



## Power Solutions for Industrial and Railway



Calex's industrial and railway power converters are designed to provide power for applications that require high reliability in demanding environments.



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

# DC/DC Brick Converters



## Single Output DC/DC Converters

- High power density
- Over-temperature protection
- Efficiencies up to 96%
- Excellent thermal performance
- Remote ON/OFF
- Over-current and short circuit protection
- Good shock and vibration damping
- Temperature range -40°C to +100°C
- Auto-restart

### 4:1 Input Ratios

Series	Watts	V in Range	V in Normal	V Out	Package	Case Size
FX Series	1000	9 – 36	24	12, 24, 28, 48, 53	Full Brick	2.5" x 4.7" x 0.52"
MXW Series	500	9 – 36	24	12, 24, 28	1/2 Brick	2.4" x 2.5" x 0.52"
MTW Series	360	9 – 36	24	12, 24, 28	1/2 Brick	2.4" x 2.5" x 0.52"
QMW Series	250	9 – 36	24	12	1/4 Brick	1.54" x 2.39" x 0.50"
QSW Series	150	9 – 36	24	12	1/4 Brick	1.54" x 2.39" x 0.50"
HEW Series	150, 100	9 – 36, 18 - 75	24, 48	3.3, 5, 12, 15, 24	1/2 Brick	2.28" x 2.40" x 0.55"
EBM Series	120	9 – 36	12/24	5, 12, 24	1/8 Brick	1.01" x 2.41" x 0.5"
SBM Series	50	9 – 36, 18 - 75	24, 48	5, 12, 15, 24	1/16 Brick	1.04" x 1.44" x 0.5"

### 2:1 Input Ratios

Series	Watts	V in Range	V in Normal	V Out	Package	Case Size
GX Series	200	16 – 40	28	15, 24	1/2 Brick	2.28" x 2.40" x 0.55"
QH Series	75	18 – 36, 36 – 75	24, 48	3.3, 5, 12, 15, 24	1/4 Brick	1.45" x 2.28" x 0.52"

## Multi-Output DC/DC Converters

- Pulse-by-pulse current limiting, short circuit foldback
- Auto-softstart
- Very low temperature coefficient
- Trimmable output voltages
- Low noise
- Constant frequency for normal operations



### 2:1 Input Ratios

Series	Watts	V in Range	V in Normal	V Out	Package	Case Size
HD Dual	75	18 – 36	24	(5, 3.3) (3.3, 2.5)	1/2 Brick	2.28" x 2.40" x 0.55"
HE Triple	75	18 – 36, 36 – 75	24, 48	(5 ±12) (5 ±15) (5 ±17)	1/2 Brick	2.28" x 2.40" x 0.55"
LT Triple	75	18 – 36	24	(5, 3.3, 2.5) (3.3, 2.5, 1.8) (3.3, 2.5, 1.5)	1/2 Brick	2.28" x 2.40" x 0.55"



# DC/DC Power for Railway

Calex has developed an array of ultra-wide and wide input voltage ratio DC-DC converters, in both standard 'brick' style format and chassis mount models. For rail applications, both on-board and trackside environments have been carefully considered while designing these products to meet the constraints of EN50155 (2017).



## Driver's Cabin

- Cab radio
- Displays
- CCTV
- Wiper
- Headlights

## Traveler's Cabin

- WiFi
- Infotainment
- Lighting
- Air Conditioning
- Smoke alarm

## Track Side

- Signaling
- Level crossing
- Communication
- Lighting
- Thermal rail

## Propulsion

- Breaking
- Axle monitor
- Drive control
- PTC
- Sensors

## Facilities

- PA
- Washrooms
- Smart sand
- Passenger counter
- Door opening control

## 10:1 Input Ratio Chassis Mount DC/DC Converters

- Over temp, over voltage, over current protection
- Programmable Undervoltage Lockout (PUL)
- On/Off, Vout adjust, Output LED and Pgood signal
- Optional OR-ing and Hold-up functions
- -40°C to +70°C operating ambient temp
- Fully enclosed for chassis mounting with fixed latch connectors



Series	Watts	V in Range	V in Normal	V Out	Case Size
CHR Series	300	16 - 160	72	12, 24, 48	7.27" x 4.57" x 1.56"

## 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



Series	Watts	V in Range	V in Normal	V Out	Package	Case Size
HBR Series	250W	16 - 160	72	12, 24, 48	1/2 Brick	2.4" x 2.4" x 0.55"
QBR Series	150W	16 - 160	72	12, 24, 48	1/4 Brick	1.58" x 2.4" x 0.53"

## 3:1 Input Ratio DC/DC Brick Converters

Series	Watts	V in Range	V in Normal	V Out	Package	Case Size
HBM Series	150	57.6 - 160	110	5, 12, 24	1/2 Brick	2.4" x 2.20" x 0.5"
EBM Series	100	57.6 - 160	110	5, 12, 24	1/8 Brick	1.01" x 2.41" x 0.5"

# Chassis Mount Converters



## High Power

### 1100 - 2100 Watt MBH Series

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

Watts	V in Range	V in Normal	V Out	Case Size
2100	10 – 16	13	28	9.0" x 6.5" x 1.25"
1700	10 – 16	13	28	9.0" x 6.5" x 1.25"
1100	10 – 16	13	28	9.0" x 6.5" x 1.25"

## Mid Power

- High power density
- Optional din mount
- Good shock and vibration damping



Series	Watts	V in Range	V in Normal	V Out	Case Size
TCM Series	360	9 - 36	24	12, 24, 28	3.24" x 4.53" x 1.1"
HCM Series	150	9 - 36, 18 - 75	24, 48	3.3, 5, 12, 15, 24	3.24" x 4.53" x 1.1"

## Low Power

Series	Watts	V in Range	V in Normal	V Out	Case Size
QCM Series	75	18 - 36, 36 - 75	24, 48	3.3, 5, 12, 15, 24	2.65" x 4.2" x 1"
NCM Series	40	9 - 18, 18 - 36, 36 - 75	12, 24, 48	3.3, 5, 12, 15	2.65" x 4.2" x 1"



# AC/DC Power Supplies



## AC/DC Converter

### IHC Series

- 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

Watts	Vin AC	V Out	I Out	Case Size
600	90 - 264	12, 24, 48	50, 25, 12.5	8.4" x 5.04" x 1.58"

## Li-ion Battery Charger

### CEV Series

- 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 I/P & O/P
- Parallel operation



Watts	Vin AC	V Out	I Out	Case Size
250	90 - 264	27.6V, 57.5V	10, 5	6.3" x 3.9" x 2.25"

## Industrial Applications

- Test & measurement
- Motor drive systems
- Welding, laser cutting/edging
- Industrial communications
- Elevator controls
- Trucks and busses
- Process & control systems
- Instrumentation
- Factory automation
- Outdoor signs & displays
- Forklifts
- Cherry pickers







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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