

**Programming the EWN-Y pump for ANALOG input proportional control: ANA-R option:**

This is the pump default option. One of four pre-set programs correlating to 0-100% speed can be chosen: 4-20mA, 20-4mA, 0-20mA and 20-0mA. Default is 4-20mA = 0-100% speed. (% speed is used for example purposes. This may be SPM or a flowrate setting if those units were selected)

1. Make sure the pump is in the WAIT condition. You can do this by pressing the START/STOP key until the pump starts pumping, then pressing it one more time.
2. Press the EXT key to get into the EXTERNAL Operation Mode.
3. Press and Hold the EXT key for about 3 seconds to get to the External Selection Menu.
4. Using the UP/DOWN arrow keys, scroll until "ANA.R" is displayed.
5. Press the EXT key again to select the desired pre-set program.
6. Use the UP/DOWN arrow keys to scroll through the four choices.
7. Once on the desired program, Press the EXT key to return back to the External Selection Menu.
8. Press the STOP/START key to back out and return to the External Operation Mode. The display should now show "ANA.R" along the top of the display and the running average %, SPM or flowrate in the main display.
9. The pump is now operating for External Operation Analog mode. As soon as an analog signal within the range is put into the pump, the pump will begin operating at the corresponding speed. For example, if 4-20mA=0-100% was chosen and 12mA is provided, the pump will operate at 50% speed.

**Programming the EWN-Y pump for ANALOG input proportional control: ANA-V option:**

Two set points and the characteristics of the line can be programmed with a speed from 0-100% and a mA setting of 0-20mA. Default set points are programmed for 4-20mA=0-100% speed. (% speed is used for example purposes. This may be SPM or a flowrate setting if those units were selected)

**First, the default "ANA.R" option in the EXT menu has to be changed to "ANA.V":**

1. Make sure the pump is in the WAIT condition. You can do this by pressing the START/STOP key until the pump starts pumping, then pressing it one more time.
2. Press the EXT key to get into the EXTERNAL Operation Mode.
3. Press and Hold the EXT key for about 3 seconds to get to the External Selection Menu.
4. Using the UP/DOWN arrow keys, scroll until "ANA.R" is displayed.
5. Press the EXT key to return back to the External Selection Menu.
6. Press the STOP/START key to back out and return to the External Operation Mode.
7. Press the STOP/START key again to back out and return to the WAIT mode.
8. Press and hold the EXT key for 3-4 seconds. "OUT" should appear on the display.
9. Use the UP/DOWN arrow keys to scroll until "PG.EXT" is shown in the display.
10. Press the EXT key and "ANA" should now be displayed.
11. Press the EXT key again and "ANA.R" will display.
12. Use the UP/DOWN arrow keys to change the display from "ANA.R" to "ANA.V".



13. Press the EXT to back out to “ANA”.
  - a. The default ANA.V setting draws a traditional control LINE straight through the set points. However, the behavior beyond the set points can be changed with BOX or LIMIT if other control is desired. See page 23-24 of the Instruction Manual for more detail of LINE, BOX and LIMIT control affects.)
  - b. If either BOX or LIMIT control settings are desired, with “ANA” still on the display, press the DOWN key and “CURVE” will appear. Press the EXT key and “LINE” will display. Use the UP/DOWN keys to change between “LINE” and “BOX” or “LIMIT”. Press EXT to get back to “CURVE”.
14. Press the START/STOP key to back out “PG.EXT”.
15. Press the START/STOP key again to return to the WAIT condition.

**Selecting “ANA.V” in the EXT menu and Programming the set points:**

1. Press the EXT key to get into the EXTERNAL Operation Mode.
2. Press and Hold the EXT key for about 3 seconds to get to the External Selection Menu.
3. The display will show “ANA.V” (notice, “ANA.R” is no longer available)
4. Press the EXT key and “SP.1 mA” will be displayed. Using the UP/DOWN keys will cycle through the four set points: “SP.1 mA” → “SP.1 %” → “SP.2 mA” → “SP.1 %” → back to “SP.1 mA” (Remember, “%” is used for example purposes, this could be SPM or flowrate unit)
5. To enter Set Point 1 mA value, with “SP.1 mA” displayed, press EXT and “0 mA” is displayed. Use the UP/DOWN keys to enter a value between 0-20mA. Default is 0mA.
6. Press EXT again to back out to “SP.1 mA” and the DOWN key to “SP.1 %”
7. To enter Set Point 1 speed value, with “SP.1 %” displayed, press EXT and “0 %” is displayed. Use the UP/DOWN keys to enter a value between 0-100%. Default is 0%.
8. Press EXT again to back out to “SP.1 %” and the DOWN key to “SP.2 mA”
9. To enter Set Point 2 mA value, with “SP.2 mA” displayed, press EXT and “20 mA” is displayed. Use the UP/DOWN keys to enter a value between 0-20mA. Default is 20mA.\*
10. Press EXT again to back out to “SP.2 mA” and the DOWN key to “SP.2 %”
11. To enter Set Point 2 speed value, with “SP.2 %” displayed, press EXT and “100 %” is displayed. Use the UP/DOWN keys to enter a value between 0-100%. Default is 100%.\*
12. Press EXT again to back out to “SP.2 %”
13. Press STOP/START to back out to the External Selection Menu (“ANA.V” showing).
14. Press the STOP/START key again to back out and return to the External Operation Mode. The display should now show “ANA.V” along the top of the display and the running average %, SPM or flowrate in the main display.
15. The pump is now operating in External Operation Analog mode. As soon as an analog signal within the range is put into the pump, the pump will begin operating at the corresponding speed. For example, if 4-20mA=0-50% speed was programmed and 12mA is provided, the pump will operate at 25% speed.

**NOTES:**

1. % Speed was used for these instructions as it is the default, however, substitute “%” with whatever flowrate or units were chosen, if different. This does not change the menu structure.
2. \*Set Point 2 settings cannot be the same as Set Point 1. This will cause an “ERR” error.
3. In the EWN-Y pump, if the display is dark, the first press of any key will only turn on the display backlight and this first keypress will not register as the function of the key.