The SERIES EHG® CL 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 CL 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 CL 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

**Features and Benefits**

**Temperature range** -18 to 537°C (-0.4 to 999°F)
- Ideal for high temperature applications

**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** 0 to 70°C (32 to 158°F)
- Increases reliability when mounting in harsh temperature environments or in close proximity to heaters

**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

**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

**Typical Applications**

**Semiconductor processing**
- Gas delivery lines
- Exhaust/pump lines

**Life sciences**
- Laboratory equipment
- Medical equipment
- Pharmaceutical

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### 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
- On-off temperature controller algorithm, upgraded via communications or display module 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 0 to 70°C (32 to 158°F)

**Agency Approvals**
- UL® 1998/ C-UL®
- CE 60730
- Semi-S2

### Dimensions

- **Base Unit**
  - 3.496 in. (88.80 mm)
  - 2.196 in. (55.78 mm)
- **Without Optional Module**
  - 1.907 in. (48.44 mm)
  - 1.582 in. (40.18 mm)
- **With Optional Module**
  - 2.486 in. (63.14 mm)
  - 2.161 in. (54.89 mm)

### Switching Device Comparison Chart

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

### EHG CL Versus Thermostat
*(Typical Application)*

- **Thermostat**
- **EHG CL with 3°C hysteresis**
EHG Software

With the addition of an optional communication module, the EHG CL 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.

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.

<table>
<thead>
<tr>
<th>Optional Upgrade Module</th>
<th>Diagnostics Memory Control Parameters</th>
<th>Ability to Change Temperature Parameters</th>
<th>Field Adjustable Set Point</th>
<th>3-Digit 7-Segment LED Display Illuminated</th>
<th>Diagnostic LED's</th>
<th>User Interface Software</th>
<th>Modbus® RTU Communication</th>
<th>RS485</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Unit</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Optional Display Module</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Optional Communication Module</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Optional Display and Communication Module</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Availability
The EHG CL is available for shipment; please contact your Watlow representative for more information.

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Base/Module</th>
</tr>
</thead>
<tbody>
<tr>
<td>265 EG3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Base/Module</th>
<th>7 8 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>001 = Base unit (extended temperature range)</td>
<td></td>
</tr>
<tr>
<td>002 = Display module (extended temperature range)</td>
<td></td>
</tr>
<tr>
<td>003 = Communications module (extended temperature range)</td>
<td></td>
</tr>
<tr>
<td>004 = Display with communications module (extended temperature range)</td>
<td></td>
</tr>
</tbody>
</table>

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

Mounting Bracket
The EHG CL mounting bracket lets you mount the controller in any of four angles.

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Modbus® is a registered trademark of Schneider Automation Incorporated.
Molex® is a registered trademark of Molex Incorporated.

Modules can be upgraded and are easily replaceable.