

```

setp pid.s.Pgain [SPINDLE_9]P
setp pid.s.Igain [SPINDLE_9]I
setp pid.s.Dgain [SPINDLE_9]D
setp pid.s.bias [SPINDLE_9]BIAS
setp pid.s.FF0 [SPINDLE_9]FF0
setp pid.s.FF1 [SPINDLE_9]FF1
setp pid.s.FF2 [SPINDLE_9]FF2
setp pid.s.deadband [SPINDLE_9]DEADBAND
setp pid.s.maxoutput [SPINDLE_9]MAX_OUTPUT
setp pid.s.error-previous-target true

```

```

net spindle-index-enable <=> pid.s.index-enable
net spindle-enable => pid.s.enable
net spindle-vel-cmd-rpm => pid.s.command
net spindle-vel-fb-rpm => pid.s.feedback
net spindle-output <= pid.s.output

```

---PWM Generator signals/setup---

```

setp hm2_5i25.0.7i77.0.1.analogout5-scalemax [SPINDLE_9]OUTPUT_SCALE
setp hm2_5i25.0.7i77.0.1.analogout5-minlim [SPINDLE_9]OUTPUT_MIN_LIMIT
setp hm2_5i25.0.7i77.0.1.analogout5-maxlim [SPINDLE_9]OUTPUT_MAX_LIMIT

```

```

net spindle-output => hm2_5i25.0.7i77.0.1.analogout5
net spindle-enable => hm2_5i25.0.7i77.0.1.spinena

```

---Encoder feedback signals/setup---

```

setp hm2_5i25.0.encoder.05.counter-mode 0
setp hm2_5i25.0.encoder.05.filter 1
setp hm2_5i25.0.encoder.05.index-invert 0
setp hm2_5i25.0.encoder.05.index-mask 0
setp hm2_5i25.0.encoder.05.index-mask-invert 0
setp hm2_5i25.0.encoder.05.scale [SPINDLE_9]ENCODER_SCALE

```

```

net spindle-revs <= hm2_5i25.0.encoder.05.position
net spindle-vel-fb-rps <= hm2_5i25.0.encoder.05.velocity
net spindle-index-enable <=> hm2_5i25.0.encoder.05.index-enable

```

---setup spindle control signals---

```

net spindle-vel-cmd-rps <= spindle.0.speed-out-rps
net spindle-vel-cmd-rps-abs <= spindle.0.speed-out-rps-abs
net spindle-vel-cmd-rpm <= spindle.0.speed-out
net spindle-vel-cmd-rpm-abs <= spindle.0.speed-out-abs
net spindle-enable <= spindle.0.on
net spindle-cw <= spindle.0.forward
net spindle-ccw <= spindle.0.reverse
net spindle-brake <= spindle.0.brake
net spindle-revs => spindle.0.revs
net spindle-at-speed => spindle.0.at-speed
net spindle-vel-fb-rps => spindle.0.speed-in
net spindle-index-enable <=> spindle.0.index-enable

```

---Setup spindle at speed signals---

```

sets spindle-at-speed true

```