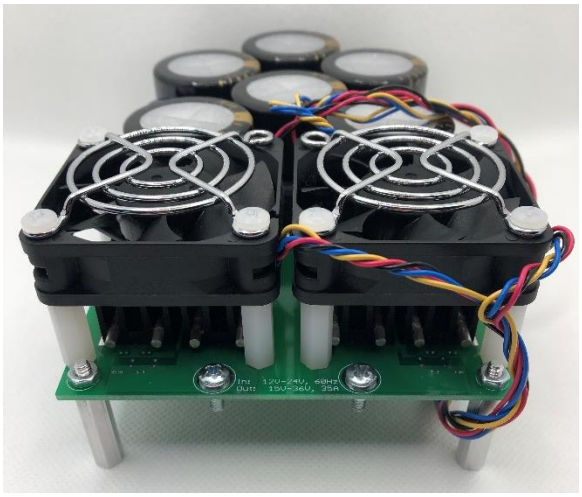
MEFTRONICS

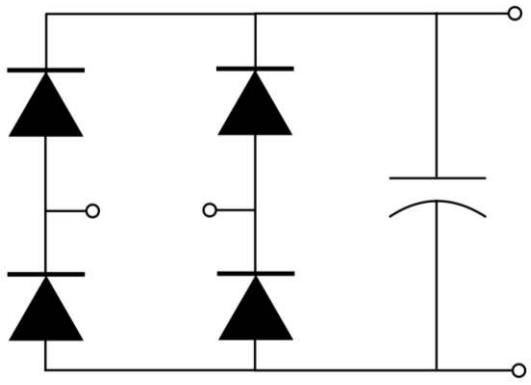
SPR- 24V-30A-BB-XX-3

Datasheet

Description:
The SPR-24V-30A-BB-XX-3 is a simple Schottky diode full-bridge rectifier that includes integrated cooling and an appropriately sized capacitor bank all on a compact and easily mounted PCB. The SPR-24V-30A-BB-XX-3 is intended to easily connect to other Meftronics modules, providing a reliable DC source and boosting DC bus capacitance. System features include:

- Up to 22A output current
- Up to 27V AC input
- Continuous power up to 600W
- Effective integrated cooling with a forced air option
- 12V, 1A auxiliary output
- Integrated 32.2mF DC bus capacitor bank
- Easy connection to Meftronics inverter DC buses





Absolute Maximum Ratings

Parameter		Max	Unit
AC Input Voltage		27	V_{rms}
DC Bus Voltage		38	V
Diode Current		600	A
Junction Temperature		150	°C
Power	T_a 25°C	600	W

Typical Operating Values, T_a = 25°C

General

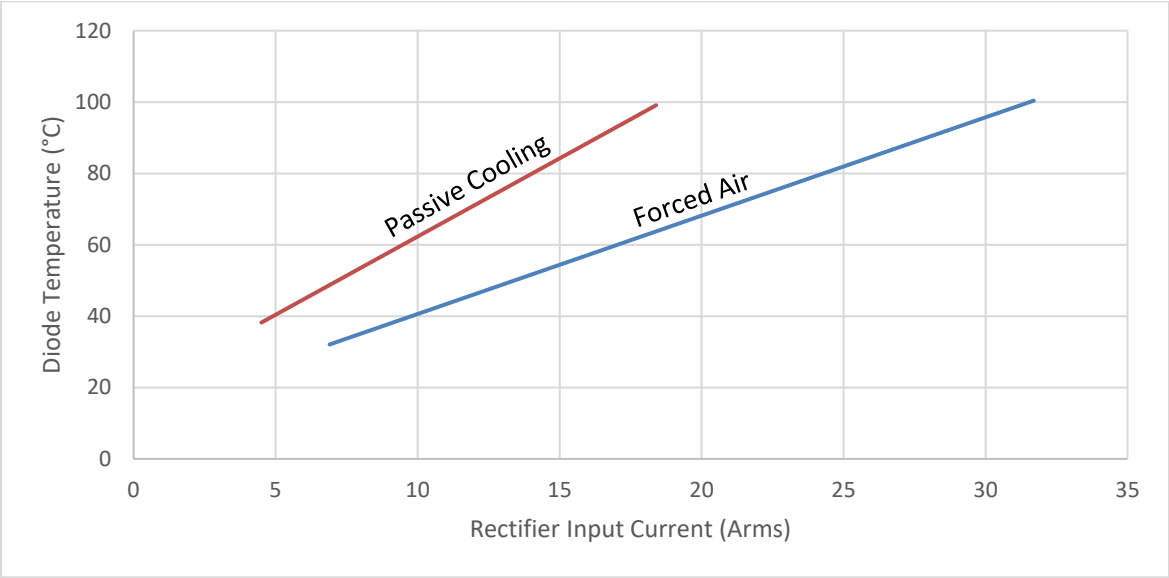
Parameter		Min	Typ	Max	Unit
AC Input Voltage		12	24	27	V_{rms}
DC Bus Voltage		15	34	38	V
Continuous Input Current				18	A_{rms}
Continuous Output Current				12	A
Continuous Input Current	*With integrated fans			32	A_{rms}
Continuous Output Current	*With integrated fans			22	A
Ripple Current @120Hz				20	A_{rms}
DC Bus Capacitance		29.0	32.2	35.4	mF

