



Data Sheet

BatMod™

Battery Charger Current Source Modules



Features

- RoHS compliant (VE versions)
- Programmable output current
- Booster versions available
- Size: 4.6" x 2.4" x 0.5"
(116,8 x 61,0 x 12,7 mm)
- UL, CSA, TÜV
- Compatible with all major battery types
- Inputs: 48, 150, 300 Vdc
- Outputs: 12, 24, 48 Vdc Nominal
- Analog current monitor
- Analog overvoltage adjust
- CE Marked

Product Highlights

The BatMod combines Vicor's industry standard package with the flexibility of a power converter whose output voltage and output current may be independently set. BatMod's allow the user to independently program a constant output current and a maximum float voltage. The float voltage is the point at which the BatMod transitions from constant current to constant voltage. These features make the BatMod an ideal candidate for battery charging and other applications which require a controlled current source.

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.



Specifications

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

Parameter	Rating	Notes
Nominal input voltage	48 Vdc, 150 Vdc, 300 Vdc	42 – 60 V, 100 – 200 V, 200 – 400 V
Output current (Refer to safe operating curves on page 2)	0 – 14.5 A 0 – 7.25 A 0 – 3.6 A	12 V battery system 24 V battery system 48 V battery system
Current control input	1 – 5 V	Zero to max. current
Current monitor output	1 – 5 V	Zero to full load
Voltage control input	0 – 2.5 V	Zero to FS output
Output voltage setpoint Trimmable +10%, -25%	15 V, 30 V, 60 V +/-1%	12 V, 24 V, 48 V Output Respectively
Dynamic characteristics	V-Mode: 300 μsec typ. I-Mode: 250 μsec typ.	V_{NOM} for 50 – 100% load changes
Dielectric withstand		
Input to output	3,000 VRMS	
Output to baseplate	500 VRMS	
Input to baseplate	1,500 VRMS	

Packaging Options

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

SlimMod: Option suffix: - S

Example:

VX - XXX - XU - BM - S

FinMod: Option suffix: - F1, - F2, - F3 and - F4

Examples:

VX - XXX - XU - BM - F1, 0.25"H longitudinal fin

VX - XXX - XU - BM - F2, 0.5"H longitudinal fin

VX - XXX - XU - BM - F3, 0.25"H transverse fin

VX - XXX - XU - BM - F4, 0.5"H transverse fin

Part Numbering

(typical model: input 300 Vdc, output 12 Vdc at 200 W)

