The DXM microprocessor controller contains two Accessory relays. These relays can be configured to operate in several different control schemes, selectable through dipswitches SW2-1 through SW2-6.

Accessory Relay #1 can be configured to cycle with the unit fan, for Digital Night Setback, for a slow opening water valve, for an outdoor air damper, or to control ClimaDry. Accessory Relay #2 can be configured to cycle with the compressor, for Digital Night Setback, for a slow opening water valve, or for an outdoor air damper. It is important to note that if a unit includes the ClimaDry dehumidification mode Accessory relay #1 will be dedicated to ClimaDry and cannot be used for other purposes.

Table 1: Accessory Relay 1 Configuration

DIP 2.1	DIP 2.2	DIP 2.3	ACC1 Relay Option
ON	ON	ON	Cycle with fan
OFF	ON	ON	Digital NSB
ON	OFF	ON	Water Valve - Slow opening
ON	ON	OFF	OAD
OFF	OFF	OFF	Reheat Option - Humidistat
OFF	ON	OFF	Reheat Option - Dehumidistat

All other DIP combinations are invalid

Table 2: Accessory Relay 1 Configuration

DIP 2.4	DIP 2.5	DIP 2.6	ACC2 Relay Option
ON	ON	ON	Cycle with compressor
OFF	ON	ON	Digital NSB
ON	OFF	ON	Water Valve - Slow Opening
ON	ON	OFF	OAD

All other DIP combinations are invalid

If an Accessory Relay is configured for "Water valve – Slow Opening" the relay will be cycled on a call for the compressor and the compressor start will be delayed 60 seconds. This is to give the water valve time to open allowing flow to the unit before the compressor is started.

Either Accessory Relay can be configured for Digital Night Setback. Accessory relay #1 is configured for Digital Night Setback when dipswitch SW2-1 is "OFF", SW2-2 is "ON", and SW2-3 is "ON". Accessory Relay #2 is configured for Digital Night Setback when dipswitch SW2-4 is "OFF", SW2-5 is "ON", and SW2-6 is "ON".

Accessory Relay #2 can be configured for pump restart by selecting "Cycle with compressor". Either relay could also be used for Pump Restart by selecting "Water Valve – Slow Opening" so long as it is acceptable to restart the loop pump 60 seconds before starting the unit compressor. Accessory Relay #2 is configured for Pump Restart when dipswitch SW2-4 is "ON", SW2-5 is "ON", and SW2-6 is "ON".

Digital Night Setback

To use the ATP32U03/04 thermostat for Digital Night Setback for units equipped with DXM controllers, the following steps should be taken:

1) In addition to the standard thermostat connections to DXM (R, C, G,Y1, Y2, O, AL1, etc.), the thermostat OD terminal should be connected to the DXM NO terminal for the Accessory Relay configured for Digital Night Setback.
2) The DXM COM terminal for the NSB Accessory Relay should be connected to one of the C connections on the DXM.
3) The external (timeclock) night setback daisy-chain signal from the timeclock to the units should be connected to the DXM NSB connection and also to C (common) on P2.

4) Dipswitches for the Accessory relay being used for Digital Night Setback should be configured as shown above for Digital NSB.
5) The ATP32U03/04 thermostat should be configured as a Night Setback thermostat using the Model Configuration selection in the Installer's Menu (See thermostat IOM).
6) Set the Night Setback setpoints and configuration using the Night Setback selection in the main thermostat menu (See thermostat IOM).

