ACH 550 PID Setup Using Assistants Menu
NEW Version Keypad

This can be done using any application macro. The most common macro we use is the HVAC Default macro.

1. Go to the assistants menu
2. Scroll down to the PID Control area…There is a PID Flow area below this. It will not be covered here.
3. Press select…this enters the assistants area
4. The drive will ask…Do you wish to use the ACH 550 PID controller…press **o.k.**
5. The drive will state "Select setpoint source:" You can set this to either Keypad or Internal. **INTERNAL** is recommended over KEYPAD as keypads can fail. If this is used then use **4011** for the internal setpoint
6. The drive will state "On the next screen select the transmitter's measurement units"….press **o.k.**
7. **4006 Units** will be set to **inH2O**...press **save**
8. **4007 Unit Scale** 1….press **save**
9. The drive will state…On the next two screens select the transmitter's output range…press **o.k.**
10. **4008 0% Value** will be set to **inH2O**. Set to minimum transmitter value
11. **4009 100% Value** will be set to **300.0inH2O**. This will <u>need</u> to be lowered. Set to maximum transmitter value
12. **4011** Will ONLY appear if you have selected INTERNAL as Set Point Sel. It will be set at **40 inH2O** Change this as desired. (Usually start at about half of transmitter range)
13. The drive will ask…Is your transmitter's output 4-20mA (2-10V) ?...press **o.k.**
14. The drive will state…As feedback increases drive speed should: …will be set to decrease…press **o.k.**
15. The drive will ask…Do you want to change PID tunings?...If you want to change any settings, press **o.k**….You will then have the opportunity to change ramp times, Gain, etc.
16. **4001 GAIN** will be set to **2.5**…press **save**. This normally would not need to be changed (If a change is desired change in SMALL increments. This parameter relates to the amount of change in the PI controller. If it is adjusted too high or too low an unstable PI response will occur)
17. **4002 Integration Time** will be set to **3.0s**…press **save.** This normally would not need to be changed (If a change is desired change in SMALL increments. This parameter relates to the timeframe in which the amount of change occurs in the PI controller. If it is adjusted too high or too low an unstable PI response will occur)
18. **4003 Derivation Time** will be set to **0.0s**…press **save.** This parameter normally would not need to be changed.
19. **4004 PID Deriv Filter** will be set to **1.0s**…press **save.** This parameter would normally not need to be changed.
20. **2202 Acceler Time 1** will be set to **30.0s**…A longer acceleration time will make a slower more smoothly responding PI control. A shorter time will make a quicker less smooth responding PI control.

21. **2203 Deceler Time 1** will be set to **30.0s**…A longer deceleration time will make a slower more smoothly responding PI control. A shorter time will make a quicker less smooth responding PI control.
22. **USE THE NEXT AREA ONLY IF YOU ARE USING A SLEEP FUNCTION…..OTHERWISE SIMPLY EXIT THE PID SETUP ASSISTANT**
23. The drive will ask…Do you want to use the sleep function?...press **o.k**.
24. **4023 PID Sleep Level**….Set to any value just above what minimum speed would normally be…such as 21-24 Hz for a pump application and 16-19Hz for a fan application.
25. **4024 PID Sleep Delay**…Set to what is desired…A lower number if pressure is met quickly does not hunt and holds…a higher number if not…this is in seconds
26. **4025 Wake-up Dev**…This is looking at a deviation from set point for the drive to wake up
27. **4026 Wake-up Delay**….This would normally not need to be changed unless a delay is wanted…I usually suggest it be left it alone

For pump applications the same above steps would be followed. The Units would need to be changed to PSI and the corresponding parameters would need to be changed likewise.

When a negative value is required such as a vacuum system or negative static pressure system, **4005 Error Value Invert** would be used. This would be set to **Yes**….See step #14.