

## CompactLogix 5380 Controllers Specifications

Catalog Numbers 5069-L306ER, 5069-L306ERM, 5069-L310ER, 5069-L310ER-NSE, 5069-L310ERM, 5069-L320ER, 5069-L320ERM, 5069-L330ER, 5069-L330ERM, 5069-L340ER, 5069-L340ERM, 5069-L350ERM, 5069-L380ERM, 5069-L3100ERM

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The CompactLogix™ 5380 controllers are part of the Logix5000™ family of controllers. The controllers provide a scalable controller solution to address a wide variety of applications. The controllers are DIN rail mounted.

CompactLogix 5380 controllers can monitor and control local and remote I/O modules, and other devices connected to an EtherNet/IP network. The controllers provide the following functionality:

- Two EtherNet/IP ports with the option to use Dual-IP mode or Linear/DLR mode
- Use of 5069 Compact I/O™ module as local I/O modules
- One USB port
- Use of 1784-SD1 or 1784-SD2 Secure Digital (SD) card for nonvolatile memory
- Support for Integrated Motion over an EtherNet/IP network (not all CompactLogix 5380 controllers)

## Summary of Changes

This publication revision includes information about the following CompactLogix 5380 controllers:

- 5069-L350ERM
- 5069-L380ERM
- 5069-L3100ERM

### Features - CompactLogix 5380 Controllers

| Feature                                                                                                              | 5069-L306ER,<br>5069-L306ERM                                                                                                                                                                                                                                                                                                           | 5069-L310ER,<br>5069-L310ER-NSE,<br>5069-L310ERM    | 5069-L320ER,<br>5069-L320ERM                        | 5069-L330ER,<br>5069-L330ERM                         | 5069-L340ER,<br>5069-L340ERM                         | 5069-L350ERM       | 5069-L380ERM       | 5069-L3100ERM      |
|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|------------------------------------------------------|------------------------------------------------------|--------------------|--------------------|--------------------|
| Controller tasks <ul style="list-style-type: none"> <li>• Continuous</li> <li>• Periodic</li> <li>• Event</li> </ul> | 32 tasks<br>1000 programs/task<br>All event triggers                                                                                                                                                                                                                                                                                   |                                                     |                                                     |                                                      |                                                      |                    |                    |                    |
| Built-in communication ports                                                                                         | 1 USB port<br>2 EtherNet/IP ports<br><b>IMPORTANT:</b> Consider the following: <ul style="list-style-type: none"> <li>– When the controller operates in Dual-IP mode, each Ethernet port requires a unique IP address.</li> <li>– When the controller operates in Linear/DLR mode, the controller uses only one IP address.</li> </ul> |                                                     |                                                     |                                                      |                                                      |                    |                    |                    |
| USB port communication                                                                                               | USB 2.0, Type B<br>Full speed (12 Mbps)<br>Programming, configuration, firmware flash, and on-line edits only                                                                                                                                                                                                                          |                                                     |                                                     |                                                      |                                                      |                    |                    |                    |
| Ethernet performance                                                                                                 | 10 Mbps, 100 Mbps, 1 Gbps<br>Full Duplex only                                                                                                                                                                                                                                                                                          |                                                     |                                                     |                                                      |                                                      |                    |                    |                    |
| EtherNet/IP modes supported                                                                                          | Dual-IP mode (Available with the Logix Designer application, version 29.00.00 or later)<br>Linear/DLR mode                                                                                                                                                                                                                             |                                                     |                                                     |                                                      |                                                      |                    |                    |                    |
| EtherNet/IP network topologies supported                                                                             | <ul style="list-style-type: none"> <li>• DLR</li> <li>• Star</li> <li>• Linear</li> </ul>                                                                                                                                                                                                                                              |                                                     |                                                     |                                                      |                                                      |                    |                    |                    |
| EtherNet/IP nodes supported, max                                                                                     | 16                                                                                                                                                                                                                                                                                                                                     | 24                                                  | 40                                                  | 50                                                   | 55                                                   | 60                 | 70                 | 80                 |
| Socket interfaces supported, max                                                                                     | 32                                                                                                                                                                                                                                                                                                                                     |                                                     |                                                     |                                                      |                                                      |                    |                    |                    |
| Integrated motion                                                                                                    | 5069-L306ERM controller only –<br>As many as 2 axes                                                                                                                                                                                                                                                                                    | 5069-L310ERM controller only –<br>As many as 4 axes | 5069-L320ERM controller only –<br>As many as 8 axes | 5069-L330ERM controller only –<br>As many as 16 axes | 5069-L340ERM controller only –<br>As many as 20 axes | As many as 24 axes | As many as 28 axes | As many as 32 axes |
| Programming languages                                                                                                | Ladder Diagram (LD)<br>Structured Text (ST)<br>Function Block Diagram (FBD)<br>Sequential Function Chart (SFC)                                                                                                                                                                                                                         |                                                     |                                                     |                                                      |                                                      |                    |                    |                    |
| Integrated safety                                                                                                    | N/A                                                                                                                                                                                                                                                                                                                                    |                                                     |                                                     |                                                      |                                                      |                    |                    |                    |

