



# BatMod™

## Battery Charger

## Current Source Modules

### Features:

- Programmable Output Current
- Booster Versions Available
- Size: 4.6" x 2.4" x 0.5"
- UL, CSA, TÜV, CE Marked
- Compatible with All Major Battery Types
- Inputs: 48, 150, 300 VDC
- Outputs: 12, 24, 48 VDC Nom.
- Programmable Current: 0-Full Scale
- Analog Current Monitor
- Analog Overvoltage Adjust

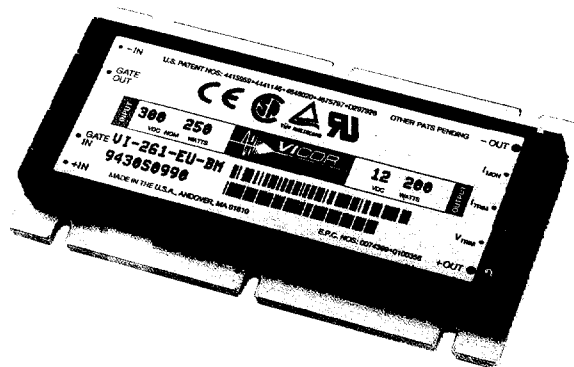
### Product Highlights:

The BatMod combines Vicor's industry standard package with the flexibility of a fully-programmable current source. Based on the VI-200 family of voltage output devices, the BatMod uses a current shunt and an operational amplifier to make the switch from voltage to current output. With programmable output current, the BatMod is well-suited for such current-intensive applications as battery chargers, welders, metal platers and laser diodes.

The BatMod is also available in booster versions that enable the designer to create systems capable of multiple kilowatts of output power.

With its wide range of input options, the BatMod is compatible with all major battery types. This new current output module finds application in systems where easily programmable current is of primary importance.

Consult factory for availability of input/output voltage ranges not shown.



### BatMod Specifications:

(Typical  $T_{BP} = 25^{\circ}\text{C}$ , nominal line, 75% load, unless otherwise specified)

| Parameter               |                                                                          | Remarks                                                        |
|-------------------------|--------------------------------------------------------------------------|----------------------------------------------------------------|
| Nominal Input Voltage   | 48 VDC, 150 VDC, 300 VDC                                                 | 42-60V, 100-200V, 200-400V                                     |
| Output Current          | 0-14.5A @ 13.8V<br>0-7.25A @ 27.6V<br>0-3.6A @ 55.2V                     | 12V battery system<br>24V battery system<br>48V battery system |
| Current Control Voltage | 1V to 5V                                                                 | Zero to full load                                              |
| Current Monitor Port    | 1V to 5V output                                                          | Zero to full load                                              |
| Voltage Regulation Mode | 15V, 30V, 60V +/-1%<br>+10%, -25% trimmable                              | Overvoltage limiting                                           |
| Dynamic Characteristics | V Mode: 300 $\mu\text{sec}$ typ.<br>I Mode: 250 $\mu\text{sec}$ typ.     | V <sub>NOM</sub> for 50-100% load changes                      |
| Operating Temperature   | -10°C to +85°C<br>-25°C to +85°C<br>-40°C to +85°C<br>-55°C to +85°C     | E-Grade<br>C-Grade<br>I-Grade<br>M-Grade                       |
| Storage Temperature     | -20°C to +100°C<br>-40°C to +100°C<br>-55°C to +100°C<br>-65°C to +100°C | E-Grade<br>C-Grade<br>I-Grade<br>M-Grade                       |
| Isolation               |                                                                          |                                                                |
| Input to Output         | 3,000 Vrms min                                                           |                                                                |
| Output to Baseplate     | 500 Vrms min                                                             |                                                                |
| Input to Baseplate      | 2,500 Vrms min                                                           |                                                                |
| Size                    | 4.6"L x 2.4"W x 0.5"H                                                    |                                                                |
| Agency Approvals        | UL, CSA, TÜV, CE Marked                                                  |                                                                |

### Part Numbering

Typical Model:

VI - 261 - EU - BM

Input: 300 VDC

Output: 12 VDC at 20 Watts

| Module      | Input Voltage     | Output Voltage | Product Grade      |
|-------------|-------------------|----------------|--------------------|
| 2 = Driver  | Nominal Range     | 1 = 12V        | E = -10°C to +85°C |
| B = Booster | 3 = 48V 42 - 60V  | 3 = 24V        | C = -25°C to +85°C |
|             | 5 = 150V 100-200V | 4 = 48V        | I = -40°C to +85°C |
|             | 6 = 300V 200-400V |                | M = -55°C to +85°C |

### Packaging Options:

SlimMod™, high power density, flangeless packages and FinMods™, featuring integral finned heatsinks.

