



This is a back EMF shunt module. It will limit the overvoltage coming back from the servo motor when it's stopping. If you have a heavy axis stopping from high speeds, the motor will generate high voltage energy back to the driver and power supply. This EM-xx unit will dump this energy to a 50W resistor to become heat and save the driver from getting damaged or being faulted. Furthermore, motor breaking will be controlled easily and smoothly.

The unit takes about few mA in standby and can take up to 7A when active. Normally, factory clamping voltage setting is 10% above the power supply voltage. However, you can set the clamping voltage to your specification.

There is a blue multi-turn trimmer resistor Rb on top of PCB that you can use to change the clamping voltage. Turn clockwise (CW) for increase voltage and counter clockwise (CCW) for decrease voltage. Try to turn CCW until you see the LED start to light up. At this time, your setting voltage is the same as the power supply voltage. If you keep turning CCW, the LED will be brighter which means the power supply is dumping energy (PWM) to the 50W Rd resistor and generate heat (don't let it on too long). Turn CW and the LED will start to turn off and then continue turning for 2 full turns. This is about 10% above power supply voltage. Also, you have to be sure that you are working on the normal 120/240VAC input voltage. If your AC power voltage is not stable, you may make 3 full turns instead. Never let the LED lit when there is no breaking at the moment.

Model	Vps	I _{max}	XYZ fuses
EM-50	40-55V	7A	10A
EM-65	55-70V	6A	10A
EM-80	70-80V	5A	10A

