

CENTURY CONTROLS, INC.

Model CC-300 PLC
O₂ TRIM CONTROL

How To Specify

General Specifications

- *Operational Data*

The supplier shall provide a Century Controls Model CC-300 PLC Based Oxygen Trim Control to continuously adjust the air/fuel ratio for maximum efficiency. The control shall analyze the oxygen level and compare it to the programmed set points, making corrections to obtain the most efficient combustion across the firing range. The control shall be approved by the Underwriter's Laboratories and shall have affixed to it the Underwriter's label.

- *Control Design Features*

The control shall be a PLC based unit designed to accept up to three boilers. The computer shall utilize a variable correction rate control algorithm that provides fast response without overshooting the set point. The control shall have set points across the firing range of the burner, adjustable for each of two fuels. Automatic interpolation between set points must be standard. Fixed points with no interpolation will not be acceptable.

The system shall have an adjustable alarm for low O₂ levels. The control system shall include a diagnostics program such that the alarm will be enunciated if the oxygen level cannot be maintained in the normal trim area.

O₂ levels shall be measured by an Insitu O₂ analyzer, easily mounted on the stack of each boiler. The analyzer shall be equipped with a calibration port for reference gas. No aspiration air line is required.

The control system shall be equipped with a compact electromechanical actuator, easily mounted to the forced draft fan linkage of the boiler. The actuator must be provided with a no backlash feature to eliminate the introduction of additional hysteresis into the burner linkage. Actuators that induce hysteresis when reversing are not permitted.

The control panel shall display boiler, type of fuel, O₂, and firing rate. It shall have a 4-line 20-character LCD display and keypad. Contact home office for available communications to central systems.

- *Technical Data*

Electronics Package

<i>Display</i>	4-line 20 character LCD display with keypad
<i>Deadband</i>	Adjustable
<i>Power Requirement</i>	120/220 VAC, 50/60 Hz
<i>Output</i>	Time proportioning
<i>Set Points</i>	Adjustable
<i>Alarms</i>	Adjustable, Low O ₂ ,
<i>Auxiliary Outputs</i>	4-20 mA or 1 to 5 volts DC, 0-1 v firing rate, RS-232, common alarm
<i>Temperature Limits</i>	0-140 degrees Fahrenheit
<i>Warranty</i>	One year

O₂ Probe

<i>Enclosure</i>	General-purpose, stainless steel
<i>Output</i>	O ₂ 0-100 MV
<i>Accuracy</i>	O ₂ +/- 3% of measured value
<i>Range</i>	O ₂ 0-20.9%
<i>Response</i>	O ₂ Less than 6 seconds for 63% change
<i>Process Gas Temp.</i>	To 1150°F
<i>Calibration</i>	Calibration port for certified gases
<i>Power Requirements</i>	120/220 Vac 60-50 Hz

Trim Actuator

<i>Output</i>	+/- 1/2" adjustable linear travel, threadless screw type with mechanical stops
<i>Thrust</i>	5-40 lb. adjustable with unique slip ability
<i>Temperature</i>	0-150°F
<i>Installation Req.</i>	Installs in existing linkage