

CompactLogix 5480 Controllers

Catalog Numbers 5069-L430ERMW, 5069-L450ERMW, 5069-4100ERMW, 5069-L4200ERMW

Topic	Page
Summary of Changes	2
About the Controller	5
Required System Components	6
Install the Controller onto the DIN Rail	9
Connect External Power Supplies to the Controller	9
Connect Control Signals Via UPS Control RTB	14
Install Compact 5000 I/O Modules	18
Install the End Cap	18
Power the System	18
Set the Network Internet Protocol (IP) Addresses	19
Connect the Controller to an EtherNet/IP Network	19
Remove and Replace the Controller	20
Replace the Fans	21
Use the COS For Windows-based Computing	23
Specifications	25
Additional Resources	26

The CompactLogix™ 5480 controllers are Logix-based real-time controllers that run an instance of Windows 10 Internet of Things Enterprise, also known as a commercial operating system (COS).

IMPORTANT This publication describes how to install the CompactLogix 5480 controllers. The manner in which you use the controller after it is installed dictates the required tasks at installation:

- You can use CompactLogix 5480 controllers for real-time control just as you do with other Logix 5000™ controllers after it is installed. You are not required to act on the COS to use the Logix control engine.
- Before you can use the COS, you **must install working controller firmware**. This requirement applies even if you do not use the controller for real-time control. If you do not install working controller firmware, the COS does not start. In the out-of-box state, the controller uses firmware revision 1.xxx. On a CompactLogix 5480 controller, the **minimum working controller firmware** is revision **32.012**.
 You can use an SD card or a flash programming tool to install controller firmware.
 - To use an SD card to install controller firmware, you must remove the card, save the firmware to it, and reinstall the card before you turn on power to the controller for the first time.
 - To use a flash programming tool to install controller firmware, you must install and power the controller first.

For more information on the COS, see [Use the COS For Windows-based Computing on page 23](#).

The CompactLogix 5480 controllers can operate in various applications, including the use of local Compact 5000™ I/O modules and remote I/O modules and Integrated Motion over an EtherNet/IP™ network. The controllers offer the following:

- Real-time control in industrial control systems.
- Windows-based computing on the COS that is independent of the Logix control engine.
- High-speed bus packet transfer rate
- High-speed I/O module communication, motion control, and use of Device Level Ring (DLR), Linear and Star EtherNet/IP topologies

- Multiple ports for use with the Logix control engine on the controller, including:
 - One USB programming port for temporary connection
 - One Gigabit Ethernet ports for high-speed I/O communication and motion control

- Multiple ports for use with the COS on the controller, including:
 - One Gigabit Ethernet port as a dedicated OS network interface
 - An integrated DisplayPort for high definition monitor connectivity
 - Two USB 3.0 ports for OS peripheral and expanded data storage capability

You use the Studio 5000 Logix Designer® application to configure CompactLogix 5480 controllers.

For more information on the components that are required to install a CompactLogix 5480 controller, see [page 6](#). For more information on how to use the controller after you install it, see the publications that are listed in [Additional Resources on page 26](#).

Summary of Changes

This publication was revised for the following changes:

- Add the new controller catalog numbers, that is, the 5069-L430ERMW, 5069-L450ERMW, 5069-L4100ERMW, and 5069-L4200ERMW.
- Provide more information on the COS. For more information, see [Use the COS For Windows-based Computing on page 23](#).



ATTENTION: Read this document and the documents listed in the Additional Resources section about installation, configuration and operation of this equipment before you install, configure, operate or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

注意：在安装、配置、操作和维护本产品前，请阅读本文档以及“其他资源”部分列出的有关设备安装、配置和操作的相应文档。除了所有适用规范、法律和标准的相关要求之外，用户还必须熟悉安装和接线说明。

安装、调整、投运、使用、组装、拆卸和维护等各项操作必须由经过适当训练的专业人员按照适用的操作规范实施。

如果未按照制造商指定的方式使用该设备，则可能会损害设备提供的保护。

ATENCIÓN: Antes de instalar, configurar, poner en funcionamiento o realizar el mantenimiento de este producto, lea este documento y los documentos listados en la sección Recursos adicionales acerca de la instalación, configuración y operación de este equipo. Los usuarios deben familiarizarse con las instrucciones de instalación y cableado y con los requisitos de todos los códigos, leyes y estándares vigentes.

El personal debidamente capacitado debe realizar las actividades relacionadas a la instalación, ajustes, puesta en servicio, uso, ensamblaje, desensamblaje y mantenimiento de conformidad con el código de práctica aplicable.

Si este equipo se usa de una manera no especificada por el fabricante, la protección provista por el equipo puede resultar afectada.

ATENÇÃO: Leia este e os demais documentos sobre instalação, configuração e operação do equipamento que estão na seção Recursos adicionais antes de instalar, configurar, operar ou manter este produto. Os usuários devem se familiarizar com as instruções de instalação e fiação além das especificações para todos os códigos, leis e normas aplicáveis.

É necessário que as atividades, incluindo instalação, ajustes, colocação em serviço, utilização, montagem, desmontagem e manutenção sejam realizadas por pessoal qualificado e especializado, de acordo com o código de prática aplicável.

Caso este equipamento seja utilizado de maneira não estabelecida pelo fabricante, a proteção fornecida pelo equipamento pode ficar prejudicada.

ВНИМАНИЕ: Перед тем как устанавливать, настраивать, эксплуатировать или обслуживать данное оборудование, прочитайте этот документ и документы, перечисленные в разделе «Дополнительные ресурсы». В этих документах изложены сведения об установке, настройке и эксплуатации данного оборудования. Пользователи обязаны ознакомиться с инструкциями по установке и прокладке соединений, а также с требованиями всех применимых норм, законов и стандартов.

Все действия, включая установку, наладку, ввод в эксплуатацию, использование, сборку, разборку и техническое обслуживание, должны выполняться обученным персоналом в соответствии с применимыми нормами и правилами.

Если оборудование используется не предусмотренным производителем образом, защита оборудования может быть нарушена.

注意：本製品を設置、構成、稼働または保守する前に、本書および本機器の設置、設定、操作についての参考資料の該当箇所に記載されている文書に目を通してください。ユーザは、すべての該当する条例、法律、規格の要件に加えて、設置および配線の手順に習熟している必要があります。

設置調整、運転の開始、使用、組立て、解体、保守を含む諸作業は、該当する実施規則に従って訓練を受けた適切な作業員が実行する必要があります。

本機器が製造メーカーにより指定されていない方法で使用されている場合、機器により提供されている保護が損なわれる恐れがあります。

ACHTUNG: Lesen Sie dieses Dokument und die im Abschnitt „Weitere Informationen“ aufgeführten Dokumente, die Informationen zu Installation, Konfiguration und Bedienung dieses Produkts enthalten, bevor Sie dieses Produkt installieren, konfigurieren, bedienen oder warten. Anwender müssen sich neben den Bestimmungen aller anwendbaren Vorschriften, Gesetze und Normen zusätzlich mit den Installations- und Verdrahtungsanweisungen vertraut machen.

Arbeiten im Rahmen der Installation, Anpassung, Inbetriebnahme, Verwendung, Montage, Demontage oder Instandhaltung dürfen nur durch ausreichend geschulte Mitarbeiter und in Übereinstimmung mit den anwendbaren Ausführungsvorschriften vorgenommen werden.

Wenn das Gerät in einer Weise verwendet wird, die vom Hersteller nicht vorgesehen ist, kann die Schutzfunktion beeinträchtigt sein.

ATTENTION : Lisez ce document et les documents listés dans la section Ressources complémentaires relatifs à l'installation, la configuration et le fonctionnement de cet équipement avant d'installer, configurer, utiliser ou entretenir ce produit. Les utilisateurs doivent se familiariser avec les instructions d'installation et de câblage en plus des exigences relatives aux codes, lois et normes en vigueur.

Les activités relatives à l'installation, le réglage, la mise en service, l'utilisation, l'assemblage, le démontage et l'entretien doivent être réalisées par des personnes formées selon le code de pratique en vigueur.

Si cet équipement est utilisé d'une façon qui n'a pas été définie par le fabricant, la protection fournie par l'équipement peut être compromise.

주의：본 제품 설치, 설정, 작동 또는 유지 보수하기 전에 본 문서를 포함하여 설치, 설정 및 작동에 관한 참고 자료 섹션의 문서들을 반드시 읽고 숙지하십시오. 사용자는 모든 관련 규정, 법규 및 표준에서 요구하는 사항에 대해 반드시 설치 및 배선 지침을 숙지해야 합니다.

설치, 조정, 가동, 사용, 조립, 분해, 유지보수 등 모든 작업은 관련 규정에 따라 적절한 교육을 받은 사용자를 통해서만 수행해야 합니다.

본 장비를 제조사가 명시하지 않은 방법으로 사용하면 장비의 보호 기능이 손상될 수 있습니다.

ATTENZIONE Prima di installare, configurare ed utilizzare il prodotto, o effettuare interventi di manutenzione su di esso, leggere il presente documento ed i documenti elencati nella sezione "Altre risorse", riguardanti l'installazione, la configurazione ed il funzionamento dell'apparecchiatura. Gli utenti devono leggere e comprendere le istruzioni di installazione e cablaggio, oltre ai requisiti previsti dalle leggi, codici e standard applicabili.

Le attività come installazione, regolazioni, utilizzo, assemblaggio, disassemblaggio e manutenzione devono essere svolte da personale adeguatamente addestrato, nel rispetto delle procedure previste.

Qualora l'apparecchio venga utilizzato con modalità diverse da quanto previsto dal produttore, la sua funzione di protezione potrebbe venire compromessa.

DIKKAT: Bu ürünün kurulumu, yapılandırılması, işletilmesi veya bakımı öncesinde bu dokümanı ve bu ekipmanın kurulumu, yapılandırılması ve işletimi ile ilgili İlavə Kaynaklar bölümünde yer listelenmiş dokümanları okuyun. Kullanıcılar yürürlükteki tüm yönetmelikler, yasalar ve standartların gereksinimlerine ek olarak kurulum ve kablolama talimatlarını da öğrenmek zorundadır.

Kurulum, ayarlama, hizmete alma, kulllanma, parçaları birleştirme, parçaları sökme ve bakım gibi aktiviteler sadece uygun eğitimleri almış kişiler tarafından yürürlükteki uygulama yönetmeliklerine uygun şekilde yapılabilir.

Bu ekipman üretici tarafından belirlenmiş amaç dışında kullanılırsa, ekipman tarafından sağlanan koruma bozulabilir.