## Technical Specifications - CompactLogix 5380 Controllers

| Attribute                                                               | 5069-L306ER,<br>5069-L306ERM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 5069-L310ER,<br>5069-L310ER-NSE,<br>5069-L310ERM | 5069-L320ER,<br>5069-L320ERM | 5069-L330ER,<br>5069-L330ERM | 5069-L340ER,<br>5069-L340ERM | 5069-L350ERM | 5069-L380ERM | 5069-L3100ERM |
|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|------------------------------|------------------------------|------------------------------|--------------|--------------|---------------|
| Controller capacity                                                     | 0.6 MB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1 MB                                             | 2 MB                         | 3 MB                         | 4 MB                         | 5 MB         | 8 MB         | 10 MB         |
| Optional nonvolatile memory                                             | 1784-SD1 card<br>1784-SD2 card (shipped with the controller)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                  |                              |                              |                              |              |              |               |
| Local I/O modules, max                                                  | 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 8                                                | 16                           | 31 <sup>(4)</sup>            | 31                           | 31           | 31           | 31            |
| Module Power bus (MOD Power) voltage range                              | 18...32V DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                  |                              |                              |                              |              |              |               |
| Module Power bus (MOD Power) current, max                               | 450 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                  |                              |                              |                              |              |              |               |
| Module Power bus (MOD Power) inrush                                     | 850 mA for 125 ms                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                  |                              |                              |                              |              |              |               |
| Module Power bus (MOD Power) Passthrough voltage range                  | 18...32V DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                  |                              |                              |                              |              |              |               |
| Module Power bus (MOD Power) current rating, max <sup>(1)</sup>         | 9.55 A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                  |                              |                              |                              |              |              |               |
| Sensor Actuator (SA) Field Power voltage ranges                         | 0...32V DC<br>0...240V AC, 47...63 Hz<br>ATEX/IECEX, 125V AC max                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                  |                              |                              |                              |              |              |               |
| Sensor Actuator (SA) Field Power current, max                           | 10 mA (DC power)<br>25 mA (AC power)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                  |                              |                              |                              |              |              |               |
| Sensor Actuator Power bus (SA Power) Passthrough voltage ranges         | 0...32V DC<br>0...240V AC, 47...63 Hz<br>ATEX/IECEX, 125V AC max                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                  |                              |                              |                              |              |              |               |
| Sensor Actuator Power bus (SA Power) current rating, max <sup>(2)</sup> | 9.95 A (DC power)<br>9.975 A (AC power)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                  |                              |                              |                              |              |              |               |
| Power dissipation, max                                                  | 8.5 W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                  |                              |                              |                              |              |              |               |
| Thermal dissipation, max                                                | 29 BTU/hr                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                  |                              |                              |                              |              |              |               |
| Isolation voltage                                                       | 300V (continuous), Basic Insulation Type, SA and MOD Power to Backplane<br>300V (continuous), Basic Insulation Type, SA to MOD Power<br>300V (continuous), Basic Insulation Type, Ethernet to Backplane<br>300V (continuous), Double Insulation Type, Ethernet to MOD Power<br>300V (continuous), Double Insulation Type, Ethernet to SA Power<br>50V (continuous), Functional Insulation Type, Ethernet to USB<br>300V (continuous), Basic Insulation Type, USB to Backplane<br>300V (continuous), Double Insulation Type, USB to MOD Power<br>300V (continuous), Double Insulation Type, USB to SA Power<br>No isolation between Ethernet ports<br>Type tested at 1500V AC for 60 s |                                                  |                              |                              |                              |              |              |               |

