

# 8200 1/8 DIN Controller With RaPID<sup>®</sup> (Fuzzy Logic)

- RaPID<sup>®</sup>: Response Assisted PID (Fuzzy Logic) minimizes overshoot and improves control.
- Two Auto-tune Algorithms: Pre-tune plus Self-tune
- Plug and Play Technology allows field upgrades.
- Dedicated configuration port allows configuration directly from PC for fast and repeatable configurations.
- Password protection limiting operator access and providing process security.
- Optional Remote Setpoint.



The 8200 is a 1/8 DIN controller which incorporates our advanced tuning algorithms, pre-tune, self-tune plus RaPID, to dramatically reduce overshoot and improve time to control on start-up, setpoint changes, and load disturbances. Rapid is easily turned on from the front panel.

RaPID stands for *Response assisted PID*, and is a unique fuzzy logic based algorithm which enhances the traditional PID function set manually or by auto-tuned algorithms. RaPID re-blends the PID control on-line and instead of learning from an event and reacting after it has happened, RaPID reacts as an event occurs, thereby improving the quality of control and speed of response.

Our *Plug and Play* Technology allows you to choose from 5 input/output boards, and a RS-485 communications board, to be assembled precisely to your application requirements. Since each option is self contained on its own plug-in board, it makes field upgrading simple and cost-effective. A remote setpoint option is also available on this control.

The controller is also easy to setup, with an innovative configuration port for off line programming directly from a PC or through a simplified operator's front panel. Access can also be limited by either a security code or by setpoint options.

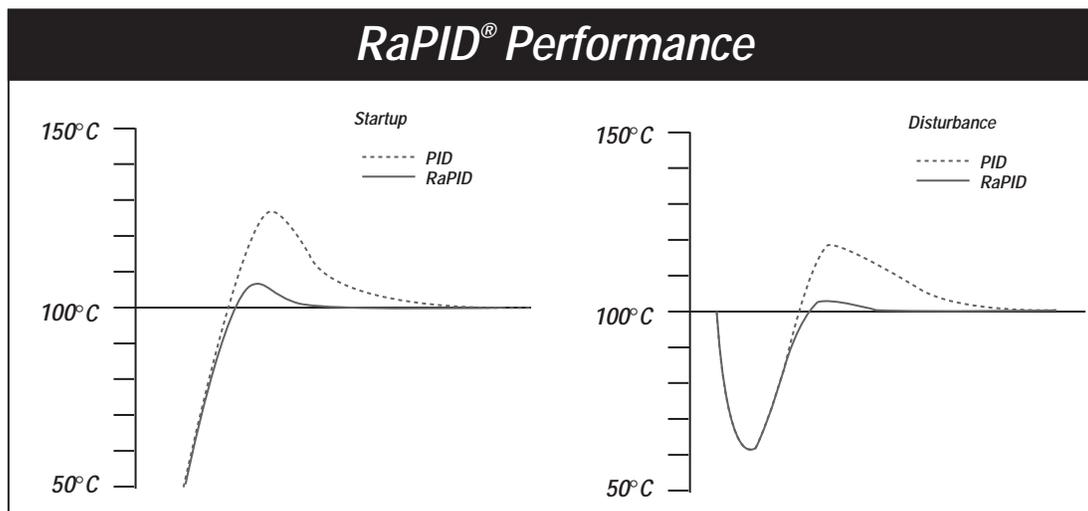
**WEST**  
Brand  
INSTRUMENTS

# 8200 Brief Specs and RaPID<sup>®</sup> Performance:

## Brief Specs:

<b>Inputs:</b>	Thermocouple: J, K, R, S, T, B, L, N RTD: Pt 100 3 Wire DC Linear: mA, mV, or V Dual Setpoint: Voltage free contact or TTL compatible
<b>Output:</b>	Control and Alarm Outputs: Relay- SPDT 2A at 240V AC > 5 X 10 <sup>5</sup> operations Control Outputs: SSR >4.0V DC into 1 K ohm minimum Triac- 1amp @ 40°C, Derate to 1/2amp @ 80°C Communications: RS-485 2 wire
<b>Control and Features</b>	Tuning: RaPID <sup>®</sup> , PID, PID/ON-Off 2, On-Off, Pre-Tune and Self Tune Proportional Band: 0.5% to 999.9% of input span and ON-OFF Auto Reset: 1 second to 99 minutes 59 seconds and OFF Manual Reset (Bias): 0 to 100% Rate: 0 to 99 minutes 59 seconds
<b>Operating and Environmental</b>	Accuracy: ±0.25% of input span ±1 LSD Ambient Temperature: 0°C to 55°C (Operating) -20°C to 80°C (Storage) Supply Voltage: 90 to 264V AC 50/60Hz (Optional 20-50V AC 50/60Hz, 22-65V DC) Power Consumption: 4W Maximum EMI Immunity: Meets with BS EN 50082-2 (1995) EMI Emmissions: Meets with BS EN 50081-2 (1994)
<b>Dimensions and Panel Cut Out</b>	Panel Cut-Out: 1/8 DIN - 92mm X 45mm Unit Dimensions: 96mm High X 48mm Wide X 100mm Deep

## RaPID<sup>®</sup> Performance:

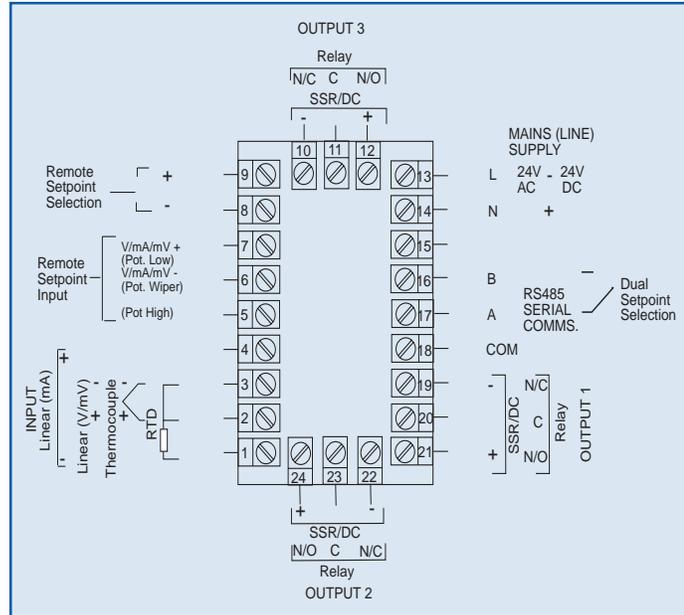


Results achieved against competitor PID and fuzzy logic controllers on a simulated load with two first order time constants of 80 and 30 seconds each, and a dead time of seven seconds.



# 8200 Wiring Diagram and Notes:

## Wiring Diagram:



## Notes:

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