



# Data Sheet

## FM48™ FiltMod

### Input Filter Module



Shown actual size:  
2.28 x 1.45 x 0.5 in  
57,9 x 36,8 x 12,7 mm

#### Features

- EMI filtering
- 8 and 12 Amp versions
- CE Marked
- Micro-size package
- Low profile mounting option

#### Products Highlights

The FM48 input filter module enables designers to meet the conducted emission limits of EN55022 Level B and FCC Level B when used with Vicor's 48 Volt 2nd Generation of DC-DC converters. FiltMods accept an input voltage of 36 to 76Vdc with a transient withstand capability of 100 Vdc for 100 msec. The FiltMods are packaged in an industry standard "quarter-brick" module measuring 2.28" x 1.45" x 0.5" and are available in either 8 or 12 Ampere capacity. Both versions may be on-board or in-board mounted for height critical applications. The FiltMods can be used with Vicor's IAM48 for transient and surge protection.

#### Compatible Products

- IAM48
- 2nd Generation 48 V input DC-DC converters

#### Absolute Maximum Rating

| Parameter                      | Rating      | Unit         | Notes               |
|--------------------------------|-------------|--------------|---------------------|
| +In to -In                     | 80          | Vdc          | Continuous          |
| +In to -In                     | 100         | V            | 100 ms              |
| +Out to -Out                   | 75          | Vdc          | Continuous          |
| Mounting torque                | 5 (0.57)    | in-lbs (N-M) | <5 sec, wave solder |
| Pin soldering temperature      | 500 (260)   | °F(°C)       | <7 sec, hand solder |
| Pin soldering temperature      | 750 (390)   | °F(°C)       |                     |
| Storage temperature C-,T-Grade | -40 to +125 | °C           |                     |
| Operating temperature C-Grade  | -20 to +100 | °C           | Baseplate           |
| Operating temperature T-Grade  | -40 to +100 | °C           | Baseplate           |

#### FM48-FiltMod Specifications

(At T<sub>BP</sub> = 25°C, nominal line, 75% load, unless otherwise specified)

| Parameter                   | Min                                                                         | Typ    | Max    | Remarks                                                                              |
|-----------------------------|-----------------------------------------------------------------------------|--------|--------|--------------------------------------------------------------------------------------|
| Input voltage               | 36 Vdc                                                                      | 48 Vdc | 76 Vdc |                                                                                      |
| Safety approvals            | UL 1950, CSA 22.2-950, EN 60950                                             |        |        |                                                                                      |
| Dielectric withstand        | 1,500 Vrms                                                                  |        |        | Input/Output to base                                                                 |
| EMI/ RFI                    | Telcordia GR-001089-Core Issue 2<br>EN 55022 Level B<br>FCC Part 15 Level B |        |        | When used with Vicor 2nd Generation 48Vin DC-DC converters                           |
| Output current              |                                                                             |        |        |                                                                                      |
| FM4808C12                   |                                                                             |        | 8 A    | Delivered current to any combination of Vicor's 2nd Generation 48Vin DC-DC converter |
| FM4812C12                   |                                                                             |        | 12 A   |                                                                                      |
| Reverse polarity protection |                                                                             |        |        | No damage to unit, external fusing required                                          |
| Weight                      | 2.1 ounces (60 grams)                                                       |        |        |                                                                                      |

#### Product Grade Specifications

| Parameter                   | C-Grade         | T-Grade         |
|-----------------------------|-----------------|-----------------|
| Storage temp.               | -40°C to +125°C | -40°C to +125°C |
| Operating temp. (baseplate) | -20°C to +100°C | -40°C to +100°C |
| Warranty                    | 2 years         | 2 years         |

Note: For alternative product grades, change the "C" in the part number to "T".