**Technical Specifications - CompactLogix 5380 Controllers**

| Attribute                       | 5069-L306ER,<br>5069-L306ERM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 5069-L310ER,<br>5069-L310ER-NSE,<br>5069-L310ERM | 5069-L320ER,<br>5069-L320ERM | 5069-L330ER,<br>5069-L330ERM | 5069-L340ER,<br>5069-L340ERM | 5069-L350ERM | 5069-L380ERM | 5069-L3100ERM |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|------------------------------|------------------------------|------------------------------|--------------|--------------|---------------|
| Weight, approx                  | 0.768 kg (1.693 lb)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                  |                              |                              |                              |              |              |               |
| Dimensions (HxWxD), approx      | 143.97 x 98.10 x 136.81 mm (5.67 x 3.86 x 5.39 in.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                  |                              |                              |                              |              |              |               |
| Location                        | DIN rail mount (horizontal mount only)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                  |                              |                              |                              |              |              |               |
| DIN rail                        | Compatible zinc-plated, chromate steel DIN rail.<br>EN50022 - 35 x 7.5 mm (1.38 x 0.30 in.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                  |                              |                              |                              |              |              |               |
| Removable terminal block        | RTBs are available in separately ordered 5069 RTB kits. The MOD power connection uses a 4-point RTB, and the SA power connection uses a 6-point RTB. The following kits are available:<br><ul style="list-style-type: none"> <li>Kit catalog number 5069-RTB64-SCREW contains RTB catalog numbers 5069-RTB6-SCREW and 5069-RTB4-SCREW</li> <li>Kit catalog number 5069-RTB64-SPRING contains RTB catalog numbers 5069-RTB6-SPRING and 5069-RTB4-SPRING</li> </ul>                                                                                                                                               |                                                  |                              |                              |                              |              |              |               |
| Terminal block torque           | 5069-RTB4-SCREW & 5069-RTB6-SCREW: 0.4 N•m (3.5 lb-in)<br>5069-RTB4-SPRING & 5069-RTB6-SPRING: N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                  |                              |                              |                              |              |              |               |
| Wire size                       | 5069-RTB4-SCREW, 5069-RTB6-SCREW connections:<br>0.5...1.5 mm <sup>2</sup> (22...16 AWG) solid or stranded copper wire rated at 105 °C (221 °F), or greater, 3.5 mm (0.14 in.) max diameter including insulation, single wire connection only<br><br>5069-RTB4-SPRING, 5069-RTB6-SPRING connections:<br>0.5...1.5 mm <sup>2</sup> (22...16 AWG) solid or stranded copper wire rated at 105 °C (221 °F), or greater, 2.9 mm (0.11 in.) max diameter including insulation, single wire connection only<br><br>Ethernet connections:<br>Ethernet Cabling and Installation according to IEC 61918 and IEC 61784-5-2 |                                                  |                              |                              |                              |              |              |               |
| Insulation stripping length     | 5069-RTB4-SCREW, 5069-RTB6-SCREW connections: 12 mm (0.47 in.)<br>5069-RTB4-SPRING, 5069-RTB6-SPRING connections: 10 mm (0.39 in.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                  |                              |                              |                              |              |              |               |
| Wire category <sup>(3)</sup>    | 3 - on USB port<br>1 - on power ports<br>2 - on Ethernet ports                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                  |                              |                              |                              |              |              |               |
| Enclosure                       | None (open-style)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                  |                              |                              |                              |              |              |               |
| North American temperature code | T4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                  |                              |                              |                              |              |              |               |
| ATEX temperature code           | T4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                  |                              |                              |                              |              |              |               |
| IECEx temperature code          | T4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                  |                              |                              |                              |              |              |               |

- (1) Maximum level of MOD Power current that the module can pass through to the next module in the system. The specific level of current passed through varies based on system configuration. You must limit the external power supply that provides MOD power to 10 A, max, at 18...32V DC.
- (2) Maximum level of SA Power current that the module can pass through to the next module in the system. The specific level of current passed through varies based on system configuration. You must limit the external power supply that provides SA power to 10 A, max at 18...32V DC in DC applications and to 10 A, max at 18...240V AC in AC applications.
- (3) Use this Conductor Category information for planning conductor routing. See the Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).
- (4) When you use these controllers with the Logix Designer application, version 29.00.00, the application limits the number of local I/O modules in the project to 16. For more information, see the Rockwell Automation Knowledgebase article #942580, '5380 CompactLogix controllers limited to 16 local 5069 modules in V29 of Studio 5000.' The document is available at <http://www.rockwellautomation.com/knowledgebase>. With the Logix Designer application, version 30.00.00 or later, the controllers support as many as 31 local I/O modules.

## Environmental Specifications - CompactLogix 5380 Controllers

| Attribute                                                                                                                                                                                                            | 5069-L306ER, 5069-L306ERM, 5069-L310ER, 5069-L310ER-NSE, 5069-L310ERM, 5069-L320ER, 5069-L320ERM, 5069-L330ER, 5069-L330ERM, 5069-L340ER, 5069-L340ERM, 5069-L350ERM, 5069-L380ERM, 5069-L3100ERM                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Temperature, operating<br>IEC 60068-2-1 (Test Ad, Operating Cold),<br>IEC 60068-2-2 (Test Bd, Operating Dry Heat),<br>IEC 60068-2-14 (Test Na, Operating Thermal Shock)                                              | 0 °C < Ta < +60 °C<br>(+32 °F < Ta < +140 °F)                                                                                                                                                                    |
| Temperature, nonoperating<br>IEC 60068-2-1 (Test Ab, Unpackaged Nonoperating Cold),<br>IEC 60068-2-2 (Test Bb, Unpackaged Nonoperating Dry Heat),<br>IEC 60068-2-14 (Test Na, Unpackaged Nonoperating Thermal Shock) | -40...+85 °C<br>(-40...+185 °F)                                                                                                                                                                                  |
| Temperature, surrounding air, max                                                                                                                                                                                    | 60 °C (140 °F)                                                                                                                                                                                                   |
| Relative humidity<br>IEC 60068-2-30 (Test Db, Unpackaged Damp Heat)                                                                                                                                                  | 5...95% noncondensing                                                                                                                                                                                            |
| Vibration<br>IEC 60068-2-6 (Test Fc, Operating)                                                                                                                                                                      | 5 g @ 10...500 Hz                                                                                                                                                                                                |
| Shock, operating<br>IEC 60068-2-27 (Test Ea, Unpackaged Shock)                                                                                                                                                       | 30 g                                                                                                                                                                                                             |
| Shock, nonoperating<br>IEC 60068-2-27 (Test Ea, Unpackaged Shock)                                                                                                                                                    | 50 g                                                                                                                                                                                                             |
| Emissions                                                                                                                                                                                                            | IEC 61000-6-4                                                                                                                                                                                                    |
| ESD immunity<br>IEC 61000-4-2                                                                                                                                                                                        | 6 kV contact discharges<br>8 kV air discharges                                                                                                                                                                   |
| Radiated RF immunity<br>IEC 61000-4-3                                                                                                                                                                                | 10V/m with 1 kHz sine-wave 80% AM from 80...2000 MHz<br>10V/m with 200 Hz 50% Pulse 100% AM @ 900 MHz<br>10V/m with 200 Hz 50% Pulse 100% AM @ 1890 MHz<br>3V/m with 1 kHz sine-wave 80% AM from 2000...2700 MHz |
| EFT/B immunity<br>IEC 61000-4-4                                                                                                                                                                                      | ± 4 kV at 5 kHz on power ports<br>± 2 kV at 5 kHz on Ethernet ports                                                                                                                                              |
| Surge transient immunity<br>IEC 61000-4-5                                                                                                                                                                            | ± 1 kV line-line (DM) and ± 2 kV line-earth (CM) on power ports<br>± 2 kV line-earth (CM) on Ethernet ports                                                                                                      |
| Conducted RF immunity<br>IEC 61000-4-6                                                                                                                                                                               | 10 Vrms with 1 kHz sine-wave 80% AM from 150 kHz...80 MHz                                                                                                                                                        |
| Voltage variation<br>IEC 61000-4-29                                                                                                                                                                                  | 10 ms interruption on MOD Power port                                                                                                                                                                             |