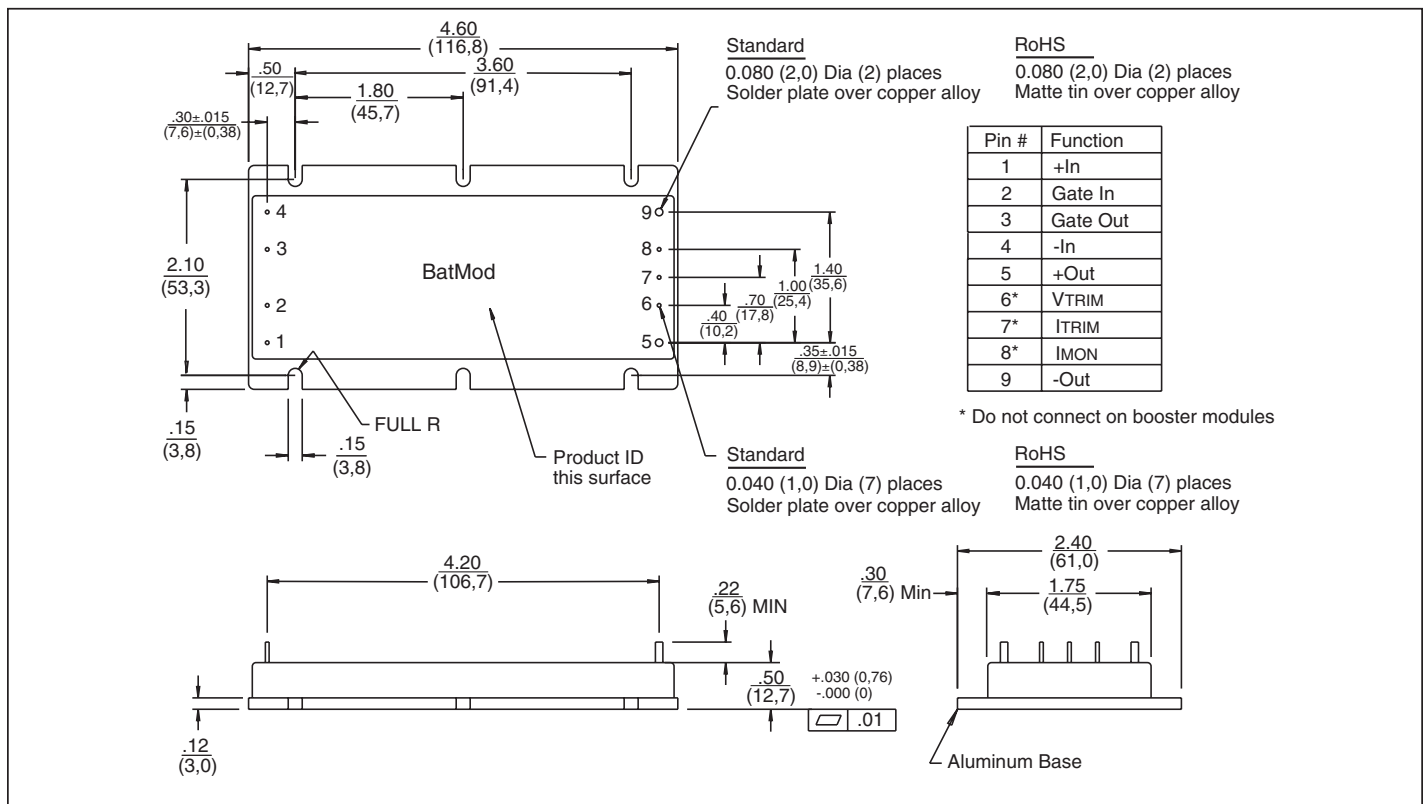
V **I** - **2** **6** **1** - **E** **U** - **B** **M**

* E = RoHS

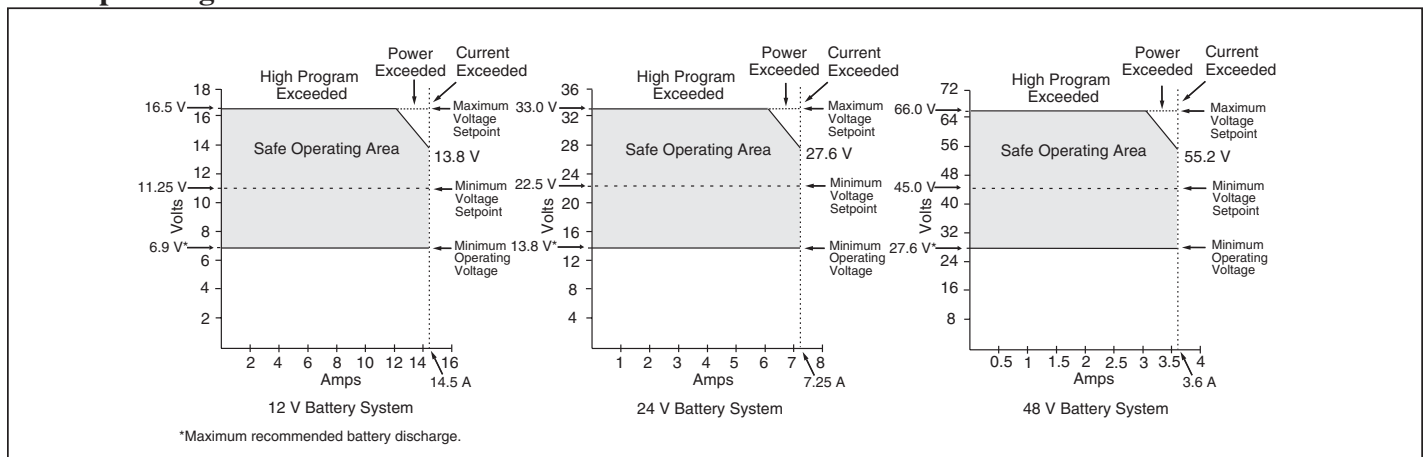
Module 2 = Driver B = Booster	Input Voltage		Output Voltage		Product Grade Temperatures (°C)		
	Nominal	Range	Nominal	Range	Grade	Operating	Storage
	3 = 48 V	42 – 60 V	1 = 12 V	11.25 – 16.5 V	E	-10 to +85	-20 to +100
	5 = 150 V	100 – 200 V	3 = 24 V ¹	22.5 – 33.0 V	C	-25 to +85	-40 to +100
	6 = 300 V	200 – 400 V	4 = 48 V	45.0 – 66.0 V	I	-40 to +85	-55 to +100
					M	-55 to +85	-65 to +100