#### Part Numbers

|           |               |                        |                                    |                                        |                                                                      |
|-----------|---------------|------------------------|------------------------------------|----------------------------------------|----------------------------------------------------------------------|
| <b>FM</b> | <b>48</b>     | <b>08</b>              | <b>C</b>                           | <b>1</b>                               | <b>1</b>                                                             |
| Product   | Input Voltage | Output Current         | Product Grade                      | Baseplate                              | Pin Style                                                            |
|           |               | 08= 8 Amp<br>12=12 Amp | C=-20° to 100°C<br>T=-40° to 100°C | 1=Slotted<br>2=Threaded<br>3=Thru-hole | 1= Short Pin<br>2= Long Pin<br>S= Short ModuMate<br>N= Long ModuMate |

## Conducted Noise

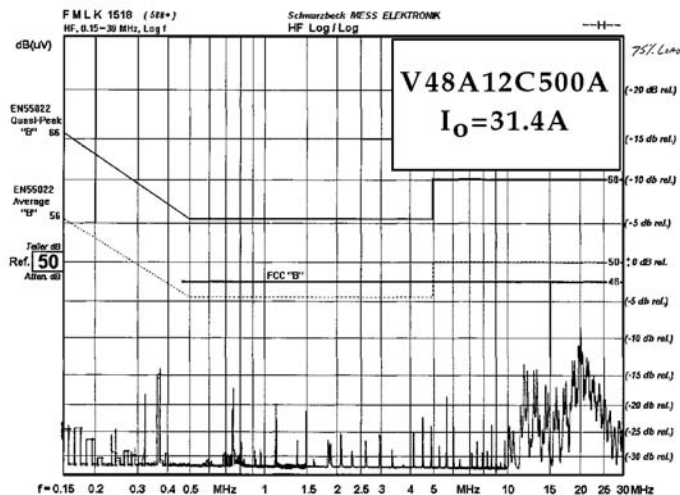


Figure 1—FM4812C12 and Model V48A12C500A DC-DC converter.

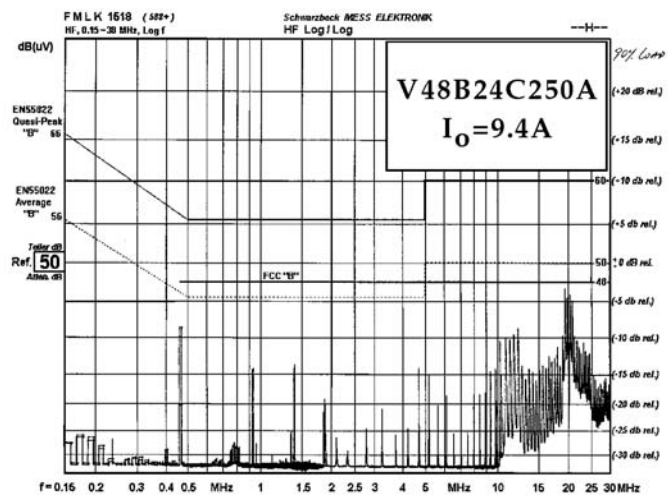


Figure 2—FM4812C12 and Model V48B24C250A DC-DC converter.