When properly configured and wired to operate for Digital Night Setback operation, when the NSB input on the DXM is connected to ground, the thermostat will operate using the selected Digital Night Setback settings. Adjusting the thermostat setpoint from the main screen when Night Setback is active will set a temporary override setpoint, that will remain active for the selected override time, or until the Night Setback mode is terminated, whichever occurs first.
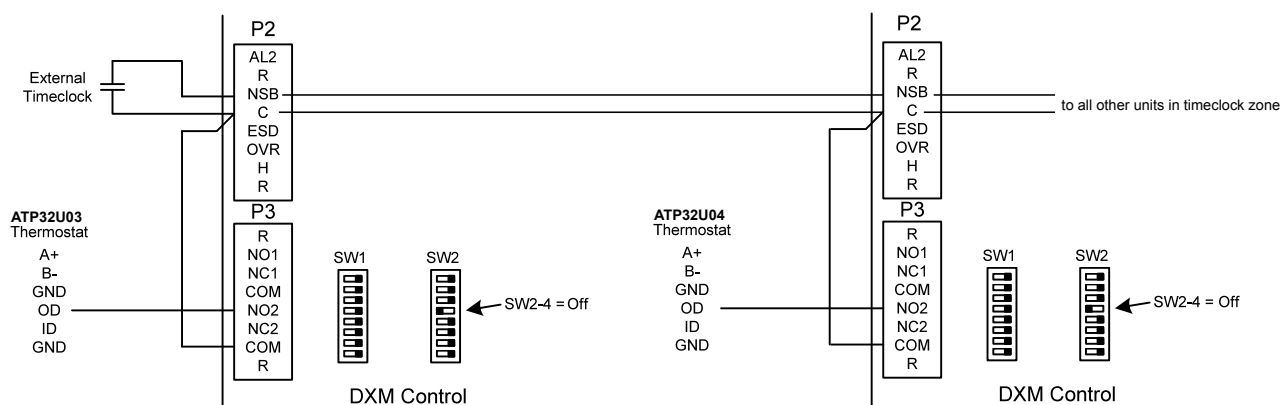
Digital Night Setback Wiring Connections - UNITS
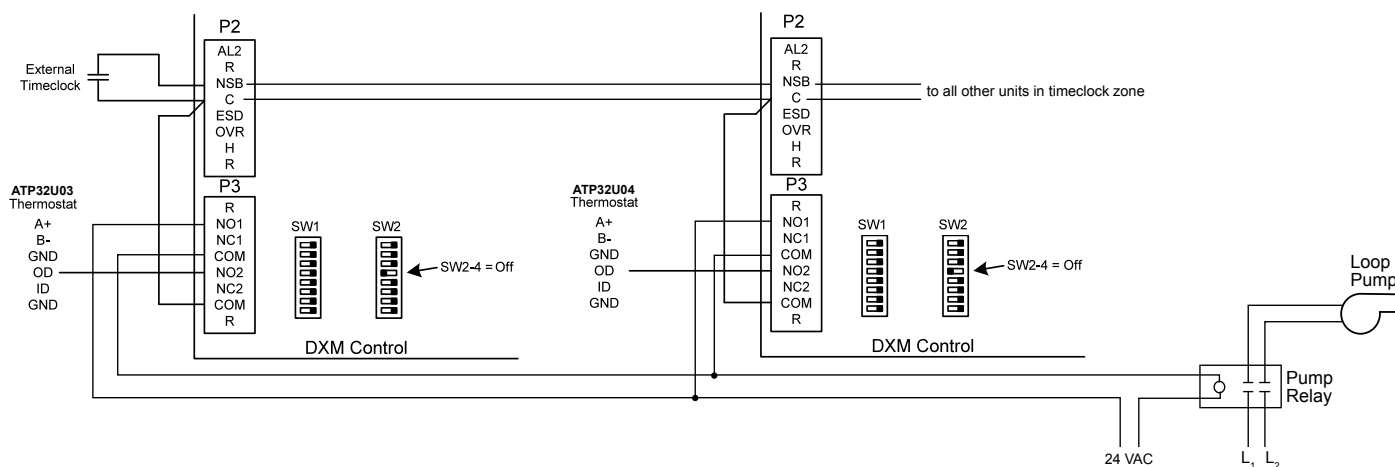Note: Can connect all heat pumps to one timeclock

Pump Restart (based on "ON" signal)

To configure the DXM controller for Pump Restart based on an "ON" signal to the pump control (to engage the building loop pump during Digital Night Setback Override periods), the following steps should be taken:

1) The low voltage pump "Run" signal should be connected to the DXM NO terminal of the Accessory Relay configured for Pump Restart.
2) DXM COM for the Accessory Relay configured for Pump Restart should be connected to the pump relay. If multiple units are involved, wire the COM and NO terminals of each DXM in parallel.

