

Boiler Sequencing Control

- Sequence outputs via PID or Over Sized System (OSS)
- 8 stages up to 24 stages with extension modules



The Cemline® Boiler-trol® is an 8-stage sequencing controller used to control individual stages on Cemline electric boilers and electric water heaters. The Boiler-trol® can be used independently to sequence multiple hydronic heating boilers. The controller provides many and features allowing it to meet the needs of these specific applications and systems. The built-in features include: outdoor reset, multiple rotation options, day and night schedule, adjustable pump relay, remote shutdown/prove functionality, and domestic hot water pump control. The controller is UL listed. The controller can remotely communicate with the building management system with an optional external BACnet (IP or MSTP) interface.

Boiler-trol®

Cemline Boiler-trol® Multistage Sequencing Controller for use to control individual electric boilers and electric water heaters, or it can be used to sequence multiple hydronic heating boilers. The controller provides options and features allowing to meet the needs specific applications.

Features:

Multistage Output Sequencing Controller

- Eight Stage hydronic sequencing control. Can control via set point or outdoor reset.

Hydronic Heating using Set Point or Outdoor Reset

- The two set point options are fixed set point or set point based upon outdoor temperature.

PID or Over-Sized-System (OSS) Sequencing

- The default PID sequencing is based upon rate of change for normal heating applications. The PID logic can be adjusted to using last stage hold, reaction time, and minimum run time to eliminate short cycling. OSS provides a faster response based on variable load for use with process applications.

Multiple Rotation Options

- Stages can be rotated based upon time (between 1 hour and 40 days), first-on/first-off, or manual rotation.

Additional Stages

- The Boiler-trol® provides 8 stages. The controller can be connected to two 8 stages extension modules for a maximum of 24 stages.

Easy to Read Display

- The LCD display is brightly lit and provides information clearly on screen. Also, the controller has a series of LED lights indicating stage on/off, system on/off, and domestic hot water pump on/off.

Building Automation Integration

- The Boiler-trol® can communicate with the building automation system through either an external BACnet interface or a remote 4-20 mA set point interface. The BACnet allows interaction with the BACnet system while the remote set point can be made by the a 4-20 mA signal.

Standby Stages

- Individual stages can be set to be continuously on, off, automatic or standby with an adjustable delay.

Day and Night Schedule

- The control is designed with a day and night schedule to allow for a night set back in order to save energy while demand is reduced.

Domestic Hot Water

- A domestic water pump can be controlled with a variety of options using a dry contact or an optional DHW sensor.

Adjustable Pump Delay

- Allows the system pump, stage-pumps, and combustion air damper an additional run-on time.

Remote Shutdown and Prove

- The controller can be remotely disabled using a remote dry contact. Also, the prove can be used to check the status of other equipment prior to engaging the boilers.



Boiler-trol® Multistage Sequencing Controller

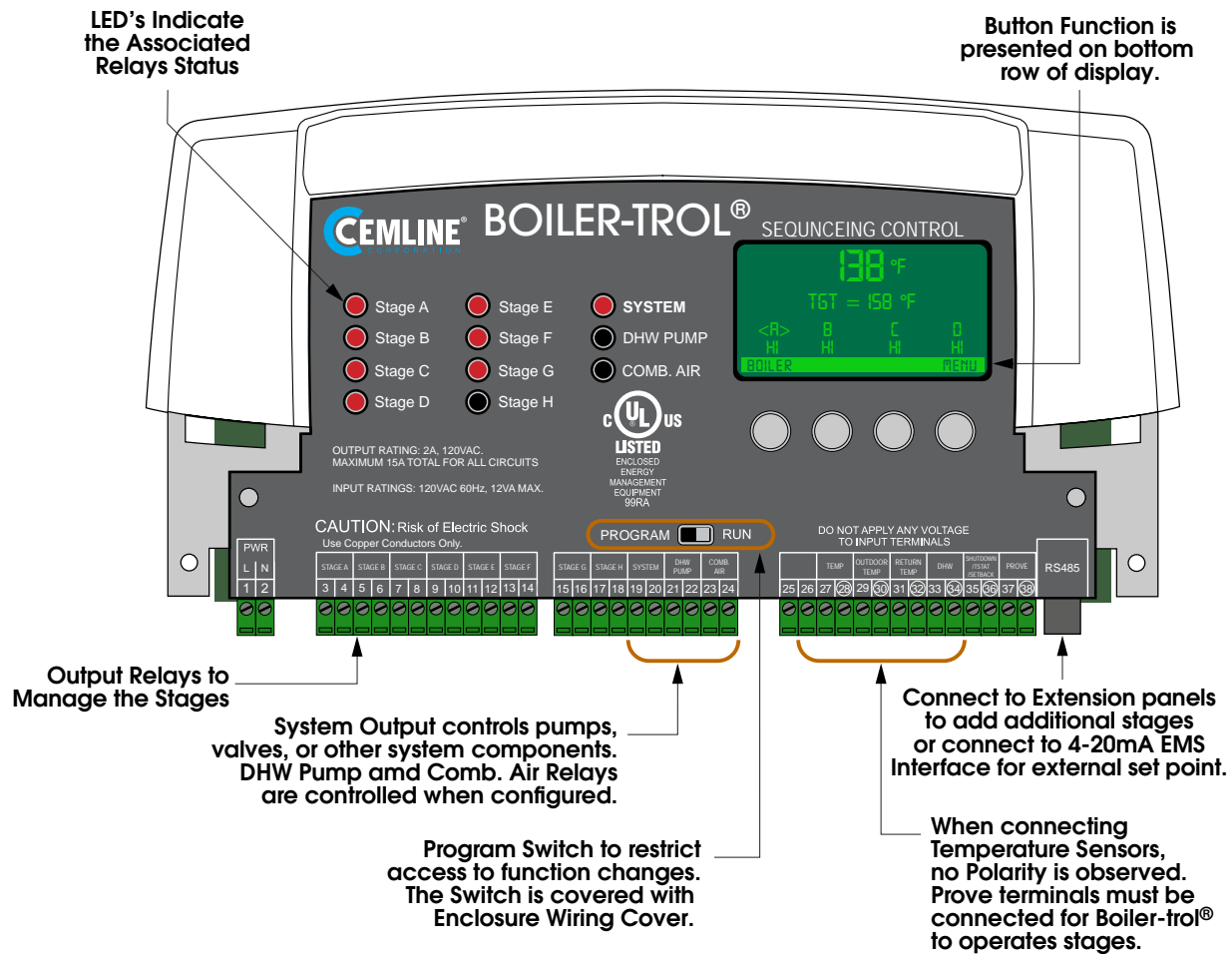
Specifications:

