**Title:**   Stepper Motor Moves in One Direction Only
**Products(s):** MC260, MC160, MC150
**Keywords:**   Stepper Motor, Direction, MCCL, MCAPI
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### Summary

After connecting a MC150 or MC160 Stepper Module, or a MC260 Advanced Stepper Module to a stepper driver and motor, the motor will move in only one direction (counter-clockwise).

### More Information

All of PMC's Stepper Modules can operate in one of two output modes. As shipped from the factory, Stepper Modules are configured to output Step and Direction output signals. In this mode the **Direction** output signal will be set high or low in response to the direction the stepper motor is commanded to move. The step output will output a square wave with one cycle for each step the motor has been commanded to move.
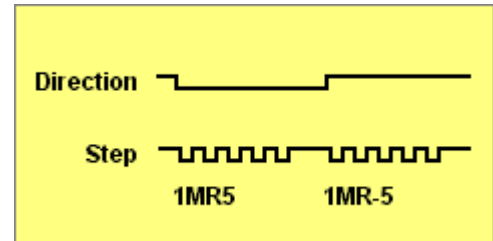


Figure 1: Step and Direction Operation



Figure 2: Step CW / CCW Operation

The second (non-default) mode of operation is Step CW / CCW. In this mode of operation the **Direction** output from above becomes **Step CW** and **Step** becomes **Step CCW**. The output square wave will appear on one or the other of these two outputs depending upon the direction the motor has been commanded to move.

It is important to match the output mode of the Stepper module to that which is expected by the stepper driver you are using (consult the stepper driver documentation). For the MC150 and MC160 Stepper Modules switching to Step CW / CCW mode requires a jumper change on the module - consult the User's Manual that came with your PMC Motion Controller for details. The MC260 Advanced Stepper Module may be configured via software. If you are using the MCCL:

```
1om0        ; configures axis 1 for Step and Direction mode (default)
1om1        ; configures axis 1 for Step CW / CCW mode
```

MCAPI (Windows) programmers should use:

```
MCSetModuleOutputMode( hCtlr, 1, MC_OM_PULSE_DIR );
MCSetModuleOutputMode( hCtlr, 1, MC_OM_CW_CCW );
```