## Typical Transient, Surge Protection and Filtering Solution

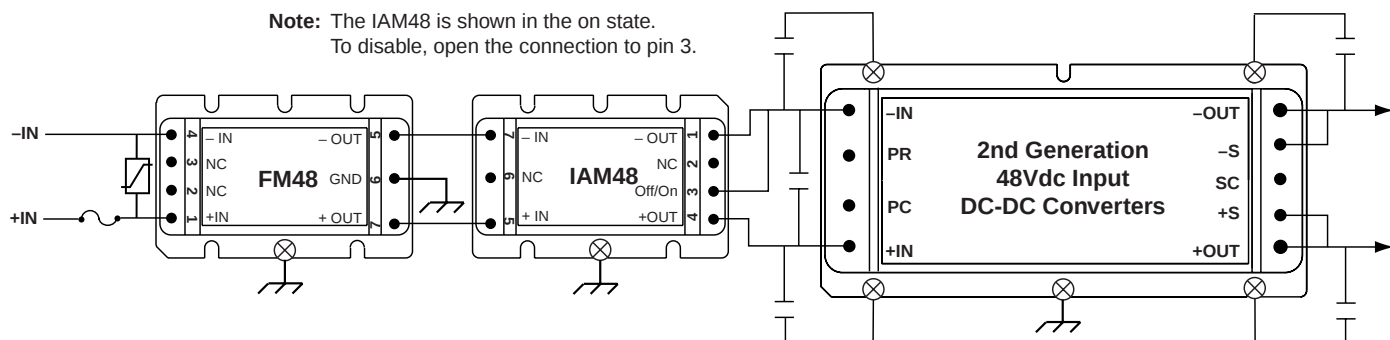
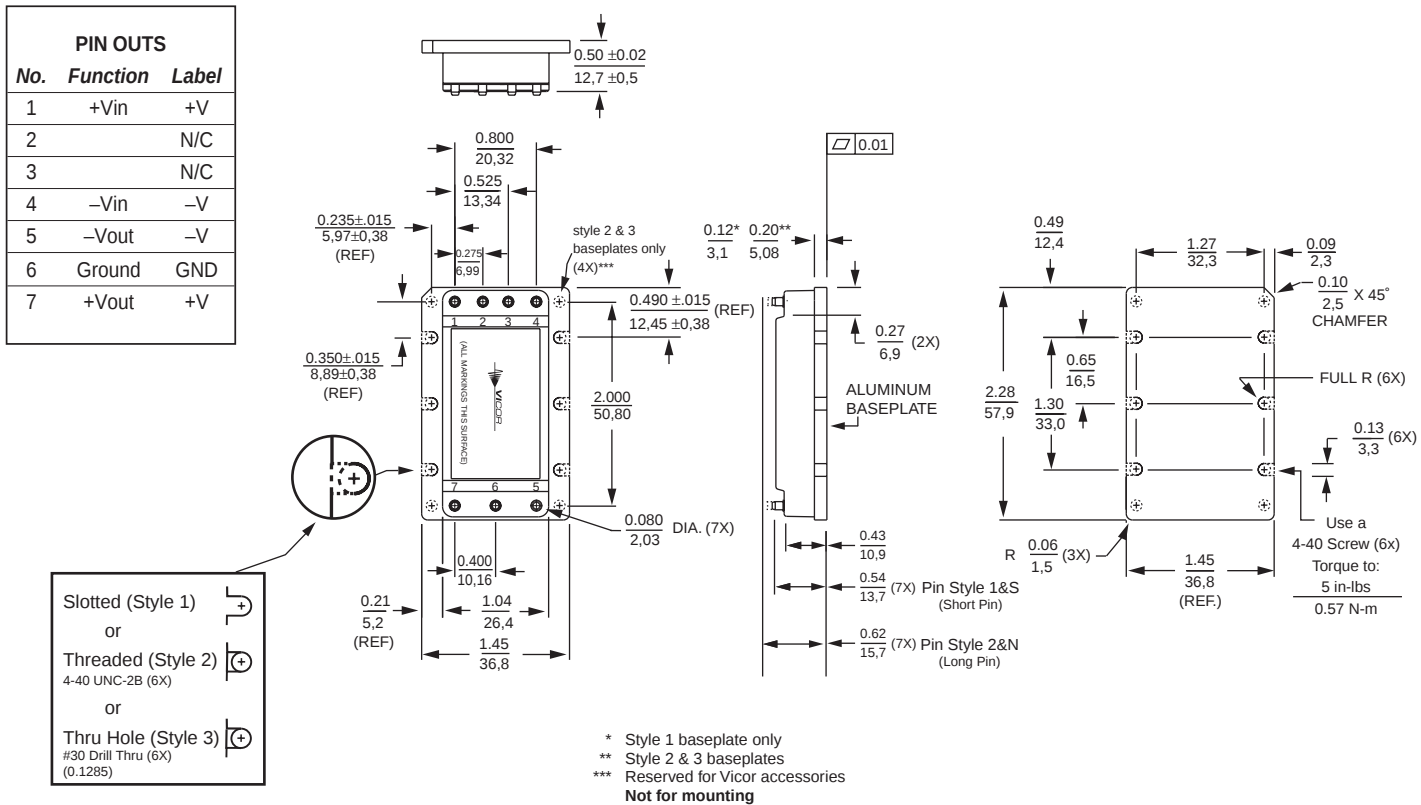