**Certifications - CompactLogix 5380 Controllers**

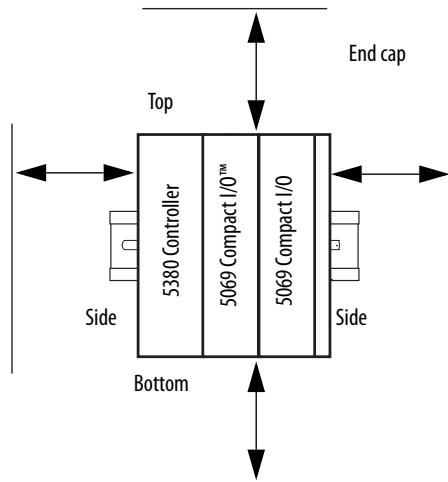
| <b>Certification<sup>(1)</sup></b> | <b>5069-L306ER, 5069-L306ERM, 5069-L310ER, 5069-L310ER-NSE, 5069-L310ERM, 5069-L320ER, 5069-L320ERM, 5069-L330ER, 5069-L330ERM, 5069-L340ER, 5069-L340ERM, 5069-L350ERM, 5069-L380ERM, 5069-L3100ERM</b>                                                                                                                                                                                                                                                                                             |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| c-UL-us                            | UL Listed Industrial Control Equipment, certified for US and Canada. See UL File E65584.<br>UL Listed for Class I, Division 2 Group A,B,C,D Hazardous Locations, certified for U.S. and Canada. See UL File E194810.                                                                                                                                                                                                                                                                                 |
| CE                                 | European Union 2004/108/EC EMC Directive, compliant with: <ul style="list-style-type: none"> <li>• EN 61326-1; Meas./Control/Lab., Industrial Requirements</li> <li>• EN 61000-6-2; Industrial Immunity</li> <li>• EN 61000-6-4; Industrial Emissions</li> <li>• EN 61131-2; Programmable Controllers (Clause 8, Zone A &amp; B)</li> </ul> European Union 2006/95/EC LVD, compliant with: <ul style="list-style-type: none"> <li>• EN 61010-2-201; Control Equipment Safety Requirements</li> </ul> |
| RCM                                | Australian Radiocommunications Act, compliant with: <ul style="list-style-type: none"> <li>• EN 61000-6-4; Industrial Emissions</li> </ul>                                                                                                                                                                                                                                                                                                                                                           |
| Ex                                 | European Union 94/9/EC ATEX Directive, compliant with: <ul style="list-style-type: none"> <li>• EN 60079-0; General Requirements</li> <li>• EN 60079-15; Potentially Explosive Atmospheres, Protection "n"</li> <li>• II 3 G Ex nA IIC T4 Gc</li> <li>• DEMKO 15 ATEX 1455X</li> </ul> when used at or below 125V AC                                                                                                                                                                                 |
| IECEx                              | IECEx System, compliant with: <ul style="list-style-type: none"> <li>• IEC 600079-0: General Requirements</li> <li>• IEC 60079-15; Potentially Explosive Atmospheres, Protection "n"</li> <li>• II 3 G Ex nA IIC T4 Gc</li> <li>• IECEx UL 15.0007X</li> </ul> when used at or below 125V AC                                                                                                                                                                                                         |
| KC                                 | Korean Registration of Broadcasting and Communications Equipment, compliant with: <ul style="list-style-type: none"> <li>• Article 58-2 of Radio Waves Act, Clause 3</li> </ul>                                                                                                                                                                                                                                                                                                                      |
| EtherNet/IP                        | ODVA conformance tested to EtherNet/IP specifications                                                                                                                                                                                                                                                                                                                                                                                                                                                |

(1) See the Product Certification link at <http://www.ab.com> for Declarations of Conformity, Certificates, and other certification details.

