



# 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	0 – 14.5 A	12 V battery system
	0 – 7.25 A	24 V battery system
	0 – 3.6 A	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	15 V, 30 V, 60 V +/-1%	12 V, 24 V, 48 V
Trimmable	+10%, -25%	Output Respectively
Dynamic characteristics	V-Mode: 300 $\mu\text{sec}$ typ.	$V_{\text{NOM}}$ for 50 – 100% load changes
	I-Mode: 250 $\mu\text{sec}$ typ.	
Dielectric withstand		
Input to output	3,000 $V_{\text{RMS}}$	
Output to baseplate	500 $V_{\text{RMS}}$	
Input to baseplate	1,500 $V_{\text{RMS}}$	

#### 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)

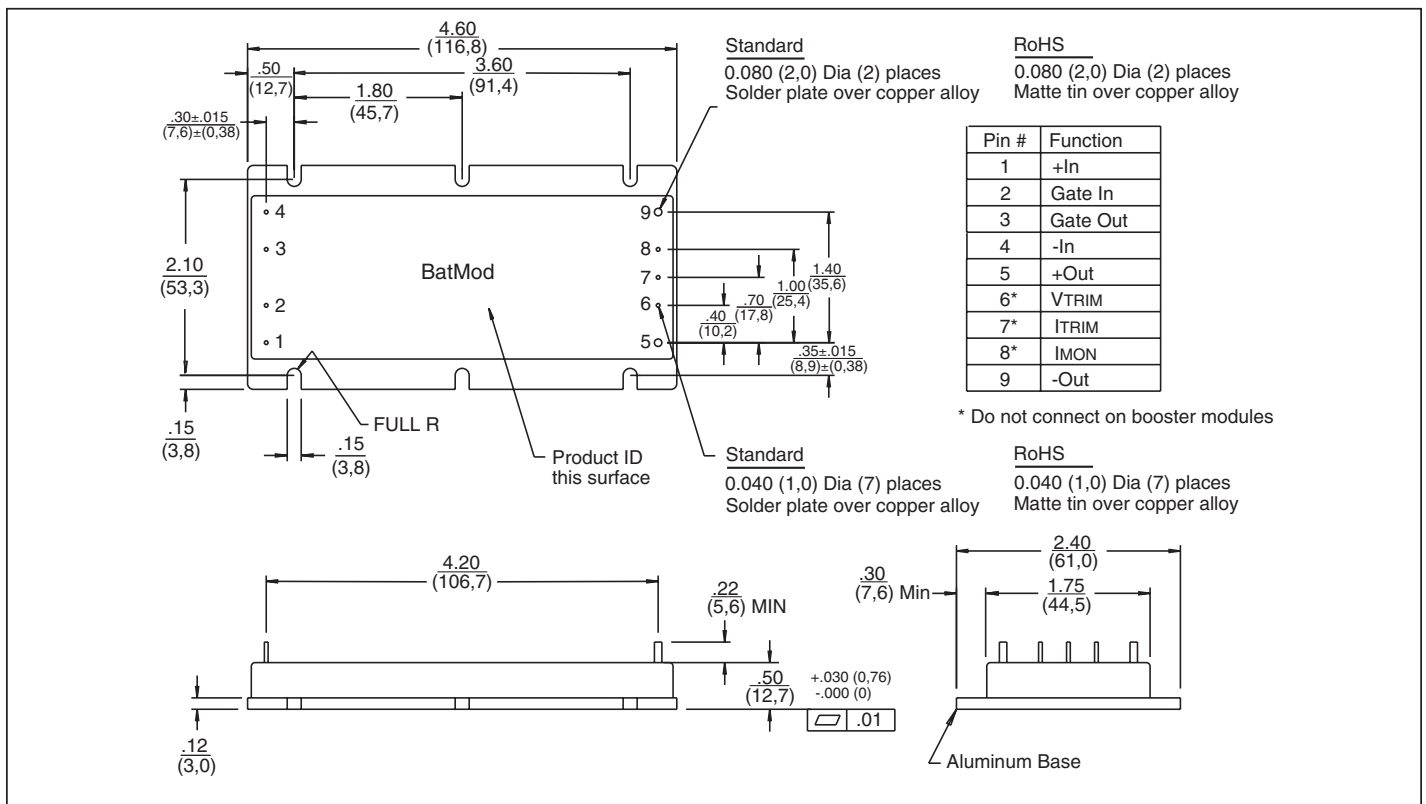
**V** **I** - **2** **6** **1** - **E** **U** - **B** **M**

