



## MIC 8200™

*Versatile – Full Featured*

### 1/4 DIN Dual Display Controller

#### DESCRIPTION

Sophisticated controller handles processes ranging from simple on-off control to full PID with auto-tune, and provides constant visual indication of process and setpoint.

The top display may be programmed to show the process variable or deviation from setpoint. The lower display, when programmed, is keypad selectable to show setpoint 1, setpoint 2, or percent output.

Options include single or dual 4-20mA output, up to three relay outputs, three types of alarms, remote setpoint input, electric motor modulation, and RS-485 communications. Process value retransmission output is also available.

Access to configuration parameters and setpoint may be restricted by using the instrument's security-access mode.

#### APPLICATIONS:

Ideal for applications requiring a full-featured, user-friendly and highly programmable temperature/process controller.

#### INDUSTRIES:

- Industrial and lab ovens/furnaces, plastics and thermal forming
- Form/Fill and seal
- Packaging applications
- And any others where maximum capability, smaller size and unmatched connectivity are critical requirements.

#### FEATURES/BENEFITS

- Dual, 4-digit, 0.36" LED displays
- 1/4 DIN panel mount
- Universal Input for thermocouple, RTD, DC linear mA/V/mV user-selectable
- Up to 3 outputs; relay, SSR driver, 4-20mA
- Process or deviation/band alarm functions
- ON/OFF, position proportioning, PID Control
- Optional RS-485 serial communications
- Program security

## 1/4 DIN Dual Display Controller

## SPECIFICATIONS\*

## STANDARD FEATURES

- Dual Display for fast view of process and control parameters
- Full PID capability
- Single or dual outputs via relay, 4-20 mA current or SSR driver
- Separate alarm output
- Universal input plus remote setpoint and sensor fault detection

## ENVIRONMENTAL CHARACTERISTICS

- Operating Temperature:** 0 to 55°C, 32 to 131°F
- Storage Temperature:** -40 to 65°C, -40 to 149°F
- Humidity:** 0 to 90% RH, non condensing
- Vibration:** 0.5 to 100Hz at 0.5g

## ELECTRICAL

- Line Voltage:** 115/230VAC +/- 10% 50/60 Hz
- Power Consumption:** 15VA maximum
- Transmitter Power Supply:** Provides up to 40mA @ 24 VDC.

## INPUTS

- Thermocouple types:** J, K, T, R, S, E, B, N, and C.
- RTD:** 100 ohm platinum (.00385 Ohm/Ohm/C)
- Volts:** 0 to 5VDC, 1 to 5 VDC
- Millivolts:** 0 to 25mVDC, 0 to 50mVDC, 10 to 50mVDC
- Milliamps:** 0 to 20 or 4 to 20mADC, accommodated via the addition of a shunt resistor
- Remote Setpoint:** 0 to 5VDC, 1 to 5 VDC
- Sensor Fault Detection:** Displays Hi or Lo for thermocouple or RTD inputs (10% above or below range) and sensor break, SnSr. On/Off outputs go off, proportional outputs go to 0%. Sensor fault detection is not functional for 0 to 5VDC or 0 to 20mADC.

## OUTPUTS

- Relay:** SPST  
115VAC: 5.0 A Resistive; 1/8HP or 250VA  
230VAC: 2.5 A Resistive; 1/8HP or 250VA
- SSR Driver:** Open collector output Short circuit protected at 100mA maximum  
Provides 4VDC at 20mA or 3VDC at 40mA
- Current Output:** 0-20 or 4-20 mADC into 650 ohms maximum

## DISPLAY

- Digital Display:** Dual, each four 7 segment LEDs each .36 inches high.
- Status Indicators:** Individual LED indicators for Setpoint, Out 1, Out 2, Manual, Alarm, Degrees F, Degrees C, or Engineering Units, and minus sign for negative values, Process Value, Percent Output-1, Percent Output-2, and Remote Setpoint

## ALARM ADJUSTMENT

- Process Alarm:** -9999 to 9999 units
- Deviation Alarm:** -3000 to 3000 units
- Deviation Band Alarm:** 1 to 3000 units

## CONTROL ADJUSTMENTS

- On/Off Hysteresis:** 0 to 300 units
- Proportional Band:** 1 to 3000 units
- Manual Reset:** -1500 to 1500 units
- Auto Reset:** 0.0 to 100.0 repeats/minute
- Rate:** 0.0 to 10.0 minutes
- Cycle Time:** 1 to 240 seconds
- Position Prop. Sensitivity:** 0.0 to 50.0%
- First Output Position:** -1000 to 1000 units
- Second Output Position:** -1000 to 1000 units