注意事項：在安装、設定、操作或維護本產品前，請先閱讀此文件以及列於「其他資源」章節中有關安裝、設定與操作此設備的文件。使用者必須熟悉安裝和配線指示，並符合所有法規、法律和標準要求。

包括安裝、調整、交付使用、使用、組裝、拆卸和維護等動作都必須交由已經過適當訓練的人員進行，以符合適用的實作法規。

如果將設備用於非製造商指定的用途時，可能會造成設備所提供的保護功能受損。

POZOR: Než začnete instalovat, konfigurovat či provozovat tento výrobek nebo provádět jeho údržbu, přečtěte si tento dokument a dokumenty uvedené v části Dodatečné zdroje ohledně instalace, konfigurace a provozu tohoto zařízení. Uživatelé se musejí vedle požadavků všech relevantních vyhlášek, zákonů a norem nutně seznámit také s pokyny pro instalaci a elektrické zapojení.

Činnosti zahrnující instalaci, nastavení, uvedení do provozu, užívání, montáž, demontáž a údržbu musí vykonávat vhodně proškolený personál v souladu s příslušnými prováděcími předpisy.

Pokud se toto zařízení používá způsobem neodpovídajícím specifikaci výrobce, může být narušena ochrana, kterou toto zařízení poskytuje.

UWAGA: Przed instalacją, konfiguracją, użytkowaniem lub konserwacją tego produktu należy przeczytać niniejszy dokument oraz wszystkie dokumenty wymienione w sekcji Dodatkowe źródła omawiające instalację, konfigurację i procedury użytkowania tego urządzenia. Użytkownicy mają obowiązek zapoznać się z instrukcjami dotyczącymi instalacji oraz oprzewodowania, jak również z obowiązującymi kodeksami, prawami i normami.

Działania obejmujące instalację, regulację, przekazanie do użytkowania, użytkowanie, montaż, demontaż oraz konserwację muszą być wykonywane przez odpowiednio przeszkolony personel zgodnie z obowiązującym kodeksem postępowania.

Jeśli urządzenie jest użytkowane w sposób inny niż określony przez producenta, zabezpieczenie zapewniane przez urządzenie może zostać ograniczone.

OBST! Läs detta dokument samt dokumentet, som står listat i avsnittet Övriga resurser, om installation, konfigurering och drift av denna utrustning innan du installerar, konfigurerar eller börjar använda eller utföra underhållsarbete på produkten. Användare måste bekanta sig med instruktioner för installation och kabeldragning, förutom krav enligt gällande koder, lagar och standarder.

Åtgärder som installation, justering, service, användning, montering, demontering och underhållsarbete måste utföras av personal med lämplig utbildning enligt lämpligt bruk.

Om denna utrustning används på ett sätt som inte anges av tillverkaren kan det hända att utrustningens skyddsanordningar försätts ur funktion.

LET OP: Lees dit document en de documenten die genoemd worden in de paragraaf Aanvullende informatie over de installatie, configuratie en bediening van deze apparatuur voordat u dit product installeert, configureert, bedient of onderhoudt. Gebruikers moeten zich vertrouwd maken met de installatie en de bedravingsinstructies, naast de vereisten van alle toepasselijke regels, wetten en normen.

Activiteiten zoals het installeren, afstellen, in gebruik stellen, gebruiken, monteren, demonteren en het uitvoeren van onderhoud mogen uitsluitend worden uitgevoerd door hiervoor opgeleid personeel en in overeenstemming met de geldende praktijkregels.

Indien de apparatuur wordt gebruikt op een wijze die niet is gespecificeerd door de fabrikant, dan bestaat het gevaar dat de beveiliging van de apparatuur niet goed werkt.

Environment and Enclosure



ATTENTION: This equipment is intended for use in a Pollution Degree 2 industrial environment, in overvoltage Category II applications (as defined in EN/IEC 60664-1), at altitudes up to 2000 m (6562 ft) without derating.

This equipment is not intended for use in residential environments and may not provide adequate protection to radio communication services in such environments.

This equipment is supplied as open-type equipment for indoor use. It must be mounted within an enclosure that is suitably designed for those specific environmental conditions that will be present and appropriately designed to prevent personal injury resulting from accessibility to live parts. The enclosure must have suitable flame-retardant properties to prevent or minimize the spread of flame, complying with a flame spread rating of 5VA or be approved for the application if nonmetallic. The interior of the enclosure must be accessible only by the use of a tool. Subsequent sections of this publication may contain more information regarding specific enclosure type ratings that are required to comply with certain product safety certifications.

In addition to this publication, see the following:

- Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#), for more installation requirements.
- NEMA 250 and EN/IEC 60529, as applicable, for explanations of the degrees of protection provided by enclosures.

Prevent Electrostatic Discharge



ATTENTION: This equipment is sensitive to electrostatic discharge, which can cause internal damage and affect normal operation. Follow these guidelines when you handle this equipment:

- Touch a grounded object to discharge potential static.
- Wear an approved grounding wriststrap.
- Do not touch connectors or pins on component boards.
- Do not touch circuit components inside the equipment.
- Use a static-safe workstation, if available.
- Store the equipment in appropriate static-safe packaging when not in use.



ATTENTION:

- In case of malfunction or damage, no attempts at repair should be made. The controller should be returned to the manufacturer for repair. Do not dismantle the controller.
- This equipment is certified for use only within the surrounding air temperature range of 0...60 °C (32...140 °F). The equipment must not be used outside of this range.
- The USB programming port is intended for temporary local programming purposes only and not intended for permanent connection. The USB programming port connection is not to exceed 3.0 m (9.84 ft) and must not contain hubs. You must connect the programming equipment to a ground system that is common with the controller.
- Devices that are connected to USB 3.0 ports must reside in the same control enclosure as the controller. This requirement applies to devices that are powered by the USB 3.0 ports or not. You must connect the devices to a ground system that is common with the controller. Alternatively, you can connect the device to the common ground system via a USB hub that provides galvanic isolation.
- USB 3.0 port connections are not to exceed 3.0 m (9.84 ft).
- DisplayPort cables or adapters that are used with this product must be certified by VESA. A list of certified equipment and cables is on the VESA website (www.vesa.org). Use of non-certified cables and adapters can cause damage or improper operation. DisplayPort connections are not to exceed 3.0 m (9.84 ft).
- Displays that are connected to DisplayPort must connect to a ground system that is common with the controller. Alternatively, displays can be connected by a display extender that is connected to the common ground system with the controller and provides galvanic isolation.
- Use only a soft dry anti-static cloth to wipe down equipment. Do not use any cleaning agents.

Electrical Safety Considerations



ATTENTION: Do not wire more than 2 conductors on a single RTB terminal.

Waste Electrical and Electronic Equipment (WEEE)



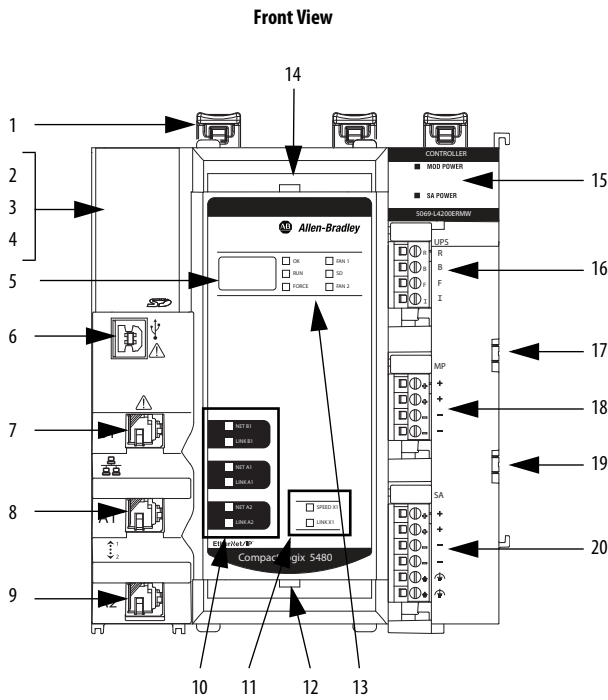
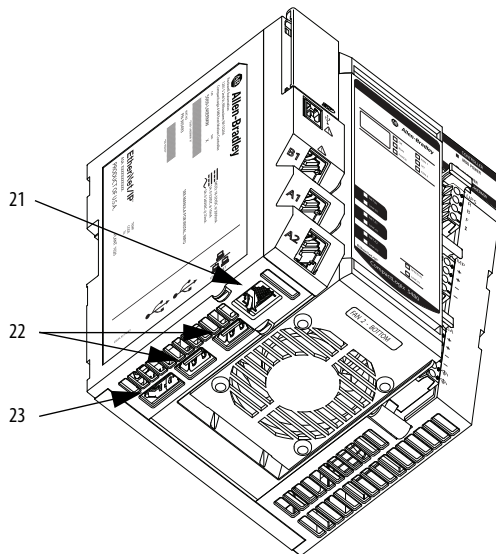
At the end of its life, this equipment should be collected separately from any unsorted municipal waste.

IMPORTANT

Any illustrations, charts, sample programs, and layout examples that are shown in this publication are intended solely for the purposes of example. Since there are many variables and requirements that are associated with any particular installation, Rockwell Automation does not assume responsibility or liability for actual use that is based on the examples that are shown in this publication.

About the Controller

The following graphic shows a CompactLogix 5480 controller.

**Bottom View****CompactLogix 5480 Controller Parts**

Number	Item	Description
1	DIN rail latches	Secure adapter to DIN rail.
2	Mode switch	Lets you choose the controller operating mode.
3	SD card slot	Location for SD card.
4	Reset button	Resets the controller to factory default condition.
5	Four-character display	Scrolls information about the controller, such as firmware revision or project status.
6	USB programming port	Provides temporary connection to download projects.
7	Ethernet port B1	Lets the controller connect to the following networks: <ul style="list-style-type: none"> Enterprise-level network Device-level network
8	Ethernet port A1	Lets the controller connect to device-level networks.
9	Ethernet port A2	
10	Network and link status indicators for ports B1, A1, and A2	Show the state of the Ethernet ports and network communication activity on each port.
11	Speed and link status indicators for port X1	
12	Bottom fan	Helps regulate controller temperature. Controller ships with fans installed. You can replace fans, if necessary.
13	Controller status indicators	Show the state of the controller in multiple respects.
14	Top fan	Helps regulate controller temperature. Controller ships with fans installed. You can replace fans, if necessary.
15	MOD power and SA power status indicators	Show the state of module (MOD) power and sensor actuator (SA) power, respectively.
16	UPS Control RTB	Connector for control signals to and from an uninterruptible power supply (UPS) that are used to support a controlled shutdown upon incoming power loss.
17	MOD power bus connector	MOD power bus connection that passes MOD power to the next local Compact 5000 I/O module in the system.
18	MOD power RTB	Connector for external power supply to provide MOD power to the system.
19	SA power bus connector	SA power bus connection that passes SA power to the next local Compact 5000 I/O module in the system.
20	SA power RTB	Connector for external power supply to provide SA power to the system.
21	Ethernet port X1	Used with the COS on the controller.
22	USB 3.0 ports	Connectors for peripherals that are used with the COS on the controller. ⁽²⁾
23	DisplayPort connection ⁽¹⁾	Connector to use a display with the COS on the controller.

