4x Isolated Solid State Relay Phidget

When the 3.3V digital output mode of your VINT port is not enough, this output module adds four PWM-enabled solid state relay outputs to your system. Because it uses relay outputs, you can control more powerful devices that require up to 30V and 8A. LED strips, DC motors, power relays, fans and other small circuits are just a few examples of what can be controlled with this module. The REL1100 connects to a port on a **VINT Hub**. See the “Comaptible Products” tab for a list of hubs.

Low-Side Switching

Each solid state relay switches an external circuit to ground when enabled. This action allows completion of the circuit in order to power a load. The power to the load is supplied externally and should be connected in series with the load and the relay output. Alternatively, you could use a pull-up resistor on the input of your load and then switch the input to ground when you want it to turn off. Each channel has a ground terminal beside it to make wiring a snap, and each one leads to a common ground.

PWM Switching

In addition to switching at microsecond speeds, each relay output is also capable of pulse-width modulation; rather than simply switching on or off, you can select a percentage duty cycle to limit the power being supplied to a specific level. This allows you to control devices like a dimmer would, which is an important feature for LEDs, fans, and motors. Check the datasheet for your device to ensure that it is designed to be used with PWM (some devices such as incandescent or CF bulbs are not designed for dimming).

Isolated for Stability

The VINT port on this board is electrically isolated from the rest of the board, improving stability by eliminating ground loops.

Product Specifications

Board Properties	
Controlled By	VINT
Electrical Properties	
Current Consumption Min	3.5 mA
Current Consumption Max	4 mA
Load Voltage Max (DC)	30 V DC
Load Current Max (DC)	8 A
Switching Power Max (Real)	* 240 W
Relay Properties	
Number of Relays	4
Contact Resistance Max	35 m?©
Turn-off Time Max	100 ns
Switch Type	SPST Normally Open MOSFET
Turn-on Time Max	100 ns
PWM Resolution	0.1 %
PWM Frequency Max	16 kHz
Physical Properties	
Recommended Wire Size	16 – 26 AWG
Operating Temperature Min	-40 ?°C
Operating Temperature Max	85 ?°C

* Note: At switching powers powers higher than 50W, external cooling may be required. For high power applications, a hockey-puck style SSR may be more appropriate. See the “Other Relays” tab for more details.

Software Objects

Channel Name	API	Channel
Digital Output Isolated	DigitalOutput	0 – 3