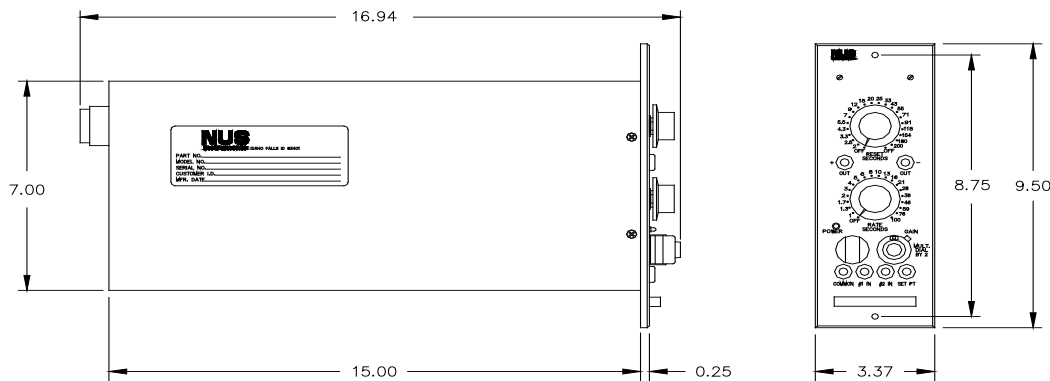


The PID801 & AMS820 Auto/Manual Controller System is an interdependent control system developed to interface with certain Westinghouse control systems. The PID801 is a rack-mounted controller that maintains a process variable at the desired setpoint using combinations of proportional, integral (reset), and derivative (rate) actions. The magnitude of each term in the transfer function is adjustable to optimize the time response of the controlled variable.

The AMS820 provides the interface for the control system, and the operator can select automatic or manual operation. In automatic mode, the operator can control the setpoint value provided to the PID. In both modes of operation, a meter indicates the value of the signal that is controlling the process.



PID801 & AMS820



PID SPECIFICATIONS

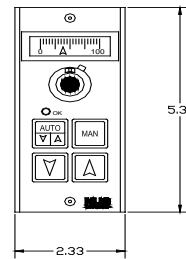
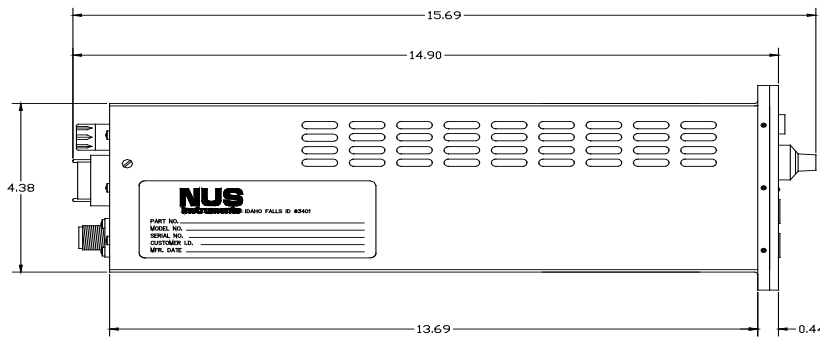
Power Supply Voltage:	117 Vac \pm 10 %, 60 Hz (red power available indicator on face plate)	
Power Consumption:	25 W maximum	
Power Fuse:	0.250 A slow blow, 250 Vac, 3AG Lighted fuse holder on face plate illuminates with open fuse	
Operating Modes:	User-configured for (1) Proportional Only, (2) Proportional Plus Reset, or (3) Proportional Plus Reset Plus Rate operation	
Reset Time:	Adjustable in discrete increments from 2 to 200 seconds (short reset) or 20 to 2000 seconds (long reset), using a 20-position switch on the face plate Long and short resets are user-configured through removable shunts on the main board	
Rate Time:	Adjustable in discrete increments from 1 to 100 seconds, using a 20-position switch on the face plate	
Proportional Gain:	Adjustable from 0.2 to 20, using a 10-turn potentiometer with a lockable counting dial on the face plate	
Inputs:	Input 1, Input 2, and Tracking Input: 1 to 5 Vdc Setpoint Input: -1 to -5 Vdc	
Output:	4 to 20 mA dc	
Test Jacks:	Banana Style:	Red, except COMMON (Black)
	OUT+ / OUT-:	Indicates voltage across a 50 Ω resistor in the output current loop
	# 1 IN:	Indicates the voltage present on Input 1 with respect to COMMON
	# 2 IN:	Indicates the voltage present on Input 2 with respect to COMMON
	SET PT:	Indicates the voltage that represents the setpoint signal (used in error calculations) with respect to COMMON
	COMMON:	Reference point for the inputs and setpoint measurements