(1) Any DisplayPort cables or adapters that are used with this product must be certified by VESA. A list of certified equipment and cables is on the VESA website (www.vesa.org). Use of non-certified cables and adapters can cause damage or improper operation.

(2) Devices that are connected to the controller via a USB 3.0 port must reside in the same control enclosure as the controller. This requirement applies to devices that are powered by the USB 3.0 ports or not. You must connect the devices to a ground system that is common with the controller. Alternatively, you can connect the device to the common ground system via a USB hub that provides galvanic isolation.

Required System Components

Before you install the controller, verify that you have the following components.

Components Used to Install a CompactLogix 5480 Controller

Component	Description
Removable Terminal Blocks (RTB)	An RTB that is used to connect MOD power (system-side power) to the controller - 5069-RTB4-SCREW RTB (Ships with the controller)
	An RTB that is used to connect SA power (field-side power) - 5069-RTB6-SCREW RTB (Ships with the controller)
	An RTB that is used to connect UPS (uninterruptible power) - 5069-L4UPSRTB (Ships with the controller)
External power supply for MOD power	A power supply that is adequately sized to provide MOD power, that is, system-side power, to the CompactLogix 5480 system. For more information, see System Power Considerations on page 8 .
External power supply for SA power	A power supply that is adequately sized to provide SA power, that is, field-side power, to the CompactLogix 5480 system. IMPORTANT: SA power is only required if your application includes local Compact 5000 I/O modules that are connected to devices that use SA power. For more information, see System Power Considerations on page 8 .
External uninterruptible power supply for UPS control signals	A power supply that provides UPS control signals so that the controller can save the state of the program when power is lost. A UPS is only required if your system uses UPS control signals. For more information, see Connect Control Signals Via UPS Control RTB on page 14 .
Tools	You use the following tools to wire the RTBs: <ul style="list-style-type: none"> Screwdriver Wire stripper Wires For more information on available wire sizes and wire insulation-stripping length, see Specifications on page 25 .
DIN rail	Compatible zinc-plated, chromate steel DIN rail. You can use the following DIN rails: <ul style="list-style-type: none"> EN50022 - 35 x 7.5 mm (1.38 x 0.30 in.) EN50022 - 35 x 15 mm (1.38 x 0.60 in.)

Components Used to Install a CompactLogix 5480 Controller

Component	Description
EtherNet/IP network components	If your CompactLogix 5480 controller operates on an EtherNet/IP network, you must install the network and all required components.
Software	When you install the controller, you assign IP addresses on the controller. You can use the following to assign IP addresses: <ul style="list-style-type: none"> DHCP server BOOTP DHCP EtherNet/IP Commissioning tool, version 3.02.00 or later RSLinx® Classic software, version 4.10.00 or later FactoryTalk® Linx, version 6.10.00 or later Logix Designer application, version 32.01.00 or later For more information, see Set the Network Internet Protocol (IP) Addresses on page 19 .

System Planning

Follow these rules when planning your system configuration:

- If the CompactLogix 5480 system includes only a controller, you can mount the DIN rail in any orientation.
- If your CompactLogix 5480 system includes local Compact 5000 I/O modules, you must mount the DIN rail horizontally.
- The controller is the leftmost component in the system.
- Local Compact 5000 I/O modules are installed to the right of the controller.
- The controller supports as many as 31 local Compact 5000 I/O modules.
- Before power-up, make sure that the end cap is installed on the right side of the controller or rightmost local Compact 5000 I/O module, if I/O modules are used.



ATTENTION: Do not discard the end cap. Use this end cap to cover the exposed interconnections on the last module on the DIN rail. Failure to do so could result in equipment damage or injury from electric shock.

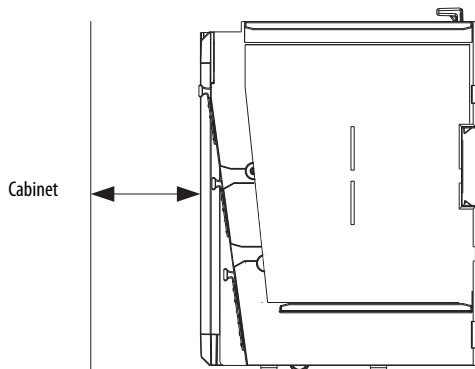
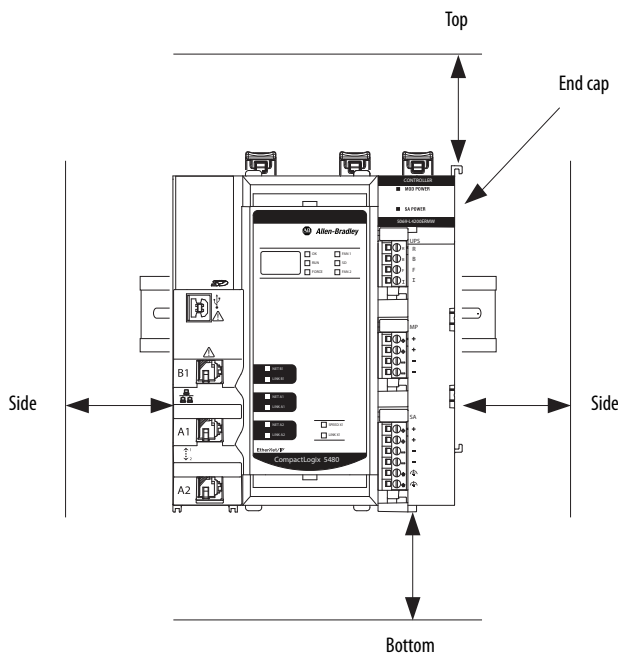
Spacing

Maintain **spacing** from enclosure walls, wireways, and adjacent equipment. Ambient temperature is higher at the top of an enclosed cabinet.

The minimum distance on of a system that includes only a CompactLogix 5480 controller is as follows:

- 25.00 mm (0.98 in.) between the sides and the cabinet
- 25.00 mm (0.98 in.) between the front of the controller and the cabinet
- 50.00 mm (1.96 in.) between the top and bottom and the cabinet

We recommend that you install the controller near the bottom of the enclosure, where ambient temperature is lower.



Enclosure Selection

This example is provided to help you size an enclosure for your CompactLogix 5480 controller. You need heat dissipation data from all components that are planned for your enclosure to calculate the enclosure size.

With no active method of heat dissipation, for example, air conditioning, either of the following approximate equations can be used for a metal cabinet.

Metric	Imperial
$A = \frac{0.38Q}{1.80T - 1.10}$	$A = \frac{4.08Q}{T - 1.10}$
<p>Where:</p> <ul style="list-style-type: none"> • T = Temperature difference between inside air and outside ambient (°C) • Q = Heat that is generated in enclosure (Watts) • A = Enclosure surface area (m²) 	<p>Where:</p> <ul style="list-style-type: none"> • T = Temperature difference between inside air and outside ambient (°F) • Q = Heat that is generated in enclosure (Watts) • A = Enclosure surface area (ft²)
<p>The exterior surface of all six sides of an enclosure is calculated as: $A = 2dw + 2dh + 2wh$ Where d (depth), w (width), and h (height) are in meters.</p>	<p>The exterior surface of all six sides of an enclosure is calculated as: $A = (2dw + 2dh + 2wh) / 144$ Where d (depth), w (width), and h (height) are in inches.</p>

The maximum ambient rating of the CompactLogix 5480 controller is 60 °C (140 °F). If the maximum external cabinet temperature is 20 °C (68 °F), then T=40.

In this example, with only the controller, the heat dissipation is 72 W, that is, the sum of all components in the enclosure. In the following equation, T=40 and Q=72.

$$A = \frac{0.38(72.00)}{1.80(40.00) - 1.10}$$

In this example, the enclosure must have a minimum exterior surface of 0.386 m².

If any portion of the enclosure cannot transfer heat, exclude that value from the calculation.

The minimum installation clearance for a CompactLogix 5480 controller is 267.00 x 184.00 x 152.00 mm (10.50 x 7.25 x 6.00 in.) HxWxD.

The standard cabinet depth in this example is 154.20 mm (6.00 in.).

To meet cooling and clearance requirements in this example, the cabinet must be approximately 304.80 x 355.60 x 154.20 mm (12.00 x 14.00 x 6.00 in.) HxWxD.

$$A = 2DW + 2DH + 2WH$$

$$A = 2 \times (0.1542 \times 0.3556) + 2 \times (0.1542 \times 0.3048) + 2 \times (0.3556 \times 0.3048) = 0.4204 \text{ m}^2$$

This example uses the following conditions:

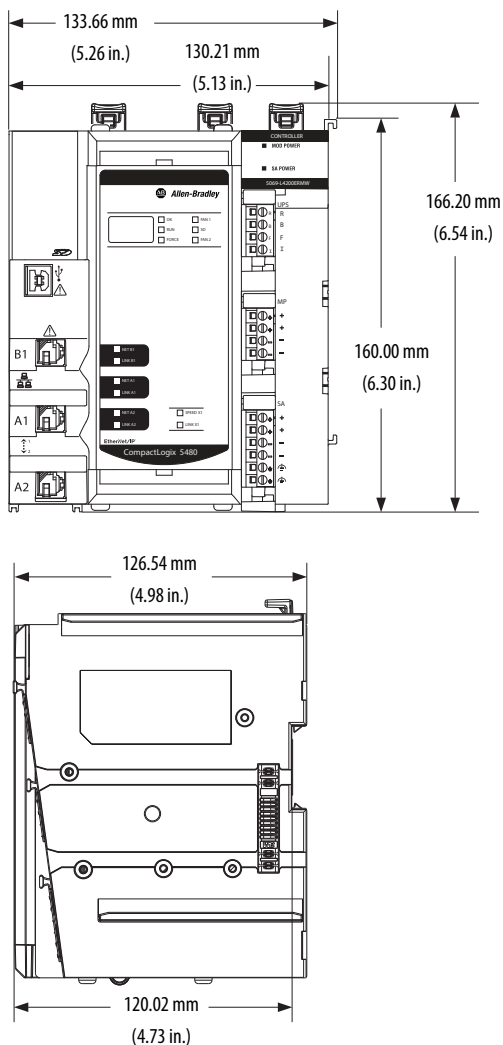
- All sides of the enclosure transfer heat.
- Only the CompactLogix 5480 controller is installed.
- Ambient temperature = 20 °C (68 °F).

