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

Software Objects

Channel Name API Channel
Digital Output Isolated DigitalOutput 0 - 15

^{*} 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.