EHG® SL10 Process Controller and Safety Limit

Temperature, Power and Safety Limit Controller in One Package

The SERIES EHG® SL10 integrated, multi-function controller from Watlow® is a key component to a powerful system that includes a heater, an adjustable set point temperature controller, a high/low temperature alert, a power switching device and a high temperature safety limit. Its agency recognized controller/safety limit meets UL® 1998 and CE 60730 requirements.

An optional display/communications module can be easily added in the field to provide a digital display indication, an adjustment of set point, RS485 Modbus® communications and other Human Machine Interface (HMI) features. As a scalable system, only what is needed can be purchased.

The EHG SL10 controllers' easy to install, compact design, inherent reliability and integrated limit functions offer unmatched value. It is designed for easy integration with Watlow heaters to simplify engineering, reduce component count for new equipment and decrease ownership cost. For original equipment manufacturers (OEMs), the EHG SL10 controller's CE, Semi-S2 compliance and UL® recognition reduces time and costs associated with global agency testing and validation. U.S. Patent Number 8,044,329

Typical Applications

Semiconductor processing
• Gas delivery lines
• Exhaust lines

Life sciences
• Laboratory equipment
• Medical equipment

Foodservice equipment
• Warming and serving equipment
• Food holding cabinets

Packaging
• Heat sealing bars
• Hot glue application equipment

Features and Benefits

Process controller and safety limit in one package
• Meets UL® 1998 and CE 60730 requirements
• Eliminates the need for a thermal fuse on a heater
• Eliminates replacement of heater when fuse fails

Optional display/communications module
• Allows easy upgrade on to base device
• Offers low cost field upgrade
• Provides easy, snap-on installation

Accurate and flexible temperature process controller
• Replaces problematic bi-metal thermostats with accurate electronic temperature process controller
• Allows easy change of process parameters

Ambient operating temperature range 32 to 158°F (0 to 70°C)
• Increases reliability when mounting in harsh temperature environments or in close proximity to heaters

Integrated high/low temperature alert signal relay
• Provides dry contact output to activate external alarm or process function
• Signals control status with three integrated LEDs
• Allows a signal of up to two amp 30VAC/VDC, Form A to alert if process temperature is out of range limits

Health check diagnostics
• Monitors maximum heater process temperature, maximum ambient temperature and thermocouple operation
• Provides health check signal to inform operator that the process is working correctly

Display and communication module shown with flexible heater.

Features and Benefits (con't)

Universal power supply
- Allows an input of 85 to 264VAC, 50/60Hz
- Provides safe control of up to 2400 watts with 10 amperes switching in both controller and safety limit

Can be switched from on-off and PID algorithm
- Increases product life (on-off control is default)
- Offers selectable PID control algorithm for tighter temperature uniformity

Universal $^1/_8$ turn mounting bracket
- Allows mounting to most surfaces
- Provides flexible mounting—either horizontally or vertically

Specifications

Operational
- Two, Type K thermocouple inputs - process temperature control and safety limit
- Process temperature output - 10A NO-ARC relay
- Safety limit alarm - 10A relay
- High/low temperature alert - 2A 30VAC/VDC, Form A (single pole, normally open contact)
- On-off temperature controller algorithm, upgraded via communications to PID algorithm (min. cycle time 30 seconds)

Standard Molex® connectors
- Controllers are integral to the heater and are supplied by Watlow

Power
- Isolated universal power supply 85 to 264VAC, 50/60Hz
- Up to 2400 W with 10A switching capability