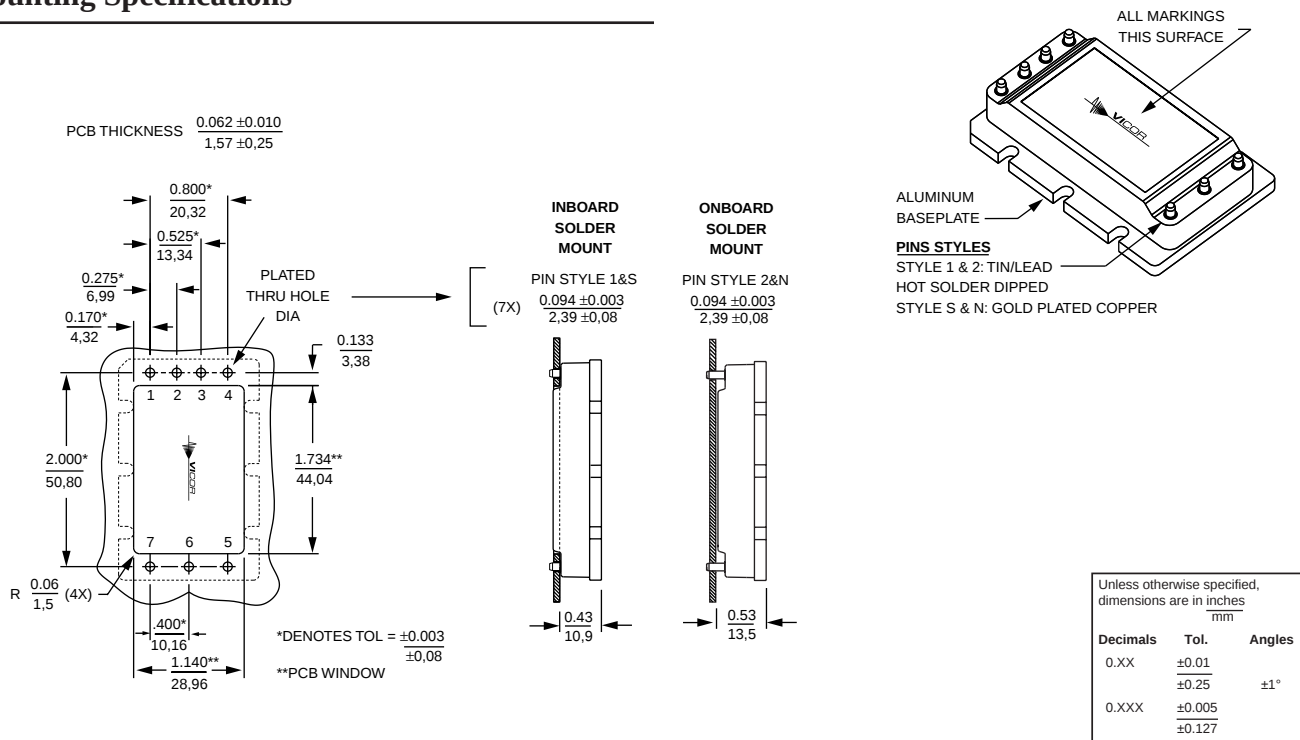
Figure 3

# Mechanical Drawings (FM48-FiltMod)

## Module Outline



## PCB Mounting Specifications



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**Specifications are subject to change without notice.**



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