## Controller Minimum Spacing Requirements

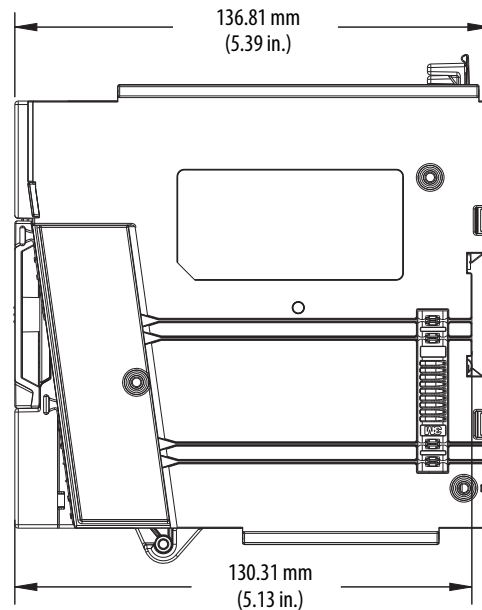
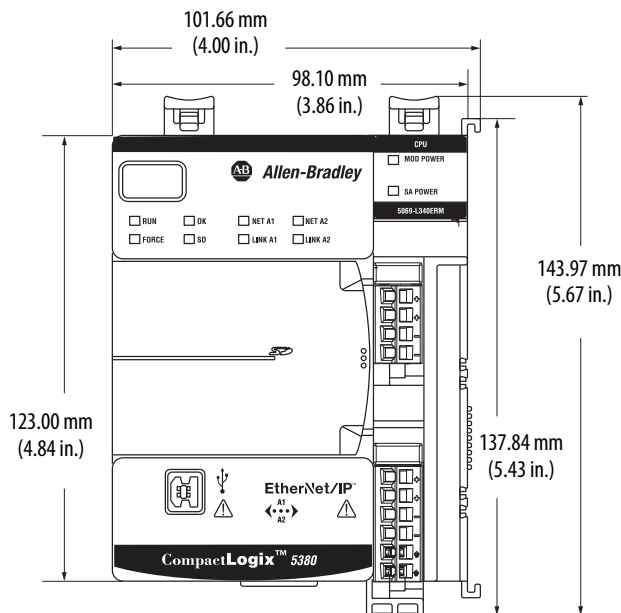
The minimum distance between the CompactLogix 5380 system and enclosure walls, wireways, and adjacent equipment varies based on the current operating temperature. The minimum distance on all sides of the system is as follows:

- 50.80 mm (2.00 in.) at 55 °C (131 °F)
- 101.60 mm (4.00 in.) at 60 °C (140 °F)



**IMPORTANT** CompactLogix 5380 systems can only be mounted horizontally.

## Controller Dimensions



## Controller Use With Other Devices

Your controller can control and communicate with the following devices:

- [Control I/O Modules](#)
- [Communicate with Display Devices](#)
- [Communicate with Other Controllers](#)

### Control I/O Modules

The CompactLogix 5380 controllers can monitor and control local and remote I/O modules.

#### *Local I/O Modules*

A CompactLogix 5380 system uses 5069 Compact I/O modules as its local I/O modules. The number of local I/O modules that are supported in a CompactLogix 5380 system varies by controller catalog number.

| Cat. No.                                   | Local 5069 Compact I/O Modules Supported, Max |
|--------------------------------------------|-----------------------------------------------|
| 5069-L306ER, 5069-L306ERM                  | 8                                             |
| 5069-L310ER, 5069-L310ER-NSE, 5069-L310ERM | 8                                             |
| 5069-L320ER, 5069-L320ERM                  | 16                                            |
| 5069-L330ER, 5069-L330ERM <sup>(1)</sup>   | 31                                            |
| 5069-L340ER, 5069-L340ERM                  | 31                                            |
| 5069-L350ERM                               | 31                                            |
| 5069-L380ERM                               | 31                                            |
| 5069-L3100ERM                              | 31                                            |

(1) When you use these controllers with the Logix Designer application, version 29.00.00, the application limits the number of local I/O modules in the project to 16. For more information, see the Rockwell Automation Knowledgebase article #942580, '5380 CompactLogix controllers limited to 16 local 5069 modules in V29 of Studio 5000.' The document is available at <http://www.rockwellautomation.com/knowledgebase>.  
With the Logix Designer application, version 30.00.00 or later, the controllers support 31 local I/O modules.

## Remote I/O Modules

The controller can connect to these remote I/O modules over an EtherNet/IP network.

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**IMPORTANT** For maximum performance, we recommend that you use 5069 Compact I/O modules when you use remote I/O modules.