\* E = RoHS

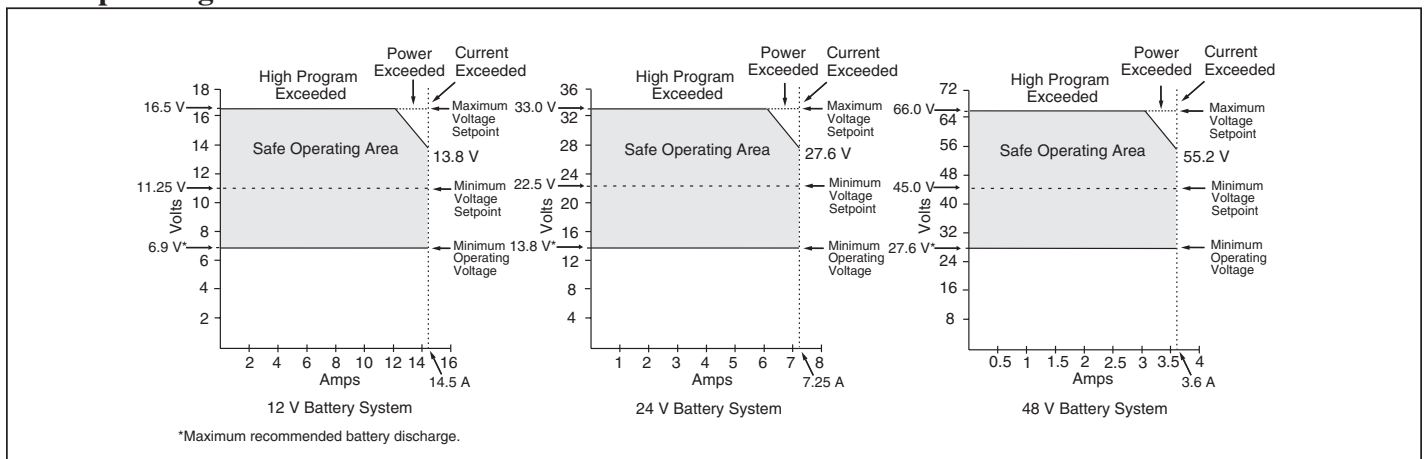
Module	Input Voltage		Output Voltage		Product Grade Temperatures (°C)		
	Nominal	Range	Nominal	Range	Grade	Operating	Storage
2 = Driver	3 = 48 V	42 – 60 V	1 = 12 V	11.25 – 16.5 V	E	-10 to +85	-20 to +100
B = Booster	5 = 150 V	100 – 200 V	3 = 24 V <sup>1</sup>	22.5 – 33.0 V	C	-25 to +85	-40 to +100
	6 = 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

<sup>1</sup>Available in 300 V input only

# MECHANICAL DIAGRAM



## Safe Operating Conditions



## Typical Applications

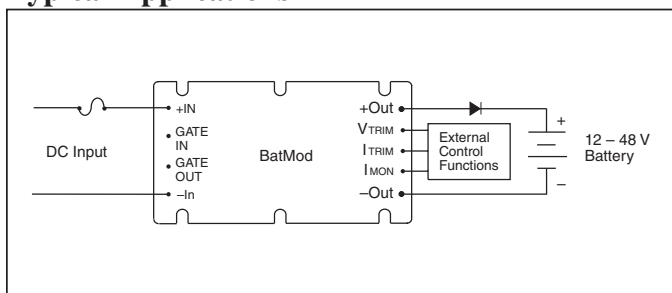


Figure 1 — DC Input Battery Charger

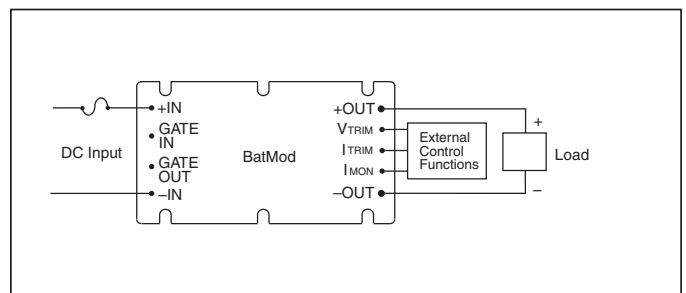


Figure 2 — DC Input Programmable Current Source

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