Auxiliary Output

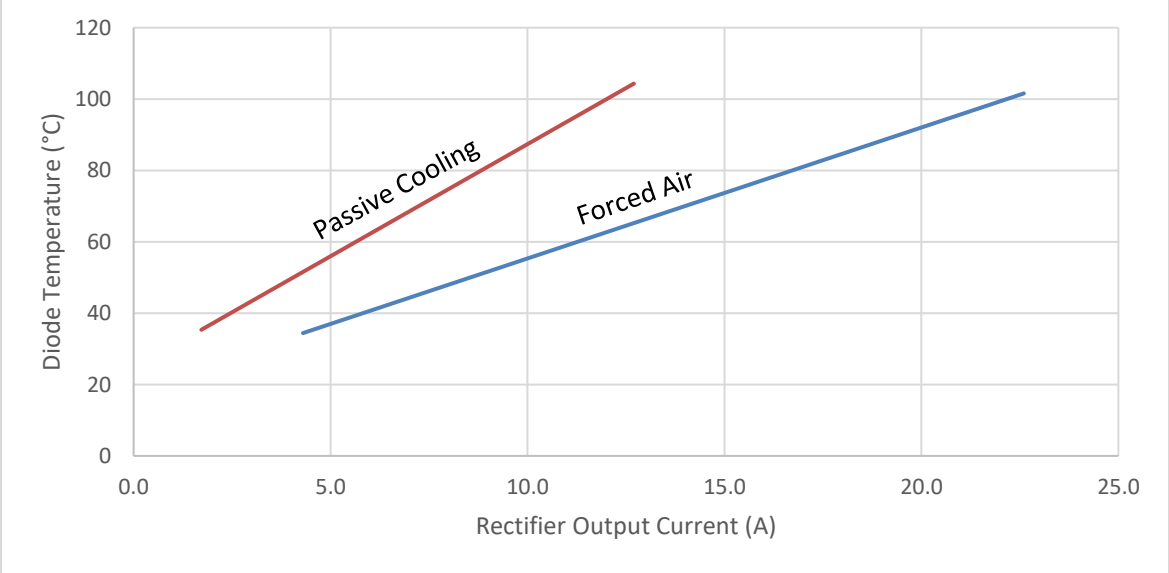
Parameter		Min	Typ	Max	Unit
Output Voltage			12		V
Output Current				1	A

