16x Isolated Solid State Relay Phidget

For applications that require a ton of outputs, this module is the one you're looking for. With sixteen PWM-enabled relay outputs, not only can it handle orindary logic-level devices at 3.3V or 5V, but it can also be used to control devices of up to 30V volts and 8 amps. LED strips, DC motors, power relays, fans and other small circuits are all common loads for this type of output. The REL1101 connects to a port on a **VINT Hub**. See the "Comaptible Products" tab for a list of hubs.

Externally Powered

Instead of providing power to the device, a solid state relay output switches the circuit to ground and completes the circuit when you want to switch it on. The power is supplied externally and should be connected in series with the load and the relay output. 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
Current Consumption Min	4 mA
Current Consumption Max	45 mA
Relay Properties	
Number of Relays	16
Contact Resistance Max	35 m?©
Turn-off Time Max	100 ns
Switch Type	Low Side MOSFET Switch
Turn-on Time Max	100 ns
PWM Frequency Max	28.5 kHz
PWM Resolution	0.5 %
Electrical Properties	
Load Current Max (DC)	8 A
Load Voltage Max (DC)	30 V DC
Switching Power Max (Real)	* 240 W
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 – 15