UMC Datasheet

======= Output ==========
Drive: PA5-2
Ready: PA6

======= Input ===========
Home sw: PB0
Direction: PB1
Mode: PB2&3
Start: PB4
Number: PD3-0 & PC7-4

Drive: The drive outputs are the low-power outputs signalling the active coils in a unipolar stepper motor, or the current direction through each coil in a bipolar stepper motor. The UMC is compatible with 4 phase unipolar (28byj-48), or 2 phase bipolar (nema-17) stepper motors.
        For unipolar motors, the drive pins should be connected in sequence to the low-level inputs on the driver board for each phase. For bipolar stepper motors, pins 5 & 4 should be connected to the inputs for one phase, and 3 & 2 to the other. Connecting the phases backwards may result in the motor spinning in the incorrect direction.

Ready: The ready output signals to an external controller that the UMC is ready to accept a command. High signals that the UMC is in an idle state, and low signals a busy state.

Home sw: The home switch input, signals to the UMC in 'homing' mode when the limit switch has been activated. A logic high signals an active switch.

Direction: The direction input indicates to the UMC which direction the motor should spin in 'homing' or 'relative positioning' modes. A logic high indicates the clockwise direction.

Mode: The mode input signals to the UMC the operating mode to be run in. The mode mapping is as follows:

0x00: Homing
0x01: Absolute Positioning (Full Range)
0x02: Absolute Positioning (Limited Range)
0x03: Relative Positioning

Start: The start input indicates to the UMC to start running the operation specified by the other inputs. A logic high will start the operation when the UMC is in the idle state.

Number: The number input specifies the address to step to in the 'Absolute Positioning' modes, or the number of steps to take in the 'Relative Positioning' mode.