¹ Available in 300 V input only

MECHANICAL DIAGRAM



Safe Operating Conditions



Typical Applications

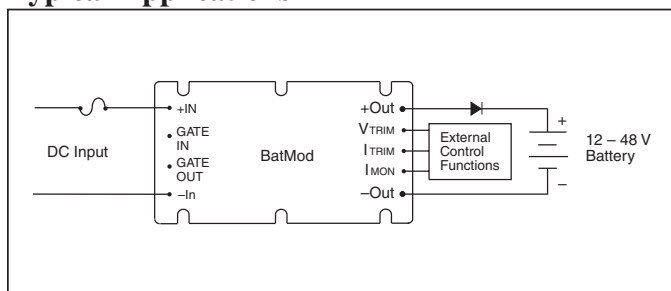


Figure 1 — DC Input Battery Charger

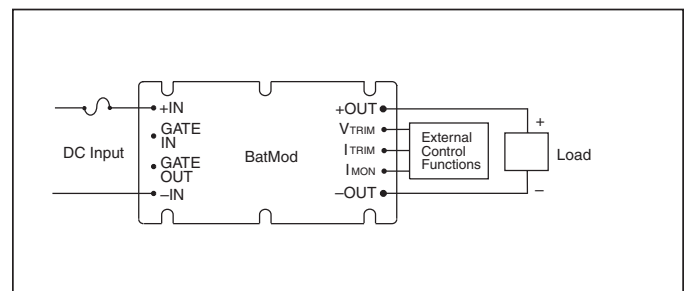


Figure 2 — DC Input Programmable Current Source

Warranty

Vicor products are guaranteed for two years from date of shipment against defects in material or workmanship when in normal use and service. This warranty does not extend to products subjected to misuse, accident, or improper application or maintenance. Vicor shall not be liable for collateral or consequential damage. This warranty is extended to the original purchaser only.

EXCEPT FOR THE FOREGOING EXPRESS WARRANTY, VICOR MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Vicor will repair or replace defective products in accordance with its own best judgement. For service under this warranty, the buyer must contact Vicor to obtain a Return Material Authorization (RMA) number and shipping instructions. Products returned without prior authorization will be returned to the buyer. The buyer will pay all charges incurred in returning the product to the factory. Vicor will pay all reshipment charges if the product was defective within the terms of this warranty.

Information published by Vicor has been carefully checked and is believed to be accurate; however, no responsibility is assumed for inaccuracies. Vicor reserves the right to make changes to any products without further notice to improve reliability, function, or design. Vicor does not assume any liability arising out of the application or use of any product or circuit; neither does it convey any license under its patent rights nor the rights of others. Vicor general policy does not recommend the use of its components in life support applications wherein a failure or malfunction may directly threaten life or injury. Per Vicor Terms and Conditions of Sale, the user of Vicor components in life support applications assumes all risks of such use and indemnifies Vicor against all damages.

Vicor's comprehensive line of power solutions includes high density AC-DC and DC-DC modules and accessory components, fully configurable AC-DC and DC-DC power supplies, and complete custom power systems.

Information furnished by Vicor is believed to be accurate and reliable. However, no responsibility is assumed by Vicor for its use. Vicor components are not designed to be used in applications, such as life support systems, wherein a failure or malfunction could result in injury or death. All sales are subject to Vicor's Terms and Conditions of Sale, which are available upon request.

Specifications are subject to change without notice.

Intellectual Property Notice

Vicor and its subsidiaries own Intellectual Property (including issued U.S. and Foreign Patents and pending patent applications) relating to the products described in this data sheet. Interested parties should contact Vicor's Intellectual Property Department.

Vicor Corporation
25 Frontage Road
Andover, MA, USA 01810
Tel: 800-735-6200
Fax: 978-475-6715

email

Customer Service: custserv@vicorpower.com
Technical Support: apps@vicorpower.com