<https://digilent.com/reference/pmod/specification>

This Link tells a bit about the capabilities of pin to handle current going into it or coming out of it.

“Similarly, the driver current source/sink capability isn’t specified and depends on the capabilities of the specific system board or module. The I/O pins on the system board are generally directly driven by the FPGA or microcontroller. The I/O pins on Xilinx FPGAs generally have symmetrical 24mA source/sink capability. The drive capability of microcontrollers is generally less and some of them are not symmetrical. The drive strength for microcontroller pins is generally in the range +/-5mA to +/-10mA, although the Digilent chipKIT™ microcontroller line can handle +/- 15mA.”

However I seems I need to find it specifically for the Nexys A7

https://digilent.com/reference/programmable-logic/nexys-a7/reference-manual

“The Pmod ports are arranged in a 2×6 right-angle, and are 100-mil female connectors that mate with standard 2×6 pin headers. Each 12-pin Pmod port provides two 3.3V VCC signals (pins 6 and 12), two Ground signals (pins 5 and 11), and eight logic signals, as shown in Figure 10.1. The VCC and Ground pins can deliver up to 1A of current. Pmod data signals are not matched pairs, and they are routed using best-available tracks without impedance control or delay matching. Pin assignments for the Pmod I/O connected to the FPGA are shown in Table 10.1.”

The data sheet for our motor seems to imply that we will need a higher voltage that the 3.3V output by the PMOD pins

<https://www.digikey.com/en/htmldatasheets/production/5014637/0/0/1/mg996r.html?site=US&lang=en&cur=USD&utm_adgroup=General&utm_source=google&utm_medium=cpc&utm_campaign=Dynamic%20Search_EN_RLSA&utm_term=&utm_content=General&gclid=EAIaIQobChMIw5rC5LuU-AIVQxB9Ch0rqwW2EAAYASAAEgLAivD_BwE>

This Tutorial shows how to do the XADC

<https://digilent.com/reference/learn/programmable-logic/tutorials/nexys-4-xadc-demo/start>

I talked to Professor Burnett about the following error, and he said it as an error that occurs if you try to route the XADC through the incorrect pins, but that I should not be seeing it because the pins I am using look right.

Graphical user interface, text, application, email

Description automatically generated

We concluded that I should try using labels for the pin names that are more similar to the ones from the working demo, which means switching out the 2 list of 4 pin each for 8 pin.