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| Module Type       | I/O Module Family      |
|-------------------|------------------------|
| Chassis-based I/O | 1746 SLC™ I/O          |
|                   | 1756 ControlLogix® I/O |
|                   | 1769 Compact I/O       |
|                   | 5069 Compact I/O       |
| In-cabinet I/O    | 1734 POINT I/O™        |
|                   | 1794 FLEX™ I/O         |
| On-Machine™ I/O   | 1732 ArmorBlock® I/O   |
|                   | 1738 ArmorPOINT® I/O   |

## Communicate with Display Devices

The controller can communicate with these display devices over an EtherNet/IP network.

| Device Type          | Display                                                                                |
|----------------------|----------------------------------------------------------------------------------------|
| Industrial computers | Allen-Bradley® integrated-display rotating media (HDD) and solid-state (SSD) computers |
|                      | Allen-Bradley integrated-display computers with keypad                                 |
|                      | Allen-Bradley non-display computers                                                    |
| Graphic terminals    | PanelView™ Plus and PanelView CE terminals                                             |
|                      | PanelView standard terminals                                                           |
| Message displays     | InView™ message displays                                                               |

## Communicate with Other Controllers

The controller can communicate with these programmable controllers.

| Controller Type                    | Controller Family                 |
|------------------------------------|-----------------------------------|
| Programmable automation controller | CompactLogix 5370                 |
|                                    | CompactLogix 5380                 |
|                                    | Compact GuardLogix® 5370 (safety) |
|                                    | ControlLogix 5570                 |
|                                    | ControlLogix 5580                 |
|                                    | GuardLogix 5570 (safety)          |
|                                    | 1756 Armor™ ControlLogix (safety) |
|                                    | 1756 Armor GuardLogix (safety)    |
|                                    | 1768 Compact GuardLogix (safety)  |
|                                    | 1768 CompactLogix                 |
|                                    | 1769 Modular CompactLogix         |
|                                    | 1769 Packaged CompactLogix        |
| Programmable logic controllers     | 1789 SoftLogix™ 5800              |
|                                    | PowerFlex® with DriveLogix™       |
|                                    | 1785 PLC-5® <sup>(1)</sup>        |
|                                    | 1747 SLC™ <sup>(1)</sup>          |
|                                    | 1761 MicroLogix™ <sup>(2)</sup>   |
|                                    | 1762 MicroLogix <sup>(2)</sup>    |
|                                    | 1763 MicroLogix                   |
|                                    | 1764 MicroLogix <sup>(2)</sup>    |
|                                    | 1766 MicroLogix                   |

(1) These controllers require a built-in Ethernet port or a 1761-NET-ENI, EtherNet/IP RS-232-C interface to communicate with a CompactLogix 5380 controller over an EtherNet/IP network.

(2) These controllers require a 1761-NET-ENI, EtherNet/IP RS-232-C interface to communicate with a CompactLogix 5380 controller over an EtherNet/IP network.

## Ethernet Node Limits

When you configure a CompactLogix 5380 control system, you must account for the number of Ethernet nodes that you include in the I/O configuration section in the Studio 5000 Logix Designer® application project.

### Maximum Number of Ethernet Nodes

The number of nodes that are supported in a Logix Designer application project varies by CompactLogix 5380 controller.

| Cat. No.                                         | Ethernet Nodes Supported |
|--------------------------------------------------|--------------------------|
| 5069-L306ER,<br>5069-L306ERM                     | 16                       |
| 5069-L310ER,<br>5069-L310ER-NSE,<br>5069-L310ERM | 24                       |
| 5069-L320ER,<br>5069-L320ERM                     | 40                       |
| 5069-L330ER,<br>5069-L330ERM                     | 50                       |
| 5069-L340ER,<br>5069-L340ERM                     | 55                       |
| 5069-L350ERM                                     | 60                       |
| 5069-L380ERM                                     | 70                       |
| 5069-L3100ERM                                    | 80                       |

Any devices that you add directly to the I/O configuration section are counted toward the Ethernet node limit. The following are examples of devices that must be counted:

- Remote communication adapters
- Devices with an embedded EtherNet/IP port, such as I/O modules, drives, and linking devices
- Remote controllers when a produce/consume connection is established between the two controllers
- HMI devices that are included in the I/O configuration tree
- Third-party devices that are directly connected to the EtherNet/IP network

## CompactLogix 5380 Controller Accessories

The following accessories are used with a CompactLogix 5380 controller:

- [End Cap](#)
- [Memory Cards](#)
- [Removable Terminal Kits](#)
- [Ethernet Communication Cables](#)

### End Cap

You must install an end cap, catalog number 5069-ECR, on the right side of the last module in a CompactLogix 5380 system. The end cap is shipped with the controller.



**SHOCK HAZARD:** The end cap covers the exposed interconnections on the last module in the system. If you do not install the end cap before powering the system, equipment damage or injury from electric shock can result.

### Memory Cards

Memory cards, also known as Secure Digital (SD) cards, offer nonvolatile memory to store a user program and tag data on a controller. Through the Logix Designer application, you can manually trigger the controller to save to or load from nonvolatile memory or configure the controller to load from nonvolatile memory on powerup.

A 1784-SD2 card ships with the controller. If you need additional SD cards, we recommend that you use one that is available from Rockwell Automation. The 1784-SD1 (1 GB) and 1784-SD2 (2 GB) cards are available.

