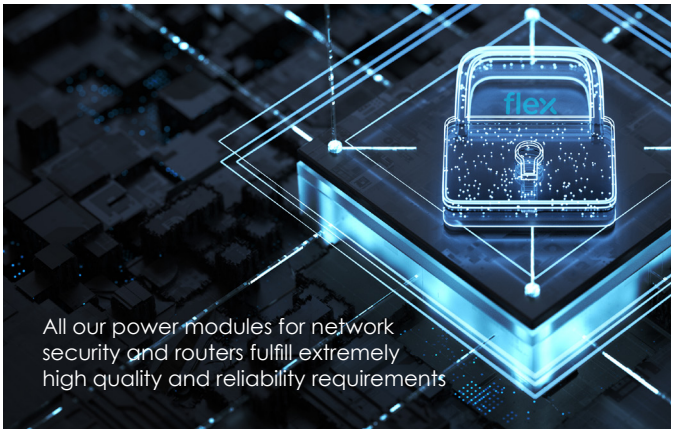
Power Modules

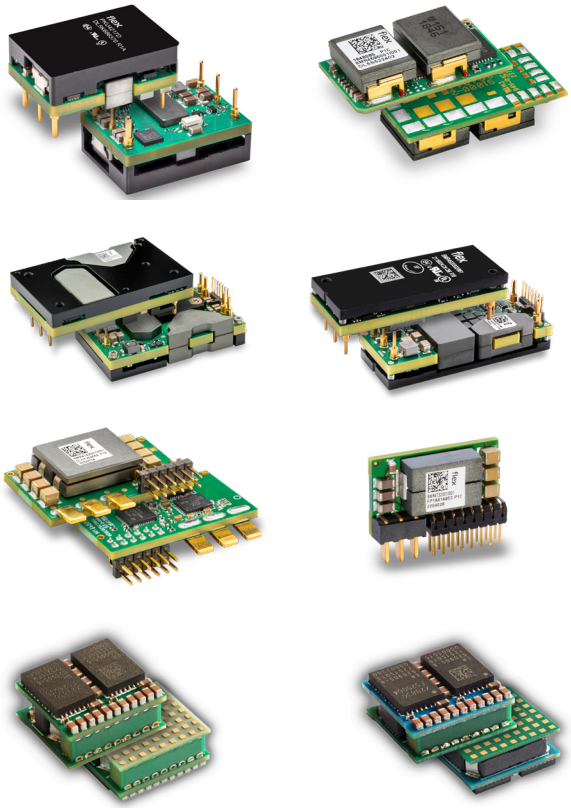
DC/DC converters powering Network Security & Routers

Digital businesses have created a new ecosystem where there is an increased demand for more complex security measures. With this demand, several trends have developed in the area of network security and router equipment.

There has been a transition from $12V_{DC}$ to $48V_{DC}$ distribution for cloud applications. By increasing voltage four-fold, the current needed to deliver the same amount of power can be similarly decreased. This reduces loss by a factor of 16 thus avoiding the need for large, expensive power cables.
Power conversions have also evolved as chassis power increased. In a two-stage conversion approach, the $48V_{DC}$ supply to a board is first converted to 12V by an Intermediate Bus Converter (IBC), then by a local Point of Load (PoL) converter to the low voltage required by some on-board components such as FPGAs and memory. This architecture provides current to the load in a highly efficient and cost-effective manner.



Whether using a two-stage or direct conversion approach, today's DC/DC converters typically include sophisticated digital controls such as the industry-standard PMBus.



Network Security Power Modules

BMR491 – high power DC/DC IBC in a quarter brick (up to 2450W$_{peak}$)

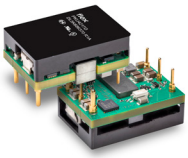
- Continuous power up to 1540W
- Digital and isolated
- High efficiency of 97.7%

Dimensions: 58.4 x 36.8 x 14 mm / 2.3 x 1.45 x 0.55 in

BMR492 – high power DC/DC IBC in an eighth brick (up to 1100W$_{peak}$)

- Continuous power up to 800W
- Excellent thermal behavior
- Digital interface available

Dimensions: 58.4 x 22.7 x 12.7 mm / 2.3 x 0.89 x 0.5 in



PKU4317D – isolated DC/DC in a sixteenth brick

- High output power with 300W
- High efficiency up to 96.1%
- Optional open frame or baseplated

Dimensions: 33 x 22.9 x 11.3-13.2 mm / 1.3 x 0.9 x 0.44-0.52 in

BMR474 – digital PoL regulator (80A)

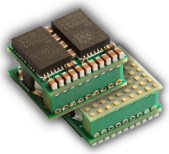
- Board space efficient design using vertical SIP mounting
- Wide output range of 0.6-3.3V
- Improved fast load transient response

Dimensions: 33 x 8.6 x 19 mm / 1.3 x 0.34 x 0.75 in

BMR473 – digital PoL regulator (40A)

- High power density
- Available as SIP or SMD version
- Excellent thermal performance

Dimensions SIP: 26.3 x 8.8 x 15.6 mm
Dimensions SMD: 19 x 13 x 7.5 mm



Renesas partner products: RRV series – 2-phase power tower (80A/160A$_{peak}$)

Powered by flex

- RRV28830 comes with a TLVR inductor
- Halogen free
- Optimized for top side cooling

Dimensions: 9 x 10 x 5 mm / 0.35 x 0.39 x 0.2 in

Focus Products

PRODUCT NUMBER	V_{in}	V_{out}	I_{out}	I_{out_peak}	P_{out}	EFFICIENCY
BMR491xx08/857	48-60V	8-13.2V	205A	2450A	1540W	97.6%
BMR491xx03/851	40-60V	8-13.2V	108.3A	—	1300W	97.2%
BMR4920302/861	40-60V	12V	50A	—	600W	96.7%
BMR4920300/864	40-60V	9.5-12V	92A	1100A	800W	97.3%
PKU4317D	48-60V	10.8-12.24V	25A	—	300W	96.1%
BMR474xx01/001	6-15V	0.6-3.3V	80A	—	198W	95.1%
BMR4731x01/001 (SMD)	6-15V	0.6-5V	40A	—	100W	96.2%
BMR4732x01/001 (SIP)	6-15V	0.6-5V	40A	—	100W	95.6%
BMR4696001/001	7.5-14V	0.6-5.5V	2 x 25/50A	—	50/100W	94.3%
BMR4690000/001	7.5-14V	0.6-5.5V	2x 40/80A	—	100/200W	92.6%
BMR4614x01/0xx	4.5-14V	0.6-1.8V	18A	—	32.4W	96%
BMR4613x01/0xx	4.5-14V	0.6-5V	12A	—	60W	96%
BMR466xxxx/xxx	4.5-14V	0.6-1.8V	60A	—	108W	95%
RRV28830	3-15V	0.4-1.8V	80A	160A	—	87%
RRV29830	3-15V	0.4-1.8V	80A	160A	—	90%
PMU8x18	4.5-17V	0.6-5.5V	4/6/8A	—	22/33/44W	95%

Visit flexpowermodules.com for more product variants and a wide range of non-isolated Point of Load converters.

flex Power Modules

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