[Programmable Power Guard Phidget](#)

When high-power motor stalls or stops suddenly, it can generate a high-voltage surge that can damage the circuitry of the motor controller and burn out the power supply. This Power Guard Phidget is designed to protect your hardware from such an event by preventing current from flowing back into the power supply, and by providing a heatsink and fan for the excess power to dissipate. This board is designed for high current systems and is capable of protecting your equipment from even the largest of power spikes. Simply connect your power supply's positive wire to the 8-30V input lug, connect your device's positive wire to the output lug, and wire both grounds to the ground lug. The SAF1000 connects to a port on a **VINT Hub**. See the "Comaptible Products" tab for a list of hubs.

Power Control and Safety Features

Since this is an intelligent VINT device, the over voltage trigger can be modified in software to accomodate for different power supplies. Similarly, the fan can be switched on or off, or it can be set to turn on when a certain temperature threshold is passed. You can also choose to switch the power off through software, like a relay. Even if communication between this board and the computer is interrupted, it will continue to power the device and protect against the last chosen overvoltage trigger.

Isolated for Stability

The VINT port on this board is electrically isolated from the rest of the board in order to improve stability by eliminating ground loops.

We strongly recommend using this Phidget according to the table below:

Recommended Use

Controller	Motor Rated Current	Suggested Power Guard
STC1000	Less than 1.5A	None
STC1000	1.5A to 5A	SAF2000
STC1000	Greater than 5A	SAF1000

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DCC1000    Less than 1A         None
DCC1000    1A to 5A             SAF2000
DCC1000    Greater than 5A      SAF1000
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Product Specifications

Board Properties	
Controlled By	VINT

Power Supply Protector	
Overvoltage Setting	Selectable via software 8 — 33 VDC
Overtemperature Trigger	125 ?°C
Sampling Interval Min	100 ms/sample
Sampling Interval Max	60 s/sample
Fan Trigger	75 ?°C

Electrical Properties	
Continuous Current	50 A
Current Consumption Min (VINT Port)	100 ?¼A
Supply Voltage Min	8 V DC
Supply Voltage Max	30 V DC
Power Consumption	250 mW

Physical Properties	
Recommended Wire Size	6 — 14 AWG
Operating Temperature Min	-40 ?°C
Operating Temperature Max	85 ?°C