#### Technical Specifications - 1784-SD1, 1784-SD2

| Attribute             | 1784-SD1                      | 1784-SD2 |
|-----------------------|-------------------------------|----------|
| Memory                | 1 GB                          | 2 GB     |
| Supported controllers | CompactLogix 5380 controllers |          |
| Weight, approx        | 1.76 g (0.062 oz)             |          |

## Environmental Specifications - 1784-SD1, 1784-SD2 Cards

| Attribute                                                                                                                                                                                                       | 1784-SD1, 1784-SD2                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Temperature, operating<br>IEC 60068-2-1 (Test Ad, Operating Cold),<br>IEC 60068-2-2 (Test Bd, Operating Dry Heat),<br>IEC 60068-2-14 (Test Nb, Operating Thermal Shock)                                         | -40...+85 °C (-13...+185 °F)                                                                                                                                                                                     |
| Temperature, storage<br>IEC 60068-2-1 (Test Ab, Unpackaged Nonoperating Cold),<br>IEC 60068-2-2 (Test Bb, Unpackaged Nonoperating Dry Heat),<br>IEC 60068-2-14 (Test Na, Unpackaged Nonoperating Thermal Shock) | -65...+150 °C (-85...+302 °F)                                                                                                                                                                                    |
| Relative humidity<br>IEC 60068-2-30 (Test Db, Unpackaged Damp Heat)                                                                                                                                             | 5...95% noncondensing                                                                                                                                                                                            |
| Vibration<br>IEC 60068-2-6 (Test Fc, Operating)                                                                                                                                                                 | 15 g peak to peak                                                                                                                                                                                                |
| Shock, operating<br>IEC 60068-2-27 (Test Ea, Unpackaged Shock)                                                                                                                                                  | 30 g                                                                                                                                                                                                             |
| Shock, nonoperating<br>IEC 60068-2-27 (Test Ea, Unpackaged Shock)                                                                                                                                               | 50 g                                                                                                                                                                                                             |
| Emissions                                                                                                                                                                                                       | IEC 61000-6-4                                                                                                                                                                                                    |
| ESD immunity<br>IEC 61000-4-2                                                                                                                                                                                   | 6 kV contact discharges<br>8 kV air discharges                                                                                                                                                                   |
| Radiated RF immunity<br>IEC 61000-4-3                                                                                                                                                                           | 10V/m with 1 kHz sine-wave 80% AM from 80...2000 MHz<br>10V/m with 200 Hz 50% Pulse 100% AM @ 900 MHz<br>10V/m with 200 Hz 50% Pulse 100% AM @ 1890 MHz<br>3V/m with 1 kHz sine-wave 80% AM from 2000...2700 MHz |

## Certifications - 1784 Memory Cards

| Certification <sup>(1)</sup> | 1784-SD1, 1784-SD2                                                                                                                                                                                                                                                                                                                          |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CE                           | European Union 2004/108/EC EMC Directive, compliant with: <ul style="list-style-type: none"> <li>• EN 61000-6-4; Industrial Emissions</li> <li>• EN 61326-1; Meas./Control/Lab., Industrial Requirements</li> <li>• EN 61000-6-2; Industrial Immunity</li> <li>• EN 61131-2; Programmable Controllers (Clause 8, Zone A &amp; B)</li> </ul> |
| RCM                          | Australian Radiocommunications Act, compliant with: <ul style="list-style-type: none"> <li>• AS/NZS CISPR 11; Industrial Emissions</li> </ul>                                                                                                                                                                                               |
| KC                           | Korean Registration of Broadcasting and Communications Equipment, compliant with: <ul style="list-style-type: none"> <li>• Article 58-2 of Radio Waves Act, Clause 3</li> </ul>                                                                                                                                                             |

(1) When marked. See the Product Certification link at <http://www.ab.com> for Declarations of Conformity, Certificates, and other certification details.

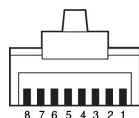
## Removable Terminal Kits

You must order 5069 RTB kits to connect MOD power and SA power to CompactLogix 5380 controllers. The MOD power connection uses a 4-point RTB, and the SA power connection uses a 6-point RTB. The following kits are available.

### CompactLogix 5380 Controllers Removable Terminal Block Kits

| Cat. No.          | Description                                                                                                                                                                                                                                                                                     |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5069-RTB64-SCREW  | Contains the following: <ul style="list-style-type: none"> <li>5069-RTB6-SCREW - 6-point RTB that uses screw-type terminals</li> <li>5069-RTB4-SCREW - 4-point RTB that uses screw-type terminals</li> </ul>                                                                                    |
| 5069-RTB64-SPRING | Contains the following: <ul style="list-style-type: none"> <li>5069-RTB6-SPRING - 6-point RTB that uses spring-type terminals to connect SA power to the controller.</li> <li>5069-RTB4-SPRING - 4-point RTB that uses spring-type terminals to connect MOD power to the controller.</li> </ul> |

## Ethernet Communication Cables



| Connector Number | Color        | 1585J 8-pin Cables with Support for 10/100/1000 Mbps | 1585J 8-pin Cables with Support for 10/100 Mbps | 1585J 4-pin Cables with Support for 10/100 Mbps |
|------------------|--------------|------------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
| 1                | White/Orange | BI_DA+                                               | TxData +                                        |                                                 |
| 2                | Orange       | BI_DA-                                               | TxData -                                        |                                                 |
| 3                | White/Green  | BI_DB+                                               | Recv Data +                                     |                                                 |
| 4                | Blue         | BI_DC+                                               | Unused                                          | N/A                                             |
| 5                | White/Blue   | BI_DC-                                               | Unused                                          | N/A                                             |
| 6                | Green        | BI_DB-                                               | Recv Data -                                     |                                                 |
| 7                | White/Brown  | BI_DD+                                               | Unused                                          | N/A                                             |
| 8                | Brown        | BI_DD-                                               | Unused                                          | N/A                                             |

| Attribute       | Value                    |
|-----------------|--------------------------|
| Connector type  | RJ45 male to RJ45 male   |
| Connector angle | Straight-through         |
| Length          | Varies by catalog number |

## Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

| Resource                                                                                                                                                                                                                                                                   | Description                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5069 Compact I/O Modules Specifications Technical Data, publication <a href="#">5069-TD001</a>                                                                                                                                                                             | Provides specifications, wiring diagrams, and functional block diagrams for 5069 Compact I/O modules.                                                                                                                                                      |
| CompactLogix Controllers Selection Guide, publication <a href="#">1769-SG001</a>                                                                                                                                                                                           | Provides information about how to design and select components for your CompactLogix controller system.                                                                                                                                                    |
| CompactLogix 5380 Controllers User Manual, publication <a href="#">5069-UM001</a>                                                                                                                                                                                          | Provides information on how to use CompactLogix 5380 controllers.                                                                                                                                                                                          |
| 5000 Series Digital I/O Modules in Logix5000 Control Systems User Manual, publication <a href="#">5000-UM004</a>                                                                                                                                                           | Provides information on how to install, configure, and operate 5000 Series digital I/O modules.                                                                                                                                                            |
| 5000 Series Analog I/O Modules in Logix5000 Control Systems User Manual, publication <a href="#">5000-UM005</a>                                                                                                                                                            | Provides information on how to install, configure, and operate 5000 Series analog I/O modules.                                                                                                                                                             |
| 5000 Series High-speed Counter Modules in Logix5000 Control Systems User Manual, publication <a href="#">5000-UM006</a>                                                                                                                                                    | Provides information on how to install, configure, and operate 5000 Series high-speed counter modules.                                                                                                                                                     |
| Replacement Guidelines: Logix5000 Controllers Reference Manual, publication <a href="#">1756-RM100</a>                                                                                                                                                                     | Provides guidelines on how to replace the following: <ul style="list-style-type: none"> <li>ControlLogix 5560/5570 controller with a ControlLogix 5580 controller</li> <li>CompactLogix 5370 L3 controllers with a CompactLogix 5380 controller</li> </ul> |
| EtherNet/IP Communication Modules in Logix5000 Control Systems User Manual, publication <a href="#">ENET-UM004</a>                                                                                                                                                         | Provides information on how to use 5000 Series EtherNet/IP communication modules.                                                                                                                                                                          |
| Integrated Architecture® and CIP Sync Configuration Application Technique, publication <a href="#">IA-AT003</a>                                                                                                                                                            | Provides information on CIP Sync and the IEEE 1588-2008 Precision Time Protocol.                                                                                                                                                                           |
| Integrated Architecture Tools website, <a href="http://www.rockwellautomation.com/global/products-technologies/integrated-architecture/tools/overview.page">http://www.rockwellautomation.com/global/products-technologies/integrated-architecture/tools/overview.page</a> | Provides information on tools that you can use in the selection, development, commissioning, and maintenance stages of the integrated architecture lifecycle.                                                                                              |
| Industrial Automation Wiring and Grounding Guidelines, publication <a href="#">1770-4.1</a>                                                                                                                                                                                | Provides general guidelines for installing a Rockwell Automation industrial system.                                                                                                                                                                        |
| Product Certifications website, <a href="http://www.rockwellautomation.com/global/certification/overview.page">http://www.rockwellautomation.com/global/certification/overview.page</a>                                                                                    | Provides declarations of conformity, certificates, and other certification details.                                                                                                                                                                        |

You can view or download publications at <http://www.rockwellautomation.com/global/literature-library/overview.page>. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.

## Rockwell Automation Support

Use the following resources to access support information.

|                                                         |                                                                                                                       |                                                                                                                                                    |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Technical Support Center</b>                         | Knowledgebase Articles, How-to Videos, FAQs, Chat, User Forums, and Product Notification Updates.                     | <a href="http://www.rockwellautomation.com/knowledgebase">www.rockwellautomation.com/knowledgebase</a>                                             |
| <b>Local Technical Support Phone Numbers</b>            | Locate the phone number for your country.                                                                             | <a href="http://www.rockwellautomation.com/global/support/get-support-now.page">www.rockwellautomation.com/global/support/get-support-now.page</a> |
| <b>Direct Dial Codes</b>                                | Find the Direct Dial Code for your product. Use the code to route your call directly to a technical support engineer. | <a href="http://www.rockwellautomation.com/global/support/direct-dial.page">www.rockwellautomation.com/global/support/direct-dial.page</a>         |
| <b>Literature Library</b>                               | Installation Instructions, Manuals, Brochures, and Technical Data.                                                    | <a href="http://www.rockwellautomation.com/literature">www.rockwellautomation.com/literature</a>                                                   |
| <b>Product Compatibility and Download Center (PCDC)</b> | Get help determining how products interact, check features and capabilities, and find associated firmware.            | <a href="http://www.rockwellautomation.com/global/support/pcdc.page">www.rockwellautomation.com/global/support/pcdc.page</a>                       |

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