Operation Curves Under Inductive Switching

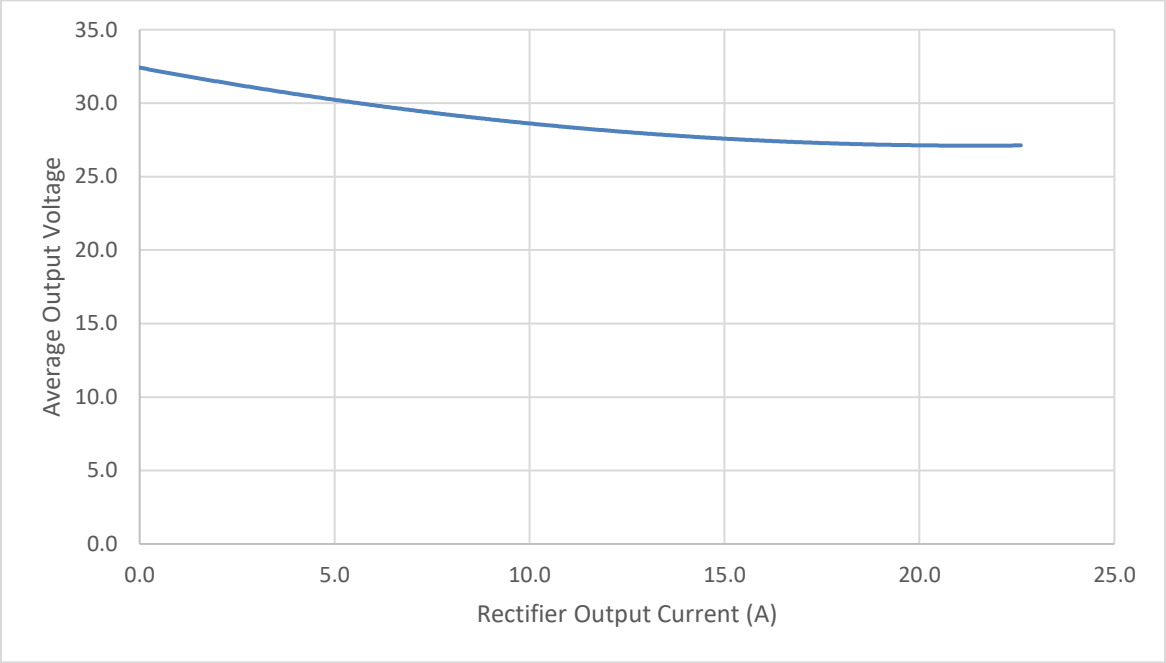
Diode Temperature vs. Input Current
Ambient Temperature 25°C, Input Voltage 24V, 60Hz



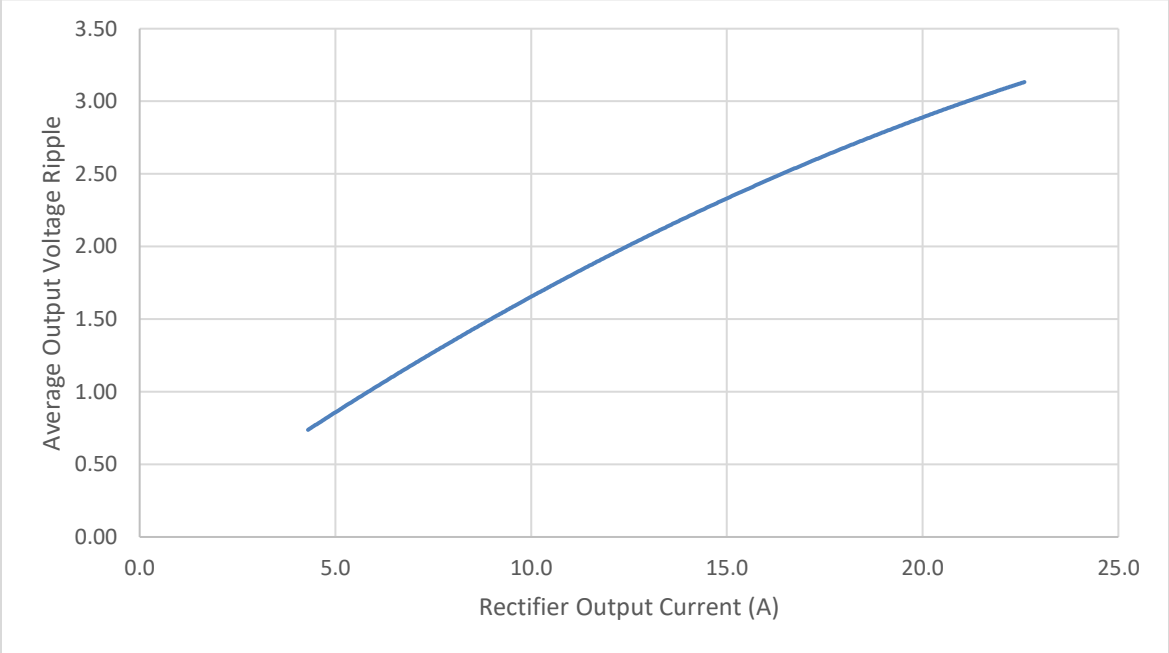
Diode Temperature vs. Output Current
Ambient Temperature 25°C, Input Voltage 24V, 60Hz