IMPORTANT If any of the following conditions exist, the enclosure **must be larger**:

- Any sides of the enclosure cannot transfer heat.
- More equipment is included in the system.
- Ambient temperature is higher than 20 °C (68 °F)

Dimensions

The controller dimensions are as follows.



Ground Considerations

You must ground DIN rails according to the Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#)



ATTENTION: This product is grounded through the DIN rail to chassis ground. Use zinc-plated chromate-passivated steel DIN rail to assure proper grounding. The use of other DIN rail materials (for example, aluminum or plastic) that can corrode, oxidize, or are poor conductors, can result in improper or intermittent grounding. Secure DIN rail to mounting surface approximately every 200 mm (7.8 in.) and use end-anchors appropriately. Be sure to ground the DIN rail properly. See Industrial Automation Wiring and Grounding Guidelines, Rockwell Automation® publication [1770-4.1](#) for more information.

You can use the following DIN rails:

- EN50022 - 35 x 7.5 mm (1.38 x 0.30 in.)
- EN50022 - 35 x 15 mm (1.38 x 0.60 in.)

System Power Considerations

The CompactLogix 5480 controller provides power to a CompactLogix 5480 system via RTBs that are connected to external power supplies and installed on the controller.

The RTBs provide the following power to the system.

Power Type	Description
MOD Power	<p>System-side power that is used to operate the CompactLogix 5480 system. MOD power is provided through the MOD power RTB and passed across the MOD power bus.</p> <ul style="list-style-type: none"> • The total continuous current draw across the MOD power bus must not be more than 10 A, max, at 18...32V DC. You must calculate the total MOD power that the controller and all local Compact 5000 I/O modules draw to make sure that no more than 10 A of MOD power is drawn.⁽¹⁾ • Confirm that the external MOD power supply is adequately sized for the total MOD power bus current draw in the system, including the MOD power inrush current requirements.
SA Power	<p>Field-side power that can be used to power field-side devices that are connected to some Compact 5000 I/O modules. SA power is provided through the SA power RTB and passed across the SA power bus.</p> <ul style="list-style-type: none"> • SA power is only required if your application includes local Compact 5000 I/O modules that are connected to devices that use SA power. • If you are using DC voltage for SA power, the total continuous current draw across the MOD power bus must not be more than 10 A, max at 18...32V DC. • If you are using AC voltage for SA power, the total continuous current draw across the MOD power bus must not be more than 10 A, max at 18...240V AC. • You can use a 5069-FPD field potential distributor to establish additional SA power buses in a CompactLogix 5480 system. If your system includes AC and DC modules that require SA power, you must use a 5069-FPD field potential distributor to establish a new SA power bus. You separate the module types by SA power bus. For example, install DC module on the first SA power bus in the system and install the AC modules on the second SA power bus in the system. • Confirm that the external SA power supply is sized adequately for the total SA power current draw in the system.
UPS Control	<p>Control signals from an external UPS that let the controller save the state of the program if power is lost. The external UPS provides the power that is required to save the program via the MOD power RTB. A UPS is not required for controller operation</p>

(1) If you connect external power to both sets of MOD power RTB terminals, however, the local Compact 5000 I/O modules can draw a maximum of 10 A in addition to the current the controller draws.

IMPORTANT Remember the following:

- CompactLogix 5480 controllers do not have an embedded power supply that powers the system.
The system is powered by external power supplies via connections to the various power RTBs on the controller.
- We recommend that you use 1606 power supplies from Rockwell Automation to provide MOD power, SA power, and UPS control.
- You **must** use an external power supply that is dedicated to the UPS connection.

For more information about which 1606 power supplies are best for each power type, see the Switched Mode Power Supply Specifications Technical Data, publication [1606-TD002](#).

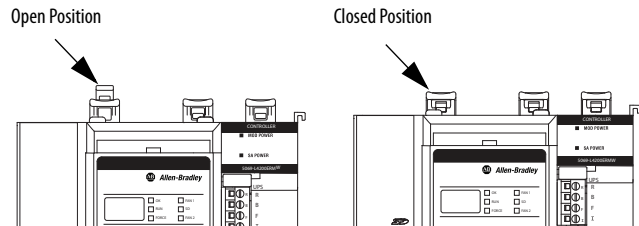
- You can connect power from one external power supply to the MOD power and SA power RTBs. However, as stated previously, we **strongly recommend** that you use **separate external power supplies** for MOD power and SA power respectively.

The practice of using separate external power supplies can help prevent unintended consequences that can result if you use one supply.

If you use separate external power supplies, the loss of power from one external power supply does not affect the availability of power from the other supply. For example, if separate external power supplies are used and SA power is lost, MOD power remains available for the Compact 5000 I/O modules.

Install the Controller onto the DIN Rail

1. Confirm that the DIN rail latches are closed.
2. If the DIN rail latches are open, gently push the rear latch back until the front latch pops up and clicks.



3. Position the controller so that the back of it faces the DIN rail.
4. Press the controller against the DIN rail until you hear a click.
5. Confirm that all latches have fully closed and the controller is latched securely.

Connect External Power Supplies to the Controller

Before you connect MOD power or SA power to the RTBs on the CompactLogix 5480 controller, complete the following tasks:

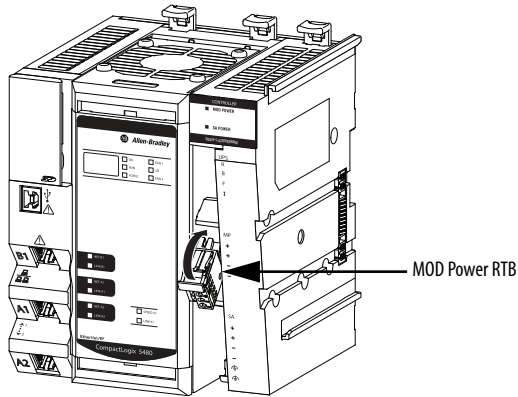
- Read [System Power Considerations on page 8](#).
- Confirm that the external power supplies that MOD power and SA power are adequately sized for your CompactLogix 5480 system. For more information, see [page 8](#).
- Verify that the external power supplies are turned off.
- Install the MOD power RTB, SA power RTB, and the UPS Control RTB, if used.
- If I/O modules are used, verify that they are installed on the correct SA power bus.

DC-type modules must reside on an SA power bus that uses DC power, and AC-type modules must reside on an SA power bus that uses AC power.

For more information, see the technical documentation for Compact 5000 I/O modules.

Install the MOD Power RTB

1. Hook the bottom of the MOD power RTB on the controller.
2. Push the RTB against the controller until you hear a click.



3. Push the RTB handle against the RTB until you hear a click.

Connect MOD Power

The way that you connect power to the MOD power RTB depends on whether you use UPS control signals or not.

- If you are not using UPS control signals, you connect the external power supply directly to the MOD power RTB.

In this case, proceed to [Connect to the MOD Power RTB from a Standard External Power Supply on page 10](#).

- If you are using UPS control signals, you connect a UPS to the MOD power RTB.

In this case, proceed to [Connect to the MOD Power RTB from a UPS on page 15](#).

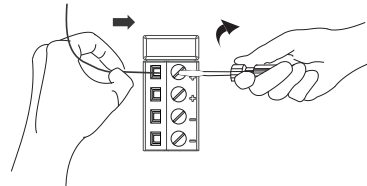
Connect to the MOD Power RTB from a Standard External Power Supply

Before you connect an external power source to the MOD power RTB, make sure that the MOD power source is properly sized.

IMPORTANT Your application can require a power control device, for example, a switch, between the external 24V DC power source and the controller to control when the controller is powered. If so, you must install the power control device at the VDC+ terminal on the RTB.

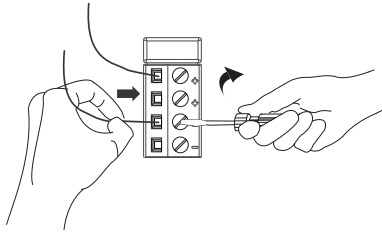
If you install the power control device at the VDC- terminal, the controller can fail to power up or power down properly.

1. Verify that the external power supply is not powered.
2. Strip 12 mm (0.47 in.) of insulation from the wires that you connect to the RTB.
3. Insert the wire from the 24V DC (+) connection on the external power supply into the first MOD (+) terminal on the RTB.
4. Turn the screwdriver to close the terminal on the wire.
The screw torque is 0.4 N•m (3.5 lb•in).

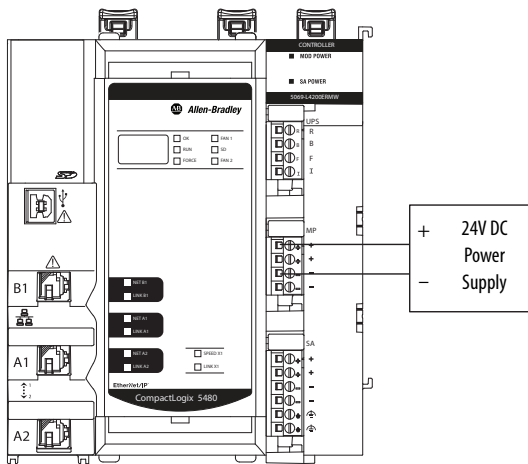


5. Insert the wire from the 24V DC (—) connection on the external power supply into the first MOD (—) terminal on the RTB.

- Turn the screwdriver to close the terminal on the wire.
The screw torque is 0.4 N•m (3.5 lb•in).



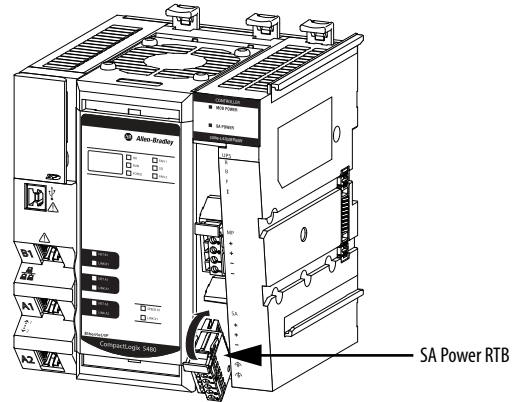
The following diagram shows an external 24V DC power supply that is connected to the MOD power RTB when you are **not using UPS control signals**.



Install the SA Power RTB

Install the SA power RTB even if you do not use SA power.

- Hook the bottom of the SA power RTB on the controller.
- Push the RTB against the controller until you hear a click.



- Push the RTB handle against the RTB until you hear a click.

