ControlLogix 5580 Controllers
Future-proofing your system and enabling The Connected Enterprise

ControlLogix® 5580 controllers help enable faster system performance, capacity, productivity and security to meet the growing demands of smart machines and equipment for manufacturing.

All ControlLogix 5580 controllers use the same development environment, Studio 5000® software, combining elements of design into one standard framework that can optimize productivity and reduce time to commission. Studio 5000 also manages safety, so you don’t have to be concerned about separation of standard and safety memory, or worry about partitioning logic to isolate safety – the software does it for you. Learn more about Studio 5000.

Features and Benefits

Enhanced Performance and Troubleshooting
- Provides up to 45% more capacity
- 1 gigabit (Gb) embedded Ethernet port enables high-speed I/O and motion control
- Optimized to enable maximum system performance
- Enhanced diagnostics and troubleshooting

Scalable Safety Solution
- Achieve SIL2/PLd or SIL3/PLe performance
- Optimized for faster safety reaction time
- Support for new Compact 5000™ safety I/O
- Networked Safety Functions with Drives and Motion

Added Security and Capabilities
- Energy storage module removes the need for a battery
- Controller-based change detection and logging enable added security
- Digitally-signed controller firmware adds another layer of security
- Provides role-based access control to routines and Add-On Instructions
- Conformal Coating options to help protect in harsh environments

1 Gb
ControlLogix 5580 Controller

The ControlLogix 5580 controller’s high performance capabilities enhance your automation control system in several ways.

**Smart**
- Display provides enhanced diagnostics and troubleshooting
- Integrated Motion over EtherNet/IP™ for up to 256 axes
- 1 Gb embedded Ethernet port enables high performance, communications, I/O and motion control

**Productive**
- Secure Digital (SD) card provides optional nonvolatile memory to permanently store user program and tag data on the controller
- Energy storage module removes the need for a battery
- Studio 5000 design and configuration environment provides ease of system design and commissioning

**Secure**
- Mode change switch adds a physical layer for security
- Digitally-signed and encrypted firmware helps protect against malicious intent
- FactoryTalk® Security provides centralized authentication and access control by verifying the identity of each user-access attempt to the system
Integrated Motion and Safety over EtherNet/IP
Manufacturers are continually looking for control solutions that adhere to the latest global safety standards while dealing with competitive pressures to reduce costs and improve productivity. As the latest addition to the ControlLogix 5580 family of controllers, the GuardLogix® 5580 delivers scalable options for high performance, integrated safety in standard and conformally coated formats.

Learn more about Safety Solutions at Rockwell Automation.

**GuardLogix 5580 Controller**

**Right-sizing your Safety Solutions to Optimize Cost and Performance**

- Integrated
  - Single controller for standard and safety control
  - Single software for standard and safety control
  - Single network for standard and safety control
  - Mix and match safety and standard I/O
  - Networked Safety Functions with Drives and Motion

- Scalable
  - Achieve SIL2 / PLd with Primary Controller
  - Achieve SIL3 / PLe with Primary Controller + Safety Partner
  - Standard memory options from 3 - 20 MB
  - Safety memory options from 1.5 - 6 MB
  - Communication options from 100 – 250 EtherNet/IP nodes
  - Conformal coated options for harsh environments

- High Performance
  - Optimized for faster safety reaction time to achieving protective device coverage and reducing the risk of injury.
## ControlLogix 5580 Standard Controller

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Memory Size (MB)</th>
<th>Total number of Controller EtherNet/IP Nodes*</th>
<th>Conformal Coated</th>
</tr>
</thead>
<tbody>
<tr>
<td>1756-L81E</td>
<td>3 MB</td>
<td>100</td>
<td>1756-L81EK</td>
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<tr>
<td>1756-L82E</td>
<td>5 MB</td>
<td>175</td>
<td>1756-L82EK</td>
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<tr>
<td>1756-L83E</td>
<td>10 MB</td>
<td>250</td>
<td>1756-L83EK</td>
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<tr>
<td>1756-L84E</td>
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<tr>
<td>1756-L85E</td>
<td>40 MB</td>
<td>300</td>
<td>1756-L85EK</td>
</tr>
</tbody>
</table>

* Total includes nodes connected using 1756-ENxT modules

## GuardLogix 5580 Safety Controller

<table>
<thead>
<tr>
<th>Catalog Number</th>
<th>Memory Size (MB)</th>
<th>Total Number of Controller EtherNet/IP Nodes*</th>
<th>Conformal Coated</th>
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</thead>
<tbody>
<tr>
<td>1756-L81ES</td>
<td>3 MB</td>
<td>100</td>
<td>1756-L81ESK</td>
</tr>
<tr>
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<tr>
<td>1756-L85P</td>
<td>–</td>
<td>–</td>
<td>1756-L85PK</td>
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</tbody>
</table>

* Safety Controllers adhere to functional safety standards IEC 61508, ISO 13849, and IEC 62061

## Environmental Specifications and Certifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Standard</th>
<th>Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature (Operating)</td>
<td>0-60°C (32-140°F)</td>
<td></td>
</tr>
<tr>
<td>Temperature (Storage)</td>
<td>-40-85°C (-40-185°F)</td>
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</tr>
<tr>
<td>Relative Humidity</td>
<td>5-95% non-condensing</td>
<td></td>
</tr>
<tr>
<td>Vibration</td>
<td>2 g at 10-500 Hz</td>
<td></td>
</tr>
<tr>
<td>Shock</td>
<td>Operating: 30 g</td>
<td>Nonoperating: 30 g</td>
</tr>
</tbody>
</table>

### Certifications
- UL, ULH, cUL, cULH, CE, ATEX, EAC, FMH, KOREA, MARINE, RCM

For more details and a full list of product certifications, visit www.ab.com

See the ControlLogix and GuardLogix Technical Data additional information.