Average Output Voltage vs. Output Current
Ambient Temperature 25°C, Input Voltage 24V, 60Hz

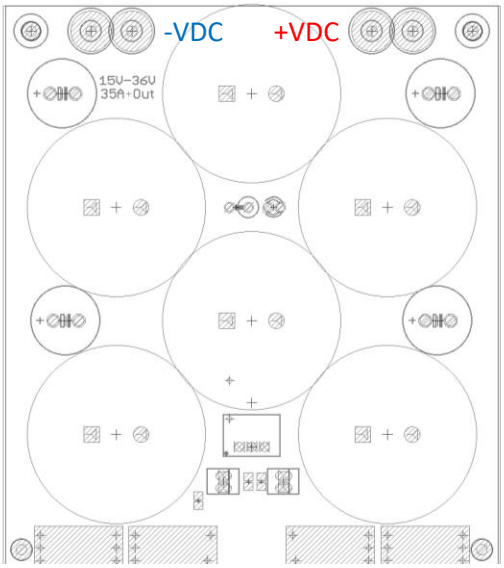


Average Output Ripple vs. Output Current
Ambient Temperature 25°C, Input Voltage 24V, 60Hz

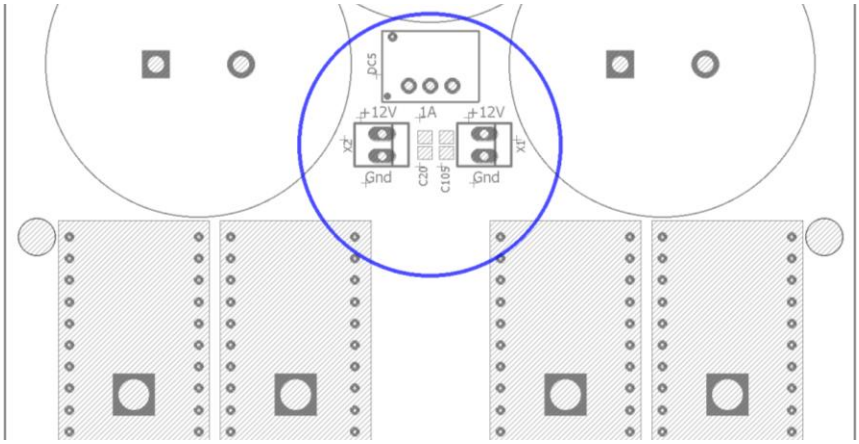


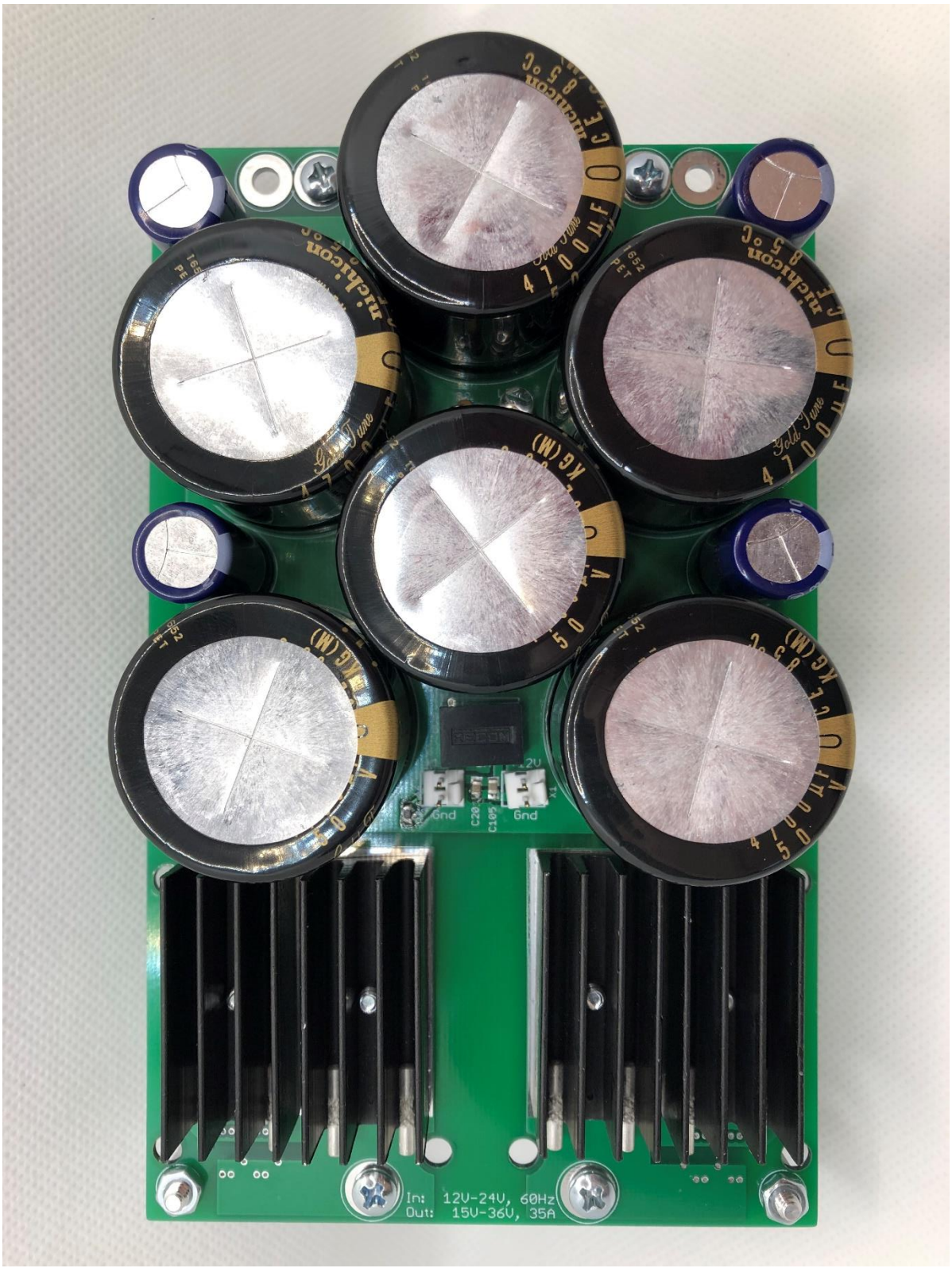
Connections and Auxiliary Power

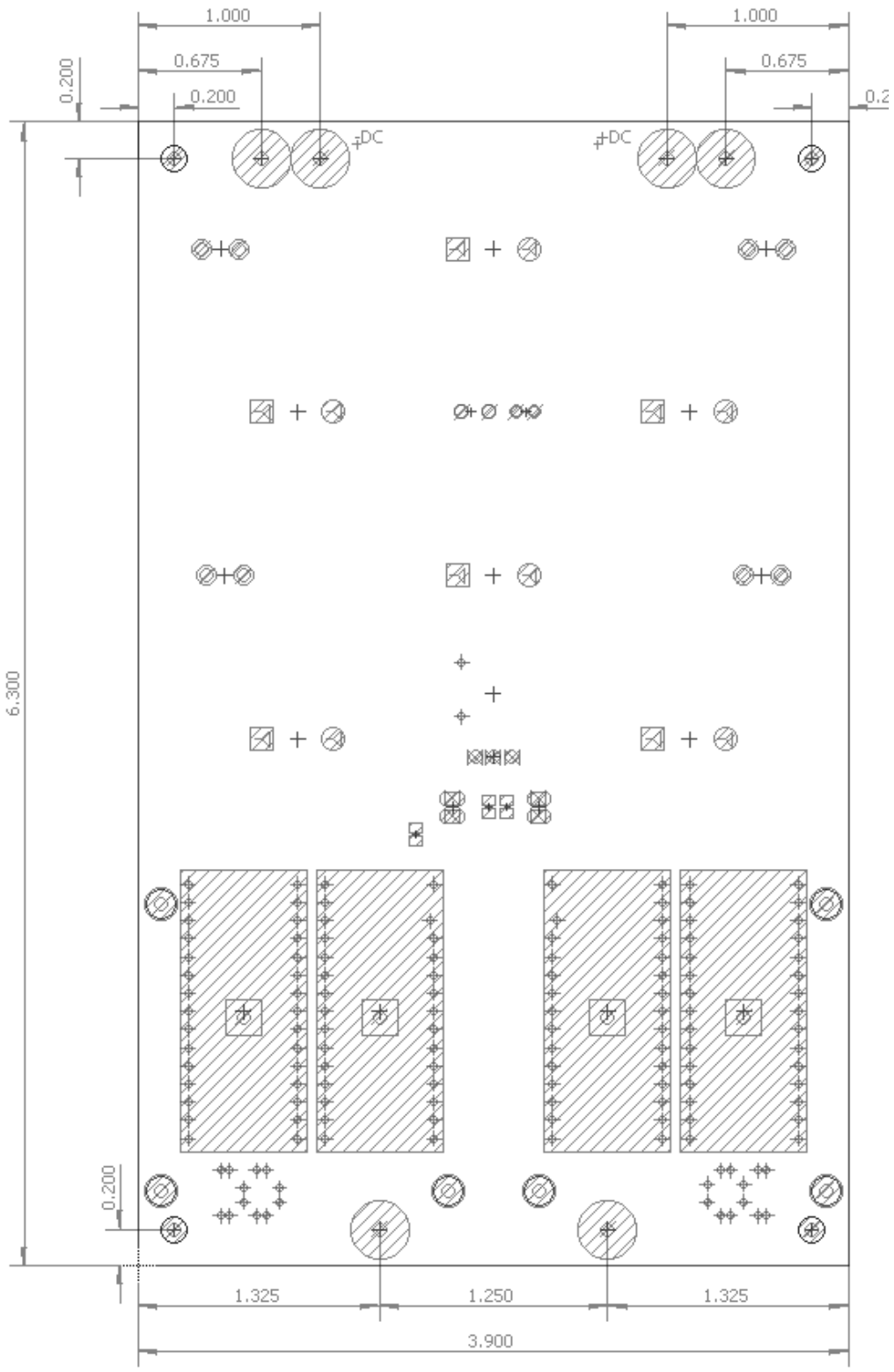
Power connections to the SPR-24V-30A-BB-XX-3 are made using the provided terminal holes, preferably through spade or ring terminals. The terminal holes are sized for #6-32 machine screws. The DC output terminals are also positioned to line up with the DC bus terminals of other Meftronics modules so that instead of using wired connections to join the two, short aluminum stand-offs can be used instead to make the connections, thereby reducing the impedance between the two modules and making connection easy.



In addition to the rectifier power connections, positions are provided for a standard three pin regulator as well as two pin connectors to tap into this regulated source. These are intended to power the 12V fans, but can of course be used for other purposes.




In: 12V-24V, 60Hz
Out: 15V-36V, 35A



All dimensions in inches