Connect SA DC Power

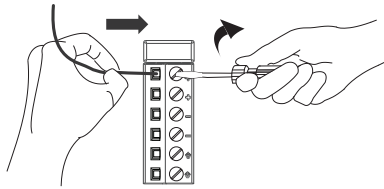
IMPORTANT SA power is only required if your application includes local Compact 5000 I/O modules that require SA power to operate or are connected to field-side devices that are powered by SA power.

Before you connect an external DC power source to the SA power RTB, make sure that the SA power source is properly sized.

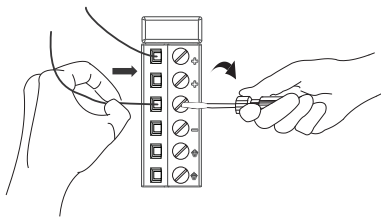
For more information on SA power, see [SA Power on page 8](#)

- Confirm that MOD power and SA power sources are turned off.
- Strip 12 mm (0.47 in.) of insulation from the wires that you connect to the RTB.
- Insert the wire from the DC (+) connection on the external power supply into the first SA (+) terminal on the RTB.

- Turn the screwdriver to close the terminal on the wire.
The screw torque is 0.4 N•m (3.5 lb•in).

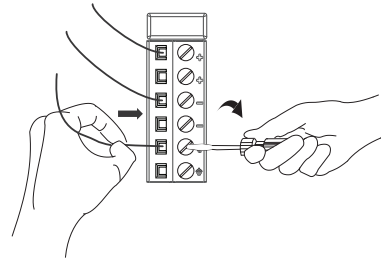



- Insert the wire from the DC (—) connection on the external power supply into the first SA (—) terminal on the RTB.
- Turn the screwdriver to close the terminal on the wire.
The screw torque is 0.4 N•m (3.5 lb•in).



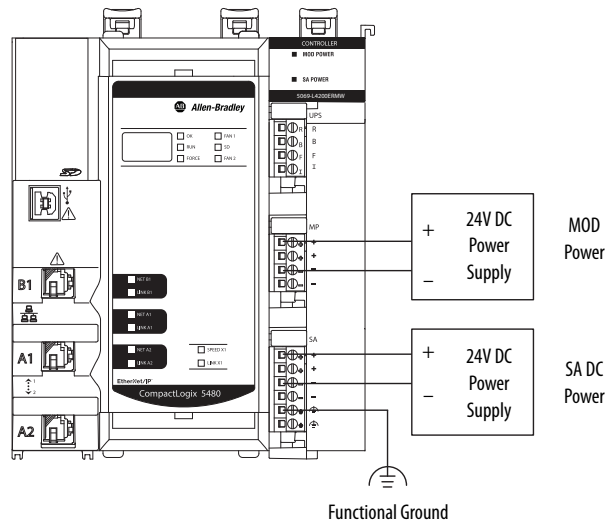
- Insert the wire from an Earth Ground location into the first Ground (⏏) on the RTB.
The Earth Ground location can be the external SA power supply, the DIN rail, or other Earth Ground location.

- Turn the screwdriver to close the terminal on the wire.
The screw torque is 0.4 N•m (3.5 lb•in).



TIP This  symbol denotes a Functional Ground terminal that provides a low impedance path between electric circuits and earth for functional purposes and provides noise immunity improvement. This connection must be made for functional purposes.

The following diagram shows an external 24V DC power supply that is connected to the SA power RTB when you do not use UPS control signals.



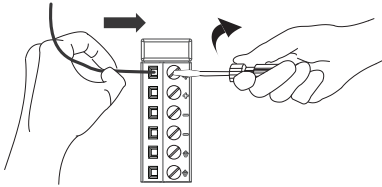
Connect SA AC Power

IMPORTANT SA power is only required if your application includes local Compact 5000 I/O modules that require SA power to operate or are connected to field-side devices that are powered by SA power.

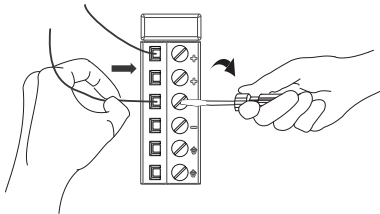
Before you connect an external AC power source to the SA power RTB, make sure that the SA power source is properly sized.

For more information on SA power, see [SA Power on page 8](#).

1. Verify that the SA power source is not powered on.
2. Strip 12 mm (0.47 in.) of insulation from the wires that you connect to the RTB.
3. Insert the wire from the L1/AC (+) connection on the external power supply into the first SA (+) terminal on the RTB.
4. Turn the screwdriver to close the terminal on the wire.
The screw torque is 0.4 N•m (3.5 lb•in).



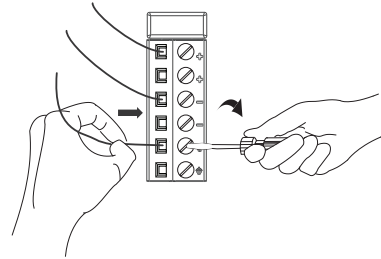
5. Insert the wire from the L2/N/AC(−) connection on the external power supply into the first SA(−) terminal on the RTB.
6. Turn the screwdriver to close the terminal on the wire.
The screw torque is 0.4 N•m (3.5 lb•in).



7. Insert the wire from an Earth Ground location into the first Ground (⏏) on the RTB.

The Earth Ground location can be the external SA power supply, the DIN rail, or other Earth Ground location.

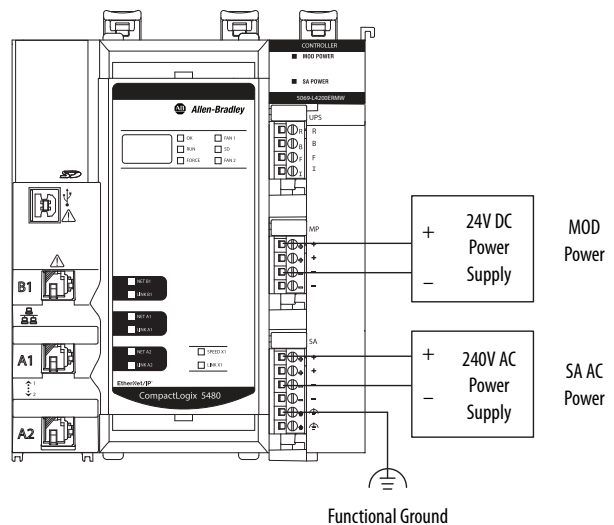
8. Turn the screwdriver to close the terminal on the wire.
The screw torque is 0.4 N•m (3.5 lb•in).



This ⏏ symbol denotes a Functional Ground terminal that provides a low impedance path between electric circuits and earth for functional purposes and provides noise immunity improvement. This connection must be made for functional purposes.

TIP

This diagram shows an external 240V AC power supply that is connected to the SA power RTB when you do not use UPS control signals.



Connect Control Signals Via UPS Control RTB

The CompactLogix 5480 controller does not have an internal energy storage module that lets the controller save the state of the program if system-side power is lost. You must connect an external uninterruptible power supply (UPS) to the UPS control RTB to save the state of the program if power is lost.

You connect control signals from an external power supply to the UPS control RTB to let the controller experience a controlled shutdown upon an incoming power loss.

When a UPS connection is detected, the CompactLogix 5480 controller defaults to initiate shutdown 1 minute after a power loss indication.

We recommend that you use 1606 switched mode uninterruptible power supplies from Rockwell Automation with a CompactLogix 5480 controller, for example, the 1606-XLS240-UPS power supply.

For more information on Bulletin 1606 uninterruptible power supplies, see the following:

- Bulletin 1606 DC-UPS Uninterruptible Power Supply Installation Instructions, publication [1606-IN025](#)
- Bulletin 1606 Switched Mode Power Supplies Reference Manual, publication [1606-RM036](#)

The switched mode uninterruptible power supplies use a 12-volt battery module to bridge power failures and voltage fluctuations. We recommend that you use the 1606-XLSBATASSY1 battery module from Rockwell Automation.

You can use other accessories, such as replacement batteries, mounting kits, and panel/wall mounting brackets with the battery module.

For more information on and the battery module and accessories that you can use with them, see the following:

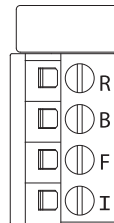
- Bulletin 1606 12V 7Ah Battery Modules Installation Instructions, publication [1606-IN011](#)
- Bulletin 1606 Switched Mode Power Supply Battery Modules (12V 7Ah) Reference Manual, publication [1606-RM037](#)

UPS Control Signals

These control signals are used on the UPS Control RTB:

Signal	Description
UPS Ready (R)	An input signal from the UPS to the controller that indicates the UPS is working and can buffer during a power failure. The charge level for a UPS to be ready to buffer during a power failure varies. For example, the 1606-XLS240-UPS power supply must be greater than 85% charged to be ready. The letter R indicates the RTB terminal for this signal.
Buffering (B)	An input signal from the UPS to the controller that indicates the UPS battery is providing power because the external power has failed. After a preset time (typically 1 minute after power failure), the controller performs an orderly shutdown by stopping execution and saving the state of the controller. The letter B indicates the RTB terminal for this signal.
Battery Fail (F)	An input from the UPS to the controller that indicates the UPS battery has failed, and the controller cannot operate from stored energy. In this case, the controller does not attempt to save the state of the program when the external power fails. The controller issues an alarm if a UPS was previously attached and ready to buffer. The letter F indicates the RTB terminal for this signal.
Inhibit (I)	An output signal from the controller to the UPS that disables the UPS signal output. The INHIBIT signal is triggered after data is backed up and the system is ready to shut down. The letter I indicates the RTB terminal for this signal.

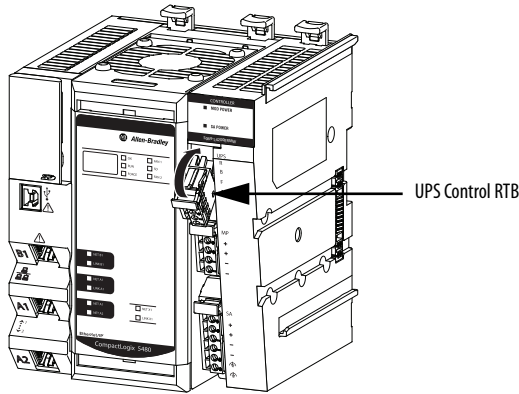
UPS Control RTB Terminals



Install the UPS Control RTB

Install the UPS control RTB even if you do not intend to connect uninterruptible power to the controller.

1. Hook the bottom of the UPS power RTB on the controller.
2. Push the RTB against the controller until you hear a click.



