

# Power Solutions for Transportation



Calex's rugged power converters are designed to provide power for applications that require high reliability in demanding transportation environments.



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

# DC/DC Brick Converters

## Ultra-wide 10:1 Input Ratio Brick DC/DC Converters

- 3000 VRMS reinforced insulation
- -40°C to +100°C temperature range
- Remote sense
- Extremely high efficiency
- Tight line and load regulation
- Under voltage lockout feature
- +/-10% adjustment range
- Input range of 16V – 160VDC



Series	Watts	Package	Vin	Vout	Vin Range	Case Size
QBR	150	1/4 Brick	72	12, 24, 54	10:1	1.58" x 2.4" x 0.53"
HBR	250	1/2 Brick	72	12, 24, 54	10:1	2.4" x 2.4" x 0.55"

## DC/DC Converters

- 4:1, 3:1 & 2:1 input voltage ranges
- High power density
- Efficiencies up to 96%
- Excellent thermal performance
- Over-current and short circuit protection
- Over-temperature protection
- Auto-restart
- Remote ON/OFF
- Good shock and vibration damping
- Temperature range -40°C to +100°C
- RoHS compliant



Series	Watts	Package	Vin	Vout	Vin Range	Case Size
SBM	50	1/16 Brick	24, 48	5, 12, 15, 24	4:1	1.04" x 1.44" x 0.5"
QH	75	1/4 Brick	24, 48	3.3, 5, 12, 15, 24	2:1	1.45" x 2.28" x 0.52"
EBM	100	1/8 Brick	110	5, 12, 24	3:1	1.01" x 2.41" x 0.5"
HEW	100	1/2 Brick	24, 48	3.3, 5, 12, 15, 24	4:1	2.28" x 2.40" x 0.55"
EBM	120	1/8 Brick	12, 24	5, 12, 24	4:1	1.01" x 2.41" x 0.5"
HBM	150	1/2 Brick	110	5, 12, 24	3:1	2.4" x 2.20" x 0.5"
HEW	150	1/2 Brick	24, 48	5, 12, 15, 24	4:1	2.28" x 2.40" x 0.55"
QSW	150	1/4 Brick	24	12	4:1	1.54" x 2.39" x 0.50"
GX	200	1/2 Brick	28	15, 24	2:1	2.28" x 2.40" x 0.55"
QMW	250	1/4 Brick	24	12	4:1	1.54" x 2.39" x 0.50"
MTW	360	1/2 Brick	24	12, 24, 28	4:1	2.4" x 2.5" x 0.52"
MXW	500	1/2 Brick	24	12, 24, 28	4:1	2.4" x 2.5" x 0.52"
FXM	1000	Full Brick	24	12	4:1	2.5" x 4.7" x 0.52"
FXP	1000	Full Brick	24	24, 28, 48, 53	4:1	2.5" x 4.7" x 0.52"
FXW	1000	Full Brick	24	12, 24, 28, 48, 53	4:1	2.5" x 4.7" x 0.52"

## Li-ion Battery Chargers

- Fully enclosed for chassis mounting
- Rugged industrial applications - IP67 rated
- No fan applications -40°C (start up) to +70°C
- Good thermal performance
- Constant current
- Remote ON/OFF
- Flying lead input and output
- Parallel operation



Series	Watts	Vin (VAC)	Vout (VDC)	IP Rating	CAN	Case Size
CEV	300	100 - 240	24, 48	IP67	No	6.29" x 3.90" x 2.24"

# Chassis Mount Converters



## High Power

- Efficiency up to 97%
- Fixed frequency operation at 400khz
- Low profile, compact package
- Fully protected (otp, ocp, ovp, uvlo)
- Only 3.3 lbs
- Auto recovery
- No minimum load requirement
- Input reverse polarity protection
- High reliability

Series	Watts	Vin	Vout	Vin Range	Case Size
MBH	1,100	13	28	10 - 16	9.0" x 6.5" x 1.25"
MBH	1,700	13	28	10 - 16	9.0" x 6.5" x 1.25"
MBH	2,100	13	28	10 - 16	9.0" x 6.5" x 1.25"

## Low to Mid Power

- High power density
- Fully enclosed for chassis mounting
- Optional din mount
- Good shock and vibration damping



Series	Watts	Vin	Vout	Vin Range	Case Size
NCM	40	9-18, 18-36, 36-75	3.3, 5, 12, 15	2:1	4.20" x 2.65" x 1.00"
QCM	75	18-36, 36-75	3.3, 5, 12, 15, 24	2:1	4.20" x 2.65" x 1.00"
HCM	150	9-36, 18-75	3.3, 5, 12, 15, 24	4:1	4.30" x 3.20" x 1.00"
CHR	300	16-160	12, 24, 54	10:1	7.27" x 4.57" x 1.56"
TCM	360	9-36	12, 24, 28	4:1	4.30" x 3.20" x 1.00"

## Low Voltage Bi-Directional Converters

- Automotive 12V/48V battery system
- Low side (LS): 12V input voltage range: 6V to 18V
- High side (HS): 48V input voltage range: 24V to 58V
- CAN 2.0b interface including remote ON/OFF
- Efficiency up to 97%



Model	Power	High Side (VDC)		Low Side (VDC)	Cooling
	(W)	Nom	Nom	Nom	
48S12.1K5BCA	1,500	48		12	Conduction
48S12.3K0BCA	3,000	48		12	Conduction
48S24.3K0BCA	3,000	48		24	Conduction

## AC/DC Converters

- Convection/conduction cooled assembly can be baseplate mounted to a thermal (cold) plate or natural convection cooled
- -40°C to +85°C, no fan applications
- Designed for rugged industrial applications - IP67 rated
- Excellent thermal performance
- Efficiency: 93%
- Compact high-density design
- -5 to +15% trim range
- Redundant or parallel operation



Series	Watts	Vin (VAC)	Vout (VDC)	IP Rating	Case Size
LHC	250	100 - 240	12, 24, 48	IP67	6.29" x 3.90" x 2.24"
IHC	600	100 - 240	12, 24, 48	IP67	9.20" x 5.04" x 1.57"



We have what you need. It's a matter of determining your specific requirements and coupling them with the product that will do the job right. With our standards and experience, you won't have to reinvent the wheel. Contact us today to provide a solution for your power needs quickly and cost effectively.



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