**SlimMod:** Add the suffix -S to the end of the BatMod part number.

**FinMods:** Add the suffix -F1 for .25"H Longitudinal Fin; F2 for .5"H Longitudinal Fin  
-F3 for .25"H Transverse Fin; F4 for .5"H Transverse Fin



## Compatible Products

### Off-Line Front Ends

- 250, 500, 750 Watt, 115/230 VAC Strappable, Single Phase
- 1.5, 3.0, 5.0 kW, 208 VAC Three Phase
- 20-50 ms Holdup
- UL, CSA, TÜV
- FCC/VDE Class B (Single Phase)
- FCC/VDE Class A (Three Phase)
- BUS OK, AC OK, DC OK Status Signals
- 96-98% Efficient
- PC and Chassis Mount Versions
- VI-26X, VI-J6X Family Compatible

### VI-AIM

#### Alternating Input Module

- Universal Input: 85-264 VAC
- Output Power: 250 watts
- 2.28"Lx2.4"Wx0.5"H
- Operating Temperature: 100°C
- 97% Efficient
- EMI/RFI Filtering to FCC/VDE Class A
- Input Transient Protection
- UL, CSA, TÜV, VDE
- Inrush Limiting
- Compatible Modules:
  - VI-X7X (85-264 VAC)
  - VI-X6X (170-264 VAC)
  - VI-X5X (85-135 VAC)

### VI-IAM

#### Input Attenuator Module

- Meets Bellcore & British Telecom Standards for EMI/RFI
- Meets Bellcore, IEC and British Telecom Standards for Transients
- Logic Disable
- UL, CSA, TÜV, VDE
- 97% Efficient
- Input Reverse Polarity Protection
- Expansion Output for Arrays
- 2.28"Lx2.4"Wx0.5"H

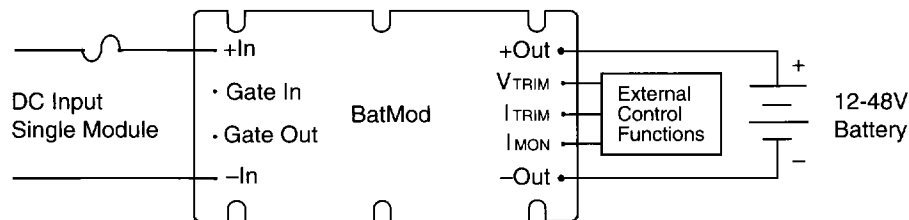
### VI-HAM

#### Harmonic Attenuator Module

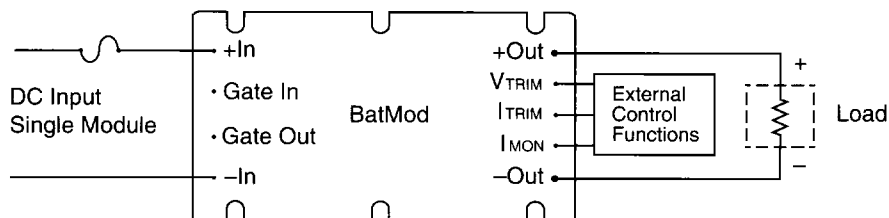
- Universal Input: 85-264 VDC
- Power Factor: 0.99
- Meets IEC 555-2
- 90-94% Efficient
- 4.6"Lx2.4"Wx0.5"H
- Filtering Options: VFG 243/1991 (Conducted)
- UL, CSA, TÜV
- Inrush Limiting
- Compatible with VI-X6X-XX Modules
- ZCS Power Architecture
- Low Noise FM Control

## Typical Applications

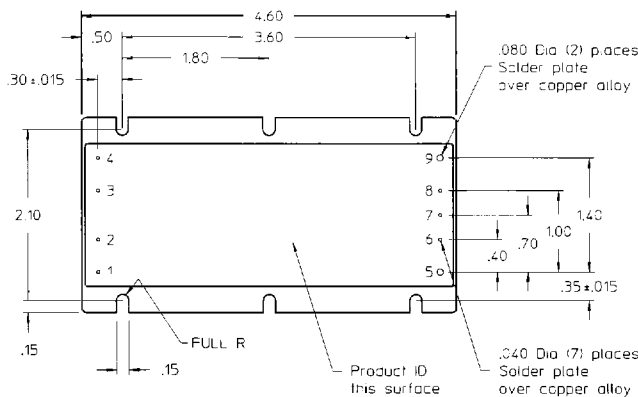
### DC Input Battery Charger



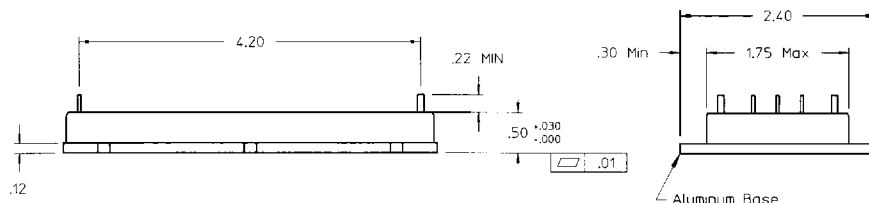
### DC Input Programmable Current Source



## Mechanical Diagram



| Pin# | Function |
|------|----------|
| 1    | +In      |
| 2    | Gate In  |
| 3    | Gate Out |
| 4    | -In      |
| 5    | +Out     |
| 6    | VTRIM    |
| 7    | ITRIM    |
| 8    | IMON     |
| 9    | -Out     |



For price, delivery, product, accessory or applications assistance, or to simply find out how your system can benefit from Vicor's complete line of Component Power Solutions, contact **VICOR EXPRESS** at (800) 735-6200 or fax us at (508) 475-6715.



## Component Solutions For Your Power System

Vicor Corporation 23 Frontage Road, Andover, MA 01810