NO-ARC Relay
- 10A switching
- 4.5 million cycles

Environmental
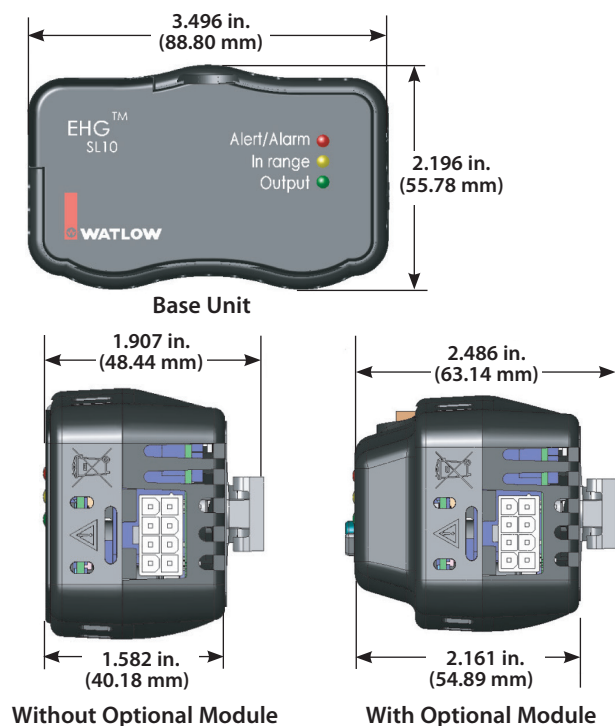- Ambient operating temperature range 32 to 158°F (0 to 70°C)
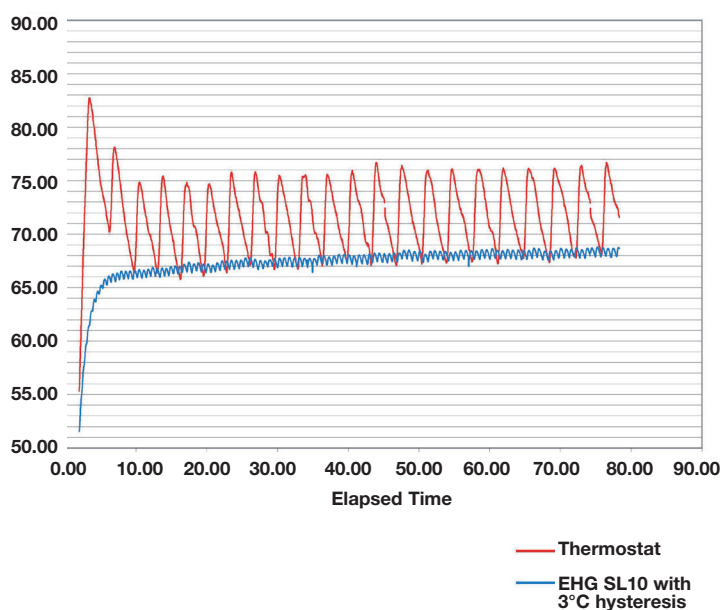
Agency Approvals
- UL® 1998/ C-UL®
- CE 60730
- Semi-S2

Switching Device Comparison Chart

	T-Stat	Solid State Relay	Watlow NO-ARC Relay
Amperage at 77°F (25°C)	10A	10A	10A
Amperage at 158°F (70°C)	10A	De-rate significantly and add heat sink and air cooling	10A
Output device life at 10A	Rated 100,000 at 158°F (70°C)	Greater than 10 million cycles at 77°F (25°C)	Greater than 4.5 million cycles at 158°F (70°C)

Dimensions

3.496 in. (88.80 mm)

EHG™ SL10   Alert/Alarm   In range   Output   WATLOW

2.196 in. (55.78 mm)

Base Unit

1.907 in. (48.44 mm)

2.486 in. (63.14 mm)

1.582 in. (40.18 mm)

2.161 in. (54.89 mm)

Without Optional Module   **With Optional Module**

EHG SL10 Versus Thermostat
(Typical Application)

Elapsed Time

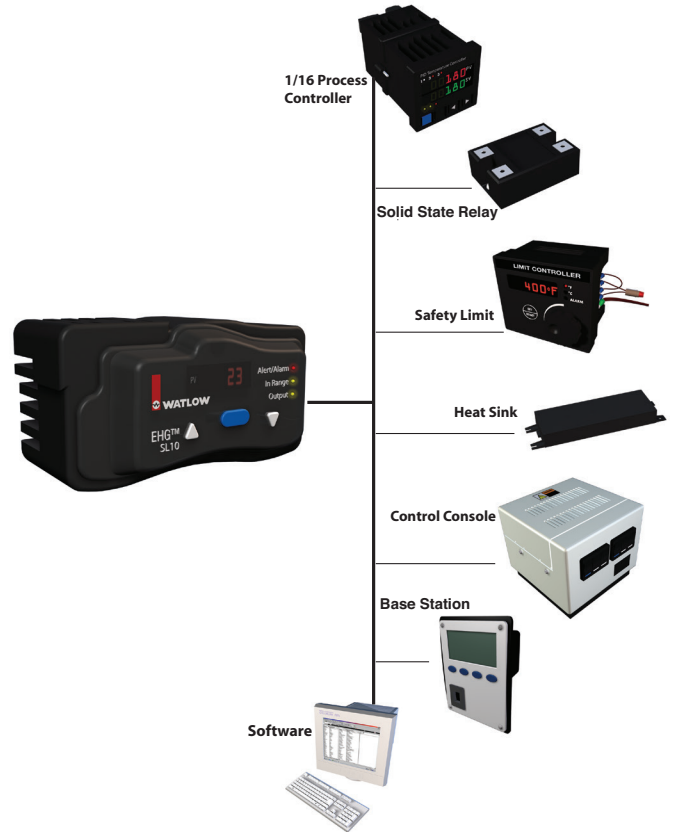— Thermostat
— EHG SL10 with 3°C hysteresis