3. Push the RTB handle against the RTB until you hear a click.

Connect UPS Control Signals

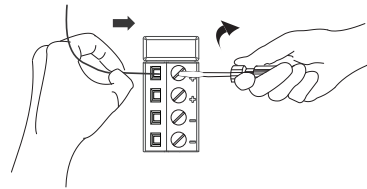
IMPORTANT The UPS terminal labels in this section represent the labels on a 1606-XLS240-UPS power supply. Your UPS terminals can be labeled differently.

1. Verify that all sources of MOD power and SA power are turned off.
2. Verify the following:
 - A 24V DC power supply is connected to the 24V IN terminals on the UPS.
 - A 12V DC battery is connected to the 12V BAT terminals on the UPS.

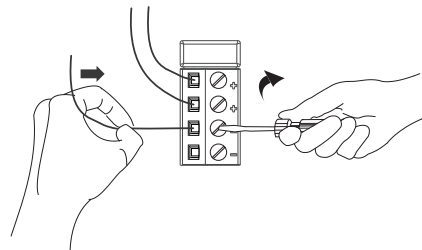
For more information, see the example graphic on [page 17](#).

Connect to the MOD Power RTB from a UPS

1. Daisy chain the wires from these connections on the UPS:
 - 24V OUT (+)
 - Ready (1)
 - Buffering (3)
 - Battery Fail (5)
 - Inhibit (7)
2. Connect one wire to each (+) terminal on the MOD power RTB, as shown in the example graphic on [page 17](#).
 - a. Insert the wire into the terminal.
 - b. Turn the screwdriver to close the terminal on the wire.
The screw torque is 0.4 N•m (3.5 lb•in).



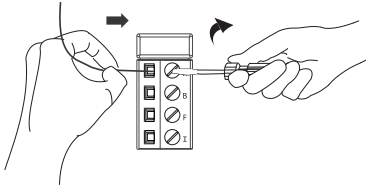
3. Daisy chain a wire that is connected to the 24V OUT (-) terminal on the UPS and a second wire.
4. Connect one wire to each (-) terminal on the MOD power RTB.
 - a. Insert the wire into the terminal.
 - b. Turn the screwdriver to close the terminal on the wire.
The screw torque is 0.4 N•m (3.5 lb•in).



Connect to the UPS Control RTB from a UPS

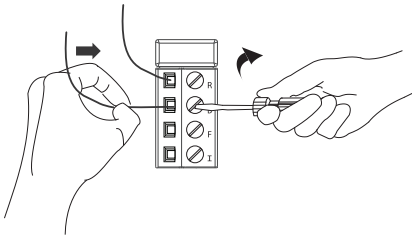
1. Connect a wire from the Ready (2) connection on the UPS to the UPS Ready terminal on the UPS control RTB.
 - a. Insert the wire into the terminal.
 - b. Turn the screwdriver to close the terminal on the wire.

The screw torque is 0.4 N•m (3.5 lb•in).



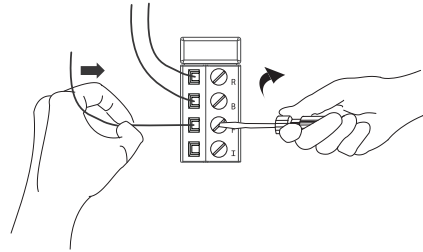
2. Connect a wire from the Buffering (4) connection on the UPS to the Buffering terminal on the UPS control RTB.
 - a. Insert the wire into the terminal.
 - b. Turn the screwdriver to close the terminal on the wire.

The screw torque is 0.4 N•m (3.5 lb•in).



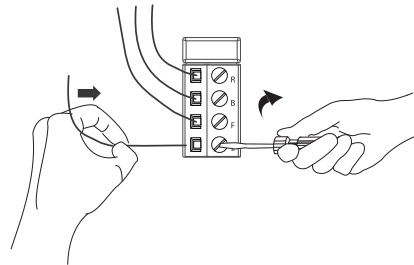
3. Connect a wire from the Battery Fail (6) connection on the UPS to the Battery Fail terminal on the UPS control RTB.
 - a. Insert the wire into the terminal.
 - b. Turn the screwdriver to close the terminal on the wire.

The screw torque is 0.4 N•m (3.5 lb•in).

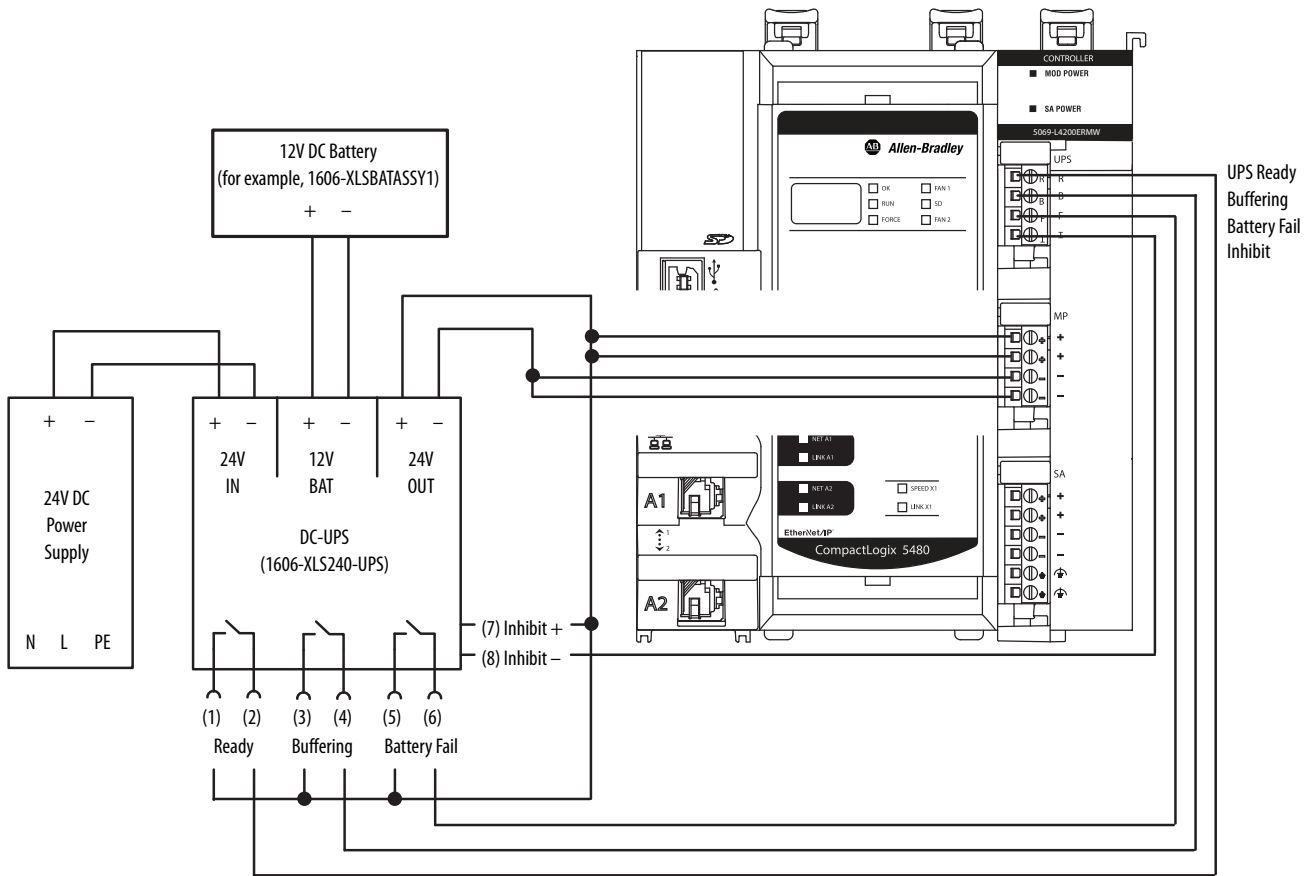


4. Connect a wire from the Inhibit (8) connection on the UPS to the Inhibit terminal on the UPS control RTB.
 - a. Insert the wire into the terminal.
 - b. Turn the screwdriver to close the terminal on the wire.

The screw torque is 0.4 N•m (3.5 lb•in).



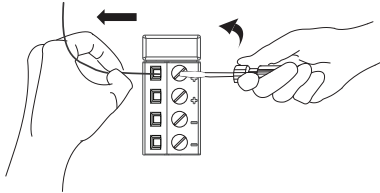
This diagram shows a 1606-XLS240-UPS power supply battery that is connected to a CompactLogix 5480 controller.



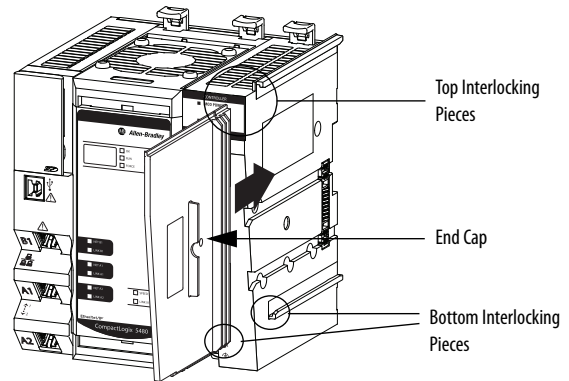
Disconnect Wires from the RTBs

If necessary, complete these tasks to **disconnect** wires from **any** RTB on the controller.

1. Turn the screwdriver counter-clockwise to open the terminal.
2. Remove the wire.



2. Push the end cap toward the DIN rail until it locks into place.



Install Compact 5000 I/O Modules

Complete one of the following:

- If you do not use local Compact 5000 I/O modules in the system, proceed to [Install the End Cap on page 18](#).
- If you use local Compact 5000 I/O modules in the system, install the modules to the right side of the controller.

After the I/O modules are installed, install the end cap on the right side of the last I/O module in the system. For more information on how to install the end cap, see [page 18](#).

For more information on how to install Compact 5000 I/O modules, see the installation instructions available with each Compact 5000 I/O module catalog number.

Install the End Cap

You must install an end cap on the right side of the last module in a CompactLogix 5480 system. 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.

If you do not intend to install Compact 5000 I/O modules to the system before you turn on power to the controller, install the end cap.

1. Align the end cap with the interlocking pieces on the controller.

Power the System

IMPORTANT Consider the following before you power the system:

- Make sure to remove the debris shield from the controller before power-up.
- As noted previously, you must install working controller firmware to use the COS on the controller. There are two ways to install working firmware. The ways are described beginning on [page 23](#).

One of the methods to install working controller firmware uses the SD card that ships with the controller.

- If you intend to use the SD card to install working controller firmware, go to [Use a Secure Digital Card to Install Controller Firmware on page 24](#).