NUSI 800 Series

Auto/Manual Controller System



PID801 & AMS820



AMS SPECIFICATIONS

Power Supply Voltage:	117 Vac \pm 10%, 60 Hz
Power Consumption:	25 W maximum
Power Fuse:	0.250 A slow blow, 250 Vac, 3AG. Fuse holder in rear of module
Output Fuse:	0.125 A very fast acting, 125 V, PCB mount
Input:	Tracking Input: 1 to 5 Vdc
Outputs:	Setpoint Output: -1 to -5 Vdc, adjustable using a 10-turn potentiometer with a lockable counting dial on the front plate Manual Output: 4 to 20 mA dc, adjustable using RAISE and LOWER pushbuttons on the face plate
Pushbuttons:	AUTO, MAN, RAISE, and LOWER
Indicator:	A green lamp on the face plate indicates when the difference between the process signal and the setpoint is small enough to make a bumpless transfer from manual to automatic operation. The signal that controls the indicator light can be disabled
Ambient Temperature:	35 °F to 122 °F (2 °C to 50 °C) (normal operation) -40 °F to 185 °F (-40 °C to 85 °C) (storage)

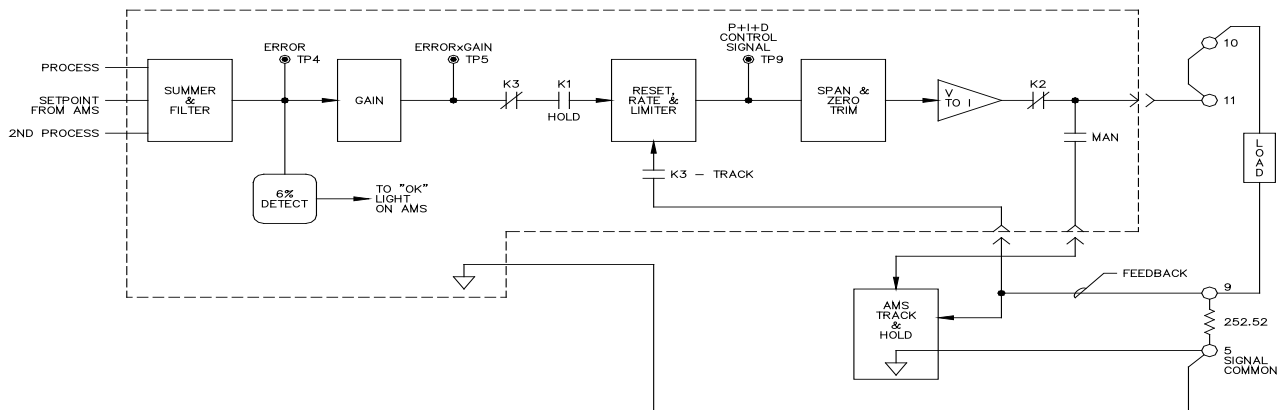
SYSTEM OPERATION

The PID801 and the AMS820 are designed to allow bumpless transfers from automatic to manual operation and vice versa. These two modules typically operate as a pair. One module controls the process, and the other module continuously tracks the process in anticipation of a transfer.

By tracking the process, the module ensures its ability to take control of the process on demand, without introducing any unwanted transients into the process.



PID801 & AMS820



A power monitor in the PID801 monitors the power supplies of both the PID801 and AMS820 modules as a pair. If power fails in one module, the power monitor immediately transfers process control to the module that has steady power. This feature defends against power failures that could otherwise trigger unwanted process control actions.

The PID801 and the AMS820 have independent output limiters. The high and low limits are adjustable over a reasonable range. The trim pots for each limiter are accessible by removing each limiter's side cover.

The design of the AMS820 chassis includes features that make installation easier. To reduce frequent reinstallation, the circuitry can be changed from the unit front panel. Two screws release the front panel, and a technician can then remove two card-guide stops and slide out the circuit boards from the front of the chassis. Only the wiring from the card connector to the rear panel connectors stays in the chassis. New circuit boards can then be slid into the chassis.

The rear panel can also be removed if desired. Six screws connect the rear panel to the chassis. All wiring and connectors are removed from the chassis when the rear panel is removed. Rear panel thumbscrews are a factory option.

CONTACT INFORMATION:

Curtiss-Wright Nuclear Division / I&C Products
1350 Whitewater Drive, Idaho Falls, ID, 83402 T: (208) 497.3333

(This page is intentionally blank.)