## PERFORMANCE

- Measurement Error Limit:**
  - Type J, K, T, E, N, C thermocouples and RTD +/- 0.25% of reading plus 1 degree at 25°C
  - Type R, S, B thermocouple +/- 0.25% of span at 25°C
  - mVDC, mADC and VDC +/- 0.25% of span, plus 1 least-significant-digit at 25°C
- Ambient Temperature Error:** 0.01% of span per degree C deviation from 25°C
- Scan Rate:** 1 scan per second (3 scans available)
- Display Resolution:** T/C & RTD: 0.1 or 1 degree mV & VDC: 0.001, 0.01, 0.1, or 1.0
- Auto Reset Windup Inhibit:** Auto reset is disabled when the process is outside of the proportional band
- Cold Junction Compensation:** Self compensation for ambient temperature. All calibration values are stored in memory.
- Noise Rejection:** Normal mode, 85dB minimum @ 60Hz or greater. Common mode, 90dB minimum ±8 VDC maximum peak for RTD input, 115VAC maximum for other inputs.

## PHYSICAL DIMENSIONS

- Dimensions:** 1/4 DIN front panel, 5.8" deep
- Weight:** 3 pounds maximum

## COMMUNICATIONS

- Type:** RS-485 serial communication port
- Protocol:** Partlow ASCII

## RATINGS/AGENCY APPROVALS

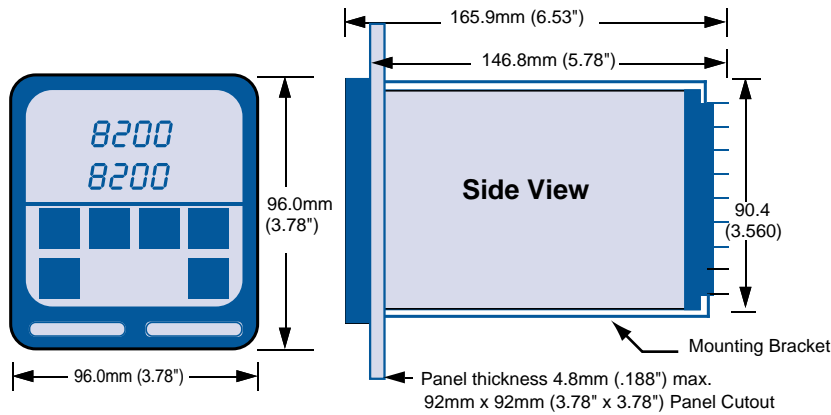
- UL & cUL recognized (E67237), CSA (LR39885)

### 1/4 DIN Dual Display Controller

### MODELS

Code 1: Model #	Code 2: Output 1	Code 3: Output 2	Code 4: Alarm	Code 5: Remote	Code 6: Voltage	Code 7: Option Suffix
<b>82</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
I/4 DIN Temperature Controller includes: universal input, three outputs, remote setpoint	1 Relay 2 SSR Driver 3 4-20mA & Relay 4 4-20mA & SSR Driver	0 None 1 Relay 2 SSR Driver 3 4-20mA 4 4-20mA & Relay 5 4-20mA & SSR Driver	0 None 1 Relay 2 SSR Driver	0 None 1 Position Proportioning* 2 Remote Setpoint 3 RS-485 Standard Com.** 4 RS-485 Standard Com.*** 5 RS-485 Total Access Com.** 6 RS-485 Total Access Com.***	1 115 VAC Input & Relays 2 230 VAC Input & Relays 3 115 VAC Input & 230 VAC Relays	(Blank) None AB Extended Feature Software AD Auto Reset Adj. 0/10.00 AE AB plus Prop. Band of 9999 XP 24VDC Transmitter Power Supply XA 24VDC Power Supply†

### DIMENSIONS - 1/4 DIN



\* Limited to Model 8211X1X or 82X22X1X.  
 \*\* Output Group 2 cannot be 3, 4, or 5.  
 \*\*\* Output Group 3 cannot be 1 or 2.  
 † ALARM not available when XA suffix is ordered.

Note: Option Suffix AB not available with RS-485 Standard Com.