Complete the steps described in that section, apply power to the controller and return to the next section, that is, [Set the Network Internet Protocol \(IP\) Addresses on page 19](#)

- If you do not intend to use the SD card to install working controller firmware, turn on the power now and proceed to the next section.

After the end cap is installed on the last module in the system, turn on power to the MOD power RTB and the SA power RTB.

Set the Network Internet Protocol (IP) Addresses

You must set an IP address on Ethernet ports for the controller to operate on an EtherNet/IP network via that port.

Out-of-the-box, the following applies to Ethernet ports A1, A2, and B1:

- The ports are DHCP-enabled and the IP address is set automatically via a DHCP server.

If there is no DHCP server available to set the IP address, you must set the IP address manually.

- If ports A1 and A2 are configured to use DLR/Linear mode, you set only one IP address that is used on both ports.
- Control ports must use unique subnets.

When ports A1 and A2 are configured to use DLR/Linear mode, however, they use the same subnet because they are configured as one port.

You can use one of the following to set the IP address on the controller when it is in the out-of-the-box condition:

- DHCP server
- BOOTP DHCP EtherNet/IP Commissioning tool, version 3.02.00 or later
- RSLinx Classic software, version 4.10.00 or later
- FactoryTalk Linx software, version 6.10.00 or later
- Logix Designer application, version 32.01.00 or later

For more information on how to set or change the IP address on a CompactLogix 5480 controller, see the CompactLogix 5480 Controllers User Manual, publication [5069-UM002](#).

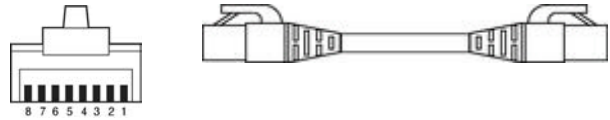
Connect the Controller to an EtherNet/IP Network

IMPORTANT Before you can connect a CompactLogix 5480 controller to an EtherNet/IP network, you must first install the network and its components.

This section assumes that the EtherNet/IP network is installed.

Use an RJ45 cable to connect the controller to an EtherNet/IP network.

1. If needed, wire the RJ45 connector as shown.



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	Bl_DA+	TxData +	
2	Orange	Bl_DA-	TxData -	
3	White/Green	Bl_DB+	Recv Data +	
4	Blue	Bl_DC+	Unused	—
5	White/Blue	Bl_DC-	Unused	—
6	Green	Bl_DB-	Recv Data -	
7	White/Brown	Bl_DD+	Unused	—
8	Brown	Bl_DD-	Unused	—

2. Connect RJ45 cables to the controller Ethernet ports.

Remove and Replace the Controller

1. Turn off power to the MOD power and the SA power RTBs.

IMPORTANT When you remove MOD power from the controller, you shut down power to all modules in the CompactLogix 5480 system. That is, all system-side is removed. When you remove SA power from the controller, all field-side power that is provided by the controller is removed. If SA power that is provided via a 5069-FPD field potential distributor, the system does not lose SA power to the right of the field potential distributor.

In this case, you must use a separate power source for the SA power RTB on the field potential distributor.

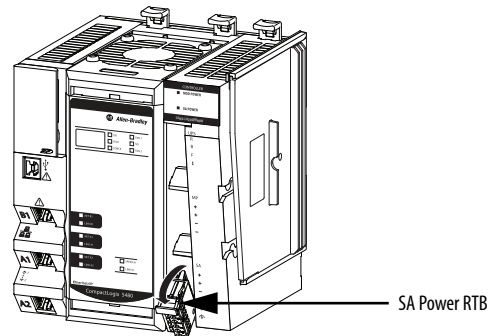
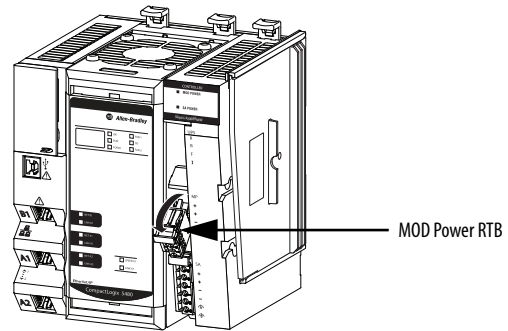
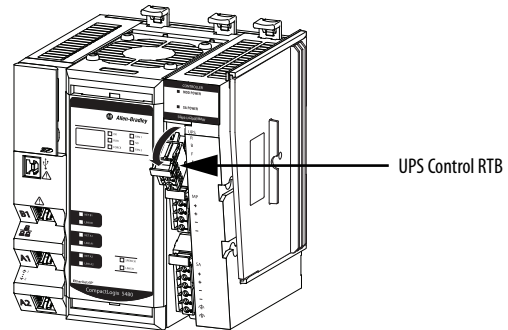
We strongly recommend that before you remove MOD power or SA power that you take the appropriate actions to help prevent unintended consequences that can result from a system power shutdown.

Despite the removal of power from SA RTBs on the controller or field potential distributor, the 5069-OB16 and 5069-OB16F modules continue to receive field-side power. The modules receive power from an external power source that is connected to the LA (+) and LA (-) module terminals.

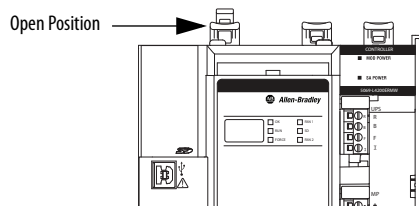
2. If there are local Compact 5000 I/O modules in the system, remove them. If not, skip to [step 3](#).
3. Disconnect wires from the RTBs.

For more information, see [Disconnect Wires from the RTBs on page 18](#).

4. Pull the RTB handles to remove the RTBs.



5. Remove all cables from the controller.
6. Push down on the front of the DIN rail latches.
A click indicates that the DIN rail latches are open.



If the DIN rail latches fail to remain in the open position, hold them down.

7. Pull the controller off the DIN rail.
8. Repeat the installation steps that are described beginning at [Install the Controller onto the DIN Rail on page 9](#).
9. Apply MOD power and, if necessary, SA power to the system.

Replace the Fans

The CompactLogix 5480 controller uses fans at the top and bottom of the controller to help maintain lower operating temperatures when the controller is operating.

Fan use includes speed control and monitoring. Faults indicate fan operating conditions as follows:

- Minor faults - Triggered when a fan is not operating at the requested speed or if a fan fails to operate at all.

In your Logix Designer application project, you can use the Minor Faults tab on the Controller Properties dialog box to monitor for these faults.

- Major fault - Triggered if both fans fail and the controller goes over the maximum operating temperature.

In this case, the controller stops operating.

TIP In your Logix Designer application project, you can use the Major Faults tab on the Controller Properties dialog box to monitor for this fault.

You can order replacement fans. Replacement fans come in pairs. The fans are unique by position and keyed to help make sure that you install the correct fan in each position.

The fans are labeled **Fan 1 - Top** and **Fan 2 - Bottom**.

Consider the following:

- We recommend that you replace the fans in pairs. That is, if you replace the one fan, we recommend that you replace the other fan too.
- You can replace fans during controller operation. The fans support removal and insertion under power.

IMPORTANT If you replace fans while the controller is operating, do not touch live voltage components.

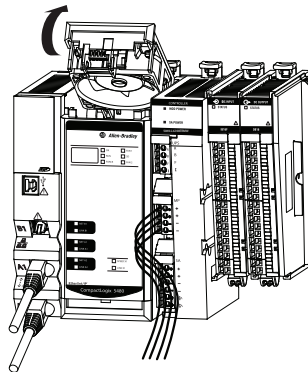
- Do not remove both fans at once if the controller is operating. That is, remove a fan and install the replacement fan before you remove the other fan.

Remove the Top Fan

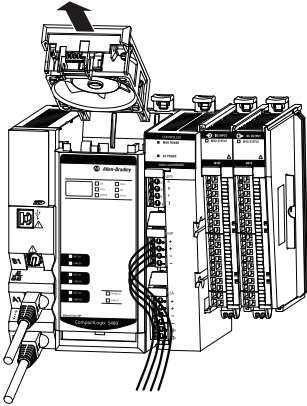
1. Push up on the front of the fan.

TIP If the hinges do not disengage when you push up on the front of the fan, then use a screwdriver as a pry tool.

Make sure that the fan is fully disengaged before you try to pull it out.



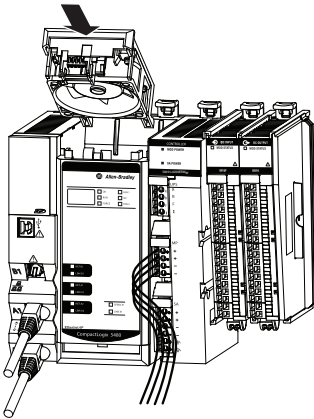
2. Pull the fan out of the slot at the top of the controller.



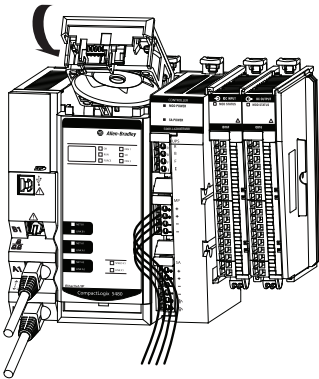
Install the Top Replacement Fan

1. Insert the top replacement fan into the slot at the top of the controller.

Make sure the tabs at the back of the fan are inserted in the holes at the back of the slot.



2. Push down on the top replacement fan until it clicks in place.

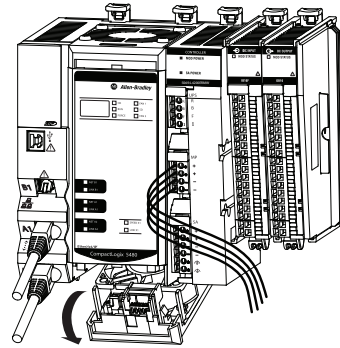


Remove the Bottom Fan

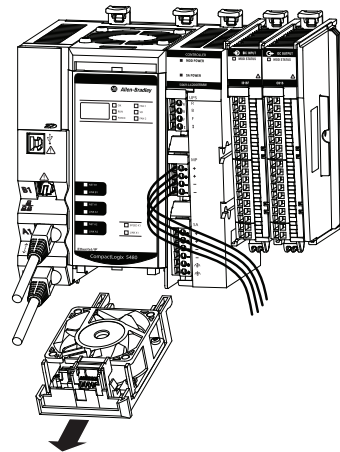
1. Push the down on the front of the fan.

TIP If the hinges do not disengage when you push down on the front of the fan, then use a screwdriver as a pry tool.

Make sure that the fan is fully disengaged before you try to pull it out.



