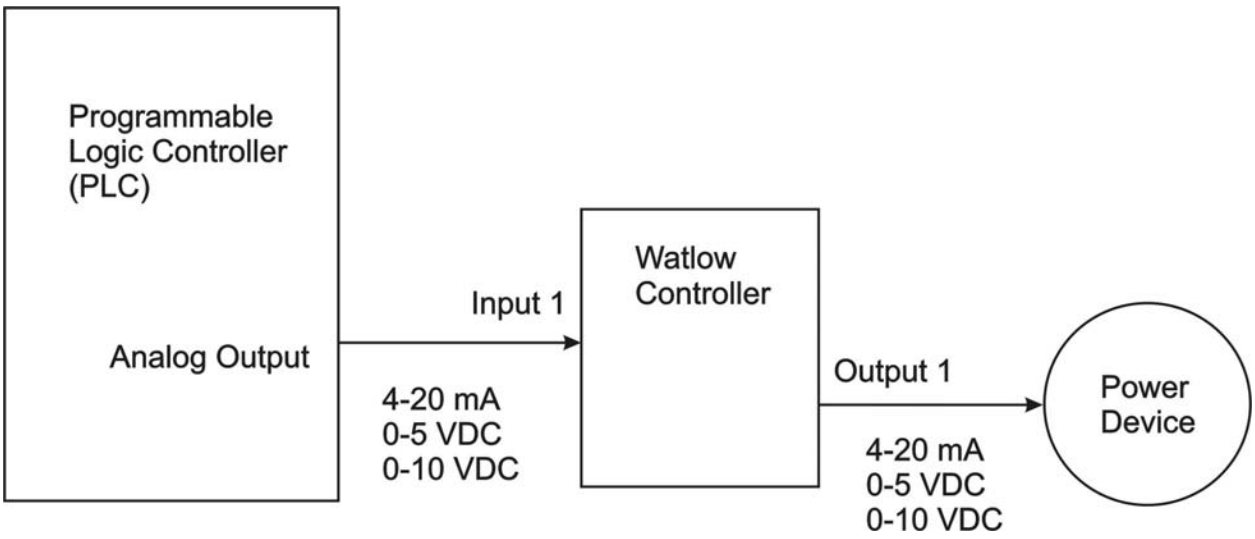
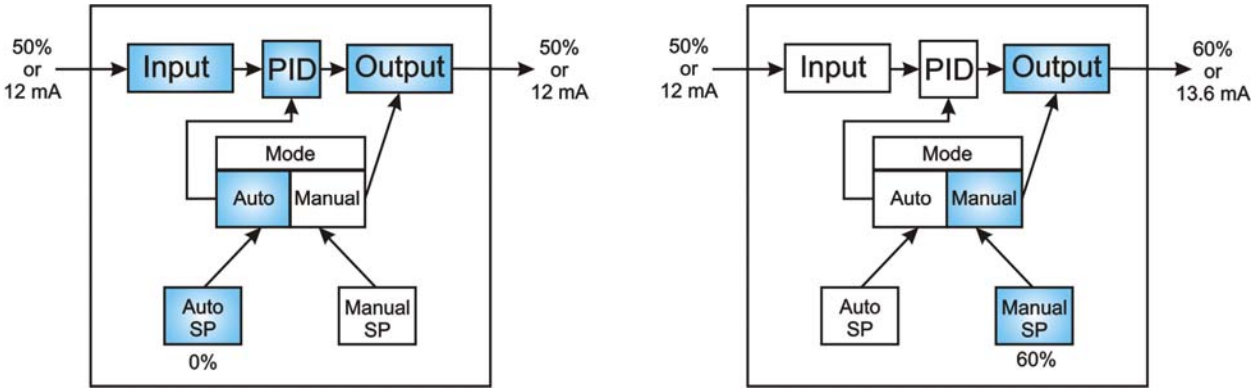
Auto/Manual Station

Utilizing a Watlow Controller



It is sometimes desirable to have a way of bypassing a programmable logic controller (PLC) to manually manipulate the power-control device when using a PLC with an analog output, referred to as Manual Station. Some examples of power-control devices include proportional valves, SCR power controllers, and Variable Frequency Drives. A Watlow PID controller can be used to perform the function even though PID isn't being utilized by the application.

Utilize a Watlow controller with a universal input on input 1 and a process output. Connect the output signal from the PLC to the controller's process input. The power-control device is connected to the analog process output of the controller. The controller is configured as direct acting (cooling). The controller's input is scaled for 0 to 100%. The controller's closed loop set point is set to a value of 0%. The proportional band is set to 100%. Reset (integral) and rate (derivative) must be set to zero to disable their function.



When the Watlow controller is in auto (closed loop) mode, the PID loop will mirror input to output. If a 50% signal is applied to the controller's input, 50% will be sent to the controller's output. If the controller is switched to the manual mode, then the manual power setting on the front panel of the controller dictates what value is output. In manual mode, 50% power can still be input, but if the manual power set point is set to 60%, then 60% is the output value.

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