Power Consumption:	12 VA MAX
Operating Temperature:	20 to 120 °F
Operating Humidity:	20% to 80%
Dimensions:	11" W x 9" H, 3-3/4" D
Weight:	2.5#'s

Boiler-trol® Extension Specifications:

Lead Stage Rotation	Time (1 to 999 Hours (41 days)), Manual, First-On/First-Off
8 Outputs and LEDs	1 N.O. S.P.S.T (8 Stages, 1 System, 1 DHW Pump, 1 Combustion Air)
Inputs Contacts	1 Sys (Press), 1 Sys (Temp), 1 Outdoor, Return Temp, DHW Temp, Ext Setback/Shutdown, Prove
Stage Modes	Auto, Standby, On, Off
Standby Time (PID only)	1 to 60 minutes
Output Relay Ratings	2 Amp inductive, 6 Amp resistive at 120 VAC 60 Hz
Add-On SQ-Extension Panels	up to two SQ-Extension Panels using RS485
Temperature Display	Fahrenheit or Celsius
Display	Graphical Alphanumeric (7 rows x 21 char. each)
Temperature Sensor Ranges	Minus 35°F/-37°C to 250°F/121°C
Outdoor Cutoff Range	20°F/-7°C to 100°F/38°C, ON and OFF
Set Point	-10°F/-23°C to 230°F/110°C
External Set Point	-10°F/-23°C to 240°F/116°C using 4-20mA EMS Interface (optional)
Reset Ratio Range (Outdoor Reset Only)	(1:4) to (8:1) (Outdoor : System Water), and Custom Reset Ratio
Offset Adjustment (Outdoor Reset Only)	Minus - 40°F/- 22°C to plus 40°F/22°C
Minimum Target (Outdoor Reset Only)	70°F/21°C to 170°F/77°C
Maximum Target (Outdoor Reset Only)	90°F/32°C to 240°F/116°C
Reaction Time (PID only)	1 to 10 minutes
Minimum Run-Time (PID only)	0 to 60 minutes
Purge Delay (PID only)	0.0 to 10.0 minutes
Last Stage Hold (PID only)	0°F/0°C to 30°F/17°C
Throttle Range (OSS only)	2°F/1°C to 20°F/11°C
Domestic Hot Water Priority Options	Parallel Piping with Priority or without Priority and Primary Secondary
Pump Run-On	0 to 60 minutes
Pump Exercise	Yes or No
Schedules	1 Day and 1 Night (Setback) settings per day
Night Setback	0°F/0°C to 80°F/44°C
Power Backup	Lithium coin battery, 100 days minimum 5 year replacement (Maintains Clock in power outages)
Season	Winter and Summer
Extension Numbering	Toggle Switch A or B
LED	1 Power (Dual Color Green (A)/Red (B)), 1 Communication, 8 Stage Output relays (Dual Color Green (A)/Red (B))
Stage Outputs	8 N.O. S.P.S.T.
Output Relay Ratings	2 Amp inductive, 6 Amp resistive at 120 VAC 60 Hz
Connection to SQ-Elite and another SQ-Extension	Two RS485

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