EHG SL10 Software

With the addition of an optional communication module, the EHG SL10 can be managed, monitored and manipulated via software. Change set points, label devices, change tuning parameters, check health status and much more all with the click of a key. Obtain your free copy today at www.watlow.com.

Reduces System Complexity and Cost

1/16 Process Controller

Solid State Relay

Safety Limit

Heat Sink

Control Console
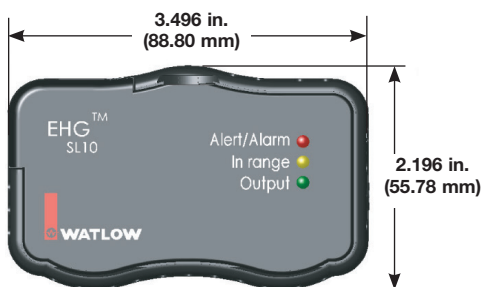
Base Station

Software

Optional Upgrade Modules

These upgrade modules are easy to install because there is no need to reconfigure, rewire or reorder the base unit. No technician is needed for the installation, which creates a seamless, cost-efficient system that can be upgraded.

	Diagnostics Memory Control Parameters	Ability to Change Temperature Parameters	Field Adjustable Set Point	3-Digit 7-Segment LED Display Illuminated	Diagnostic LED's	User Interface Software	Modbus® RTU Communication	RS 485
Base Unit	✔	✔			✔			
Optional Display Module	✔	✔	✔	✔	✔			
Optional Communication Module	✔	✔	✔		✔	✔	✔	✔
Optional Display and Communication Module	✔	✔	✔	✔	✔	✔	✔	✔

Modules can be upgraded and are easily replaceable.

3.496 in.
(88.80 mm)

2.196 in.
(55.78 mm)

EHG™ SL10
Alert/Alarm
In range
Output

Base Unit

Communications Only Module

Display Only Module

Display and Communications Module

Ordering Information
Part Number

① ② ③ ④ ⑤ ⑥	⑦ ⑧ ⑨
	Base/Module
265 EG2	

⑦ ⑧ ⑨	Base/Module
001 =	Base unit
007 =	Display module
008 =	Communications module
002 =	Display with communications module
023 =	Base unit (extended temperature range)
020 =	Display module (extended temperature range)
022 =	Communications module (extended temperature range)
021 =	Display with communications module (extended temperature range)

Additional cables for wiring parallel heater circuits (daisy-chaining) in gas line and other assemblies
 4800-0012 - Long cable
 4800-0022 - Long terminating cable
 4800-0011 - Short cable
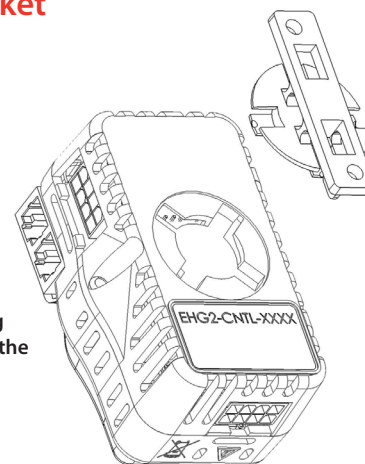 4800-0021 - Short terminating cable

Availability
The EHG SL10 is available for shipment; please contact your Watlow representative for more information.

The EHG SL10 can be "daisy-chained" for gas line and other assemblies.

Mounting Bracket

The EHG SL10 mounting bracket lets you mount the controller in any of four angles.

EHG2-CNTL-XXXX

Powered by Possibility

To be automatically connected to the nearest North American Technical Sales Office:

1-800-WATLOW2 • www.watlow.com
inquiry@watlow.com

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China	+86 21 3532 8532	**Japan**	+81 3 3518 6630	**Spain**	+34 91 675 1292
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