3) Dipswitches for the Accessory relay being used for Pump Restart should be configured as shown above ("Cycle with compressor" or "Water Valve – Slow Opening" as described above).

When properly configured and wired to operate for Digital Night Setback operation, when the NSB input on the DXM is connected to ground, the thermostat will operate using the selected Digital Night Setback settings. Adjusting the thermostat setpoint from the main screen when Digital Night Setback is active will set a temporary override setpoint, that will remain active for the selected override time, or until the Digital Night Setback mode is terminated, whichever occurs first. Whenever there is a call for cooling or heating during the override period, the heat pump is energized as well as the loop pump.

Digital Night Setback and Pump Restart Wiring Connections - UNITS
Note: Can connect all heat pumps to one timeclock.

Pump Restart (based on "OFF" signal or broken circuit)
To configure the DXM controller for Pump Restart based on an "OFF", or broken circuit signal to the pump control (to engage the building loop pump during Digital Night Setback Override periods), the following steps should be taken:
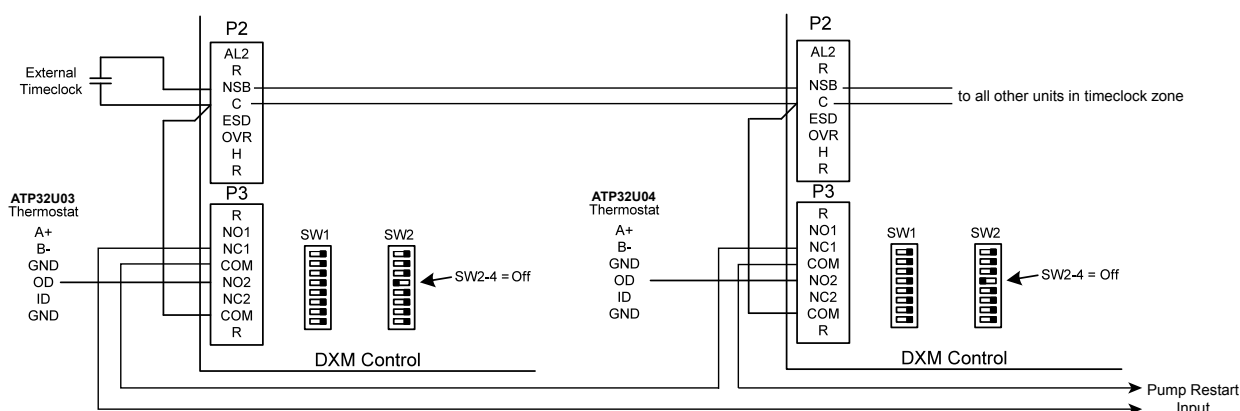
1) The low voltage pump circuit should be connected to the DXM NC terminal of the Accessory Relay configured for Pump Restart.
2) DXM COM should be connected to the pump control, or if multiple units are involved to DXM NC of the next unit, then out of COM of the second unit to the pump control. In this way, any of the heat pump units will break the control circuit sending an "OFF" signal to the pump control when the heat pump is energized.

3) Dipswitches for the Accessory relay being used for Pump Restart should be configured as shown above ("Cycle with compressor" or "Water Valve – Slow Opening" as described above).

When properly configured and wired to operate for Digital Night Setback operation, when the Digital NSB input on the DXM is connected to ground, the thermostat will operate using the selected Digital Night Setback settings. Adjusting the thermostat setpoint from the main screen when Digital Night Setback is active will set a temporary override setpoint, that will remain active for the selected override time, or until the Digital Night Setback mode is terminated, whichever occurs first. When there is a call for cooling or heating, the heat pump is energized as well as the loop pump.

Digital Night Setback and Pump Restart Wiring Connections - UNITS
Note: Can connect all heat pumps to one timeclock.