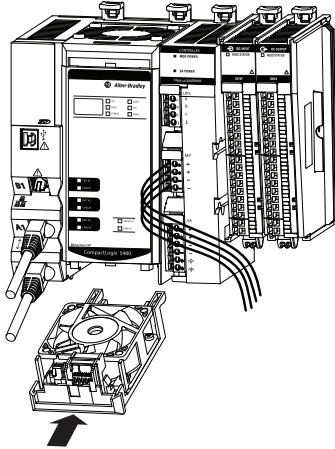
2. Pull the fan out of the slot at the bottom of the controller.



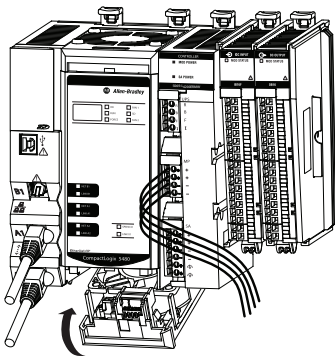
Install the Bottom Replacement Fan

1. Insert the bottom replacement fan into the slot at the bottom of the controller.

Make sure the tabs at the back of the fan are inserted in the holes at the back of the slot.



2. Push up on the bottom replacement fan until it clicks in place.



Use the COS For Windows-based Computing

The COS on a CompactLogix 5480 controller runs in parallel with the Logix control engine. You are not required to use the COS.

IMPORTANT Before you can use the COS, you **must install working controller firmware**. The requirement applies even if you are not using the controller for real-time control. If you do not install working controller firmware, the COS does not start.

In the out-of-box state, the controller uses firmware revision 1.xxx. On a CompactLogix 5480 controller, the minimum working controller firmware is revision 32.012.

You can use the following methods to install working controller firmware when the controller is in the out-of-box state:

- ControlFLASH™ or ControlFLASH Plus™ software
- Secure Digital (SD) card

TIP We recommend that you connect your peripherals to the ports that are dedicated to COS use before you install controller firmware.

Use a Flash Programming Tool to Install Controller Firmware

You can use ControlFLASH and ControlFLASH Plus software to install controller firmware.

The following requirements apply when you use ControlFLASH or ControlFLASH Plus to install working controller firmware:

- You must use one of the following:
 - ControlFLASH software, version 15.01.00 or later
 - ControlFLASH Plus, version 2.00.00 or later
- You must use a Linx-based software application with your flash programming tool.
 - With ControlFLASH software, you can use RSLinx Classic Lite, RSLinx Classic, RSLinx Enterprise, or FactoryTalk Linx.
 - With ControlFLASH Plus software, you must use FactoryTalk Linx.

Minimum software versions apply with Linx-based software. For more information on the minimum software version requirements, see the PCDC at: <https://compatibility.rockwellautomation.com/Pages/home.aspx>

Download the Flash Programming Tool

ControlFLASH and ControlFLASH Plus software are available from the PCDC at: <https://compatibility.rockwellautomation.com/Pages/home.aspx>

Download the installation files and install the software.

Download the Controller Firmware

After the flash programming tool is installed, download the controller firmware from the PCDC at: <https://compatibility.rockwellautomation.com/Pages/home.aspx>

The initial download is a .exe file. You use the Rockwell Automation Download Manager to extract a .dmk from the downloaded file.

Install the Controller Firmware

To install the controller firmware via a flash programming tool, you complete the following steps.

IMPORTANT These steps only **highlight the major tasks** that you complete to install controller firmware with ControlFLASH. To successfully install controller firmware, you **must complete other tasks** that are not described here. For complete information on how to install controller firmware, see the publications listed at the end of the section.

1. To start the tool, click Start>All Programs>Flashing Programming Tools>*ControlFLASH* or *ControlFLASH Plus*.
2. Follow the prompts to complete the following steps.
 - a. Choose the controller.
 - b. Select the firmware revision.
 - c. Install the controller firmware.

A dialog box confirms that the installation was successful.

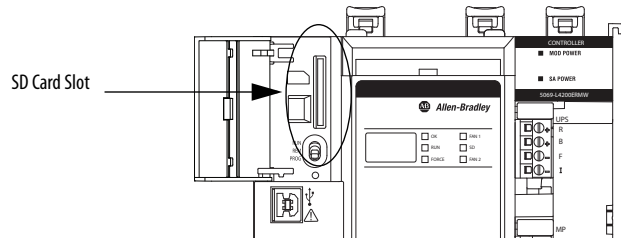
Power is automatically cycled on the controller as part of the firmware installation process. After the power-up completes, the COS starts automatically.

For more information on how to use a flash programming tool to install controller firmware, see the following:

- ControlFLASH Firmware Upgrade Kit User Manual, publication [1756-UM105](#)
- ControlFLASH Plus Quick Start Guide, publication [CFP-QS001](#)
- CompactLogix 5480 Controllers User Manual, publication [5069-UM002](#).

Use a Secure Digital Card to Install Controller Firmware

You can use an SD card to install controller firmware. CompactLogix 5480 controllers ship with an SD card installed behind the front door on the controller.



IMPORTANT To install controller firmware on a new CompactLogix 5480 controller via an SD card, you must have another controller of the same type that is already working.

The SD card method requires that you save the Logix Designer application project from the working controller to the SD card before you use it in the new controller.

To use an SD card to install controller firmware, complete the following steps.

1. Before you turn on power to the controller, remove the SD card from the controller.
2. Install the SD card into another, working CompactLogix 5480 controller that has a Logix Designer application project on it.
3. Save the project to the SD card.
4. Remove the SD card from the working controller and reinstall it in the new controller.
5. Turn on power to the new controller.

When the new controller powers up, it automatically updates the firmware to the revision that is stored on the SD card.

Power is automatically cycled on the controller as part of the firmware installation process. After the power-up completes, the COS starts automatically.

For more information on how to use the SD card with the controller after valid firmware is installed and the controller is powered, see the CompactLogix 5480 Controllers User Manual, publication [5069-UM002](#).

Specifications

This table lists a subset of controller specifications. For a complete list of specifications, see the CompactLogix 5380, Compact GuardLogix® 5380, and CompactLogix 5480 Controllers Specifications Technical Data, publication [5069-TD002](#).

Environmental Specifications - CompactLogix 5480 Controllers

Attribute	5069-L430ERMW, 5069-L450ERMW, 5069-4100ERMW, 5069-L4200ERMW
Temperature, operating IEC 60068-2-1 (Test Ad, Operating Cold), IEC 60068-2-2 (Test Bd, Operating Dry Heat), IEC 60068-2-14 (Test Na, Operating Thermal Shock)	0 °C < Ta < +60 °C (+32 °F < Ta < +140 °F)
Temperature, surrounding air, max	60 °C (140 °F)
Enclosure Type Rating	None (open-style)
Voltage and current ratings	
MOD Power voltage range	18...32V DC
MOD Power power, max	72 W
MOD Power current, typical	4 A
MOD Power inrush	4 A for 15 ms
MOD Power Passthrough ⁽¹⁾	6 A @ 18...32V DC
MOD Power current rating, max	10 A Do not exceed 10 A current draw at the MOD power RTB. ⁽⁴⁾
SA Power voltage ranges ⁽²⁾	0...32V DC 0...240V AC, 47...63 Hz
SA Power current, max ⁽²⁾	10 mA (DC power) 25 mA (AC power)
SA Power Passthrough ^{(2), (3)}	9.99 A @ 0...32V DC 9.975 A @ 0...240V AC, 47...63 Hz
SA Power current rating, max ⁽²⁾	Do not exceed 10 A current draw at the SA power RTB.
Isolation voltage	300V (continuous), Basic Insulation Type, SA, and MOD Power to Backplane 300V (continuous), Basic Insulation Type, SA to MOD Power 300V (continuous), Basic Insulation Type, Ethernet to Backplane 300V (continuous), Double Insulation Type, Ethernet to MOD Power 300V (continuous), Double Insulation Type, Ethernet to SA Power 50V (continuous), Functional Insulation Type, Ethernet to USB ports and DisplayPort 300V (continuous), Basic Insulation Type, USB ports, and DisplayPort to Backplane 300V (continuous), Double Insulation Type, USB ports, and DisplayPort to MOD Power 300V (continuous), Double Insulation Type, USB ports, and DisplayPort to SA Power No isolation between Ethernet ports Type tested at 1500V AC for 60 s
Wire size	5069-RTB4-SCREW, 5069-RTB6-SCREW connections: 0.5...1.5 mm ² (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 5069-RTB4-UPS connections: 0.5...1.5 mm ² (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 Ethernet connections: Ethernet Cabling and Installation according to IEC 61918 and IEC 61784-5-2
Insulation-stripping length	5069-RTB4-SCREW, 5069-RTB6-SCREW, and 5069-L4UPSRTB connections: 12 mm (0.47 in.)
Terminal block torque	5069-RTB4-SCREW, 5069-RTB6-SCREW, and 5069-L4UPSRTB connections: 0.4 N·m (3.5 lb·in) ATTENTION: Do not wire more than two conductors on one RTB terminal.

(1) Maximum level of MOD power current that the controller can pass through to the next module in the system. The specific level of current passed through varies based on system configuration.

(2) SA power specifications are based on the number and type of Compact 5000 I/O modules that are used in the system. If the set of I/O modules that is used in the system require AC and DC voltage, you must install a 5069-FPD field potential distributor to separate the module types.

(3) Maximum level of SA power current that the controller can pass through to the next module in the system. The specific level of current passed through varies based on system configuration.

(4) Remember, MOD power usage includes the total power that the controller and local Compact 5000 I/O modules use. If you connect external power to both sets of MOD power RTB terminals, however, the local Compact 5000 I/O modules can draw a maximum of 10 A in addition to the current that the controller draws.

Additional Resources

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

Resource	Description
CompactLogix 5380, Compact GuardLogix 5380, and CompactLogix 5480 Controller Specifications Technical Data, publication 5069-TD002	Provides specifications and other technical data for CompactLogix 5380, Compact GuardLogix 5380, and CompactLogix 5480 controllers.
CompactLogix 5480 Controllers User Manual, publication 5069-UM002	Describes how to configure, operate, and monitor CompactLogix 5480 controllers.
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation® industrial system.
Product Certifications website, rok.auto/certifications	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.

Notes:

Rockwell Automation Support

Use the following resources to access support information.

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

Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete the How Are We Doing? form at http://literature.rockwellautomation.com/idc/groups/literature/documents/du/ra-du002_-en-e.pdf.

Rockwell Automation maintains current product environmental information on its website at <http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page>.

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EtherNet/IP is a trademark of ODVA, Inc.

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Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

Publication 5069-IN019D-EN-P - July 2019

Supersedes Publication 5069-IN019C-EN-P - October 2018

PN-543655

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