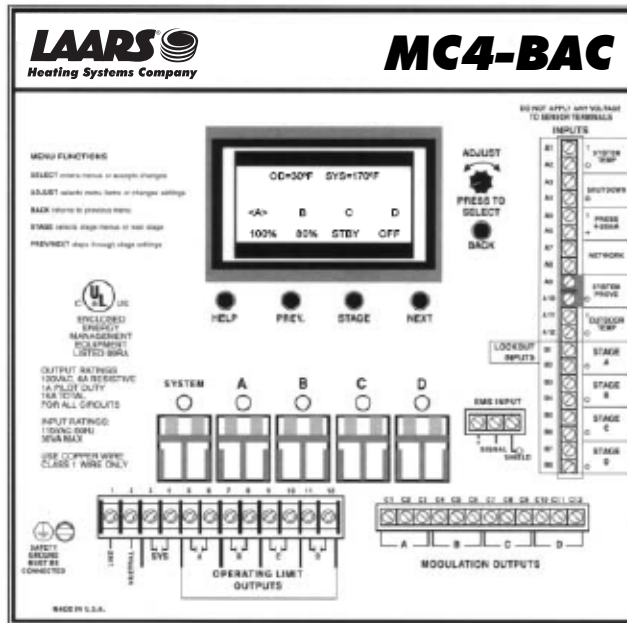


Laars Modulating Controls



MC4-BAC Modulating Boiler Control
with BACNET CPU

Submission Data **LAARS**
Heating Systems Company

Specifications

Input Voltage	120VAC	Ignition Start Point	1 to 50%
Power Consumption	30VA	Modulation Start Point	50 to 100%
Operating Mode	Heating	Battery (included)	Lithium coin-type
Lead Stage Rotation		Operating Mode	Normal or Process
Manual		Purge Delay	1.0 to 10.0 minutes
First On/First Off		Lag Stage Delay	0 to 60 minutes
Automatically	Every hour to every 7 days	System Run On Delay	0 to 30 minutes
Output Types	0-5V, 0-10V, 4-20mA	Standby Time	0 to 60 minutes
Stage Modes	Off, Auto, On, Standby, Manual		
Output Contacts	5 SPST	Temperature Setback	0° to 75°F (0° to 42°C)
Output Rating	6A resistive, 1/3HP	Last Stage Hold	0° to 30°F (0° to 30°C)
Operating Ambient Temperature	20 to 120°F	Shutdown Input	Dry Contact Only
Enclosure	NEMA -1	System Prove Input	Dry Contact Only
Dimensions	13" x 13" x 5-1/2"	Lockout Inputs	Dry Contact Only
Temperature Sensor Accuracy	± 1°F (1°C)	4-20mA External Input	
Temperature Display	Field select °F or °C	Reset Ratio	1-4, 4-1
Temperature Sensor Range	-30° to 250°F (-35° to 120°C)	Reset Offset	(+40°F) (-40°F)

Features

- BACnet IP interface to any BACnet energy (or building management system) gives the user the capability to monitor and adjust the MC4-BAC through the BACnet system
- Multiple boiler control for up to four modulating units
- Selectable setpoint or outdoor reset operation
- Adjustable outdoor reset ratio, offset and outdoor cutoff
- Setpoint and reset can be controlled through external 4-20mA signal
- Accepts lockout inputs from each boiler
- Automatic rotation with optional rotation modes
- Controls 0-5V, 0-10V or 4-20mA boilers
- Output contacts for field-installed devices (dampers, pumps, etc.)
- Programmable minimum run time
- Reverse staging drops firing rate and drops boilers as setpoint nears to avoid hard shutdown
- Parallel loading mode, for boilers that have higher efficiency at lower firing rates, keeps boilers in low fire as much as possible
- Programmable purging of each boiler
- Adjustments for low fire rate, throttling range, firing point of next boiler, lag time and last boiler hold to minimize short-cycling
- Adjustable boiler pump time delay
- 80-character alpha-numeric display

LAARS
Heating Systems Company
A subsidiary of **BRADFORD WHITE** Corporation

800.900.9276 • Fax 800.559.1583 (**Customer Service, Service Advisors**)
20 Industrial Way, Rochester, NH 03867 • 603.335.6300 • Fax 603.335.3355 (**Applications Engineering**)
1869 Sismet Road, Mississauga, Ontario, Canada L4W 1W8 • 905.238.0100 • Fax 905.366.0130
www.Laars.com
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