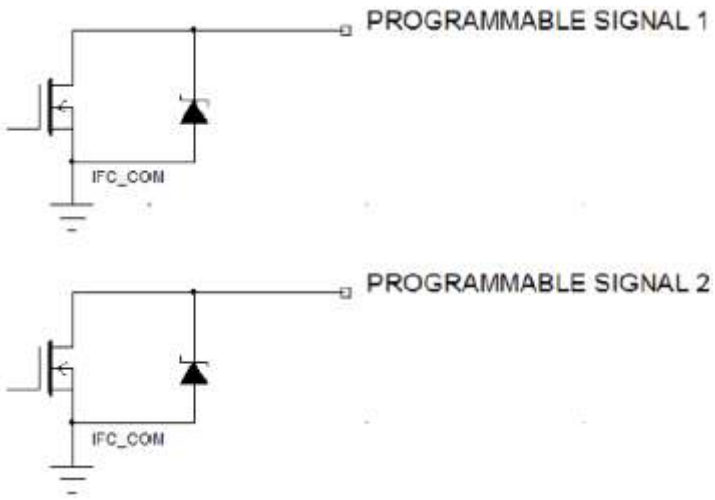
This series of application notes explains the key features and benefits of GENESYS+™ programmable power supplies.

How to use the GENESYS+ programmable signals

The GENESYS+ series of programmable power supplies includes two independent auxiliary “open drain” signals that can be programmed by the user to operate external devices. Accessible from the J1 rear panel DB26 connector, these signals have a maximum input voltage of 25 Vdc and a maximum sink current of 100 mA. Note, a series resistor must be used with the external voltage to limit the sink current.



Pin J1-21 and J1-20 are the drain connections for signal 1 and 2 respectively, and have a shared common return on either J1-17 or J1-18.

The signals can be programmed via the front panel (using the “SYST” button) or via the communication software commands. Selecting “OFF” (MOSFET conducts) will result in a low output signal level (at the MOSFET drain terminal, pull up resistor used), or selecting “ON” (MOSFET does not conduct) will give a high output level. The factory default setting is “OFF”.

One example of the use of the programmable signals (See Figure 1) is to operate relays to reverse the power supply polarity to a load. With the signals and relays both off, the load has a positive voltage applied. With the signals and relays both on the load and the remote sense connections are reversed.

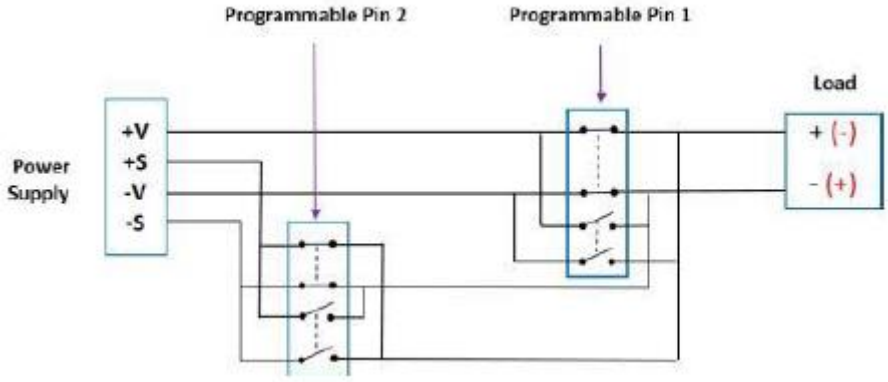


Figure 1: Using the programmable outputs to reverse polarity

Another example is to disconnect a load circuit, while keeping the power supply output present. See Figure 2.

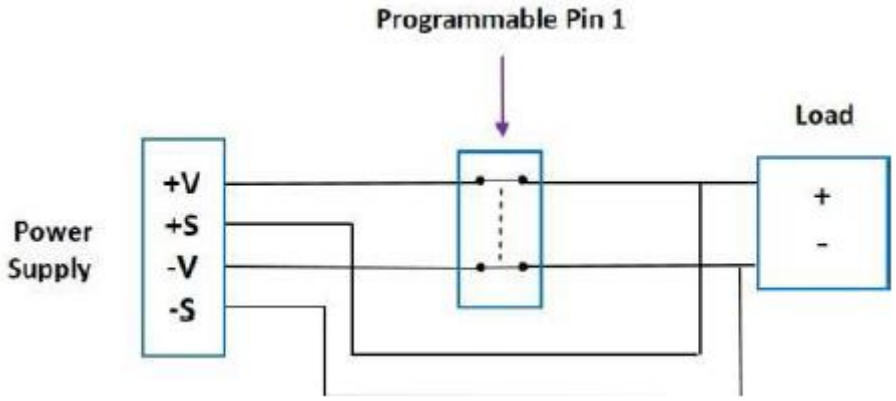


Figure 2: Using a programmable output to disconnect a load

With the signal and relay both off, the load is connected to the output of the power supply. With the signal and relay both on, the load is disconnected.

The remote sense terminals can be left connected at the load, provided that the Local / Remote sense function is programmed to switch to local sense before the relay contacts are opened.